**AWIPS-2 Application Focal Point Course** 

**CAVE & EDEX Configuration Module** 

Step-By-Step Exercises

Warning Decision Training Branch

National Weather Service Training Division

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# Introduction

This document contains exercises consisting of step-by-step instructions of particular customizations that can be performed using EDEX and/or CAVE. These instructions build upon the concepts presented in the AWIPS-2 Overview, the EDEX Overview, and the CAVE Overview modules. To help you understand the procedures, each exercise has a background section to provide objectives, context, and the reasoning or strategy behind the instructions. To help you apply the instructions to additional situations, the instructions are divided into concepts and actions. The concepts describe the basic procedure and the actions provide the series of steps to follow.

### **Document Conventions:**

These instructions employ a few conventions that are intended to help you distinguish various typed commands and options.

When a command is to be typed at a terminal prompt, it is written in a bold Courier (monospaced) font, and each new line of input begins with a dollar prompt (\$). In some of these lines, long commands may wrap to multiple lines on the page, but you should enter every command that begins with a \$ prompt on one line. In this example, there are two commands:

```
$ cd /awips2/static/database.maps
$ ./importShapeFiles.sh /home/awips/shapes/urban_bounds.shp mapdata urbanbounds
0.064,0.016,0.004,0.001 awips
```

When the document references a keyword which may require you to substitute your own information, it is written using curly braces {} and a gray background. For example, the section of the Localization Store that contains some of your site's override files is often referenced as cave\_static/site/{your site}/bundles/. Thus, if your site is Wichita, you would substitute ICT for {your\_site}, so the directory path would be cave\_static/site/ICT/bundles/.

In most cases, this document references machines by their logical function rather than by their name. For example, it mentions {edex\_server} rather than DX3 or {database\_server} rather than DX1. This was done to help make these exercises a bit more portable as well as to survive potential changes to the AWIPS-2 hardware architecture. For more information on the functions of particular machines, you might wish to consult the *AWIPS-2 System Managers Manual* or the AWIPS-2 System Administration training course materials.

Note: Exercises 1,3, and 4 suggest using a few external files for an urban boundaries shapefile, another WFO's scale maps, and some spotters.dat files. An ExerciseResources.zip file alongside this PDF contains sample files in case you cannot obtain your own files.

# Exercise 1: Maps — Import Urban Boundaries Shapefile

**Objectives:** In this exercise, you will perform the following procedures:

- Import a new geographic shapefile into the AWIPS-2 maps database.
- Create a display bundle for the new shapefile, so it is displayable from the Maps menu of the D2D perspective in CAVE.
- Optionally add constraints to filter the shapefile data prior to display.

**Background.** AWIPS-2 uses the PostGIS extension to the PostgreSQL database to manage many of the map backgrounds. In this design, shapefiles are actually loaded into the Maps database and are not directly accessed from files. One benefit from this approach is that AWIPS-2 can

access attributes in the shapefiles that AWIPS-1 ignored. Both Exercise 1 and Exercise 2 illustrate how to use these attributes.

AWIPS-1 had a User Shapefile capability where you could simply rename up to 3 vector shapefiles and 2 point shapefiles to userFile#.shp, userFile#.shx and userFile#.dbf, where # was 1 through 5, and place these files in \$FXA\_HOME/data or in your localizationDataSets/\$FXA\_LOCAL\_SITE. While the User Shapefile function does not exist in AWIPS-2, two methods do exist to access shapefiles in AWIPS-2. The first method, described in this exercise, adds the shapefile to the database and the Maps menu. The second



method, the Import GIS data function accessible from the CAVE menu, interactively accesses shapefiles from disk. This second process is described in the AWIPS-2 Variance Training modules.

This exercise steps you through importing your own shapefiles into the AWIPS-2 Maps database. The specific example uses an urban boundaries shapefile from AWIPS-1 called urbanBounds. In particular, this exercise uses the importShapeFile.sh script that's located in /awips2/database/sqlScripts/share/sql/maps/ on your database server (normally DX1). The arguments for importShapeFile.sh are:

### importShapeFile.sh shapefile schema table simplev dbUser

For a complex shapefile, running the importShapeFile.sh script may take several minutes. (Note: some large FFMP shapefiles have resulted in out of memory errors; the AWIPS Network Control Facility can provide assistance in this situation, because it requires temporarily adjusting certain settings in the database itself.) After importing the shapefile, we need to create a display bundle and make the map accessible from the maps menu. We'll use the Localization Perspective for part of these steps.

This exercise will take 30 minutes or less to complete.

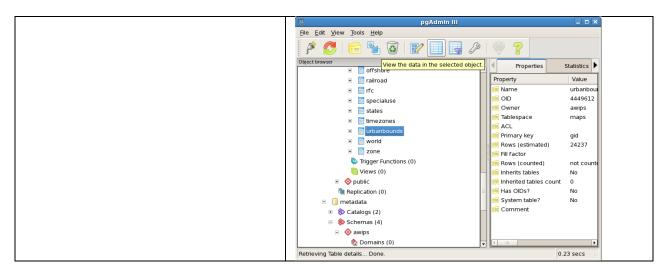
Concept	Actions
Part 1: Imp	ort Urban Bounds Shapefile
<ol> <li>Place the urbanBounds shapefiles someplace accessible by DX1 or DX2. You would probably obtain the shapefiles from AWIPS-1 or the NOAA1 ftp server.</li> </ol>	In this example, the three files that make up the urbanBounds shapefile are located in /home/awips/shapes on the database server: • /home/awips/shapes/urban_bounds.shp • /home/awips/shapes/urban_bounds.shx • /home/awips/shapes/urban_bounds.dbf
<ol> <li>Import the shapefile into the database.</li> </ol>	On the database server (DX1), open a terminal window <b>as the awips user.</b> Go to the directory that contains the importShapeFile.sh script and run the import script. The new map database table will be called mapdata.urbanbounds. The importShapeFile.sh command below is to be typed on one single line. \$ cd /awips2/database/sqlScripts/share/sql/maps \$ ./importShapeFile.sh /home/awips/shapes/urban_bounds.shp mapdata urbanbounds 0.064,0.016,0.004,0.001 awips Note that /home/awips/shapes/urban_bounds.shp in the command above needs to refer to the location of your shapefile.

		> 🗈 acarsAirports.xm	1
3. Create a site-level urban.xml bundle	In the Localization	> 🖹 Basins.xml > 🖹 buoy.xml	
starting with the base-level	Perspective file	<ul> <li>E Canada.xml</li> <li>Cities.xml</li> </ul>	
counties.xml bundle.	browser, open CAVE	Counties.xml	
Note: Defens offenseting to success a	» Bundles » maps »	Counties_site.xm     County_names.xm	
Note: Before attempting to create a	Counties.xml. Right-	➢ CWA.xml ➢ @ CWA_AlL.xml	Copy To Site (OAX)
SITE-level configuration file, the user performing the configuration must have	click the <b>BASE</b> icon	<ul> <li>▶ E FIPS_site.xml</li> <li>▶ E FireWxAOR.xml</li> </ul>	Move To + Workstation (localhost)
permissions enabled in the	then	> it fireWxStations.x	Refresh New File
userRoles.xml file. For example, this	Copy To Þ New		Rename file 🛛 🗙
new entry was added to a site override	File Call the new	File name:	
version of userRoles.xml located in	file <b>urban.xml</b> .		
common_static/site/OAX/roles/			Cancel OK
userRoles.xml to enable the user	The new urban.xml		
"dmorris" to make site-level	file probably	▷ X Topo.xml ▼ X urban.xml	
configuration changes.	defaulted as a new	USER (dmor	open
<pre>(permission id="con.raytheon.localization.site/common_static/shef")&gt; (permission id="con.raytheon.localization.site/common_static/roles")&gt; (permission id="con.raytheon.localization.site/common_static/roles")&gt;</pre>	user-level file. We	<ul> <li>World.xml</li> <li>EAA</li> </ul>	Open With  Copy
Cpernission ide"con.raytheon.localization.site/common static/archive"/> Cpernission ide"con.raytheon.localization.site.on%/common static///> Cpernission ide"con.raytheon.localization.site.on%/common static///>	want this to be a	FFMP Basins E General Construction	Copy To  Delete
<pre>(user userId*'dmorris")</pre>	site-level override,	Rivers Bounding Locs	Move To   Site (OAX)
<pre><userpernission>con.raytheon.localization.site.OAX/common_static"</userpernission> </pre>	so right-click the	MPE	Refresh Desk Workstation (localhost)
	new <b>USER</b> icon	🕨 🗁 safeseas	User (dmorris)
	under <b>urban.xml</b>	<b>4</b>	New File
	and click Move To	Site.	
4. Make edits to urban.xml. Change the	In the Localization Per	rspective	♪ 🖹 states.xml
table name from mapdata.county to	file browser, navigate	to your	statesCounties.xml     xynoptic.xml
mapdata.urbanbounds and the menu	new urban.xml file (it'	s possible	V imeZones.xml
entry label from County Boundaries	that the file browser h	nas	▶ I Topo.xml ▼ I urban.xml
to Urban Boundaries.	automatically navigate	ed there	SITE (OAX)
	for you). It should app	pear	▶  world.xml ▶  scGrids
	under CAVE » Bundle	s » maps.	▷ 🧀 MPE
	When you find urban.	xml, open	<ul> <li>▷ 🧁 safeseas</li> <li>▷ 🧁 scales</li> </ul>
	it and edit the new SI	FE version	
	you just created by do	buble-clicking	on it. Click on the
	Source tab at the bott	om of the edi	tor window to edit
	the XML.		
	Make these edits to the	ne ResourceDa	ata tag (shown in
	Figure 1), and the save	e urban.xml fi	le when you're
	finished.		
	Change the tal	ole to mapdat	a.urbanbounds
	-	•	ban Boundaries
	Delete the two	lines indicate	ed by the red box
	in <b>Figure 1</b> .		

<pre>cresource&gt; cresource&gt; cloadProperties&gt; ccapability xsi:type="outlineCapability" lineStyle="50LID" outlineOn="true" cutlineWidth="1" /&gt; ccapability xsi:type="colorableCapability" colorAsString="#9b9b9b" /&gt; ccapabilities&gt; cresourceType&gt;PLAN_VIEW cresourceType&gt;PLAN_VIEW c/capabilities&gt; c/capabilities&gt;</pre>	21⊖ <b>&lt;</b> bu	
<pre>246 <descriptor xsi:type="mapDescriptor"> 256  266  266  276  276  28  29  29  29  29  20  20  20  20  21  22  23  24  25  26  27  28  29  20  20  20  20  21  22  23  24  25  26  27  28  29  20  20  20  20  21  22  23  24  25  26  27  28  29  20  20  20  21  22  23  24  25  26  27  28  29  20  20  21  22  23  24  25  26  27  28  29  20  20  21  22  23  24  25  26  26  27  27  28  29  20  20  21  22  23  24  25  26  26  27  27  28  29  20  20  21  22  <li>23 </li> <li>24 </li> <li>25 </li> <li>26 </li> <li>27 </li> <li>26 </li> <li>27 </li> <li>27 </li> <li>28 </li> <li>29 </li> <li>20 </li> <li>20 </li> <li>21 </li> <li>22 </li> <li>23 </li> <li>24 </li> <li>24 </li> <li>25 </li> <li>26 </li> <li>26 </li> <li>27 </li> <li>27 </li> <li>28 </li> <li>29 </li> <li>29 </li> <li>20 </li> <li>20 </li> <li>21 </li> <li>21 </li> <li>22 </li> <li>23 </li> <li>24 </li> <li>25 </li> <li>26 </li> <li>26 </li> <li>27 </li> <li>26 </li> <li>27 </li> <li>27 </li> <li>28 </li> <li>29 </li> <li>29 </li> <li>20 </li> <li>20 </li> <li>21 </li> <li>21 </li> <li>22 </li> <li>23 </li> <li>24 </li> <li>24 </li> <li>25 </li> <li>26 </li> <li>26 </li> <li>27 </li> <li>26 </li> <li>27 </li> <li>27 </li> <li>28 </li> <li>29 </li> <li>29 </li> <li>20 </li> <li>20 </li> <li>21 </li> <li>22 </li> <li>23 </li> <li>24 </li> <li>25 </li> <li>26 </li> <li>27 </li> <li>26 </li> <li>27 </li> <li>27 </li> <li>28 </li> <li>29 </li> <li>29 </li> <li>20 </li> <li>20 </li> <li>21 </li> <li>21 </li> <li>22 </li> <li>23 </li> <li>24 </li> <li></li></descriptor></pre>		
<pre>259 </pre> 259  259  259  259  259  259  259  259  259  250  250  250  250  250  250  250  250  250  250  251  252  253  250  251  252  253  253  255  256  257  258  259  250 </td <td></td> <td></td>		
<pre>266 <li><loadproperties> 279 </loadproperties></li></pre> 279  279  279  279  28  28  29  29  29  29  29  29  20  20  20  20  21  20  21  22  23  24  25  26  27  27  28  29  29  20  20  20  20  20  20  20  20  21  22  23  24  25  26  27  27  28  29  29  20  20  20  20  20  21  22  23  24  25  26  27  27  26  27  27  28  29  20  20  20  20  21  22  23  24  25  26  27  27  26  27  27  27  27  28  29  20  20  20  21  21  22  23  24  25  26  27  27  26  27  27  27  27  27  27  28  29  20  20  20  21  21  22  22  23  24  25  26  27  27  26  27  27  27  27  27  27  27  27  27  28  29  20  20  20  20  21  21  22  23  24  25  26  27  27  26  27  27  27  27  28  29  20  20  20  20  20  20  20  20  20  20  20  20  20  20  21  21  22  23  24  25  26  27  27  26  27  27  27  27  28  29  20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  2		
279 <capabilities>         28       <capability <="" linestyle="SOLID" outlineon="true" td="" xsi:type="outlineCapability">         29       outlineWidth="1" /&gt;         30       <capability colorasstring="#9b9b9b" xsi:type="colorableCapability"></capability>         31       </capability></capabilities> 32 <resourcetype>PLAN_VIEW</resourcetype> 33           340 <properties< td="">         35       isVisible="true"&gt;         36       <properties< td="">         37          380       <resourcedata xsi:type="dbMapResourceData">         39          <column expression="state    'C'    substr(fips,3)" name="EDITAREA"></column>         41          <column expression="state    'C'    substr(fips,3)" name="wfo"></column>         42          43              44              45</resourcedata></properties<></properties<>		
<pre>28</pre>		
<pre>29</pre>		
<pre>30</pre>	28	<capability <="" linestyle="&lt;i&gt;SOLID&lt;/i&gt;" outlineon="&lt;i&gt;true&lt;/i&gt;" td="" xsi:type="&lt;i&gt;outlineCapability&lt;/i&gt;"></capability>
<pre>31</pre>	29	outlineWidth="1" />
<pre>32 &lt;</pre>	30	<capability colorasstring="#9b9b9b" xsi:type="&lt;i&gt;colorableCapability&lt;/i&gt;"></capability>
<pre>33      <li></li>     <li></li></pre>	31	
<pre>349 349 349 349 349 349 349 349 349 349</pre>	32	<resou rcetype="">PLAN_VIEW</resou>
<pre>35 isVisible="true"&gt; 36 &lt; qdProps maxDisplayWidth="100000000" minDisplayWidth="0" /&gt; 37  38 </pre> <pre>38 </pre> <pre>39 </pre> <pre>39 </pre> <pre>30 </pre> <pre>39 </pre> <pre>30 </pre> <pre>30 </pre> <pre>30 </pre> <pre>30 </pre> <pre>30 </pre> <pre>31 </pre> <pre>32 </pre> <pre>32 </pre> <pre>33 </pre> <pre>33 </pre> <pre>34 </pre> <pre>35 </pre> <pre>36 </pre> <pre>37 </pre> <pre>38 </pre> <pre>39 </pre> <pre>39 </pre> <pre>39 </pre> <pre>30 </pre> <pre>31 </pre> <pre>32 </pre> <pre>32 </pre> <pre>32 </pre> <pre>33 </pre> <pre>33 </pre> <pre>34 </pre> <pre>35 </pre> <pre>36 </pre> <pre>36 </pre> <pre>37 </pre> <pre>37 </pre> <pre>38 </pre> <pre>39 </pre> <pre>30 </pre> <pre>31 </pre> <pre>32 </pre> <pre>32 </pre> <pre>32 </pre> <pre>33 </pre> <pre>33 </pre> <pre>34 </pre> <pre>35 </pre> <pre>35 </pre> <pre>36 </pre> <pre>36 </pre> <pre>36 </pre> <pre>37 </pre> <pre>37 </pre> <pre>38 </pre> <pre>38 </pre> <pre>39 </pre> <pre>30 </pre> <pre>30 </pre> <pre>30 </pre> <pre>30 </pre> <pre>31 </pre> <pre>32 </pre> <pre>32 </pre> <pre>33 </pre> <pre>33 </pre> <pre>34 </pre> <pre>35 </pre> <pre>36 </pre> <pre>36 </pre> <pre>36 </pre> <pre>37 </pre> <pre>36 </pre> <pre>36 </pre> <pre>37 </pre> <pre>36 </pre> <pre>36 </pre> <pre>37 </pre> <pre>36 </pre> <pre>37 </pre> <pre>36 &lt;</pre>	33	
36 <pdprops maxdisplaywidth="100000000" mindisplaywidth="0"></pdprops> 37          380 <resourcedata type="dbMapResourceData" xsi:="">         390       <column expression="state    'C'    substr(fips,3)" name="EDITAREA"></column>         40       <column expression="cwa" name="wfo"></column>         41       mapName&gt;Urban Boundaries</resourcedata>	340	<properties <="" isblinking="false" ishoveron="false" ismaplayer="true" issystemresource="false" pre=""></properties>
<pre>37</pre>	35	isVisible=" <i>true</i> ">
<pre>389</pre>	36	<pre><pdprops maxdisplaywidth="1000000000" mindisplaywidth="0"></pdprops></pre>
<pre>39 39 39 39 39 39 39 39 39 39 39 39 39 3</pre>	37	
40 41 41 42 43 44 44 44 45 45 40 40 40 40 40 41 41 	380	<pre><resourcedata xsi:type="dbMapResourceData"></resourcedata></pre>
43        44        45	39	<pre><column expression="state    'C'    substr(fips,3)" name="EDITAREA"></column></pre>
43        44        45	10	<column expression="cwa" name="wfo"></column>
43        44        45	11	mapdata.urbanbounds
43        44        45	12	<mapname>Urban Boundaries</mapname>
45	13	
	14	resource
	15	
47		

Figure 1. Edits to urban.xml

5.	Restart CAVE and load the new urban boundaries in the D2D perspective. The Maps menu is unusual in that CAVE dynamically builds the menu when CAVE starts up by scanning bundles in /awips2/cave/etc/bundles/maps or in the Localization Store in bundles/maps in cave_static under site, user, or workstation.	Click the Maps menu and load Urban Boundaries.	Bups       Help         County Names       County Warning Areas         FA       FMP Basins         FRA       FMP Basins         Fer Wx AOR       Environment Areas         State/County Boundaries       State/County Boundaries         State/County Boundaries       Environment Areas         Whole Resumatives       Within Boundaries         World       World
	Part 2: A	dd Optional Co	nstraints
6.	Optional: Add constraints based on shapefile attributes. Open the urbanbounds table in pgadmin3 so you can see the attributes and their datatypes. You need to know the datatypes so you can make the appropriate queries with correct syntax.	mapdata sche to urbanboun	3. Open the maps database. Open the ma. Open the Tables tab and navigate ds. Click on the view table icon. An urbanbounds table is shown in <b>Figure</b>
ve for RP on cai	DTE: Beginning with OB13.4, an AWIPS-2 rsion of pgadmin3, a graphical interface PostgreSQL, has been distributed as an M (awips2-pgadmin3). Once installed your system, this version of pgadmin3 in be started in a terminal window using wips2/pgadmin3/bin/pgadmin3.		

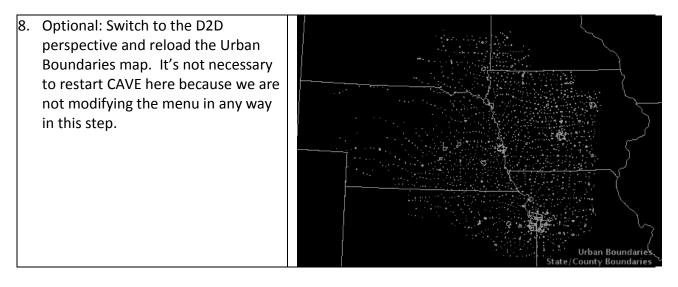


				Edit	Data - real	time (kobe	old:5432) -	maps - ma	pdata.urba	nbounds				
le	Edit <u>V</u> iew <u>H</u>	lelp												
	2 🔊 🛙		0   7   4	No lim	it 💌									
	gid [PK] seria	fpi character	fips character	cwa character	name character	state character	lon double pre	lat double pro						the_geom geometry
1	1	337100	36121	BUF	Wyoming	NY	-78.08445	42.82433	0106000020	0106000020	0106000020	0106000020	0106000020	0106000020
2	2	687700	36121	BUF	Middlebury	NY	-78.1327	42.82636	0106000020	0106000020	0106000020	0106000020	0106000020	0106000020
з	3	99902	36121	BUF	Attica	NY	-78.27771	42.86264	0106000020	0106000020	0106000020	0106000020	0106000020	0106000020
4	4	12025	36121	BUF	Attica	NY	-78.24857	42.82557	0106000020	0106000020	0106000020	0106000020	0106000020	0106000020

Figure 2. Excerpt of urbanbounds table in the maps database.

7. Optional: Add constraints based on	Re-open the localization perspective and navigate to
the OAX CWA and these neighboring	urban.xml and edit it. Add the following constraint to
CWAs: OAX, FSD, DMX, EAX, TOP,	the end of the same resourceData we edited above:
GID, LBF. In this case we used single	
quotes around the CWAs because	<constraint></constraint>
•	cwa in
they are character fields. Exercise 2	('OAX','FSD','DMX','EAX','TOP','GID','LBF')
will show another example of	
•	
adding a constraint.	This entry should be on one line to match the
	structure of the rest of the XML file (as shown in
	Figure 3). There's no need to add the line breaks that
	were added here for clarity. Also see how the
	Localization Perspective editor automatically adds
	. ,
	closing tags, closing parenthesis, and closing quote
	marks for your convenience.

210	<pre><bundle></bundle></pre>
220	<pre><displaylist></displaylist></pre>
230	<pre><displays xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="mapRenderableDisplay"></displays></pre>
240	<pre><descriptor xsi:type="mapDescriptor"></descriptor></pre>
25 😑	<resource></resource>
260	<loadproperties></loadproperties>
270	<capabilities></capabilities>
28	<capability <="" linestyle="&lt;i&gt;SOLID&lt;/i&gt;" outlineon="&lt;i&gt;true&lt;/i&gt;" td="" xsi:type="&lt;i&gt;outlineCapability&lt;/i&gt;"></capability>
29	outlineWidth="1" />
30	<capability colorasstring="#9b9b9b" xsi:type="&lt;i&gt;colorableCapability&lt;/i&gt;"></capability>
31	
32	<resourcetype>PLAN_VIEW</resourcetype>
33	
340	<properties <="" isblinking="false" ishoveron="false" ismaplayer="true" issystemresource="false" pre=""></properties>
35	isVisible="true">
36	<pre><pdprops maxdisplaywidth="1000000000" mindisplaywidth="0"></pdprops></pre>
37	<pre></pre>
380	<resourcedata xsi:type="dbMapResourceData"></resourcedata>
39	mapdata.urbanbounds
40	<mapname>Urban Boundaries</mapname>
41	<constraint>cwa in ('OAX','FSD','DMX','EAX','TOP','GID','LBF')</constraint>
42	
43	
44	
45	
46	
47	



# Exercise 2: Maps — Database Constraints Cities with Population > 25,000

**Objectives:** In this exercise, you will perform these procedures:

- Create a display bundle that pulls city locations from the maps database
- Add a constraint to the database query to limit the cities to those with population greater than 25,000.

**Background**. As illustrated at the end of Exercise 1, AWIPS-2 can access various attributes included in shapefiles to filter the display. Map bundles can include various constraints to limit the data as it is queried from the database.

In this example, we're going to create a user-level map bundle to display city locations, but only for cities with populations over 25,000. We can do this because the baseline maps database contains a city table that includes a number of attributes, including population. The normal Cities overlay in the Maps menu uses this database table. You can verify this yourself by looking at the following bundle file: /awips2/cave/etc/bundles/maps/Cities.xml. You can look at this file using the Localization Perspective by navigating the file browser to **CAVE** » **Bundles** » **maps** » **Cities.xml** and opening the **BASE** file. So to do this task, we'll start with the cities.xml file and make the necessary modifications for a new bundle to plot cities over 25,000 population.

### **Troubleshooting Tip**

Earlier builds of AWIPS-2 implemented the cities overlay using the cities.lpi file (in /awips2/cave/etc/basemaps) rather than using the cities table in the database. So in the earlier versions, the cities displayed on the map could be changed simply by editing the cities.lpi file. Current builds still include the cities.lpi file but because the display bundle references the database rather than cities.lpi, different methods would be used to modify the cities on the map. When making modifications in AWIPS-2 configurations, it is a good practice to verify whether or not the default CAVE display bundles have changed, especially when multiple methods exist that generate similar displays.

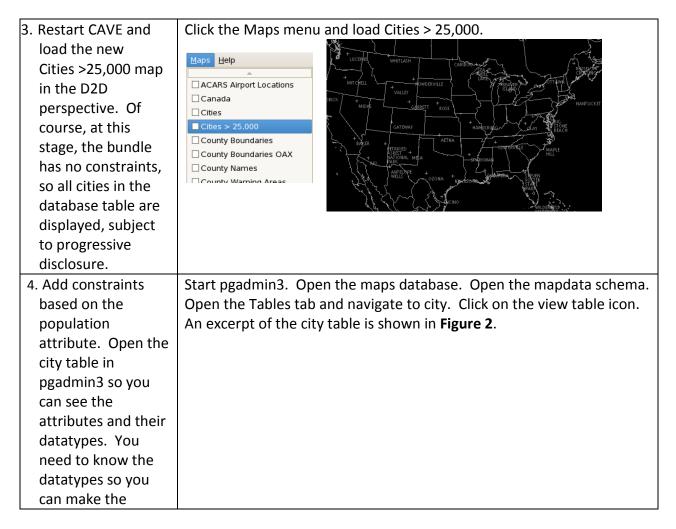
Note: In the previous versions, the bundle which used cities.lpi had a resourceData tag of xsi:type="lpiResourceData". The database version uses xsi:type="dbPointMapResourceData". Other bundles utilizing dbPointMapResourceData were found in the FAA directory.

This exercise will take about 15 minutes or less to complete.

Concept	Actions
1. Create a user-level cities25k.xml	In the Localization Perspective file browser, open CAVE » Bundles » maps » Cities.xml. Right-click BASE and Copy To ► New File Call the
bundle starting	new file <b>cities25k.xml</b> .
with the base-level	▷ I buoy.xml
cities.xml bundle	Canada.xml
	マ 🖹 cities.xml
	X BASE
	Counties.xml
	▷ I counties_CW
	Copy
	CWAs.xml Copy To Site (TSA)
	ImageBasir Delete     Workstation (localhost)     User (dmorris)
	Comment of the second sec
	▷ X fireWxStation     New File       ▷ X fireWxZones     Refresh
2. Make edits to	In the Localization Perspective file
cities25k.xml.	browser, navigate to your new
Change the menu	cities25k.xml file. It should appear under
entry label from	CAVE » Bundles » maps. When you find
Cities to Cities >	cities25k.xml, open it, and edit the new
25,000	user version by double-clicking on it. Click
	on the Source tab at the bottom of the
	editor window to edit the XML.
	Make this edits to the ResourceData tag (shown in <b>Figure 1</b> ), and the save cities25k.xml file when you're finished.
	• Change the mapName to Cities >25,000
	We use > for the > symbol in the mapName tag to not interfere with
	the syntax of the XML that also uses < and > to delimit tags.
	Save your changes.

219	<pre><bundle></bundle></pre>
220	<pre><displaylist></displaylist></pre>
230	<displays xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="mapRenderableDisplay"></displays>
249	<descriptor xsi:type="mapDescriptor"></descriptor>
25 😑	<resource></resource>
269	<loadproperties></loadproperties>
279	<capabilities></capabilities>
28	<capability colorasstring="#9b9b9b" xsi:type="colorableCapability"></capability>
29	<capability labelfield="name" xsi:type="labelableCapability"></capability>
30	<capability <="" linestyle="&lt;i&gt;SOLID&lt;/i&gt;" outlineon="&lt;i&gt;true&lt;/i&gt;" th="" xsi:type="&lt;i&gt;outlineCapability&lt;/i&gt;"></capability>
31	outlineWidth="1" />
32	
33	<resourcetype>PLAN_VIEW</resourcetype>
34	
35 😑	<properties <i="" isblinking="false" ishoveron="fa&lt;/pre&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;36&lt;/th&gt;&lt;th&gt;isVisible=" ismaplayer="true" issystemresource="false">true"&gt;</properties>
37	<pre><pdprops maxdisplaywidth="1000000000" mindisplaywidth="0"></pdprops></pre>
38	
390	<resourcedata xsi:type="dbPointMapResourceData"></resourcedata>
40	<pre>mapdata.city</pre>
41	<pre><mapname>Cities &gt; 25,000</mapname></pre>
42	
43	resource
44	
45	
46	
47	

Figure 1. Edits to cities25k.xml.



	Ble Edit View Jools Help	_ = ×	
with correct syntax.	Image: Section of the section of th	Properties Statistics	

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28114	28114	08	08	125	125	86750	202920	4131	2719	3285	YUMA	co	COLORADO	3		3	0	0	0
28115	28115	08	08	031	031	20000	201738	5277	467610	554636	DENVER	co	COLORADO	1	+	1+	0	200	0
28116	20116	08	08	031	031	20000	204356		0		DENVER INT	co	COLORADO	2	=	2=	0	22	0
28117	28117	08	08	031	031	30340	184853	5350	2453	4547	GLENDALE	со	COLORADO	3		3	0	0	0
28118	28118	08	08	111	111		0811199		0		ELK PARK	со	COLORADO	3		3	0	7	0
28119	28119	08	08	111	111		187328	10565	0		GLADSTON	co	COLORADO	3		3	0	20	0
28120	28120	08	08	111	111	70580	204750	9305	716	531	SILVERTON	co	COLORADO	2		2	0	35	0
28121	28121	11	11	001	001	50000	529289	165	0	606900.000	ADAMS MOR	DC	DISTRICT	2		2	0	606900	10
28122	28122	11	11	033	033	38975	531456		0	17136 0000	ANACOSTIA	DC	DISTRICT	2		2	0	500	2740

**Figure 2.** Excerpt of the city table in the maps database. Notice that population is stored as a character field, and also that a few locations in the District of Columbia have a decimal point in the population field.

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the numeric
typecast in this
case takes care of
the decimal
values; an integer
typecast generates
an exception when
encountering a
decimal point.

210	<pre><bundle></bundle></pre>
220	<pre><displaylist></displaylist></pre>
230	displays xsi:type="mapRenderableDisplay" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
249	<pre><descriptor xsi:type="mapDescriptor"></descriptor></pre>
25 🖯	<resource></resource>
260	<loadproperties></loadproperties>
270	<capabilities></capabilities>
28	<capability colorasstring="#9b9b9b" xsi:type="colorableCapability"></capability>
29	<capability labelfield="name" xsi:type="labelableCapability"></capability>
30	<capability <="" linestyle="SOLID" outlineon="true" td="" xsi:type="outlineCapability"></capability>
31	outlineWidth="1" />
32	
33	<resourcetype>PLAN_VIEW</resourcetype>
34	
35 😑	<properties <="" isblinking="false" ishoveron="false" ismaplayer="true" issystemresource="false" pre=""></properties>
36	isVisible="true">
37	<pdprops maxdisplaywidth="100000000" mindisplaywidth="0"></pdprops>
38	
390	<pre><resourcedata xsi:type="dbPointMapResourceData"></resourcedata></pre>
40	mapdata.city
41	<mapname>Cities &gt;25,000</mapname>
42 43	<pre><constraint>population not like '%Null%' and population::numeric &gt; 25000</constraint></pre>
44	
45	
46	
47	
48	

Figure 3. cities25k.xml with the population constraint.



# Exercise 3: Maps — Spotter Readout Data and Other Adaptive Plots

**Objective:** In this exercise, you will perform the following procedure:

• Import a properly-formatted text file to enable the spotter readout functionality.

**Background.** In AWIPS-1, the spotter readout map was created by having a spotters.dat text file in your \$FXA\_CUSTOM\_FILES and running a –station localization with mainScript.csh. This localization step created a special netCDF file that contained the spotter information. In addition, AWIPS-1 harnessed the same infrastructure to allow other types of data to be displayed in a similar fashion, so long as the text .DAT file was formatted correctly and the proper data keys were created.

id: A123
spotterName | Ken Waters
spotterAddr |123 Toad Rd
spotterCity | Somewhere TX
spotterPhone | 817-560-8755
latitude | 32.7
longitude | -97.5
id: D111
spotterName | Sam Iam
spotterAddr | 5 Live Dr
spotterCity | Rhyme C0
spotterPhone | 970-444-4444
latitude | 39.0
longitude | -104.0

AWIPS-2 contains the importAdaptivePlot.py command-line script located in /awips2/fxa/bin. The arguments for importAdaptivePlot.py are

importAdaptivePlot.py -f {path\_to\_file.dat} -s edex\_host\_name:9581/services -n `Menu
Name'

When this command runs, the .dat file is uploaded to the EDEX server and is stored in the Utility Tree under cave\_static/configured/{SITE}/basemaps/adaptivePlots. A corresponding display bundle is created and written to cave\_static/configured/{SITE}/bundles/maps. Occasionally, edits to either the bundle or the .dat file may be required to enable the functionality to work, but the edits can be performed in the localization perspective. These situations are covered below.

NOTE: AWIPS-2 expects the file format for the .dat file to be exactly like the example shown above, except that it wants the address field to **not** be abbreviated, so it is like "spotterAddress", or "coopAddress". There should not be any blank lines between any of the fields in any one spotter entry, but there can be blank lines between individual entries. Some editing of existing .dat files may be required to make them conform to the AWIPS-2 expectations. This editing can be done after the files are imported to the EDEX server using the localization perspective. Alternatively, the files can be edited using any other text editor prior to uploading them to the EDEX server. AWIPS-2 also expects the field name to match the filename (so that field names like venueName must be in a venue.dat file and not venues.dat) This exercise should take about 10 minutes to complete.

	Concept	Actions				
1.	Locate your	In this example, the spotters.dat file is located at				
	spotters.dat	/home/awips/spotters.dat.				
	file and place it					
	in an accessible					
	location on an					
	AWIPS-2					
	workstation.					
2.	Upload the	On your CAVE workstation, open a terminal window and go to the				
	spotters.dat	directory that contains the importAdaptivePlot.py script and run it. This				
	file to the EDEX	script can need not be run by the awips user. The importAdaptivePlot.py				
	server.	command below needs to be typed on one single line, and {edex_server}				
		refers to the machine name of your EDEX server (normally DX3 or EC if an				
		operational AWIPS machine).				
		\$ cd /awips2/fxa/bin				
		<pre>\$ ./importAdaptivePlot.py -f /home/awips/spotters.dat -s</pre>				
3.	Inspect the	{edex_server}:9581/services -n "Spotters Readout"				
5.	bundle and the	In the Localization Perspective, open the Spotters.xml bundle by clicking CAVE >> Spotters.xml				
	data file to	Bundles » maps » spotters.xml, and then				
	ensure	double-clicking <b>CONFIGURED</b> . This file is ▷ R states.xml				
	consistency.	shown in <b>Figure 1.</b> There is also a BASE				
	consistency	version of spotters.xml, and it's explained				
NC	DTE: later	below in a Troubleshooting Tip. Notice the value of the name tag. If you				
ve	rsions of the	used "spotters.dat" in Step 2, this value should be "spotters" because it				
im	portAdaptive	comes from the filename. If the file were coop.dat, the name would be				
Plo	ot.py script	"coop". This name must be consistent with the field names in the .dat				
со	rrects for some	file.				
of	the data					
inc	consistencies if	Open the spotters.dat file by clicking CAVE » Basemaps » adaptivePlots »				
the	e input file is	spotters.dat, and double-clicking on CONFIGURED. An excerpt of a				
spo	otters.dat. It still	sample (and redacted) spotters.dat file is shown in Figure 2. In this case,				
-	ood idea to	the data fields are named spotterName, spotterAddr, spotterCity, and				
	eck the file, and	spotterPhone.				
	absolutely					
	cessary if the	This file has two problems. Because the value of name in the bundle is				
	aptive plot is	"spotters", CAVE expects these field names to be spottersName,				
	mething other	spottersAddress, spottersCity, and spottersPhone. To fix these issues, we				
tha	an spotters.dat.	can change the bundle to say "spotter" rather than "spotters", and we				
		can change the spotters.dat file to say "spotterAddress", rather than				

"spotterAddr". If the original file was named "spotter.dat", rather than "spotters.dat", then the only issue would be "Address" vs "Addr". Admittedly, in this exercise, "spotters" vs "spotter" is extremely confusing. Remember that if the filename that is passed into importAdaptivePlot.py is spotter.dat, then the field names would be spotterName and spotterAddress. If the filename is spotters.dat, then the field names need to be spottersName and spottersAddress. <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<builde xmlns:ns2="http://www.example.org/productType" xmlns:ns3="group">
<displayList> 20 30 40 <displays xsi:type="mapRenderableDisplay" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"> 50 60 7 <descriptor xsi:type="mapDescriptor" <resource> source> <loadProperties loadWithoutData="true"/> <properties isSystemResource="false" isBlinking="false" isMapLayer="false" isHoverOn="false" isVisible="true"/> <resourceData xsi:type="adaptivePlotResourceData" filePath="basemaps/adaptivePlots/spotters.dat" name="spotters" plotName="Spotters Readout"/> 10 </ resource> </descriptor> </displayList>

**Figure 1.** CONFIGURED version of spotters.xml after uploading spotters.dat file to EDEX server using importAdaptivePlots.py.

14 </bundle>

<pre>1 id: I001102 2 spotterName   3 spotterAddr   4 spotterCity   5 spotterPhone   6 latitude   39.9488 7 longitude   -91.362</pre>	1 (2000) () (2001)200 () (2000) () (2000)		
8 9 id: I001112 10 spotterName   11 spotterAddr   12 spotterCity   13 spotterPhone   14 latitude   39.9148 15 longitude   -91.3857	nn († 1988) 10. dille - di 1. 1. dille		
16 17 id: I001113 18 spotterName   19 spotterAddr   20 spotterCity   21 spotterPhone   22 latitude   39.9156 23 longitude   -91.3857	0000 - (0000000) - (00000-00 - (00000-00 - (00000-00)		
24 25 id: 1001129 26 spotterName   27 spotterAddr   28 spotterCity   29 spotterPhone   30 latitude   39.9391 31 longitude   -91.3749 32	998-11 (9881230-1) 2088 92 1 (9980)		
Figure 2. Sample spot	ters.dat file.		
4. Fix the spotters.xml bundle by making a site- level override.	In the Localization Perspective, click on the tab containing the CONFIGURED spotters.xml. If you have the Link with Editor button enabled, the file browser should automatically reposition itself with the CONFIGURED version of spotters.x <b>CONFIGURED</b> and choose <b>Copy To</b> Double-click the new SITE version name="spotters" to name="spotters"	► Site. of spotters.xml a	Open With       •         Copy       Site (OAX)         Delete       Workstation (localhost)         Move To       •         Refresh       New File         Right-click on       nd change the tag from
5. Fix the spotters.dat file using a site override version.	In the Localization Perspective, click on the tab containing the CONFIGURED spotters.dat. The file browser should automatically reposition itself with the CONFIGURED version of spotters.dat highlighted. Right- click on <b>CONFIGURED</b> and choose <b>Copy To</b> ► <b>Site</b> . It's possib messages that can be ignored, but	-	Viz may be flooded with

<b></b>	
	Double-click on the new SITE version and type CTRL-F
	to call up the Find/Replace dialog box. Type
	SpotterAddr   in the Find box and Spotter Address
	in the <b>Replace</b> box, and click <b>Replace All</b> . Save your
	changes. Options □ Case sensitive 🖻 Wrap search
	Whole word      Incremental     Regular expressions
	NOTE: Because we've modified the SITE version of
	Protect At
	spotters.dat, any future edits either need to be done
	through the localization perspective to the SITE
	version. If edits were made to the original version of spotters.dat and
	reimported using the importAdaptivePlot.py script, CAVE would never see
	the new CONFIGURED version because the SITE version always overrides
	the CONFIGURED version.
6. Restart CAVE,	Click the Maps menu and load Spotters Readout.
and load the	Maps Help
Spotters	ACARS Airport Locations
Readout	
	Cities $x_1 + x_2 + x_3 + x_4 + x_4$
overlay from	
the Maps	
menu.	□ Spotters
	Spotters Readout
	✓ State/County Boundaries
	$\Box \text{ Synoptic Station Locations} = \begin{bmatrix} 4 & 3 & 4 & 3 & 4 & 3 & 3 & 3 & 3 & 3 &$
	Time Zones
	UWSR-88D Station Locs
	World X 2 2 2 2 3 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4

#### **Troubleshooting Tips**

Sometimes importing the .dat files for Adaptive Plan plots works with no problem. This is the case when the name of the file matches the name of the data fields (e.g., the filename is coop.dat and the data fields are coopName, coopAddress, etc.)

If AlertViz gives error messages about the field names, there are two likely reasons:

- The field names are not complete (e.g., Addr vs. Address), or
- There's a mismatch between the name tag in the bundle and the field names.

Be careful with filenames that might match other map menu entries. The process of importing spotters.dat resulted in a CONFIGURED version of spotters.xml, which overrides the BASE version of spotters.xml, shown here. This makes CAVE never able to access the spotter data contained in spotters.lpi. One way to fix this would be to use a name other than spotters.dat for the original file. An alternate way would be to copy the BASE spotters.xml bundle to a different name as a SITE override.

21	edundle>
22	<pre>displayList&gt;</pre>
23	<pre></pre> displays xsi:type="mapRenderableDisplay" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
24	<pre>descriptor xsi:type="mapDescriptor"&gt;</pre>
25	esource>
26	<pre><a> <loadproperties></loadproperties></a></pre>
27	
28	<capability colorasstring="#9b9b9b" xsi:type="colorableCapability"></capability>
29	<capability <="" linestyle="SOLID" outlineon="true" th="" xsi:type="outlineCapability"></capability>
30	outlineWidth="1" />
31	
32	<resourcetype>PLAN_VIEW</resourcetype>
33	
34	
35	opacity="1.0" isVisible="true">
36	<pre><pre><pre>pdProps maxDisplayWidth="1000000000" minDisplayWidth="0" /&gt;</pre></pre></pre>
37	
38	
39	<filename>spotters.lpi</filename>
40	<mapname>Spotters</mapname>
41	
42	
43	
44	
45	
46	

# Exercise 4: Customizing Default Scale Map Backgrounds

**Objectives:** In this exercise, you will perform the following procedures:

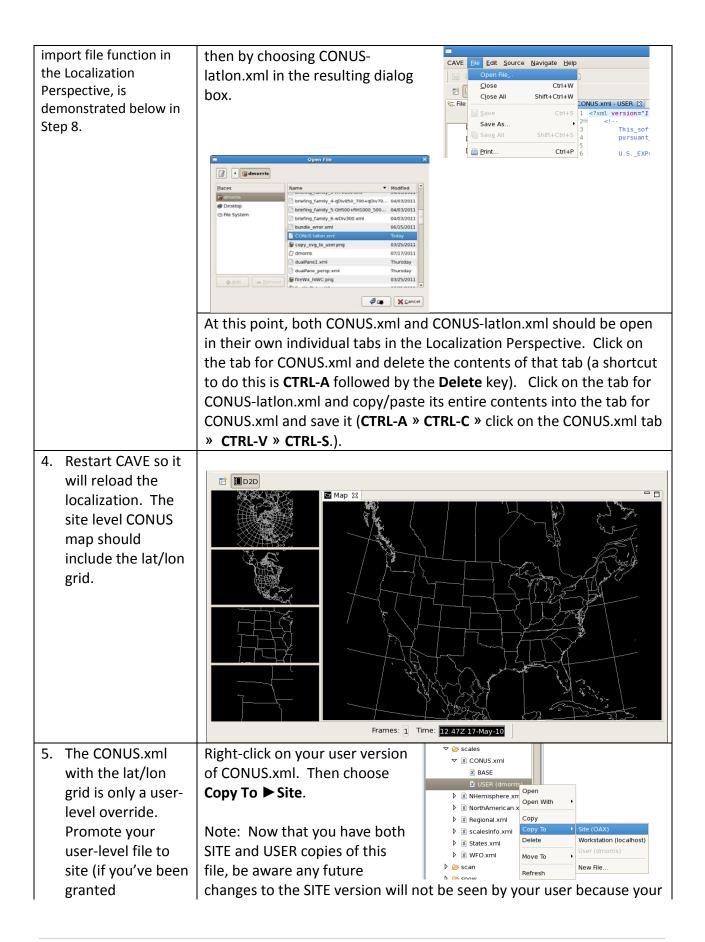
- Add Lat/Lon lines over the ocean to the default CONUS scale map as a site override.
- Customize map overlays on your WFO scale map as a user override.
- Customize the maps that initially populate your D2D side panels as a user override.
- Add another WFO's map scale to your scale pull-down menu.

**Background.** In CAVE, the map displays that initially populate the D2D panes are .XML bundle files that contain only map background layers. The default versions of the files are located in cave/etc/bundles/scales; these BASE files are accessible through the localization perspective. This directory also contains a scalesInfo.xml file that specifies which D2D pane is initially loaded with each scale bundle. (The automated localization tool developed by Raytheon includes site override versions of state, regional, and WFO-scale background map bundles which are placed in appropriate locations in the Localization Store on the EDEX server.) Because the panes are populated with bundles, the maps in the bundles are easily customized with various display options (colors, thickness, line styles, etc.) as well as multiple map overlays per bundle, if so desired.

In this exercise, we'll start with the default CONUS map and add the Lat/Lon grid over the oceans. We will use the default line styles (gray, thin lines) and use this display bundle as a site-level override. Then we'll move on to adding interstate highways and your CWA border to your WFO scale map using various line thicknesses and colors as a user-level override. Finally, we'll rearrange the scales that are loaded into the D2D panes by default by replacing the Northern Hemisphere Scale with the WFO scale and also having the large pane loaded with the regional map by default rather than the CONUS map. We'll also do this customization at the user level so as to not disturb any other user's default layout. Both of these customizations involve saving the D2D display bundles that contain only customized map overlays, placing the bundles as site or user overrides in cave\_static, and editing scalesInfo.xml, if necessary. For the CWA boundary, we'll add a database constraint to limit the boundary to your particular WFO using the concepts outlined in Exercise 2. Finally, to add another WFO's local WFO-scale map to your scale menu, we'll obtain the map bundle, copy it to the correct location, and edit the site-level scalesInfo.xml.

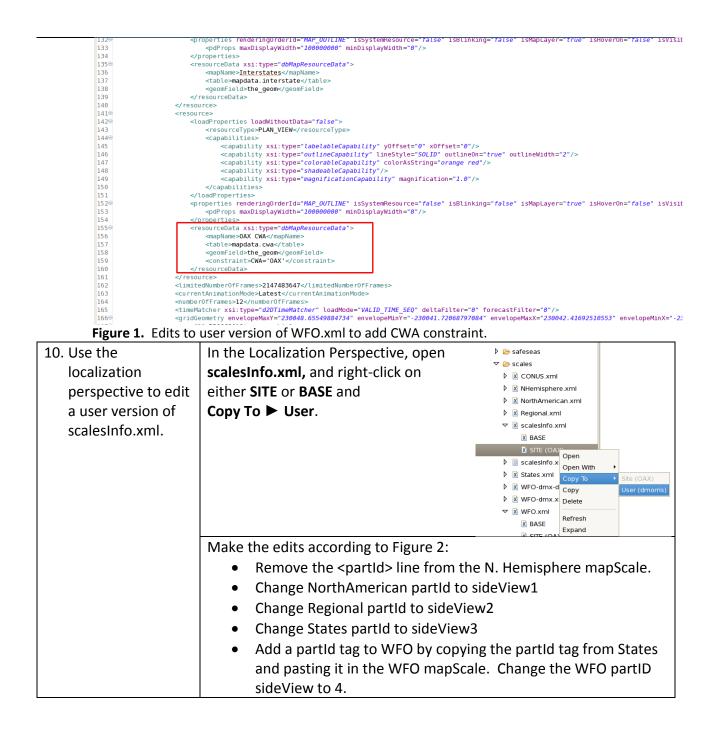
This exercise should probably take about 15 minutes to complete.

	Concept	Actions
	•	Dout 1. CONUS Man Customicsticus
		Part 1: CONUS Map Customizations
1.	To add the Lat/Lon grid to the CONUS	On your CAVE workstation in the D2D       Maps       Help         perspective, clear and/or swap panes to       CARS Airport Locations
	map, load a blank	get a blank CONUS map. Then load the Canada
	CONUS map in the	Lat/Lon 10 over Ocean overlay from the
	main D2D pane and	Maps menu.
	add the Lat/Lon grid	Lakes
	map overlay.	Lat/Lon 10 over Ocean
		Local CWA Boundary
		METAR Station Locations
2.	Save the resulting bundle display to CONUS-latlon.xml in your home directory.	From the CAVE menu, click Load/Save Displays followed by Save Editor Display. In the resulting dialog box, name the file CONUS-latlon.xml . By default, the file will likely be saved in your home directory.
		CAVE
		New  Perspective Data Browsers
		Data Delivery
		Collaboration b growse for other folders
		Archive Retention
		AWIPS User Administration AWIPS Statistics
		Import
		Export  Load/Save Displays
		Save Editor Display
		Save Perspective Displays       Exit       Load Displays
3.	Make a user-level	In the Localization Perspective,
	override for	navigate to the CONUS.xml
	CONUS.xml and	scale bundle file. It is located
	put the contents	under CAVE » Bundles »
	of CONUS-	scales » CONUS.xml. Make a ▷ 🛛 Regional.xml Copy ▷ 🖾 scalesinfo.xr Copy To → Site (OAX)
	lation.xml in	user-level override of this file,
	CONUS.xml.	by expanding CONUS.xml,
_	te: There are two thods of performing	right-clicking on <b>BASE</b> , and choose <b>Copy To ► User</b> .
thi: cop cor	s step. The first, oving/pasting the ntents of one file into	Open the user override of CONUS.xml by double-clicking on your user's version.
	other is shown here. e second method, the	With CONUS.xml still open, open the CONUS-latlon.xml in a new tab by clicking on the <b>File</b> menu followed by the <b>Open File</b> option, and



	permissions to do	USER file overrides the SITE file. If you had used <b>Move To</b> ► <b>Site</b> ,
	so.)	then this potential conflict would be moot.
		Part 2: WFO scale map customizations
6.	Customize the main pane with the WFO scale map, with yellow interstate highways and red CWA boundaries.	Harms Area Heresters Heresters
7.	Save the display bundle to WFO-custom.xml in your home directory.	CAVE       File       View         New       >         Data Browsers       >         Import       >         Load/Save Displays       Save Editor Display         Preferences       Save Perspective Displays         Load Displays       Load Displays
8.	Import the new WFO-custom.xml bundle file into the <b>CAVE » Bundles »</b> <b>Scales</b> area of the Localization Perspective and rename it to a <b>USER</b> version of WFO.xml.	In the Localization Perspective, navigate to CAVE » Bundles » Scales) and right-click on Scales. Choose the Import File option.
		Navigate to the WFO- custom.xml bundle file that is likely stored in your home directory and click the <b>OK</b> button.
		After the import, you should have a new WFO-custom.xml file located under scales. Open its tab and right-click on the <b>USER</b> version that should have been created. Choose the <b>Move To</b> ► <b>New File</b> option.

		In the resulting Rename File dialog box, enter WFO.xml. If you already have a USER version of WFO.xml, this file will overwrite the previous version.	▼       ≥ scales         ▶               CONUS.xml          ▶              R NethAmerican.xml         ▶              Regional.xml         ▶              Regional.xml         ▶              Regional.xml         ▶              Regional.xml         ▶              Regional.xml         ▼              States.xml         ▼              WFO-custom.xml                SUSER (dmorns)         ▶              WFO-custom.xml                Suscan         >>              scan         >>              snow         >>              snow         >>              Snow         >>              StruinSurfacePlot.xml         >>              Airmet.xml	Open Open With Copy Copy To Delete <u>Move To</u>	<ul> <li>Site (OUN)</li> <li>Workstation (localhost)</li> </ul>
		OK Cancel		Refresh	User (dmorris)
e U V	Make a further edit in your new user version of the WFO.xml bundle to add the	<ul> <li>In the WFO.xml (USER) tab, make th</li> <li>To change the map label, cha example, this entry is OAX CV</li> <li>Add the constraint: <constraint< li=""> </constraint<></li></ul>	ange the <mapn NA.</mapn 	ame> e	entry. In this
V a	constraint WFO={your_site} and modify the overlay label.	Save your changes.			



210		
21⊖ <mapscales> 22⊖ <mapscal< th=""><th>e displayName="<i>N. Hemisphere</i>" fileName="<i>NHemisphere.xml</i>"&gt;</th></mapscal<></mapscales>	e displayName=" <i>N. Hemisphere</i> " fileName=" <i>NHemisphere.xml</i> ">	
23 <th></th>		
	e displayName="North American" fileName="NorthAmerican.xml">	
	tId id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView1"/>	
26 <th></th>		
	e displayName=" <i>CONUS</i> " fileName=" <i>CONUS.xml</i> ">	
	tId view="false" id="com.raytheon.viz.ui.glmap.GLMapEditor"/>	
29 <th></th>		
30⊖ <mapscale displayname="&lt;i&gt;Regional&lt;/i&gt;" filename="&lt;i&gt;Regional.xml&lt;/i&gt;"></mapscale>		
31 <par 32 <th>tId id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView2"/&gt;</th></par 	tId id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView2"/>	
	e displayName=" <i>State(s)</i> " fileName=" <i>States.xml</i> ">	
	tId id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView3"/>	
35 <th></th>		
36⊖ <mapscal< th=""><th>e displayName="<i>WFO</i>" fileName="<i>WFO.xml</i>"&gt;</th></mapscal<>	e displayName=" <i>WFO</i> " fileName=" <i>WFO.xml</i> ">	
	tId id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView4"/>	
38 <th></th>		
39		
	user version of scaleinfo.xml.	
11. Restart CAVE. The		
new default D2D		
layout should		
include the new	The Brillion Rich	
WFO map in the		
fourth small pane.		
•		
If you swap the		
WFO map into the	THE ALL THEY !!	
main pane and	All the telefort	
display the map		
legend, you should	A A A A A A A A A A A A A A A A A A A	
see the new CWA	Frames: 1 Time: 1343221744ay20	
map label.		
	Part 3: Add another WFO's local WFO scale map	
12. Obtain another	This example uses OAX's neighbor, DMX. We obtain the DMX	
WFO's local WFO	WFO.xml file from the cave static site.tar.gz file that's included in the	
scale map and	AWIPSII_AUTOMATION_TOOL.tgz file that is part of the ADAM	
•		
place it in your	configuration. In an EDEX terminal, go to the directory that contains	
site's cave_static	AWIPSII_AUTOMATION_TOOL.tgz and extract the	
with a name like	cave static site.tar.gz file. Then extract the DMX WFO.xml file.	
WFO-{xxx}.xml,		
	<pre>\$ tar xvfz AWIPSII_AUTOMATION_TOOL.tgz cave_static_site.tar.gz</pre>	
where {xxx} is the	<pre>\$ tar xvfz awifsi1_A010Mailow_1001.tgz cave_static_site.tar.gz \$ tar xvfz cave_static_site.tar.gz ./DMX/bundles/scales/WF0.xml</pre>	
other WFO's ID.	, cal mill outo_bloctourty2 ., bandiob, boardb, wrothat	
	Move the DMX WFO.xml file to your site's cave_static:	
	<pre>\$ mv ./DMX/bundles/scales/WFO.xml</pre>	
	<pre>/awips2/edex/data/utility/cave_static/site/{your_site}/bundles/</pre>	
	scales/WFO-dmx.xml	

13. Edit your site's	Open your site's scalesInfo.xml file in the Localization Perspective.	
scalesInfo.xml file	Make the edits according to Figure 3:	
to include the additional WFO's	<ul> <li>Copy and paste the mapScale that references the WFO.xml to make a duplicate version.</li> </ul>	
scale in your WFO's menu.	<ul> <li>Change the second version so that the displayName says "WFO (DMX)" and fileName is WFO-dmx.xml.</li> </ul>	

21⊖ <mapScales>

220	<mapscale displayname="N. Hemisphere" filename="NHemisphere.xml"></mapscale>
23	<pre><partid id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView1"></partid></pre>
24	
25 🖯	<mapscale displayname="North American" filename="NorthAmerican.xml"></mapscale>
26	<pre><partid id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView2"></partid></pre>
27	
280	<mapscale displayname="CONUS" filename="CONUS.xml"></mapscale>
29	<pre><partid id="com.raytheon.viz.ui.glmap.GLMapEditor" view="false"></partid></pre>
30	
310	<mapscale displayname="Regional" filename="Regional.xml"></mapscale>
32	<pre><partid id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView3"></partid></pre>
33	
340	<mapscale displayname="State(s)" filename="States.xml"></mapscale>
35	<pre><partid id="com.raytheon.uf.viz.d2d.ui.map.SideView:sideView4"></partid></pre>
36	
370	<mapscale displayname="WF0" filename="WF0.xml"></mapscale>
38	
39⊖	<mapscale displayname="WF0 (DMX)" filename="WF0-dmx.xml"></mapscale>
40	
41	

**Figure 3.** Edits to scalesInfo.xml to add another WFO's scale map to your scale menu. The new lines to add are indicated by the red box.

## Exercise 5: Plot Models — Customized Multicolored Fire Weather Station Plot

**Objectives:** In this exercise, you will perform the following procedures:

- Create new plot models based on existing plot models and specify a font other than the default font
- Create a new display bundle based on an existing Station Plot bundle that displays each parameter in its own color
- Add a new menu entry with associated bundle to a user version of the Obs menu
- Harness the PlotDelegate function in a plot model to customize the cursor readout

**Background.** This exercise illustrates several configurable capabilities of AWIPS-2. Among these is the ability to have user-level customizations of various plots as well as user versions of menus. Once these user-level customizations are performed, they can be promoted to a site-level where they are available to every user.

The example here is to create a station model plot for a fire weather map with temperature, relative humidity, winds, and apparent temperature (heat index or wind chill). The process is to create a set of plot models (.svg files) along with a corresponding bundle and menu entry. To make the station plot multicolored, we are creating multiple plot models that are referenced in a single bundle. Each plot has its own color (temperature in red, relative humidity in green, winds in purple, and heat index/wind chill in white). If a single color for the plot were desired, then a single plot model would include all the displayed parameters.

The general strategy to perform these types of customizations is to start with something that is known to work, make small edits, and test them out individually. This "build a little, test a little" process helps to isolate problems to individual edits or changes. In this exercise, we'll start with making a new station plot with a single parameter and a corresponding menu entry. Then we'll add new parameters one-by-one.

Speaking about adding parameters, the plot models can reference meteorological and other variables that are in the database, in the processed HDF5 files, or some derived parameters. (Not all database parameters are available to the .svg plot models. Only those parameters imported by a software construct named pointDataDbDescription are available; check the AWIPS-2 Application Development Environment, or ADE, for more details.) This example uses parameters from all three sources. To know what parameter names can be used in the plot model files, you need to view the available parameter names from each of the three sources. In

this exercise, the wind and rawMETAR parameters come directly from the HDF files. To view the parameters in a HDF file, use the h5dump command in /awips2/tools. For example:

\$ cd /awips2/edex/data/hdf5/obs

\$ /awips2/tools/bin/h5dump {metar-yyyy-mm-dd-hh.h5} | grep DATASET

A similar command would be used to identify parameters contained in other point data files, such as a local mesonet. Use database tools like pgadmin3 to examine the fields in a metadata database table. The process is similar to looking at the city table as shown in Exercise 2, but perusing the metadata database rather than the maps database. Finally, plot models can reference some derived parameters; some derived parameters work with point data while others are exclusive to gridded or other datasets. In this exercise, the T parameter is a derived parameter. If it were specified as "temperature", the data would have been obtained directly from the HDF file since that's the name of the parameter in the HDF file. The baseline derived parameters are included in

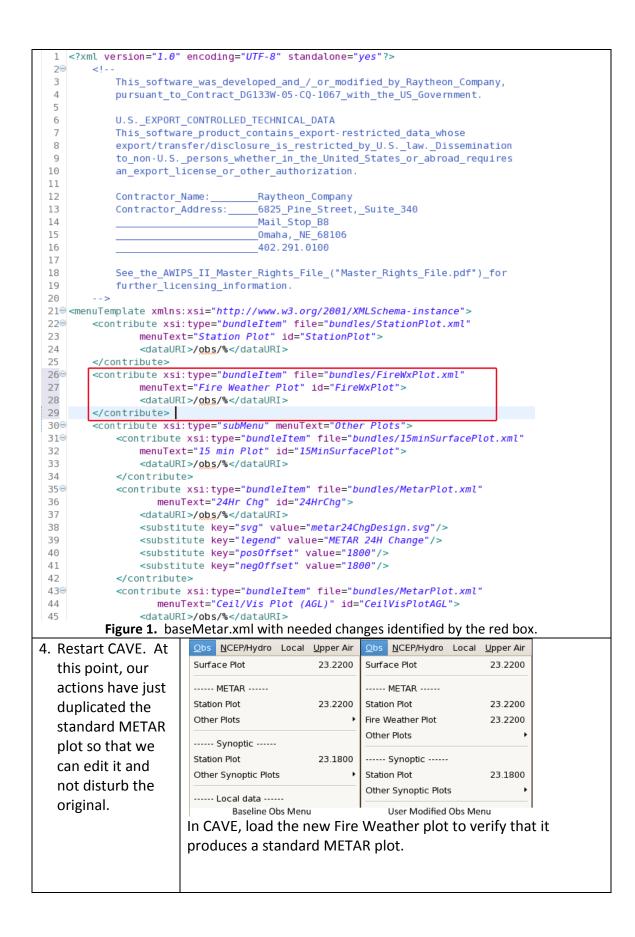
/awips2/cave/plugins/com.raytheon.uf.viz.derivparam\_{version}/localization/derivedParameters and /awips2/cave/plugins/com.raytheon.uf.viz.derivparam.python\_{version}/localization/derivedParameters, while local derived parameters would be found in the Localization Store. The definitions and functions for all derived parameters are viewable in the Localization Perspective.

In this exercise, we'll start by creating a plot model file for temperature by copying the normal Heat Index/Wind Chill plot model because it's designed to display a single parameter. Then we'll create a duplicate bundle and menu entry for the station plot. Then for each additional parameter (relative humidity and winds, and apparent temperature), we'll successively modify the station plot bundle and create corresponding plot models.

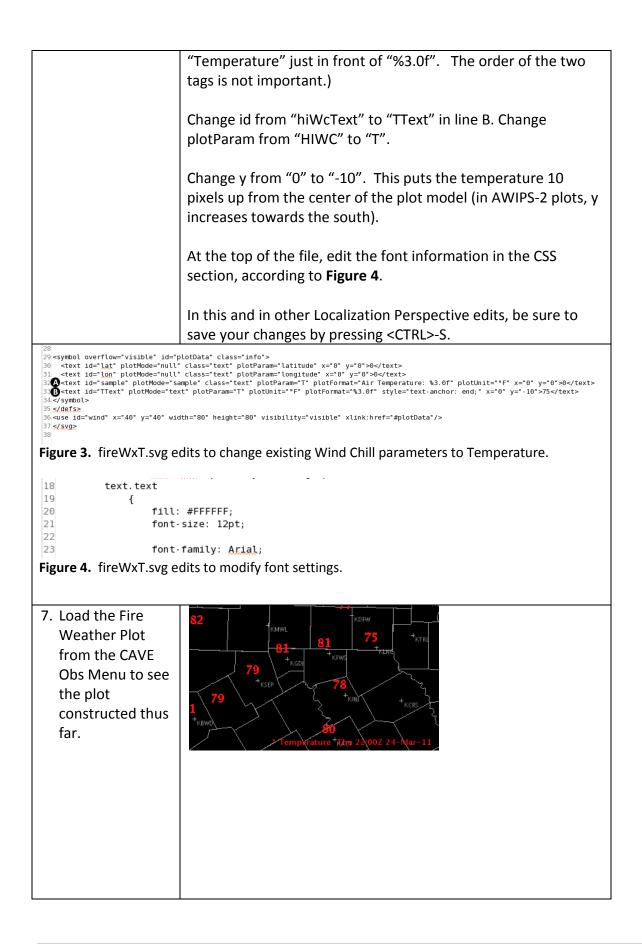
This exercise will take about an hour to complete.

Concept		Actions	
1. Create the first	In the Localization Perspective file browser, open <b>D2D</b> » <b>Plot</b>		
Fire Wx Plot	Models » metarHiWcDesign.svg. Right-click BASE and		
Model (svg) file for	Copy To ► New File This puts a user-editable version of this		
T. The remaining	file in the Localization Store.		
svgs for RH,	=	Metar24ChgDesign.svg	
Winds, and Heat	CAVE File Edit Help	Wind a 44 chgbesign.svg	
Index/Wind Chill	📅 🚺 Localization 🖩 D2D	<ul> <li>▶ Image metarCvMsIDesign.svg</li> <li>&gt; metarHiWcDesign.svg</li> </ul>	
are created in	S File Browser		
later steps. We	AvnFPS     Avecome     AvnFPS     Avecome	Gen	
start with the	D2D     Control Parameters		
baseline HiWc plot	👂 🗁 Map Scales		
to make the	<ul> <li>Piot Models</li> <li>Bufrmos</li> </ul>	V Some modelGuidanc Delete Workstation (localhost)	
fireWxT.xvg file	▷ 😼 925mbDesign.svg ▷ 🔊 acarsPlotDesign.svg	See (amons)	
because the HiWc	b SametringDesign svg	Refresh	
plot contains only	Rename the file <b>fireW</b>	χΤ ςνα	
	Rename 1		
one parameter.	File name:		
	fireWxTlsvg		
		Cancel	
2 Create a Fire M/V	In the Legalization		
2. Create a Fire Wx Plot bundle.	In the Localization	▽ 🕅 StationPlot.xml	
	Perspective file	Di BACE Open	
Start with StationPlot.xml	browser, open	▷ 🖹 Surfa Open With	
and make a fire	CAVE » Bundles » StationPlot.xml.	▷ X SvrW	
		X SynSi Copy      X Track Copy To      Site (OAX)	
weather version	Right-click <b>BASE</b>	V Upper Delete Workstation (localhost)	
named	and	Image: Second seco	
FireWxPlot.xml.	Copy To 🕨 User.	X     Upper   New File	
		N VA A	
	Rename your new	SSMIWindPlot.xml	
	user version of the	ע StationPlot.xml	
	StationPlot.xml	🗴 BASE 🕅 USER (dmorris)	
	bundle file to a new	V 🗴 SurfacePlot.	
	bundle to be edited	▷ 🖹 SvrWxPlot.xr	
	in the localization	SynSurfaceP Copy	
	perspective.	X TrackSumme Copy To     X UpperAirPlot.	
	Right-click <b>USER</b> and	▷ I UpperAirProf Move To → Site (OAX)	
	Move To 🕨 New	Vorkstation (localhost)	
	File Name the new	b 🕅 VΔΔ xml User (dmorris)	
	file FireWxPlot.xml.	New File	

3. Create a menu entry for the bundle. We will place this entry in the Obs menu (in its top section). This menu is defined in	In the Localization Perspective file browser, open CAVE » Menus » obs » baseMetar.xml. Right-click BASE and choose Copy To ► User. Edit the menu file to add the	<ul> <li>▷ @ ncepHydro</li> <li>▽ @ obs</li> <li>▷ @ baseLocalData.xml</li> <li>▷ @ baseMartime.xml</li> <li>▽ ▷ baseMetar.xml</li> <li>○ ○ ▷ baseMetar.xml</li> <li>○ ○ ▷ ▷ ▷ ▷ ▷ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</li></ul>
baseMetar.xml. We'll use the localization perspective to make a user-level override of this menu.	double-click <b>USER</b> under base Weather Plot entry at the top what to add in the edit. The Localization Perspective editor may appear in either a design mode or a source	eMetar.xml. We'll add the Fire p of the menu. See Figure 1 to see LightningPlotSMin.xml LightningPlotSMin.xml LightningSeq.xml Lightni

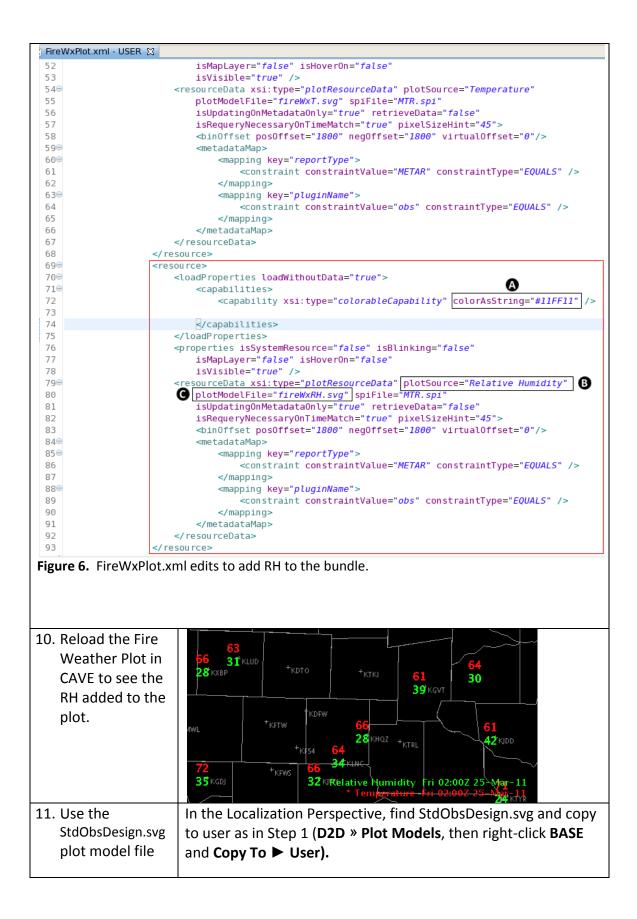


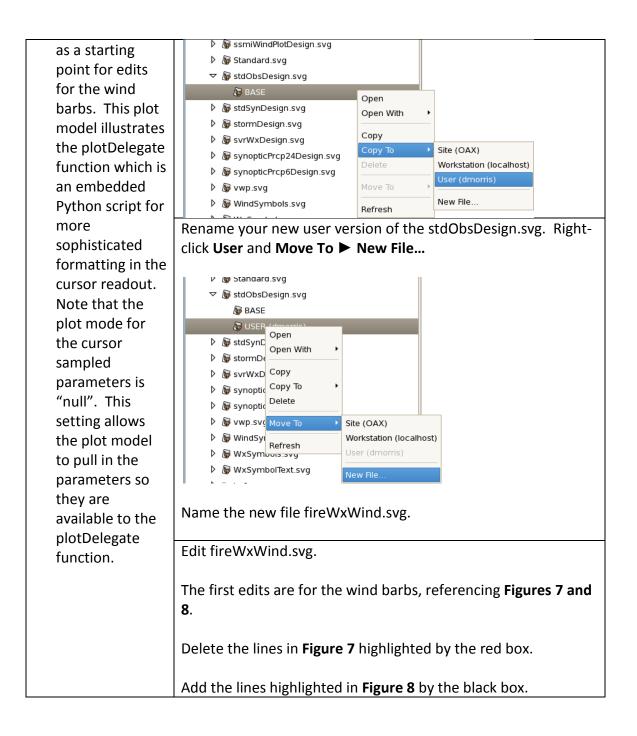
5. Edit the FireWxPlot.xml bundle to reference our new fireWxT.svg plot model file.	<ul> <li>Find the FireWxPlot.xml bundle in the Localization Perspective.</li> <li>It is located under CAVE » Bundles » FireWxPlot.xml. Double- click USER, and reference Figure 2 to make the edits.</li> <li>Copy the colorableCapability line from the METAR Station Locations section (line 31) and paste it into Box A. Change the</li> </ul>	
	colorAsString value to "#FF1111" (dark red).	
	Change plotSource to "Temperature" in Box B. This is the legend label for this resource.	
	Change plotModelFile to "fireWxT.svg" in Box C. This connects	
	the menu item to our new plot model.	
Image: FireWxPlot.xml - USER     27⊖	<loadproperties></loadproperties>	
280 29	<capabilities> <pre><capability <="" linestyle="SOLID" outlineon="true" pre="" xsi:type="outlineCapability"></capability></pre></capabilities>	
30 31	<pre>outlineWidth="1" /&gt; <capability colorasstring="#9b9b9b" xsi:type="colorableCapability"></capability></pre>	
32 33	<resourcetype>PLAN_VIEW</resourcetype>	
34 35⊖	<li></li> <li><!--</td--></li>	
36 37	isVisible=" <i>true</i> "> <pdprops maxdisplaywidth="&lt;i&gt;100000000&lt;/i&gt;" mindisplaywidth="&lt;i&gt;0&lt;/i&gt;"></pdprops>	
38 39⊖	<resourcedata pixelsizehint="45" xsi:type="spiResourceData"></resourcedata>	
40 41 42	<filename>basemaps/MTR.spi</filename> <mapname>METAR Station Locations</mapname>	
	resourceData	
450	<pre>source&gt; <loadwithoutdata="true"> </loadwithoutdata="true"></pre>	
46⊖ 47	<pre><capabilities> <capability colorasstring="#FF1111" xsi:type="colorableCapability"></capability> </capabilities></pre>	
48 49 50		
51	<pre><pre><pre><pre>cyclaurible:liss</pre></pre><pre><pre>properties isSystemResource="false" isBlinking="false" isBapLayer='false' isBoyerOn="false"</pre></pre></pre></pre>	
53 54	isVisible="true" />	
55 56	<pre><resourcedata <="" isupdatingonmetadtaonty="true" plotmodelfile="fireMx7.svg" pre="" retrievedata="false" spifile="MTR.spi" xsi:type="plotResourceData"  plotsource="Temperature" }=""></resourcedata></pre>	
57	isBouaringuineradataonty - true retrieventa- raise isRequeryNecessaryOnTimeMatch="true" pixelSizeHint="45"> <pinoffset neqoffset="1880" posoffset="1880" virtualoffset="0"></pinoffset>	
59⊖ 60⊝	<pre><metadatamap></metadatamap></pre>	
61 62	<pre><mapping key="" report="" type=""></mapping></pre>	
63⊖ 64	<pre>      <pre></pre> </pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre> </pre> <pre></pre>	
65 66		
67	<pre> esource&gt;</pre>	
	nl edits to change the existing bundle to now reference the new	
fireWxT.svg plot model		
6. Edit the	In the Localization Perspective, find the fireWxT.svg plot. It is	
fireWxT.svg plot	located under D2D » Plot Models » fireWxT.svg. Double-click	
model file.	USER, and reference Figure 3 to make the edits.	
	Change plotParam from "StationName" to "T" in line A. Add	
	the plotFormat and the plotUnit as shown. (Hint: Copy and	
	paste the plotUnit and plotFormat tags from line B and add	
	paste the plotonic and plot of hat tags from the b and add	



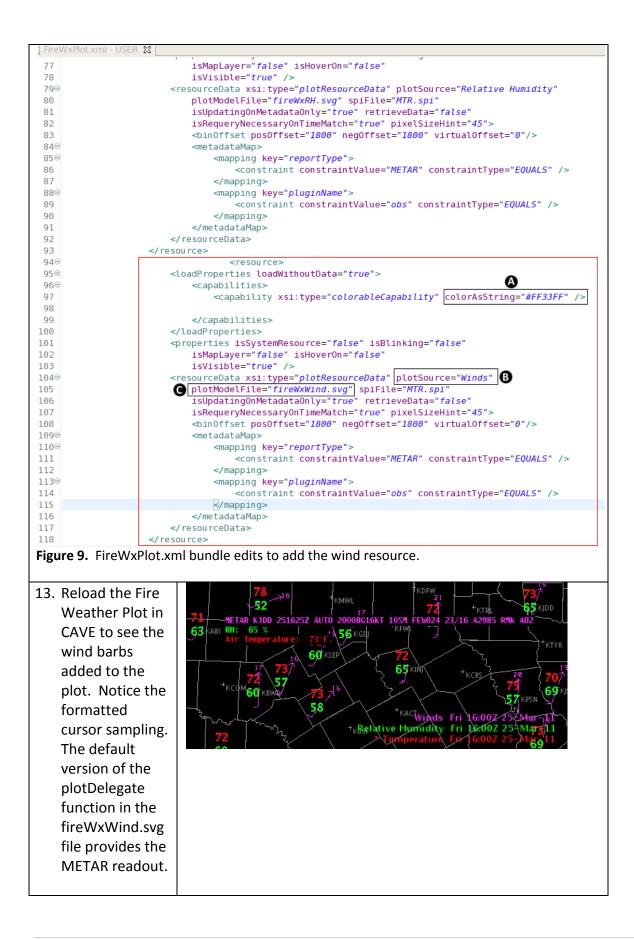
8. Copy the fireWxT.svg model and modify it for RH.	In the Localization Perspective, find the fireWxT.svg plot. It is located under <b>D2D</b> » <b>Plot</b> <b>Models</b> » <b>fireWxT.svg</b> . Right-	<ul> <li>image: symbol of the symbol of</li></ul>	n.svg ign.svg i.svg					
	click USER and Copy To ► New File Name the file fireWxF	<ul> <li>Site (OAX)</li> <li>Workstation (localhost)</li> <li>User (dmorris)</li> <li>New File</li> </ul>						
	Find <b>fireWxRH.svg</b> under <b>D2D</b> and <b>PlotModels</b> , and edit it, referencing <b>Figure 5</b> (your line numbers may be slightly different than those shown in the accompanying figures). In Line A, change plotParam from "T" to "RH", the plotUnit to "%", and the plotFormat as shown. Note the double %% in the plotFormat string. Because % denotes a format specifier, %% represents a literal percent sign. This format causes a line in							
	the cursor sampling that reads, for example, "RH: 86 %". In Line B, change id to "RHText", plotUnit to "%" and y to "10". Keep the font as it is already specified.							
<pre>31 <text id="lon" plotmode="&lt;br" sample"="">33@<text id="RHText" plotmode="&lt;br">34  35 s/defs&gt; 36 <use <br="" id="wind" x="40" y="40">37 s/syg&gt; 38</use></text></text></pre>	Jll" class="text" plotParam="latit Jll" class="text" plotParam="longi ="sample" class="text" plotParam=" ="text" plotParam="RH" plotUnit="%	tude" x="0" y="0">0 RH" plotFormat="RH: %3.0f %%" x="0" y " plotFormat="%3.0f" style="text-anch ="visible" xlink:href="#plotData"/>						
9. Edit the FireWxPlot.xml bundle to add a	In the Localization Per Make these changes,	rspective, go back to edit referencing <b>Figure 6.</b>	FireWxPlot.xml.					

resource for RH.	Select the entire Temperature Resource and copy/paste it below the temperature  tag. This section will be the red box in <b>Figure 6.</b>
	Change colorAsString in Box A to "#11FF11" (dark green).
	Change plotSource to "Relative Humidity" and plotModelFile to "fireWxRH.svg" in Box B and Box C, respectively.





[7] «text id="rankFIANText" plotMode="apmple" (1) 09 «gid="rankNotNet" plotMode="apmple" plotMode="apmple" plotMode="apmple" 011 «text id="unANText" plotMode="apmple" 021 «text id="unANTEXT" (1) 031 «text id="changcharfext" plotMode="apmple" 032 «text id="changcharfext" plotMode="apmple" 033 «text id="changcharfext" plotMode="apmple" 034 «text id="changcharfext" plotMode="apmple" 044 «text id="changcharfext" plotMode="apmple" 045 «text id="changcharfext" plotMode="apmple" 045 «text id="changcharfext" plotMode="apmple" 045 «text id="changcharfext" plotMode="apple" 045 «text id="changcharfext" plotMode="apple" 0	<pre>12 ctext id="windfurrowText" class="barb" x="0" y="0"&gt;arrow-ftext&gt; 13 ctext id="windfurrowText" class="text" x="0" y="32" style="text-anchor: middle"&gt;0 14 s/gp 15 ctext id="chapthartext" plotBodd="table" class="weather" plotLoamptable="press_change_char_Loomp.txt" plotParam="pressChangechar' style="text-anchor: start;" x="35px" y="0"&gt;abr/* 0 15 ctext id="chapthartext" plotBodd="table" class="weather" plotLoamptable="press_change_char_Loomp.txt" plotParam="pressChangechar' style="text-anchor: start;" x="35px" y="0"&gt;abr/* 0 15 ctext id="chapthartext" plotBodd="table" class="weather" plotLoamptable="press_change_char_Loomp.txt" plotParam="pressChangechar' style="text-anchor: start;" x="35px" y="0"&gt;abr/* 0 15 ctext id="chapthartext" plotBodd="table" class="weather" plotLoamptable="press_change_char_Loomp.txt" plotParam="pressChangechar' style="text-anchor: start;" x="35px" y="0"&gt;abr/* 016 start; blotBodd="table" class="weather" plotLoamptable="press_change_char_Loomp.txt" plotParam="pressChangechar' style="text-anchor: start;" x="35px" y="0"&gt;abr/* 017 start; blotBodd="table" class="weather" plotLoamptable="press_change_char_Loomp.txt" plotParam="pressChangechar' style="text-anchor: start;" x="35px" y="0"&gt;abr/* abr/* abr/*</pre>										
<pre>100 =text_id='dewText' plotMode='text' plotParame"'p_plotInit="f" plotFormat="40_0f" style='text-anchor: end; x='l0px' y='l0px'&gt;5/vtext&gt; 00 =text_id='reeNiveFareT' plotParame"'p_plotFormat="40_0f" style='text-anchor: end; x='l0px' y='l0px'&gt;5/vtext&gt; 101 =text_id='pressure' plotParame" selevelPress' plotParame"selevelPress' plotParame's plotParame's style='text-anchor: start; x='l0px' 112 =text_id='pressure' plotParame"selevelPress' plotParame'selevelPress' plo</pre>											
95 <u>s/defs&gt;</u> 96 use id="wind" x="40" y="40" width="80" height="80" visibility="visible" xlink:href="#plotData"/> 97											
<b>Figure 7.</b> Initial edits fo	r fireWxWind.svg to remove unneeded parameters.										
<pre>111 <text class="info" id="WindSample1" plotmode="nul&lt;/pre&gt;&lt;/th&gt;&lt;th&gt;a" windsample2"=""> mple" class="text" plotParam="rawHETAR" x="0" y="0"&gt;0</text> 1" class="text" plotParam="wind5ped" 1" class="text" plotParam="wind5ped" plotUnit="mph" x="0" y="0"&gt;0 1" class="text" plotParam="wind5wst" plotUnit="mph" x="0" y="0"&gt;0</pre>											
<pre>117 <text class="ba&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;nb" id="windVaneText" windarrowtext"="" x="0" y="0">arrow</text></pre>											
120	t" x="0" y="32" style="text-anchor: middle">0 plotParam="pkwmd5peed" plotUnit="kts" plotFormat="PK%.Of" style="text-anchor: end;" x="-10px" y="20px">59										
122 123	" height="80" visibility="visible" xlink:href="#plotData"/>										
	its to fireWxWind.svg to add the parameters for cursor sampling.										
12. Edit the	In the Localization Perspective, go back to edit FireWxPlot.xml.										
FireWxPlot.xml bundle to add a	Make these changes, referencing Figure 9.										
resource for	Select the entire RH resource and copy/paste it below the RH										
Wind.	tag. This section will be the red box in Figure 9.										
	Change colorAsString in Box A to "#FF33FF" (purple).										
	Change plotSource to "Winds" and plotModelFile to "fireWxWind.svg" in Box B and Box C, respectively.										



14. Edit the plotDelegate function to add more formatted wind	Referencing <b>Figure 10</b> , make the edits indicated in the black box. Because this is an embedded Python script, pay special attention to the indentation (use spaces and not tabs), which is how Python determines if/then/else blocks.
information to	Additional notes about the Python script:
the cursor readout.	<ul> <li>The rec.getFloat and rec.getString functions retrieve the specified parameters from the database or the HDF files.</li> <li>Unit conversions are not automatically applied in the plotDelegate script (as opposed to the parameters in the plot models that use the plotMode = sample), so the script explicitly converts knots to mph. Also note that the unit conversion for gust appears later in the script than the conversion for speed in order to handle the missing value for gust.</li> <li>The if statements contain &lt; to represent &lt; because the svg interpreter assumes a &lt; sign starts new svg tags even if embedded in a script.</li> <li>The original plotDelegate script stripped the first two lines from the rawMETAR report (the WMO header and site ID). The output from the final script is the formatted wind followed by the METAR report on the next line.</li> </ul>

```
<?xml version="1.0"?>
<svg width="80" height="80"
viewBox="0 0 80 80"
overflow="visible"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" style="stroke: rgb(255,255,255);">
   <defs>
<script type="text/python" plotDelegate="plotDelegate">
import re
class ObsPlotDelegate(PlotDelegate):
    def __init__(self):
        def getSampleText(self, rec):
        sampleString = rec.getString("rawMETAR")
        #strip WMO header
        sampleString = re.sub("(\\s|\\S)+(METAR)", "\\2", sampleString)
        #strip all multiple spaces and replace newlines with spaces
        sampleString = re.sub("(\\s)+", " ", sampleString)
        windDir=rec.getFloat("windDir")
        windSpd=rec.getFloat("windSpeed") * 1.15
        windGust=rec.getFloat("windGust")
        if windDir >=0 and windDir <=22:
            DString = "N"
        elif windDir >22 and windDir <=67:
            DString = "NE"
        elif windDir >67 and windDir <=112:
            DString = "E"
        elif windDir >112 and windDir <=157:
            DString="SE"
        elif windDir >157 and windDir <=202:
            DString="S"
        elif windDir >202 and windDir <=247:
            DString="SW"
        elif windDir >247 and windDir <=292:
            DString="W"
        elif windDir >292 and windDir <=337:
            DString="NW"
        else:
            DString="N"
        windString = "Winds: " + DString + "("+ str(windDir).format("%3f") + ") at "
        windString = windString + str(windSpd).format("%3f")
        if (windGust != -9999):
             windString = windString + " gusting to " + str(windGust*1.15).format("%3f")
        sampleString = windString + "\n" + sampleString
        return sampleString
plotDelegate = ObsPlotDelegate()
</script>
<style type="text/css">
Figure 10. Additional edits to fireWxWind.svg to customize the PlotDelegate function for
advanced formatting of the cursor readout for wind.
```

15. Reload the plot to examine the cursor sampling readout.	78     73     76     72     73     78       78     57     70     70     70     70       38     57     57     64     70       Winds:     5(190.0) at 19.55 gusting to 22.0     10     10     75     57       METAR     KCVT 2517152     AUTO 19017622KT 105M CLR 24/15 A2981 RMK A02     75     75       RH:     57 %     75     75     61       AIr Temperature:     75     75     75     61       73     73     75     75     61       75     75     75     75     61       75     75     75     75     61       75     75     75     75     61       75     75     75     75     61       75     75     75     75     61       75     75     75     75     61       75     75     75     75     61       75     75     75     75     61       75     75     75     75     75       75     75     75     75     61       75     75     75     75     75       75     75     75     75     75
<pre>31 <text 32="" <text="" hiwctext"="" id="sample" plotmode=" 34 &lt;/symbol&gt; 35 &lt;/defs&gt;&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;&lt;pre&gt;class=" plotparam="latitude" text"="" x="0" y="0">0</text> class="text" plotParam="longitude" x="0" y="0"&gt;0 mple" class="text" plotParam="HWC" plotInit=""F" plotFormat="Apparent Iemp: %3.0f"F" x="0" y="0"&gt;0 text" plotParam="HIWC" plotUnit=""F" plotFormat="%3.0f" style="text-anchor: end;" x="-15" y="0"&gt;&gt;0 text" plotParam="HIWC" plotUnit=""F" plotFormat="%3.0f" style="text-anchor: end;" x="-15" y="0"&gt;&gt;0 text" plotParam="HIWC" plotUnit=""F" plotFormat="%3.0f" style="text-anchor: end;" x="-15" y="0"&gt;&gt;0 text" plotParam="HIWC" plotUnit="F" plotFormat="%3.0f" style="text-anchor: end;" x="-15" y="0"&gt;&gt;0 text" plotParam="text" plotParam="text" plotFormat="%3.0f" height="%]</pre>	
17. Edit the	In the Localization Perspective, go back to make final edits to

r A	oundle to add a resource for								
A	esource for								
		Select the entire Wind Resource and copy/paste it below the							
Т	Apparent	Wind  tag. This section corresponds to the red box							
	Temperature.	in Figure 12.							
		Change colorAsString in Box A to "#FFFFFF" (white).							
		Change plotSource to "Apparent Temperature" and plotModelFile to "fireWxHiWc.svg" in Box B and Box C,							
		respectively.							
		Tespectively.							
FireM	/xPlot.xml - USER 🕱								
102	ALIOCATII - USER &	isMapLayer="false" isHoverOn="false"							
103		isVisible=" <i>true</i> " />							
104⊖ 105		<resourcedata <br="" plotsource="Winds" xsi:type="plotResourceData">plotModelFile="fireWxWind.svg" spiFile="MTR.spi"</resourcedata>							
106		isUpdatingOnMetadataOnly=" <i>true</i> " retrieveData=" <i>false</i> "							
107		isRequeryNecessaryOnTimeMatch="true" pixelSizeHint="45">							
108		<pre><binoffset negoffset="1800" posoffset="1800" virtualoffset="0"></binoffset></pre>							
1090		<pre><metadatamap> </metadatamap></pre>							
110 = 111		<mapping key="&lt;i&gt;reportType&lt;/i&gt;"> <constraint constrainttype="&lt;i&gt;EQUALS&lt;/i&gt;" constraintvalue="&lt;i&gt;METAR&lt;/i&gt;"></constraint></mapping>							
112									
1130		<mapping key="pluginName"></mapping>							
114		<constraint constrainttype="&lt;i&gt;EQUALS&lt;/i&gt;" constraintvalue="&lt;i&gt;obs&lt;/i&gt;"></constraint>							
115									
116 117									
118		sou rce>							
1190		<resource></resource>							
1200		<loadproperties loadwithoutdata="true"></loadproperties>							
121⊖ 122		<pre><capabilities></capabilities></pre>							
123		<pre><capability cotorassiling="#////////////////////////////////////&lt;/td" xsi.type="cotorablecapability"></capability></pre>							
124									
125									
126		<properties <="" isblinking="false" issystemresource="false" pre=""></properties>							
127		<pre>isMapLayer="false" isHoverOn="false" isVisible="true" /&gt;</pre>							
128 129⊖		<pre>sourceData xsi:type="plotResourceData" plotSource="Apparent Temperature"</pre>							
130		<pre>G plotModelFile="fireWxHiWc.svg" spiFile="MTR.spi"</pre>							
131		isUpdatingOnMetadataOnly="true" retrieveData="false"							
132		<pre>isRequeryNecessaryOnTimeMatch="true" pixelSizeHint="45"&gt;</pre>							
133		<pre><binoffset negoffset="1800" posoffset="1800" virtualoffset="0"></binoffset></pre>							
1349 1359		<metadatamap> <m< td=""></m<></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap></metadatamap>							
136		<pre><mapping key="reportrype"> </mapping></pre> <pre></pre> <pr< td=""></pr<>							
137									
1380		<mapping key="pluginName"></mapping>							
139		<constraint constrainttype="EQUALS" constraintvalue="obs"></constraint>							
140									
141 142		 							
142		source>							

18. Reload the Fire Weather Plot to examine the finished product.	*KIR5 79 KIAH 79 KIET 75 72 *KIR5 79 100 72 89 CRN *KIR5 79 100 72 89 CRN *KCOT *KIR5 79 80 *F 79 83 *KG *KCOT *KIR5 80 *F 79 80 *F 70
	8340 Apparent Temperature Fri 18:00Z 25-Mar-11

**Objectives:** In this exercise, you will perform the following procedures:

- Determine the list of radars closest to an arbitrary lat/lon coordinate.
- Modify the radar menu for a given WFO's desired radar mosaics.

**Background.** This exercise illustrates how to customize CAVE to display radar mosaics. By default, CAVE will display a set of mosaics based on only one set of radars. AWIPS-1 had the capability to specify any number of mosaics that were based on either a list of radars or up to eight radars closest to a lat/lon point. The AWIPS-1 customization was specified using the mosaicInfo.txt file in FXA\_CUSTOM\_FILES. The menu from AWIPS-1 shown here added four additional mosaics (titled West, North, South, and East).

This example customizes CAVE to display the mosaics specified in the mosaicInfo.txt for the Indianapolis (IND) WFO, shown in **Figure 1.** The first mosaic in this mosaicInfo.txt file is the default mosaic for IND while the next two mosaics are additional mosaics (specified using a lat/lon point). In AWIPS-2, the customization is different for the additional mosaics than for the default mosaic, so this exercise has two parts: one for the default and one for additional mosaics. In addition, the CAVE menu system only works with lists of radar sites to make the mosaics, so we will first

Radar SCAN Maps	Help
10km Radar Coded Msg	??.?????
Mosaic	
0.5 Reflectivity	??.????
Hybrid Scan Refl	??.????
Composite Refl	??.????
VIL/Comp Ref	??.????
Vert Integrated Liquid	??.????
Storm Total Precip	??.????
One Hour Precip	??.????
Three Hour Precip	??.????
User Selectable Precip	??.????
Layer 1 Max Refl	??.????
Layer 2 Max Refl	??.????
Layer 3 Max Refl	??.????
Echo Tops	??.????
Hybrid Hydro Class	??.????
Dual Pol Storm Total	??.????
Dual Pol 1hr Accum	??.????
West Mosaic	Þ
North Mosaic	Þ

East Dial Appl Alert One Rada RPS Rada

t MUSat P		
th Mosaic 🔹 👂	0.5 Reflectivity	??.????
th Mosaic 🕟 👂	Hybrid Scan Refl	??.????
t Mosaic 🔹 👂	Composite Refl	??.????
Radars	VIL/Comp Ref	??.????
	Vert Integrated Liquid	??.????
lications	Storm Total Precip	??.????
t Request	One Hour Precip	??.????
Time Request	Three Hour Precip	??.????
ar Multiple Request	User Selectable Precip	??.????
List Editor	Layer 1 Max Refl	??.????
ar Tools 🔋 🔊	Layer 2 Max Refl	??.????
	Layer 3 Max Refl	??.????
	Echo Tops	??.????
	Hybrid Hydro Class	??.????
	Dual Pol Storm Total	??.????
	Dual Pol 1hr Accum	??.????

have to use the AWIPS-2 metadata database to obtain the list(s) of desired radars. We'll use pgadmin3 to illustrate our database operations; however, you can optionally use psql, if you prefer.

CAVE is customized for the default mosaic by editing the radarsInUse.txt file in common\_static/site/{your site}/radar. When CAVE is restarted, it triggers EDEX to rebuild any CONFIGURED menus, if necessary. As part of this process, EDEX uses radarsInUse.txt to construct the CAVE radar menus for the AWIPS site that is specified as AW\_SITE\_IDENTIFIER in /awips2/edex/bin/setup.env.

We will modify the menus for the additional mosaics by first duplicating the mosaic menu entries in baseRadarMenu.xml in a new menu template file. Second, we'll modify baseRadarMenu.xml to include the new menu template file with a substitute key for mosaiclcaoList for each of the additional mosaics we need to include. By modifying the menu in this manner, the Radar menu should survive re-creation by EDEX when CAVE is restarted. After these modifications, the original mosaics in baseRadarMenu.xml are for the default set of radars specified using radarsInUse.txt. The additional mosaics are in pull-out menus below the default set to mimic the AWIPS-1 behavior.

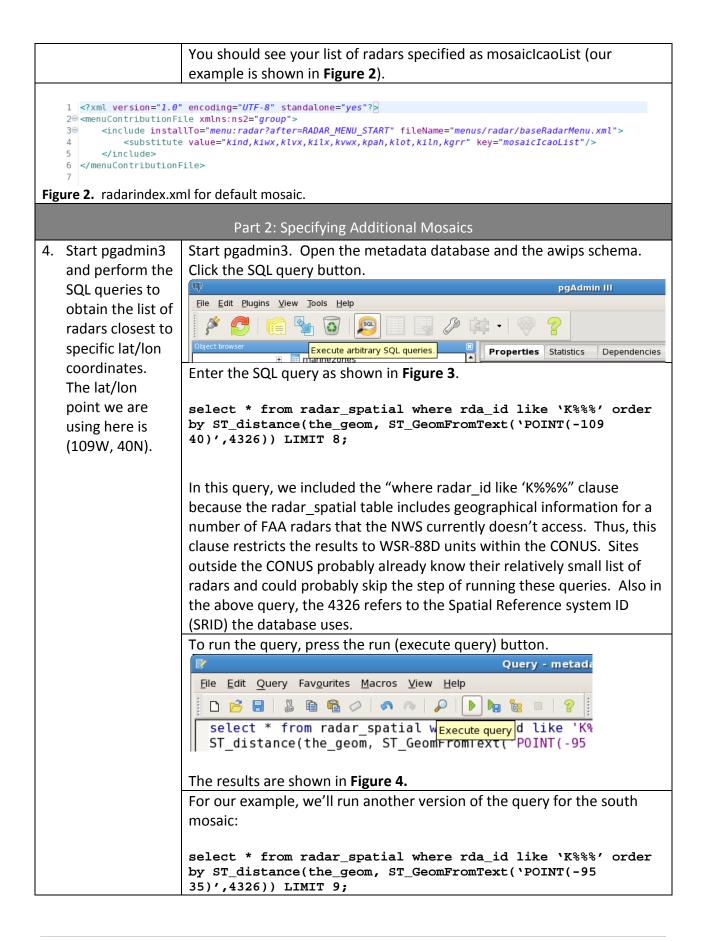
Note: In AWIPS-2, ICAO often refers to a site ID for an observational platform.

This exercise should take about 20 minutes to complete.

```
// This file controls each radar mosaic that can be generated.
// Each line represents one mosaic. Here is a model of each line:
11
// scales | file/list | count | center | title
11
// Here is the meaning of each column:
17
// scales : A space delimited list of scale indices to use for this mosaic.
           Defaults to the contents of mosaicScales.txt.
11
// file/list : A space delimited list of radars to use in this mosaic, or
11
               alternatively, a file where this list is. If not supplied
               defaults to radarsInUse.txt.
11
// count : Max number of radars to include in the mosaic. If this is an RFC
          or national center, this can be any number and will default to
11
           all available radars. Otherwise, this will default to nine, and
11
11
          will arbitrarily be limited to nine.
// center : Takes the radars in the list closest to this point, up to the
11
           value in the `count' column. This is a lat/lon, which defaults
           to the contents of CenterPoint.dat, which should be the center
11
           of the area of responsibility.
11
// title : Should be unique for each line. A line without a title will
          appear directly on the main `Radar' menu, others will be in
11
11
           a pull right.
11
// If a version of this file is not supplied for the localization, a
// default version will be created with one entry that looks like this:
11
11
        | radarsOnMenu.txt | | |
11
11
5 4 | kind kiwx klvx kilx kvwx kpah klot kiln kgrr | |
                                                                 L
//3
                                 | 8 | 40 -109 | West
     //3
                                 | 8 | 35 -95 | South
      Т
```

Figure 1. AWIPS-1 mosaicInfo.txt for the Indianapolis (IND) WFO.

Concept	Actions
	Part 1: Customizing the Default Mosaic
	In a terminal window on the EDEX server as the <b>awips</b> user, go to your site's radar directory in common_static:
default mosaic.	<pre>\$ cd /awips2/edex/data/utility/common_static \$ cd site/{your_site}/radar</pre>
	It's possible that your site's directory or the radar directories don't exist. If this is the case, go ahead and create them:
	<pre>\$ mkdir site/{your_site} \$ mkdir site/{your_site}/radar \$ cd site/{your_site}/radar</pre>
	Edit radarsInUse.txt. If it doesn't already exist, copy one from the OAX localization. NOTE: The OAX localization is delivered as an RPM with the AWIPS-2 software, and it may be manually installed. The RPM is typically located in the noarch section of the software delivery (e.g., noarch/awips2-localization-OAX-13.4.1-1.noarch.rpm).
	\$ vi radarsInUse.txt
	Change the radar sites listed under the MOSAIC_RADARS comment line. In our example for the IND default mosaic, we would change the list of radars to be <b>kind kiwx klvx kilx kvwx kpah klot kiln kgrr</b> (each on a line by itself).
	Save your changes and quit:
	<esc> :wq</esc>
<ol> <li>Restart CAVE server to trigger EDEX to recreate the radar menu files in cave_static/site/ {your site}/ menus/radar.</li> </ol>	Restart CAVE.
<ol> <li>Examine the radarindex.xml file to verify your list of radars.</li> </ol>	In the Localization Perspective file browser, open <b>CAVE</b> » <b>Menus</b> » radar » radarindex.xml. Double-click <b>CONFIGURED</b> to view the radarindex.xml file. If no CONFIGURED file appears, then the site ID in CAVE Preferences may be set incorrectly.



We used LIMIT 9 because one of the returned radars was KCRI, the test radar operated by the Radar Operations Center. We'll omit this radar in our list so we needed an extra radar to take its place. (By the way, AWIPS-1 arbitrarily limited the number of radars in a mosaic for a WFO to nine. There is no such limit in AWIPS-2. It's unknown if a large number of radars to construct a mosaic will result in performance issues). The results of this query are shown in **Figure 5**.

Query - metadata on awips@localhost:5432 \*

 Elle
 Edit
 Query
 Favourites
 Macros
 View
 Help

 Image: Select \* from radar\_spatial where
 Image: Select \* from radar\_spatia where

Figure 3. SQL query in pgadmin3 to determine 8 closest radars to a lat/lon point.

Data	Output	Explain	Messa	ges	Histor	У							Ŧ
	rda_id characte	er varyin	g(255)		eter	eqp_elv real	immutablex real			name character varying(255)	rpg_id_dec character varying(255)	the_geom geometry	wfo_id character varying(255)
1	KGJX			3077	.91	10098.	. 145	39.	- 10	Grand Mesa	368	01010000	GJT
2	KRIW			1716	. 39	5631.2	2 147	43.	- 10	Riverton	392	01010000	RIW
3	KMTX			2009	. 19	6591.8	3 2 2	41.	- 11	Promontory Pt	537	01010000	SLC
4	KCYS			1887	. 03	6191.0	0144	41.	- 10	Cheyenne	335	01010000	CYS
5	KFTG			1709	. 75	5609.4	40	39.	- 10	Front Range Arpt	347	01010000	BOU
6	KICX			3277	. 86	10754.	. 20	37.	- 11	Blowhead Mtn	330	01010000	SLC
7	KSFX			1383	. 03	4537.4	4 15 3	43.	- 11	Springfield	546	01010000	PIH
8	KPUX			1634	. 28	5361.8	3 1 4 6	38.	- 10	Boone Highland Rds	529	01010000	PUB

Figure 4. Results of SQL query for 8 closest radars to lat/lon point for the west mosaic.

Data Output Explain Messages History

Data	Data Output Explain Messages History										
	rda_id character varying(255)			immutablex real			name character varying(255)	rpg_id_dec character varying(255)	the_geom geometry		
1	KSRX	224.642	737.01	161	35.	-94	Ft. Smith	825	01010000	TSA	
2	KINX	228.252	748.85	21	36.	- 95	Inola	557	01010000	TSA	
3	KTLX	389.32	1277.3	24	35.	-97	Twin Lakes	001	01010000	OUN	
4	KCRI	394.716	1295	26	35.	-97	0SF	520	01010000	ROC	
5	KLZK	197.779	648.88	110	34.	- 92	North Little Rock	395	01010000	LZK	
6	KSGF	419.123	1375.0	77	37.	- 93	Springfield	548	01010000	SGF	
7	KSHV	117.88	386.74	97	32.	- 93	Shreveport	543	01010000	SHV	
8	KFWS	236.639	776.37	34	32.	-97	Fort Worth	345	01010000	FWD	
9	KVNX	383.412	1257.9	27	36.	-98	Jet	558	01010000	OUN	

Figure 5. Results of SQL query for 9 closest radars to lat/lon point for the south mosaic.

5. We need to make a	On a workstation with CAVE,	▷ 🕅 baseRadar4Panel.xml
SITE version of	open the Localization	<ul> <li>k baseRadarApplications.xml</li> <li>k baseRadarBestRes.xml</li> </ul>
baseRadarMenu.x	Perspective file browser and	B baseRadarDataQuality.xml
ml in the	navigate to CAVE » Menus»	<ul> <li>k kaseRadarDerived.xml</li> <li>k kaseRadarGraphics.xml</li> </ul>
Localization	radar » baseRadarMenu.xml.	▼ 🖹 baseRadarMenu.xml
Perspective.	Make a SITE version by right-	
	clicking BASE and choosing	K baseRadarSpecWic     Copy
	Copy To ► Site.	▷ ▲ baseTerminal4Pane         Copy To         > Site (IND)           ▷ ▲ baseTerminal4Pane         Delete         Workstation (localhost)
		A base reminalational New File      New File

<ol> <li>Copy the baseRadarMenu.x ml file to mosaicMenu.xml.</li> </ol>	Copy the SITE version of the baseRadarMenu.xml file that you just obtained to mosaicMenu.xml. Right- click SITE under baseRadarMenu.xml and choose Copy To ▶ New File.
	Call the new file mosaicMenu.xml.
<ol> <li>Edit mosaicMenu.xml so it contains only mosaic menu entries.</li> </ol>	Find the new mosaicMenu.xml in the localization perspective. Edit the new site version by double-clicking <b>SITE</b> . At the top of the file, delete the lines indicated by the red box in <b>Figur 6</b> . Move to the bottom of the file and delete the lines indicated by the red box in <b>Figure 7</b> . Save the changes to the file and quit.

	?xml version="1.0" encoding="UTF-8" standalone="yes"?>
	<pre><!-- This_software_was_developed_and_/_or_modified_by_Raytheon_Company, pursuant_to_Contract_DG133W-05-CQ-106</pre--></pre>
3	U.SEXPORT_CONTROLLED_TECHNICAL_DATA This_software_product_contains_export-restricted_data_whose
4	export/transfer/disclosure_is_restricted_by_U.SlawDissemination_to_non-U.Spersons_whether_in_the_Un.
5	an_export_license_or_other_authorization. Contractor_Name:Raytheon_Company
6	Contractor_Address:6825_Pine_Street,_Suite_340Mail_Stop_B8
7	0maha,_NE_68106402.291.0100
8	See_the_AWIPS_II_Master_Rights_File_("Master_Rights_File.pdf")_for further_licensing_information>
	menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
00	<contribute <="" file="bundles/DefaultRadarCodedMessage.xml" td="" xsi:type="bundleItem"></contribute>
L1	menuText="10km Radar Coded Msg" id="10kmRadarCodedMsg">
12	<pre><datauri>/grib/%/301</datauri></pre>
L3	
14	<contribute filename="menus/radar/airportRadars.xml" xsi:type="subinclude"></contribute>
15	<contribute <="" td="" titletext=" Mosaic" xsi:type="titleItem"></contribute>
16	id="RadarMosaic" />
170	<contribute <="" file="bundles/DefaultRadarMosaicBestRes.xml" td="" xsi:type="bundleItem"></contribute>
18	<pre>menuText="0.5 Reflectivity" id="Radar05Reflectivity"&gt;</pre>
19 20	<substitute key="product1" value="94"></substitute>
20	<substitute key="product2" value="19"></substitute> <substitute key="product3" value="20"></substitute>
22	<substitute key="product3" value="20"></substitute> <substitute key="product4" value=""></substitute>
22	<pre><substitute key="product4" value="//"> <substitute key="elevation" value="0.5"></substitute></substitute></pre>
24	<pre><substitute key="name" value="0.5 Reflectivity"></substitute></pre>
24	
269 269	
200	menuText="Hybrid Scan Refl" id="RadarHybridScanRefl">
28	<pre><substitute key="product" value="33"></substitute></pre>
29	<substitute key="elevation" value="0.0"></substitute>
30	<substitute key="name" value="Hybrid Scan Refl"></substitute>
31	
320	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
33	<pre>menuText="Composite Refl" id="RadarCompositeRefl"&gt;</pre>
34	<substitute key="product" value="37"></substitute>
35	<substitute key="elevation" value="0.0"></substitute>
36	<substitute key="name" value="Composite Refl"></substitute>
37	
380	<contribute <="" td="" xsi:type="bundleItem"></contribute>
39	file="bundles/DefaultRadarMosaicVILCompRefl.xml" menuText="VIL/Comp Ref"
40	id="RadarVILCompRef">
41	
420	<contribute <="" file="bundles/DefaultRadarMosaic.xml" td="" xsi:type="bundleItem"></contribute>
43	<pre>menuText="Vert integrated Liquid" id="RadarVertIntegratedLiquid"&gt;</pre>
44	<substitute key="product" value="57"></substitute>
45	<substitute key="elevation" value="0.0"></substitute>

72				
73© 74	<pre><contribute file="bundles/DefaultRadarMosaic.xml" id="RadarLayer2MaxRefl" menutext="Layer 2 Max Refl" xsi:type="bundleItem"></contribute></pre>			
75	-	<pre>substitute key="product" value="66" /&gt;</pre>		
76		cute key=" <i>elevation</i> " value="0.0" />		
77		ey="name" value="Layer 2 Max Refl" />		
78				
790		<pre>rpe="bundleItem" file="bundles/DefaultRadarMosaic.xml"</pre>		
80		er 3 Max Refl" id="RadarLayer3MaxRefl">		
81 82		ey="product" value="67" /> ey="elevation" value="0.0" />		
83		ey="name" value="Layer 3 Max Refl" />		
84		,		
85	<pre><contribute pre="" xsi:ty<=""></contribute></pre>	<pre>/pe="bundleItem" file="bundles/DefaultRadarMosaic.xml"</pre>		
86		<pre>o Tops" id="RadarEchoTops"&gt;</pre>		
87		ey="product" value="41" />		
88 89		ey="elevation" value="0.0" /> ey="name" value="Echo Tops" />		
90		y name value Leno rops />		
916		<pre>rpe="bundleItem" file="bundles/DefaultRadarMosaic.xml"</pre>		
92		id Hydro Class" id="RadarHybridHydroClass">		
93		y="product" value="177" />		
94		ey="elevation" value="0.0" />		
95 96	<substitute ke<="" td=""><td>ey="name" value="Hybrid Hydro Class" /&gt;</td></substitute>	ey="name" value="Hybrid Hydro Class" />		
976		<pre>/pe="bundleItem" file="bundles/DefaultRadarMosaic.xml"</pre>		
98		Pol Storm Total" id="RadarDualPolStormTotal">		
99		ey=" <i>product</i> " value="172" />		
100		ey="elevation" value="0.0" />		
101		ey="name" value="Dual Pol Storm Total" />		
102 103		<pre>vpe="bundleItem" file="bundles/DefaultRadarMosaic.xml"</pre>		
104		Pol 1hr Accum" id="RadarDualPol1hrAccum">		
105		ey="product" value="170" />		
106	<substitute ke<="" td=""><td>y="elevation" value="0.0" /&gt;</td></substitute>	y="elevation" value="0.0" />		
107		ey="name" value="Dual Pol 1hr Accum" />		
108 109		<pre>/pe="separator" id="belowRadarMosaics" /&gt;</pre>		
1109		/pe="subMenu" menuText="Dial Radars"		
111		DialRadarsSubMenu">		
112	<contribute td="" x<=""><td>si:type="subinclude" fileName="menus/radar/dialRadars.xml" /&gt;</td></contribute>	si:type="subinclude" fileName="menus/radar/dialRadars.xml" />		
113				
114		<pre>/pe="separator" id="belowDialRadars" /&gt; //pe="separator" id="belowDialRadars" /&gt; //pe="separator" id="belowDialRadars" /&gt;</pre>		
115		<pre>/pe="subinclude" fileName="menus/radar/baseRadarApplications.xml" /&gt;</pre>		
		om of mosaicMenu.xml to delete lines (indicated by the red box) after the		
-	aic entries.			
-		Owners the site mercian of been Dedeet (second build on the station CITE		
		Open the site version of baseRadarMenu.xml by double-clicking <b>SITE</b> .		
b	baseRadarMenu.xml			
t	to include Near the bottom of the file, add the lines in <b>Figure 8</b> indicated b			
mosaicMenu.xml for red box.		red box. These lines add references to mosaicMenu.xml for both the		
		West Mosaic and the South Mosaic.		
V	we wish to add.			
P	Preserve the When you're done editing, save your changes.			
existing mosaic				
	-			
e	entries in			
h	aseRadar Menu.x			
ml because those				
entries control the				

default mosaics.

91	menulext="Echo lops" id="KadarEcholops">
92	<pre><substitute key="product" value="41"></substitute></pre>
93	<pre><substitute key="elevation" value="0.0"></substitute></pre>
94	<pre><substitute key="name" value="Echo Tops"></substitute></pre>
95	
960	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
97	menuText="Hybrid Hydro Class" id="RadarHybridHydroClass">
98	<substitute key="product" value="177"></substitute>
99	<pre><substitute key="elevation" value="0.0"></substitute></pre>
.00	<pre><substitute key="name" value="Hybrid Hydro Class"></substitute></pre>
01	
020	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
03	menuText="Dual Pol Storm Total" id="RadarDualPolStormTotal">
04	<pre><substitute key="product" value="172"></substitute></pre>
05	<substitute key="elevation" value="0.0"></substitute>
06	<pre><substitute key="name" value="Dual Pol Storm Total"></substitute></pre>
07	
080	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
09	menuText="Dual Pol 1hr Accum" id="RadarDualPol1hrAccum">
10	<substitute key="product" value="170"></substitute>
11	<substitute key="elevation" value="0.0"></substitute>
12	<pre><substitute key="name" value="Dual Pol Ihr Accum"></substitute></pre>
13	
14	
15 😑	<contribute id="westMosaic" menutext="West Mosaic" xsi:type="subMenu"></contribute>
16 <sup>0</sup>	<contribute filename="menus/radar/mosaicMenu.xml" xsi:type="subinclude"></contribute>
17	<pre><substitute key="mosaicIcaoList" value="kgjx,kriw,kmtx,kcys,kftg,kicx,ksfx,kpux"></substitute></pre>
18	
19	
20	
210	<contribute id="southMosaic" menutext="South Mosaic" xsi:type="subMenu"></contribute>
22 <del>0</del>	<contribute filename="menus/radar/mosaicMenu.xml" xsi:type="subinclude"></contribute>
23	<pre><substitute key="mosaicIcaoList" value="ksrx,kinx,ktlx,klzk,ksgf,kshv,kfws,kvnx"></substitute></pre>
24	
25	
26	
27	
28	<contribute id="belowRadarMosaics" xsi:type="separator"></contribute>
290	<contribute <="" menutext="Dial Radars" td="" xsi:type="subMenu"></contribute>
30	id="RadarMenuDialRadarsSubMenu">
31	<contribute filename="menus/radar/dialRadars.xml" xsi:type="subinclude"></contribute>
32	
33	<contribute id="&lt;i&gt;belowDialRadars&lt;/i&gt;" xsi:type="&lt;i&gt;separator&lt;/i&gt;"></contribute>
34	<contribute filename="menus/radar/baseRadarApplications.xml" xsi:type="subinclude"></contribute>

Figure 8. Final edits near the bottom of baseRadarMenu.xml for the additional mosaics.

9. Restart CAVE	and Radar SCAN Maps Help			Map 83	° 8
	10km Radar Coded Msg 2	5.0320			
verify the Rad	ASR-11 Radar	•		Same I	2
menu reflects	the ARSR-4 Radar	•		h hat	- an
	Mosaic				135
changes and t		5.0312		See marks	1 { e
the mosaics d	isplay				
	eomposite Ken	,			4-T-
in CAVE.	VIL/Comp Ref	,			
	Vert integrated Liquid Storm Total Precip	,			1 h
	One Hour Precip				forth
	Three Hour Precip	·			
	User Selectable Precip				
	Layer 1 Max Refl	,			
	Layer 2 Max Refl				
	Layer 3 Max Refl	,			1
	Echo Tops	,		ad I have the	1970-10 Po
	Hybrid Hydro Class	,		0.5 Regutinity (dB2) Wed 03067 2	5-May-11
	Dual Pol Storm Total	,		C.S. Reflectivity (dB2) Wed 03067 2 0.S. Reflectivity (dB2) Wed 03067 2 0.S. Reflectivity (dB2) Wed 03067 2	5-May-11
	Dual Pol 1hr Accum	,			
	West Mosaic	•	Mosaic		
	South Mosaic		0.5 Reflectivity	25.0312	
	Dial Radars	•	Hybrid Scan Refl		
			Composite Refl		
	Alert Request		VIL/Comp Ref Vert integrated Liquid		
	One Time Request		Storm Total Precip		
	Radar Multiple Request		One Hour Precip		
	Radar Server Configuration		Three Hour Precip		
	RPS List Editor		User Selectable Precip		
	Radar Tools	•	Layer 1 Max Refl		
			Layer 2 Max Refl		
			Layer 3 Max Refl		
			Echo Tops		
			Hybrid Hydro Class		
			Dual Pol Storm Total		
			Dual Pol 1hr Accum		
10. Verify regular	If your mosaics do	o not	: display, par	ticularly due to the lack of data, y	/ou
expression pa	tterns   may need to verif	y tha	at the radars	specified in our versions of	
in the distribu	,	mosaiclcaoList in the baseRadarMenu.xml and the radars listed in			
radar.xml and		radarsInUse.txt are actually being ingested. Verify that the patterns in			
the LDM	the EDEX distribut	the EDEX distribution radar.xml file (base and site versions) and the			
pqact.conf.	LDM pqact.conf n	natcl	<u>n the WM</u> O h	neaders for the SBN radars.	

## Exercise 7: Radar Mosaics — Adding New Products for Mosaicking

**Objective:** In this exercise, you will perform the following procedures:

• Modify the radar menu to add a mosaic for a new radar product.

**Background.** This exercise illustrates how to customize CAVE to add a new radar mosaic to the Radar menu. As shown in Exercise 6, the baseRadarMenu.xml file is found in the Localization perspective under **CAVE** » **Menus** » **radar** (the actual file is located in the CAVE radar plugin, in its localization/menus/radar directory). Examination of this file shows that mosaics are produced using the DefaultRadarMosaic.xml bundle.

For this exercise, we'll add a mosaic of a Dual-Polarization base product called Correlation Coefficient (CC) at 0.5° elevation. The process is to make a site or user override of baseRadarMenu.xml and add another entry for our mosaic.

Concept		Actions	
<ol> <li>If you don't already have a SITE version of baseRadarMenu.x ml, make one in the Localization Perspective. If you've completed Exercise 6, you will have already done this step.</li> </ol>	On a workstation with CAVE, open the Localization Perspective file browser and navigate to CAVE » Menus » radar » baseRadarMenu.xml. Make a SITE version by right- clicking BASE and choosing Copy To ▶ Site.	Image: State S	Site (IND)     Workstation (localhost)     User (dmorris)     New File
2. Edit baseRadarMenu.x ml to add a mosaic for 0.5° CC. We'll use the 8-bit version of CC, which is product number 161.	Open the site version of baseRad Near the bottom of the file, add t box. When you're done editing, save y NOTE: If you've added custom m Exercise 6), you may need to mak mosaicMenu.xml which was creat	he lines in <b>Figure 1</b> indi our changes. osaics (for example, like e similar edits to other	cated by the red

This exercise should take about 10 minutes or less to complete.

//	
780	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
79	<pre>menuText="Layer 2 Max Refl" id="RadarLayer2MaxRefl"&gt;</pre>
80	<substitute key="product" value="66"></substitute>
81	<substitute key="elevation" value="0.0"></substitute>
82	<substitute key="name" value="Layer 2 Max Refl"></substitute>
83	
840	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
85	<pre>menuText="Layer 3 Max Refl" id="RadarLayer3MaxRefl"&gt;</pre>
86	<substitute key="product" value="67"></substitute>
87	<substitute key="elevation" value="0.0"></substitute>
88	<substitute key="name" value="Layer 3 Max Refl"></substitute>
89	
900	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
91	<pre>menuText="Echo Tops" id="RadarEchoTops"&gt;</pre>
92	<substitute key="product" value="41"></substitute>
93	<substitute key="elevation" value="0.0"></substitute>
94	<substitute key="name" value="Echo Tops"></substitute>
95	
960	<pre><contribute <="" file="bundles/DefaultRadarMosaic.xml" pre="" xsi:type="bundleItem"></contribute></pre>
97	<pre>menuText="Hybrid Hydro Class" id="RadarHybridHydroClass"&gt;</pre>
98	<substitute key="product" value="177"></substitute>
99	<substitute key="elevation" value="0.0"></substitute>
100	<substitute key="name" value="Hybrid Hydro Class"></substitute>
101	
1020	<contribute <="" file="bundles/DefaultRadarMosaic.xml" td="" xsi:type="bundleItem"></contribute>
103	<pre>menuText="Dual Pol Storm Total" id="RadarDualPolStormTotal"&gt;</pre>
104	<substitute key="&lt;i&gt;product&lt;/i&gt;" value="172"></substitute>
105	<substitute key="elevation" value="0.0"></substitute>
106	<substitute key="name" value="Dual Pol Storm Total"></substitute>
107	
1080	<contribute <="" file="bundles/DefaultRadarMosaic.xml" td="" xsi:type="bundleItem"></contribute>
109	<pre>menuText="Dual Pol 1hr Accum" id="RadarDualPol1hrAccum"&gt;</pre>
110	<substitute key="&lt;i&gt;product&lt;/i&gt;" value="170"></substitute>
111	<substitute key="&lt;i&gt;elevation&lt;/i&gt;" value="0.0"></substitute>
112	<substitute key="name" value="Dual Pol 1hr Accum"></substitute>
113	
114	
115⊖	<contribute <="" file="bundles/DefaultRadarMosaic.xml" td="" xsi:type="bundleItem"></contribute>
116	<pre>menuText="Dual Pol Correlation Coefficient" id="RadarDualPolCC"&gt;</pre>
117	<substitute key="&lt;i&gt;product&lt;/i&gt;" value="161"></substitute>
118	<substitute key="elevation" value="0.5"></substitute>
119	<pre><substitute key="name" value="Dual Pol CC"></substitute></pre>
120	
121	

Figure 1. Edits to baseRadarMenu.xml to add a menu entry for 0.5 Correlation Coefficient.

3.	Verify that the	Restart CAVE, clic	k the <b>R</b>	adar menu, and load the Dual Pol Correlation
	Radar menu was	Coefficient mosaic		
	updated with	product.		S Map. 33.
	•	Radar SCAN Maps Help		
	the new mosaic.	10km Radar Coded Msg		A State of the second
		ASR-11 Radar	•	
		ARSR-4 Radar	•	
		Mosaic		
		0.5 Reflectivity	25.0312	
		Hybrid Scan Refl		
		Composite Refl	11.2030	
		VIL/Comp Ref	11.2030	
		Vert integrated Liquid	11.2030	and the second se
		Storm Total Precip	11.2030	a many the second
		One Hour Precip	11.2030	
		Three Hour Precip	11.2030	and the second
		User Selectable Precip	,	
		Layer 1 Max Refl	11.2030	
		Layer 2 Max Refl	11.2030	* Dual Pol CC (count) Mon 02:00Z 23-May-11
		Layer 3 Max Refl	11.2030	
		Echo Tops	11.2024	
		Hybrid Hydro Class	,	
		Dual Pol Storm Total	,	
		Dual Pol 1hr Accum		
		Dual Pol Correlation Coefficien West Mosaic	1 25.0042	
		South Mosaic		
		Dial Radars		
		Applications		
		Alert Request		
		One Time Request Radar Multiple Request		
		Radar Multiple Request Radar Server Configuration		
		Radar Server Configuration		
		RPS List Editor Radar Tools		
		Raudi 10015		

## Exercise 8: Customizing Individual Radar Menus

**Objective:** In this exercise, you will perform the following procedures:

• Rearrange the individual radar menus to place most used products near the top of the menus.

**Background.** AWIPS-1 provided the ability to customize the local radar menus by modifying the radarDataMenus.template file in your localization/LLL directory. Several WFOs have taken advantage of this capability by putting more frequently used products near the top of the menu and lesser used products closer to the bottom. This exercise demonstrates how to perform similar configurations in AWIPS-2.

In addition, the baseline radar menus were reorganized with the deployment of dualpolarization radars. Hence, the CAVE radar plugin actually contains two sets of menus. The legacy version of the radar menus is located in

/awips2/cave/plugins/com.raytheon.viz.radar\_{version}/localization/menus/radar and the dual-pol version is in

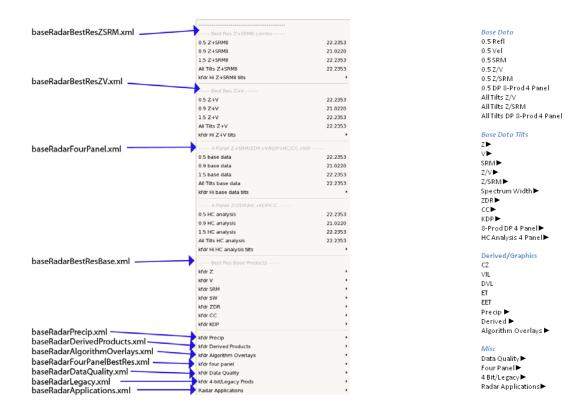
/awips2/cave/plugins/com.raytheon.viz.radar\_{version}/localization/menus/radar/dualPol. Accordingly, the localization perspective contains both sets of files (CAVE » Menus » radar and CAVE » Menus » radar » dualPol).

Before starting on this customization, it is helpful to review how the local radar and dial radar menus are created. When CAVE starts up, it triggers EDEX to read common\_static/site/{siteID}/radar/radarsInUse.txt, for whichever site is specified in CAVE's localization preference. If EDEX detects a change in radarsInUse.txt, then it builds index.xml in cave\_static/configured/{siteID}/menus/radar. For each WSR-88D, this index.xml includes menus/radar/dualPol/baseLocalRadarMenu.xml, and for each TDWR, it includes menus/radar/dualPol/baseTerminalLocalRadarMenu.xml. The default versions of these files are located in the plugin's menus/radar/dualPol directories as specified above. Like other D2D perspective menus, local customizations of baseLocalRadarMenu.xml and baseTerminalLocalRadarMenu.xml can be either site or user overrides in cave\_static/.../menus/radar/dualPol. Additional custom menus can be created, so long as they are referenced in baseLocalRadarMenu.xml or baseTerminalLocalRadarMenu.xml. As with most other CAVE configuration files, these menus can be viewed and edited using the Localization Perspective. Be aware that similarly named files exist both in menus/radar and in menus/radar/dualPol. Be sure to edit the correct file!

NOTE: To perform this exercise, your user must have SITE editing privileges (primarily for com.raytheon.localization.site/cave\_static/ or

com.raytheon.localization.site/cave\_static/menus). For more information on this, see the Foundational lesson on the Localization Perspective.

Because of the complexity of the radar menus, it will be helpful to reference **Figure 1**, which illustrates which menu .xml files contribute to the particular sections of the default radar menus as specified in baseLocalRadarMenu.xml. We will use some of these menu .xml files asis. We will copy and paste from some of the menus as well. We will use the Localization Perspective to perform all of the menu editing.



**Figure 1.** Default local radar menu in AWIPS-2 along with the menu xml files that contribute to the menu layout. All the files listed here are referenced by baseLocalRadarMenu.xml

**Figure 2.** Custom menu layout created in this exercise.

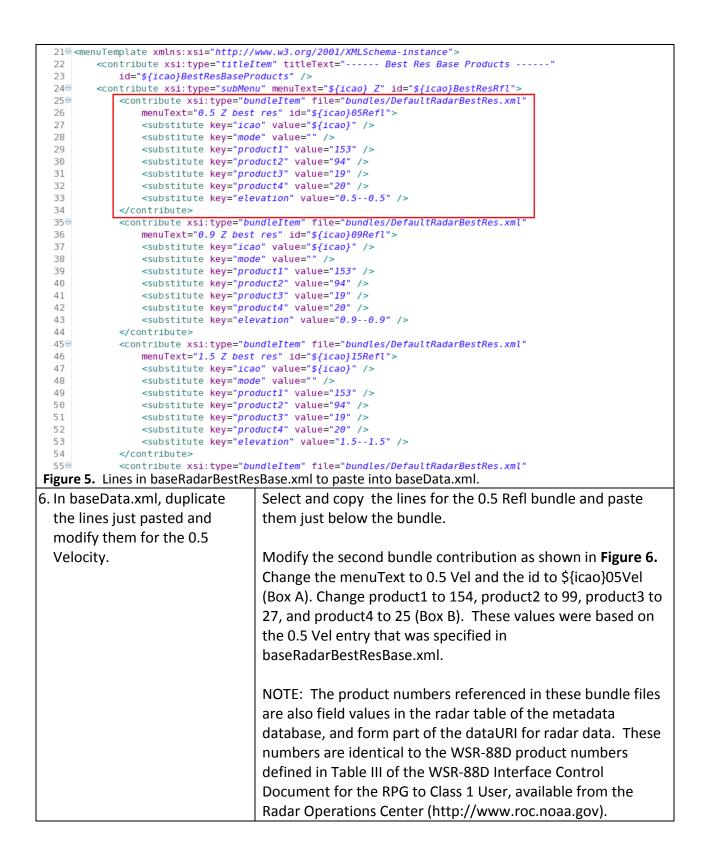
Our goal is to create the menu layouts as shown in **Figure 2**. Owing to this menu complexity, we will use a "build-a-little, test-a-little" process. We will start by creating a custom version of baseLocalRadarMenu.xml, and making brand new menu files for the baseData and the baseDataTilts sections.

This exercise will probably take about 1.5 hours to complete.

<ul> <li>If you don't already have a site version of baseLocalRadarMenu.xml, make a site override of the duaPol version using the Localization Perspective.</li> <li>In the file browser, open CAVE &gt; Menus &gt; radar &gt; duaPol &gt; baseLocalRadarMenu.xml. Right-click BASE and select Coy To &gt; Site.</li> <li>Control Version Using the Localization Perspective.</li> <li>In the file browser, open CAVE &gt; Menus &gt; radar &gt; duaPol &gt; baseLocalRadarMenu.xml. Right-click BASE and select Coy To &gt; Site.</li> <li>If you don't already and the select callbadders.</li> <li>If you don't already and the select callbad</li></ul>	Concept	Actions		
Site version of baseLocalRadarMenu.xml, make a site override of the dualPol version using the Localization Perspective.          baseLocalRadarMenu.xml, make a site override of the dualPol version using the Localization Perspective.       baseLocalRadarMenu.xml       copy To >Site.         comparison of baseLocalRadarMenu.xml       baseLocalRadarMenu.xml       baseLocalRadarMenu.xml       copy To >Site.         comparison of baseLocalRadarMenu.xml       baseLocalRadarMenu.xml       baseLocalRadarMenu.xml       copy To >Site.         comparison of baseLocalRadarMenu.xml       baseLocalRadarMenu.xml       copy To >Site.       copy To >Site.         comparison of baseLocalRadarMenu.xml       baseLocalRadarMenu.xml       copy To >Site.       copy To >Site.         comparison of baseLocalRadarMenu.xml to add a contribution from a new baseData.xml menu wer/lic create in the next step.       Comment out all other menu contributions.       SITE. Make it look like Figure 3. The first contribution for Radar Applications.         contributions.       When you're done editing, save your changes.       Comment ends with> just after the contribution for Radar Applications.         contribute is the site of th	1. If you don't already have a	In the file browser, open CAVE » Menus » radar » dualPol »		
baseLocalRadarMenu.xml, make a site override of the dualPol version using the Localization Perspective.       Copy To ► Site.         >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	site version of	baseLocalRadarMenu.xml. Right-click BASE and select		
make a site override of the dualPol version using the Localization Perspective.is and a contribution perspective.Image: Contribution Perspective. </td <td>baseLocalRadarMenu.xml,</td> <td>-</td>	baseLocalRadarMenu.xml,	-		
dualPoi version using the Localization Perspective. <ul> <li>dualPoi bestelization Perspective.</li> <li>dualPoi bestelization Perspective.</li> </ul> 2. Edit       bestelization Perspective. <ul> <li>doct</li> <li>bestelization Perspective.</li> </ul> 2. Edit       bestelization Perspective. <ul> <li>bestelization Perspective.</li> <li>bestelization Perspective.</li> </ul> 2. Edit       bestelization Perspective. <ul> <li>bestelization Perspective.</li> </ul> 2. Edit       bestelization Perspective. <ul> <li>bestelization Perspective.</li> </ul> 3. Edit <ul> <li>bestelization Perspective.</li> <li>bestelization Perspective.</li> </ul> 4. Edit the baseLocalRadarMenu.xml to add a contribution from a new baseData.xml menu we'll contributions. <ul> <li>bestelization Perspective.</li> <li>bestelization Perspective.</li> <li>bestelization Perspective.</li> <li>bestelization Perspective.</li> </ul> 2. Edit <ul> <li>bestelization Perspective.</li> <li>bestelization Perspective.</li> <li>bestelization Perspective.</li> </ul> 4. Contribution from a new baseData.xml menu we'll contributions. <ul> <li>bestelization Perspective.</li></ul>	-			
Localization Perspective. <ul> <li>Implementation of the serification of the se</li></ul>		▽ ≽ dualPol		
2. Edit baseHadarMestresterStik zur Gopen Win i BaseHadarMenu zmi i BaseHadarMestrestesStik zur Gopen Win i BaseHadarMestrestesStik zur Gopen King Zur Go	-	🕨 🦢 terminal		
Image: Contract of the second and t	Localization Perspective.	k 🕅 arsrRadars.xml		
2. Edit         2. Edit         baseAcadarBestResZRAW, GOPP bo baseAcadarBestResZRAW, GOPP baseAcadarBestResZRAW, GOPP baseAcada		▶ 🖹 asrRadars.xml		
2. Edit       baseRadarDatQualtyxm       See [153]         bit baseRadarDatQualtyxm       Workstation (localhost)         create in the next step.       Comment out all other menu contributions.         Comment out all other menu contributions.       When you're done editing, save your changes.         Workstation extreme==mmu/rddr/Mat/Mat/Mat/Mat/Mat/Mat/Mat/Mat/Mat/Mat		▽ 🖹 baseLocalRadarMenu.xml		
2. Edit       baseRadarBestRes2Stvm       Gopy       Workstation (incalhost)         bit baseRadarBestRes2Stvm       workstation (incalhost)       Workstation (incalhost)         bit baseRadarBestRes2Stvm       workstation (incalhost)       Workstation (incalhost)         bit baseRadarBestRes2Stvm       workstation (incalhost)         create in the next step.       Comment out all other menu contributions.         comment out all other menu contributions.       workstationse         comment out all other menu contributis all type=tablancing***********************************				
2. Edit baseAdarBestResZSW.xr Copy to the fits (function) be baseBadarDesVeBToduct, be baseBadarDesVeBToduct, be baseBadarDesVeBToduct, be baseBadarDesVeBToduct, be baseBadarDesVeBToduct, be baseBadarDesVeBToduct, be fits to baseData.xml menu we'll create in the next step. Comment out all other menu contributions. When you're done editing, save your changes.		baseRadarAlgorithmOverla		
I be aseRadarBestResZSRM.x     Cory To * Ster (TSA)     DesceRadarBestResZSRM.x     Cory To * Ster (TSA)     DesceRadarDestResZSRM.x     Cory To * Ster (TSA)     DesceRadarDestResZSRM.x     Cory To * Ster (TSA)     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     Nove The     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     Nove The     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestResTV.xml     DesceRadarDestVeedPoduct     DesceRad		baseRadarApplications.xm		
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2. Edit       Edit the baseLocalRadarMenu.xml file by double-clicking on baseLocalRadarMenu.xml file by double-clicking on STE. Make it look like Figure 3. The first contribute line is changed to reference baseData.xml. The second line was changed to reference baseData.xml.         /// comment out all other menu contributions.       When you're done editing, save your changes.         /// comment exitive=stippe=sublecker=reference/second/outpet/thaseBaseBaseData.xml // comment exitivpe=sublecker=reference/second/outpet/thaseBaseBaseData.xml // comment/second/outpet/thaseBaseBaseDat				
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2. Edit bestelecalRadarMenu.xml to add a contribution from a new baseData.xml menu we'll create in the next step. Comment out all other menu contributions. Edit the baseLocalRadarMenu.xml file by double-Clicking on SITE. Make it look like Figure 3. The first contribute line is changed to reference baseData.xml. The second line was changed so it starts with a to specify a comment, and the comment out all other menu contributions.</p When you're done editing, save your changes. Under you're done editing, save your changes. When you're done editing, save your changes. Under you're done editing. Save your changes. Contribute xsi: type="sublculude" fileName="menu/radar/dualPol/baseBadarBetHes2RM.xml" /> contribute xsi: type="sublculude" tipe="sublculude" tipe="sublculud		Refresh		
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baseLocalRadarMenu.xml to add a contribution from a new baseData.xml menu we'll create in the next step. Comment out all other menu contributions. SITE. Make it look like Figure 3. The first contribute line is changed to reference baseData.xml. The second line was changed so it starts with a to specify a comment, and the comment out all other menu contributions.</p When you're done editing, save your changes. Use antipet stippet subtractive 'litelihee='menus/radar/dualPol/baseBatarBetHestResV' /> contribute stippet*subtractive 'litelihee='menus/radar/dualPol/baseBatarBetHestResV' /> contribute stippe*subtractive 'litelihee='menus/radar/dualPol/baseBatarBetHestResV' /> contribute stippe*subtractive' stippe*subtractive' stippe*subtractive' 'litelihee='menus/radar/dualPol/baseBatarBetHestResV' /> contribute stippe*subtractive' stippe*subtractive' 'litelihee='menus/radar/dual	2. Edit	Edit the baseLocalRadarMenu.xml file by double-clicking on		
add a contribution from a new baseData.xml menu we'll create in the next step. Comment out all other menu contributions. changed to reference baseData.xml. The second line was changed so it starts with a to specify a comment, and the comment out all other menu contributions. When you're done editing, save your changes. When you're done editing, save your changes.</td <td>baseLocalRadarMenu.xml to</td> <td>SITE. Make it look like Figure 3. The first contribute line is</td>	baseLocalRadarMenu.xml to	SITE. Make it look like Figure 3. The first contribute line is		
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Comment out all other menu contributions.       Applications.         Umen you're done editing, save your changes.         Umenu you're done editing.         Umenu you'				
contributions. When you're done editing, save your changes.		-		
<pre>when you're done editing, save your changes.  /***********************************</pre>		Applications.		
<pre>210 emenuTemplate xmlns:xs1="http://www.w3.org/2001/XMLSchema-Instance"&gt; 222 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 233 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 244 255 &lt; 264 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 275 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 276 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseDataPolPolPolPolPolPolPolPolPolPolPolPolPolP</pre>	contributions.			
<pre>210 emenuTemplate xmlns:xs1="http://www.w3.org/2001/XMLSchema-Instance"&gt; 222 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 233 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 244 255 &lt; 264 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 275 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseData.xml"/&gt; 276 contribute xs1:type="sublectude" fileName="menus/radar/dualPol/baseDataPolPolPolPolPolPolPolPolPolPolPolPolPolP</pre>		When you're done aditing cave your changes		
<pre>223 <contribute filename="menus/radar/dualPol/baseData.xml" xsi:type="subinclude"></contribute> 23 23 24 25 25 25 25 26 27 27 27 28 28 29 29 29 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20</pre>		when you re done editing, save your changes.		
<pre>contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseData.xml"/&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarBestResZSM.xml" /&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarBestResZV.xml" /&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarBestResZes.xml" /&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarPrecip.xml" /&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarPrecip.xml" /&gt; contribute xsi:type="subinclude" subMenu=%[fica0] Precip" /&gt; contribute xsi:type="subinclude" subMenu=%[fica0] Precip"</pre>				
<pre>25 &lt;</pre>				
<pre>contribute xsi:type='separator' id='\$[ica0]BestResZV' /&gt; contribute xsi:type='subinclude' fileName='menus/radar/dualPol/baseRadarBestResZV.xml* /&gt; contribute xsi:type='subinclude' fileName='menus/radar/dualPol/baseRadarBestResZe.xml* /&gt; contribute xsi:type='subinclude' fileName='menus/radar/dualPol/baseRadarBestResBase.xml* /&gt; contribute xsi:type='subinclude' fileName='menus/radar/dualPol/baseRadarBestResBase.xml* /&gt; contribute xsi:type='subinclude' fileName='menus/radar/dualPol/baseRadarBestResBase.xml* /&gt; contribute xsi:type='subinclude' subMenu='\$[ica0] Precip* /&gt; contribute xsi:type='subinclude' subMenu='\$[ica0] Precip* /&gt; contribute xsi:type='subinclude' subMenu='\$[ica0] Precip* fileName='menus/radar/dualPol/baseRadarDerivedProducts.xml* /&gt; contribute xsi:type='subinclude' subMenu='\$[ica0] Derived Products' fileName='menus/radar/dualPol/baseRadarAdarAdualDuty.xml* /&gt; contribute xsi:type='subinclude' subMenu='\$[ica0] Derived Products' fileName='menus/radar/dualPol/baseRadarAdarAdualDuty.xml* /&gt; contribute xsi:type='subinclude' subMenu='\$[ica0] A-bit/Legacy Prods' fileName='menus/radar/dualPol/baseRadarAdarAdualDuty.xml* /&gt; contribute xsi:type='subinclude' subMenu='\$[ica0] A-bit/Legacy Prods' fileName='menus/radar/dualPol/baseRadarAgarLegacy.xml* /&gt; contribute xsi:type='subinclude' subMenu='Radar Applications' fileName='menus/radar/dualPol/baseRadarAgarLegacy.xml* /&gt; contribute xsi:type='subinclude' subMenu='Radar Applications' fileName='menus/radar/dualPol/baseRadarAgarLegacy.xml* /&gt; cont</pre>	25 </td <td></td>			
<pre>contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarBestResZV.xml* /&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarBestResZe.xml* /&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarBestResZe.xml* /&gt; contribute xsi:type="subinclude" fileName="menus/radar/dualPol/baseRadarBestResZe.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Precip" fileName="menus/radar/dualPol/baseRadarPrecip.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Precip" fileName="menus/radar/dualPol/baseRadarPrecip.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Precip" fileName="menus/radar/dualPol/baseRadarPrecip.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Precip" fileName="menus/radar/dualPol/baseRadarDerivedProducts.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Data Quality" fileName="menus/radar/dualPol/baseRadarDerivedProducts.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Algorithm Overlays" fileName="menus/radar/dualPol/baseRadarDerivedPol/baseRadarLegacy.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Algorithm Overlays" fileName="menus/radar/dualPol/baseRadarDerivedPol/baseRadarLegacy.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Precip" fileName="menus/radar/dualPol/baseRadarDerivedPol/baseRadarLegacy.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Algorithm Overlays" fileName="menus/radar/dualPol/baseRadarLegacy.xml* /&gt; contribute xsi:type="subinclude" subMenu="s(icao) Algorithm Overlays"</pre>				
<pre>31</pre>				
<pre>33 <contribute id="\${ica0}RadarPrecip" xsi:type="separator"></contribute> 34 <contribute filename="menus/radar/dualPol/baseRadarDerivedProducts.xml" submenu="\${ica0} Precip" xsi:type="subinclude"></contribute> 35 <contribute filename="menus/radar/dualPol/baseRadarDerivedProducts.xml" submenu="\${ica0} Precip" xsi:type="subinclude"></contribute> 36 <contribute filename="menus/radar/dualPol/baseRadarDargetedProducts.xml" submenu="\${ica0} Algorithm Overlays" xsi:type="subinclude"></contribute> 37 <contribute filename="menus/radar/dualPol/baseRadarDargetedProducts.xml" submenu="\${ica0} Algorithm Overlays" xsi:type="subinclude"></contribute> 38 <contribute filename="menus/radar/dualPol/baseRadarDataQuality.xml" submenu="\${ica0} Data Quality" xsi:type="subinclude"></contribute> 39 <contribute filename="menus/radar/dualPol/baseRadarDataQuality.xml" submenu="\${ica0} Atpit/tegacy Prods" xsi:type="subinclude"></contribute> 40 <contribute filename="menus/radar/dualPol/baseRadarApaplications.xml" submenu="\${ica0} Atpit/tegacy Prods" xsi:type="subinclude"></contribute> 41 </pre> 42  43  44  45  44  45  46  46  46  47  47  48  46  46  46  46  46  47  47  47				
<pre>subinclude si:type="subinclude" subMenu="\$[cao] Derived Products" fileName="menus/radar/dualPol/baseRadarDerivedProducts.xml" /&gt; contribute xsi:type="subinclude" subMenu="\$[cao] Algorithm Overlays" fileName="menus/radar/dualPol/baseRadarDovPanelBestRes.xml" /&gt; contribute xsi:type="subinclude" subMenu="\$[cao] Data Quality" fileName="menus/radar/dualPol/baseRadarDataQuality.xml" /&gt; contribute xsi:type="subinclude" subMenu="\$[cao] Data Quality" fileName="menus/radar/dualPol/baseRadarDetaQuality.xml" /&gt; contribute xsi:type="subinclude" subMenu="\$[cao] Data Quality" fileName="menus/radar/dualPol/baseRadarDetaQuality.xml" /&gt; contributes to baseLoccalRadarMenu.xml to include the menu contribution</pre>				
<pre>36</pre>	34 <contribute filename="menus/radar/dualPol/baseRadarPrecip.xml" submenu="&lt;/p&gt;&lt;/td&gt;&lt;td&gt;&lt;pre&gt;\${icao} Precip" xsi:type="subinclude"></contribute>			
<pre>38</pre>	<pre>36 <contribute <u="" submenu="&lt;/pre&gt;&lt;/td&gt;&lt;td colspan=4&gt;&lt;pre&gt;36 &lt;contribute xsi:type=" xsi:type="subinclude">subinclude" subMenu="\${<u>icao</u>} Algorithm 0verlays" fileName="menus/radar/dualPol/baseRadarAlgorithm0verlays.xml" /&gt;</contribute></pre>			
<pre>40 41 42 43 44 45 4/contribute 44 45 4/contribute 45 4/contribute 46 47 46 47 48 47 48 47 48 47 48 48 48 49 49 49 49 49 40 40 40 40 40 40 40 40 40 40 40 40 40</pre>	<pre>8 <contribute filename="menus/radar/dualPol/baseRadarDataQuality.xml" submenu="\${ica0} Data Quality" xsi:type="subinclude"></contribute></pre>			
Figure 3. Edits to baseLocalRadarMenu.xml to include the menu contribution for baseData.xml and comment out the rest of the menu contributions.	0 <contribute filename="menus/radar/dualPol/baseRadarApplications.xml" submenu="Radar Applications" xsi:type="&lt;u&gt;subinclude&lt;/u&gt;"></contribute>			
Figure 3. Edits to baseLocalRadarMenu.xml to include the menu contribution for baseData.xml and comment out the rest of the menu contributions.	2>			
46  Figure 3. Edits to baseLocalRadarMenu.xml to include the menu contribution for baseData.xml and comment out the rest of the menu contributions.	44			
comment out the rest of the menu contributions.				
comment out the rest of the menu contributions.	Figure 3. Edits to baseLocalRadarM	enu.xml to include the menu contribution for baseData.xml and		
	-			
3. This new baseData.xml will   In the file browser, open CAVE » Menus » radar » dualPol »	3. This new baseData.xml will	In the file browser, open CAVE » Menus » radar » dualPol »		

be the top section of the new menu, labeled "Base Data", with six 0.5 entries (0.5 Refl through 0.5 DP 8-Prod 4	baseRadarBestResZV.xml. Right-click BASE and select Copy To ► New File.	b b popupSkewT     cdar     cdar     cdar     b b terminal     b d arsRadars.xml     b d arsRadars.xml     cdars.cc.aRadarMenu.xml     i    Basto.cc.aRadarMenu.xml     i    Basto.cc.aRadarMenu.xml     i    Basto.cc.aRadarMenu.xml     i    Basto.cc.aRadarMenu.xml     ii    Basto.cc.aRadarMenu.xml     iii    Basto.cc.aRadarMenu.xml
Panel) and three All-Tilts entries (Z/V, S/SRM, and DP 8-Prod 4 Panel).	Name the file baseData.xml.	STE (TSA)     SasRadarAlgorithmOverlays.xml     SasRadarApplications.xml     SasRadarApplications.xml     SasRadarBettRetElase.xml     SasRadarBettRetElase.xml     SasRadarBettRetElase.xml     SasRadarBettRetZXRM.xml
Create baseData.xml from baseRadarBestResZV.xml. We're using baseRadarBestResZV.xml	baseData.xml should be a User version by default. Move it to Site by right- clicking on <b>USER</b> and choose <b>Move To ► Site</b> .	D BaseRadar/Pour/bacQuality.xml     Open Open W0n     Open W0n       D BaseRadar/Dour/bacQuality.xml     Open W0n     Open W0n       D BaseRadar/Pour/bacls.xxl     Copy DaseRadar/Pour/bacls.xxl     Copy DaseRadar/Pour/bacls.xxl       D BaseRadar/Pour/bacls.xxl     Deleter     Workstation (loc alhost)       D BaseRadar/Pour/bacls.xxl     Deleter     Workstation (loc alhost)       D BaseRadar/Pour/bacls.xxl     Refresh     New File
because it already contains the 0.5 and All Tilts entries for Z/V. We'll manually add other 0.5 menu entries and the All Tilts entries for Z/SRM and the DP 8-Prod 4 Panel in a later step.	Rename file X File name: baseData xml OK Cancel	
4. Edit baseData.xml to change the first title item.	Make the following edit to ba section) using the Localizatio Change the titleText and id fo black box in <b>Figure 4.</b>	

210	<pre><menutemplate xmlns:xsi="ht&lt;/pre&gt;&lt;/th&gt;&lt;th&gt;tp://www.w3.org/2001/XMLSchema-instance"></menutemplate></pre>					
22						
23	id="BaseData" />					
240						
25		ltRadarBlendedBestRes.xml" menuText="0.5 Z+V"				
26	id="\${icao}058bitZV					
27		ao" value="\${icao}" />				
28		<i>duct1</i> " value="153" />				
29		oduct2" value="94" />				
30		<i>oduct3</i> " value="19" />				
31	<substitute key="product4" value="20"></substitute>					
32	<substitute key="mo&lt;/td&gt;&lt;td&gt;del" value=""></substitute>					
33	<substitute key="pr&lt;/td&gt;&lt;td&gt;&lt;i&gt;duct5&lt;/i&gt;" value="154"></substitute>					
34	<substitute key="pr&lt;/td&gt;&lt;td&gt;&lt;i&gt;pduct6&lt;/i&gt;" value="99"></substitute>					
35		pduct7" value="27" />				
36		pduct8" value="25" />				
37	<substitute key="mo&lt;/td&gt;&lt;td&gt;de2" value=""></substitute>					
38		evation" value="0.50.5" />				
39						
400	<contribute <="" menutext="0.9 Z+V" td="" xsi:type="b&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;41&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;ltRadarBlendedBestRes.xml"></contribute>					
42	id="\${icao}098bitZV					
43		ao" value="\${icao}" />				
44		oduct1" value="153" />				
45		oduct2" value="94" />				
46		<i>oduct3</i> " value="19" />				
47		pduct4" value="20" />				
48	<substitute key="mode1" value=""></substitute> <substitute key="product5" value="154"></substitute>					
49 50		oduct6" value="99" />				
51		oduct7" value="27" />				
52		oduct8" value="25" />				
53	<substitute key="mo&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;54&lt;/td&gt;&lt;td&gt;-&lt;/td&gt;&lt;td&gt;evation" value="0.90.9"></substitute>					
55						
	e 4. First edits to baseData.xm	l as described in Step 4.				
	py and paste the 0.5 Refl	In the Localization Perspective, open the <b>BASE</b> version of				
en	try from	baseRadarBestResBase.xml. It should open into a new tab.				
ba	seRadarBestResBase.xml					
int	o baseData.xml	Copy the lines that reference the "0.5 Z best res" (the bundle				
		item and not the subMenu above it) from near the top of the				
		file as shown by the red box in <b>Figure 5</b> . Paste these into the				
		baseData.xml tab just below the BaseData titleItem we				
		created in Step 4. Change the menuText in baseData.xml from				
		"0.5 Z best res" to "0.5 Refl" Close the				
		baseRadarBestResBase.xml file. The resulting baseData.xml is				
		shown in the top section of Figure 6.				



```
21@<menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <contribute xsi:type="titleItem" titleText="----- Base Data -----"
 22
 23
          id="BaseData" />
 240
      <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"</pre>
 25
               menuText="0.5 Refl" id="${icao}05Refl">
 26
                <substitute key="icao" value="${icao}" />
 27
                <substitute key="mode" value="" />
 28
                <substitute key="product1" value="153" />
                <substitute key="product2" value="94" />
 29
                <substitute key="product3" value="19" />
 30
 31
                <substitute key="product4" value="20" />
 32
                <substitute key="elevation" value="0.5--0.5" />
 33
       </contribute>
 340
        <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"
                menuText="0.5 Vel" id="${icao}05Vel"> 🗛
 35
                <substitute key="icao" value="${icao}" />
 36
 37
                <substitute key="mode" value="" />
                <substitute key="product1" value="154" />
 38
 39
                <substitute key="product2" value="99" />
                                                           B
 40
                <substitute key="product3" value="27" />
 41
                <substitute key="product4" value="25"
 42
                <substitute key="elevation" value="0.5--0.5" />
 43
        </contribute>
 44
 450
        <contribute xsi:type="bundleItem"
 46
           file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.5 Z+V"
 47
            id="${icao}058bitZV">
 48
            <substitute key="icao" value="${icao}" />
            <substitute key="product1" value="153" />
 49
           <substitute key="product2" value="94" />
 50
 51
           <substitute key="product3" value="19" />
 52
           <substitute key="product4" value="20" />
 53
            <substitute key="model" value="" />
 54
            <substitute key="product5" value="154" />
 55
            <substitute key="product6" value="99" />
            <substitute key="product7" value="27" />
 56
            <substitute key="product8" value="25" />
 57
           <substitute key="mode2" value="" />
 58
 59
            <substitute key="elevation" value="0.5--0.5" />
 60
       </contribute>
       <contribute xsi:type="bundleItem"</pre>
 610
            file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.9 Z+V"
 62
 63
            id="${icao}098bitZV">
Figure 6. Edits to baseData.xml for the 0.5 Vel menu entry.
7. Duplicate the lines in the
                                   Look at the BASE version of the dualPol
  0.5 Vel section for the
                                   baseRadarBestResBase.xml file to see the entry for the 0.5
  0.5 SRM menu entry.
                                   SRM entry (it's located near line 370). Notice that it's very
                                   similar to the lines we just modified for the 0.5 Vel entry, so
                                   we'll use them again. In baseData.xml, duplicate them in a
                                   similar manner as in the previous step. Close
                                   baseRadarBestResBase.xml.
                                   As shown in Figure 7, change the menuText to "0.5 SRM" and
                                   the id to "${icao}05SRM" (Box A).
                                   Change both product3 and product4 to "" and set the mode
                                   to "SRM8" (Box B). Leave product1 and product2 as-is.
```

```
210 <menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <contribute xsi:type="titleItem" titleText="----- Base Data -----"</pre>
 22
 23
           id="BaseData" />
 240
        <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"
 25
                menuText="0.5 Refl" id="${icao}05Refl">
 26
                <substitute key="icao" value="${icao}" />
                <substitute key="mode" value="" />
 27
 28
                <substitute key="product1" value="153" />
 29
                <substitute key="product2" value="94" />
 30
                <substitute key="product3" value="19" />
 31
                <substitute key="product4" value="20" />
 32
                <substitute key="elevation" value="0.5--0.5" />
 33
        </contribute>
 34
        <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"
 350
 36
                menuText="0.5 Vel" id="${icao}05Vel">
                <substitute key="icao" value="${icao}" />
 37
                <substitute key="mode" value="" />
 38
 39
                <substitute key="product1" value="154" />
 40
                <substitute key="product2" value="99" />
 41
                <substitute key="product3" value="27" />
 42
                <substitute key="product4" value="25" />
 43
                <substitute key="elevation" value="0.5--0.5" />
 44
        </contribute>
 45
 460
        <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"
               menuText="0.5 SRM" id="${icao}05SRM">
 47
                <substitute key="icao" value="${icao}"
 48
                <substitute key="mode" value="SRM8" />
 49
 50
                <substitute key="product1" value="154" />
                                                         B
                <substitute key="product2" value="99" />
 51
                <substitute key="product3" value="" />
 52
                <substitute key="product4" value="" />
 53
                <substitute key="elevation" value="0.5--0.5" />
 54
 55
        </contribute>
 56
 570
        <contribute xsi:type="bundleItem"
            file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.5 Z+V"
 58
 59
            id="${icao}058bitZV">
            <substitute key="icao" value="${icao}" />
 60
            <substitute key="product1" value="153" />
 61
            <substitute key="product2" value="94" />
 62
 63
            <substitute key="product3" value="19" />
            <substitute key="product4" value="20" />
 64
            <substitute kev="model" value="" /
Figure 7. Edits to baseData.xml for the 0.5 SRM menu entry.
8. The menu item 0.5 Z/V Best
                                  Find the 0.5 Z+V entry in baseData.xml file. It should be the
  Res product is already in
                                  next entry, just after the 0.5 SRM entry we just created.
                                  Change the menuText from "0.5 Z+V" to "0.5 Z/V" as shown in
  baseData.xml. We need to
  modify its menuText label
                                  the red box in Figure 8. Copy/paste the entire entry for 0.5
                                  Z/V (shown in the black box in Figure 8) to duplicate it so the
  and then copy the entry for
  Z/V to make a Z/SRM8. The
                                  second can be used for 0.5 Z/SRM.
  baseRadarBestResZSRM.xml
  file shows what the Z/SRM8
                                  In the new entry (Figure 9), change the menuText to "0.5
                                  Z/SRM8" (Box A) and the id to "%{icao}058bitZSRM" (Box B).
  menu entry should look like.
                                  Change the values for product7 and product 8 to "" and
                                  mode2 to "SRM8" (Box C).
```

```
240
        <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"
25
                menuText="0.5 Refl" id="${icao}05Refl">
26
                <substitute key="icao" value="${icao}" />
27
                <substitute key="mode" value="" />
28
                <substitute key="product1" value="153" />
29
                <substitute key="product2" value="94" />
                <substitute key="product3" value="19" /><substitute key="product4" value="20" />
30
31
                substitute key="elevation" value="0.5--0.5" />
32
33
        </contribute>
34
35 😑
        <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"
36
                menuText="0.5 Vel" id="${icao}05Vel">
                <substitute key="icao" value="${icao}" />
37
38
                <substitute key="mode" value="" />
39
                <substitute key="product1" value="154" />
40
                <substitute key="product2" value="99" />
                <substitute key="product3" value="27" />
41
42
                <substitute key="product4" value="25" />
43
                <substitute key="elevation" value="0.5--0.5" />
44
       </contribute>
45
460
        <contribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"</pre>
47
                menuText="0.5 SRM" id="${icao}05SRM">
48
                <substitute key="icao" value="${icao}" />
49
                <substitute key="mode" value="SRM8" />
                <substitute key="product1" value="154" />
50
                <substitute key="product2" value="99" />
51
                <substitute key="product3" value="" />
52
                <substitute key="product4" value="" />
53
                <substitute key="elevation" value="0.5--0.5" />
54
55
        </contribute>
56
570
        <contribute xsi:type="bundleItem"
58
            file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.5 Z/V"
59
            id="${icao}058bitZV">
            <substitute key="icao" value="${icao}" />
60
61
            <substitute key="product1" value="153" />
62
            <substitute key="product2" value="94" />
63
            <substitute key="product3" value="19" />
            <substitute key="product4" value="20" />
64
            <substitute key="model" value="" />
65
            <substitute key="product5" value="154" />
66
67
            <substitute key="product6" value="99" />
68
            <substitute key="product7" value="27" />
            <substitute key="product8" value="25" />
69
70
            <substitute key="mode2" value="" />
71
            <substitute key="elevation" value="0.5--0.5" />
72
        </contribute>
730
        <contribute xsi:type="bundleItem"
74
            file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.9 Z+V"
75
            id="${icao}098bitZV">
76
            <substitute key="icao" value="${icao}" />
              substitute key-"product1" value-"153
Figure 8. 0.5 Z/V section of baseData.xml to be copied to make a new 0.5 Z/SRM section.
```

<pre>Substitute key="product" value="25 /&gt; </pre> <pre>constitute key="product" value="25 /&gt; </pre> <pre>constitute key="product" value="25 /&gt; </pre> <pre>constitute key="product" value="56.0.5" /&gt; </pre> <pre>constitute key="product" value="65.0.5" /&gt; </pre> <pre>constitute key="product" value="7.5" </pre> <pre>constitute ke</pre>
<pre>4 </pre> 4  4
<pre>469 479 489 480 480 480 480 480 480 480 480 480 480</pre>
<pre>47 47 48 49 40 40 40 40 40 40 40 40 40 40 40 40 40</pre>
<pre>substitute key="icao" value="\$ficao]" /&gt; substitute key="product1" value="164" /&gt; substitute key="product2" value="164" /&gt; substitute key="product3" value="/&gt; substitute</pre>
<pre>49</pre>
<pre>substitute key="product? value="9" /&gt; substitute key="product? value="9" /&gt; substitute key="product? value="/&gt; subst</pre>
<pre>substitute key="product? value="/&gt; substitute key="product? value="/&gt; substitute key="product? value="/&gt; substitute key="product? value="/&gt; file="bundies/befaultRadrBlendedBestRes.xml" menuText="0.5 Z/V" id="\$(ica0)580itZV" substitute key="product? value="55"/&gt; substitute key="product? value="35"/&gt; substitute key="product? value="35"/&gt; substitute key="product? value="26"/&gt; substitute key="product? value="27"/&gt; substitute key="product? value="/&gt; substitute key="product? value="/&gt; substit</pre>
<pre>substitute key="product" value=" /&gt; substitute key="roduct" value=" /&gt; substitute key="cloaded# value=" /&gt; substitute key="cloade# value=" /&gt;</pre>
<pre>substitute key="elevation" value="0.5-0.5" /&gt;  </pre> <
<pre></pre>
<pre>contribute xsi:type='bundleItem" tile='bundles/DefaultMadarBlendedBestRes.xml' menuText='0.5 Z/V" id='sfica0j63b0itZV'&gt; csubstitute key='product1' value='sfica0' /&gt; csubstitute key='product2' value='sf' /&gt; csubstitute key='product3' value='20' /&gt; csubstitute key='product3' value='25' /&gt; csubstitute key='product3' value='25 /&gt; c contribute xsi:type='bundleItem" file='bundles/DefaultMadarBlendedBestRes.xml' menuText='0.5 Z/SRM9' csubstitute key='product1' value='153' /&gt; csubstitute key='product3' value='154' /&gt; csubstitute key='product3' value='' /&gt; csubstitute</pre>
<pre>scontribute xs:type='bundleffem' file='bundles/DefaultRadarBlendedBestRes.xnl' menuText="0.5 Z/V" id='\$(ica0)058b1tZV'&gt; substitute key='product1' value='\$(ica0)' /&gt; substitute key='product1' value='153' /&gt; substitute key='product1' value='154' /&gt; substitute key='product1' value='20' /&gt; substitute key='product1' value='154' /&gt; substitute key='product1' value='154' /&gt; substitute key='product1' value='20' /&gt; substitute key='product1' value='151' /&gt; substitute key='product1' value='151' /&gt; substitute key='product1' value='151' /&gt; substitute key='product1' value='20' /&gt; substitute key='product1' value='20' /&gt; substitute key='product1' value='151' /&gt; substitute key='product5' value='20' /&gt; substitute key='product5' value='20' /&gt; substitute key='product5' value='20' /&gt; substitute key='product5' value='20' /&gt; substitute key='product5' value='154' /&gt; substitute key='product5' value='20' /&gt; substitute key='product</pre>
<pre>file='bundles/DefaultRadarBlendedBestRes.xml' menuText="0.5 Z/V" id='\$(ica)085bitZV'&gt; substitute key='fraduct1' value='\$(ica)' /&gt; substitute key='product1' value='153' /&gt; substitute key='product3' value='19' /&gt; substitute key='product3' value=''20' /&gt; substitute key='product3' value=''20' /&gt; substitute key='product3' value=''10' /&gt; substitute key='product3' value=''10' /&gt; substitute key='product3' value=''16' /&gt; substitute key='product3' value=''.&gt; substitute key=''product3' value=''.&gt;&gt; substitute key='</pre>
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<pre>61  <substitute key="product1" value="13"></substitute> 62  <substitute key="product2" value="94"></substitute> 63  <substitute key="product3" value="19"></substitute> 64  <substitute key="product4" value="27"></substitute> 65  <substitute key="product7" value="27"></substitute> 66  <substitute key="product7" value="27"></substitute> 67  <substitute key="product7" value="27"></substitute> 68  <substitute key="product7" value="27"></substitute> 69  <substitute key="product7" value="27"></substitute> 69  <substitute key="product7" value="27"></substitute> 60  <substitute key="product7" value="27"></substitute> 61  <substitute key="product7" value="27"></substitute> 62  <substitute key="product7" value="27"></substitute> 63  <substitute key="product7" value="6.5-0.5"></substitute> 64  <substitute key="product7" value="31"></substitute> 75  file="bundles/DefaultRadar8lendedBestRes.xml" menuText="0.5 Z/SRM8" ) 76  substitute key="product7" value="31" /&gt; 77  <substitute key="product7" value="19"></substitute> 78  <substitute key="product7" value="19"></substitute> 79  <substitute key="product7" value="19"></substitute> 79  <substitute key="product7" value="19"></substitute> 70  <substitute key="product7" value="19"></substitute> 70  <substitute key="product7" value="19"></substitute> 70  <substitute key="product7" value="19"></substitute> 71  <substitute key="product7" value="19"></substitute> 72  <substitute key="product7" value="19"></substitute> 73  <substitute key="product7" value="19"></substitute> 74  <substitute key="product7" value="19"></substitute> 75  <substitute key="product&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;&lt;pre&gt;62 &lt;substitute key=" product2"="" value="4"></substitute> 63 <substitute key="product3" value="19"></substitute> 64 <substitute key="product4" value="20"></substitute> 65 <substitute key="product6" value="14"></substitute> 66 <substitute key="product6" value="27"></substitute> 67 <substitute key="product7" value="27"></substitute> 68 <substitute key="product7" value="27"></substitute> 69 <substitute key="product7" value="27"></substitute> 69 <substitute key="mode2" value="27"></substitute> 70 <substitute key="mode2" value="27"></substitute> 71 <substitute key="mode2" value="27"></substitute> 72 &lt; 75 substitute key="product1" value="37" /&gt; 76 <substitute key="product1" value="19"></substitute> 77 <substitute key="product2" value="19"></substitute> 78 <substitute key="product2" value="19"></substitute> 79 <substitute key="product2" value="19"></substitute> 79 <substitute key="product2" value="19"></substitute> 79 <substitute key="product2" value="19"></substitute> 70 <substitute key="product2" value="19"></substitute> 70 <substitute key="product2" value="19"></substitute> 71 <substitute key="product2" value="19"></substitute> 72 <substitute key="product2" value="19"></substitute> 73 <substitute key="product2" value="19"></substitute> 74 <substitute key="product2" value="19"></substitute> 75 <substitute key="product2" value="19"></substitute> 76 <substitute key="product2" value="19"></substitute> 77 <substitute key="product2" value="19"></substitute> 78 <substitute key="product2" value="19"></substitute> 79 <substitute key="product3" value="19"></substitute> 70 <substitute key="product3" value="19"></substitute> 70 <substitute key="product3" value="19"></substitute> 70 <substitute key="product3" value="19"></substitute> 71 <substitute key="product3" value="19"></substitute> 72 <substitute key="product3" value="19"></substitute> 73 <substitute key="product3" value="19"></substitute> 74 <substitute key="product3" value="19"></substitute> 75 <substitute key="product3" value="31"></substitute> 75 <su< th=""></su<></pre>
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<pre>64</pre>
<pre>65</pre>
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<pre>84</pre>
<pre>85 </pre> 85  85  85  86  86  87  88  89  89  90  90  91  91  92 <pre>6 </pre> 93  94  94  94  95  95  96  97  98  99
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<pre>87 <substitute key="mode2" value="SRM8"></substitute> 88 <substitute key="elevation" value="0.50.5"></substitute> 89  90 91 91 92 file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.9 Z+V" 93 id="\${icao}098bitZV"&gt; 94 <substitute key="icao" value="\${icao}"></substitute> 94 <substitute key="icao" value="\${icao}"></substitute> 95 <substitute key="product1" value="153"></substitute> 96 </pre>
<pre>88 <substitute key="elevation" value="0.50.5"></substitute> 89  90 910 contribute xsi:type="bundleItem" 92 file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.9 Z+V" 93 id="\${ica0}098bitZV"&gt; 94 <substitute key="ica0" value="\${ica0}"></substitute> 95 <substitute key="product1" value="153"></substitute> 96 </pre>
<pre>89  90 90 910 Scontribute xsi:type="bundleItem" 92 file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.9 Z+V" 93 id="\${ica0}098bitZV"&gt; 94 <substitute key="ica0" value="\${ica0}"></substitute> 95 <substitute key="product1" value="153"></substitute> 96 </pre>
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<pre>95 <substitute key="product1" value="153"></substitute> 95 <substitute key="product1" value="164"></substitute></pre>
Figure 9. Edits for the new (1.5 //SKIVI section of basel)ata xml
9. The next menu entry The menu item we need to add is defined in the baseline file
0.5 dual pol 8-product 4 Z/SRM8 entry, we can see that we can duplicate the 0.5 Z/SRM8
We also need to add a remove the unneeded substitute keys, as shown in the black box
and the All Tilts entries in the <ul> <li>Change the menuText to "0.5 DP 8-Prod 4-Panel"</li> </ul>
"bundles/DefaultRadarDualPolBaseData.xml"
<ul> <li>Change the id to "\${icao}05dualPolBaseData"</li> </ul>
Add the titleItem as shown by the red box in <b>Figure 10</b> .

```
<substitute key="product4" value="" />
 53
 54
                <substitute key="elevation" value="0.5--0.5" />
55
        </contribute>
56
570
        <contribute xsi:type="bundleItem"
            file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.5 Z/V"
58
 59
           id="${icao}058bitZV">
60
           <substitute key="icao" value="${icao}" />
           <substitute key="product1" value="153" />
61
           <substitute key="product2" value="94" />
 62
63
           <substitute key="product3" value="19" />
           <substitute key="product4" value="20" />
64
 65
           <substitute key="model" value="" />
66
            <substitute key="product5" value="154" />
           <substitute key="product6" value="99" />
67
           <substitute key="product7" value="27" />
68
69
            <substitute key="product8" value="25" />
           <substitute key="mode2" value="" />
70
 71
           <substitute key="elevation" value="0.5--0.5" />
 72
        </contribute>
73
740
        <contribute xsi:type="bundleItem"
 75
           file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.5 Z/SRM8"
           id="${icao}058bitZSRM">
 76
 77
           <substitute key="icao" value="${icao}" />
 78
           <substitute key="product1" value="153" />
           <substitute key="product2" value="94" />
79
           <substitute key="product3" value="19" />
80
81
            <substitute key="product4" value="20" />
           <substitute key="model" value="" />
82
           <substitute key="product5" value="154" />
83
84
            <substitute key="product6" value="99" />
            <substitute key="product7" value="" />
85
            <substitute key="product8" value="" />
86
87
            <substitute key="mode2" value="SRM8" />
88
           <substitute key="elevation" value="0.5--0.5" />
89
        </contribute>
90
910
        <contribute xsi:type="bundleItem"
            file="bundles/DefaultRadarDualPolBaseData.xml" menuText="0.5 DP 8-Prod 4-Panel"
92
93
            id="${icao}05dualPolBaseData">
 94
            <substitute key="icao" value="${icao}" />
            <substitute key="elevation" value="0.5--0.5" />
95
96
        </contribute>
 97
       contribute xsi:type="titleItem" titleText="----- Base Data (All Tilts) -----" id="BaseDataAllTilts"/>
98
99
1000
        <contribute xsi:type="bundleItem"
            file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.9 Z+V"
101
102
            id="${icao}098bitZV">
            <substitute key="icao" value="${icao}" />
103
            <substitute key="product1" value="153" />
<substitute key="product2" value="94" />
104
105
106
            <substitute key="product3" value="19" />
            -cubctitute key-"product/" value-"20" /s
107
```

Figure 10. Edits to baseData.xml to add the 0.5 8-Product 4 Panel.

10. Delete the next entries in	Move down just below the 0.5 DP 8-Prod 4 panel entry and
baseData.xml which we no	the titleItem we just added, and delete the next two entries
longer need.	for 0.9 Z+V and 1.5 Z+V. The All Tilts Z+V should appear next,
Create a Z/SRM8 All Tilts	and we'll keep this entry, but change the menuText from "All
entry.	Tilts Z+V" to "All Tilts Z/V" (black box in Figure 11)
Delete the remaining	
unneeded entries.	Copy/paste the All Tilts Z/V entry to duplicate it for the All
Create an All-Tilts version of	Tilts Z/SRM entry. Make the changes indicated in red boxes in
the 8-Product Dual-Pol 4-	Figure 11:

Panel.	Change the menuText to "0.5 Z/SRM8",
	<ul> <li>Change the id to "%{icao}058bitZSRM"</li> </ul>
	<ul> <li>Change the values for product7 and product 8 to ""</li> </ul>
	• Change the value for mode2 to "SRM8".
	<ul> <li>Delete the entries (for 0.5 Z+V, 0.9 Z+V, and 1.5 Z+V) until you get to the All Tilts Z+V entry. Keep the All Tilts Z+V, but change its menuText to "All Tilts Z/V", and then delete the rest of the entries (the Hi Tilts V sub menu). Delete the separator following the Z/V entries. Just prior to the last line in the file () copy/paste the 0.5 DP 8-Prod 4-Panel (the red box in Figure 12) so it appears as the black box in Figure 12, which illustrates the bottom portion of the file. In the black box version,</li> <li>Change the menuText to "All Tilts DP 8-Prod 4 Panel"</li> <li>Cange the id to \${icao}AllTiltsDualPolBaseData</li> <li>Change the elevation value to "0.0360.0"</li> </ul> The whole baseData.xml file should probably be around 140 lines long or so, depending whether or not you added any blank lines for readability. If you haven't done so already, save the baseData.xml file

80	<substitute key="product3" value="19"></substitute>
81	<substitute key="product4" value="20"></substitute>
82	<substitute key="model" value=""></substitute>
83	<substitute key="product5" value="154"></substitute>
84	<substitute key="product6" value="99"></substitute>
85	<substitute key="&lt;i&gt;product7&lt;/i&gt;" value=""></substitute>
86	<substitute key="product8" value=""></substitute>
87	substitute key="mode2" value="SRM8" />
88	<substitute key="elevation" value="0.50.5"></substitute>
89	
90	
910	<contribute <="" td="" xs1:type="bundleftem"></contribute>
92 93	file="bundles/DefaultRadarDualPolBaseData.xml" menuText="0.5 DP 8-Prod 4-Panel"
93	id="\${icao}05dualPolBaseData">
94	<substitute key="icao" value="\${icao"></substitute>
96	<substitute key="&lt;i&gt;elevation&lt;/i&gt;" value="0.50.5"></substitute> 
97	
97	<contribute id="BaseDataAllTilts" titletext=" Base Data (All Tilts)" xsi:type="titleItem"></contribute>
99	scontribute xst.type= tittertem (itterext= base bata (Att fitts) id= basebataAttfitts />
1000	<contribute <="" td="" xsi:type="bundleItem"></contribute>
101	file="bundles/DefaultRadarBlendedBestRes.xml" menuText="All Tilts Z/V"
102	id="\$ficao}AlTiltsZV">
103	<substitute key="icao" value="\${icao}"></substitute>
104	<substitute key="product1" value="153"></substitute>
105	<substitute key="product2" value="94"></substitute>
106	<pre><substitute key="product3" value="19"></substitute></pre>
107	<substitute key="product4" value="20"></substitute>
108	<substitute key="model" value=""></substitute>
109	<substitute key="product5" value="154"></substitute>
110	<substitute key="product6" value="99"></substitute>
111	<substitute key="product7" value="27"></substitute>
112	<substitute key="product8" value="25"></substitute>
113	<substitute key="mode2" value=""></substitute>
114	<substitute key="elevation" value="0.0360.0"></substitute>
115	
116	
1170	<contribute <="" td="" xsi:type="bundleItem"></contribute>
118	file="bundles/DefaultRadarBlendedBestRes.xml" menuText="All Tilts Z/SRM8"
119	id="\${icao}AllTiltsZSRM8">
120	<substitute key="icao" value="\${icao}"></substitute>
121	<substitute key="product1" value="153"></substitute>
122	<substitute key="product2" value="94"></substitute>
123	<substitute key="&lt;i&gt;product3&lt;/i&gt;" value="19"></substitute>
124	<substitute key="product4" value="20"></substitute>
125	<substitute key="model" value=""></substitute>
126	<substitute key="product5" value="154"></substitute>
127	<substitute key="product6" value="99"></substitute>
128	<substitute key="product7" value=""></substitute>
129	<substitute key="product8" value=""></substitute>
130	<substitute key="mode2" value="SRM8"></substitute>
131 132	<substitute key="elevation" value="0.0360.0"></substitute> 
132	contribute
	:/menuTemplate>
Figu	<b>re 11.</b> Edits to baseData.xml to change the menuText label for All Tilts Z/V and to add the All Tilts
-	
Z/SR	

010 contrainute unit from the second					
91⊖ <contribute <="" td="" xsi:type="bundleItem"><td></td></contribute>					
	<pre>lPolBaseData.xml" menuText="0.5 DP 8-Prod 4-Panel"</pre>				
93 id="\${icao}05dualPolBaseData" 94 <substitute key="icao" value="&lt;/td"><td></td></substitute>					
95 <pre>substitute key="elevation" v</pre>					
96					
97					
	<pre>titleText=" Base Data (All Tilts) id="BaseDataAllTilts"/&gt;</pre>				
99 100 <sup>©</sup> <contribute <="" td="" xsi:type="bundleItem"><td></td></contribute>					
21 St	ndedBestRes.xml" menuText="All Tilts Z/V"				
102 id="\${icao}AllTiltsZV">					
103 <substitute key="icao" value="&lt;/td"><td>"\${icao}" /&gt;</td></substitute>	"\${icao}" />				
104 <substitute key="product1" td="" va<=""><td></td></substitute>					
105 <substitute key="product2" td="" va<=""><td></td></substitute>					
<pre>106 <substitute key="product3" va<br="">107 <substitute key="product4" pre="" va<=""></substitute></substitute></pre>					
108 <substitute key="model" td="" value<=""><td></td></substitute>					
109 <substitute key="product5" td="" va<=""><td></td></substitute>					
<pre>110 <substitute key="product6" pre="" va<=""></substitute></pre>					
111 <substitute key="product7" td="" va<=""><td></td></substitute>					
<pre>112 <substitute 113="" <substitute="" key="mode2" pre="" va="" value<=""></substitute></pre>					
114 <substitute key="elevation" td="" v<=""><td></td></substitute>					
115					
116					
117 <contribute <="" td="" xsi:type="bundleItem"><td></td></contribute>					
<pre>118 file="bundles/DefaultRadarBle 119 id="\${icao}AllTiltsZSRM8"&gt;</pre>	ndedBestRes.xml" menuText="All Tilts Z/SRM8"				
120 <substitute key="icao" value="&lt;/td"><td>"\${icao}" /&gt;</td></substitute>	"\${icao}" />				
121 <substitute key="product1" td="" va<=""><td></td></substitute>					
122 <substitute key="product2" td="" va<=""><td>lue="94" /&gt;</td></substitute>	lue="94" />				
123 <substitute key="product3" td="" va<=""><td></td></substitute>					
124 <substitute key="product4" td="" va<="">       125     <substitute key="model" td="" value<=""></substitute></substitute>					
126 <substitute key="product5" td="" value<=""><td></td></substitute>					
127 <substitute key="product6" td="" va<=""><td></td></substitute>					
128 <substitute key="product7" td="" va<=""><td></td></substitute>					
129 <substitute key="product8" td="" va<=""><td></td></substitute>					
	<substitute key="mode2" value="SRM8"></substitute>				
131	<substitute key="elevation" value="0.0360.0"></substitute>				
<pre>131 <substitute 132="" <="" contribute="" key="elevation" v=""></substitute></pre>	alue="0.0360.0" />				
	alue="0.0360.0" />				
132      133      1349 <contribute <="" td="" xsi:type="bundleItem"></contribute>					
<pre>132  133 134 <contribute 135="" <="" file="bundles/DefaultRadarDua" pre="" xsi:type="bundleItem"></contribute></pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"				
<pre>132  133 134⊕ <contribute \${icao}alltiltsdualpolbas<="" 135="" file="bundles/DefaultRadarDua 136 id=" pre="" xsi:type="bundleItem"></contribute></pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData">				
<pre>132  133 134 <contribute 135="" <="" file="bundles/DefaultRadarDua" pre="" xsi:type="bundleItem"></contribute></pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"> "\${icao}" />				
132          133	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"> "\${icao}" />				
<pre>132  133 134@ <contribute \${icao}alltiltsdualpolbas="" 135="" 137="" 139="" <="" <substitute="" contribute="" file="bundles/DefaultRadarDua 136 id=" key="elevation" v="" value="138" xsi:type="bundleItem"></contribute></pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"> "\${icao}" />				
<pre>132  133 1340  140 141 </pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"> "\${icao}" /> alue="0.0360.0" />				
<pre>132  133 1340 135 file="bundles/DefaultRadarDua 136 id="\${icao}AllTiltsdualPolBas 137 <substitute 139="" 140="" 141="" <="" <substitute="" key="elevation" menutemplate="" v="" value="138"> Figure 12. Bottom portion of baseI</substitute></pre>	<pre>lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"&gt; "\${ica0}" /&gt; alue="0.0360.0" /&gt; Data.xml once all edits have been performed.</pre>				
<pre>132  133 1340 135 file="bundles/DefaultRadarDua 136 id="\${icao}AllTiltsdualPolBas 137 <substitute 139="" <="" <substitute="" contribute="" key="elevation" v="" value="138"> 140 141  Figure 12. Bottom portion of baseI</substitute></pre>	<pre>lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"&gt; "\${ica0}" /&gt; alue="0.0360.0" /&gt; Data.xml once all edits have been performed.</pre>				
132          133          134          135       file="bundles/DefaultRadarDua"         136       id="\${icao}AllTiltsdualPolBas         137          138 <substitute key="icao" value="&lt;/td"> <substitute key="icao" value="&lt;/td"> <substitute key="elevation" td="" v<="">          140           Figure 12.       Bottom portion of baseI         11. Restart CAVE and verify that</substitute></substitute></substitute>	<pre>lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"&gt; "\${ica0}" /&gt; alue="0.0360.0" /&gt; Data.xml once all edits have been performed.</pre>				
<pre>132  133 1340 135 file="bundles/DefaultRadarDua 136 id="\${icao}AllTiltsdualPolBas 137 <substitute 139="" <="" <substitute="" contribute="" key="elevation" v="" value="138"> 140 141  Figure 12. Bottom portion of baseI</substitute></pre>	<pre>lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel" eData"&gt; "\${ica0}" /&gt; alue="0.0360.0" /&gt; Data.xml once all edits have been performed.</pre>				
<pre>132  133 1340 135 136 136 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows</pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${ica0}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 134 135 136 136 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've</pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"   eData">   eData">   "\${ica0}" />   alue="0.0360.0" />   Data.xml once all edits have been performed.   kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 1340 135 136 135 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"   eData">   "\${ica0}" />   alue="0.0360.0" />   Data.xml once all edits have been performed.   kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 134 135 136 136 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've</pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"   eData">   "\${ica0}" />   alue="0.0360.0" />   Data.xml once all edits have been performed.   kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 1340 135 136 135 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 1340 135 136 135 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	1PolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 1340 135 136 135 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	lPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 1340 135 136 135 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	1PolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         kinx ksrx ttul Radar SCAN Maps				
<pre>132  133 1340 135 136 135 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	1PolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         Kinx ksrx ttul Radar SCAN Maps         Base Data         0.5 Refl       22.2355         0.5 SRM       22.2355         0.5 SRM       22.2355         0.5 Z/V       22.2355         0.5 DP 8-Prod 4-Panel       22.2355				
<pre>132  133 1340 135 136 135 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         Kinx ksrx ttul Radar SCAN Maps         Base Data         0.5 Refl       22.2355         0.5 SRM       22.2355         0.5 Z/N       22.2355         0.5 Z/SRM8       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         0.5 DP 8-Prod 4-Panel       22.2355				
<pre>132  133 1340 135 136 136 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Octa.xml once all edits have been performed.         Kinx ksrx ttul Badar SCAN Maps         Base Data         0.5 Refl       22.2355         0.5 SRM       22.2355         0.5 SRM       22.2355         0.5 Z/V       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         All Tilts Z/V       22.2355         All Tilts Z/V       22.2355				
<pre>132 132 134 134 135 134 135 136 136 136 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title items.</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         Kinx ksrx ttul Badar SCAN Maps				
<pre>132  133 1340 135 136 136 137 138 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Octa.xml once all edits have been performed.         Kinx ksrx ttul Badar SCAN Maps         Base Data         0.5 Refl       22.2355         0.5 SRM       22.2355         0.5 SRM       22.2355         0.5 Z/V       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         0.5 DP 8-Prod 4-Panel       22.2355         All Tilts Z/V       22.2355         All Tilts Z/V       22.2355				
<pre>132 132 133 134 135 136 136 137 138 139 140 141  141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title items. 12. Now we'll work on the Base</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${1cao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         Kinx       ksrx         ksrx       tul Badar         SQAN       Maps				
<pre>132 133 134 135 136 136 137 138 137 138 139 140 141 141 141 141 141 141 141 141 141</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         Image: Base Data         0.5 Refl       22.2355         0.5 SRM       22.2355         0.5 SRM       22.2355         0.5 Z/V       22.2355         0.5 DF 8-Prod 4-Panel       22.2355         0.5 DF 8-Prod 4-Panel       22.2355         All Tilts Z/V       22.2355         All Tilts Z/SRM8       22.2355         All Tilts Z/SRM8       22.2355         In the file browser, open CAVE » Menus » radar » dualPol »         baseRadarBestResBase.xml. Right-click BASE and select				
<pre>132 133 134 135 136 137 138 139 140 141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title items. 12. Now we'll work on the Base</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${1cao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         Kinx       ksrx         ksrx       tul Badar         SQAN       Maps				
<pre>132 133 134 135 136 136 137 138 139 139 140 141  141  Figure 12. Bottom portion of baseI 11. Restart CAVE and verify that the local radar menu shows only the 9 entries we've created plus the two title items. 12. Now we'll work on the Base Data Tilts section. We'll use</pre>	IPolBaseData.xml" menuText="All Tilts DP 8-Prod 4-Panel"         eData">         "\${icao}" />         alue="0.0360.0" />         Data.xml once all edits have been performed.         Image: Base Data         0.5 Refl       22.2355         0.5 SRM       22.2355         0.5 SRM       22.2355         0.5 Z/V       22.2355         0.5 DF 8-Prod 4-Panel       22.2355         0.5 DF 8-Prod 4-Panel       22.2355         All Tilts Z/V       22.2355         All Tilts Z/SRM8       22.2355         All Tilts Z/SRM8       22.2355         In the file browser, open CAVE » Menus » radar » dualPol »         baseRadarBestResBase.xml. Right-click BASE and select				

file in the dualPol section to	Name the file	マ ≽ radar マ ≽ dualPol				
create our	baseDataTilts.xml.	equilibrium et al.				
baseDataTilts.xml. We use		▷ 🖹 arsrRadars.xml				
baseDataBestResBase.xml		▷ 🖹 asrRadars.xml				
		<ul> <li>Image: Second state and the second sta</li></ul>				
as a starting point because it		Is baseRadarAlgorithmOverlays.xml				
already contains pull-out		Image: Second				
		∽ 🗷 baseRadarBestResBase.xmI				
menus for most of the radar		Image: BASE         Open           Image: Image: BASE         Open           Image:				
parameters we want: Z, V,		b M baseBadarBestBes7V				
SRM, SW, ZDR, CC, and KDP		baseRadarDataQuality     Copy     baseRadarDataQuality     Copy To	Site (TSA)			
		Isote State Sta	Workstation (localhost)			
(see <b>Figure 1</b> ).		<ul> <li>DaseRadarFourPanel.</li> <li>DaseRadarFourPanelE Move To</li> </ul>	User (dmorris)			
		▷ 🖹 baseRadarLegacy.xml Refresh	New File			
	I					
	Move the new user	マ isotar マ isotar マ isotar				
	version of	Weight Strain S				
	baseDataTilts.xml to	▶ arsrRadars.xml				
		▶ 🛛 asrRadars.xml				
	a Site version. Right	<ul> <li>BaseData.xml</li> <li>BaseDataTilts.xml</li> </ul>				
	click on <b>USER</b> and	USER (dmorris)				
	choose <b>Move To</b>	▷ SaseLocalRadarMen Open With ■				
		baseRadarAlgorithm				
	Site.	▷ SaseRadarApplicatic Copy				
		BASE Delete				
		Isota State Sta	Site (TSA)			
		▷ i baseRadarBestResZ Refresh	Workstation (localhost)			
		<ul> <li>BaseRadarDataQualicy.cmm</li> <li>BaseRadarDerivedProducts.xml</li> </ul>	User (dmorris)			
			New File			
13. Open the new	As shown in Figure 13	, change the titleText in the	a first			
	-	-				
baseDataTilts.xml by	titleItem to " Base	e Data Tilts" and the id	to			
double-clicking on its SITE	"\${icao}BaseDataTilts	'. Save your changes.				
icon. Modify the first						
titleItem in						
baseDataTilts.xml.	· ···2. org/2001/YMLCohoma insta	1000 No.				
<pre>21@ <menutemplate pre="" titleitem"<="" xmlns:xsi="http://www 22 &lt;contribute xsi:type="></menutemplate></pre>						
<pre>23 id="\${icao}BaseDataTilts" /</pre>	>					
24⊖ <contribute <br="" xsi:type="subMenu">25⊖ <contribute \${1cao}="" 0.5="" 1d="\${1 eItem" best="" file="bundles/Default&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;26 menuText=" re<="" td="" xsi:type="bundl&lt;/td&gt;&lt;td&gt;&lt;pre&gt;menulext=" z="" z"=""><td></td><td>nadar bestnes. Xiirt</td><td></td></contribute></contribute>		nadar bestnes. Xiirt				
27 <substitute <="" key="icao" td=""><td></td><td></td><td></td></substitute>						
28 <substitute <="" key="mode" td=""><td></td><td></td><td></td></substitute>						
29 <substitute key="produc&lt;br&gt;30 &lt;substitute key=" produc<="" td=""><td></td><td></td><td></td></substitute>						
	<pre>30 <substitute key="product2" value="94"></substitute> 31 <substitute key="product3" value="19"></substitute></pre>					
32 <substitute key="produc&lt;/td&gt;&lt;td colspan=6&gt;&lt;pre&gt;32 &lt;substitute key=" product4"="" value="20"></substitute>						
-	<pre>33 <substitute key="elevation" value="0.50.5"></substitute></pre>					
<pre>34  35 </pre> <pre>35 </pre> <pre>scontribute xsi:type="bundleItem" file="bundles/DefaultRadarBestRes.xml"</pre>						
36 menuText="0.9 Z best res" id="\${icao}09Refl">						
<pre>7 <substitute key="icao" value="\${icao}"></substitute></pre>						
	<substitute key="mode" value=""></substitute>					
<pre>39 <substitute key="product1" value="153"></substitute> 40 <substitute key="product2" value="94"></substitute></pre>						
41 <substitute key="product&lt;/td"><td></td><td></td><td></td></substitute>						
42 <substitute key="produc&lt;/td&gt;&lt;td&gt;t4" value="20"></substitute>						
-	ion" value="0.90.9" />					
Figure 13. First edits to baseDate	aTilts.xml to modify the	e titleltem.				

14. Include the	In the SITE version of baseLocalRadarMenu.xml, add the two						
baseDataTilts.xml and a new	lines indicated in Figure 14. Save your changes.						
separator in the main baseLocalRadarMenu.xml							
21@ <menutemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"></menutemplate>							
<pre>22@ <contribute basedata.xml"="" dualpol="" menus="" menutext="\${i 23&lt;/th&gt;&lt;th&gt;me=" radar="" xsi:type="subMenu"></contribute></pre>							
<pre>24 <contribute basedatatilts.xml"="" dualpol="" id="\${i 25&lt;/pre&gt;&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;27&lt;/th&gt;&lt;th&gt;me=" menus="" radar="" xsi:type="separator"></contribute></pre>							
	me="menus/radar/dualPol/baseRadarBestResZSRM.xml" />						
	me="menus/radar/dualPol/baseRadarBestResZV.xml" />						
	me="menus/radar/dualPol/baseRadarFourPanel.xml" />						
	me="menus/radar/dualPol/baseRadarBestResBase.xml" />						
	u="\${ <u>ica0</u> } <u>Precip</u> " fileName="menus/radar/dualPol/baseRadarPrecip.xml" />						
39 <contribute p="" submen<="" xsi:type="subinclude"></contribute>	u="\${icao} Derived Products" fileName="menus/radar/dualPol/baseRadarDerivedProducts.xml" u="\${icao} Algorithm Overlays" fileName="menus/radar/dualPol/baseRadarAlgorithmOverlays.> u="filesof four parel" fileName="menus/radar/dualPol/baseRadarAlgorithmOverlays.>						
<pre>41 <contribute pre="" submen<="" xsi:type="subinclude"></contribute></pre>	u="\$ <u>{içaq</u> } four panel" fileName="menus/radar/dualPol/baseRadarFourPanelBestRes.xml" /> u="\$ <u>{içaq</u> } Data Quality" fileName="menus/radar/dualPol/baseRadarDataQuality.xml" /> u="\$ <u>{içaq</u> } 4-bit/Legacy <u>Prods</u> " fileName="menus/radar/dualPol/baseRadarLegacy.xml" />						
	u="Radar Applications" fileName="menus/radar/dualPol/baseRadarApplications.xml" />						
45> 46							
47							
÷	Menu.xml to include a new separator and the new baseDataTilts.xml						
contribution.							
15. Back in baseDataTilts.xml,	As shown in <b>Figure 15</b> , change the menuText for the Z sub						
make a few cosmetic	menu from "\${icao} Z" to "Refl", at approximately line 24.						
changes to the menu text							
for the Z and V sub menus.	Similarly, at approximately line 196, change the menuText for						
	the V subMenu from "\${icao} V" to "Vel" (Figure 16).						
<pre>21@ <menutemplate xmlns:xsi="http://www.w3.or&lt;br&gt;22&lt;/th&gt;&lt;th&gt;g/2001/XMLSchema-instance"> eText=" Base Data Tilts"</menutemplate></pre>							
23     id="\${icao}BaseDataTilts" />       24⊖ <contribute menute<="" td="" xsi:type="subMenu"></contribute>	<pre>xt="Refl" id="\${icao}BestResRfl"&gt;</pre>						
25⊖ <contribute <="" td="" xsi:type="bundleItem">       26     menuText="0.5 Z best res" id=</contribute>	file="bundles/DefaultRadarBestRes.xml" "\${icao}05Refl">						
27 <substitute key="icao" value="&lt;/td">       28     <substitute key="mode" value="&lt;/td"></substitute></substitute>							
29 <substitute key="product1" td="" va<="">       30     <substitute key="product2" td="" va<=""></substitute></substitute>							
31 <substitute key="product3" td="" va<="">       32     <substitute key="product4" td="" va<=""></substitute></substitute>							
33 <substitute key="elevation" v<br="">34 </substitute>							
<pre>35@ <contribute <br="" file="bundles/DefaultRadarBestRes.xml" xsi:type="bundleItem">36 menuText="0.9 Z best res" id="\${icao}09Refl"&gt;</contribute></pre>							
<pre>37 <substitute key="icao" value="\${icao}"></substitute> 38 <substitute key="mode" value=""></substitute></pre>							
39 <substitute key="product1" p="" va<=""></substitute>	<pre>39 <substitute key="product1" value="153"></substitute></pre>						
40 Substitute key= product2 Value= 94 /> 41 <substitute key="product4" value="19"></substitute> 42 <substitute key="product4" value="20"></substitute>							
43 <substitute key="elevation" value="0.90.9"></substitute> 44							
Figure 15. Edit to baseDataTilts.	xml to change the menuText of the Z subMenu.						

174	deep to but of			
174 175⊖		alter" file-"bundles/DefaultDederDestDes yml"		
175		eItem" file="bundles/DefaultRadarBestRes.xml" res" id="\${icao}195Refl">		
177				
178	<substitute key="icao" value="\${icao}"></substitute> <substitute key="mode" value=""></substitute>			
179	<pre><substitute <="" <substitute="" key="mode" pre=""></substitute></pre>			
180	<pre><substitute <="" key="product &lt;substitute key=" pre="" product=""></substitute></pre>			
181	<substitute key="production of the second se&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;182&lt;/th&gt;&lt;th&gt;&lt;substitute key=" produc<="" th=""><th></th></substitute>			
183		tion" value="19.519.5" />		
184				
185 😑	<contribute <="" file="bundles/DefaultRadarBestRes.xml" th="" xsi:type="bund&lt;/th&gt;&lt;th&gt;eItem"></contribute>			
186	<pre>menuText="Z (All)" id='</pre>	<pre>\${icao}ReflAll"&gt;</pre>		
187	<substitute <="" key="&lt;i&gt;icao&lt;/i&gt;" th=""><th>value="\${icao}" /&gt;</th></substitute>	value="\${icao}" />		
188	<substitute <="" key="mode" th=""><th>value="" /&gt;</th></substitute>	value="" />		
189	<substitute key="produc&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;190&lt;/th&gt;&lt;th&gt;&lt;substitute key=" produc<="" th=""><th></th></substitute>			
191	<substitute key="produc&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;192&lt;br&gt;193&lt;/th&gt;&lt;th&gt;&lt;substitute key=" produc<="" th=""><th></th></substitute>			
195		<i>ion</i> " value="0.0360.0" />		
194				
1960		<pre>menuText="Vel" id="\${icao}BestResRfl"&gt;</pre>		
1970		eItem" file="bundles/DefaultRadarBestRes.xml"		
198	menuText="0.5 V best re			
199	<substitute <="" key="icao" th=""><th>value="\${icao}" /&gt;</th></substitute>	value="\${icao}" />		
200	<substitute <="" key="mode" th=""><th>value="" /&gt;</th></substitute>	value="" />		
201	<substitute key="produc&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;202&lt;/th&gt;&lt;th&gt;&lt;substitute key=" produc<="" th=""><th></th></substitute>			
203	<substitute key="produc&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;204&lt;/th&gt;&lt;th&gt;&lt;substitute key=" produc<="" th=""><th></th></substitute>			
205 206	<substitute key="elevan&lt;br&gt;&lt;/contribute&gt;&lt;/th&gt;&lt;th&gt;cion" value="0.50.5"></substitute>			
207		eItem" file="bundles/DefaultRadarBestRes.xml"		
2070	menuText="0.9 V best re			
209	<substitute <="" key="icao" th=""><th></th></substitute>			
210	<substitute <="" kev="mode" th=""><th></th></substitute>			
Figure	16. Edit to baseDataTilts.	xml to change the menuText of the V subMenu.		
16. Ma	ke additional cosmetic	At the following places in baseDataTilts.xml, change the		
	nges to the menuText of	menuText accordingly:		
	-	- /		
the	remaining subMenus	<ul> <li>Line 368: "\${icao} SRM" to "SRM"</li> </ul>		
		<ul> <li>Line 541: "\${icao} SW" to "Spectrum Width"</li> </ul>		
		<ul> <li>Line 714: "\${icao} ZDR" to "ZDR"</li> </ul>		
		<ul> <li>Line 887: "\${icao} CC" to "CC"</li> </ul>		
		<ul> <li>Line 1060: "\${icao} KDP" to "KDP"</li> </ul>		

17. Test our changes. Restart	kinx
CAVE and look at a local	
radar menu.	Base Data
radar menu.	0.5 Refl
	0.5 Vel
	0.5 SRM
	0.5 Z/V
	0.5 Z/SRM8 0.5 DP 8-Prod 4-Panel
	Base Data (All Tilts)
	All Tilts Z/V
	All Tilts Z/SRM8
	All Tilts DP 8-Prod 4-Panel
	Base Data Tilts
	Refl
	Vel
	SRM •
	Spectrum Width
	ZDR •
	CC •
	KDP •
18. The next pullout menu to	Right-click on BASE under
add is for Z/V. Looking at	baseRadarBestResZV.xml
Figure 1, we can see that	and choose Copy To ►
the baseline Z/V pull out	Site ≥ BaseData.xml
is in	> Ite.     ▷ i i baseDataTilts.xml       ▷ i i baseLocalRadarMenu.xml
	<ul> <li>BaseRadarAlgorithmOverlays.xml</li> <li>BaseRadarApplications.xml</li> </ul>
baseRadarBestResZV.xml.	▶ i baseRadarBestResBase.xml
We'll make a SITE copy of	▷ 🗟 baseRadarBestResZSRM.xml ♥ 🗟 baseRadarBestResZV.xml
that file, and make a few	B BASE Open ▶ இ baseRadarDataQ Open With ▶
modifications.	▶ 🖻 baseRadarDerive
	BaseRadarFourP     Copy To     Site (TSA)     BaseRadarFourP     Delete     Workstation (localhost)
	R baseRadarLegac     Move To     Ver (dmorris)
	Descrive and the second se
19. Edit the SITE version of	Delete the titleItem contribution near the top of the file (lines
baseRadarBestResZV.xml	shown in <b>Figure 17</b> ).
to remove the titleltem,	
and slightly rearrange the	Move (cut/paste or copy/paste/delete) the All Tilts contribution
Z/V menu. The Z/V menu	(black box in <b>Figure 18</b> ) to near the bottom of the file (just after
has the 0.5, 0.9, and 1.5	the 19.5 entry shown in <b>Figure 19</b> ).
entries, then the All Tilts,	
followed by a submenu	Delete the contribution for the <b>Hi Tilts Z+V</b> submenu (red box in
with the remaining tilts.	Figure 18).
We will remove the	
submenu but save its	Delete the  tag in <b>Figure 19</b> (red box) that was the
contents. We also move	closing tag for the Hi Tilts Z+V submenu contribution. Verify the
the All Tilts to the bottom	bottom of the file matches Figure 20.
of the file so that the tilt	

sequence is correct (e.g.,	Note: Consider				
1.5, 1.8, 2.4,, 19.5, All	improving the	CAVE	File	Edit	<u>S</u> ource <u>N</u> avigate <u>H</u> elp
			-	_	Toggle Comment Shift+Ctrl+C
Tilts).	indentation (alignment)				Add Block Comment Shift+Ctrl+/
	of the menu entries				-
	that were inside the				Remove Block Comment Shift+Ctrl+\
	submenu, for improved				Shift Left
	•				Shift Right
	readability. The				<u></u> leanup Document
	Localization Perspective				Eormat Shift+Ctrl+F
	text editor has some				-
					Format Active Elements Ctrl+I
	tools to help with				Occurrences in File Shift+Ctrl+A
	indentation, including				
	the Shift Right and Shift	eft o	ntio	ns i	under the <b>Source</b> menu.
			pero		
21 <sup>©</sup> <menutemplate pre="" titlei<="" xmlns:xsi="http://&lt;br&gt;22 &lt;pre&gt;&lt;contribute xsi:type="></menutemplate>	www.w3.org/2001/XMLSchema-instar tem" titleText=" Best Res			_	
23 id="BestResZV" />	tem titterext= best hes	2.0			
24⊖ <contribute <="" td="" xsi:type="bundle&lt;/th&gt;&lt;td&gt;Item"><td></td><td></td><td></td><td></td></contribute>					
25 file="bundles/DefaultRad	arBlendedBestRes.xml" menuText="	0.5 Z+1	/"		
<pre>26 id="\${icao}058bitZV"&gt;</pre>					
27 <substitute key="icao" th="" v<=""><td></td><td></td><td></td><td></td><td></td></substitute>					
28 <substitute key="product&lt;/th&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;29 &lt;substitute key=" product<br="">30 <substitute key="product&lt;/th&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;30 &lt;substitute key=" product<br="">31 <substitute key="product&lt;/th&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;32 &lt;substitute key=" model"<="" th=""><td></td><td></td><td></td><td></td><td></td></substitute></substitute></substitute>					
33 <substitute key="product.&lt;/th&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;34 &lt;substitute key=" product<="" th=""><td></td><td></td><td></td><td></td><td></td></substitute>					
35 <substitute key="product&lt;/th&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;36 &lt;substitute key=" p="" product<=""></substitute>					
<pre>37 <substitute <="" key="mode2" pre=""></substitute></pre>					
38 <substitute key="elevati&lt;/th&gt;&lt;td&gt;on" value="0.50.5"></substitute> <td></td> <td></td> <td></td> <td></td>					
<pre>39 </pre>					
40⊖ <contribute <="" td="" xsi:type="bundle&lt;/th&gt;&lt;td&gt;Item"><td></td><td></td><td></td><td></td></contribute>					
41 file="bundles/DefaultRad	arBlendedBestRes.xml" menuText="	0.9 Z+1	/"		
42 id="\${icao}098bitZV">					
43 <substitute key="icao" th="" v<=""><td></td><td></td><td></td><td></td><td></td></substitute>					
44 <substitute key="product&lt;/th&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;45 &lt;substitute key=" product.<="" th=""><td></td><td></td><td></td><td></td><td></td></substitute>					
46 <substitute key="product.&lt;/th&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;47 &lt;substitute key=" product"<="" th=""><td></td><td></td><td></td><td></td><td></td></substitute>					
Figure 17. Title item to be dele		of ba	seRa	ada	rBestResZV.xml.

58	<substitute key="product1" value="153"></substitute>
59	<substitute key="product2" value="94"></substitute>
60	<substitute key="product3" value="19"></substitute>
61	<substitute key="product4" value="20"></substitute>
62 63	<substitute key="mode1" value=""></substitute> <substitute key="product5" value="154"></substitute>
64	<pre><substitute key="product6" value="99"></substitute></pre>
65	<pre><substitute key="product7" value="27"></substitute></pre>
66	<substitute key="product8" value="25"></substitute>
67	<substitute key="mode2" value=""></substitute>
68	<substitute key="elevation" value="1.51.5"></substitute>
69	
700	<contribute <="" th="" xsi:type="bundleItem"></contribute>
71 72	<pre>file="bundles/DefaultRadarBlendedBestRes.xml" menuText="All Tilts Z+V" id="\${icao}AllTiltsZV"&gt;</pre>
73	<pre>substitute key="icao" value="\${icao}" /&gt;</pre>
74	<pre><substitute key="product1" value="153"></substitute></pre>
75	<substitute key="product2" value="94"></substitute>
76	<substitute key="product3" value="19"></substitute>
77	<substitute key="product4" value="20"></substitute>
78	<substitute key="model" value=""></substitute>
79	<substitute key="product5" value="154"></substitute>
80 81	<substitute key="product6" value="99"></substitute> <substitute key="product7" value="27"></substitute>
81	<substitute key="product?" value="27"></substitute> <substitute key="product8" value="25"></substitute>
83	<pre><substitute elevation"="" key="mode2" value="0.0360.0"></substitute></pre>
85	
860	<contribute menutext="\${icao} Hi Z+V tilts" xsi:type="subMenu"></contribute>
870	<contribute <="" th="" xsi:type="bundleItem"></contribute>
88	file="bundles/DefaultRadarBlendedBestRes.xml" menuText="1.8 Z+V"
89 90	id="\${icao}184bit8bitZV"> <substitute key="icao" value="\${icao}"></substitute>
91	<pre><substitute key="read" value="153"></substitute> <substitute key="product1" value="153"></substitute></pre>
92	<pre><substitute key="product2" value="94"></substitute></pre>
93	<substitute key="product3" value="19"></substitute>
94	<substitute key="product4" value="20"></substitute>
95	<substitute key="mode1" value=""></substitute>
96	<substitute key="product5" value="154"></substitute>
97	<substitute key="product6" value="99"></substitute>
98 99	<substitute key="&lt;i&gt;product7&lt;/i&gt;" value="27"></substitute> <substitute key="&lt;i&gt;product8&lt;/i&gt;" value="25"></substitute>
100	<substitute key="mode2" value=""></substitute>
101	<pre>substitute key="elevation" value="1.81.8" /&gt;</pre>
102	
1030	<contribute <="" th="" xsi:type="bundleItem"></contribute>
104	file="bundles/DefaultRadarBlendedBestRes.xml" menuText="2.4 Z+V"
Figur	<b>e 18.</b> All Tilts contribution in the SITE version of baseRadarBestResZV.xml to be moved to the end
-	
of the	e file and submenu contribution to be deleted.
1	

```
278
                     </contribute>
      2790
                     <contribute xsi:type="bundleItem"
                         file="bundles/DefaultRadarBlendedBestRes.xml" menuText="19.5 Z+V"
      280
      281
                         id="${icao}1954bit8bitZV":
      282
                         <substitute key="icao" value="${icao}" />
                        <substitute key="product1" value="153" />
      283
      284
                         <substitute key="product2" value="94" />
                  <substitute Key="product2 value= 9# />
<substitute Key="product3" value="19" />
<substitute Key="product4" value="20" />
<substitute Key="mode1" value="" />
<substitute Key="product5" value="154" />
      285
      286
      287
      288
                 <substitute key="products" value="194 />
<substitute key="products" value="29" />
<substitute key="products" value="27" />
<substitute key="products" value="25" />
      289
      290
      291
                         <substitute key="mode2" value="" />
      292
                          <substitute key="elevation" value="19.5--19.5" />
      293
                    </contribute>
      294
      295⊖
              <contribute xsi:type="bundleItem"
                file="bundles/DefaultRadarBlendedBestRes.xml" menuText="All Tilts Z+V"
      296
      297
                     id="${icao}AllTiltsZV">
                  <substitute key="icao" value= >{icao; ,-
<substitute key="product1" value="153" />
<substitute key="product2" value="94" />
                    <substitute key="icao" value="${icao}" />
      298
      299
      300
                <substitute key="product2" value="94" />
<substitute key="product3" value="19" />
<substitute key="product4" value="20" />
<substitute key="model" value="1/>
<substitute key="product5" value="154" /:
<substitute key="product6" value="99" />
      301
      302
      303
                    <substitute key="product5" value="154" />
      304
      305
      306
                     <substitute key="product7" value="27" />
                     <substitute key="product8" value="25" />
      307
      308
                     <substitute key="mode2" value="" />
      309
                     <substitute key="elevation" value="0.0--360.0" />
      310
                </contribute>
               </contribute>
      311
      312 </menuTemplate>
       313
Figure 19. Tag to be deleted in the SITE version of bestRadarBestResZV.xml.
                    <substitute key="product/" value="2/" />
<substitute key="product8" value="25" />
274
275
                     <substitute key="mode2" value="" />
                    <substitute key="elevation" value="16.7--16.7" />
276
277
               </contribute>
2780
               <contribute xsi:type="bundleItem"
279
                    file="bundles/DefaultRadarBlendedBestRes.xml" menuText="19.5 Z+V"
280
                   id="${icao}1954bit8bitZV">
                    <substitute key="icao" value="${icao}" />
281
                   <substitute key="product1" value="153" />
<substitute key="product2" value="94" />
282
283
                   <substitute key="product3" value="19" />
284
                   <substitute key="product4" value="20" />
285
                   <substitute key="model" value="" />
286
                   <substitute key="product5" value="154" />
287
                   <substitute key="product6" value="99" />
288
                   <substitute key="product7" value="27" />
289
290
                   <substitute key="product8" value="25" />
291
                    <substitute key="mode2" value="" />
292
                    <substitute key="elevation" value="19.5--19.5" />
293
              </contribute>
2940
          <contribute xsi:type="bundleItem"
           file="bundles/DefaultRadarBlendedBestRes.xml" menuText="Z+V (All)"
295
296
              id="${icao}AllTiltsZV">
              <substitute key="icao" value="${icao}" />
297
              <substitute key="product1" value="153" />
<substitute key="product2" value="94" />
298
299
              <substitute key="product3" value="19" />
300
               <substitute key="product4" value="20" />
301
302
              <substitute key="model" value="" />
303
               <substitute key="product5" value="154" />
               <substitute key="product6" value="99" />
304
               <substitute key="product7" value="27" />
<substitute key="product8" value="25" />
305
306
307
               <substitute key="mode2" value="" />
308
               <substitute key="elevation" value="0.0--360.0" />
309
          </contribute>
310 </menuTemplate>
Figure 20. Bottom portion of the SITE version of bestRadarBestResZV.xml once all edits have been
completed.
```

20. Make a Site version of	Right-click on BASE under basel	RadarBestResZSRM.xml and		
baseRadarBestResZSRM.	choose Copy To ► Site.			
	Edit the Site version of baseRadarBestResZSRM.xml.			
21. Perform similar edits in baseRadarBestResZSRM.xml as we just did in baseRadarBestResZV.xml.	<ul> <li>the top of the the file (File)</li> <li>Move the All Tilts entry bottom of the file (just bottom of the file)</li> <li>Contribute&gt; tag).</li> <li>Delete the "Hi Z+SRM8 the entry just below where the in Figure 22).</li> <li>Delete the very last  </li></ul>	SRM8 combo" titleItem near i <b>gure 21</b> ). (black box in <b>Figure 22</b> ) to the		

<pre>14 contribute subjects in the subject in the s</pre>		
<pre>14 - dealers/Set2 / A - dea</pre>		
<pre>24 contribute sat: type="underlaws" levels" setses: set" mewlext=0.5 2+5800* 14=file3025500*5 4 contribute May="product" value="17/5 4 contribute May="product" value="147/5 4 contribute May="product" value="157/5 4 contribute May="product" value="157/5 4 contribute May="product" value="157/5 4 contribute May="product" value="17/5 4 contribute May="product" value="15/7 4 contribute May="product" value="15/7 4 cont</pre>		
<pre>5 file="buddles/befaultRade"londo@bsfRes.ml" mmuText=0.5 2+5808" 5 4 4 5 (ica) 52508"&gt; 6 4 4 5 (ica) 52508"&gt; 7 4 4 5 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5</pre>		
<pre>27 contribute key="product" value="\$[cao]" /&gt; 28 constitute key="product" value="35" /&gt; 29 contribute key="product" value="35" /&gt; 20 contribute key="product" value="15" /&gt; 20 contribute key="product" value="15" /&gt; 21 constitute key="product" value="15" /&gt; 22 contribute xey="product" value="15" /&gt; 23 contribute xey="product" value="15" /&gt; 24 contribute xey="product" value="15" /&gt; 25 contribute xey="product" value="15" /&gt; 26 contribute xey="product" value="15" /&gt; 27 contribute xey="product" value="15" /&gt; 27 contribute xey="product" value="15" /&gt; 27 contribute xey="product" value="15" /&gt; 28 contribute xey="product" value="15" /&gt; 29 contribute xey="product" value="15" /&gt; 20 contribute xey="product" value="15" /&gt; 21 contribute xey="product" value="15" /&gt; 22 contribute xey="product" value="15" /&gt; 21 contribute xey="product" value="15" /&gt; 22 contribute xey="product" value="15" /&gt; 22 contribute xey="product" value="15" /&gt; 22 contribute xey="product" value="15" /&gt; 24 contribute xey="product" value="15" /&gt; 25 contribute xey="product" value="15" /&gt; 25 contribute xey="product" value="15" /&gt; 25 contribute xey="product" value="15" /&gt; 26 contribute xey="product" value="15" /&gt; 27 contribute xey="product" value="15" /&gt; 28 contribute xey="product" value="15" /&gt; 29 contribute xey="product" value="15" /&gt; 29 contribute xey="product" value="15" /&gt; 20 contribute xey="pr</pre>	25	<pre>file="bundles/DefaultRadarBlendedBestRes.xml" menuText="0.5 Z+SRM8"</pre>
<pre>29 coubstitute key=product' value=34 /&gt; coubstitute key=product' value=34 /&gt; coubstitute key=product' value=34 /&gt; coubstitute key=product' value=34 /&gt; coubstitute key=product' value=37 /&gt; coubstitute key=product' value=76 /&gt; cou</pre>		
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88       file="bundles/DefaultRadarBlendedBestRes.xml" menuText="1.8 Z+SRM"         89       id="\${icao}188bitZSRM">         90 <substitute key="icao" value="\${icao}"></substitute> 91 <substitute key="product1" value="153"></substitute> Figure 22. Edits in baseRadarBestResZSRM.xml to move the All Tilts to near the bottom of the file and to delete the "Hi Z+SRM8 tilts" submenu.         2. Attach the Z/V and Z/SRM         In baseDataTilts.xml, add the two contribute lines indicated in		
89       id="\${icao}188bitZSRM">         90 <substitute key="icao" value="\${icao}"></substitute> 91 <substitute key="product1" value="153"></substitute> Figure 22. Edits in baseRadarBestResZSRM.xml to move the All Tilts to near the bottom of the file and to delete the "Hi Z+SRM8 tilts" submenu.         2. Attach the Z/V and Z/SRM         In baseDataTilts.xml, add the two contribute lines indicated in		
90 <substitute key="icao" value="\${icao}"></substitute> <substitute key="product1" value="153"></substitute> Figure 22. Edits in baseRadarBestResZSRM.xml to move the All Tilts to near the bottom of the file and to delete the "Hi Z+SRM8 tilts" submenu.2. Attach the Z/V and Z/SRMIn baseDataTilts.xml, add the two contribute lines indicated in		
91 <substitute key="product1" value="153"></substitute> Figure 22. Edits in baseRadarBestResZSRM.xml to move the All Tilts to near the bottom of the file and to delete the "Hi Z+SRM8 tilts" submenu.         2. Attach the Z/V and Z/SRM       In baseDataTilts.xml, add the two contribute lines indicated in		
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file and to delete the "Hi Z+SRM8 tilts" submenu.2. Attach the Z/V and Z/SRMIn baseDataTilts.xml, add the two contribute lines indicated in	Figur	e 22 Edits in haseRadarBestRes7SRM xml to move the All Tilts to near the bottom of the
2. Attach the Z/V and Z/SRM In baseDataTilts.xml, add the two contribute lines indicated in	-	
	_tile a	nd to delete the "Hi Z+SRM8 tilts"_submenu.
	22 ∆ <del>1</del>	tach the 7/V and 7/SRM In haseDataTilts xmL add the two contribute lines indicated in
tiles as pullout submenus to 1 <b>Figure 23.</b> They go between the SRM and the Spectrum		
	til	es as pullout submenus to   Figure 23. They go between the SRM and the Spectrum

the baseDataTilts.xml file. Width portions of the file.			
		Save the baseDataTilts.xml file.	
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547			
540	<substitute key="produc&lt;br&gt;&lt;substitute key=" produc<="" td=""><td></td></substitute>		
550	<substitute key="production&lt;br"><substitute key="production of the substitute&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;551&lt;/th&gt;&lt;td&gt;&lt;substitute key= production of the set of th&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;552&lt;/th&gt;&lt;td&gt;&lt;substitute key=" mode"<="" of="" production="" substitute="" td="" the=""><td></td></substitute></substitute>		
553		tion" value="0.50.5" />	
554		Lon raced did did je	
5550		eItem" file="bundles/DefaultRadarBestRes.xml"	
556		est id="\${icao}09BestResSpecWidth">	
557	<substitute <="" key="icao" td=""><td></td></substitute>		
558			

22 Test the progress so for but	kiny kery that Badan CCA	Mana		]
23. Test the progress so far by	kinx ksrx ttul <u>R</u> adar S <u>C</u> A	wi <u>M</u> aps		
restarting CAVE and looking at a local radar menu.				
	Base Data			
	0.5 Refl	22.2355		
	0.5 Vel	22.2355		
	0.5 SRM	22.2355		
	0.5 Z/V	22.2355		
	0.5 Z/SRM8	22.2355		
	0.5 DP 8-Prod 4-Panel	22.2355		
	Base Data (All Tilts)			
	All Tilts Z/V	22.2355		
	All Tilts Z/SRM8	22.2355		
	All Tilts DP 8-Prod 4-Panel	22.2355		
	Base Data Tilts			
	Refl			
	Vel			
	SRM			
	Z/V			
	Z/SRM			
	Spectrum Width	•		
	ZDR	•		
	СС	•		
	KDP	•		
24. We still need to add pullout	Right-click on <b>BASE</b>	⊽ 🗁 radar ⊽ 🗁 dualPol		
menus for the 8-Prod DP 4	under	Þ ⊜ termir Þ 🖹 arsrRi		
Panel and the HC Analysis 4	baseRadarFourPanel.x	▶ ≥ asrRa > ≥ baseI	idars.xml	
Panel. To do this, we'll	ml in the dualPol	Þ ℝ base[	DataTilts.xml	
make SITE versions of	section and select Copy	▶ 🖹 baseF	.ocalRadarMenu.xml RadarAlgorithmOverlays.xm	nl
baseRadarFourPanel.xml	To ► Site. Double-click		RadarApplications.xml RadarBestResBase.xml	
(which contains the baseline	on the SITE icon to		RadarBestResZSRM.xml RadarBestResZV.xml	
menus for the two Four	open the file.	Þ ℝ baseF	RadarDataQuality.xml RadarDerivedProducts.xml	
Panels; see Figure 1) and		⊽ 🖹 baseF	RadarFourPanel.xml	
rearrange them slightly,			RadarFourPanelB Open Wit	th 🕨
similar to the Z/SRM and			RadarLegacy.xml RadarMenu.xml	
Z/V submenus.			RadarPrecip.xml Copy To RadarTerminalApp	Site (TSA)     Workstation (localhost)
		▶ 🖹 baseT	FerminalLocalRac Move To	> User (dmorris)
25. This file contains two	In the Site version of base	PadarFou	Refresh	
25. This file contains two	In the Site version of base	RadarFou	rPanei.xmi, r	nake the
sections, one for the 8-	following changes:			. <b></b>
Product 4 Panel and the	<ul> <li>change the titleIte</li> </ul>	m contrib	ute (black bo	ox in Figure

other for the HC analysis 4 Panel. We'll do similar edits for both, starting with the 8- Product 4 Panel, near the top. We'll change the titleItem contribute to a submenu contribute, move the All Tilts entry to the end of the 8-Prod section, delete the opening subMenu contribute for the Hi tilts, but leave the closing contribute (previously used for the Hi Tilts submenu) and re-use it to put the entire 8-Prod section in a self-contained submenu.	<ul> <li>24) to submenu by changing the xsi:type from "titleItem" to "subMenu", changing the entire titleText=" 4 Panel Z+SRM/ZDR+V/KDP+HC/CC+SW" tag to menuText = "8-Prod DP 4 Panel", and deleting the closing forward slash (/) before the closing angle bracket so it reads:</li> <li><contribute id="\${icao}4PanelZ+SRMZDR+VKDP+HCCC+SW" menutext="8-Prod DP 4 Panel" xsi:type="subMenu">. The closing tag will be the </contribute> from the pre-existing Hi Tilts submenu.</li> <li>Move the All Tilts entry (red box in Figure 24) to just after the closing </li> <li>Move the All Tilts entry line 120 as shown by the black box in Figure 25)</li> <li>Delete the Hi base data tilts submenu contribute (blue box in Figure 24).</li> </ul>
23     titleText=" 4-Panel 2       24@ <contribute <="" td="" xsi:type="bundleIte"></contribute>	<pre>" id="\${icao}4PanelZ+SRMZDR+VKDP+HCCC+SW" PrsRM/ZDR+V/KDP+HC/CC+SW</pre>

28	<substitute key="elevation" value="0.50.5"></substitute>
29	
300	<contribute <="" th="" xsi:type="bundleItem"></contribute>
31	file="bundles/DefaultRadarDualPolBaseData.xml"                              menuText="0.9
32	id="09dualpolbasedata">
33	<substitute key="icao" value="\${icao}"></substitute>
34	<substitute key="elevation" value="0.90.9"></substitute>
35	
360	<contribute <="" th="" xsi:type="bundleItem"></contribute>
37	file="bundles/DefaultRadarDualPolBaseData.xml"                              menuText="1.5 base data"
38	id="15dualpolbasedata">
39	<substitute key="icao" value="\${icao}"></substitute>
40	<substitute key="elevation" value="1.51.5"></substitute>
41	<pre></pre>
420	<contribute <="" th="" xsi:type="bundleItem"></contribute>
43	file="bundles/DefaultRadarDualPolBaseData.xml" menuText="All Tilts base data"
44	id="AllTiltsdualpolbasedata">
45	<substitute key="icao" value="\${icao}"></substitute>
46	<substitute key="elevation" value="0.0360.0"></substitute>
47	
480	<pre><contribute <="" id="\${icao}HibasedatatiltsSubmenu" pre="" xsi:type="subMenu"></contribute></pre>
49	<pre>menuText="\${icao} Hi base data tilts"&gt;</pre>
500	<contribute <="" th="" xsi:type="bundleItem"></contribute>
51	file="bundles/DefaultRadarDualPolBaseData.xml" menuText="1.8 base data"
52	id="18dualpolbasedata">
53	-cubstitute key-"icon" value-"¢ficonl" /s
Figu	re 24. Edits to the 8-Product 4-Panel section of the SITE version of
base	RadarFourPanel.xml.

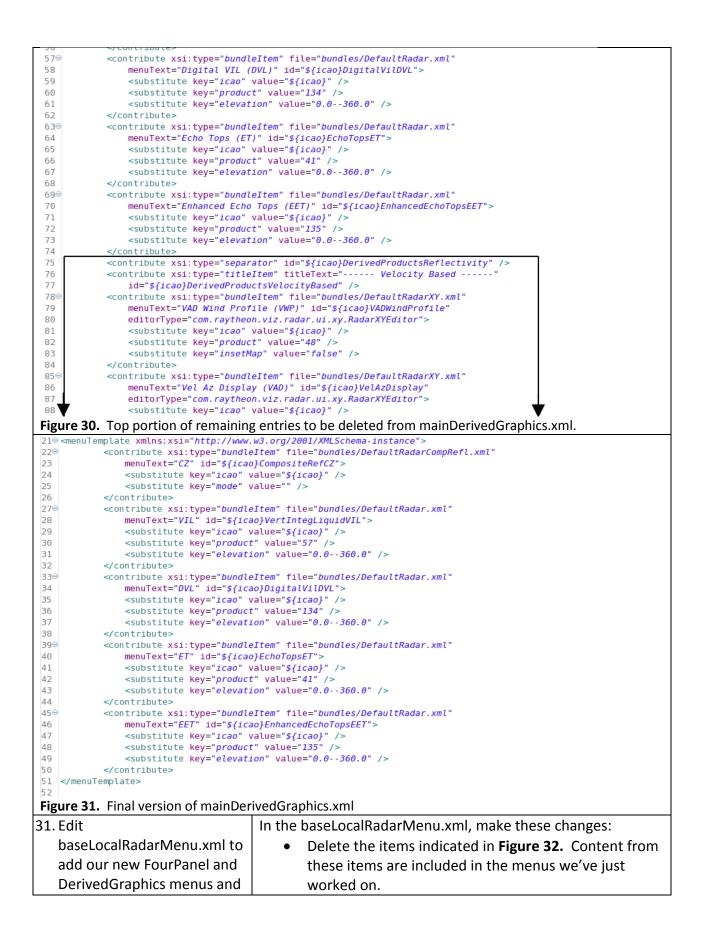
	*
99 <substitute <="" key="icao" th=""><th>value="\${icao}" /&gt;</th></substitute>	value="\${icao}" />
	cion" value="12.012.0" />
101	
102⊖ <contribute <="" menutext="14.0 base data" th="" xsi:type="bundl&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;&lt;/th&gt;&lt;th&gt;darDualPolBaseData.xml"></contribute>	
104 id="140dualpolbasedata" 105 <substitute <="" key="icao" th=""><th></th></substitute>	
	tion" value="14.014.0" />
107	10// Vatac= 14.0 14.0 //
1080 <contribute <="" th="" xsi:type="bundl&lt;/th&gt;&lt;th&gt;eItem"></contribute>	
109 file="bundles/DefaultRa	darDualPolBaseData.xml" menuText="16.7 base data"
110 id="167dualpolbasedata"	
<pre>111 <substitute <="" key="icao" pre=""></substitute></pre>	
-	cion" value="16.716.7" />
113        114@ <contribute <="" td="" xsi:type="bundl"></contribute>	oItom"
21	darDualPolBaseData.xml" menuText="19.5 base data"
116 id="195dualpolbasedata"	
117 <substitute <="" key="icao" td=""><td></td></substitute>	
	cion" value="19.519.5" />
119	
120⊖ <contribute <="" menutext="All Tilts base data" td="" xsi:type="bundleIte&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;ualPolBaseData.xml"></contribute>	
122     id="AllTiltsdualpolbasedata       123 <substitute key="icao" td="" value<=""></substitute>	
124 <substitute <="" key="levation" td=""><td></td></substitute>	
125	
126	
	" id="\${icao}4PanelZZDRHCKDPCC" />
	" id="\${icao}4PanelZZDRHC+KDPCC"
129     titleText=" 4-Panel 2       130@ <contribute <="" td="" xsi:type="bundleIte"></contribute>	
131 menuText="0.5 HC analysis"	m" file="bundles/DefaultRadarDualPolHCA.xml" id="A5dualpolHCapalysis">
132 <substitute key="icao" th="" valu<=""><th></th></substitute>	
133 <substitute <="" key="elevation" th=""><th></th></substitute>	
134	
	m" file="bundles/DefaultRadarDualPolHCA.xml"
136 menuText="0.9 HC analysis"	
137 <substitute key="icao" th="" valu<=""><th></th></substitute>	
<pre>138 <substitute <br="" key="elevation">139 </substitute></pre>	value="0.90.9" />
	m" file="bundles/DefaultRadarDualPolHCA.xml"
141 menuText="1.5 HC analysis"	
142 <substitute key="icao" th="" valu<=""><th></th></substitute>	
143 <substitute <="" key="elevation" th=""><th>value="1.51.5" /&gt;</th></substitute>	value="1.51.5" />
144	
	m" file="bundles/DefaultPaderDualDalUCA_yml" file= 0 Decaders! A Decaders's a saidthe test of the UC scales's
Figure 25. Edits to the bottom o	f the 8-Product 4-Panel section and the top of the HC analysis
section in the SITE version of bas	eRadarFourPanel.xml.
26. Edit the HC analysis section	Delete the separator between the 8-Product and HC analysis
of baseRadarFourPanel.xml,	sections (red box in <b>Figure 25</b> ).
with similar changes as just	
made to the 8-Product	Change the titleItem contribution (blue box in <b>Figure 25</b> ) to a
section.	subMenu. Make it read:
	<contribute <="" th="" xsi:type="subMenu"></contribute>
	id="\${icao}4PanelZZDRHC+KDPCC" menuText="HC Analysis 4
	Panel">
	(Note: the closing tag is > and not />).
	Move the All Tilts HC analysis entry (black box in Figure 26) to
	just before the closing  tag in the file (just after
	the 19.5 entry).
	1

	Delete the submenu	contribute for the HI HC analysis tilts (red
	box in Figure 26).	
	Save the file.	
120 <contribute 411="" baco="" data"<="" td="" tilto="" xsi:type="bundleite&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;t-"></contribute>		
121 file="bundles/DefaultRadarD 122 id="AllTiltsdualpolbasedata	)ualPolBaseData.xml" menuTex u">	t="All Tilts base data"
123 <substitute key="icao" td="" valu<=""><td></td><td></td></substitute>		
124 <substitute <="" key="elevation" td=""><td>value="0.0360.0" /&gt;</td><td></td></substitute>	value="0.0360.0" />	
125 126		
<pre>126  127 <contribute <="" pre="" xsi:type="subMenu"></contribute></pre>	id="\${icao}4Pane177DRHC+KDP	CC"
128 titleText="HC Analysis 4 Pa		
<pre>129<sup>©</sup> <contribute 0.5="" analysis"<="" hc="" pre="" xsi:type="bundleIte 130 menuText="></contribute></pre>		arDualPolHCA.xml"
<pre>130 menuText="0.5 HC analysis" 131 <substitute key="icao" pre="" valu<=""></substitute></pre>		
132 <substitute <="" key="elevation" td=""><td></td><td></td></substitute>		
133	" file-"bundles/DefaultDed	
<pre>134⊖ <contribute 0.9="" analysis"<="" hc="" pre="" xsi:type="bundleIte 135 menuText="></contribute></pre>		
136 <substitute key="icao" td="" valu<=""><td></td><td></td></substitute>		
137 <substitute <="" key="elevation" td=""><td>value="0.90.9" /&gt;</td><td></td></substitute>	value="0.90.9" />	
<pre>138  139 </pre>	m" file="bundles/DefaultRad	arDualPolHCA.xml"
140 menuText="1.5 HC analysis"		
141 <substitute key="icao" td="" valu<=""><td></td><td></td></substitute>		
<pre>142 <substitute 143="" <="" contribute="" key="elevation"></substitute></pre>	value="1.51.5" />	
1440 <contribute ardualpolhca.xml"<="" file="bundles/DefaultRad&lt;/td&gt;&lt;td&gt;" td="" xsi:type="bundleIte&lt;/td&gt;&lt;td&gt;m"></contribute>		
	ysis" id="AllTiltsdualpolHC	analysis">
<pre>146 <substitute key="icao" valu<br="">147 <substitute <="" key="elevation" pre=""></substitute></substitute></pre>		
148 /contribute>	vacac= 0.0 500.0 //	
149 <contribute <="" td="" xsi:type="subMenu"><td></td><td>Submenu"</td></contribute>		Submenu"
150 menuText="\${icao} Hi HC ana 151⊖ <contribute xsi:type="bundl&lt;/td&gt;&lt;td&gt;lysis tilts"> TeItem" file="bundles/Defaul</contribute>	tRadarDualPolHCA.xml"	
	is" id="18dualpolHCanalysis	
153 <substitute <="" key="icao" td=""><td></td><td></td></substitute>		
154 <substitute key="elevat&lt;br&gt;155 &lt;/contribute&gt;&lt;/td&gt;&lt;td&gt;&lt;i&gt;ion&lt;/i&gt;" value="1.81.8"></substitute>		
	eItem" file="bundles/Defaul	
157 menuText="2.4 HC analys 158 <substitute <="" key="icao" td=""><td>is" id="24dualpolHCanalysis</td><td>"&gt;</td></substitute>	is" id="24dualpolHCanalysis	">
	ion" value="2.42.4" />	
160		
	eItem" file="bundles/Defaul is" id="34dualpolHCanalysis	
163 <substitute <="" key="icao" td=""><td></td><td></td></substitute>		
	ion" value="3.43.4" />	
165		
Figure 26. Edits to HC analysis section		el.xml.
27. To add the	Right-click on	<ul> <li>▶ I baseRadarBestResZSRM.xml</li> <li>▶ I baseRadarBestResZV.xml</li> </ul>
Derived/Graphics section,	BASE under	<ul> <li>BaseRadarDestResz V.XIII</li> <li>BaseRadarDataQuality.xml</li> </ul>
we'll use a copy of	baseRadarDerived	
		BASE Open
baseRadarDerivedProducts.	Products.xml in	✓ I baseRadarFourPar I BASE
xml and call it	the dualPol	SITE (TSA)     Copy     Copy     Copy     Site (TSA)
mainDerivedGraphics.xml.	section and select	BaseRadarFourPar Delete     Workstation (localhost)
The edits from here on out	Copy To ► New	BaseRadarLegacy.      BaseRadarMenu.xi Move To
	File. Name the	▶
are much simpler, mostly		BaseRadarTerminalApplications.xml
deleting entries we don't	new file	<ul> <li>BaseTerminalLocalRadarMenu.xml</li> <li>Algx</li> </ul>
need and placing submenus	mainDerivedGrap	
in the correct location.	hics.xml. This file	
		CER version Make it a site version by
	should default to a <b>U</b>	SER version. Make it a site version by

	right-clicking on its USER icon and selecting Move To ► Site.	<ul> <li>Exigx</li> <li>airportRadars.xml</li> <li>base1DegAzimuth8BitProds.</li> <li>base4BitProducts.xml</li> <li>baseDualPolProds.xml</li> <li>baseLocalRadarMenu.xml</li> <li>baseRadar4Panel.xml</li> </ul>	ations.xml Ienu.xml Open Open With	<ul> <li>Site (TSA)</li> <li>Workstation (localhost)</li> <li>User (dmorris)</li> <li>New File</li> </ul>
28. Delete the HC section. None of these deleted items will be unavailable because we will include the entire baseRadarDerivedProducts. xml as a pull out menu in a later step.	Delete the entire HC file ( <b>Figure 27</b> ) to just section ( <b>Figure 28</b> ) ne	•		•

20	*
	emplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
22	<contribute <="" th="" titletext=" Reflectivity Based" xsi:type="titleItem"></contribute>
23 24⊖	<pre>id="\${icao}DerivedProductsReflectivityBased" /&gt;</pre>
25	<contribute <br="" menutext="Hydrometeor Classification" xsi:type="subMenu">id="\${icao}SubMenuBestResHC"&gt;</contribute>
269	<pre><contribute <="" file="bundles/DefaultRadarBestRes.xml" pre="" xsi:type="bundleItem"></contribute></pre>
27	<pre>menuText="0.5 HC" id="\${icao}05HydroMeteor"&gt;</pre>
28	<substitute key="icao" value="\${icao}"></substitute>
29	<substitute key="mode" value=""></substitute>
30	<substitute key="product1" value="165"></substitute>
31	<substitute key="product2" value="164"></substitute>
32	<substitute key="product3" value=""></substitute>
33	<substitute key="product4" value=""></substitute>
34	<substitute key="elevation" value="0.50.5"></substitute>
35 36⊖	<pre><contribute <="" file="bundles/DefaultRadarBestRes.xml" pre="" xsi:type="bundleItem"></contribute></pre>
37	menuText="0.9 HC" id="\${icao}09HydroMeteor">
38	<substitute key="icao" value="\${icao}"></substitute>
39	<substitute key="mode" value=""></substitute>
40	<substitute key="product1" value="165"></substitute>
41	<substitute key="product2" value="164"></substitute>
42	<substitute key="product3" value=""></substitute>
43	<substitute key="product4" value=""></substitute>
44	<substitute key="elevation" value="0.90.9"></substitute>
45 46⊖	
469	<pre><contribute file="bundles/DefaultRadarBestRes.xml" id="\${icao}15HydroMeteor" menutext="1.5 HC" xsi:type="bundleItem"></contribute></pre>
Figure 27	Top of HC selection to be deleted in mainDerivedGraphics.xml.
170	<substitute key="mode value="></substitute> <substitute key="product1" value="165"></substitute>
171	<substitute key="product2" value="164"></substitute>
172	<substitute key="&lt;i&gt;product3&lt;/i&gt;" value=""></substitute>
173	<substitute key="product4" value=""></substitute>
174 175	<substitute key="&lt;i&gt;elevation&lt;/i&gt;" value="&lt;i&gt;16.716.7&lt;/i&gt;"></substitute> 
175	
177	menuText="19.5 HC" id="{{iao}}1655HydroMeteor">
178	<substitute key="icao" value="\${icao}"></substitute>
179	<substitute key="mode" value=""></substitute>
180	<substitute key="product1" value="165"></substitute>
181 182	<substitute key="&lt;i&gt;product2&lt;/i&gt;" value="164"></substitute> <substitute key="&lt;i&gt;product3&lt;/i&gt;" value=""></substitute>
183	<substitute key="product3" product4"="" value=""></substitute>
184	<substitute key="elevation" value="19.519.5"></substitute>
185	
186⊖	<contribute <="" file="bundles/DefaultRadarBestRes.xml" th="" xsi:type="bundleItem"></contribute>
187	<pre>menuText="HC (All)" id="\$(icao]HydroMeteorAll"&gt;</pre>
188 189	<substitute key="&lt;i&gt;icao&lt;/i&gt;" value="&lt;i&gt;\${icao}&lt;/i&gt;"></substitute> <substitute key="&lt;i&gt;mode&lt;/i&gt;" value=""></substitute>
190	<substitute key="mode value="></substitute> "
191	<substitute key="product2" value="164"></substitute>
192	<substitute key="product3" value=""></substitute>
193	<substitute key="product4" value=""></substitute>
194 195	<substitute key="elevation" value="0.0360.0"></substitute> 
195	
197⊖	<contribute <="" file="bundles/DefaultRadarCompRefl.xml" th="" xsi:type="bundleItem"></contribute>
198	menuText="1km and 4km Composite Ref (CZ)" id="\${icao}CompositeRefCZ">
199	<substitute key="icao" value="\${icao}"></substitute>
200 201	<substitute key="mode" value=""></substitute>
202	
203	file="bundles/DefaultRadarImageWithGraphic.xml" menuText="1km Composite Ref (CZ)"
204	id="\${icao}lkmCompositeRef">
205	<substitute key="icao" value="\${icao}"></substitute>
206	<substitute key="product" value="37"></substitute>
207 208	<substitute key="mode1" value=""></substitute> <substitute key="mode2" value="CZ-Pg"></substitute>
209	<pre><substitute false"="" key="model value="></substitute></pre>
210	<substitute key="elevation" value="0.0360.0"></substitute>
211	
2120	<contribute <="" th="" xsi:type="bundleItem"></contribute>
213 214	<pre>file="bundles/DefaultRadarImageWithGraphic.xml" menuText="4km Composite Ref (CZ)" id="\$ficaol4kmCompositeRef"&gt;</pre>
214	id="\${icao}4kmCompositeRef"> <substitute key="icao" value="\${icao}"></substitute>
216	<pre><substitute key="product" value="38"></substitute></pre>
Figure 28	<ul> <li>Bottom of HC selection to be deleted in mainDerivedGraphics.xml.</li> </ul>

29. Delete three bundle items	Delete the lines indicated in the black box in <b>Figure 29</b> .
that are now near the top of	Delete the lines indicated in the black box in <b>Figure 29</b> .
•	
the file. These are the 1km	
Composite Reflectivity, the	
4 Composite Reflectivity,	
and the VIL/Composite	
Reflectivity combination	
product.	
product.	
21@ <monutomplato, ymlneuvei="http://uww&lt;/td&gt;&lt;td&gt;uka pra/2001/VMLSchoma instanco"></monutomplato,>	
21 <sup>©</sup> <menutemplate bundl<="" td="" xmlns:xsi="http://www&lt;br&gt;22&lt;sup&gt;©&lt;/sup&gt; &lt;contribute xsi:type="><td>eItem" file="bundles/DefaultRadarCompRefl.xml"</td></menutemplate>	eItem" file="bundles/DefaultRadarCompRefl.xml"
	<pre>composite Ref (CZ)" id="\${icao}CompositeRefCZ"&gt;</pre>
24 <substitute <="" key="icao" th="">25<substitute <="" key="mode" td=""></substitute></substitute>	
26	
27⊖ <contribute bundles="" defaultra<br="" xsi:type="bundl&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;28 file=">29 id="\${icao}1kmComposite</contribute>	darImageWithGraphic.xml" menuText="1km Composite Ref (CZ)" Ref">
30 <substitute <="" key="icao" td=""><td>value="\${icao}" /&gt;</td></substitute>	value="\${icao}" />
31 <substitute key="produc&lt;br&gt;32 &lt;substitute key=" model"<="" td=""><td></td></substitute>	
32 <substitute <br="" key="model">33 <substitute <="" key="mode2" td=""><td></td></substitute></substitute>	
34 <substitute key="latest&lt;/p&gt;&lt;/td&gt;&lt;td&gt;" value="false"></substitute>	
35 <substitute key="elevat&lt;br&gt;36 &lt;/contribute&gt;&lt;/td&gt;&lt;td&gt;&lt;i&gt;ion&lt;/i&gt;" value="0.0360.0"></substitute>	
37⊖ <contribute <="" td="" xsi:type="bundl&lt;/td&gt;&lt;td&gt;eItem"></contribute>	
	darImageWithGraphic.xml" menuText="4km Composite Ref (CZ)"
39id="\${icao}4kmComposite40 <substitute <="" key="icao" td=""></substitute>	
41 <substitute key="production of the state of the state&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;42 &lt;substitute key=" model"<="" td=""><td></td></substitute>	
43 <pre>43 <substitute 44="" <substitute="" elevat<="" key="latest&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;45 &lt;substitute key=" td=""><td>ion" value="0.0360.0" /&gt;</td></substitute></pre>	ion" value="0.0360.0" />
46 47⊖ <contribute <="" file="bundles/DefaultRadarVILCompRefl.xml" td="" xsi:type="bundl&lt;/td&gt;&lt;td&gt;eItem"></contribute>	
21	id="\${icao}VILCompRef">
49 <substitute <="" key="icao" td=""><td>value="\${icao}" /&gt;</td></substitute>	value="\${icao}" />
50 51 <td>eItem" file="bundles/DefaultRadar.xml"</td>	eItem" file="bundles/DefaultRadar.xml"
52 menuText="Vert Integ Li	<pre>quid (VIL)" id="\${icao}VertIntegLiquidVIL"&gt;</pre>
53 <substitute <br="" key="icao">54 <substitute <br="" file="bundles/DefaultRadar.xml" key="produc&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;2 · · · · · · · · · · · · · · · · · · ·&lt;/td&gt;&lt;td&gt;c'on" value="5/~ /&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;56 &lt;/contribute&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;eItem">DVL)" id="\${icao}DigitalVilDVL"&gt;</substitute></substitute>	
59 <substitute <="" key="icao" td=""><td></td></substitute>	
60 <substitute elevat<br="" key="produc&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;61 &lt;substitute key=">62 </substitute>	ion" value="0.0360.0" />
63 <contribute <="" file="bundles/DefaultRadar.xml" td="" xsi:type="bundl&lt;/td&gt;&lt;td&gt;eItem"></contribute>	
	e deleted from mainDerivedGraphics.xml
30. Keep the next four	Delete the remaining contributions starting with the
contributions for the	separator just below the EET bundleItem entry (Figure 30).
bundles for (VIL, DVL, ET,	Don't delete the final  tag in the file. The
and EET).	final mainDerivedGraphics.xml file is shown in Figure 31.
	Save your changes to mainDerivedGraphics.xml.
	Save your changes to mainderived draphics. Ann.



to rearrange existing	• Add the lines indicated in Figure 33. This adds the two
submenus.	Dual-Pol four panel entries, a separator and titleItem
	for the Derived/Graphics section, and the five non-
	pull-out menus in the DerivedGraphics section from
	mainDerivedGraphics.xml.
	<ul> <li>Uncomment the final section of the menu</li> </ul>
	contributions, and add the separator and titleItem
	shown in Figure 34. Figure 34 shows the final version
	of baseLocalRadarMenu.xml
<pre>21@ <menutemplate menutext;<="" pre="" submenu"="" xmlns:xsi="http://www.w3.&lt;br&gt;22@ &lt;contribute xsi:type="></menutemplate></pre>	
23 <contribute f.<="" p="" xsi:type="subinclude"></contribute>	<pre>ileName="menus/radar/dualPol/baseData.xml"/&gt;</pre>
25	
27	ileName="menus/radar/dualPol/baseDataTilts.xml"/>
28⊖ <br 29 <contribute f<="" th="" xsi:type="subinclude"><th>ileName="menus/radar/dualPol/baseRadarBestResZSRM.xml" /&gt;</th></contribute>	ileName="menus/radar/dualPol/baseRadarBestResZSRM.xml" />
<pre>30 <contribute id<br="" xsi:type="separator">31 <contribute f<="" pre="" xsi:type="subinclude"></contribute></contribute></pre>	="\${icao}BestResZV" /> ileName="menus/radar/dualPol/baseRadarBestResZV.xml" />
<pre>32 <contribute id<="" pre="" xsi:type="separator"></contribute></pre>	="\${icao}4PanelZSRM_ZDRV_KDP_HC_CCSW" /> ileName="menus/radar/dualPol/baseRadarFourPanel.xml" />
34 <contribute id<="" p="" xsi:type="separator"></contribute>	="\${ <u>icao</u> }BestResBase" />
<pre>36 <contribute id<="" pre="" xsi:type="separator"></contribute></pre>	
	ubMenu="\$ <u>{icao}</u>
<pre>39 <contribute pre="" subinclude"<="" xsi:type="subinclude"></contribute></pre>	ubMenu="\${icao} Algorithm Overlays" fileName="menus/radar/dualPol/baseRadarAlgorithm ubMenu="\${icao} four panel" fileName="menus/radar/dualPol/baseRadarFourPanelBestRes.
<pre>41 <contribute pre="" subinclude"="" subinclude<="" xsi:type="subinclude"></contribute></pre>	ubMenu="\${icao} Data Quality" fileName="menus/radar/dualPol/baseRadarDataQuality.xml
	ubMenu="\${ <u>icao</u> } 4-bit/Legacy <u>Prods</u> " fileName="menus/radar/dualPol/baseRadarLegacy.xm ubMenu="Radar Applications" fileName="menus/radar/dualPol/baseRadarApplications.xml"
44 45>	
Figure 32. Items in baseLocalRadar	Manu yml to bo dolotod
210 <menutemplate <i="" xmlns:xsi="http://www.w3.&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;22⊖ &lt;contribute xsi:type=">subMenu" menuText</menutemplate>	="\${icao}">
<pre>24 <contribute id<="" pre="" xsi:type="separator"></contribute></pre>	ileName="menus/radar/dualPol/baseData.xml"/> ="\${icao}BaseDataTiltsSep" />
	<pre>ileName="menus/radar/dualPol/baseDataTilts.xml"/&gt;</pre>
	<pre>ileName="menus/radar/dualPol/baseRadarFourPanel.xml" /&gt;</pre>
<pre>29 30 <contribute id<="" pre="" xsi:type="separator"></contribute></pre>	="\${icao}DerivedGraphicsSep" />
	="\${icao}DerivedGraphics" titleText=" Derived/Graphics"/> ileName="menus/radar/dualPol/mainDerivedGraphics.xml" />
33 34⊜ </th <th></th>	
<pre>35 <contribute id<="" pre="" xsi:type="separator"></contribute></pre>	
<pre>37 <contribute pre="" s<="" xsi:type="subinclude"></contribute></pre>	ubMenu="\${ <u>icao</u> } <u>Precip</u> " fileName="menus/radar/dualPol/baseRadarPrecip.xml" /> ubMenu="\${icao} Derived Products" fileName="menus/radar/dualPol/baseRadarDerivedProc
	ubMenu="\${ <u>icao</u> } Algorithm Overlays" fileName="menus/radar/dualPol/baseRadarAlgorithr ubMenu="\${ <u>icao</u> } four panel" fileName="menus/radar/dualPol/baseRadarFourPanelBestRes.
	ubMenu="\${ <u>icao</u> } Data Quality" fileName="menus/radar/dualPol/baseRadarDataQuality.xml ubMenu="\${ <u>icao</u> } 4-bit/Legacy <u>Prods</u> " fileName="menus/radar/dualPol/baseRadarLegacy.xr
<pre>42 <contribute pre="" s<="" xsi:type="subinclude"></contribute></pre>	ubMenu="Radar Applications" fileName="menus/radar/dualPol/baseRadarApplications.xml'
43>	
45 46	
<pre>47  48 </pre>	
49	
Figure 33. Items in baseLocalRadar	ivienu.xmi to be added.



Doctort CAVE to coo the final	kinx	
2. Restart CAVE to see the final		
result.	Base Data	
	0.5 Refl	
	0.5 Vel	
	0.5 SRM	
	0.5 Z/V	
	0.5 Z/SRM8	
	0.5 DP 8-Prod 4-Panel	,
	Base Data (All Tilts)	
	All Tilts Z/V	
	All Tilts Z/SRM8	,
	All Tilts DP 8-Prod 4-Panel	
	Base Data Tilts	
	Refl	•
	Vel	•
	SRM	•
	Z/V	•
	Z/SRM	•
	Spectrum Width	•
	ZDR	•
	СС	•
	KDP	•
	8 Prod DP 4 Panel	•
	HC Analysis 4 Panel	•
	Derived/Graphics	
	CZ	
	VIL	· · · · · · · · · · · · · · · · · · ·
	DVL	
	ET	· · · · · · · · · · · · · · · · · · ·
	EET	· · · · · · · · · · · · · · · · · · ·
	Precip	•
	Derived	•
	Algorithm Overlays	•
	Misc	
	Four Panel	
	Data Quality	
	4-bit/Legacy	
	Radar Applications	

# Exercise 9: Implementing Custom Model Families from the AWIPS-1 Virtual Field Table

## **Objectives:**

- Reorganize the Volume menu to implement custom Model Families. The existing default/baseline model families are preserved, but are located in various pull-out menus.
- Edit display bundles for each of the model families to be implemented, defined either in a single-pane layout or a four-panel layout.
- Use the firstAvailableResourceData bundle construct to allow the software to make a choice between alternative model fields.
- Use the blendedResourceData to make a paired image combination.

### Additional Concepts Mentioned in This Exercise:

- Bundles with four-panel displays
- Panel combo rotate
- Wind barb, vector arrow, and streamline plots
- Icon plots
- Layers, levels and the Level Mapping File: fixed height above ground (FHAG or LYRFHAG), constant pressure (MB), potential vorticity (PV), potential temperature (K), equivalent potential temperature (Ke), boundary layer (BL), entire atmosphere (EA), surface (SFC), freezing level (FRZ), lifted condensation level (LCL), cloud base level (CBL)
- Colors available in CAVE

**Background.** In AWIPS-1, model families were implemented using the Virtual Field Table, specified in a custom virtualFieldTable.txt. Accordingly, sites could modify the volume menu and organize model output in new ways. AWIPS-2 provides similar customizable capabilities, but the process is totally different. Not only can you create model families for a WFO, you can also make new displays for particular users. This user-level configuration

Browser				
Popup SkewT				
Model Families A-YY	Þ			
Families DGEX ECMWF-HRes ECMWF-LowRes GFS40 GFS HIResW-ARW-East HIResW-ARW-Vest HIResW-MMW-East HIResW-MMW-Yest	15.0600 15.0600 15.0600 15.0600 15.0600	HooFamA (Conv: NonSupercell Tor Family) ModFamB (Conv: Storm Init Family) ModFamC (Conv: Hall Family) ModFamE (Conv: NonSupercell Tor Family) ModFamf (Conv: NonSupercell Tor Family) ModFami (Conv: NonSupercell Tor Family) ModFami (Conv: NonSupercell Tor Family) ModFami (Conv: NonSupercell Tor Family) ModFami (Conv: NonSupercell Tor Family)	> > > > > > > > > >	
NAM12	15.0600	ModFamM (Winter: Big3 Qn Family) ModFamU (Briefing Family)	•	
NAM40 NAM80 RAP13 RAP40 UKMET	15.0000 15.0000  15.0600 15.0000	ModFamV (Conv: Severe Type Family) ModFamW (Conv: Supercell Family) ModFamX (Conv: MCS Family) ModFamY (Conv: Supercell Tor 4P Family) ModFamY (Conv: Supercell Tor family)	<ul> <li>ECMWF-HiRes</li> <li>GFS40</li> <li>GFS</li> <li>NAM12</li> <li>NAM40</li> </ul>	77.777 15.060 15.060 15.060 15.000
4-PanelFamilies Comparison Families 500 Height MSL Press			NAMBO RAP13 RAP UKMET	15.000  15.060 77.777

Std Env Data Package

capability may be handy in developing new displays, as well as evaluating new techniques prior to implementing them in a wider setting. In this exercise, we'll use a sample Virtual Field Table as a starting point to implement model families first as a user-level customization and then illustrate how to promote the changes to a site-level configuration.

A significant number of forecast offices have utilized Dan Baumgardt's derived parameters and associated model families. This package, containing both the derived parameters and the model family configuration files, was included in the AWIPS-2 baseline. Some WFOs utilize custom families in addition to the Baumgardt package. This exercise illustrates the process of creating a different custom set of model families to illustrate various concepts required to accomplish this type of configuration. Two of the model families in this exercise are derived from Baumgardt's families.

When mainScript.csh was run in AWIPS-1 to create a localization, AWIPS-1 automatically determined which model families were appropriate for a given model and built the Volume menus accordingly. In AWIPS-2, there is no logic to determine the applicability of a family for a given model; the local developer or AWIPS focal point must assign models to families manually when creating the menus. As models evolve, you need to periodically revisit which model families are appropriate and adjust the menus accordingly.

Because we're reorganizing the Volume menu, this exercise references many of the files mentioned in the CAVE Overview Module, Part 2. It may be helpful to review that module before proceeding to regain familiarity with the Volume menu structure, shown in Figure 1. The Volume menu and the separator named "top" is defined in /awips2/cave/plugins/com.raytheon.uf.viz.d2d.ui \*/plugin.xml. Another plugin.xml (from the volume browser plugin, /awips2/cave/plugins/com.raytheon.viz.volumebrowser \*) attaches additional separators to define more structure of the Volume Menu. Because we cannot change nor override the plugin.xml files, we have to incorporate this structure in making any changes. The target menu structure is shown in **Figure 2**. This menu structure corresponds to our sample AWIPS-1 virtualFieldTable.txt. An excerpt of this virtualFieldTable.txt containing only the names and titles of the custom model families is shown in Figure 3. The details of these entries are shown later throughout the exercise. The basic process of this exercise is to create the new menu organization first, and then assign menu entries for the new model families to specific display bundles that we will create later. Essentially, each model family is a bundle, and each graphical plot in the model family is a resource (or product layer) in the bundle. Each menu entry in a menu file for a particular model family references the same bundle and passes in a variable containing the particular model name.

Several of the model family plots are designed for the software to choose between one of two plots to display (depending on whether or not a particular parameter is produced by a

particular model). One example of this would be the choice between 300 mb and 250 mb wind speed (with 300 mb displayed if it's available; otherwise, 250 mb is displayed). For another example, a particular model family might want display muCape for 850-300 mb or PBE for the surface, depending on which parameter and level combination is available for a particular model. This alternative choice can be implemented in CAVE display bundles using the firstAvailableResourceData that tells the software to display a resource chosen from a group of resources.

resources. Plenty of examples follow in the exercise.

Much of this exercise involves editing display bundle (.XML) files and replacing existing or adding new metadata fields. One way to discover correct metadata fields and values for particular model fields, model layers, or levels is to use the Volume Browser or the Product Browser in the D2D perspective to load a desired

CAVE	
New +	
Perspective •	
Data Browsers	
Data Delivery	
Collaboration	
Archive Case Creation	
Archive Retention	
AWIPS User Administration	
AWIPS Statistics	
Import •	
Export •	
Load/Save Displays	
Preferences	Save Editor Display
recences	Save Perspective Displays
Exit	Load Displays

parameter for a particular level or layer. Then use the **Save Editor Display** option in CAVE's **Load/Save Displays** menu to save the active display bundle into a file. Then open the saved bundle file in the localization perspective (use the **File » Open File** menu) to view the metadata used for that display. Another handy way to discover the metadata for a particular type of data is by using the Product Browser. ♦ GFI Grid AK-GFS (GFS160) AK-GriddedMOS (MOSGuide-AK) AK-NAM12 (ETA242) AK-NAM20 (mesoEta217) AK-NAM40 (mesoEta216) AK-NamDNG5 (AK-NamDNG5) AK-RTMA (AK-RTMA) AK-SREF (SREF216) AKWAVE (AKWAVE239) Aviation (Aviation CPCoutlook-Short (CPCoutlook-Short) V DGEX (DGEX185) 0-1 km EHI (EHI01) マ 12 Hr Accum Precip (TP12hr) ♥ Ground or Water Surface (SFC) 0.0.SEC O Load As 12 Hr Snow Acc 12-6 Hr Ac
 12-6 Hr Ac
 12-6 Hr Ac
 12-6 Hr Ac
 12-4 FACUU (Info datasetd = DGEX185
 12/Hr Heigh
 1/fo parameter abbreviation = TP12
 1/hr MSL PY
 1/nfo level ind = 39
 2-D Frontogenesis/Mag Fn (FFmt) TP12h 24 Hr Accum Precip (TP24hr) 24 Hr Snow Accum (SA24hr) 36 Hr Accum Precip (TP36hr) 36 Hr Snow Accum (SA36hr) 3hr MSL Press Change (dP3hr) 48 Hr Accum Precip (TP48hr) 48 Hr Snow Accum (SA48hr) 6 Hr Accum Precip (TP6hr) 6 Hr Snow Accum (SA6hr) 6hr MSL Press Change (dP6hr) 700-850 ra thk (Rain2) b 700-850 so thk (Snow2)

🐮 Product Browser 🔀

If you navigate through the tree structure in the Product Browser to find a given product, you can right-click on the product to either load it or to view product info. If you choose **Product Info**, a tool-tip appears which contains much of the metadata associated with the given product.

In CAVE, the rotation of product legend colors (and corresponding colors of contours, vectors, wind barbs, and icon plots) is defined in a config.xml file in com.raytheon.viz.core. Found under Plugin Configs in the Localization Perspective's File Browser, this file can be customized by changing existing colors or

#### <configuration>

<defaultGraphicColor>green</defaultGraphicColor>
<defaultGraphicColor>coral</defaultGraphicColor>
<defaultGraphicColor>cyan</defaultGraphicColor>
<defaultGraphicColor>burlywood</defaultGraphicColor>
<defaultGraphicColor>yellow</defaultGraphicColor>
<defaultGraphicColor>violet</defaultGraphicColor>
<defaultGraphicColor>orangeRed</defaultGraphicColor>
<defaultGraphicColor>orangeRed</defaultGraphicColor>
<defaultGraphicColor>orangeRed</defaultGraphicColor>
<defaultGraphicColor>orangeRed</defaultGraphicColor>
<defaultGraphicColor>

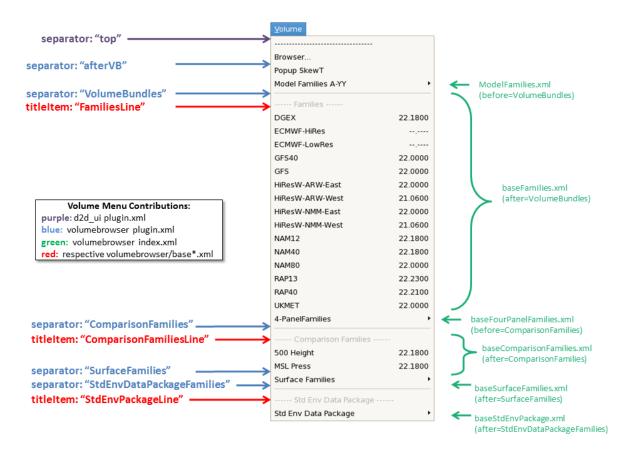
adding new colors. The possible color names are defined in /awips2/cave/etc/colorfile/rgb.txt. Normally, each resource in a bundle is assigned one of the colors in this config.xml file. If appropriate, the resource is drawn using that product (for example, contours, station plots, vectors, etc.), and its corresponding legend entry appears using that color, unless the resource itself specified a different color (which need not be one of the colors in the config.xml file). However, the firstAvailableResourceData just shows its plot and corresponding legend entry in green by default. The next resource in the bundle skips the color that the firstAvailableResourceData should have used, so the color order for all other resources is preserved. In other words, when using multiple firstAvailableResourceData resources, to make contours, wind barbs, streamlines and other non-image plots distinguishable from one another, their colors need to be manually specified in the bundle. This is done by adding a colorableCapability to each resource embedded in the firstAvailableResourceData: <capability xsi:type="colorableCapability" colorAsString="color}"/>. The examples illustrate adding the colorableCapability where needed (indicated using blue boxes in some of the figures). Since these colors are specified manually, the color is your preference. In these exercises, we'll just continue to cycle through the colors specified in the config.xml file.

This exercise will take 3 to 3.5 hours to complete.

#### Troubleshooting Tip -

Occasionally when editing bundle files, you may wish to comment out whole sections of XML code. The Localization Perspective editor has commands to assist with this. To comment out offending sections, highlight the parts of the bundle you need to comment. Then click the **Source** menu followed by **Add Block Comment**. This should put XML comments ("<!--") and ("-->") around the entire section.

CAVE	<u>F</u> ile	<u>E</u> dit		Annotation He	lp
			Toggle Comment		Shift+Ctrl+C
			Add Bloo		Shift+Ctrl+/
			<u>R</u> emove	Block Commen	t Shift+Ctrl+\
			Shift Lef Shift Rig		
			<u>C</u> leanup	Document	
			Eormat		Shift+Ctrl+F
			Format /	Act <u>i</u> ve Elements	Ctrl+I
			Occurre	nces in File	Shift+Ctrl+A



**Figure 1.** Baseline AWIPS-2 Volume Menu structure. Separators are defined in the d2d\_ui and volumebrowser plugin.xml files, while the rest of the structure is defined in the index.xml and base\*.xml files in the volumebrowser plugin's localization/menus directory.

_	
Browser	
Popup SkewT	
Model Families A-YY	
4-PanelFamilies	
Basic Families	
Briefing Families (Exer.)	
Conv: Severe Type Families (Exer.)	
Conv: Derecho Families (Exer.)	
Demo: Layer Families (Exer.)	
Other: Aviation Fog Families (Exer.)	
Comparison Families	
500 Height	22.1800
MSL Press	22.1800
Surface Families	
Std Env Data Package	
Std Env Data Package	

Figure 2. Custom volume menu structure to be constructed in this exercise.

```
// _____
// Model Families Area (starts below)
// All entries below are designed to be on the D2D Family pull-down menu.
// These will auto-post upon a -grids localization. Since they are not designed to
// be used as a procdure, their location in the virtualFieldTable.txt file is not
// important.
11
ModFamU| |N|Briefing Family| |OTHER | | \
<snip>
11
ModFamV | | N|Conv: Severe Type Family| | OTHER| | \
<snip>
11
ModFamHH| | N|Conv: Derecho Family| | OTHER| | \
<snip>
11
ModFamDM | | N|Demo: Layers Family| | OTHER| | \
<snip>
11
11
11
11
// -----
// End Families Area
11
 ------
11
```

Figure 3. Titles and Names of Model Families in custom AWIPS-1 virtualFieldTable.txt file.

Note: ModFamU and ModFamV were actually implemented into the AWIPS-2 baseline as part of the Baumgardt extensions. We're recreating them here because ModFamU illustrates most of the different types of plots that are available, and modFamV has an instance of having to choose among two parameters from different levels. ModFamHH was implemented at a few WFOs and is an example of a custom 4-panel family. Finally, the Demo: Layers Family is a family that illustrates (for learning purposes, only) a few other concepts related to using parameters on nontraditional model layers (potential vorticity, potential temperature, equivalent potential temperature, boundary layer, lifted condensation level, etc.)

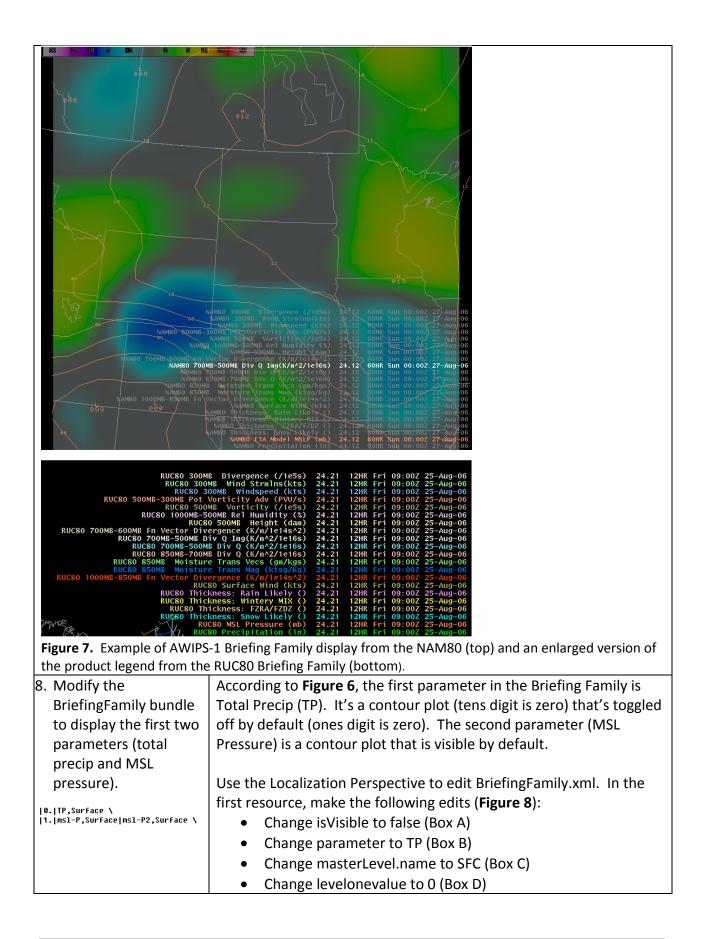
Concept		Actions	
Part 1. Briefing F 1. Make a user-level copy of the volumebrowser index.xml menu file from which all other menus are attached.	amily: Reorganize the Volur In the Localization Perspec file browser, open CAVE » Menus » volume. Right-cli the BASE icon under index and choose Copy To ► User.	マ ← volume       ▷ ☑ baseComparisonFamilies.xml       ▷ ☑ baseFamilies.xml	
2. Make a user-level copy of the baseFamilies.xml menu file. In a later step, this menu contribution will be changed from a simple include to a pull-out menu.	Right-click the <b>BASE</b> icon under <b>baseFamilies.xml</b> and choose <b>Copy To ► User.</b>	<ul> <li>▷ construction</li> <li>○ construction<!--</td--></li></ul>	
<ul> <li>3. Edit the index.xml file to create the model family entries above the Comparison Families separator. These are the pull-out menus for 4-Panel Families, Basic Families, and Briefing Families.</li> <li>Note: You may have to use the tabs at the bottom of the Localization Perspective</li> </ul>	Edit the user version of index.xml by double-clicking its USER icon. Transform the include for baseFamilies.xml into a submenu by adding the submenu tag as shown in Box A in Figure 4. Duplicate the include for the 4-Panel Families submenu (red box in Figure 4). In the first entry for baseFourPanelFamilies.xml, change before=Comparison Families to after=VolumeBundles, as shown in Box B in Figure 4. In the second baseFourPanelFamilies entry, change the subMenu to "Briefing Families" and the fileName to "menus/volume/briefingFamilies.xml" (Box C).		
to alternate between the source view and the design view.	Save your changes.		

21⊖ <menucontributionfile> 22 <substitute key="DGEXmode&lt;/th&gt;&lt;th&gt;21" value="DGEX185"></substitute></menucontributionfile>			
23 <substitute <="" key="GFSmode" th=""><th></th><th></th></substitute>			
	<pre>substitute key="NAM12model" value="ETA218" /&gt;</pre>		
25 <substitute key="NAM40mod&lt;/th&gt;&lt;th colspan=3&gt;&lt;substitute key=" nam40model"="" value="mesoEta212"></substitute>			
	<substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute>		
	12" value="HiResW-ARW-West" />		
	l1" value=" <i>HiResW-MMM-East</i> " /> l2" value=" <i>HiResW-MMM-West</i> " />		
30 A	2 Value Hinesw-min-west />		
	Families" installTo="menu:volume?after=Volum	eBundles"	
-	<pre>/volume/baseFamilies.xml"&gt;</pre>		
33			
34 35⊖ <include <="" submenu="4-Pane" th=""><th>! Families" installTo="menu:volume?after=Vol</th><th>umeBundles"</th></include>	! Families" installTo="menu:volume?after=Vol	umeBundles"	
		dilebunaces	
37	B		
38			
	ng Families" installTo="menu:volume?before=C /volume/briefingFamilies.xml">	omparisonFamilies"	
40 /include>			
42			
	volume?after=ComparisonFamilies"		
	<pre>/volume/baseComparisonFamilies.xml"&gt;</pre>		
45 46⊖ <include <="" installto="menu:volume?after=Sur&lt;/th&gt;&lt;th&gt;faceFamilies" submenu="Surface&lt;/th&gt;&lt;th&gt;e Families" th=""></include>			
	<pre>/volume/baseSurfaceFamilies.xml"&gt;</pre>	racer and cles	
48			
	volume?after=StdEnvDataPackageFamilies"		
50 fileName="menus, 51	<pre>/volume/baseStdEnvPackage.xml"&gt;</pre>		
52			
<b>Figure 1</b> First edits to inc	lex.xml to create the model family	entries above the	
-	-	entries above the	
ComparisonFamilies separ	rator.		
4. Use baseFamilies.xml	Make sure you've saved your		
	-	▷ ⇐ textws	
as a template for the	edits to index.xml. Copy	b bools	
new Briefing Families	baseFamilies.xml to	<ul> <li>è upperair</li> <li>i è volume</li> </ul>	
-		Vial Method State Sta	
menu.	briefingFamilies.xml by right-	✓ X baseFamilies.xml	
	clicking on the <b>USER</b> icon	X BASE	
	0		
	under baseFamilies.xml and	Den Open	
	choosing	▷ 🖹 baseStdEnvPe	
	-	baseSurface Copy	
	Copy To 🕨 New File.	✓ X index.xml Copy To Site (OUN)	
		BASE Delete Workstation (localhost)	
	Nouse the second file	USER (dm Move To	
	Name the new file	V 🗴 ModelFamilies	
	briefingFamilies.xml.	Note: Section 2012 Refresh	
		Rename file	
		Kentanie nie	
	File n	ame:	
	brief	ingFamilies.xm	
		OK Cancel	
		OK Cancel	
	We'll change the bundle referend	ces inside briefingFamilies.xml later.	

5. Restart CAVE to see	
your changes reflected	Browser Popup SkewT
in the Volume menu.	Model Families A-YY
The Basic Families and	Basic Families
4-panel Families menu	DGEx         22 3800           500 Height         22 1800
entries should also	MSL Press 22 1000 Surface Families GFS 22 0000 GFS 22 0000
work, since we just	Std Env Data Package + HillesW-ARW-East 22 0000 Std Env Data Package + HillesW-ARW-West 21 0600
moved them around	Hillestwi-MMM-East 22 0000 Hillestwi-MMM-West 21,0600
in the menu structure.	NAM12 22.1000 NAM40 22.1000 NAM40 22.0000
	RAP13 22.2300 RAP40 22.2100
	UKMET 22 0000
6. Change the bundle	In the Lecalization Derenactive, edit the briefing Camilies well many
references in the new	In the Localization Perspective, edit the briefingFamilies.xml menu
	file. Perform the following edits as shown in <b>Figure 5</b> .
briefingFamilies.xml to	Delete the entries for these models:
be appropriate for the	o ECMWF-HiRes
Briefing Families	<ul> <li>ECMWF-LowRes</li> </ul>
Menu.	o <b>arwEast</b>
Volume Obs HCEP/Hydro Local Browser	o arwWest
Popup Skew/T 4-Panet Families	o mmmEast
Basic Families P Intering Families P ECMWF-Hilling	o mmmWest
Comparison Families GFS40 177.77777 Official GFS	o UKMET
H3L Press         LAPS         ??.????           Conv: Hall Families         NAM12         ??.????           Conv: MCS Families         NAM12         ??.????	We only delete these entries to simplify this exercise. A similar
Conv: MCS Families NAM40 ??.????? Conv: OLCS/Wind Families NAM00 ??.????? Conv: Severe Type Families NGM ??.????	process as illustrated here would be used to create appropriate
Conv: Storm Init Families RUC13 ??.????? Conv: Supercell Families RUC ??.?????	bundles for these models. In reality, you would just create separate
Std Env Data Package Families UKMET Surface Families Winter: Bio3 En Families	bundles for the parameters and layers those models have.
Winter: Big3 On Families Winter: Families Winter: Families	
Winter: PType Families P Winter: PV/Trop Families	• Change the name of the file for each bundleItem from
Winter: Snow Growth Families - Winter: Trowal Families -	DefaultFamily.xml to BriefingFamily.xml.
	LAPS may require considerable configuration for AWIPS-2. After
	LAPS is operational at your site, you can add a LAPS menu
	contribution by following the pattern already in the file.

```
21@ <menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <contribute xsi:type="titleItem" titleText="----- Families ------"
22
           id="FamiliesLine" />
23
240
        <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"</pre>
           menuText="DGEX" id="dgex" useReferenceTime="true">
25
            <substitute key="modelName" value="${DGEXmodel}"/>
26
27
            <substitute key="TP" value="TP"/>
28
            <substitute key="frameCount" value="18"/>
29
       </contribute>
300
        <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"
31
            menuText="GFS40" id="gfs40" useReferenceTime="true">
32
            <substitute key="modelName" value="GFS212"/>
33
            <substitute key="TP" value="TP"/>
            <substitute key="frameCount" value="41"/>
34
35
       </contribute>
360
        <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"
37
            menuText="GFS" id="gfs90" useReferenceTime="true">
38
            <substitute key="modelName" value="${GFSmodel}"/>
39
            <substitute key="TP" value="TP"/>
40
            <substitute key="frameCount" value="41"/>
41
       </contribute>
        <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"
420
           menuText="NAM12" id="nam12" useReferenceTime="true">
43
            <substitute key="modelName" value="${NAM12model}"/>
44
45
            <substitute key="TP" value="TP3hr"/>
46
            <substitute key="frameCount" value="29"/>
47
       </contribute>
480
        <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"
49
            menuText="NAM40" id="nam40" useReferenceTime="true">
50
            <substitute key="modelName" value="${NAM40model}"/>
51
            <substitute key="TP" value="TP3hr"/>
52
            <substitute key="frameCount" value="29"/>
53
       </contribute>
       <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"
540
55
            menuText="NAM80" id="nam80" useReferenceTime="true">
56
            <substitute key="modelName" value="ETA"/>
57
            <substitute key="TP" value="TP6hr"/>
58
           <substitute key="frameCount" value="15"/>
59
       </contribute>
600
        <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"
           menuText="RAP13" id="rap13" useReferenceTime="true">
61
            <substitute key="modelName" value="${RAP13model}"/>
62
63
            <substitute key="TP" value="TP3hr"/>
64
            <substitute key="frameCount" value="19"/>
65
       </contribute>
        <contribute xsi:type="bundleItem" file="bundles/volume/BriefingFamily.xml"
669
67
            menuText="RAP40" id="rap" useReferenceTime="true">
68
            <substitute key="modelName" value="${RAPmodel}"/>
69
            <substitute key="TP" value="TP3hr"/>
            <substitute key="frameCount" value="9"/>
70
71
        </contribute>
72 </menuTemplate>
Figure 5. Changes to briefingFamilies.xml.
```

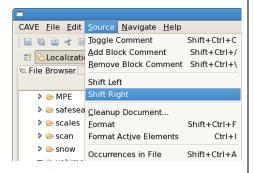
Part 2. Briefing Family: Implement the display bundle			
7. Create the	In the Localization	✓	
BriefingFamily.xml	Perspective File Browser,	<ul> <li>▶ Iso0Height.xml</li> <li>▼ Iso1</li> <li>■ DefaultFamily.xml</li> </ul>	
bundle. We need to	open CAVE » Bundles »	X BASE	
make the bundle	volume »	▷ I DefaultFourPa         Open           Open With         ▶	
reflect the	DefaultFamily.xml. Right-	IDefaultStdEnv     IDefaultSurfac     Copy	
BriefingFamily as	click <b>BASE</b> and select	ECMWFHiRes. Copy To Site (ABR)	
defined by the	Copy To ► New File. Name	COMWFHiResF     Delete     Workstation (localhost)     User (dmorris)	
ModFamU entry in	the new file	K ECMWFLowRe Move To      KuritedFamily      New File      New File	
virtualFieldTable.txt		Michael Press	
	BriefingFamily.xml.		
(Figure 6) and			
illustrated using		perspective and verify that the	
AWIPS-1 in <b>Figure 7</b> .	<b>-</b> .	I from the Volume Menu actually has	
Begin by creating a	data (at this point, it's simply a	duplicate of the Basic Family).	
user-level version of a			
BriefingFamily.xml	Most often when modifying bundles (not menus), there is no need		
bundle by using the	to restart CAVE to test changes	s in the bundle.	
DefaultFamily.xml as a			
starting point.			
0. TP,S:  1. msl-   10. PTy;  10. PTy;  10. PTy;  10. PTy;  30. Win;  0. DivF;  0. Mmag  50. MTU  0. QDiv  0. qDiv  0. qDiv  21. qDi;  0. DivF;  0. DivF;  0. RH,1  0. AU,5  0. PTvA  0. WSp;  40. Win;	P,Surface ms1-P2,Surface \ p,Surface Snow3,Surface \ p,Surface Fzra2,Surface\ p,Surface Fzra2,Surface\ p,Surface Rain3,Surface\ d,Surface\ n,1000MB-850MB qDiv,1000MB-850MB\ ,850MB\ ,850MB\ ,850MB-500MB\ v,700MB-500MB\ v,700MB-500MB\ n,700MB-500MB\ 000MB\ 000MB\ 000MB\ 000MB\ 000MB\ 300MB geoVort,500MB\ ,500MB-300MB\ 300MB wSp,250MB\		
0. wDiv  //	,300MB wDiv,250MB		
Figure 6. Excerpt of virtualF	ieldTable.txt that defines the Briefi	ng Family. The interpretation of the	
		follows: A non-zero value in the ones	
place means this overlay sho	ould be toggled on by default. The t	ens digit is the display type to use:	
	0=contour, 1=icons, 2=image, 3=barbs, 4=streamlines, 5=arrows, 6=dualarrows, 7=other. A non-zero		
		ands place is number of frames to load; 0	
	means the same as the number of forecast times and 99 means whatever the display is currently set for		
(verbatim from AWIPS-1 doo	cumentation in /awips/fxa/data/loc	calization/documentation/families.html).	



r
{TP} was defined as a substitution value in each of menu items in the BriefingFamilies.xml file ( <b>Figure 5</b> ). It's also a derived parameter. The substitution value is used if the bundle says {TP} and the derived parameter is used if the bundle says TP.
The second parameter is a bit more complicated because the Virtual Field Table entry (" 1. msl-P,Surface msl-P2,Surface\") says to display the first available of the two parameters, either msl-P or msl- P2. Both of these are derived parameters. To verify the correct derived parameter name in AWIPS-2, use the File Browser in the Localization Perspective. Click <b>D2D</b> » <b>Derived Parameters</b> » <b>definitions</b> , and search through the list. Most of the AWIPS-1 derived parameters have kept similar names in AWIPS-2.
In order to have the bundle choose between two parameters to
display, we need to change the resourceData type from
gridResourceData to firstAvailableResourceData. The structure for
the firstAvailableResourceData resource is:
<resource> <loadproperties></loadproperties> <properties></properties> <resourcedata xsi:type="firstAvailableResourceData"> <resourcedata <br="" xsi:type="gridLoadProperties">displayType="CONTOUR"&gt;  <resourcedata xsi:type="gridResourceData"> <metadatamap> </metadatamap> </resourcedata> </resourcedata></resourcedata></resource> <resource> (second parameter) <loadproperties <br="" xsi:type="gridLoadProperties">displayType="CONTOUR"&gt; </loadproperties>displayType="CONTOUR"&gt; <resourcedata xsi:type="gridResourceData"> <metadatamap> </metadatamap> </resourcedata>     </resource>
Note how there are two resources each having a resourceData (one for each parameter) embedded inside a larger resourceData, which itself is part of a resource. In this example, both embedded resources are contour plots and use gridResourceData, but the display types and associated ResourceData types need not be the same, and need not be limited to only two. In other words, in AWIPS-2, the firstAvailableResourceData could specify wind barbs, arrows or streamlines, or an image, or contour plot. The AWIPS-1 virtual field table required the plot type for any alternative to be the same.

To create this firstAvailableResourceData, add the four lines shown in the red box in **Figure 9** just below the TP resource. Note there are comments included in this file to indicate the AWIPS-1 virtual field table descriptors. Consider adding these to your file as you go along.

Indent (for readability's sake) the entirety of the next resource. This next resource is for 500 MB Absolute Vorticity, but we will change it to be msl-P. To indent the resource, select or highlight the entire resource and click the **Source** menu followed by the **Shift** 



**Right** option. The examples shown in this exercise were made by doing the Shift Right operation twice.

Change these parameters in the resource just indented (see **Figure 10**):

- ensure isVisible is "true" (Box A)
- constraintValue for info.parameter.abbreviation to "msl-P" (Box B)
- constraintValue for info.level.masterLevel.name to "SFC" (Box C)
- constraintValue for info.level.levelonevalue to "0.0". (Box D)

Add <capability xsi:type="colorableCapability" colorAsString="coral"/> to the capabilities under loadProperties (blue box in **Figure 10**).

Use the next resource (it was originally for msl-P) to become the second <resource> of the firstAvailableResourceData. Indent this resource and make these changes:

- In the properties tag, change isVisible to true" (Box A in **Figure 11**).
- For info.parameter.abbreviation, change the constraintValue to "msl-P2". Verify the constraintType is "EQUALS" (Box B in **Figure 11**).
- For info.level.masterLevel.name, verify the constraintValue is "SFC" (Box C in **Figure 11**).
- For info.level.levelonevalue, verify the constraintValue is "0.0" (Box D in **Figure 11**).

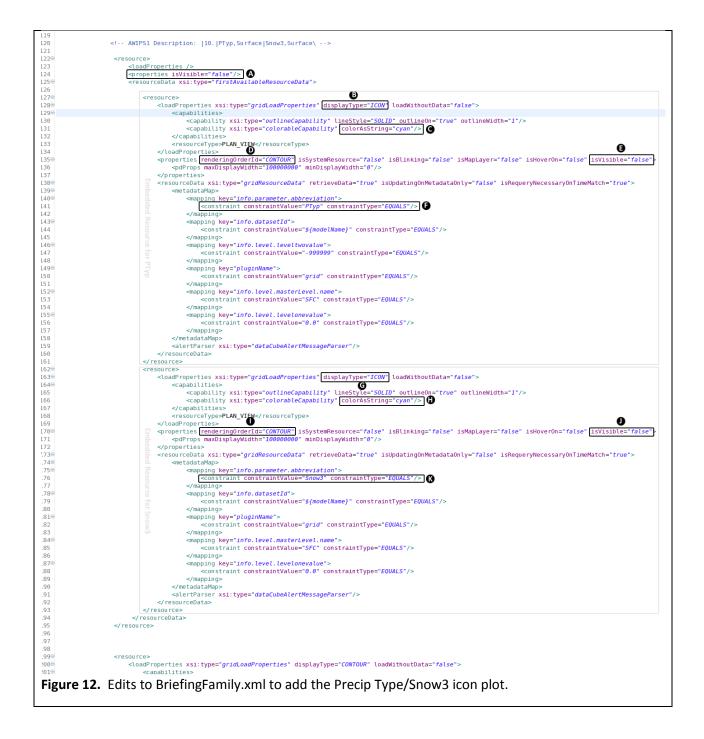
Add <capability <="" th="" xsi:type="colorableCapability"><th></th></capability>	
colorAsString="coral"/> to the capabilities under loadPro	operties
(blue box in <b>Figure 11)</b> .	
After the closing  tag of the msl-P2 resource	, add closing
and  tags (for the	
firstAvailableResourceData; the red box in Figure 11).	
1⊖ <builded xmlns:ns2="group"> 2⊖ <displaylist></displaylist></builded>	
<pre>3@ <displays de<br="" scale="CONUS" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="d2DMapRenderableDisplay">4@ <descriptor xsi:type="mapDescriptor"></descriptor></displays></pre>	ensity="1.0" magnific:
5 6 AWIPS1 Description:  0. TP,Surface\ 7 < <resource></resource>	
<pre>80 <loadproperties displaytype="CONTOUR" loadwithoutdata="false" xsi:type="gridLoadProperties"></loadproperties></pre>	
<pre>10</pre>	
11 12 PLAN_VIEW	
13	
14@ <properties isblinking="false" ishoveron="false" ismaplayer="false" issystemresource="false" isvisible="&lt;/th">           15         <properties isdlinking="false" ishoveron="false" ismaplayer="false" issystemresource="false" isvisible="&lt;/td"></properties></properties>	"false">
16        17⊕	wNococcom/OnTimeMatel
126 < estution (1996) (1996) (1997	ynecessaryon i inenacci
198 <mapping key="info.parameter.abbreviation"></mapping>	
20 <constraint constrainttype="EQUALS" constraintvalue="TP"></constraint> 21	
228 <a href="mailto:spin"></a>	
<pre>23 <constraint constrainttype="EQUALS" constraintvalue="\${modelName}"></constraint></pre>	
24 25⊖	
26 <pre></pre> <pre>constraint ConstraintValue="-999999" constraintType="E0UALS" /&gt;</pre>	
27	
<pre>280 <mapping key="pluginName"> 29 </mapping></pre> constraint constraintValue="grid" constraintType="EQUALS"/>	
30	
310 <mapping key="info.level.masterLevel.name"></mapping>	
32 <pre><constraintvalue="sfc" constrainttype="EQUALS"></constraintvalue="sfc"> 33 </pre>	
349 <a equals"="" href="https://www.angle.com/angle&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;pre&gt;35 &lt;/pre&gt;&lt;constraint&lt;/pre&gt;constraintType="></a>	
36 //mapping> O 37	
38 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>	
39	
40	
42	
Figure 8. Edits to the first resource in BriefingFamilies.xml to add the total precipitation (T	P) narameter

	⊖ dundle xmlns:ns2="group"> ⊖ <displaylist></displaylist>
3	<pre>displays xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="d2DMapRenderableDisplay" scale="CONUS" density="1.0" magnification="1.0"</pre>
4	<pre>descriptor xsi:type="mapDescriptor"&gt;</pre>
6	AWIPS1 Description:  0. TP,Surface\
5	<pre></pre>
10	
11	
13	
14	
16	
17	
19	
21	
22	
24	
26	<constraint constrainttype="EQUALS" constraintvalue="-999999"></constraint>
27	e <mapping key="pluginName"></mapping>
29	
31	<pre>@ <mapping key="info.level.masterLevel.name"></mapping></pre>
32	<constraint constrainttype="EQUALS" constraintvalue="SFC"></constraint>
34	<pre> def = "info.level.levelonevalue"&gt;         <constraintconstraintvalue="0" constrainttype="EQUALS"></constraintconstraintvalue="0">         </pre>
36	
37 38	<alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
39	
41	A MURCI Description: 11 Jan B. Surfaceleri D. Surface)
43	
44	
46	<properties></properties>
48	
49 50	
51 52	
53	
54	
54	
54	 <resourcetype><b>PLAN VIEW</b></resourcetype>
52 55 Fi	<pre>sourceType&gt; gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData.</pre>
54 55 <b>Fi</b> 41 42 43	<pre>sure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre>
54 55 Fi	<pre>PLAN VIEW gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre>
54 59 <b>Fi</b> 41 42 43 44 45 46	<pre>set of the set of</pre>
54 55 <b>Fi</b> 41 42 43 44 45 46 45 46 45	<pre><resourcetype>PLAN VIEw</resourcetype> gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre>
52 55 41 42 43 44 45 46 45 46 45 46 45 46 45 46 45	<pre>FLAN VIEW gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre>
54 55 Fi 41 42 43 44 43 44 45 46 47 48 49 56 55 55	<pre>         </pre>
544 55 Fi 41 42 43 44 43 44 45 46 47 48 49 56 51 52 53	<pre><resourcetype>FLAN VIEW</resourcetype> gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. <!-- AWIPS1 Description: [1. [mg1-P, Surface[mg1-P2, Surface]--> </pre>
54 55 <b>Fi</b> 41 42 43 44 43 44 45 46 47 48 49 56 55 52	<pre><resourcetype>FLAN VIEW</resourcetype> gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. <!-- AWIPS1 Description: [1. [mg1-P, Surface[mg1-P2, Surface]--> </pre>
544 55 <b>Fi</b> 41 42 43 44 45 40 47 48 45 55 55 55 55 55 55 56	<pre></pre>
5445 555 <b>Fi</b> 41 42 43 44 44 42 44 44 45 55 55 55 55 55 55 55 55 55 55	<pre>PLAN VIEW gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre>
544 555 Fi 41 42 43 44 44 42 44 44 44 44 45 56 55 55 55 55 55 55 55 55 55 55	<pre>PLAN VIEW gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre>
54 55 Fi 41 42 43 44 45 56 55 55 55 55 55 56 55 56 66 1	<pre>de de d</pre>
54 55 <b>Fi</b> 41 42 43 44 49 40 47 48 49 40 47 48 49 55 55 55 55 55 55 55 55 55 55 55 56 66 6	<pre> def = def =</pre>
54 55 <b>Fi</b> 41 42 43 44 49 40 47 48 49 55 55 55 55 55 55 55 55 56 66 66 66 62	<pre></pre> <pre>gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre> <pre></pre> <pre> </pre>
54 55 <b>Fi</b> 41 42 43 43 44 43 44 43 46 47 48 49 40 47 48 49 40 47 48 52 55 55 55 55 55 55 55 55 55 55 55 55	<pre>cresources cresources cresources cresources cloadProperties xsi:type="firstAvailableResourceData"&gt; cresources cloadProperties /&gt; cresources cloadProperties xsi:type="firstAvailableResourceData"&gt; cresources cloadProperties xsi:type="firstAvailableResourceData"&gt; cresources cresources cloadProperties xsi:type="firstAvailableResourceData"&gt; cresources cresources cresources cresourceSy cresourc</pre>
54 55 Fi 41 42 43 44 43 44 44 49 56 52 53 55 56 61 62 63 64 65 66 66 66 66 66 66 66 66 66	<pre>creasured yoe PLAN VIEW/resourceType&gt; gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData.</pre>
54 55 44 43 44 44 44 44 44 44 44 44 44 45 55 55 55	<pre>cressurceSyse=FLW VIEW gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData. </pre>
544555 <b>Fi</b> 41 42 43 44 44 45 55 55 55 55 55 55 55	<pre>cvapabilities; resource/pyee/Luk VEW-/resourceType&gt; gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData.</pre>
413 424 434 434 445 446 447 448 455 555 555 555 555 555 555 555 555	<pre>creating the state of the</pre>
43 43 43 43 43 43 43 43 43 43 43 43 43 4	<pre>status it ites // capabilities // capability ites // capability //</pre>
414 555 Fi 414 42 43 44 44 44 45 55 55 55 55 55 55 55 55 55	<pre>status in the second in t</pre>
41 41 42 43 44 44 44 44 44 44 44 44 45 55 5	<pre>vicepabilities eresurceToysPENH VIEW/resourceToyse deadFroperties (1.1mai-P.Surface1mai-P2.Surface)&gt; vicesources deadFroperties /&gt; vicesourceBata x3: type="gridLoadFroperties" displayType="CONTON" loadAithoutData="faise"&gt; vicesources vi</pre>
44 555 64 44 44 44 44 44 44 44 44 44 44 44 44	<pre>cresure(properties) green of the spectrum is a group of resources to create a firstAvailableResourceData. </pre>
414 434 434 44 434 44 44 44 45 55 55 55 55 55 55 55 55 55	<pre>severe1preveluw VEW+/resourceType=""""""""""""""""""""""""""""""""""""</pre>
41 41 43 43 43 43 43 44 44 46 44 46 44 46 44 48 46 44 46 44 46 44 46 46 46 46	<pre>v/capabilities gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData.</pre>
41 41 43 43 43 43 43 44 44 46 44 46 44 46 44 48 46 44 46 44 46 44 46 46 46 46	<pre>severe1preveluw VEW+/resourceType=""""""""""""""""""""""""""""""""""""</pre>
41 41 42 42 43 44 44 44 45 55 55 55 55 55 55	<pre>v/capabilities gure 9. Four lines pre-pended to a group of resources to create a firstAvailableResourceData.</pre>

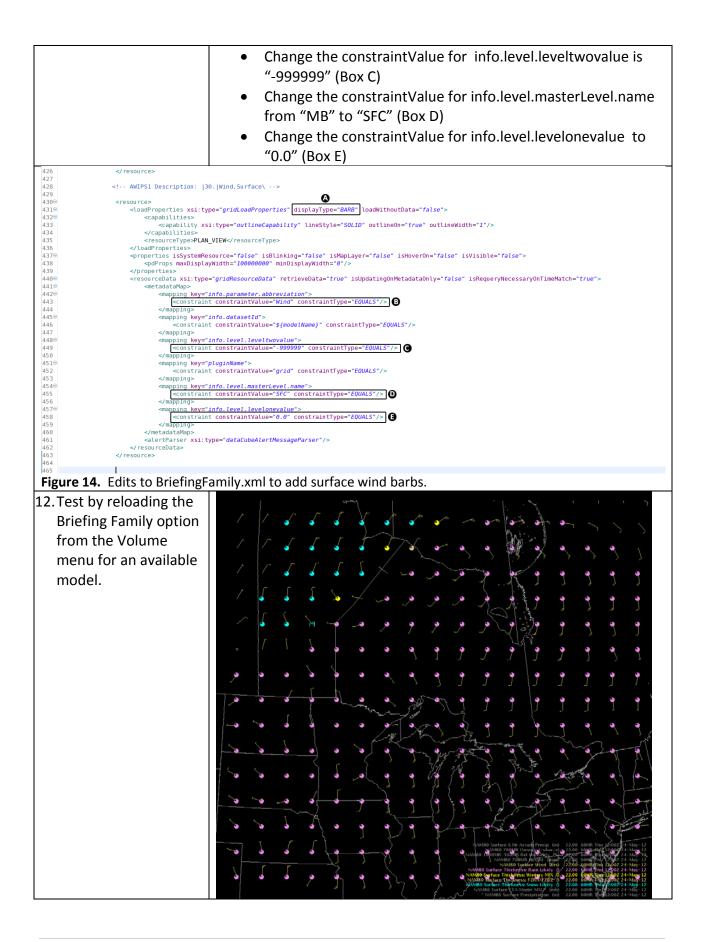
69          69          70          710          712          72          73          746          75          76          776          78          79          76          776          78          79              79              80              81              83              83              846          846          847          848	
71@ <mapping key="pluginName">         72       <constraint constrainttype="EQUALS" constraintvalue="grid"></constraint>         73          74@       <mapping key="info.level.masterLevel.name">         75       <constraint constrainttype="EQUALS" constraintvalue="SFC"></constraint>         76       </mapping>         77@       <mapping key="info.level.levelonevalue">         78       <constraint constrainttype="EQUALS" constraintvalue="0.0"></constraint>         79          80       </mapping>         81       <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>         82          83       </mapping>	
73          749 <mapping key="info.level.masterLevel.name">         75       <constraint constrainttype="EQUALS" constraintvalue="SFC"></constraint>         76       </mapping> 779 <mappingkey="info.level.levelonevalue">         78       <constraint constrainttype="EQUALS" constraintvalue="0.0"></constraint>         79          80          81       <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>         82       </mappingkey="info.level.levelonevalue">	
75 <constraint constrainttype="EQUALS" constraintvalue="SFC"></constraint> 76          779 <mapping key="info.level.levelonevalue">         78       <constraint constrainttype="EQUALS" constraintvalue="0.0"></constraint>         79       </mapping> 80          81 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser> 82          83	
776        78 <constraint constrainttype="EQUALS" constraintvalue="0.0"></constraint> 79        80        81 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser> 82        83	
79        80        81 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser> 82        83	
81 <alertparser xs1:type="dataCubeAlertMessageParser"></alertparser> 82        83	
82        83	
84 <resource>       85     <loadproperties displaytype="CONTOUR" loadwithoutdata="false" xsi:type="gridLoadProperties"></loadproperties></resource>	
860 <capabilities></capabilities>	
87 <ccapability linestyle="SOLID" outlineon="true" outlinewidth="1" xsi:type="outlineCapability"></ccapability> 88 <ccapability colorasstring="coral" xsi:type="colorableCapability"></ccapability>	
89 90 PLAN_VIEW	
91 92⊕ <properties isblinking="false" ishoveron="false" ismaplayer="false" issystemresource="false" isvisible="true"></properties>	
93 <pre> 93 <pre> 93 <pre> 94 </pre> </pre> <pre> 94 </pre> <pre> 95 </pre> <pre> 96 </pre> <pre> 97 </pre> <pre> 6 </pre></pre>	
959 <pre><resourcedata isrequerynecessaryontimematch="&lt;br&gt;969 &lt;/pre&gt;&lt;/th&gt;&lt;th&gt;true" isupdatingonmetadataonly="false" retrievedata="true" xsi:type="gridResourceData"></resourcedata></pre>	
978 <a href="mapping">mapping key="info.parameter.abbreviation"&gt;</a>	
99	
1000 <mapping key="info.datasetId">       101     <constraint constrainttype="EQUALS" constraintvalue="\${modelName}"></constraint></mapping>	
102 103⊕ <mapping key="&lt;i&gt;pluginName&lt;/i&gt;"></mapping>	
104 <constraint constrainttype="EQUALS" constraintvalue="grid"></constraint> 105	
106⊖ <mapping key="info.level.masterLevel.name"> 107  <mapping key="info.level.masterLevel.name"> <mapping key="info.level.name"> <mapping <="" key="info.level.name" mapping=""> <mapping key="info.level.name"> &lt;</mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping></mapping>	
108        1090 <mapping key="info.level.levelonevalue"></mapping>	
110 <pre>constraint constraintValue="0.0" constraintType="EQUALS"/&gt;</pre>	
112	
113 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser> 114	
115      116	
117	
<b>Figure 11.</b> Edits to the BriefingFamilies.xml bundle to add msl-P2 for as the second choice for the	
firstAvailableResourceData for the second layer of the model family.	
0 Test our changes by	- The space
9. Test our changes by	M 1
loading the Briefing	5757
Family from the	1-551
Volume menu in the A-PanelFamilies	15 head
Briefing Families (Exer.)	2000
D2D perspective.	LAN /
You may have to So Height 221800 GF540 22.1800	at the
Surface Emiliar	<"
NAM40 22.1800	"Cl o
you first test, but in RAP13 22,2000 22,2000	
many cases when you	to the
ANA A MA SALA SALA	***
test a change to a	T
bundle, you need	at its
only reload it from	- Stats
Tin: You may wish to test all	00406 The 12:002 24-May-12 00406 The 12:002 24-May-12 00406 The 12:002 24-May-12 00406 The 12:002 24-May-12 00406 The 12:002 24-May-12
the menu.	6000, The 12:007 24:May 17 6000, The 12:007 24:May 17 6000, The 12:007 24:May 12
first Averila bla Danas, see Data but see an a' that th	
firstAvailableResourceData by temporarily setting a	
firstAvailableResourceData by temporarily setting a parameter.abbreviation to a nonsensical value (e.g., NaN) to fo	orce
parameter.abbreviation to a nonsensical value (e.g., NaN) to fo	orce
parameter.abbreviation to a nonsensical value (e.g., NaN) to fo the other alternative to display.	
parameter.abbreviation to a nonsensical value (e.g., NaN) to fo	
parameter.abbreviation to a nonsensical value (e.g., NaN) to for the other alternative to display.10. Add the third throughUsing the "decoder ring" in Figure 6, the third through sixth lay	/ers in
<ul> <li>parameter.abbreviation to a nonsensical value (e.g., NaN) to for the other alternative to display.</li> <li>10. Add the third through sixth parameters to the model families are precipitation type plots. The "10" as the</li> </ul>	/ers in e plot
parameter.abbreviation to a nonsensical value (e.g., NaN) to for the other alternative to display.10. Add the third throughUsing the "decoder ring" in Figure 6, the third through sixth lay	vers in e plot ault.
<ul> <li>parameter.abbreviation to a nonsensical value (e.g., NaN) to for the other alternative to display.</li> <li>10. Add the third through sixth parameters to the model families are precipitation type plots. The "10" as the type means that they are icon plots that are toggled off by defailed of the model family, all by the the the the the the the the the the</li></ul>	vers in e plot ault.

	plots can choose between either PTyp or Snow3, Fzra2, Mix2, or
10. PTyp,Surface Snow3,Surface\  10. PTyp,Surface Fzra2,Surface\	Rain3. This means that the plot would be created in a similar fashion
<pre> 10. PTyp,Surface Mix2,Surface\  10. PTyp,Surface Rain3,Surface\</pre>	as the msl-P/msl-P2 plot using the firstAvailableResourceData.
	To make the PTyp Snow3 plot, we'll re-use the resource for the
	previous msl-P/msl-P2 plot (it used the firstAvailableResourceData).
	Copy and paste that entire plot (approximately lines 42-118) to
	duplicate it. Make the following edits (Figure 12):
	<ul> <li>Add the isVisible="false" tag to the <properties></properties> of the</li> </ul>
	firstAvailableResourceData container (Box A)
	<ul> <li>In the first embedded resource,</li> </ul>
	<ul> <li>Change the displayType from "CONTOUR" to "ICON" (Box B)</li> </ul>
	<ul> <li>Change the colorAsString to "cyan" (Box C)</li> </ul>
	<ul> <li>In the properties, add renderingOrderId="CONTOUR"</li> </ul>
	(Box D). Adding this property makes CAVE treat this
	icon plot as a contour plot for purposes of
	determining the drawing (layering) order. If we had
	left this out, the icon plot would be placed as the top
	layer of the model family (i.e., drawn after all the
	contour plots).
	<ul> <li>Change isVisible to "false" (Box E)</li> </ul>
	<ul> <li>Change the constraintValue for the</li> </ul>
	parameter.abbreviation to "PTyp" (Box F)
	<ul> <li>Because the previous plot was Sea Level Pressure and</li> </ul>
	this precip type is also valid at the surface, all the
	level parameters are unchanged.
	<ul> <li>In the second embedded resource, make similar changes:</li> </ul>
	<ul> <li>Change the displayType to "ICON" (Box G).</li> </ul>
	<ul> <li>Change the colorAsString to "cyan" (Box H)</li> </ul>
	<ul> <li>Add renderingOrderId="CONTOUR" to the properties</li> </ul>
	(Box I)
	<ul> <li>Set isVisible to "false" (Box J)</li> </ul>
	<ul> <li>Set the parameter.abbreviation value to "Snow3"</li> </ul>
	(Вох К)
	NOTE: The Snow3 parameter is actually based on critical thickness
	values. If you wish, you can change the Snow3 resource back to
	CONTOUR rather than ICON if you desire a more quantitative
	display. This capability (having alternative plots of different types)
	was not possible in AWIPS-1.
	For the next plot (PTyp   Frza2), duplicate the (PTyp   Snow3) plot.
	Make these changes in the new plot ( <b>Figure 13</b> ):

<ul> <li>Set both instances of colorAsString to "burlywood".</li> <li>Change the parameter.abbreviation in the second embedded resource from "Snow3" to "Frza2"</li> </ul>
<ul> <li>For the next plot (PTyp   Mix2), duplicate the (PTyp   Frza2) plot.</li> <li>Make these changes in the new plot: <ul> <li>Set both instances of colorAsString to "yellow".</li> <li>Change the parameter.abbreviation in the second embedded resource from "Frza2" to "Mix2"</li> </ul> </li> </ul>
<ul> <li>For the next plot (PTyp   Rain3), duplicate the (PTyp   Mix2) plot.</li> <li>Make these changes in the new plot: <ul> <li>Set both instances of colorAsString to "violet".</li> <li>Change the parameter.abbreviation in the second embedded resource from "Mix2" to "Rain3"</li> </ul> </li> </ul>



192 193	resourceData resource	
194    195    196	/resourceData> Ircea	
	<pre>iPS1 Description:  10. PTyp,Surface Fzra2,Surface\&gt;</pre>	
1990 <resour< th=""><th>rce&gt; padProperties /&gt;</th></resour<>	rce> padProperties />	
201 <pr< th=""><th>Jaur lope (Les /&gt; roperties isVisible="false"/&gt; sourceData xsi:type="firstAvailableResourceData"&gt;</th></pr<>	Jaur lope (Les /> roperties isVisible="false"/> sourceData xsi:type="firstAvailableResourceData">	
203 2049	<resource></resource>	
205⊖ 205⊖	<pre><li><loadproperties displaytype="ICON" loadwithoutdata="false" xsi:type="gridLoadProperties"></loadproperties></li></pre>	
207	<capability linestyle="SOLID" outlineon="true" outlinewidth="1" xsi:type="outlineCapability"></capability>	
209 210	<capability colorasstring="burlywood" xsi:type="colorableCapability"></capability>  <resourcetype>PLAN_VIEW</resourcetype>	
210 211 212⊖	<pre></pre>	
212	<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	
215 215 216	<pre></pre> //robe(lis>) <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>//robe(lis&gt;) </pre> <pre> </pre>	
2170 218	<pre><mapping key="info.parameter.abbreviation"></mapping></pre>	
219	<pre><constraint constrainttype="EQUALS" constraintvalue="PTyp"></constraint>  cmapping.kev="info_datasetId"&gt; </pre>	
2200 221	<pre><mapping '<="" =="" key="info:outasetta" td=""></mapping></pre>	
222 223 <sup>©</sup> 224	<mapping key="info.level.leveltwovalue"> &lt; constraint constraintValue="-999999" constraintType="EQUALS"/&gt;</mapping>	
224 225 226®		
227 228	<mapping key="pluginName"> <constraint constrainttype="EQUALS" constraintvalue="grid"></constraint> </mapping>	
228 229© 230	<mapping key="info.level.masterLevel.name"> constraint.constraintVolue="SEC" constraintType="COUNTS" (&gt;</mapping>	
230 231 232®	<constraint constrainttype="EQUALS" constraintvalue="SFC"></constraint> companying key="info level level nevel we">	
232 233 234	<pre><mapping key="info.level.levelonevalue">      <constraint constrainttype="EQUALS" constraintvalue="0.0"></constraint></mapping></pre>	
235		
237 238	<alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>  	
239⊖ 240⊖	<pre> <loadproperties displaytype="ICON" loadwithoutdata="false" xsi:type="gridLoadProperties"></loadproperties></pre>	
240⊖ 241⊖ 242	<capabilities></capabilities>	
242 243 244	<capability linestyle="SOLID" outlineon="true" outlinewidth="1" xsi:type="outlineCapability"></capability> <capability [colorasstring="burlywood" xsi:type="colorableCapability"></capability> `` <rcapabititus></rcapabititus>	
245 246		
247⊖ 248	<pre><pre><pre><pre>operties renderingOrderId="CONTOUR" isSystemResource="false" isBlinking="false" isMapLayer="false" isHoverOn="false" isVisible="false"&gt;</pre></pre></pre></pre>	
249 2500		
2510 2520	<pre><metadatamap></metadatamap></pre>	
253 254	<pre>constraint constraintValue="Fzra2" constraintType="EQUALS"/&gt; </pre>	
255⊖ 256	<pre><mapping key="info.datasetId"></mapping></pre>	
257 258⊖	<pre></pre> <pre><!--</td--></pre>	
259 260	<pre><constraint constrainttype="EQUALS" constraintvalue="grid"></constraint> </pre>	
261⊜ 262	<pre><mapping key="info.level.masterLevel.name"></mapping></pre>	
263 264⊖	<pre></pre> <pre><!--</td--></pre>	
265 266	<constraint constrainttype="EQUALS" constraintvalue="0.0"></constraint>	
267 268	<pre></pre>	
269 270	 	
	 source>	
-	s to BriefingFamily.xml to add the Precip Type/Fzra2 icon plot.	
1. Add the sev		
to the mod		
surface win	Ind barbs. change to the next resource in BriefingFamilies.xml (originally a	
30. Wind,Su	<b>Irface\</b> contour plot for 1000-500 mb thickness, or dZ). Make the following	
	changes as shown in <b>Figure 14</b> :	
	<ul> <li>In the loadProperties, change the displayType from</li> </ul>	
	"CONTOUR" to "BARB" (Box A)	
	<ul> <li>In the properties, ensure isVisible is "false".</li> </ul>	
	<ul> <li>In the metadataMap for info.parameter.abbreviation, change</li> </ul>	
	the constraintValue from "dZ" to "Wind" (Box B)	



<ul> <li>13. Add the 1000-850 mb</li> <li>Fn Vector or Q-vector</li> <li>divergence plots.</li> <li>This is a contour plot,</li> <li>and is defaulted to be</li> <li>invisible. This plot</li> <li>should use the</li> <li>firstAvailableResourc</li> <li>eData to choose</li> </ul>	Just below the resource in Figure 13 for the Surface Wind Barbs, add the four lines indicated in Figure 9 that begin a resource containing a firstAvailableResourceData. Because this contour plot should initially not be visible, change properties of the firstAvailableResourceData like the following: <resource> <loadproperties></loadproperties> <resourcedata xsi:type="firstAvailableResourceData"></resourcedata></resource>
between DivFn and qDiv.	Transform the next pre-existing resource (700 mb height, or GH) into the resource for 1000-850 mb DivFn by doing the following:
9. DivFn,1000MB-850MB qDiv,1000MB-850MB\	<ul> <li>Indent the entire 700 mb GH resource.</li> <li>Change the constraintValue for minfo.parameter.abbreviation to "DivFn"</li> <li>Ensure the constraintValue for info.level.masterLevel.name is "MB"</li> </ul>
	<ul> <li>Change the constraintValue for info.level.levelonevalue is "1000.0"</li> </ul>
	• Set the constraintValue for the info.level.leveltwovalue to "850.0"
	Add <capability <br="" xsi:type="colorableCapability">colorAsString="OrangeRed"/&gt; to the capabilities under loadProperties.</capability>
	<ul> <li>Use the next resource (1000-500 mb RH) for the qDiv resource.</li> <li>Indent the entire 1000-500 mb RH resource.</li> <li>Change the constraintValue for info.parameter.abbreviation to "qDiv"</li> <li>Ensure the constraintValue for info.level.masterLevel.name is</li> </ul>
	<ul><li>"MB"</li><li>Verify the constraintValue for info.level.levelonevalue to "1000.0"</li></ul>
	<ul> <li>Set the constraintValue for the info.level.leveltwovalue to "850.0"</li> </ul>
	Add <capability <br="" xsi:type="colorableCapability">colorAsString="OrangeRed"/&gt; to the capabilities under loadProperties.</capability>
	Add closing  and  tags below the closing  tag for the qDiv resource.

14. Test         14. Test         15. Add the 850 mb         Mmag and MTV plots.         The next pre-existing resource in the BriefingFamilies.xml should be         700 mb PVV. Make the following changes to that resource to create the 850 mb Mmag (Moisture Transport Vectors) plot is represented as an arrow plot, so the         15. Add the 850 mb         The next pre-existing resource in the BriefingFamilies.xml should be         700 mb PVV. Make the following changes to that resource to create the 850 mb Mmag (Moisture Transport Magnitude) contour plot:         • Change the constraintValue for the info.parameter.abbreviation to "Mmag"         • Change the constraintValue for the info.level.levelonevalue
Mmag and MTV plots.700 mb PVV. Make the following changes to that resource to create the 850 mb Mmag (Moisture Transport Magnitude) contour plot:Transport Vectors) plot is represented asChange the constraintValue for the info.parameter.abbreviation to "Mmag"
Mmag and MTV plots.700 mb PVV. Make the following changes to that resource to create the 850 mb Mmag (Moisture Transport Magnitude) contour plot:Transport Vectors) plot is represented asChange the constraintValue for the info.parameter.abbreviation to "Mmag"
The MTV (Moisture Transport Vectors) plot is represented asthe 850 mb Mmag (Moisture Transport Magnitude) contour plot: • Change the constraintValue for the info.parameter.abbreviation to "Mmag"
plot is represented as info.parameter.abbreviation to "Mmag"
an arrow plot, so the Change the constraintValue for the info.level.levelonevalue
displayType for that to "850.0"
resource is changed from CONTOUR toEnsure that the value for info.level.leveltwovalue is "-999999".
ARROW.     Ensure that the value for the info.level.masterLevel.name is
0. Mmag,850MB\ "MB".
<b>J50.   MTU, 850MB</b> The next (last) resource in the BriefingFamilies.xml bundle should be {TP} (total precipitation at the surface). Make the following change to the {TP} resource:
<ul> <li>In the loadProperties, change the displayType from "CONTOUR" to "ARROW".</li> </ul>
Change the constraintValue for the
info.parameter.abbreviation from "{TP}" to "MTV".
<ul> <li>Change the constraintValue for the info.level.levelonevalue to "850.0".</li> </ul>
<ul> <li>Change the constraintValue for the</li> </ul>
info.level.masterLevel.name from "SFC" to "MB".
<ul> <li>Add a constraint for info.level.leveltwovalue, by copying and</li> </ul>

	<ul> <li>pasting the three lines that constitute the levelonevalue, changing it to leveltwovalue, and setting the constraintValue to "-9999999".</li> <li>At this point, we have run out of the pre-existing resources in BriefingFamilies.xml, so we'll just keep copying and pasting existing resources to the bottom of the resource list (just above the timeMatcher tag).</li> </ul>
16. Test	
17.Add the next three	Since we're run out of pre-existing resources to modify, we'll
layers to the	copy/paste a copy of the Mmag resource to use for the 850-700 mb
modelFamily (qDiv	qDiv contour plot. We use the Mmag because it's already an
contours for 850-700	invisible contour plot just like what's needed for the next plot. Make
mb, qDiv contours for	these changes to the new resource:
700-500 mb, and a	Change the constraintValue for the
qDiv image for 700-	info.parameter.abbreviation to "qDiv".
500 mb with the	Change the constraintValue for the info.level.leveltwovalue
image visible by	to "700.0".
default.	• Ensure the constraintValue for the info.level.levelonevalue is
0. qDiv,850MB-700MB\	"850.0".
0. qDiv,700MB-500MB\	
21. qDiv,700MB-500MB\	Paste a copy of the 850-700 mb qDiv resource we just made to use
	for the 700-500 mb qDiv contour plot, and make these changes:
	Change the constraintValue for the info.level.levelonevalue

<ul> <li>to "700.0".</li> <li>Change the constraintValue for the info.level.leveltwovalue to "500.0".</li> </ul>
To make the 700-500 mb qDiv image plot, copy and paste the entire 700-500 mb qDiv resource we just edited. In the second version, change the displayType from "CONTOUR" to "IMAGE", and isVisible to "true".
Note: One difference between AWIPS-1 ( <b>Figure 7</b> ) and AWIPS-2 is that the qDiv image in AWIPS-1 could be in the middle of the product legend and still be drawn at the bottom of the plot (so that the map background and other contour, icon, arrow, and streamline plots were still visible on top of the image). The AWIPS-2 product legend is essentially a representation of the drawing order of the graphic, so the image is automatically placed at the bottom of the legend, unless a renderingOrderId value other than "IMAGE_REGION" is specified in the image properties. If you desire the image to not be at the bottom, then you may need to specify alpha channel (transparency) settings so that plots under the image

19.Add a	Copy the previous firstAvailableResourceData used to make the
firstAvailableResource	1000-850 mb DivFn / qDiv plot in Step 13 (it's at approximately lines
Data to implement the	465-544) and paste it just below the resource you just edited for the
next DivFn contour	700-500 mb qDiv image.
plot.	
0. DivFn,700MB-600MB DivFn,700MB-500MB\	In the first embedded resource, make these changes:
	<ul> <li>Change leveltwovalue to "600.0".</li> </ul>
	Change levelonevalue to "700.0".
	<ul> <li>Verify the other fields are correct:</li> </ul>
	<ul> <li>parameter.abbreviation = DivFn</li> </ul>
	<ul> <li>masterLevel.name = MB</li> </ul>
	• In the colorableCapability, set the colorAsString to "yellow".
	In the second resource, make these changes:
	<ul> <li>Change parameter.abbreviation to "DivFn".</li> </ul>
	<ul> <li>Change leveltwovalue to "500.0".</li> </ul>
	<ul> <li>Change levelonevalue to "700.0".</li> </ul>
	<ul> <li>Verify that masterLevel.name = "MB".</li> </ul>
	• In the colorableCapability, set the colorAsString to "yellow".
	Note: This DivFn contour plot is to be invisible by default. Thus, the properties of the firstAvailableResourceData and the two embedded resources all should include an isVisible="false" tag, which should automatically occur by virtue of reusing the firstAvailableResourceData from Step 13.
20. Test	

21. Add the next two plots (500 mb GH, and 1000-500 mb RH).   0.   GH , 5 0 0 MB \   0.   RH , 1 0 0 0 MB - 5 0 0 MB \	To make the 500 mb GH contour plot, copy and paste the last regular resource (the 700-500 mb qDiv image) above the firstAvailableResourceData resource from Step 19, and make the following changes: • Change the displayType from "IMAGE" to "CONTOUR" • Change isVisible to "false" • Change the parameter.abbreviation to "GH" • Change the levelonevalue to "500.0" • Change the leveltwovalue to "-9999999" Copy and paste the 500 mb height contour plot we just made. In the new copy, make the following changes to make the 1000-500 mb RH contour plot: • Change the parameter.abbreviation to "RH" • Change levelonevalue to "1000.0" • Change levelonevalue to "500.0"
22.Test	
23.Implement the next plot in the bundle which is either 500 mb absolute vorticity (AV) or 500 mb geostrophic vorticity (geoVort). This plot has to use the	<ul> <li>Copy and paste the last resource that used firstAvailableResourceData (it was for DivFn for either the 700-600 MB or 700-500 mb layers at approximately lines 731 to 810). Make the following changes:</li> <li>Ensure the isVisible tag is set to "false" in the <properties></properties> line of the firstAvailableResourceData.</li> <li>In the first (DivFn for 700 - 600 MB) resource:</li> </ul>

firstAvailableResource	<ul> <li>Ensure isVisible="false"</li> </ul>
Data.	<ul> <li>Change the parameter.abbreviation to "AV"</li> </ul>
0. AV,500MB geoVort,500MB\	<ul> <li>Ensure the masterLevel.name is "MB"</li> </ul>
	<ul> <li>Change the levelonevalue to "500.0"</li> </ul>
	<ul> <li>Set the leveltwovalue to "-999999".</li> </ul>
	<ul> <li>Set the colorAsString to "OrangeRed"/&gt; in the</li> </ul>
	colorableCapability under loadProperties.
	<ul> <li>In the second (DivFn for 700-500 MB) resource:</li> </ul>
	<ul> <li>Change the parameter.abbreviation to "geoVort"</li> </ul>
	<ul> <li>Ensure the masterLevel.name is "MB"</li> </ul>
	<ul> <li>Change the levelonevalue to "500.0"</li> </ul>
	<ul> <li>Set the leveltwovalue to "-999999".</li> </ul>
	<ul> <li>Set the colorAsString to "OrangeRed"/&gt; in the</li> </ul>
	colorableCapability under loadProperties.
24.Make the 500-300 mb	Copy and paste the resource for the 1000-500 mb RH plot (this may
PTvA (Potential	be at approximately lines 850-884). Place it just below the resource
Vorticity Advection)	for the 500 mb AV/geoVort plot. Make the following changes:
plot. Since this a	<ul> <li>Change the parameter.abbreviation to "PTvA"</li> </ul>
simple resource, we'll	<ul> <li>Change levelonevalue to "500.0"</li> </ul>
reuse the 1000-500	<ul> <li>Change leveltwovalue to "300.0"</li> </ul>
mb RH contour plot.	5
0. PTvA,500MB-300MB\	
25. Test	
	A start spins of setup of the start spins of the
	The second secon
	NAMBG Surface Trainings (2004) 2014 (2014) 2014 (20
	* 53430 (strate 1 a south your time) 2230 (strate 1 a south your time) 2330 (strate 1 a south your time) 233

26. Make the final three wind plots (wind speed, wind vectors, and divergence for either 300 or 250 mb). All three of these have to use firstAvailableResourc eData, and all three are initially set to not visible, similar to the the 500 mb AV/geoVort plots.	<ul> <li>Copy and paste the entire resource used for the 500 mb AV/geoVort contour plot (it's at approximately lines 887-966). Make the following changes: <ul> <li>In the first embedded (AV) resource:</li> <li>Change the parameter.abbreviation to "wSp"</li> <li>Change the levelonevalue to "300.0"</li> <li>Set the colorAsString to "green" in the colorableCapability under loadProperties.</li> </ul> </li> <li>In the second (geoVort) metadata map: <ul> <li>Change the parameter.abbreviation to "wSp"</li> <li>Change the levelonevalue to "250.0"</li> <li>Set the colorAsString to "green" in the colorableCapability under loadProperties.</li> </ul> </li> </ul>
0. wSp,300MB wSp,250MB\  40. Wind,300MB Wind,250MB\  0. WDiv,300MB WDiv,250MB	Test this addition by reloading the bundle in CAVE. For the next plot, it is a streamline plot of the vector wind. Copy and paste the entire wSp plot we just created. In the second copy, change the two instances of displayType from "CONTOUR" to "STREAMLINE", the two instances of "wSp" to "Wind", and the two instances of colorAsString to "coral". To make the final plot of divergence, copy and paste the wSp contour plot again. In this version, just change both instances of "wSp" to "wDiv", and both instances of colorAsString to "cyan".
27.Test	

28. Optional: Add bundles for the UKMET and the ECMWF	ECMWF models. The names of t our briefingFamilies.xml menu fi Browser to find the available pro analogous to the parameters spe bundle file we just edited. You'll	oducts from these models that are ecified in the BriefingFamily.xml likely find parameters or levels that nodel (e.g., ECMF1, ECMF2, etc) used
	Part 3. Conv: Severe Type Fami	lies Menu
29. Use the briefingFamilies.xml menu as a template for the Conv: Severe Type Families menu to be called convSvrTypeFamilies. xml. Add the new menu to the Volume menu. Change the bundle references in the new convSvrTypeFamilies. xml to be appropriate for the Severe Type Families Menu.	Volume » index.xml) by double- for the Conv: Severe Type Famili your changes. We'll change the bundle referen Edit convSvrTypeFamilies.xml ar	nd change the menuText in the s" to "Conv: Severe Type Families". each bundleItem from

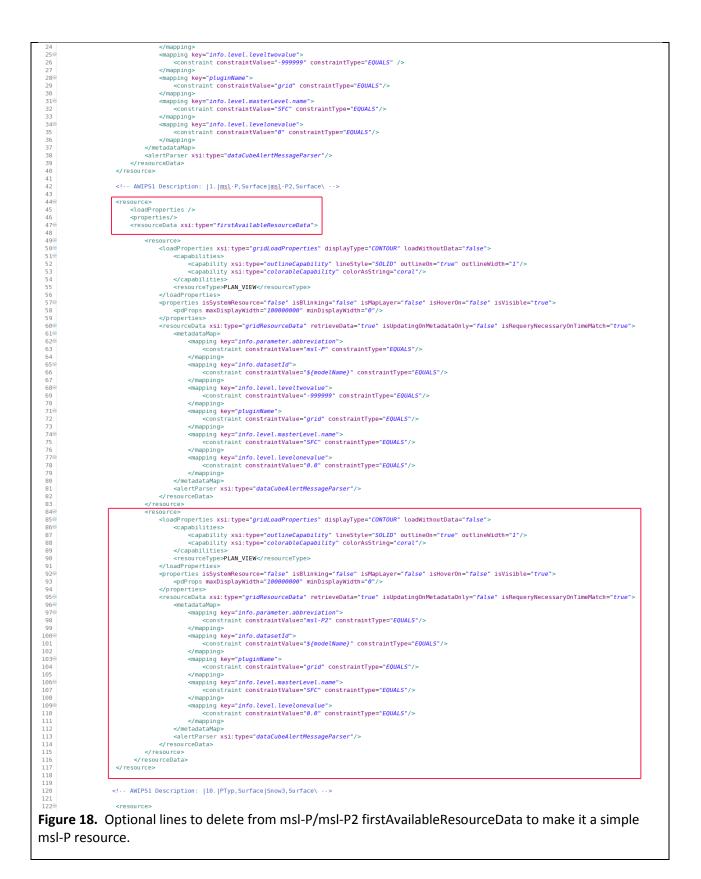
21⊖ <menucontributionfile></menucontributionfile>	
<pre>22 <substitute key="DGEXmodel" value="DGEX185"></substitute></pre>	
<pre>23 <substitute key="GFSmodel" value="GFS213"></substitute></pre>	
<pre>24 <substitute key="NAM12model" value="ETA218"></substitute></pre>	
<pre>25 <substitute key="NAM40model" value="mesoEta212"></substitute></pre>	
<pre>26 <substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute></pre>	
<pre>27 <substitute key="ARWmodel2" value="HiResW-ARW-West"></substitute></pre>	
<pre>28 <substitute key="MMMmodel1" value="HiResW-NMM-East"></substitute></pre>	
<pre>29 <substitute key="MMMmodel2" value="HiResW-NMM-West"></substitute></pre>	
<pre>30 <substitute key="RAP13model" value="RUC130"></substitute></pre>	
<pre>31 <substitute key="RAPmodel" value="RUC236"></substitute></pre>	
<pre>32@ <include <="" installto="menu:volume?after=VolumeBundles" pre="" submenu="Basic Families"></include></pre>	
<pre>33 fileName="menus/volume/baseFamilies.xml"&gt;</pre>	
34	
35 <	
<pre>36 fileName="menus/volume/ModelFamilies.xml"&gt;</pre>	
37	
<pre>38@ <include <="" installto="menu:volume?after=VolumeBundles" pre="" submenu="4-PanelFamilies"></include></pre>	
<pre>39 fileName="menus/volume/baseFourPanelFamilies.xml"&gt;</pre>	
40	
41	
42 <sup>®</sup> <include <="" installto="menu:volume?before=ComparisonFamilies" p="" submenu="Briefing Families (Exer.)"></include>	
<pre>43 fileName="menus/volume/briefingFamilies.xml"&gt;</pre>	
44	
45	٦
46 <pre><include <="" installto="menu:volume?before=ComparisonFamilies" pre="" submenu="Conv: Severe Type Families (Exer.)"></include></pre>	
<pre>47 fileName="menus/volume/convSvrTypeFamilies.xml"&gt;</pre>	
48	
49	J
<pre>50@ <include <="" installto="menu:volume?after=ComparisonFamilies" pre=""></include></pre>	
51 fileName="menus/volume/baseComparisonFamilies.xml">	
52	
53 <sup>®</sup> <include <="" installto="menu:volume?after=SurfaceFamilies" p="" submenu="Surface Families"></include>	
54 fileName="menus/volume/baseSurfaceFamilies.xml">	
55	
<pre>56@ <include <="" installto="menu:volume?after=StdEnvDataPackageFamilies" pre=""></include></pre>	
57 fileName="menus/volume/baseStdEnvPackage.xml">	
58	
59	
Figure 15. Changes to index.xml to add the Conv: Severe Type Family submenu.	

```
210 <menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
 22
         <contribute xsi:type="titleItem" titleText="----- Families ------"</pre>
 23
            id="FamiliesLine" />
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"
 240
 25
            menuText="DGEX" id="dgex" useReferenceTime="true">
 26
             <substitute key="modelName" value="${DGEXmodel}"/>
             <substitute key="TP" value="TP"/>
 27
 28
             <substitute key="frameCount" value="18"/>
 29
        </contribute>
 300
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"
 31
             menuText="GFS40" id="gfs40" useReferenceTime="true">
             <substitute key="modelName" value="GFS212"/>
 32
             <substitute key="TP" value="TP"/>
 33
             <substitute key="frameCount" value="41"/>
 34
 35
         </contribute>
 360
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"
 37
             menuText="GFS" id="gfs90" useReferenceTime="true">
             <substitute key="modelName" value="${GFSmodel}"/>
 38
             <substitute key="TP" value="TP"/>
 39
 40
             <substitute key="frameCount" value="41"/>
 41
         </contribute>
 420
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"
 43
             menuText="NAM12" id="nam12" useReferenceTime="true">
             <substitute key="modelName" value="${NAM12model}"/>
 44
             <substitute key="TP" value="TP3hr"/>
 45
 46
             <substitute key="frameCount" value="29"/>
 47
         </contribute>
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"
 480
 49
            menuText="NAM40" id="nam40" useReferenceTime="true">
             <substitute key="modelName" value="${NAM40model}"/>
 50
 51
             <substitute key="TP" value="TP3hr"/>
             <substitute key="frameCount" value="29"/>
 52
 53
        </contribute>
 540
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"</pre>
             menuText="NAM80" id="nam80" useReferenceTime="true">
 55
             <substitute key="modelName" value="ETA"/>
 56
 57
             <substitute key="TP" value="TP6hr"/>
 58
             <substitute key="frameCount" value="15"/>
 59
        </contribute>
 600
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"
             menuText="RAP13" id="rap13" useReferenceTime="true">
 61
             <substitute key="modelName" value="${RAP13model}"/>
 62
 63
             <substitute key="TP" value="TP3hr"/>
 64
             <substitute key="frameCount" value="19"/>
 65
         </contribute>
 669
         <contribute xsi:type="bundleItem" file="bundles/volume/ConvSvrTypeFamily.xml"
 67
             menuText="RAP40" id="rap" useReferenceTime="true">
             <substitute key="modelName" value="${RAPmodel}"/>
 68
 69
             <substitute key="TP" value="TP3hr"/>
             <substitute key="frameCount" value="9"/>
 70
         </contribute>
 71
 72 </menuTemplate>
Figure 16. Changes to the ConvSvrTypeFamilies.xml menu file.
                                                                          🗁 snow
30.Duplicate the
                              In the File Browser, scroll up to
                                                                         🗢 🗁 volume
   BriefingFamily.xml
                              the CAVE » Bundles section.
                                                                          500Height.xml
                                                                          🗢 🖹 BriefingFamily.xml
   bundle file created in
                              Open volume and
                                                                          DefaultFamily.xn Open
   Part 2 as
                              BriefingFamily.xml. Right-click
                                                                          DefaultFourPane
   ConvSvrTypeFamily.xml,
                              the USER icon and choose
                                                                          DefaultStdEnv.xr Copy
                                                                                               Site (OUN)
                                                                          DefaultSurface.x Cop
   so that the menu
                              Copy To ► New File. Call the
                                                                          ECMWFHIRes.xm Delete
                                                                                               Workstation (localhost)
                                                                          ECMWFHIResFou Move To
   entries created above
                              new file ConvSvrTypeFamily.xml
                                                                          ECMWFLowRes.
                                                                          Ex LimitedFamily.xn
   will work.
```

31.Restart CAVE to see your changes reflected in the Volume menu. The Conv: Severe Type Families menu should be located above Surface Families and should display the models declared in the convSvrTypeFamilies.x ml menu file.	Volume         Browser         Popup SkewT         Model Families A-YY         4-PanelFamilies         Basic Families         Briefing Families (Exer.)         Conv: Severe Type Families (Exer.)         DGEX       22.1800         MSL Press       22.1800         Surface Families       NAM12         Std Env Data Package       NAM80         Std Env Data Package       NAM80         RAP13       22.2300         RAP40       22.2100
Part 4.	Implement the Conv: Severe Type Families Bundle
32. We need to make the bundle reflect the Conv: Severe Type Family as defined by the ModFamV entry in virtualFieldTable.txt (Figure 17). We'll start by modifying the bundle to display the first three parameters (total precipitation, MSL pressure, and wind).	Edit the new USER version of the ConvSvrTypeFamily.xml bundle. The first resource in the bundle for TP needs no changes. It's probably also acceptable to leave the second (firstAvailableResourceData for msl-P and msl-P2) resource alone, except to change the two instances of isVisible to "false" and to add isVisible="false" to the firstAvailableResourceData properties. <resource> <loadproperties></loadproperties> <resourcedata xsi:type="firstAvailableResourceData"> Optional: If you want to make the bundle only reference msl-P rather than including the msl-P2 in the firstAvailableResourceData, then delete the lines indicated in Figure 18.</resourcedata></resource>
0. TP,Surface ∖  0. msl-P,Surface∖  30. Wind,Surface∖	The next four resources in the bundle are all PTyp icon plots. After that the next resource is surface wind barbs which is the next plot needed for the Convective Severe Type Family bundle, so delete the entire set of PTyp resources.

ModFamV     N Conv: Severe Type Family    OTHER    \ *MultiLoad,Layer\
0. TP,Surface \
0. msl-P,Surface\
30. Wind,Surface\
0. cCape,ML\
0. cCin,ML NBE,Surface\
0. PBE,Surface\
0. BlkMag,0-6kmAgl
21. BlkMag,0-6kmAgl
0. BlkMag,0-3kmAgl EHI,0-3kmAgl\
0. BlkMag,3-6kmAgl\
0. BlkMag,1-3kmAgl
51. BlkShr,0-6kmAgl
50. BlkShr,0-3kmAgl
50. BlkShr,3-6kmAgl\
50. BlkShr,0-1kmAgl\
50. BlkShr,1-3kmAgl
0. VGP,0-2kmAgl\
0. muCape,0-4kmAgl\
//
<b>Figure 17.</b> Excerpt of virtualFieldTable.txt that defines the Conv

**Figure 17.** Excerpt of virtualFieldTable.txt that defines the Conv: Severe Type Family. The interpretation of the numeric codes preceding each field and level combination is as follows: A non-zero value in the ones place means this overlay should be toggled on by default. The tens digit is the display type to use: *O*=contour, *1*=icons, *2*=image, *3*=barbs, *4*=streamlines, *5*=arrows, *6*=dualarrows, *7*=other. A non-zero value in the hundreds digit means start a new pane. The thousands place is number of frames to load; O means the same as the number of forecast times and 99 means whatever the display is currently set for (verbatim from AWIPS-1 documentation in /awips/fxa/data/localization/documentation/families.html).



33.Test	
34. Add the next two resources to the	The next resource already present in the bundle file is a firstAvailableResourceData for DivFn or qDiv. We have a simple
model family (cCape	resource to do first, so we'll copy/paste the Wind resource just
for the mixed layer	above and change it for cCape. Then we'll use the
and either cCin for	firstAvailableResourceData for the cCin/NBE resource.
the mixed layer or	InstAvallableResourceData for the celly NDL resource.
negative buoyant	Duplicate the wind barb resource by copying and pasting it. As of
energy for the	OB13.5.1, the ML designation doesn't work ( <i>AWIPS2_DR_13194;</i>
surface).	trying to use that layer results in a No Data Available message in
0. cCape,ML\  0. cCin,ML NBE,Surface∖	AlertViz), so we'll use a 0-1 km FHAG (Fixed Height Above Ground)
101100000000000000000000000000000000000	layer instead. Make these changes to the bundle:
	<ul> <li>Change the displayType from "BARB" to "CONTOUR".</li> </ul>
	Change the constraintValue for the
	info.parameter.abbreviation from "Wind" to "cCape"
	<ul> <li>Change the constraintValue for the info.level.leveltwovalue</li> </ul>
	from "-999999" to "1000.0"
	Change the constraintValue for the
	info.level.masterLevel.name from "SFC" to "FHAG"
	• Ensure the constraintValue for the info.level.levelonevalue is
	"0.0"
	Now change the part (first Available Becourse Data) recourse to
	Now change the next (firstAvailableResourceData) resource to
	choose between 0-1km FHAG cCin or NBE at the surface. In the first
	embedded resource:
	Change the colorAsString to "yellow"
	Change the constraintValue for the
	info.parameter.abbreviation from "DivFn" to "cCin"

	<ul> <li>Change the constraintValue for the info.level.leveltwovalue from "850.0" to "1000.0"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "FHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "1000.0" to "0.0"</li> <li>In the second embedded resource: <ul> <li>Change the colorAsString to "yellow"</li> <li>Change the constraintValue for the info.level.leveltwovalue from "850.0" to "-999999"</li> <li>Change the constraintValue for the info.level.leveltwovalue from "850.0" to "-999999"</li> <li>Change the constraintValue for the info.level.leveltwovalue from "850.0" to "-999999"</li> <li>Change the constraintValue for the info.level.leveltwovalue from "850.0" to "-999999"</li> </ul> </li> </ul>
35.Test	
<ul> <li>36. Add the next three resources, for PBE at the surface, and then a contour and image of 0-6km Bulk Shear Magnitude.</li> <li>0.   PBE, Surface\</li> <li>0.   BlkMag, 0-6kmAgl\</li> <li>21.   BlkMag, 0-6kmAgl\</li> </ul>	<ul> <li>First, we'll change the next existing resource in the file (850 Mmag) to Surface PBE.</li> <li>Change the constraintValue for the info.parameter.abbreviation from "Mmag" to "PBE"</li> <li>Change the constraintValue for info.level.masterLevel.name from "MB" to "SFC"</li> <li>Change the constraintValue for the info.level.levelonevalue from "850.0" to "0.0"</li> <li>Verify the constraintValue for the info.level.leveltwovalue is</li> </ul>

	" 000000"
	"-999999".
	<ul> <li>Now, we will add the 0-6 km bulk shear contours to the D2D display. The existing plot was an arrow plot for 850 mb moisture transport vectors.</li> <li>Change the displayType from "ARROW" to "CONTOUR"</li> <li>Change the constraintValue for the info.parameter.abbreviation from "MTV" to "BlkMag"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "FHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "850.0" to "0.0"</li> <li>Change the constraintValue for the info.level.levelonevalue from "-999999" to "6000.0"</li> </ul> The next plot we need is an image version of the contour plot we just made, so just copy/paste the previous resource, and make these two changes: <ul> <li>Change the displayType from "CONTOUR" to "IMAGE"</li> <li>Change isVisible to "true"</li> </ul>
37.Test	

38. Now add the three	The next layer we need to construct is a firstAvailableResourceData
layers of BlkMag	to choose between either Bulk Shear Magnitude contours or EHI
and/or EHI contours.	contours for 0-3 km AGL. We will encapsulate the next two existing
0. BlkMag,0-3kmAgl EHI,0-3kmAgl\  0. BlkMag,3-6kmAgl\  0. BlkMag,1-3kmAgl\	resources in our bundle in the firstAvailableResourceData.
	Add the four lines indicated by the black box in Figure 19 between
	the 0-6km AGL BlkMag image we just did and the next pre-existing
	resource in the bundle (850-700MB qDiv contours).
	Indent the two resources to be embedded inside the
	firstAvailableResourceData (currently 850-700MB qDiv contours and
	700-500MB qDiv contours).
	Add closing  and  tags after the
	resource for 700-500MB qDiv contours.
	In the first embedded resource (850-700MB qDiv contours), make the following changes:
	<ul> <li>Add <capability <="" li="" xsi:type="colorableCapability"> </capability></li></ul>
	colorAsString="OrangeRed"/> to the capabilities under
	loadProperties
	Change the constraintValue for the
	info.parameter.abbreviation from "qDiv" to "BlkMag"
	Change the constraintValue for the
	info.level.masterLevel.name from "MB" to "FHAG"
	<ul> <li>Change the constraintValue for the info.level.levelonevalue from "850.0" to "0.0"</li> </ul>
	<ul> <li>Change the constraintValue for the info.level.leveltwovalue from "700.0" to "3000.0"</li> </ul>
	In the second embedded resource (700-500MB qDiv contours), make the following changes:
	<ul> <li>Add <capability <="" li="" xsi:type="colorableCapability"> </capability></li></ul>
	colorAsString="OrangeRed"/> to the capabilities under
	loadProperties
	<ul> <li>Change the constraintValue for the</li> </ul>
	info.parameter.abbreviation from "qDiv" to "EHI"
	<ul> <li>Change the constraintValue for the</li> </ul>
	info.level.masterLevel.name from "MB" to "FHAG"
	<ul> <li>Change the constraintValue for the info.level.levelonevalue from "700.0" to "0.0"</li> </ul>
	<ul> <li>Change the constraintValue for the info.level.leveltwovalue from "500.0" to "3000.0"</li> </ul>

<ul> <li>Use the next pre-existing resource (700-500 MB qDiv 6km AGL BlkMag contours. Make these changes:</li> <li>Change the displayType from "IMAGE" to "CO</li> <li>Change isVisible to "false"</li> <li>Change the constraintValue for the info.parameter.abbreviation from "qDiv" to "E</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "LY</li> <li>Change the constraintValue for the info.level.1 from "700.0" to "3000.0"</li> <li>Change the constraintValue for the info.level.1 from "500.0" to "6000.0"</li> <li>Note: For a layer product (AGL), look in the LevelMap (seen in the Localization Perspective under D2D » Vol file to determine if the masterLevel.name constraintV FHAG (fixed height above ground) or LYRFHAG. If the coordinate is specified incorrectly, a "No Data Availab will likely appear in AlertViz when CAVE tries to load t The next pre-existing resource in the bundle should b firstAvailableResourceData that includes 600-700 MB 700 MB DivFn. Delete the entirety of the firstAvailabl including the two embedded DivFn plots.</li> <li>Use the next pre-existing resource (500 MB GH conto AGL BlkMag contours. Make these changes:</li> <li>Change the constraintValue for the info.parameter.abbreviation from "GH" to "BII</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "LY</li> <li>Change the constraintValue for the info.level.1 from "500.0" to "1000.0"</li> </ul>	NTOUR" BlkMag" (RFHAG" levelonevalue leveltwovalue opingFile.xml lume Browser) /alue should be e layer ole" message the bundle. e a DivFn and 500- leResourceData ours) for 1-3km kMag" (RFHAG" levelonevalue
--	--

373 374	<constraint constrainttype="EQUALS" constraintvalue="FHAG"></constraint>
375	<pre></pre>
376	<constraint constrainttype="EQUALS" constraintvalue="0.0"></constraint>
377 378©	<mapping key="info.level.leveltwovalue"></mapping>
379	<constraint constrainttype="EQUALS" constraintvalue="6000.0"></constraint>
380 381	
382	
383 384	<alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
385	
386 387	
388	AWIP51 Description:  0. BlkMag,0-3kmAgl EHI,0-3kmAgl\
389	
390 391	<resource> <li><loadproperties></loadproperties></li></resource>
392	<pre><pre>roperties isVisible="false"/&gt;</pre></pre>
393 394	<pre>resourceData xsi:type="firstAvailableResourceData"&gt;</pre>
395⊖	<resource></resource>
396⊖ 397⊖	<loadproperties displaytype="CONTOUR" loadwithoutdata="false" xsi:type="gridLoadProperties"> <capabilities></capabilities></loadproperties>
398	<capability linestyle="SOLID" outlineon="true" outlinewidth="1" xsi:type="outlineCapability"></capability>
399	
400 401	<resourcetype>PLAN_VIEW</resourcetype>
4020	<pre><pre><pre>cproperties isSystemResource="false" isBlinkIng="false" isMapLayer="false" isHoverOn="false" isVisible="false"&gt;</pre></pre></pre>
403 404	<pre><pre><pre><pre><pre><pre>odProps maxDisplayWidth="100000000" minDisplayWidth="0"/&gt;</pre></pre></pre></pre></pre></pre>
405⊖	<resourcedata isrequerynecessaryontimematch="true" isupdatingonmetadataonly="false" retrievedata="true" xsi:type="gridResourceData"></resourcedata>
406⊖ 407⊖	<metadatamap> <pre></pre></metadatamap>
408	<constraint constrainttype="EQUALS" constraintvalue="qDiv"></constraint>
409 410⊖	<mapping key="info.datasetId"></mapping>
411	<pre><mmpping constrainttype="EQUALS" key="info.dedaetide"></mmpping> <constraint constrainttype="EQUALS" constraintvalue="\${modelName}"></constraint></pre>
412 4130	<pre><mapping key="info.level.leveltwovalue"></mapping></pre>
414	<pre><mpplang key="into.tevet.&lt;/th"></mpplang></pre>
415 416©	
417	<pre><mapping key="pluginName">      <constraint constrainttype="EQUALS" constraintvalue="grid"></constraint></mapping></pre>
418	
419⊖ 420	<pre><mapping key="info.level.masterLevel.name">      <constraint constrainttype="EQUALS" constraintvalue="MB"></constraint></mapping></pre>
421	
422 <sup>©</sup> 423	<pre><mapping key="info.level.levelonevalue">      <constraint constrainttype="EQUALS" constraintvalue="850.0"></constraint></mapping></pre>
424	
425	
425 426	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
425 426 <b>Figure 19.</b>	
425 426	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> 426 <b>Figure 19.</b>	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> <b>Figure 19.</b> Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
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<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
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<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
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<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> Figure 19. Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>
<sup>425</sup> <b>Figure 19.</b> Step 38.	 <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>

<ul> <li>40. Add the next five layers: Bulk Shear vectors for 0-6 km, 0- 3 km, 3-6 km, 0-1 km, and 1-3 km.</li> <li> 51. BlkShr,0-6kmAgl\  50. BlkShr,0-3kmAgl\  50. BlkShr,3-6kmAgl\  50. BlkShr,1-3kmAgl\</li> </ul>	<ul> <li>Use the next pre-existing resource (1000-500 MB RH) and make the following changes: <ul> <li>Change the displayType from "CONTOUR" to "ARROW"</li> <li>Change isVisible to "true"</li> <li>Change the constraintValue for the info.parameter.abbreviation from "RH" to "BlkShr"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "FHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "1000.0" to "0.0"</li> <li>Change the constraintValue for the info.level.levelonevalue from "500.0" to "6000.0"</li> </ul> </li> </ul>
	<ul> <li>The next pre-existing resource is a firstAvailableResourceData for 500 MB AV/geoVort. Delete the first four lines (<resource>, <loadproperties>, <properties>, and <resourcedata> tags), and unindent the 500 MB AV resource. Make these changes to the 500 MB AV resource:</resourcedata></properties></loadproperties></resource></li> <li>Change the displayType from "CONTOUR" to "ARROW"</li> <li>Delete the entire colorableCapability line.</li> <li>Change the constraintValue for the info.parameter.abbreviation from "AV" to "BlkShr"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "FHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "500.0" to "0.0"</li> <li>Change the constraintValue for the info.level.levelonevalue from "500.0" to "3000.0"</li> </ul>
	<ul> <li>Un-indent the next (500 MB geoVort) resource. Make these changes to the 500 MB geoVort resource:</li> <li>Change the displayType from "CONTOUR" to "ARROW"</li> <li>Delete the entire colorableCapability line.</li> <li>Change the constraintValue for the info.parameter.abbreviation from "geoVort" to "BlkShr"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "LYRFHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "500.0" to "3000.0"</li> <li>Change the constraintValue for the info.level.leveltwovalue and set the constraintValue to "6000.0"</li> </ul>

remaining from the firstAvailableResourceData.
Transform the next resource (500-300 MB PTvA) into 0-1 km Bulk
Shear Vectors. Make these changes to the 500-300 MB PTvA
resource:
<ul> <li>Change the displayType from "CONTOUR" to "ARROW"</li> </ul>
Change the constraintValue for the
info.parameter.abbreviation from "PTvA" to "BlkShr"
<ul> <li>Change the constraintValue for the</li> </ul>
info.level.masterLevel.name from "MB" to "FHAG"
<ul> <li>Change the constraintValue for the info.level.levelonevalue</li> </ul>
from "500.0" to "0.0"
<ul> <li>Change the constraintValue for the info.level.leveltwovalue</li> </ul>
from "300.0" to "1000.0"
The next pre-existing resource is a firstAvailableResourceData for
300/250 MB wSp. Delete the first four lines ( <resource>,</resource>
<loadproperties>, <properties>, and <resourcedata> tags), and un-</resourcedata></properties></loadproperties>
indent the 300 MB wSp resource. Make these changes to the 300
MB wSp resource:
<ul> <li>Change the displayType from "CONTOUR" to "ARROW"</li> </ul>
<ul> <li>Delete the colorableCapability line.</li> </ul>
<ul> <li>Change the constraintValue for the</li> </ul>
info.parameter.abbreviation from "wSp" to "BlkShr"
<ul> <li>Change the constraintValue for the</li> </ul>
info.level.masterLevel.name from "MB" to "LYRFHAG"
<ul> <li>Change the constraintValue for the info.level.levelonevalue</li> </ul>
from "300.0" to "1000.0"
<ul> <li>Change the constraintValue for the info.level.leveltwovalue</li> </ul>
from "-9999999" to "3000.0"
nom -999999 to 5000.0
Delete the last <resourcedata> and  tags that are at the</resourcedata>
end of the 250 mb wSp resource.

41.Test	
<pre>42.Add the next two layers: Vorticity Generation Parameter (VGP) for 0-2 km and Most Unstable CAPE for 0-4 km.  0. VGP,0-2kmAgl\  0. muCape,0-4kmAgl\</pre>	<ul> <li>Transform the 250 MB wSp contour resource into the 0-2 km VGP contour plot. Make these changes to the 250 MB wSp resource:</li> <li>Unindent the resource</li> <li>Delete the colorableCapability line.</li> <li>Change the constraintValue for the info.parameter.abbreviation from "wSp" to "VGP"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "FHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "250.0" to "0.0"</li> <li>Set the info.level.level.leveltwovalue and set it to "2000.0"</li> </ul>
	<ul> <li>The next pre-existing resource is a firstAvailableResourceData for 300/250 MB streamlines. Delete the first four lines (<resource>, <loadproperties>, <properties>, and <resourcedata> tags), and unindent the 300 MB streamline resource. Make these changes to the 300 MB streamline resource.</resourcedata></properties></loadproperties></resource></li> <li>Unindent the 300 MB streamline resource</li> <li>Change the displayType from "STREAMLINE" to "CONTOUR"</li> <li>Delete the colorableCapability line.</li> <li>Change the constraintValue for the info.parameter.abbreviation from "Wind" to "muCape"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "FHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "300.0" to "0.0"</li> </ul>

<ul> <li>Change the constraintValue for the info.level.leveltwovalue from "-999999" to "4000.0"</li> </ul>	
Delete the next resource (250 MB streamlines) including both sets of the <resourcedata> and  tags that are at the end of the 250 MB streamline resource.</resourcedata>	
The next resource is a firstAvailableResourceData that is not needed, so it can be deleted in its entirety.	
Six lines should remain at the bottom of the bundle: <timematcher xsi:type="d2dTimeMaqtcher"></timematcher> <numberofframes>\${frameCount}</numberofframes>   <displaylist></displaylist>	
/bundle>	
Part 5. Implement the Conv: Derecho Family Menu	
In the Localization Perspective file browser, open <b>CAVE</b> » <b>Menus</b> » <b>volume</b> . Copy baseFourPanelFamilies.xml to convDerechoFamilies.xml, by clicking the <b>BASE</b> icon under	

template for the	baseFourPanelFamilies.xml and choosing <b>Copy To</b> ► <b>New File</b> .	
Conv: Derecho	Name the new file <b>convDerechoFamilies.xml</b> .	
Families menu. It's a	Edit the new convDerechoFamilies.xml menu file. Change the name	
four-panel family	of the file for each bundleItem from "DefaultFourPanel" to	
because the numeric	"ConvDerecho4PFamily.xml". Delete the ECMWF and UKMET entries	
descriptors in its	(see Figure 20).	
Virtual Field Table	(See <b>Figure 20</b> ).	
definition (Figure 22)		
contain three digits.		
	tp://www.w3.org/2001/XMLSchema-instance"> e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"	
	id="dgex4panel" useReferenceTime="true">	
	"modelName" value="DGEX185"/>	
	="TP" value="TP6hr"/> ="frameCount" value="18"/>	
27		
	e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"	
	'id="gfs404panel" useReferenceTime="true"> ="modelName" value="GFS212"/>	
31 <substitute key<="" td=""><td>="TP" value="TP"/&gt;</td></substitute>	="TP" value="TP"/>	
	"frameCount" value="41"/>	
33 34⊖ <contribute td="" xsi:type<=""><td>e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"</td></contribute>	e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"	
35 menuText="GFS"	id="gfs904panel" useReferenceTime="true">	
	="modelName" value="\${GFSmodel}"/> ="TP" value="TP6hr"/>	
	"frameCount" value="41"/>	
39		
	e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml" ' id="nam124panel" useReferenceTime="true">	
	<pre>"modelName" value="\${NAM12model}"/&gt;</pre>	
43 <substitute key:<="" td=""><td>="TP" value="TP3hr"/&gt;</td></substitute>	="TP" value="TP3hr"/>	
44 <substitute key:<br="">45 </substitute>	"frameCount" value="29"/>	
	e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"	
	'id="nam404panel" useReferenceTime="true">	
	="modelName" value="\${NAM40model}"/> ="TP" value="TP3hr"/>	
	="frameCount" value="29"/>	
51		
	e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml" ' id="nam804panel" useReferenceTime="true">	
	"modelName" value="ETA"/>	
	"TP" value="TP6hr"/>	
56 <substitute key<br="">57 </substitute>	"frameCount" value="15"/>	
	e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"	
	'id=" <i>rap134panel</i> " useReferenceTime=" <i>true</i> ">	
	="modelName" value="\${RAP13model}"/> ="TP" value="TP3hr"/>	
	="frameCount" value="19"/>	
63 64 <td>e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"</td>	e="bundleItem" file="bundles/volume/ConvDerecho4PFamily.xml"	
	id="rap4panel" useReferenceTime="true">	
66 <substitute key<="" td=""><td>="modelName" value="\${RAPmodel}"/&gt;</td></substitute>	="modelName" value="\${RAPmodel}"/>	
	="TP" value="TP3hr"/> ="frameCount" value="9"/>	
69		
70 71		
	convDerechoFamilies.xml menu file.	
5.Edit the index.xml	Edit the user version of <b>index yml</b> by double clicking its <b>USEP</b> icon	
	Edit the user version of <b>index.xml</b> by double-clicking its <b>USER</b> icon.	
menu file to create		
the convective	Duplicate the entry for ConvSvrTypeFamilies.xml and change the	

entry above the Convective Severe Types Families entry.       second version to match the red box in Figure 21.         cubulation of the severe Types Families entry.       second version to match the red box in Figure 21.         cubulation of the severe Types Families entry.       second version to match the red box in Figure 21.         cubulation of the severe second version second version were severe second version second version of the severe second version second version second version were second version were second version seversion version second version version second version version vers	· · · · · · · · · · · · · · · · · · ·				
Types Families entry.         22       <===================================		second version to match the red	box in <b>Figure 21.</b>		
<pre>219 memuContributionFile&gt; 229 cubstitute key="GGEscode:" value="GGEXI85" /&gt; 230 cubstitute key="Willamed:" value="Rises/NW-Kast" /&gt; 230 cubstitute key="TaleName"=menus/volume/DaseFormu:volume?after=VolumeBundles"</pre>	Convective Severe				
<pre>22 <ul>     <li><ubstitute key="DCEXmode1" value="CR218"></ubstitute></li>     <li><ubstitute key="MM12mode1" value="RE7218"></ubstitute></li>     <li><ubstitute key="MM12mode1" value="RE7218"></ubstitute></li>     <li><ubstitute key="ARmode1" value="RE7218"></ubstitute></li></ul>     <li><ubstitute key="Armode1" value="RE7218"></ubstitute>     <li><ubstitute key="Armode1" value="RE7218"></ubstitute></li>     <li><ubstitute key="Armode1" value="RE7218"></ubstitute>     <li><ul>         <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>             <li><ul>               <li><ul>             <li><ul>             <li><ul></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></li></li></li></li></li></li></li></li></pre>	Types Families entry.				
<pre><include <="" installto="menu:volume?before=ComparisonFamilies" submenu="Briefing Families (Exer.)" td=""><td colspan="5"><pre>21@ <menucontributionfile> 22 <substitute key="DGEXmodel" value="DGEX185"></substitute> 23 <substitute key="GFSmodel" value="GFS213"></substitute> 24 <substitute key="NAM12model" value="ETA218"></substitute> 25 <substitute key="NAM40model" value="mesoEta212"></substitute> 26 <substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute> 27 <substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute> 28 <substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute> 29 <substitute key="MMMmodel2" value="HiResW-NMM-East"></substitute> 29 <substitute key="RAP13model" value="RUC130"></substitute> 30 <substitute key="RAP13model" value="RUC130"></substitute> 31 <substitute key="RAP13model" value="RUC130"></substitute> 32@ <include <br="" installto="menu:volume?after=VolumeBundles" submenu="Basic Families">33 fileName="menus/volume/baseFamilies.xml"&gt; 34 </include> 35@ <include <br="" installto="menu:volume?before=VolumeBundles">33@ <include <br="" installto="menu:volume?before=VolumeBundles">33@ <include <br="" installto="menu:volume?before=VolumeBundles">34 </include> 35@ <include <br="" installto="menu:volume?after=VolumeBundles" submenu="4-PanelFamilies">33@ <include <br="" installto="menu:volume?after=VolumeBundles" submenu="4-PanelFamilies">34@ <includes< p=""></includes<></include></include></include></include></include></include></include></include></include></include></include></include></include></menucontributionfile></pre></td></include></pre>	<pre>21@ <menucontributionfile> 22 <substitute key="DGEXmodel" value="DGEX185"></substitute> 23 <substitute key="GFSmodel" value="GFS213"></substitute> 24 <substitute key="NAM12model" value="ETA218"></substitute> 25 <substitute key="NAM40model" value="mesoEta212"></substitute> 26 <substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute> 27 <substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute> 28 <substitute key="ARWmodel1" value="HiResW-ARW-East"></substitute> 29 <substitute key="MMMmodel2" value="HiResW-NMM-East"></substitute> 29 <substitute key="RAP13model" value="RUC130"></substitute> 30 <substitute key="RAP13model" value="RUC130"></substitute> 31 <substitute key="RAP13model" value="RUC130"></substitute> 32@ <include <br="" installto="menu:volume?after=VolumeBundles" submenu="Basic Families">33 fileName="menus/volume/baseFamilies.xml"&gt; 34 </include> 35@ <include <br="" installto="menu:volume?before=VolumeBundles">33@ <include <br="" installto="menu:volume?before=VolumeBundles">33@ <include <br="" installto="menu:volume?before=VolumeBundles">34 </include> 35@ <include <br="" installto="menu:volume?after=VolumeBundles" submenu="4-PanelFamilies">33@ <include <br="" installto="menu:volume?after=VolumeBundles" submenu="4-PanelFamilies">34@ <includes< p=""></includes<></include></include></include></include></include></include></include></include></include></include></include></include></include></menucontributionfile></pre>				
</td <td colspan="4"><pre>41 42 41 42 42 42 42 43 44 42 45 45 46 45 46 45 46 45 46 45 46 45 46 45 46 47 50 48 49 50 49 50 49 50 50 50 50 50 50 50 50 50 50 50 50 50</pre></td>	<pre>41 42 41 42 42 42 42 43 44 42 45 45 46 45 46 45 46 45 46 45 46 45 46 45 46 47 50 48 49 50 49 50 49 50 50 50 50 50 50 50 50 50 50 50 50 50</pre>				
46. Duplicate the       In the File Browser, scroll up to         DefaultFourPanel.xml       the CAVE » Bundles section.         bundle file as       Open volume and         ConvDerecho4PFamil       DefaultFourPanel.xml. Right-         y.xml, so that the       click the BASE icon and choose         menu entries created       Copy To ▶ New File. Call the         above will work.       new file	<pre>52  53 54 55 56@ <include 57="" filename="menus/volume/baseComparisonFamilies.xml" installto="menu:volume?after=ComparisonFamilies"> 58 </include> 59@ <include> 59@ <includesubmenu="surface 60="" families"="" filename="menus/volume/baseSurfaceFamilies.xml" installto="menu:volume?after=SurfaceFamilies"> 51 52 53 54 55 56 56 57 57 57 58 59 59 59 59 59 59 59 59 59 59 59 59 59</includesubmenu="surface></include></pre>				
ConvDerecho4PFamily.xml.	46. Duplicate the DefaultFourPanel.xml <i>bundle</i> file as ConvDerecho4PFamil y.xml, so that the menu entries created	In the File Browser, scroll up to the CAVE » Bundles section. Open volume and DefaultFourPanel.xml. Right- click the BASE icon and choose Copy To ▶ New File. Call the	<ul> <li>▷ ▷ snow</li> <li>▽ volume</li> <li>▷ № 500Height xml</li> <li>▷ ℝ BriefingFamily.xml</li> <li>▽ ℝ ConvSvrTypeFamily.xml</li> <li>∞ ℝ USER (dmorris)</li> <li>▷ ℝ DefaultFourPanel.xml</li> <li>∞ ℝ DefaultFourPanel.xml</li> <li>∞ ℝ DefaultStur</li> <li>○ DefaultStur&lt;</li></ul>		

User (dmorris)

New File..

ECMWFLov

▶ 🖹 LimitedFan Move To

ModelFami Refresh

47. Restart CAVE to see your changes reflected in the Volume menu. The Conv: Derecho Families menu should be located above Severe Type Families and should display the models declared in the convDerechoFamilies. xml menu file.	Volume         Browser         Popup SkewT         Model Families A-YY         4-PanelFamilies         Basic Families         Basic Families         Briefing Families (Exer.)         Conv: Severe Type Families (Exer.)         Conv: Derecho Families (Exer.)         DGEX       22.1800         GFS 22.0000         GFS 22.0000         Surface Families         Surface Families         Std Env Data Package         RAP13       22.2300         RAP13       22.2100
Part	6. Implement the Conv: Derecho Families Bundle
48. Inspect the ConvDerecho4PFamil y.xml.	Open the ConvDerecho4PFamily.xml bundle in the Localization Perspective. By inspection, you should be able to see that the 4- panel product has this structure: <bundle> <displaylist> <displays> [Top Left Panel] <descriptor xsi:type="mapDescriptor"> <resource> </resource>     </descriptor></displays> <displays> [Top Right Panel] <descriptor xsi:type="mapDescriptor"> </descriptor> </displays> <displays> [Top Right Panel] <descriptor xsi:type="mapDescriptor"> <resource> </resource>  <!--</td--></descriptor></displays></displaylist></bundle>

	<descriptor xsi:type="mapDescriptor"></descriptor>	
	<resource></resource>	
	<resource></resource>	
	<timematcher></timematcher>	
	<numberofframes></numberofframes>	
	<pre><displays> [Bottom Right Panel]</displays></pre>	
	<descriptor xsi:type="mapDescriptor"></descriptor>	
	<resource></resource>	
	<resource></resource>	
	<timematcher></timematcher>	
	<numberofframes></numberofframes>	
	So for each panel (display), we'll simply modify the resources for	
	each display layer as we've done before.	
49. Analyze the Derecho	The first panel is relatively simple, with an image and contours of	
Family in the virtual	bulk shear magnitude and a bulk shear vector plot.	
field table (Figure 22).		
	The second panel requires a firstAvailableResourceData for the 850-	
	300 MB muCape and Surface PBE. The remaining plots for the	
	second panel are simple. However, note that ML doesn't work with	
	OB13.5.1, so we will substitute 0-1km FHAG for the ML references	
	for the cCape and cCin contour plots.	
	In addition to the simple surface precipitation, msl-P, and wind plots,	
	the third panel has a three-way alternative for dew point (boundary	
	layer, surface, or ML). The three-way alternative will utilize	
	firstAvailableResourceData, and will substitute 0-1km FHAG for ML.	
	The fourth panel has wind plots for 6-10 km Agl.	
	This model family has two unusual levels (850MB-300MB, and 6-10	
	km Agl). The levels and planes are defined in the volume browser's	

Loc 850 Lev illu	LevelMappingFile.xml, which can be viewed and overridden in the Localization Perspective (it's under <b>D2D</b> » <b>Volume Browser</b> ). The 850MB-300MB plot is defined in the BASE version of LevelMappingFile.xml but the 6-10 km Agl level is not, so we'll illustrate the process of adding a custom level while constructing the fourth panel.		
No and cor	Note: The ordering of the four panels is different between AWIPS-1 and AWIPS-2. AWIPS-1 is consistent in that the four panels are constructed and referenced (for example, by the "Panel Combo Rotate" function by pressing the number keys) in a clockwise order:		
	1         2         BlkMag         muCape           4         3         TP         wSp		
in t tab Far	In the AWIPS-2 bundles, the panels are defined in the order shown in the previous step. So if you translate a four panel virtual field table into a bundle without doing any re-ordering, the Derecho Family ( <b>Figure 22</b> ) would appear in this order (as is done in this exercise) where the bottom panels are reversed:		
	BlkMag muCape wSp TP		
AW det bu	If you want four-panel families to be <i>exactly</i> replicated between AWIPS-1 and AWIPS-2, then you will need to use the third pane defined in the virtual field table as the fourth display in the AWIPS-2 bundle and the fourth virtual field table pane as the third AWIPS-2 bundle display.		
	By the way, the panel combo rotate function in AWIPS-2 references the panels in the same order as AWIPS-1.		

```
ModFamHH | | N|Conv: Derecho Family| | OTHER| | \
       *MultiLoad,Layer|121.|BlkMag,0-10kmAgl|0.|BlkMag,0-10kmAgl|51.|BlkShr,0-10
 kmAgl\
         |101.|muCape,0-6kmAgl\
            |0.|muCape,850MB-300MB|PBE,Surface|0.|cCape,ML|0.|cCin,ML\
            0.|cCin,Surface|0.|NBE,Surface\
            |101.|TP,Surface|1.|msl-P,Surface|31.|Wind,Surface\
            [0.|DpT,BLyr|DpT,Surface|DpT,ML\
            21. |DpT, BLyr | DpT, Surface | DpT, ML
         |121.|wSp,6-10kmAgl|0.|wSp,6-10kmAgl|51.|Wind,6-10kmAgl
 11
Figure 22. Excerpt of the virtual field table that defines the Conv: Derecho Family. The interpretation of
the numeric codes preceding each field and level combination is as follows: A non-zero value in the ones
place means this overlay should be toggled on by default. The tens digit is the display type to use:
0=contour, 1=icons, 2=image, 3=barbs, 4=streamlines, 5=arrows, 6=dualarrows, 7=other. A non-zero
value in the hundreds digit means start a new pane. The thousands place is number of frames to load; 0
means the same as the number of forecast times and 99 means whatever the display is currently set for
(verbatim from AWIPS-1 documentation in /awips/fxa/data/localization/documentation/families.html).
                           Edit the USER version of the ConvDerecho4PFamily.xml bundle in
50. Construct the first
   panel, the 0-10km Agl
                           the Localization Perspective. The first pre-existing resource for the
   bulk shear plots.
                           first display is a 500 MB AV image. We'll transform the 500 MB AV
                           image into the 0-10km bulk shear magnitude image. Make these
|121.|BlkMag,0-10kmAgl
0.|BlkMag,0-10kmAgl
                           changes to the 500 MB AV resource:
[51.|BlkShr,0-10kmAgl\

    Verify that the displayType = "IMAGE",

                                   renderingOrderId="IMAGE REGION", and isVisible="true".
                               • Change the constraintValue for the
                                   info.parameter.abbreviation from "AV" to "BlkMag"

    Change the constraintValue for the

                                   info.level.masterLevel.name from "MB" to "FHAG"
                               • Change the constraintValue for the info.level.levelonevalue
                                   from "500.0" to "0.0"
                               • Change the constraintValue for the info.level.leveltwovalue
                                   from "-999999" to "10000.0"
                           Use the next pre-existing resource (500 MB GH contours) for the 0-
                            10 km BlkMag contours. Make these changes to the 500 MB GH
                           resource:

    Verify that the displayType = "CONTOUR"

    Change isVisible to "false"

                               • Change the constraintValue for the
                                   info.parameter.abbreviation from "GH" to "BlkMag"

    Change the constraintValue for the

                                   info.level.masterLevel.name from "MB" to "FHAG"

    Change the constraintValue for the info.level.levelonevalue

                                   from "500.0" to "0.0"
                                  Change the constraintValue for the info.level.leveltwovalue
                                   from "-999999" to "10000.0"
```

	Using copy/paste, duplicate the new 0-10 km BlkMag contour plot. (Note the closing  tag is just before the <timematcher> tag.) Use the second version for the BlkShr vector plot by making these changes: • Change the displayType = "ARROW" • Change isVisible to "true" • Change the constraintValue for the</timematcher>
51.Test. The upper-left pane is shown, using the "panel combo rotate" function by pressing the "1" key.	info.parameter.abbreviation from "BlkMag" to "BlkShr"
<pre>52.Construct the second    panel, the CAPE and    CIN plots. 101. muCape,0-6kmAgl\    [0. muCape,850MB-300MB PBE,Surface    [0. cCape,ML    [0. cCin,ML\    [0. cCin,Surface 0. NBE,Surface\</pre>	<ul> <li>The first pre-existing resource for the second display is an image for 1000-500 MB thickness (dz). Transform this resource into visible contours of 0-6km muCape by making these changes: <ul> <li>Change the displayType to "CONTOUR" and renderingOrderId to "CONTOUR".</li> <li>Verify isVisible="true".</li> <li>Change the constraintValue for the info.parameter.abbreviation from "dZ" to "muCape"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "FHAG"</li> <li>Change the constraintValue for the info.level.levelonevalue from "1000.0" to "0.0"</li> <li>Change the constraintValue for the info.level.levelonevalue from "1000.0" to "6000.0"</li> </ul> </li> </ul>

<pre>xsi:type="imagingCapability". This prevents the Imaging contextual menu from being available to allow a user to attempt to change the color palette for a contour plot (which obviously doesn't make sense and would eventually generate a nullPointerException error).</pre>
The second plot in this display, toggled off by default, has to choose between 850-300 mb muCape (most unstable CAPE) and surface PBE (positive buoyant energy), so it needs a resource with firstAvailableResourceData. Add the lines indicated by the red box in <b>Figure 23</b> to begin the firstAvailableResourceData. Note this version of the firstAvailableResourceData includes properties to make the plots not visible.
Indent the next resource (msl-P) using the <b>Source</b> menu and the <b>Shift Right</b> option, also shown in <b>Figure 23</b> .
<ul> <li>Make these changes to the msl-P resource:</li> <li>Change isVisible to "false".</li> <li>Change the constraintValue for the info.parameter.abbreviation from "msl-P" to "muCape"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "SFC" to "MB"</li> <li>Change the constraintValue for the info.level.levelonevalue from "0.0" to "850.0"</li> <li>Add a mapping for info.level.leveltwovalue and set the constraintValue to "300.0"</li> </ul>
<ul> <li>To make the surface PBE plot, duplicate the entire 850-300 MB muCape resource by copying and pasting it. Make these changes to the second version:</li> <li>Change the constraintValue for the info.parameter.abbreviation from "muCape" to "PBE"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "MB" to "SFC"</li> </ul>

	<ul> <li>Change the constraintValue for the info.level.levelonevalue from "850.0" to "0.0"</li> </ul>
	<ul> <li>Change the constraintValue for the info.level.leveltwovalue from "300.0" to "-999999"</li> </ul>
	Add two lines to close the firstAvailableResourceData between the closing  tag of the PBE plot and the <timematcher> tag:  </timematcher>
	The next plot, ML cCape (computed CAPE for the mixed layer) needs only a simple resource. Copy the PBE resource (don't include the last  and  tags that close out the firstAvailableResourceData resource). Paste it just before the <timematcher> tag (or just beneath the  and  tags that close out the firstAvailableResourceData). Use the second copy for the cCape resource by making these changes: • Unindent the resource</timematcher>
	<ul> <li>Change the constraintValue for the info.parameter.abbreviation from "PBE" to "cCape"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "SFC" to "FHAG" (we're using 0-1km AGL rather than ML).</li> </ul>
	<ul> <li>Verify the constraintValue for the info.level.levelonevalue is "0.0"</li> <li>Change the constraintValue for the info.level.leveltwovalue from "-999999" to "1000.0"</li> </ul>
	Duplicate the entire cCape resource to use for the next cCin (computed Convective Inhibition) plot. Make this change to the
	<ul> <li>Change the constraintValue for the</li> </ul>
-	info.parameter.abbreviation from "cCape" to "cCin". Duplicate the cCin plot to use for the surface cCin plot. Make these
	<ul> <li>changes to the last version:</li> <li>Change the constraintValue for the</li> </ul>
	<ul> <li>Verify the constraintValue for the info.level.levelonevalue is "0.0"</li> </ul>
	<ul> <li>Change the constraintValue for the info.level.leveltwovalue from "1000.0" to "-999999"</li> </ul>
	Duplicate the surface cCin plot to use for the NBE plot. Make this change to the second version:
	<ul> <li>Change the constraintValue for the info.parameter.abbreviation from "cCin" to "NBE"</li> </ul>

111			
112		atcher xs1:type=" <i>d2DTimeMatcher</i> " deltaFilter="0" forecastFilter="0"/>	
113		rOfFrames> <b>%{frameCount}</b>	
114	<td></td>		
115			
116	<pre><displays .<="" density="1.0" magnification="1.0" pre="" scale="CONUS" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="d2UMapRenderableDisplay" zoomlevel="0.80"></displays></pre>		
1178	<pre><descriptor xsi:type="mapDescriptor"></descriptor></pre>		
118			
119	AWIPS1 descriptor: [101.]muCape.0-6xmAg1[		
120=	<resource></resource>		
121-	<loadproperties displaytype="CONTOUR" loadwithoutdata="false" xsi:type="gridLoadProperties"></loadproperties>		
1228	<capabilitie>&gt;</capabilitie>		
123	<capability linestyle="SOLID" outlineon="true" outlinewidth="1" xsi:type="outlineCapability"></capability>		
124			
125	<resourcetype>PLAN_VIEW</resourcetype>		
126	</td <td>LoadProperties&gt;</td>	LoadProperties>	
127		roperties renderingOrderId="CONTOUR" isSystemResource="false" isBlinking="false" isMapLayer="false" isHoverOn="false" isVisible="true">	
128		<pre>spdProps maxDisplayWidth="1000000000" minDisplayWidth="0"/&gt;</pre>	
129		properties>	
130		sourceData xsi:type="gridResourceData" retrieveData="true" isUpdatingOnMetadataOnly="false" isRequeryNecessaryOnTimeMatch="true">	
131=		contraditables	
132-		<pre>smapping key="info.parameter.abbreviation"&gt;</pre>	
133		<pre>constraint constraintValue="muCape" constraintType="EOUAL5"/&gt;</pre>	
134			
135=		<pre></pre> //mapping* <pre>mapping key=`info.datasetId'&gt;</pre>	
136		<pre><constraint constrainttype="EOUALS" constraintvalue="\${modelName}"></constraint></pre>	
137			
138		<pre>-mapping key="info.level.leveltwovalue"&gt;</pre>	
139		<constraint constrainttype="IN" constraintvalue="6000.0"></constraint>	
140			
1418		<pre>smapping key="pluginName"&gt;</pre>	
142		<pre>«constraintValue="grid" constraintType="E0UALS"/&gt;</pre>	
143			
144=		<pre><mapping key="info.level.masterLevel.name"></mapping></pre>	
145		<constraint constrainttype="IN" constraintvalue="FHAG"></constraint>	
146			
147		<pre><mapping key="info.level.levelonevalue"></mapping></pre>	
148		<constraint constrainttype="IN" constraintvalue="0.0"></constraint>	
149			
150			
151		<alertparser xs1:type="dataCubeAlertMessageParser"></alertparser>	
152	</td <td>resourceData&gt;</td>	resourceData>	
153	resol</td <td>Irce&gt;</td>	Irce>	
154			
155	<1 /	WIPS1_descriptor: [0,]muCape,850M8+300M81P8E,Surface[0,]cCape,ML[0,]cCin,MLV ->>	
156	<resou:< th=""><th></th></resou:<>		
157	~10	sadProperties />	
158	SD	roperties renderingOrderId="CONTOUR" isSystemResource="false" isRunking="false" isNapLayer="false" isNoverOn="false" isVisible="false">	
159		<pre>spdProps maxDisplayWidth="1000000000" minDisplayWidth="0"/&gt;</pre>	
160	=/1	properties>	
161	<1	esourceData xsi:type="firstAvailableResourceData">	
162			
163-		<resource></resource>	
164=	1	<loadproperties displaytype="CONTOUR" loadwithoutdata="false" xsi:type="gridLoadProperties"></loadproperties>	
165		<pre><count at="" count="" displayitype="contour" reprint="" se="" shirtype="graduatroperites" so=""></count></pre>	
		scapabilities	
166	Indented		
167		<pre><capability linestyle="SOLID" outlineon="true" outlinewidth="1" xsi:type="outlineCapability"></capability></pre>	
168	resource		
169	(to be	<resourcetype>PLAN_VIEW</resourcetype>	
170	850-300 mb		
171-		<properties isblinking="false" ishoveron="false" ismaplayer="false" issystemresource="false" isvisible="true" renderingorderid="CONTOUR"></properties>	
172	muCape)	<pdprops maxdisplaywidth="100000000" mindisplaywidth="0"></pdprops>	
173	10000		
174-		<pre><resourcedata isrequerynecessaryontimematch="true" isupdatingonmetadataonly="false" retrievedata="true" xsi:type="gridResourceData"></resourcedata></pre>	
175		<pre><metadatamap></metadatamap></pre>	
176		<pre><mapping key="info.parameter.abbreviation"></mapping></pre>	
177		<pre>xconstraint constraintValue="msl-P" constraintType="EQUALS"/&gt;</pre>	
178			
179-		<pre>smapping key="info.datasetId"&gt;</pre>	
180		<constraint constrainttype="EOUALS" constraintvalue="\$(modelName)"></constraint>	
181			
182-		<pre>sapping key="pluginName"&gt;</pre>	
183		<constraint constrainttype="EQUALS" constraintvalue="grid"></constraint>	
184			
185-		<pre><mapping key="info.level.masterLevel.name"></mapping></pre>	
186		<constraint constrainttype="EOUALS" constraintvalue="SFC"></constraint>	
187			
188		<pre>smapping keysinfo.level.levelonevalue"&gt;</pre>	
189			
190		<pre>sconstraint constraintValue="0.0" constraintType="EQUALS"/&gt;</pre>	
		<pre>sconstraint constraintValue="0.0" constraintType="EQUALS"/&gt; </pre>	
191			
191 192			
192			
		  <alertparser xs1:type="dataCubeAlertMessageParser"></alertparser>	
192 193	<t i="" makt<="" td=""><td>  <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>  </td></t>	  <alertparser xsi:type="dataCubeAlertMessageParser"></alertparser>  	
192 193 194		  <alertparser xsl:type="dataCubeAlertMessageParser"></alertparser>   atcher xsl:type="d2D7imeMatcher" deltaFilter="0" forecastFilter="0"/>	
192 193 194 195 196	-numbe		
192 193 194 195	<numbe <td> </td></numbe 		
192 193 194 195 196 197 198	<pre></pre>	  <alertparser xs1:type="dataCubeAlertMessageParser"></alertparser>   atcher xs1:type="d2DTimeMatcher" deltaFilter="0" forecastFilter="0"/> OffFrameSount}	
192 193 194 195 196 197 198 199	<pre><numbe  <displays pre="" xmln<=""></displays></numbe </pre>	<pre></pre>	
192 193 194 195 196 197 198 199 200	<pre><numbe  <displays xmlm<br=""><descripto< pre=""></descripto<></displays></numbe </pre>	<pre></pre>	
192 193 194 195 196 197 198 199 200 201	<numbe  <displays>min <descripto <resou< td=""><td> </td></resou<></descripto </displays></numbe 		
192 193 194 195 196 197 198 199 200 200 201 202	<numbe  <displays>min <descripto <resou< td=""><td><pre></pre></td></resou<></descripto </displays></numbe 	<pre></pre>	
192 193 194 195 196 197 198 199 200 200 200 200 201 202 203	<numbe  <displays>min <descripto <resou< td=""><td> </td></resou<></descripto </displays></numbe 		
192 193 194 195 196 197 198 199 200 200 200 201 202 203 203 203 204	<numbe  <displays xmin<br=""><descripta <resou <lo< td=""><td><pre></pre></td></lo<></resou </descripta </displays></numbe 	<pre></pre>	
192 193 194 195 196 197 198 199 200 200 200 201 202 203 203 203 204	<numbe  <displays xmin<br=""><descripta <resou <lo< td=""><td><pre></pre></td></lo<></resou </descripta </displays></numbe 	<pre></pre>	
192 193 194 195 196 197 198 199 200 200 200 201 202 203 203 203 204	<numbe  <displays xmin<br=""><descripta <resou <lo< td=""><td><pre></pre></td></lo<></resou </descripta </displays></numbe 	<pre></pre>	
192 193 194 195 196 197 198 199 200 201 202 203 203 203 704 Figui	<pre>clube  <displays xmtn<br=""><descripts <resou <resou </resou </resou </descripts </displays></pre>	<pre></pre>	
192 193 194 195 196 197 198 199 200 201 202 203 203 203 704 Figui	<pre>clube  <displays xmtn<br=""><descripts <resou <resou </resou </resou </descripts </displays></pre>	<pre></pre>	
192 193 194 195 196 197 198 199 200 201 202 203 203 203 704 Figui	<numbe  <displays xmin<br=""><descripta <resou <lo< th=""><th><pre></pre></th></lo<></resou </descripta </displays></numbe 	<pre></pre>	

53. Test. The upper-right pane is shown, using the "panel combo rotate" function by pressing the "2" key, and toggling all the invisible contour plots.		
54. Construct the third	The <b>first</b> pre-existing resource in the <b>third</b> display is a \${TP} image	
panel, the surface	(i.e., it uses whatever total precipitation field is passed into it from	
precip, msl-P, and	the menu making it model-specific). We need to transform it to a	
wind plots and the	visible contour. Make these changes to this resource:	
dewpoint plots for	<ul> <li>Change the displayType to "CONTOUR" and</li> </ul>	
either the boundary	renderingOrderId to "CONTOUR".	
layer, surface, or	<ul> <li>Change the imagingCapability to the outlineCapability as</li> </ul>	
mixed layer	shown in Step 52.	
(substituting 0-1km		
FHAG for the mixed	The next resource already in the bundle is a visible contour of 700	
layer).	MB PVV. We need it to be visible contours of msl-P, so make these changes to it:	
<pre> 1. msl-P,Surface  31. Wind,Surface\  0. Data Data Surface\</pre>	<ul> <li>Change the constraintValue for the</li> </ul>	
0. DpT,BLyr DpT,Surface DpT,ML\  21. DpT,BLyr DpT,Surface DpT,ML\	info.parameter.abbreviation from "PVV" to "msl-P"	
	<ul> <li>Change the constraintValue for the</li> </ul>	
Note: This display is in	info.level.masterLevel.name from "MB" to "SFC"	
the lower left panel. If an <i>exact</i> replication of	<ul> <li>Change the constraintValue for the info.level.levelonevalue from "700.0" to "0.0"</li> </ul>	
the AWIPS-1 display is	<ul> <li>Verify the constraintValue for the info.level.leveltwovalue</li> </ul>	
desired, then swap the third and fourth	is"-999999", isVisible is "true", and displayType is	
displays in the bundle	"CONTOUR".	
after you complete	Copy and paste the msl-P resource we just edited and use the	
editing them following	second version as the surface wind barb plot.	
this exercise.	Make these changes to the second msl-P resource:	
	<ul> <li>Change displayType from "CONTOUR" to "BARB"</li> </ul>	
	Verify is Visible remains "true"	

Г	
	Change the constraintValue for the
	info.parameter.abbreviation from "msl-P" to "Wind"
	The remainder of the metadata should retain the settings for the surface.
	The next resource needs to be the firstAvailableResource for the
	dewpoint plot chosen between three alternatives.
	Copy and paste the entire resource that contains the
	firstAvailableResourceData that we used in the second display for
	the muCape/PBE to use a starting point for the modifications we need to make here.
	In the first embedded resource (muCape), make these changes:
	Change the constraintValue for the
	info.parameter.abbreviation from "muCape" to "DpT"
	Change the constraintValue for the
	info.level.masterLevel.name from "MB" to "BL"
	• Change the constraintValue for the info.level.levelonevalue
	from "850.0" to "0.0"
	<ul> <li>Change the constraintValue for the info.level.leveltwovalue to "30".</li> </ul>
	In the second embedded resource (PBE), make these changes:
	-
	info.parameter.abbreviation from "PBE" to "DpT"
	<ul> <li>Verify the constraintValue for the info.level.masterLevel.name is "SFC".</li> </ul>
	<ul> <li>Verify the constraintValue for the info.level.levelonevalue is "0.0"</li> </ul>
	<ul> <li>Verify the constraintValue for the info.level.leveltwovalue is "-999999".</li> </ul>
	Copy and paste the second resource to make a third dewpoint
	resource. Be sure the last  and  tags
	that close out the firstAvailableResourceData are after the
	tag for the third dewpoint resource. Make these
	changes to the third resource:
	<ul> <li>Change the constraintValue for the</li> </ul>
	info.level.masterLevel.name from "SFC" to "FHAG"
	<ul> <li>The constraintValue for the info.level.levelonevalue should remain "0.0"</li> </ul>
	<ul> <li>Change the constraintValue for the info.level.leveltwovalue from "-999999" to "1000.0".</li> </ul>
	. 0.0001 0) 0000

55. Test. The lower-left pane is shown, using the "panel combo rotate" function by pressing the "4" key, and toggling all the invisible contour plots.	Add a colorableCapability to each of the three embedded dewpoint plots. Set the colorAsString to "OrangeRed". The last plot in this display is an image version of the dewpoint plot. Copy and paste the entire firstAvailableResourceData for the dewpoint plot. In the second version, change all four instances of isVisible to "true", all three instances of displayType from "CONTOUR" to "IMAGE". Remove the renderingOrderId tag from the container resource, but change the remaining three instances of renderingOrderId from "CONTOUR" to "IMAGE_REGION". Change the colorAsString in the three colorableCapability lines to "dodgerblue". Replace the outlineCapability lines with imagingCapability lines. Note: the four instances of some of these tags come from the three embedded plots plus the firstAvailableResourceData itself.

56.Construct the fourth	In the Localization Perspective	▼ 🗁 D2D
panel, which consists	File Browser, scroll down to the	<ul> <li>Cloud Height</li> <li>Derived Parameters</li> </ul>
•	-	> @ FFMP
of three wind plots.	D2D section. Open Volume	▷ 🦢 Fog ▷ 🗁 Map Scales
The first two plots are	Browser » LevelMappingFile.xml.	<ul> <li>Map scales</li> <li>Monitoring</li> </ul>
wind speed contours	Right-click the <b>BASE</b> icon and	<ul> <li>Plot Models</li> <li>Procedures</li> </ul>
and image but for a	choose	<ul> <li>A SafeSeas</li> </ul>
custom layer (6-10 km	Copy To 🕨 User.	▷ 🗠 SCAN ▷ 👄 Snow
Agl). This new layer		v 🗁 Volume Browser
has to be specified in		R FieldDisplayTypes.xml     R LevelMappingFile.xml
-		BASE Open
a user override of the		WbGFEMapp Open With     WtbSources.x
volume browser		Copy     Copy     Copy     Copy     Copy     Copy     Site (OAX)
customization file		GFE     Delete     Workstation (localhost)
called		Move To User (dmorris)
LevelMappingFile.xml.		Refresh
	Edit the LevelMappingFile.xml by de	_
121. wSp,6-10kmAgl	the LYRFHAG section by searching t	the file for LYRFHAG (use <b>CTRL-F</b> ).
0. wSp,6-10kmAgl		
51. Wind,6-10kmAgl	Add the lines indicated by the red b	box in Figure 24, and save your
	changes.	
	Continue editing the <b>USER</b> version of	of the ConvDerecho4PFamily xml
	-	-
	bundle. The first resource in the last display is a 1000-500 MB RH	
	image. Make these changes to this resource:	
	Verify the displayType is "IMAGE"	
	<ul> <li>Verify the renderingOrderId is "IMAGE_REGION"</li> </ul>	
	Change the constraintValue for the	
	info.parameter.abbreviation from "RH" to "wSp"	
	Change the constraintValue for the	
	info.level.masterLevel.name from "MB" to "LYRFHAG"	
	• Change the constraintValue	for the info.level.levelonevalue
	from "1000.0" to "6000.0"	
		for the info.level.leveltwovalue
	from "500.0" to "10000.0".	
	The second resource in the last disp	
	resource into 6-10km AGL wind spe	eed contours with these edits:
	<ul> <li>Change the constraintValue</li> </ul>	for the
	info.parameter.abbreviatior	n from "GH" to "wSp"
	<ul> <li>Change the constraintValue</li> </ul>	•
	info.level.masterLevel.name	
	• Change the constraint value from "700.0" to "6000.0"	for the info.level.levelonevalue
		for the info.level.leveltwovalue
	-	
	from "-999999" to "10000.0	ι.
	<ul> <li>Set isVisible to "false".</li> </ul>	

	<ul> <li>Duplicate the last resource (the 6-10 km wind speed contours we just edited) to use for the wind vector plot. Make these changes to the last resource: <ul> <li>Change the displayType to "ARROW"</li> <li>Change the constraintValue for the info.parameter.abbreviation from "wSp" to "Wind"</li> <li>Set isVisible to "true"</li> </ul> </li> </ul>	
	Save your changes.	
793        794⊕ <level 7000.0="" 797="" <="" displayname="2-7 km Ag&lt;/td&gt;       795     &lt;DatabaseLevel levelName=&lt;/td&gt;       796     LevelTwoValue=" level=""></level>	"LYRFHAG" levelOneValue="2000"	
798⊖ <level <="" displayname="2-8 km Ag&lt;/td&gt;&lt;td&gt;" levelonevalue="2000" lyrfhag"="" td=""></level>		
804 levelTwoValue="6000.0 805	"LYRFHAG" levelOneValue="3000" " unit="m" />	
808 levelTwoValue="8000.0 809	"LYRFHAG" levelOneValue="3000"	
811 <databaselevel levelname="&lt;/td">       812     levelTwoValue="12000.0       813     </databaselevel>	LYRFHAG" leveloneValue="3000"	
	<i>LYRFHAG</i> " levelOneValue="6000" 9" unit="m" />	
819 <databaselevel levelname="&lt;/td">       820        8210     <level <="" displayname="1 km MSL" td=""></level></databaselevel>	"FH" levelOneValue="500" unit="m" />	
824 825⊖ <level displayname="1.5 km MS&lt;/td&gt;&lt;td&gt;L" group="5" key="1.5km"> "FH" levelOneValue="1500.0"</level>		
829 <level <="" displayname="2 km MSL" td=""><td>pingFile.xml to add 6-10 km Fixed Height Above Ground level.</td></level>	pingFile.xml to add 6-10 km Fixed Height Above Ground level.	
57. Restart CAVE to test.		
A restart is necessary		
because we modified		
the level mapping file.		
The lower-right pane is		
shown, using the "panel		
combo rotate" function		
by pressing the "3" key, and toggling the		
invisible contour plot.		
	scenario to the set from the set of	
L	<ul> <li>NAMB9 6-10 km Ad Wind saved from 0x3         <ul> <li>22.09 6046 The 12:607.24 Map-12</li> </ul> </li> </ul>	

Pa	rt 7: Add the menu for the Demo: Lay	ers Family
58. Use the briefingFamilies.xml menu as a template for the Demo: Layer Families menu and call the new version demoLayerFamilies.x ml. Change the bundle references in this new demoLayerFamilies.x ml to be appropriate	In the Localization Perspective file browser, open CAVE » Menus » volume. Copy briefingFamilies.xml to demoLayerFamilies.xml, by clicking the USER icon under briefingFamilies.xml and choosing Copy To ▶ New File. Name the new file demoLayerFamilies.xml. We'll change the bundle references r	Workstation (locamost)     Workstation (loc
for the Demo Layer Families Menu.	Edit demoLayerFamilies.xml and cha each bundleItem from BriefingFamily (see <b>Figure 25</b> ). Save your changes.	•

_		
21 <del>0</del> <n< th=""><th>nenuTemplate xmlns:xsi="http:</th><th>//www.w3.org/2001/XMLSchema-instance"&gt;</th></n<>	nenuTemplate xmlns:xsi="http:	//www.w3.org/2001/XMLSchema-instance">
22	<contribute <="" th="" titletext=" Families" xsi:type="titl&lt;/th&gt;&lt;th&gt;eItem"></contribute>	
23	id="FamiliesLine" />	
240		leItem" file="bundles/volume/DemoLayerFamily.xml"
25		ex" useReferenceTime="true">
26	-	Name" value="\${DGEXmodel}"/>
27	<substitute key="TP" th="" v<=""><th></th></substitute>	
28	<substitute key="frame&lt;/th&gt;&lt;th&gt;Count" value="18"></substitute>	
29		
300 31		leItem" file="bundles/volume/DemoLayerFamily.xml" fc40" usePoferenceTime="true">
32	<pre></pre>	fs40" useReferenceTime="true">
33	<pre><substitute <substitute="" key="TP" pre="" v="" v<=""></substitute></pre>	
34	<substitute key="n" th="" v<=""><th></th></substitute>	
35		
360		leItem" file="bundles/volume/DemoLaverFamily.xml"
37	20 C	90" useReferenceTime="true">
38	-	Name" value="\${GFSmodel}"/>
39	<substitute key="TP" td="" v<=""><td>alue="TP"/&gt;</td></substitute>	alue="TP"/>
40	<substitute key="frame&lt;/th&gt;&lt;th&gt;Count" value="41"></substitute>	
41		
420	<contribute <="" file="bundles/volume/DemoLayerFamily.xml" th="" xsi:type="bund&lt;/th&gt;&lt;th&gt;leItem"></contribute>	
43		am12" useReferenceTime="true">
44		Name" value="\${NAM12model}"/>
45	<substitute key="TP" th="" v<=""><th></th></substitute>	
46	<substitute key="frame&lt;/th&gt;&lt;th&gt;Count" value="29"></substitute>	
47		
480		leItem" file="bundles/volume/DemoLayerFamily.xml"
49 50		am40" useReferenceTime="true">
50	<pre><substitute <substitute="" key="TP" pre="" v<=""></substitute></pre>	Name" value="\${NAM40model}"/>
52	<pre><substitute <="" <substitute="" file="bundles/volume/DemoLayerFamily.xml" key="frame&lt;/pre&gt;&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;53&lt;/th&gt;&lt;th&gt;&lt;/contribute&gt;&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;540&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;th&gt;leItem" th="" v=""></substitute></pre>	
55		m80" useReferenceTime="true">
56	<substitute key="model&lt;/th&gt;&lt;th&gt;&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;57&lt;/th&gt;&lt;th&gt;&lt;substitute key=" th="" tp"="" v<=""><th></th></substitute>	
58	<substitute key="frame&lt;/th&gt;&lt;th&gt;Count" value="15"></substitute>	
59		
600	<contribute <="" file="bundles/volume/DemoLayerFamily.xml" th="" xsi:type="bund&lt;/th&gt;&lt;th&gt;leItem"></contribute>	
61	<pre>menuText="RAP13" id="r</pre>	<i>ap13</i> " useReferenceTime=" <i>true</i> ">
62		Name" value="\${RAP13model}"/>
63	<substitute key="TP" th="" v<=""><th></th></substitute>	
64	<substitute key="frame&lt;/th&gt;&lt;th&gt;Count" value="19"></substitute>	
65		
669 67		<pre>leItem" file="bundles/volume/DemoLayerFamily.xml" ap" usePoferenceTime="true"&gt;</pre>
68		ap" useReferenceTime=" <i>true</i> "> Name" value="\${RAPmodel}"/>
69	<pre><substitute <substitute="" key="TP" pre="" v="" v<=""></substitute></pre>	
70	<pre></pre>	

entry.

	enuContributionFile>		
22	<substitute <="" key="DGEXmodel" td=""><td></td><td></td></substitute>		
23	<pre><substitute key="GFSmodel" pre="" v<=""></substitute></pre>	alue="GFS213" />	
24	<pre><substitute <="" key="NAM12model" pre=""></substitute></pre>	value="ETA218" />	
25	<substitute <="" key="NAM40model" td=""><td>value="mesoEta212" /&gt;</td><td></td></substitute>	value="mesoEta212" />	
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27	<substitute <="" key="ARWmodel2" td=""><td>value="HiResW-ARW-West" /&gt;</td><td></td></substitute>	value="HiResW-ARW-West" />	
28	<substitute <="" key="MMMmodel1" td=""><td></td><td></td></substitute>		
29	<substitute <="" key="MMMmodel2" td=""><td>value="HiResW-NMM-West" /&gt;</td><td></td></substitute>	value="HiResW-NMM-West" />	
30	<substitute <="" key="RAP13model" td=""><td></td><td></td></substitute>		
31	<substitute key="RAPmodel" td="" v<=""><td></td><td></td></substitute>		
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33		ume/baseFamilies.xml">	
34		ume, baseramities.xmt >	
350	<include <="" installto="menu:vol&lt;/td&gt;&lt;td&gt;umo 3ho fo ro-1/o1 umoBundloc" td=""><td></td></include>		
36		ume/ModelFamilies.xml">	
37			
380		ilies" installTo="menu:volume?after=VolumeBundles	
39		ume/baseFourPanelFamilies.xml">	
40			
41			
420	<pre><include <="" installto="menu:volume?before=Co&lt;/td&gt;&lt;td&gt;mparisonFamilies" submenu="Briefing F&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;amilies (Exer.)" td=""></include></pre>		
43	fileName="menus/vol	ume/briefingFamilies.xml">	
44			
45			
460	<pre><include <="" installto="menu:volume?&lt;/td&gt;&lt;td&gt;before=ComparisonFamilies" submenu="Conv: Seve&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;re Type Families (Exer.)" td=""></include></pre>		
47		ume/convSvrTypeFamilies.xml">	
48			
49	,		
500	<include_submenu="conv: dere<="" td=""><td>cho Families (Exer.)" installTo="menu:volume?befo</td><td>re=ComparisonFamilies"</td></include_submenu="conv:>	cho Families (Exer.)" installTo="menu:volume?befo	re=ComparisonFamilies"
51		ume/convDerechoFamilies.xml">	re-comparison amitics
52		ume/convberechoramities.xmt >	
53	include		
540	rinclude cubMenu="Demot / ave	r Familias (Ever )" installTa-"manuwaluma2bafara	-ComparisonFamilies"
		<pre>r Families (Exer.)" installTo="menu:volume?before</pre>	=comparisonFamilies
55		ume/demoLayerFamilies.xml">	
56			
57			
58			
590		ume?after=ComparisonFamilies"	
60		ume/baseComparisonFamilies.xml">	
61			
620		milies" installTo="menu:volume?after=SurfaceFamil	ies"
63		ume/baseSurfaceFamilies.xml">	
64			
65 😑	<pre><include <="" installto="menu:vol&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;ume?after=StdEnvDataPackageFamilies" td=""><td></td></include></pre>		
66	fileName="menus/vol	ume/baseStdEnvPackage.xml">	
67			
68 <b><!--</b-->m</b>	nenuContributionFile>		
69			
Figur	<b>a 26</b> Additions to inde	x.xml menu file to add an entry for De	mo: Laver Families entry
Ingui	e zo. Additions to mue	x.xiiii illeliu ille to add all elitiy for De	nio. Layer rannies entry.
	plicate the	In the File Browser, scroll to the	
00.00		in the the blowser, scioli to the	▽ 🗁 volume
Bri	iefingFamily.xml	CAVE » Bundles section. Open	▷ 🖹 500Height.xml
	ienngi anniy.xini	CAVE " Dunues section. Open	
hu	<i>ndle</i> file as	volume » BriefingFamily.xml.	X USER (dmorris)
Du	nule me as	volume « bhenngranniy.xm.	Open
Do	moLayerFamily.xml,	Right-click the <b>USER</b> icon and	2 X Default-a
De	inolayen anniy.xini,	Right-click the <b>USER</b> icon and	DefaultFo
50	that the menu	shooso Conv To Now File	DefaultSti Copy
		choose Copy To Þ New File.	
en	tries created above	Nama tha naw file	IDefaultSu Copy To     Site (ABR)
		Name the new file	ECMWFHi Delete Workstation (localhost)
wil	ll work.	Deve el esse «Ferreils surral	
		DemoLayerFamily.xml	ECMWFHi Move To
			ECMWFLd New File
			Befresh

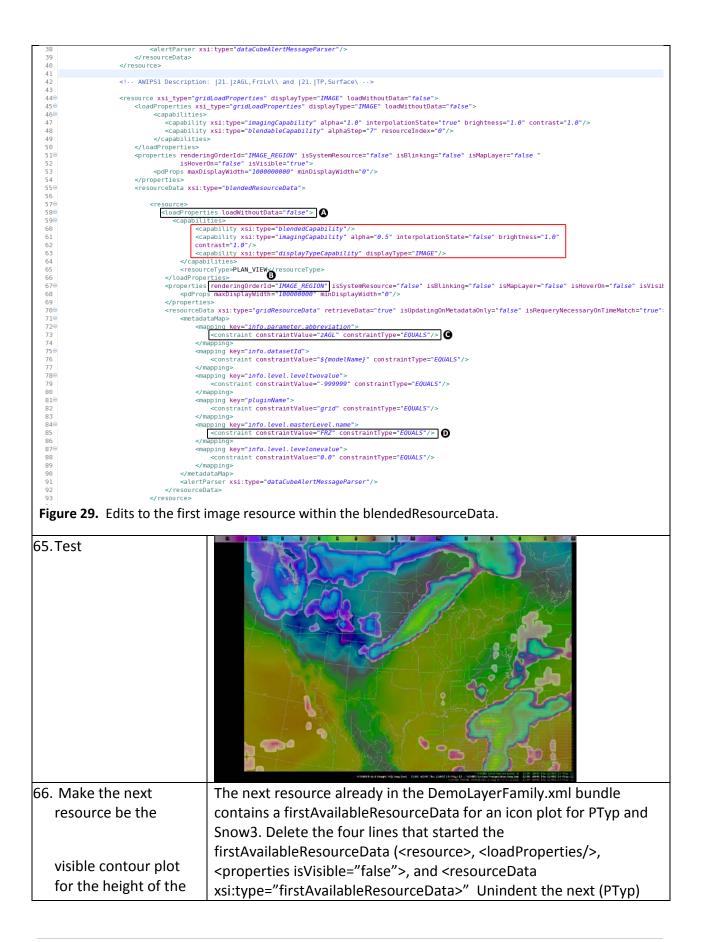
61. Restart CAVE to see your changes reflected in the Volume menu. The Demo: Layer Families menu should be located above Surface Families and should display the bundles referenced by the DemoLayerFamilies.x ml menu file.	Volume         Browser         Popup SkewT         Model Families A-YY         4-PanelFamilies A-YY         4-PanelFamilies (Exer.)         Briefing Families (Exer.)         Conv: Severe Type Families (Exer.)         Conv: Severe Type Families (Exer.)         Demo: Layer Families (Exer.)         Combarison Families (Exer.)         Sol Height       22 1800         GFS       22.0000         MAH12       22.1800         GFS       22.0000         NAM40       22.1800         Std Env Data Package       NAM80       22.0000         RAP13       22.2300         RAP13       22.2100
Part	8. Implement the Demo: Layer Families Bundle.
62. Analyze the ModFamDM entry in the virtual field table (Figure 27). Unlike other model families in this exercise, this bundle was not implemented in AWIPS-1 at a particular WFO, but was developed to illustrate several concepts in constructing bundles.	This family includes an image combination and a variety of different model layers. The image combination can be identified because two layers begin with the numeric code "21.", meaning a combined visible image for both layers the height of the freezing level and surface precip accumulation (zAGL,FrzLvl and TP,Surface). The image combination in AWIPS-2 is implemented using blendedResourceData. Note: AWIPS-1 required two images in the same model family (or procedure bundle) to be combined. AWIPS-2 has no such requirement, so there can be any number of independent images with appropriate alpha channel (transparency) settings in a bundle.

<pre>ModFamDM     N Demo: Lay     *MultiLoad,Layer\      0. HI,Layer\      21. zAGL,FrzLvl\      1. zAGL,FrzLvl\      0. zAGL,CloudBas      30. Wind,BLyr Win      0. P,PV15\      41. Wind,PV15\      0. PAdv,PV15\      21. TP,Surface \      0. cCape,0-6kmAg      50. BlkShr,1-3kmA      0. DpT,305Ke\      0. DpT,330K\</pre>	e zAGL,LiftCondLvl\ d,Surface∖ l∖
numeric codes preceding ea place means this overlay sho O=contour, 1=icons, 2=image value in the hundreds digit r means the same as the num	e entry that defines the Demo: Layers family. The interpretation of the ich field and level combination is as follows: A non-zero value in the ones ould be toggled on by default. The tens digit is the display type to use: e, 3=barbs, 4=streamlines, 5=arrows, 6=dualarrows, 7=other. A non-zero means start a new pane. The thousands place is number of frames to load; 0 ber of forecast times and 99 means whatever the display is currently set for cumentation in /awips/fxa/data/localization/documentation/families.html).
63.Add the Haines Index as the first parameter.  0. HI,Layer\	<ul> <li>Edit the USER version of the DemoLayerFamily.xml bundle. In the first resource, make these changes: <ul> <li>Change the constraintValue for the info.parameter.abbreviation from "TP" to "HI"</li> <li>Change the constraintValue for the info.level.masterLevel.name from "SFC" to "EA" (EA means "Entire Atmosphere").</li> </ul> </li> <li>Verify the following settings in the first resource <ul> <li>isVisible is "false"</li> <li>displayType is "CONTOUR"</li> <li>info.level.levelonevalue is "0"</li> <li>info.level.leveltwovalue is "-999999".</li> </ul> </li> <li>The info.level.masterLevel.name for a "layer" product is "EA". The names for the various layer or level types can be determined by inspecting the LevelMappingFile.xml.</li> </ul>
<ul> <li>64. Add the combined image pair for the height of the freezing level and total precipitation.</li> <li>21.  ZAGL, FrZLVI\  1.  ZAGL, FrZLVI\  0.  ZAGL, CloudBase  ZAGL, LITtCondLVI\  30.  Vind, BLYT  Wind, Surface\</li> </ul>	The image combination requires the use of a blendedResourceData. It is similar in structure to a firstAvailableResourceData (which happens to be the next pre-existing resource in the DemoLayerFamily.xml bundle). The structure is: <resource> <loadproperties> <capabilities></capabilities></loadproperties></resource>
0. P,PV15\  41. Wind,PV15\  0. PAdv,PV15\  21. TP,Surface \	<capability></capability> 

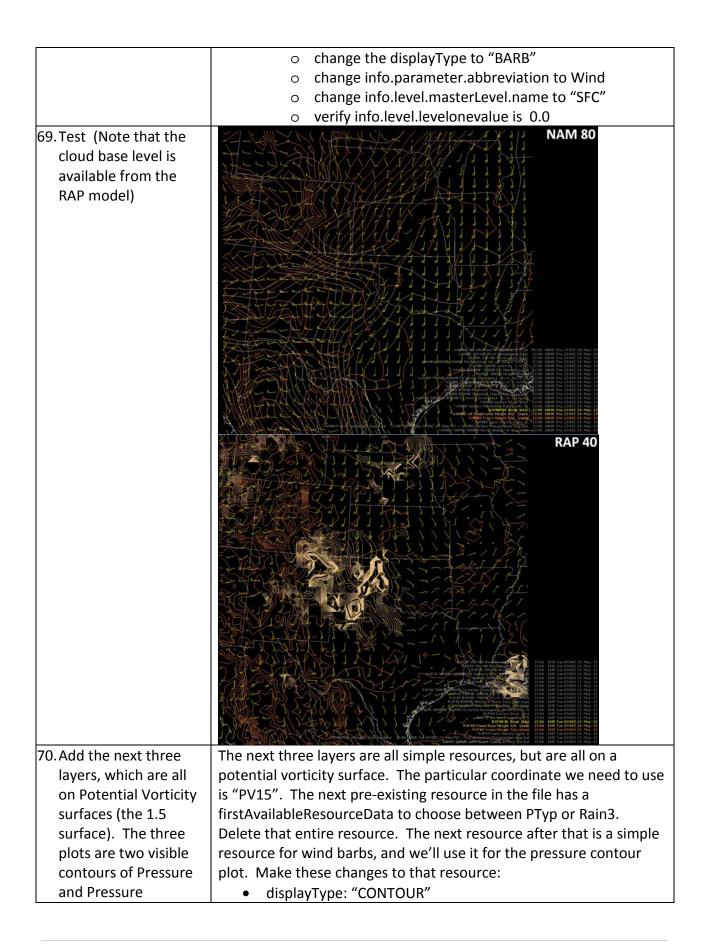
//

<properties> </properties>
<resourcedata xsi:type="blendedResourceData"></resourcedata>
<resource> (first image)</resource>
<resource> (second image)</resource>
To start the transformation of our firstAvailableResourceData to a
blendedResourceData, replace the three loadProperties, properties,
and resourceData lines with the lines indicated in Figure 28.
In the first are evicting accuracy (mail D) of the
In the first pre-existing resource (msl-P) of the
blendedResourceData, replace the two existing capabilities (the
outlineCapability and the colorableCapability) with the three
capabilities shown in the red box in Figure 29.
Remove the xsi:type and displayType from the loadProperties (Box A
in <b>Figure 29</b> ).
Add the renderingOrderId="IMAGE_REGION" (Box B in Figure 29).
Set the info.parameter.abbreviation constraintValue to "zAGL" (Box
C in <b>Figure 29)</b> .
Set the info.level.masterLevel.name constraintValue to "FRZ" (Box D
in <b>Figure 29</b> ) for the freezing level. Make sure the levelonevalue is 0.
Use Copy/Paste to duplicate the entire zAGL resource (we're re-
using the first resource to avoid retyping the edits to the capability
lines in the second resource; otherwise we would have used the next
pre-existing resource). In the second version, change the
parameter.abbreviation from zAGL to TP, and the
info.level.masterLevel.name from "FRZ" to "SFC".
INTO REVELTIONS LEVEL TIONE TO THE TOTAL TO SEC.
Close the blendedResourceDate by adding the two lines after the
Close the blendedResourceData by adding the two lines after the
second (TP) resource:
Delete the next resource and the  and
tags that previously closed out the firstAvailableResourceData.

2	<resourcetype>PLAN_VIEW</resourcetype>
3	
10	<properties isblinking="false" ishoveron="false" ismaplayer="false" issystemresource="false" isvisible="false"></properties>
	<pdprops maxdisplaywidth="1000000000" mindisplaywidth="0"></pdprops>
	<pre><resourcedata isrequerynecessaryontimematch="true" isupdatingonmetadataonly="false" retrievedata="true" xsi:type="gridResourceData"></resourcedata></pre>
0	<pre><metadatamap></metadatamap></pre>
0	<pre></pre>
	<constraint constrainttype="EQUALS" constraintvalue="HI"></constraint>
	<mapping key="info.datasetId"></mapping>
	<constraint constrainttype="EQUALS" constraintvalue="\${modelName}"></constraint>
0	<mapping key="info.level.leveltwovalue"></mapping>
	<constraint constrainttype="EQUALS" constraintvalue="-999999"></constraint>
0	<pre>smapping key="pluginName"&gt;</pre>
	<pre><constraint constrainttype="EQUALS" constraintvalue="grid"></constraint></pre>
0	
	<mapping key="info.level.masterLevel.name"></mapping>
	<constraint constrainttype="EQUALS" constraintvalue="EA"></constraint>
e)	<mapping key="info.level.levelonevalue"></mapping>
	<constraint constrainttype="EQUALS" constraintvalue="0"></constraint>
	<pre><alertparser xsi:type="dataCubeAlertMessageParser"></alertparser></pre>
	resourceData
)	resource
2	AWIP51 Description:  21. zAGL,FrzLvl\ and  21. TP,Surface\
3	. And a best provide the proof of the proof of the particle of the proof of the pro
10	<resource displaytype="IMAGE" loadwithoutdata="false" type="gridLoadProperties" xsi=""></resource>
	<pre></pre>
	<capabilities></capabilities>
7	<pre><capability alpha="1.0" brightness="1.0" contrast="1.0" interpolationstate="true" xsi:type="imagingCapability"></capability></pre>
3	<capability alphastep="7" resourceindex="0" xsi:type="blendableCapability"></capability>
	<properties <="" isblinking="false" ismaplayer="false " issystemresource="false" pre="" renderingorderid="IMAGE_REGION"></properties>
	isHoverOn="false" isVisible="true">
	<pdprops maxdisplaywidth="10000000000" mindisplaywidth="0"></pdprops>
Θ	<pre><resourcedata xsi:type="blendedResourceData"></resourcedata></pre>
	<resource></resource>
0	
	<li><li><li><li><li><li><li><li><li><li></li></li></li></li></li></li></li></li></li></li>
e	<capabilities></capabilities>
	<capability linestyle="SOLID" outlineon="true" outlinewidth="1" xsi:type="outlineCapability"></capability>
	<capability colorasstring="coral" xsi:type="colorableCapability"></capability>
2	
3	<resourcetype>PLAN_VIEW</resourcetype>
1	
~	a ann adala - 2-0daambaaanaa - Hdalaan - Adalaan - Hdalaan - Hdalaan - Hdalaan - Hdalaan - Hdalaan - Hdalaan
	Edits to start a blendedResourceData.



freezing level zAGL.	resoure and make these changes:
neezing level zadt.	<ul> <li>displayType from "ICON" to "CONTOUR"</li> </ul>
	<ul> <li>isvisible to "true"</li> </ul>
1. zAGL,FrzLvl∖	
	<ul> <li>info.parameter.abbreviation from "PTyp" to "zAGL"</li> </ul>
	<ul> <li>info.level.masterLevel.name from "SFC" to "FRZ".</li> </ul>
	Also, delete the colorableCapability line.
	Delete the next (indented) resource that was previously for the
	second half of the firstAvailableResourceData (the Snow3
	parameter). Delete the closing  and
	tags that were associated with the firstAvailableResourceData.
67. The next resource	The next resource already in the bundle had a
needed should	firstAvailableResourceData for PTyp and Fzra2. We'll hijack it for this
contain a	plot.
firstAvailableResource	
Data for either the	In the first (PTyp) resource, change the displayType from "ICON" to
height of the cloud	"CONTOUR. Leave the colorAsString in the colorableCapability as
base or the lifted	"burlywood".
condensation level.	
<pre> 0. zAGL,CloudBase zAGL,LiftCondLvl\</pre>	In the first resource of the firstAvailableResourceData , use these
10.12.02,0000000000000000000000000000000	settings for the metadata:
	<ul> <li>info.parameter.abbreviation: zAGL</li> </ul>
	<ul> <li>info.level.leveltwovalue: -999999</li> </ul>
	<ul> <li>info.level.masterLevel.name: CBL</li> </ul>
	<ul> <li>info.level.levelonevalue: 0</li> </ul>
	In the second resource of the firstAvailableResourceData, set the
	displayType to "CONTOUR" and use these settings for the metadata:
	<ul> <li>info.parameter.abbreviation: zAGL</li> </ul>
	<ul> <li>info.level.leveltwovalue: -999999</li> </ul>
	<ul> <li>info.level.masterLevel.name: LCL</li> </ul>
	<ul> <li>info.level.levelonevalue: 0</li> </ul>
68.The next resource	The next pre-existing resource is the icon plot for PTyp and Mix2 at
needs to be a	the surface. We'll reuse it for this wind barb plot.
firstAvailableResource	
Data for two wind	In the first embedded resource:
barb plots, either for	<ul> <li>change the displayType to "BARB"</li> </ul>
boundary layer winds	<ul> <li>change info.parameter.abbreviation to Wind</li> </ul>
or the surface.	<ul> <li>change info.level.masterLevel.name to "BL"</li> </ul>
	<ul> <li>verify info.level.levelonevalue is 0.0</li> </ul>
30. Wind,BLyr Wind,Surface∖	<ul> <li>change info.level.leveltwovalue to 30.0</li> </ul>
	• In the second resource:
needs to be a firstAvailableResource Data for two wind barb plots, either for boundary layer winds	<ul> <li>The next pre-existing resource is the icon plot for PTyp and Mix2 at the surface. We'll reuse it for this wind barb plot.</li> <li>In the first embedded resource: <ul> <li>change the displayType to "BARB"</li> <li>change info.parameter.abbreviation to Wind</li> <li>change info.level.masterLevel.name to "BL"</li> <li>verify info.level.levelonevalue is 0.0</li> <li>change info.level.leveltwovalue to 30.0</li> </ul> </li> </ul>



Advection separated	<ul> <li>info.parameter.abbreviation: "P"</li> </ul>
by a visible plot of	<ul> <li>info.level.masterLevel.name: "PV"</li> </ul>
streamlines.	<ul> <li>info.level.levelonevalue: "1.5"</li> </ul>
0. P,PV15\  41. Wind,PV15\	<ul> <li>info.level.leveltwovalue: "-999999"</li> </ul>
0. PAdv,PV15\	Delete the entirety of the next firstAvailableResourceData which
	should have been for either DivFn or qDiv. The next resource after
	that was for a contour plot of 850 mb Moisture Transport Magnitude (Mmag). We'll use that for the streamline plot. Make these
	changes:
	<ul> <li>displayType: "STREAMLINE"</li> </ul>
	• isVisible: "true"
	<ul> <li>info.parameter.abbreviation: "Wind"</li> </ul>
	<ul> <li>info.level.masterLevel.name: "PV"</li> </ul>
	<ul> <li>info.level.levelonevalue: "1.5"</li> </ul>
	<ul> <li>info.level.leveltwovalue: "-999999"</li> </ul>
	Transform the next resource (850 MB Moisture Transport Vectors,
	or MTV) into the pressure advection contours with these changes:
	<ul> <li>displayType: "CONTOUR"</li> </ul>
	<ul> <li>display type. CONTOOR</li> <li>isVisible: "false"</li> </ul>
	<ul> <li>info.parameter.abbreviation: "PAdv"</li> </ul>
	<ul> <li>info.level.masterLevel.name: "PV"</li> </ul>
	<ul> <li>info.level.levelonevalue: "1.5"</li> </ul>
	<ul> <li>info.level.leveltwovalue: "-999999"</li> </ul>
71.Test	

72.Add cCape for 0-6km Agl.  0. cCape,0-6kmAgl\	In the next resource, use these settings: <ul> <li>displayType: CONTOUR</li> <li>isVisible: false</li> <li>info.parameter.abbreviation: cCape</li> <li>info.level.masterLevel.name: FHAG</li> <li>info.level.levelonevalue: 0</li> <li>info.level.leveltwovalue: 6000</li> </ul>
73.Add BlkShr arrows for 1-3km AGL  50. BlkShr,1-3kmAgl\	In the next resource, use these settings: <ul> <li>displayType: ARROW</li> <li>isVisible: false</li> <li>info.parameter.abbreviation: BlkShr</li> <li>info.level.masterLevel.name: LYRFHAG</li> <li>info.level.levelonevalue: 1000</li> <li>info.level.leveltwovalue: 3000</li> </ul>
74.Test	
75.Add the dew point	In the next resource, use these settings:
for the 305Ke surface.	displayType: CONTOUR
0. DpT,305Ke\	• isVisible: false
	<ul> <li>info.parameter.abbreviation: DpT</li> </ul>
	<ul> <li>info.level.masterLevel.name: Ke</li> <li>info.level.levelonevalue: 305</li> </ul>
	<ul> <li>info.level.leveltwovalue: -999999</li> </ul>
	Note: The 305Ke surface is not a default/baseline Ke (equivalent

	potential temperature) level. This level needs to be added to the level mapping file (described later).
	Delete the next pre-existing resource with the firstAvailableResourceData.
76. Add the DpT for the 330 K (potential temperature) surface <b>0. DpT, 330K</b>	<ul> <li>In the next simple resource, use these settings:</li> <li>displayType: CONTOUR</li> <li>isVisible: false</li> <li>info.parameter.abbreviation: DpT</li> <li>info.level.masterLevel.name: K</li> <li>info.level.levelonevalue: 330</li> <li>info.level.leveltwovalue: -999999</li> </ul>
77.Edit the level mapping file to add the 305Ke level.	Edit the <b>USER</b> version of the LevelMappingFile.xml (it's under <b>D2D</b> » <b>VolumeBrowser</b> in the File Browser). If you completed Part 6 of this exercise to add the Conv: Derecho Family, you already completed a similar edit and created a USER version of this file. If you haven't already created a USER version of this file, refer to that part of the exercise.
	Add the lines indicated in <b>Figure 30</b> . Delete the remaining resources in the bundle (1000-500 mb RH, 500 MB AV/geoVort, 500-300 mb PTvA, 300/250 mb wSp, 300/250 mb streamlines, 300/250 mb wDiv)
	Save your changes.

	4550	<level displayname="335 K" group="S" key="335K"></level>
	456	<databaselevel levelname="K" levelonevalue="335" unit="K"></databaselevel>
	457	
	458⊜ 459	<level displayname="340 K" group="5" key="340K"> <databaselevel levelname="K" levelonevalue="340" unit="K"></databaselevel></level>
	459	<ul> <li><ul> <li><ul> <li><ul></ul></li></ul></li></ul></li></ul>
	4619	<pre></pre>
	462	<pre></pre>
	463	
	4649	<level displayname="350 K" group="5" key="350K"></level>
	465	<databaselevel levelname="K" levelonevalue="&lt;i&gt;350&lt;/i&gt;" unit="K"></databaselevel>
	466	
	4679	<level displayname="350 K - 250 K" group="C" key="350K-250K"></level>
	468 469	<pre><databaselevel levelname="K" levelonevalue="350" leveltwovalue="250" unit="K"></databaselevel></pre>
	409	
	4710	<pre></pre>
	472	<pre><databaselevel levelname="Ke" levelonevalue="305" unit="K"></databaselevel></pre>
	473	
	474	
	475 😑	<level displayname="310 Ke" group="5" key="310Ke"></level>
	476	<pre><databaselevel levelname="Ke" levelonevalue="310" unit="K"></databaselevel> </pre>
	477 478⊖	 <level displayname="315 Ke" group="S" key="315Ke"></level>
	479	<pre><databaselevel levelname="Ke" levelonevalue="315" unit="K"></databaselevel></pre>
	480	
	4810	<level displayname="320 Ke" group="5" key="320Ke"></level>
	482	<databaselevel levelname="Ke" levelonevalue="320" unit="K"></databaselevel>
	483	
	4840	<level displayname="325 Ke" group="S" key="325Ke"></level>
	485 486	<pre><databaselevel levelname="Ke" levelonevalue="325" unit="K"></databaselevel> </pre>
	4870	<pre></pre> <pre>&lt;</pre>
	488	<pre>dbtabaseLevel LevelName="Ke" LevelOneValue="330" unit="K" /&gt;</pre>
	489	
	4900	<level displayname="335 Ke" group="5" key="335Ke"></level>
	491	<databaselevel levelname="Ke" levelonevalue="335" unit="K"></databaselevel>
	492	
	4930	<level displayname="340 Ke" group="5" key="340Ke"></level>
	494 495	<pre><databaselevel levelname="Ke" levelonevalue="340" unit="K"></databaselevel> </pre>
	4960	<pre></pre>
	497	<pre><databaselevel levelname="FHAG" levelonevalue="0" unit="m"></databaselevel></pre>
	498	
	4990	<level displayname="100 m AGL" group="S" key="100mAgl"></level>
	Figure	<b>30.</b> Edit to LevelMappingFile.xml to add the 305Ke level.
	inguic	
7	8. Res	tart CAVE
Ċ		
	(be	cause we modified
	مالد	
	the	level mapping file)
	and	Test. Depending
	anu	
	on t	the time of year,
	the	dew point plot for

the 305Ke surface may appear only at very northern latitudes.

.Ed	it the index.xml	In the Localization Perspective file browser, open CAVE » Menus »	
menu file to create the Aviation Fog		<b>volume</b> . Edit the user version of <b>index.xml</b> by double-clicking its	
		<b>USER</b> icon. Make the bottom of the file look like <b>Figure 31</b> .	
		<b>OSER</b> ICON. Make the bottom of the file look like <b>Figure 51</b> .	
	odel family entry		
	st before the		
Su	rface Families		
en	try.		
2 3 4 5 6 6 7 8 9 0 1 2 9 0 1 2 9 0 1 2 9 2 3 4 5 5 3 4 5 3 4 5 5 6 7 7 8 9 9 0 1 2 9 3 4 5 5 6 7 7 8 9 9 0 1 1 5 6 6 7 7 8 9 9 0 1 1 5 6 6 7 7 8 9 9 0 1 1 5 6 6 7 7 8 9 9 0 0 1 1 5 9 9 0 1 1 5 9 9 0 1 1 5 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 9 9 0 0 1 1 1 9 9 0 0 1 1 9 9 0 0 1 1 1 9 9 0 0 1 1 1 9 9 0 0 1 1 1 9 9 9 0 1 1 1 9 9 9 0 0 1 1 1 9 9 9 0 0 1 1 1 9 9 9 0 1 1 9 9 9 9	<pre><substitute <="" <include="" <substitute="" include="" key="RAPmodel" menus="" rapi3model="" submenu="Basic Fam     fileName=" vd=""> <include 4-panelfa="" briefing="" filename="menus/vd &lt;/include&gt;&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;&lt;pre&gt;value=" gfs213"="" installto="menus/vd &lt;/include&gt; &lt;include subMenu="></include> " value="FTA218" /&gt; " value="HiResW-ARW-East" /&gt; ' value="HiResW-ARW-East" /&gt; ' value="HiResW-ARW-West" /&gt; ' value="HiResW-NMM-East" /&gt; ' value="HiResW-NMM-West" /&gt; '' value="RUC130" /&gt; value="RUC236" /&gt; '' value="RUC236" /&gt; ''' value="RUC236" /&gt; ''' value="RUC236" /&gt; ''' value="RUC236" /&gt; ''' value="RUC236" /&gt; '''' value="RUC236" /&gt; ''''''''''''''''''''''''''''''''''''</substitute></pre>		
50 7 8 9		rere Type Families (Exer.)" installTo="menu:volume?before=ComparisonFamilies" olume/convSvrTypeFamilies.xml">	
)⊖ L 2		recho Families (Exer.)" installTo="menu:volume?before=ComparisonFamilies" olume/convDerechoFamilies.xml">	
- 3 1⊖		ver Families (Exer.)" installTo="menu:volume?before=ComparisonFamilies"	
5 5 7 <b>r</b>		olume/demoLayerFamilies.xml">	
, 3⊖ 9 0 1		viation Fog Families (Exer.)" installTo="menu:volume?before=ComparisonFamilies" Nume/aviationFogFamilies.xml">	
2 3⊖ 4	fileName=" <i>menus/vo</i>	olume?after=ComparisonFamilies" olume/baseComparisonFamilies.xml">	
5 5© 7 8		Families" installTo="menu:volume?after=SurfaceFamilies" >lume/baseSurfaceFamilies.xml">	

Figure 31. Menu contribution to add the Aviation Fog Family.

Use the	Copy briefingFamilies.xml to	▼ 🧁 volume			
briefingFamilies.xml	aviationFogFamilies.xml, by	BaseComparisonFamilies.xml     X baseFamilies.xml			
as a template for the	clicking the <b>USER</b> icon under	kaseFourPanelFamilies.xml     kaseStdEnvPackage.xml			
•	-	▷ 🕅 baseSurfaceFamilies.xml			
-	-	✓ ☑ briefingFamilies.xml ☑ USER (dmorris)			
	0 17	ConvDerechoFamilie     Open     Open			
0		ConvSvrTypeFamilie     demoLayerFamilies . Copy			
	aviationFogFamilies.xml.	Image: bit index.xml         Copy To         Site (OUN)           Delete         Workstation (localhost)			
aviationFogFamilies.x		ModelFamilies.xml     Delete     Workstauon (localnost)     User (dmorris)			
ml to be appropriate	We'll change the bundle	Carter Refresh			
for the Aviation Fog	references next.				
Families Menu.	Edit aviationFogFamilies.xml and o	change the name of the file for			
	each bundleltem from BriefingFar	mily.xml to AviationFogFamily.xml			
	(see Figure 32). Save your change				
<pre><menutemplate pre="" titleit<="" xmlns:xsi="http://w&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;pre&gt;&lt;contribute xsi:type="></menutemplate></pre>		- <sup>4</sup>			
	tem" file="bundles/volume/AviationFogFamily.xml"				
<pre>menuText="DGEX" id="dgex"</pre>	useReferenceTime="true">				
	<i>nt</i> " value=" <i>18</i> "/>				
	tem" file="bundles/volume/AviationFogFamily.xml"				
<substitute key="TP" td="" valu<=""><td>e="<i>TP</i>"/&gt;</td><td></td></substitute>	e=" <i>TP</i> "/>				
	<i>nt</i> " value=" <i>41</i> "/>				
<pre><contribute <="" gfs"="" id="gfs90" pre="" xsi:type="bundleI menuText="></contribute></pre>	useReferenceTime="true">				
	nt" value="41"/>				
	tem" file="bundles/volume/AviationFogFamily.xml"				
<substitute key="TP" td="" valu<=""><td>e="TP3hr"/&gt;</td><td></td></substitute>	e="TP3hr"/>				
	<i>nt</i> " value="29"/>				
<contribute td="" tp"="" valu<="" xsi:type="bundle1&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;substitute key="><td>e="TP3hr"/&gt;</td><td></td></contribute>	e="TP3hr"/>				
<pre><substitute key="framecous&lt;br&gt;&lt;/contribute&gt;&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;nt value= 29 /&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td colspan=6&gt;&lt;substitute key=" modelname"="" value="ETA"></substitute></pre>					
<substitute key="TP" value="TP6hr"></substitute>					
<pre><contribute <br="" file="bundles/volume/AviationFogFamily.xml" xsi:type="bundleItem">menuText="RAP13" id="rap13" useReferenceTime="true"&gt;</contribute></pre>					
<substitute key="modelName" value="\${RAP13model}"></substitute>					
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<substitute "="" key="1P" value="1P3n"></substitute> <substitute key="frameCount" value="9"></substitute>					
	<pre>for the Aviation Fog Families Menu.  cmenuTemplate xmlns:xsi="http://w   <contribute familiesline"="" xsi:type="titlelt     id="></contribute>   <contribute <="" <substitute="" contribute="" framecou="" gfs40"="" id="dfs4     &lt;substitute key=" key="modelNam     &lt;substitute key=" ogex"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" gfs40"="" id="dfs4     &lt;substitute key=" xsi:type="bundleI     menuText=">   <contribute <="" <substitute="" bundlei="" contribute="" framecou="" gfs40"="" id="nam4     &lt;substitute key=" key="frameCou   &lt;/contribute&gt;   &lt;contribute xsi:type=" menutext="AMAU2" nam40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam4     &lt;substitute key=" nam40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam4     &lt;substitute key=" nam40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam8     &lt;substitute key=" rap40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam8     &lt;substitute key=" rap13"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam8     &lt;substitute key=" rap40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam8   &lt;substitute key=" rap40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam8   &lt;substitute key=" rap40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam8   &lt;substitute key=" rap40"="" xsi:type="bundleI     menuText=">   <contribute <="" contribute="" framecou="" id="nam4   &lt;substitute key=" rap40"="" xsi:type="bundleI     menuText=">   <contribute td="" xsi:typ<=""><td>as a template for the Other: Aviation Fog Families menu. Change the bundle references in the new aviationFogFamilies.xm It to be appropriate for the Aviation Fog Families Menu. We'll change the bundle references next. Edit aviationFogFamilies.xml and each bundleItem from BriefingFamilies.xml and each bundleItem from BriefingFamilies substitute xsi:*ptpe="undleItem" titleText="</td></contribute></contribute></contribute></contribute></contribute></contribute></contribute></contribute></contribute></contribute></contribute></contribute></contribute></pre>	as a template for the Other: Aviation Fog Families menu. Change the bundle references in the new aviationFogFamilies.xm It to be appropriate for the Aviation Fog Families Menu. We'll change the bundle references next. Edit aviationFogFamilies.xml and each bundleItem from BriefingFamilies.xml and each bundleItem from BriefingFamilies substitute xsi:*ptpe="undleItem" titleText="			

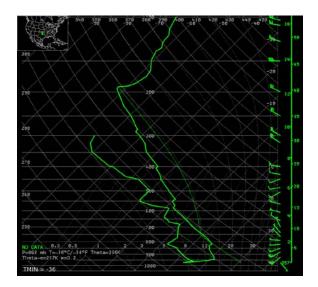
81.Restart CAVE to see your changes reflected in the Volume menu. The Other: Aviation Fog Families menu should be located above Surface Families and should display the models declared in the aviationFogFamilies.x ml file.	Yolume         Browser         Popup SkewT         Model Families A:YY         4.PanelFamilies         Basic Families (Exer.)         Conv: Severe Type Families (Exer.)         Conv: Severe Type Families (Exer.)         Demo: Layer Families (Exer.)         Other. Aviation Fog Families (Exer.)         Conv: Severe Type Families (Exer.)         Conv: Severe Type Families (Exer.)         Conv: Cercho Families (Exer.)         Conv: Cercho Families (Exer.)         Conv: Corpanison Families (Exer.)         Conv: Corpanison Families (Exer.)         Conv: Corpanison Families (Exer.)         MSL Press         Stufface Families         NAM12         Stuf Env Data Package         NAM80       22.1800         NAM80       22.2000         RAP13       22.2300         RAP40       22.1800	
82. Create the AviationFogFamily.x ml bundle.	As an exercise on your own, implement the model family shown in Figure 33. So you can check your work, the resulting bundle is attached to this exercise. The excerpt of the virtual field table in Figure 33 indicates this is a four-panel family (because the numeric codes have three digits). The first panel has visible contours of geopotential height at 400 and 700 mb plus two visible images of relative humidity at 400 and 700 mb. Because two images are visible, an image combination is also required. The first panel also has contours of RH at 400 and 700 mb that are not initially visible. The second panel has contours and an image of vertical velocity at 700 mb. The third panel has visible contours of sea-level pressure and wind barbs at the surface. The fourth panel has visible wind barbs representing boundary layer winds plus a visible image of boundary layer RH and contours of boundary layer RH that are not initially visible.	
*MultiLoad,Layer 101. G  100. P  101. m  131. W	ion Fog Family   OTHER     \ H,400MB 21. RH,400MB 0. RH,400MB 1. GH,700MB 21. RH,700MB 0. RH,700MB\ VV,700MB 21. PVV,700MB\ sl-P,Surface 31. Wind,Surface\ ind,BLyr 21. RH,BLyr 0. RH,BLyr ield table entry for the Aviation Fog 4-panel Family.	

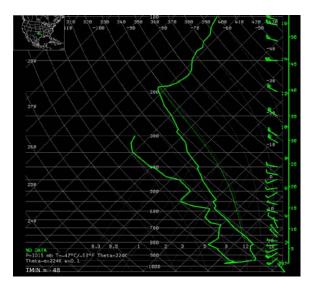
## Exercise 10: AWIPS-1 SKEWT\_TMIN Directive — Altering Temperature Axis of SKEW-T plots

**Objectives:** In this exercise, you will perform this procedure:

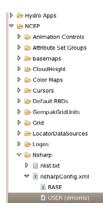
• Customize the NSHARP sounding display to shift the temperature axis on a skew-t plot.

**Background**. AWIPS-1 had a directive called "SKEWT\_TMIN" that was set in a site's LLLmainConfig.txt file. This directive allowed the site to set the temperature of the lower-left corner of the skew-t plot. The default temperature for the lower-left corner of the skew-t diagram in AWIPS-1 was -36.6°C, but sites could alter it for their climatic regimes, effectively shifting the sounding left or right on the diagram. For example, very warm sites set this value to -28°C, while several sites in Alaska set this value to -48°C.





In earlier versions of AWIPS-2, the ability to set this value (as an offset, rather than an absolute value) was moved to a soundingPrefs.xml file. Subsequently, the NSHARP GUI allows the user to configure the offset value and to save it. The GUI saves the offset value as a "tempOffset" value in a <graphProperty/> tag near the top of a nsharpConfig.xml file (Figure 1). This file is located in the Localization Perspective under NCEP » Nsharp » nsharpConfig.xml. If you wish to set a SITE default, then set a value for your user and promote your USER version of nsharpConfig.xml to SITE using the Localization Perspective (right-click on the USER icon and select Move To ▶ Site).



1 xn</th <th>nl version="1.0" encoding="UTF-0" standalone="yes"?&gt;</th> <th></th>	nl version="1.0" encoding="UTF-0" standalone="yes"?>	
	arpConfigStore xmlns:ns2="com.raytheon.uf.common.datadelivery.registry" xmlns:ns3="http://www.example.org/productType">	
30	<pre></pre>	

**Figure 1**. Excerpt from nsharpConfig.xml with the tempOffset value highlighted. This value shifts the temperature axis of the NSHARP skew-t plot left and right.

The exact steps to perform this configuration are covered in a job sheet in the NSHARP overview that is packaged alongside the AWIPS-2 Variance Training. Hence, these steps are not reproduced here. Refer to Job Sheet 4 ("Configuring a Sounding Display") and Task 2 ("Configure the Wind Barb Density and Temperature Range Offset") for specific and simple instructions.

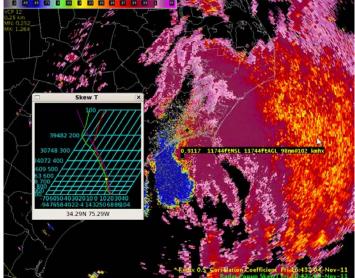
## Exercise 11: Customizing the Pop-up Skew-T and the Standard Environmental Data Package and Volume Browser to Include a Local Model

**Objectives:** In this exercise, you will perform these procedures:

- Add a local model as a choice to sample with the Pop-up Skew-T
- Add a local model to the Standard Environmental Data Package
- Add a custom parameter to sample using the Standard Environmental Data Package
- Add the custom model to the Volume Browser

**Background.** Once AWIPS-2 has been configured to recognize and ingest a local model, this model can be viewed and sampled using the Pop-up Skew-T and the Standard Environmental Data Package. The Pop-Up Skew-T allows model profiles to be sampled alongside a model grid as well as radar and satellite imagery. The Standard Environmental Data Package allows model parameters to be sampled along the tilt or slant range of a radar. The baseline AWIPS configurations for the Pop-Up Skew-T and the Standard Environmental Data Package include these models:

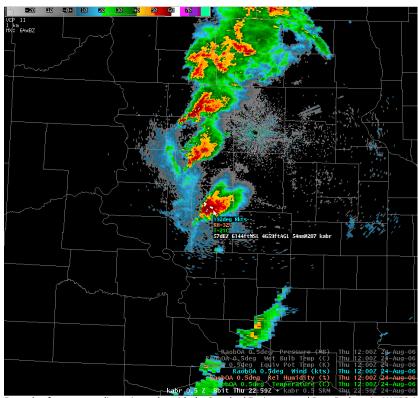
Pop-Up Skew-T	Standard Environmental
	Data Package
NAM	LAPS
GFS 212	NAM40
RUC	RAP40
LAPS	NAM12
Raobs	GFS40
	RAP13
	RaobOA



Example of using the Pop-Up Skew-T with a radar image in AWIPS-2

This exercise assumes you've already configured AWIPS-2 to accept a local model according to the "Site Migration Guide" available on the AWIPS One Stop Shop web site. Additional details for adding local models are given in the "AddLocalGrib.pdf" file that's included under "Additional Resources" alongside the Site Migration Guide on the One Stop Shop (as of September 2013). One of the consequences of following these instructions is the production of a

model identification .XML file in edex\_static/site/**{SITE}**/grib/models (a sample is shown at the right). The examples given in this exercise are for a version of the WRF model (given the model name ID "OUNWRF"), so where "OUNWRF" appears in the examples, you would substitute the ID of your own local model.

Adding the new model to the Pop-Up Skew-T requires customizing the values.xml file under D2D » Cloud Height in the Localization Perspective. The menu and display bundles for the Standard Environmental Data Package are modified to include a new model 



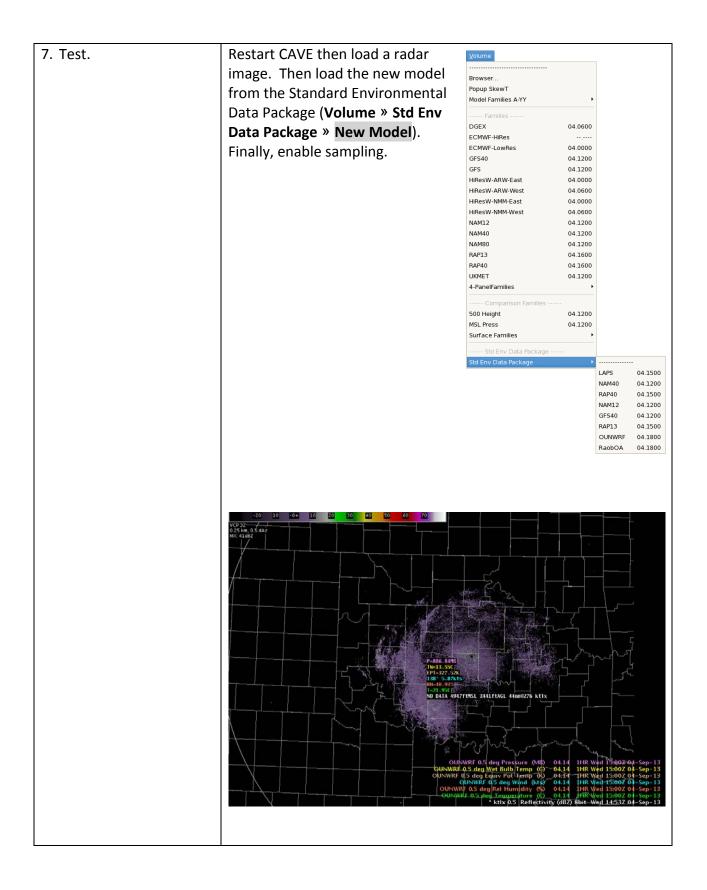
and custom parameter, respectively. Finally, adding the model to the volume browser involves an override to the vbSources.xml file. The changes to each of these files are relatively simple.

This exercise should take about 15-30 minutes to complete.

Concept		Actions				
<ol> <li>Make a site override for the values.xml file that's part of the Cloud Height plugin.</li> <li>Note: Your user must have site override permissions enabled in the userRoles.xml file. See Exercise 1 for</li> </ol>	Add the local model to the In the Localization Perspective file browser, open D2D » Cloud Height » values.xml. Make a site version by right-clicking the BASE icon and choosing Copy To ► Site.	Pop-Up Skew-T         Image: Alertviz         Image: Alertviz<				
<ul> <li>more information.</li> <li>2. Add the local model to the SITE version of values.xml.</li> </ul>	model in place of "OUNWRF". spaces. This is the text that a	ber to substitute the ID for your . The display name can contain				
Save your changes.21@ <cloudheightdata <br="" maxtimeoutsecgrid=".25" nx="25" ny="25"></cloudheightdata> maxTimeoutSecRaob=".1" maxMouseDistanceDeg="5.0" displayOption="PEAK"> 23@ <sources>24<source displayname="No Sampling" name="NONE" type="NONE"/>       2524<source displayname="NAM" name="ETA" type="MODEL"/>       <br< td=""></br<></sources>						
<ul> <li>Figure 1. Addition of a local the Pop-Up Skew-T.</li> <li>3. Test the Pop-Up Skew-T to verify the change.</li> </ul>	I model (OUNWRF) to the value In the D2D perspective, load a radar or satellite image. Load the Pop-Up Skew-T by clicking on CAVE's <b>Volume</b> menu then <b>PopUp SkewT.</b> Right-click somewhere in the radar or satellite image away	es.xml file to enable sampling with				

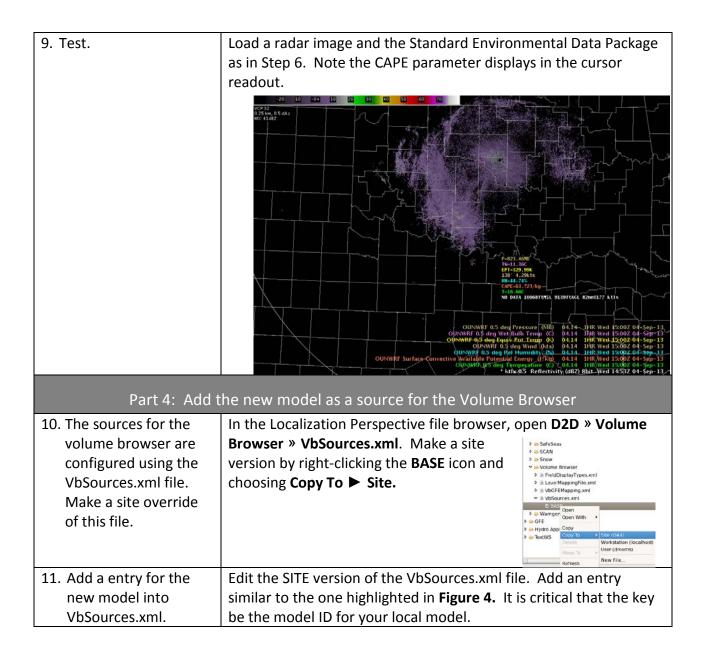
from the legend. In the context menu that appears, click the Sample Cloud Heights/Radar Skew T pull-out menu and choose the new source. Right-click to get the contextual menu again and choose the Sample check box. Roam around the image and examine the corresponding data in the Pop-Up Skew-T. Part 2: Add the local model to the Standard Environmental Data Package				
<ol> <li>Make a site override of the baseStdEnvPackage.xml menu for the Standard Environmental Data Package.</li> </ol>	In the Localization Perspective file browser, open CAVE » Menus » volume » baseStdEnvPackage.xml. Make a site version by right-clicking the BASE icon and choosing Copy To ► Site.			
5. Edit the menu and add a menu entry for the new model.	Edit the new SITE version of baseStdEnvPackage.xml. Add a new menu entry similar to the change highlighted in <b>Figure 2</b> . The most critical piece of information is the model ID used as the value tag for the model name. Note we also changed the name of the bundle file the menu item references from DefaultStdEnv.xml to ounwrfStdEnv.xml. This change can accommodate parameters your local model may have that standard models do not have. Save your changes.			
6. Copy the DefaultStdEnv.xml bundle to ounwrfStdEnv.xml.	In the Localization Perspective file browser, open CAVE » Bundles » volume » DefaultStdEnv.xml. Right- click the BASE icon and choose Copy To ▶ New File. Name the new file to whatever filename was used in Step 5. In our case, it is ounwrfStdEnv.xml.	▼       ✓ volume         ▷       X 500Height.xml         ▷       X DefaultFamily.xml         ▷       X DefaultFamily.xml         ▷       X DefaultFourPanel.xml         ▼       X DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         X       DefaultStdEnv.xml         V       X         ECMWFHiRes       Copy         V       X         ModelFamily       Move To         V       ModelFamily         V       ModelFamily         V       ModelFamily         V       ModelFamily         V       ModelFamily		

	<pre>menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"&gt;      <contribute <="" pre="" titletext=" Std Env Data Package" xsi:type="titleItem"></contribute></pre>
	id="StdEnvPackageLine" />
	<pre><contribute menutext="Std Env Data Package" xsi:type="subMenu"></contribute></pre>
	<pre><contribute <="" file="bundles/volume/DefaultStdEnv.xml" pre="" xsi:type="bundleItem"></contribute></pre>
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	<pre><contribute <="" file="bundles/volume/DefaultStdEnv.xml" pre="" xsi:type="bundleItem"></contribute></pre>
	<pre>menuText="NAM40" id="nam40stdenv" useReferenceTime="true"&gt;</pre>
	<substitute key="modelName" value="\${NAM40model}"></substitute>
	<pre><contribute <="" file="bundles/volume/DefaultStdEnv.xml" pre="" xsi:type="bundleItem"></contribute></pre>
	<pre>menuText="RAP40" id="rap40stdenv" useReferenceTime="true"&gt;</pre>
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	<contribute <="" file="bundles/volume/DefaultStdEnv.xml" td="" xsi:type="bundleItem"></contribute>
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ſ	
	<pre><contribute <="" file="bundles/volume/ounwrf5tdEnv.xml" pre="" xsi:type="bundleItem"></contribute></pre>
	<pre>menuText="OUNWRF" id="ounwrfstdenv" useReferenceTime="true"&gt;</pre>
I	<substitute key="modelName" value="0UNWRF"></substitute>
l	
	<contribute <="" file="bundles/volume/RaobStdEnv.xml" td="" xsi:type="bundleItem"></contribute>
	<pre>menuText="RaobOA" id="raoboastdenv" useReferenceTime="true"&gt;</pre>
	<b>2</b> . Adding the local model to the Standard Environmental Data Package menu.



Part 3: Add a custom parameter from the new model to the						
Standard Environmental Data Package						
<ul> <li>8. Edit the ounwrfStdEnv.xml bundle that we just created. It contains the default parameters in the Standard Environmental Data Package.</li> <li>Add a bundle resource for the custom parameter. In this case, we'll add surface CAPE.</li> <li>The edits here are similar to those made in Exercise 9 for model families.</li> </ul>	<ul> <li>In the Localization Perspective file browser, open CAVE » Bundles » volume » ounwrfStdEnv.xml. Copy and paste the lines highlighted by the red box in Figure 3. In the second version, make these changes:</li> <li>Change the constraintValue for the parameter.abbreviation from P to CAPE (Box "A" in Figure 3).</li> <li>Change the constraintValue for the info.level.masterLevel.name from "TILT" to "SFC" (Box "B" in Figure 3).</li> </ul>					
150        1510 <mapping info.level<="" key="info.level&lt;/td&gt;       152     &lt;mapping key=" td="">       153     <mapping info.level<="" key="info.level&lt;/td&gt;       1540     &lt;mapping key=" td="">       155     <mapping info.level<="" key="info.level&lt;/td&gt;       156     &lt;mapping key=" td="">       157     <metadatabap< td="">       158     <metadatabap< td="">       159     <metadatabap< td="">       160     <metadatabap< td="">       1610     <metadatabap< td="">       1621     <metadatabap< td="">       163     <metadatabap< td="">       164     <metadatabap< td="">       165     <metadatabap< td="">       166     <metadatabap< td="">       167     <metadatabap< td="">       168     <metadatabap< td="">       169     <metadatabap< td="">       170     <metadatabap< td="">       1710     <metadatabap< td="">       1728     <metadatabap< td="">       1739     <metadatabap< td="">       174     <metadatabap< td="">       175     <metadatabap< td="">       176     <metadatabap< td="">       177     <metadatabap< td="">       178     <metadatabap< td="">       179     <metadatabap< td="">       179     <metadatabap< td="">       170     <metadatabap< td="">       1718     <metadatabap< td="">       1729     <matadatabap< td=""></matadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></metadatabap<></mapping></mapping></mapping>	<pre>ntValue="grid" constraintType="EQUALS"/&gt; .assterLevel.name"&gt; ntValue="file" constraintType="EQUALS"/&gt; .leveltwovalue"&gt; ntValue=".999999" constraintType="EQUALS"/&gt; ubeklertMessageParser"/&gt; adProperties" displayType="COMTOUR" loadMithoutData="false"&gt; ourceType&gt; msifyCapability" density="0.0"/&gt; lse" isBlinking="false" isMapLayer="false" isMoverOn="false" isVisible="false"&gt; ourceData "retrieveData="true" isUpdatingOnMetadataOnly="false" isRequeryNecessaryOnTimeMatch="frue eter.abDreviation"&gt; ntValue="file" constraintType="EQUALS"/&gt; ntValue="file" constraintType="EQUALS"/&gt;</pre>					
<pre>image: control of the second control of</pre>						

you called it in Step 5.



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	/bSource category="Volume" key="ETA242" />
	/bSource category="Volume" key="mesoEta216" />
	/bSource category="Volume" key="DGEX185" />
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	/bSource category="Volume" key="GFS201" />
	/bSource category="Volume" key="6FS212" />
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	bSource category="Volume" key="ETA" />
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	bSource category="Volume" key="RUC356" /> bSource category="Volume" key="RUC" />
	usourte category= volume key= Ruc />
	usualize category= volume key= mrzoo // bSource category= volume key= mrzoo // bSource category= volume key= mrzoo //
	usource category= volume key= ukme:-norinerinemispinere /> hSource category==volume key="radar" name=Radar" />
	usuorite category= volume key= radar iname- aada //> //source category=/volume key= radar iname- aada //> //source category=/volume key=radar iname- aada ///
	Unsurfice Category = Volume* key= Avlation Views= FLANTEN IntESTIES /> USSource Category==Volume* key= (MSKPMEE* views=FLANTEN IntESTIES />
	bsource category="sfcfid" key="BHF#" views="PLANVIEW TIMESERIES" />
	bisource category="5fcGrid" key="GFE" views="PLAVIEW TIMESERIES" />
	<pre>bsource category="5fc6rid" key="6f56uide" views="PLANVIEW TIMESERIES" /&gt;</pre>
	bSource category="5fcGrid" key="LAMPTstorm" name="GFSLAMP-Grid" views="PLANVIEW TIMESERIES" />
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	/bSource category=" <i>Point</i> " key=" <i>obs</i> " name=" <i>Metar</i> " views=" <i>TIMESERIES TIMEHEIGHT</i> " />
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	bSource category=" <i>Point</i> " key=" <i>radar149</i> " name="DMD" subCategory="Column" views="CR0555ECTION TIMEHEIGHT VARVSHGT TIMESERIES" />
	/bSource category="Point" key="modelsoundingGFS" name="GFSBufr" subCategory="Column" views="CROSSSECTION TIMEHEIGHT VARVSHGT SOUNDING TIMESERIES" />
	ibSource category="Point" key="goessounding" name="GoesBufr" subCategory="Column" views="CROSSSECTION TIMEHEIGHT VARVSHGT SOUNDING TIMESERIES" />
	bSource category="Point" key="acarssounding" name="ACARS" subCategory="Column" views="CROSSSECTION TIMEHEIGHT VARVSHGT SOUNDING TIMESERIES" />
	/bSource category="Point" key="modelsoundingETA" name="NAMBufr" subCategory="Column" views="CROSSSECTION TIMEHEIGHT VARVSHGT SOUNDING TIMESERIES" />
	ibSource category="Point" key="poessounding" name="PoesBufr" subCategory="Column" views="CROSSSECTION TIMEHEIGHT VARVSHGT SOUNDING TIMESERIES" />
	bSource category="Point" key="profiler" name="Profiler" subCategory="Column" views="CROSSSECTION TIMEHEIGHT VARVSHGT SOUNDING TIMESERIES" />
	/bSource category="Point" key="bufrua" name="Raob" subCategory="Column" views="CROSSSECTION TIMEHEIGHT VARVSHGT SOUNDING TIMESERIES" />
	<u>ibSource_category="Point"_key="bufrua0A"_pa</u> me="Raob0A"_subCategory="Column" />
1	/bSource category=" <i>Volume</i> " key=" <i>OUNWRF</i> " />
1	

**Figure 4.** Additional entry in the VbSources.xml file to add a local model to the sources menu of the Volume Browser.

Note: Some WFOs have their local model under a Local menu in the Volume Browser. In this case, the category should be "Local".

case, the category should b			
12. Restart CAVE and Test.	from the Vo	olume Browser and ensure the lume menu in the sources are n the model using the volume	a and that you can load
	-	Volume Drowser	*
	Ne Edit Toels Maniview Ten		
	Sources	Fields	Planes
	Volume - Stoffeld - Point -	Basic + Weid + Defined + Stc/2D + Other + Raclar + Encorther + Local + MSSLExper +	Pres + Theta + Hgt + Temp + Titls + Misc + Lyrs +
	AK-GFS		
	B AK NAMED		
	COMPLETERS		
	ECHWF-LowRes		
	GF\$360		1
	Gorsa Stection Henew ARW Set Henew ARW Set Henew ARW Set Henew Ross Grossa Longyn Longyn B Lan B Not12	a.	invertary
	F Diamao Selected f	risading 0	
	E NAMOO		
	RAF3     RAF60     RUC     GIS50     UORF     Reduit     Reduit     Availon     Gissonemote     Serr     OUNNY		

## Exercise 12: Adding Custom Menu Entries to the Tools and Help Menus

**Objectives:** In this exercise, you will perform these procedures:

- Add a custom menu entry to the Tools menu to execute an arbitrary command that is external to AWIPS-2
- Add a custom menu entry to the Help menu to execute an arbitrary command that is external to AWIPS-2.

**Background.** AWIPS-1 had the ability to add custom menu entries to the Tools menu of D2D by editing a localAppsInfo.txt file located in \$FXA\_CUSTOMFILES. In AWIPS-2, custom menu entries are added by editing menu XML files in the localization perspective.

This exercise demonstrates the procedure of adding additional menu entries to execute commands that are external to AWIPS-2 (that is, any command that could be executed using a command prompt). The specific example given here is to access the AWIPS-2 Variance Training web page using the Firefox web browser. For demonstration purposes, the same command is added to both the Tools menu and the Help menu. A similar procedure would be followed allow CAVE to launch

Tools Volume Obs NCE	Tools Volume Obs NCE		
Az/Ran Overlay	Az/Ran Overlay		
Baselines	Baselines		
Choose By ID	Choose By ID		
Distance Bearing	Distance Bearing		
Distance Speed	Distance Speed		
Feature Following Zoom	Feature Following Zoom		
Time Of Arrival / Lead Time	Time Of Arrival / Lead Time		
Estimated Actual Velocity	Estimated Actual Velocity		
4-D Storm Investigator (FSI)	4-D Storm Investigator (FSI)		
Home	Home		
LAPS Tools	LAPS Tools		
Points	Points		
Put Home Cursor	Put Home Cursor		
Radar Display Controls	Radar Display Controls		
Range Rings	Range Rings		
Sunrise/Sunset	Sunrise/Sunset		
Text window	Text window		
Units Calculator	Units Calculator		
VR - Shear	VR - Shear		
Local Apps	Local Apps		
D2D Image Maker	D2D Image Maker		
Pane Relief	WDTB Training Aid		
Pane Relief: PaneSet Editor	Dual-pol Exercises Key		

other external locally-developed applications. In this exercise, two similar methods are used, one for the tools menu and the other for the help menu. The difference between the two is that one method could prevent later baseline menu changes from being seen while the other allows both local changes and future baseline changes to be activated.

This exercise should take about 5-10 minutes to complete.

Co	oncept		Actions	
	user override polsindex.xml e.	In the Localization Perspectiv file browser, open CAVE » Menus » tools » toolsindex.xml. Make a user version by right-clicking the BASE icon and choosing Copy To ► User.	<ul> <li>Basemaps</li> <li>Basemaps</li> <li>Bundles</li> <li>Color Maps</li> <li>fotsservice</li> <li>fotsservice</li> <li>fog</li> <li>hydro</li> <li>hydro</li> <li>hydrobase</li> <li>lightning</li> <li>local</li> <li>monitor</li> <li>ncepHydro</li> <li>obs</li> <li>popupSkewT</li> <li>safeseas</li> <li>safeseas</li> <li>sastellite</li> <li>sastellite</li> <li>ssspp</li> <li>textws</li> <li>textws</li> <li>textws</li> <li>tools</li> <li>kaseToolsMenu&gt;</li> <li>R toolsindex.wnl</li> </ul>	Open Open With Copy Copy To Delete Move To Refresh
menu file trainMer the	nu.xml using IsMenu.xml file	Open baseToolsMenu.xml and right-click the BASE icon and choose Copy To ► New File. Name the new file trainMenu.xml.	<ul> <li>&gt;</li></ul>	n With  y y y To File Site (MRX) Workstation (localhost) User (dmorris) New File
delete th entries a new entr AWIPS-2	new nu.xml to ne pre-existing nd to add a ry for the Variance web page.	Edit the trainMenu.xml file by double-clicking its icon.         Delete the existing menu contributions beginning with the one for the Az/Ran Overlay and ending with the one for the Vr – Shear tool.         If you are performing this action on an ADAM platform, make the edit shown in Figure 1.         If this is on a live AWIPS-2 system, make the change shown in Figure 2.         Save your changes.         Note that the baseline menu file includes a comment near the bottom of the file that documents the available options involved in adding an arbitrary command to a CAVE menu. Additional menu contributions could be added as well as more structure, including submenus, if desired. For examples of submenus, see Exercise 8.		

<pre>emenuTemplate xmlns:xsi="http://www.template"&gt;menuTemplate</pre>	v3.org/2001/XMLSchema-instance">		
<contribute id="trainingLinks" xsi:type="separator"></contribute> <contribute titletext=" Reference Info" xsi:type="titleItem"></contribute>			
<contribute <br="" xsi:type="command">commandId="com.raytheon.viz.awipstools.arbitrary" menuText="AWIPS 2 Variance Training "&gt;</contribute>			
<pre><parameter key="commandAction" value="firefox https://collaborate.nws.noaa.gov/training/AWIPSEVariancesFinal/start.html"></parameter></pre>			
<ul> <li>the others default to false if u</li> <li>the launched command closes a dia</li> </ul>	elow, commandAction parameter is required, ndefined. If captureOutput is true then after alog box will show the contents printed to is true then standard output will be echoed on		
<pre>3 standard out of cave ( not very not open set of the set of</pre>			
2 menuText="ps -A" > 3 <parameter captureoutpu"<br="" key="commandAction&lt;br&gt;4 &lt;parameter key=">5 <parameter <="" key="showStdOut" td=""><td>" value="/bin/ps -A" /&gt; t" value="true" /&gt;</td></parameter></parameter>	" value="/bin/ps -A" /> t" value="true" />		
<pre>5  7&gt; 3  4  4  4  4  4  4  4  4  4  4  4  4  4</pre>			
	ml to add a command to launch the firefox web browser with the		
<pre>G<menutemplate traininglinks"="" xmlns:xsi="http://www.&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;id="></menutemplate> titleText=" Reference Info"/&gt;</pre>			
<pre><contribute <br="" xsi:type="command">commandId="com.raytheon.vi menuText="AWIPS-2" Variance</contribute></pre>			
<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	ion" value="firefox http://165.92.25.138:85/Training/AWIPS2VariancesFinal/start.html" /> put" value="false" />		
the others default to false if u the launched command closes a di standard output. If showStdOut standard out of cave ( not very	elow, commandAction parameter is required, ndefined. If captureOutput is true then after alog box will show the contents printed to is true then standard output will be echoed on useful )>		
	awipstools.arbitrary"		
<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	t" value="true" />		
> 			
-	ml to add a command to launch the firefox web browser with the ve AWIPS-2 workstation version)		
Edit the toolsindex.xml	Edit your USER version of toolsindex.xml. Add the new menu		
menu to include the	entry that is highlighted in Figure 3. Save your changes.		
new trainMenu.xml.			
<pre>@ <menucontributionfile> @ <include <br="" installto="menu:t&lt;br&gt;fileName=" menus="" tools=""></include></menucontributionfile></pre>			
<pre><include <="" include="" installto="menu:t fileName=" menus="" tools=""></include></pre>			
	Menu.xml menu to the bottom of the D2D Tools Menu.		

5. Restart CAVE and open	Tools	Avridhiji li Manfanco Thranning - Manitia Finefan		
the Tools menu to see	[19: get type Higher, Boo	ntips.//colleborate.nas.neee.gou/training/0811-9-2x88195/variaece.index.iten: • 📳		
	Az/Ran Overlay	National Weather Service Training Division		
the new menu entry	Choose By ID	Alt 125 Edgestion Variance Overview		
and verify that it	Distance Bearing Home Sugar	7 Variance Training		
works.	Distance Speed	Welcome to the AWIPS Migration Variance Overview (Draft)!		
	Distance Scale Feature Following Zoom	The seguration of AWPIS1 to AWPIS2 is a "black load" conversion, designed to preserve the look and text of AWPIS1 software while fundamentality charging the underlying and interface to support flater reprovements. Attractily much of AWPIS2 appears samata to XMPIS1 in the otherwise interface, there are accepted offerences called "varianced".		
(Note: if Firefox is	Estimated Actual Velocity	Audience The current version of this course is in preliminary 'shaft form' based off of the C011 S 2 release. This version is for the Field OTAE sites preparing for the installation of AWAPS 2.		
already open on your	4-D Storm Investigator (FSI)	Other every may find this divit baking useful, however, they should note that they will ored to take the final version of the occurse through the LGS when it is complete. This course a gives to bake those to a space to course called the AVER22 Automation load will be course at the aVER25 backgrounds to not to collar AVER22. We remease an encoded as FOTE contenses, and Jatar addees all batter refer the waters bakeng. Done the saming a complete. The Transmot Course the condigence the ULES, and in the enable that large audience.		
workstation, then the	Time Of Arrival / Lead Time	Variance Costs with the contegured in the LCM, which will be made available to a larger audience. Estimated Completion Times (2-3hm) Core material (-1.5-2hm) + contain instantial (-0.5-3hm) depending on thou many job sheets are taken.		
web page may open in	LAPS tools	Course Objectives Upon completion of this course, you will be refer to:		
a new tab in the	Points	-		
existing Firefox	Put home cursor			
instance).	Radar Display Controls Range Rings			
instance).	Sunrise/Sunset			
	Text Window			
	Units Calculator VR - Shear			
	Warngen			
	Reference Info			
	AWIPS-2 Variance Training			
6. Make a new	Right-click the USER version of			
trainindex.xml file.	the toolsindex.xml file (CAVE »	▽ 🖹 baseToolsMenu.xml		
Any menu file named	Menus » tools »	BASE		
according to	toolsindex.xml) and choose	✓ X toolsindex.xml     X BASE		
*index.xml gets	Copy To ► New File. Name the	Open		
included into the menu	new file trainindex.xml. Edit	Open With		
structure so long as it	trainindex.xml so it reads like	Copy		
references part of the	Figure 4.	▷ ▷ ut Copy To → Site (OUN)		
existing structure.	Figure 4.	Delete Workstation (localhost)		
U		▷ ➢ w     Move To       ▷ ➢ x     New File		
With the previous		Refresh		
method, if a future				
baseline change to				
toolsindex.xml	Note: the help menu is not exp	2		
occurred, we would		spective; it is defined elsewhere.		
never see it because	Additionally, there is no recomm	mended place to store a local		
our USER or SITE	menu contribution file. One WI	FO made a localmenus directory		
override would	to store such files. This director	to store such files. This directory has to be manually created		
prevent those changes	outside the Localization Perspective in			
from being reflected	cave_static/site/{Site}/menus/localmenus.			
on our system. This				
method does not				
consist of an override;				
rather, it just adds a				
new menu				
contribution.				

1 xml version="1.0" encoding="UTF-8" standalone="yes"? 20 </th				
<pre>3 This_software_was_developed_and_/_or_modified_by_Raytheon_Company, 4 pursuant_to_Contract_DG133W-05-CQ-1067_with_the_US_Government.</pre>				
5         6       U.SEXPORT_CONTROLLED_TECHNICAL_DATA         7       This_software_product_contains_export-restricted_data_whose         8       export/transfer/disclosure_is_restricted_by_U.Slaw. Dissemination				
9 to_non-U.Spersons_whether_in_the_United_States_or_abroad_requires 10 an_export_license_or_other_authorization.				
12     Contractor_Name:       13     Contractor_Address:       14	_Raytheon_Company _6825_Pine_Street,_Suite_340 _Mail_Stop_B8			
15 16 17	_Omaha,_NE_68106 _402.291.0100			
	<pre>Rights_File_("Master_Rights_File.pd mation.</pre>	f")_for		
210 <menucontributionfile></menucontributionfile>	_			
<pre>220 <include installto="menu:he&lt;br&gt;23 fileName=" menus="" pre="" t<="" tools=""></include></pre>				
24				
25				
Figure 4. Adding the train N	lenu.xml to the bottom of the	e D2D Help Menu using a new		
trainindex.xml menu file rat	her than overriding an existin	ig menu file.		
7. Restart CAVE and open	<u>H</u> elp	-		
the Help menu to see				
the new menu entry	□ Show tooltips			
and verify that it works.				
	<u>A</u> bout CAVE apollo.wdtb.noaa.gov:24693			
	Reference Info			
	AWIPS-2 Variance Training			
9 If desired promote	5	▽ 🍃 tools		
8. If desired, promote	Right-click the USER	✓      ✓      ✓      ✓      BaseToolsMenu.xml     ✓     BASE		
your <b>USER</b> versions of	version of toolsindex.xml	▽ 🕅 toolsindex.xml		
toolsindex.xml and	and choose	BASE USER (dmorris) Open		
trainMenu.xml to <b>SITE</b> .	Move To ► Site.	✓		
Note: Your user must	Right-click the USER	USER (dmorris)		
have site override	version of trainMenu.xml	b      course     volume     Site (OUN)		
permissions enabled in	and choose	b >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>		
the userRoles.xml file.	Move To► Site.	▷ ➢ xmi New File		
See Exercise 1 for				
more information.	Right-click the USER version of trainindex.xml and choose			
	Move To ► Site.			

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