AWIPS-2 Reference Sheet

CAVE's Menu Files

Updated for AWIPS Build OB13.5

Introduction

CAVE's menu system is highly configurable. It is described using .XML files. The default versions of the menu system are located in the CAVE plugins themselves or in CAVE's /etc directory. These default files are analogous to the nationalData files in AWIPS-1. Override files are located in the Localization Store / utility tree in EDEX and are editable using the Localization Perspective. The base menu structure is defined using (immutable) plugin.xml files that aren't accessible through the Localization Perspective. For example, part of the base D2D menu is contained in a plugin.xml file in the com.raytheon.uf.viz.d2d.ui plugin (shown in Figure 1). Additional structure is then usually added using index.xml and additional .xml files that can be customized using the Localization Perspective.

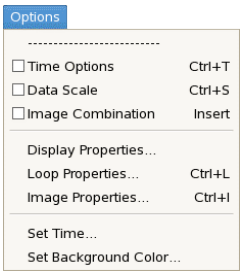
AWIPS-2 provides the capability to have both site and user overrides of menus. Of course, user overrides of menus were not possible in AWIPS-1. This reference shows a couple of examples from the D2D perspective and how they are linked together to form the complete menuing system.

Plugin.xml files

Plugin.xml files are packaged with individual CAVE plugins. They cannot be overridden, but they, among other things, can provide the base structure for a menu, to which other menus can be attached. Plugin.xml files cannot be viewed using the Localization Perspective.

In the snippet of the plugin.xml file of the com.raytheon.uf.viz.d2d.ui plugin (Figure 1), which defines the overall D2D menu structure, you will see entries for the last part of the Options menu, the Tools menu, the Volume menu, and the first part of the Obs menu. Notice that the main menu items (like tools, volume and obs) have an ID tag. This allows these menu items to be referenced by other menu files. This means that other menu items can be inserted in the particular menus or inserted in the main menu before or after these menus. The entries that have a label tag define the actual text that's displayed in the menu. Other entries have ID or name tags which allow other menus or menu entries to be inserted relative to these positions.

The first entry in the snippet shown in Figure 1 is the command in the Options menu to set the background color of the display. This is a "command", meaning it will execute a specific software routine; in this case, the routine is "com.raytheon.viz.ui.setbackgroundcolor". Another command ("com.raytheon.viz.ui.actions.titleAction") puts the "------ METAR ------" label in the Obs menu. Lots of similar commands fill up the Tools menu (Figure 2). This tools menu file (baseToolsMenu.xml) also contains a comment about adding your own commands. Later, we will

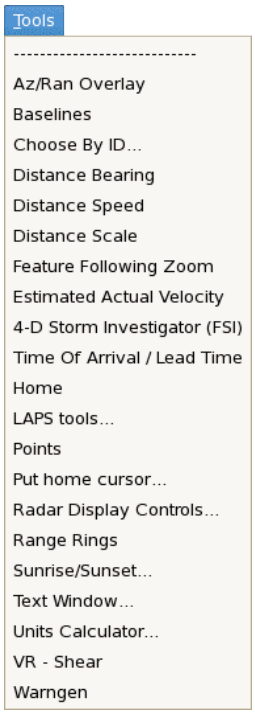


see how files like baseToolsMenu.xml are attached to the main menu; Exercise 12 in the EDEX/CAVE Configuration Exercises document gives step-by-step instructions on adding your own commands to the CAVE menu.

```
 <command
        commandId="com.raytheon.viz.ui.setbackgroundcolor"
        label="Set Background Color...">
   </command>
</menu>
<menu
      id="tools"
      label="Tools"
      mnemonic="T">
   <visibleWhen>
      <reference
            definitionId="com.raytheon.uf.viz.d2d.ui.inD2DActionSet">
      </reference>
   </visibleWhen>
   <separator
        name="tools.start"
        visible="false">
   </separator>
   <separator
        name="D2D.Tools.Additions"
        visible="false">
   </separator>
</menu>
<menu
      id="volume"
      label="Volume"
      mnemonic="V">
   <visibleWhen>
      <reference
            definitionId="com.raytheon.uf.viz.d2d.ui.inD2DActionSet">
      </reference>
   </visibleWhen>
   <separator name="top" visible="false"/>
</menu>
<menu
      id="obs"
      label="Obs"
      mnemonic="O">
   <visibleWhen>
      <reference
            definitionId="com.raytheon.uf.viz.d2d.ui.inD2DActionSet">
      </reference>
   </visibleWhen>
   <separator
        name="SURFACE"
        visible="false">
   </separator>
   <separator
        name="EndOfInitial"
        visible="true">
   </separator>
   <command
        commandId="com.raytheon.viz.ui.actions.titleAction"
        label="------ METAR ------">
   </command>
   <separator
        name="METAR"
        visible="false">
   </separator>
```

Figure 1. Excerpt from cave/plugins/com.raytheon.uf.viz.d2d.ui*.*/plugin.xml. The “*.*” in “com.raytheon.uf.viz.d2d.ui*.*” refers to the version number of this plugin (for example, at the time of this writing, the version number was “_1.12.1174.201307030313”).

```
<menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.azran"
                menuText="Az/Ran Overlay" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.baselines"
                menuText="Baselines" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.choosebyid"
                menuText="Choose By ID..." />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.distancebearing"
                menuText="Distance Bearing" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.distancespeed"
                menuText="Distance Speed" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.distancetool"
                menuText="Distance Scale" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.ffz"
                menuText="Feature Following Zoom" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.estimatedactualvelocity"
                menuText="Estimated Actual Velocity" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.ui.viz.radarapps.fsi.startFSI"
                menuText="4-D Storm Investigator (FSI)" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.timeofarrival"
                menuText="Time Of Arrival / Lead Time" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.home"
                menuText="Home" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.lapstools"
                menuText="LAPS tools..." />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.points"
                menuText="Points" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.puthomecursor"
                menuText="Put home cursor..." />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.radar.ui.RadarDisplayControls"
                menuText="Radar Display Controls..." />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.rangerings"
                menuText="Range Rings" />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.sunrise"
                menuText="Sunrise/Sunset..." />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.texteditor.opentexteditor"
                menuText="Text Window..." />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.unitscalculator"
                menuText="Units Calculator..." />
        <contribute xsi:type="command"
                commandId="com.raytheon.viz.awipstools.vrshear"
                menuText="VR - Shear" />
        <!-- example arbitrary command below, commandAction parameter is required,
        the others default to false if undefined.  If captureOutput is true then after
        the launched command closes a dialog box will show the contents printed to
        standard output.  If showStdOut is true then standard output will be echoed on
        standard out of cave ( not very useful ) -->
        <!--
        <contribute xsi:type="command"
```



```
            commandId="com.raytheon.viz.awipstools.arbitrary"
            menuText="ps -A" >
            <parameter key="commandAction" value="/bin/ps -A" />
            <parameter key="captureOutput" value="true" />
            <parameter key="showStdOut" value="false" />
        </contribute>
        -->
</menuTemplate>
```

Figure 2. Complete listing of cave/plugins/com.raytheon.viz.awipstools*.*/baseToolsMenu.xml (available in the Localization Perspective at **CAVE ▸ Menus ▸ Tools ▸ baseToolsMenu.xml**). Note the one-to-one correspondence between the actual menu and the entries in the XML file. The comment at the end of the file is about adding custom commands.

Probably the main reason to look at the ***plugin.xml*** files is to see the overall menu structure including separators to which you can attach your own custom menu entries. You can't use the Localization Perspective to view a plugin.xml file; you must use a standard text editor.

Example: Volume Menu and Separators

The Volume menu is initially defined (with almost no structure) by the entry that says '`id="volume"` ' in Figure 1. Another plugin.xml file packaged in the volume browser plugin (cave/plugins/com.raytheon.viz.volumebrowser_*/plugin.xml; Figure 3) adds structure to the Volume menu by adding both visible and invisible separators. (The CAVE developers apparently considered the Volume menu and the Volume Browser as a logical unit and developed them as a unit. The volume browser plugin also contains .XML files that configure the Volume Browser proper.) This plugin.xml file adds a command that can launch the volume browser, plus it adds three visible separators (the three horizontal dividers in the menu marked by C, D, and F) and two invisible separators. Note how the structure defined in plugin.xml file

```
<extension
         point="org.eclipse.ui.menus">
      <menuContribution
            locationURI="menu:volume?after=top">
            <command
        Ⓐ           commandId="com.raytheon.viz.volumebrowser.volumeBrowserRef"
                    label="Browser...">
            </command>
        Ⓑ   <separator name="afterVB" visible="false"/>
        Ⓒ   <separator name="VolumeBundles" visible="true"/>
        Ⓓ   <separator name="ComparisonFamilies" visible="true"/>
        Ⓔ   <separator name="SurfaceFamilies" visible="false"/>
        Ⓕ   <separator name="StdEnvDataPackageFamilies" visible="true"/>
      </menuContribution>
    </extension>
</plugin>
```

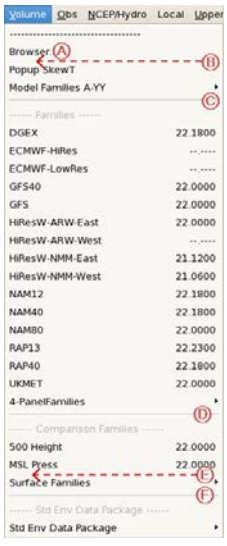


Figure 3. Listing of cave/plugins/com.raytheon.viz.volumebrowser_*/plugin.xml (left) with the Volume menu of the D2D perspective (right). Annotations A-F indicate correspondence between the XML file and the actual menu.

matches the actual menu. The first separator is called “afterVB”, the second and third are visible and are named VolumeBundles and ComparisonFamilies. (Another invisible separator named “top” was defined in Figure 1). The 4th separator is not visible and is located just above the Surface Families pull-out menu. The last separator is visible. Also note that the labels (e.g., “---- Families ------” shown in Figure 3) that appear in the menu are their own menu entries and are not related to the separators.

If you’re wondering where the Popup SkewT menu entry comes from, a discussion of that comes later, after a discussion of the concept of index.xml menu files.

Index.xml files

Index.xml files also are packaged with individual CAVE plugins. They can be viewed and overridden using the Localization Perspective. They often provide more structure to the menus and reference additional menu XML files, which can also have site and user overrides. The additional included menu files are generally packaged alongside the index.xml file.

The index.xml files packaged in a CAVE plugin are often named with the pattern “*index.xml”. For example, the Tools menu referenced above (“baseToolsMenu.xml”; Figure 2) is referenced by toolsindex.xml that is also located in the awipstools plugin and in the localization perspective (**CAVE ▸ Menus ▸ tools**).

Example: Volume Menu

Continuing our look at building the volume menu, there is an index.xml file (Figure 4) in the com.raytheon.viz.volumebrowser plugin. When a plugin has a configurable menu, the plugin will have a localization/menus directory. An index.xml file in the menus directory of the plugin begins the process of adding additional menu contributions to the shell already defined by the plugin.xml files discussed earlier. In general, the index.xml files probably reference other menu files. The volume browser plugin contains seven total menu files (that is, the six files referenced in Figure 4 plus index.xml).

Looking at this index.xml file, we will look at these menu contributions from the bottom-up. The last include installs the baseStdEnvPackage.xml menu file after the StdEnvDataPackageFamilies separator.

```
<menuContributionFile>
    <substitute key="DGEXmodel" value="DGEX185" />
    <substitute key="GFSmodel" value="GFS213" />
    <substitute key="NAM12model" value="ETA218" />
    <substitute key="NAM40model" value="mesoEta212" />
    <substitute key="ARWmodel1" value="HiResW-ARW-East" />
    <substitute key="ARWmodel2" value="HiResW-ARW-West" />
    <substitute key="MMMmodel1" value="HiResW-NMM-East" />
    <substitute key="MMMmodel2" value="HiResW-NMM-West" />
    <substitute key="RAP13model" value="RUC130" />
    <substitute key="RAPmodel" value="RUC236" />
    <include installTo="menu:volume?after=VolumeBundles"
            fileName="menus/volume/baseFamilies.xml">
    </include>
    <include installTo="menu:volume?before=VolumeBundles"
            fileName="menus/volume/ModelFamilies.xml">
    </include>
    <include subMenu="4-PanelFamilies" installTo="menu:volume?before=ComparisonFamilies"
            fileName="menus/volume/baseFourPanelFamilies.xml">
    </include>
    <include installTo="menu:volume?after=ComparisonFamilies"
            fileName="menus/volume/baseComparisonFamilies.xml">
    </include>
    <include subMenu="Surface Families" installTo="menu:volume?after=SurfaceFamilies"
            fileName="menus/volume/baseSurfaceFamilies.xml">
    </include>
    <include installTo="menu:volume?after=StdEnvDataPackageFamilies"
            fileName="menus/volume/baseStdEnvPackage.xml">
    </include>
</menuContributionFile>
```

Figure 4. cave/plugins/com.raytheon.viz.volumebrowser/*/localization/menus/volume/index.xml (seen in the localization perspective under CAVE ►Menus ►Volume ►index.xml).

Remember this particular separator was defined in the Volume menu using the plugin.xml file (Figure 3). Notice that the filename given in the index.xml file is relative to the plugin's localization directory, which is why the path says menus/volume/baseStdEnvPackage.xml. Note that the menu files can be installed either before or after a separator.

Other menu contributions are the baseSurfaceFamilies.xml, the baseComparisonFamilies.xml, the baseFourPanelFamilies.xml, the ModelFamilies.xml, and the baseFamilies.xml. You can see how these menus fill out the Volume menu. We'll look at the top section (baseFamilies.xml) in a bit more detail, and you can look at each of these menu files in the localization perspective if you wish.

baseFamilies.xml (Figure 5) is a menuTemplate. This means that it can receive key and value pairs to define some variables. In addition, menu templates sometimes are included more than once by an index.xml file. The index.xml file (Figure 4) has defined eight variables (GFSmodel as GFS213, NAM12model as ETA218, etc). These values are passed into the various display *bundles* to make the actual graphical displays as we will see later.

Looking at baseFamilies.xml, the first menu contribution is a titleItem which places the Families label in the menu.

The next contribution adds the entry for the DGEX model. It passes in the value DGEX185 to be associated with the key "modelName". Additional variables needed by the bundle are also defined, such as TP which provides the model-specific parameter ID for precipitation accumulation. The next set of contributions are for the ECMWF, the GFS, and the WRF models. There is a one-to-one relationship between the menu contributions and the actual displayed menu. Following the ARW and MMM menu entries, there are contributions for the NAM, the RAP, and the UKMET.

It turns out that the menu option for the pop-up skewT is added through a different index.xml menu file (this file is actually located in a cloud height plugin; Figure 6). This menu file says that whatever options are in the popupSkewT.xml menu file will be added to the volume menu after the afterVB separator (that was already defined in Figure 3 as being invisible, and marked with the circled B). The popupSkewT.xml file (Figure 7) only contains one menu entry to add the actual entry for the popUp SkewT.

Notice in Figure 4 that some sub-menus (the pull-out menus for the 4-Panel Families and the Surface Families) are defined explicitly by the index.xml file. However, the Volume menu (see Figure 3) also has two additional sub-menus (one for the Model Families and the other for the Standard Environmental Data Package). Each of these menu files define their sub-menus internally. Also, note that the Model Families sub menu contains an addition to the AWIPS-2 baseline which includes the displays and derived parameters developed and synthesized by Dan Baumgardt and distributed to many WFOs via localized versions of the old AWIPS-1 virtual field table. Exercise 9 in the CAVE/EDEX Configuration Module provides step-by-step instructions on converting additional local Model Family displays beyond these Baumgardt extensions.

```
<menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <contribute xsi:type="titleItem" titleText="------ Families ------"
        id="FamiliesLine" />
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="DGEX" id="dgex" useReferenceTime="true">
        <substitute key="modelName" value="${DGEXmodel}"/>
        <substitute key="TP" value="TP"/>
        <substitute key="frameCount" value="18"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/ECMWFHiRes.xml"
        menuText="ECMWF-HiRes" id="ecmwfHiRes" useReferenceTime="true">
        <substitute key="TP" value="TP"/>
        <substitute key="frameCount" value="41"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/ECMWFLowRes.xml"
        menuText="ECMWF-LowRes" id="ecmwfLowRes" useReferenceTime="true">
        <substitute key="TP" value="TP"/>
        <substitute key="frameCount" value="8"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="GFS40" id="gfs40" useReferenceTime="true">
        <substitute key="modelName" value="GFS212"/>
        <substitute key="TP" value="TP"/>
        <substitute key="frameCount" value="41"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="GFS" id="gfs90" useReferenceTime="true">
        <substitute key="modelName" value="${GFSmodel}"/>
        <substitute key="TP" value="TP"/>
        <substitute key="frameCount" value="41"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/LimitedFamily.xml"
        menuText="${ARWmodel1}" id="arwEast" useReferenceTime="true" suppressErrors="${ARWsuppress1;false}">
        <substitute key="modelName" value="${ARWmodel1}"/>
        <substitute key="frameCount" value="17"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/LimitedFamily.xml"
        menuText="${ARWmodel2}" id="arwWest" useReferenceTime="true" suppressErrors="${ARWsuppress2;false}">
        <substitute key="modelName" value="${ARWmodel2}"/>
        <substitute key="frameCount" value="17"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/LimitedFamily.xml"
        menuText="${MMMmodel1}" id="mmmEast" useReferenceTime="true" suppressErrors="${MMMsuppress1;false}">
        <substitute key="modelName" value="${MMMmodel1}"/>
        <substitute key="frameCount" value="17"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/LimitedFamily.xml"
        menuText="${MMMmodel2}" id="mmmWest" useReferenceTime="true" suppressErrors="${MMMsuppress2;false}">
        <substitute key="modelName" value="${MMMmodel2}"/>
        <substitute key="frameCount" value="17"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="NAM12" id="nam12" useReferenceTime="true">
        <substitute key="modelName" value="${NAM12model}"/>
        <substitute key="TP" value="TP3hr"/>
        <substitute key="frameCount" value="29"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="NAM40" id="nam40" useReferenceTime="true">
        <substitute key="modelName" value="${NAM40model}"/>
        <substitute key="TP" value="TP3hr"/>
        <substitute key="frameCount" value="29"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="NAM80" id="nam80" useReferenceTime="true">
        <substitute key="modelName" value="ETA"/>
        <substitute key="TP" value="TP6hr"/>
        <substitute key="frameCount" value="15"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="RAP13" id="rap13" useReferenceTime="true">
        <substitute key="modelName" value="${RAP13model}"/>
        <substitute key="TP" value="TP3hr"/>
        <substitute key="frameCount" value="19"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/DefaultFamily.xml"
        menuText="RAP40" id="rap" useReferenceTime="true">
        <substitute key="modelName" value="${RAPmodel}"/>
        <substitute key="TP" value="TP3hr"/>
        <substitute key="frameCount" value="9"/>
    </contribute>
    <contribute xsi:type="bundleItem" file="bundles/volume/UKMET.xml"
        menuText="UKMET" id="ukmet" useReferenceTime="true">
        <substitute key="TP" value="TP6hr"/>
        <substitute key="frameCount" value="15"/>
    </contribute>
</menuTemplate>
```

Figure 5. cave/plugins/com.raytheon.viz.volumebrowser*/localization/menus/volume/baseFamilies.xml (seen in the localization perspective under CAVE ►Menus ►Volume ►baseFamilies.xml)

```
<menuContributionFile>

        <include installTo="menu:volume?after=afterVB"
                 fileName="menus/popupSkewT/popupSkewT.xml">
        </include>
</menuContributionFile>
```

Figure 6. cave/plugins/com.raytheon.uf.viz.cloudheight_/*/localization/menus/popupSkewT/index.xml (seen in the localization perspective under CAVE ►Menus ►popupSkewT ►index.xml)

```
<menuTemplate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <contribute xsi:type="bundleItem" file="bundles/popupSkewTBundle.xml"
                menuText="Popup SkewT" id="popupSkewT" timeQuery="false">
    </contribute>
</menuTemplate>
```

Figure 7. cave/plugins/com.raytheon.uf.viz.cloudheight_/*/localization/menus/popupSkewT/popupSkewT.xml (seen in the localization perspective under CAVE ►Menus ►popupSkewT ►popupSkewT.xml)

Example: Obs Menu

The basic process of constructing the Obs menu is similar to the Volume menu, but there is bit of additional complexity because the menu contribution files for the Obs menu are spread out over several locations. We start with the same com.raytheon.uf.viz.d2d.ui plugin.xml file (Figure 8; an overlapping snippet with Figure 1) that we used for the Volume menu. Note the various separators and labels that appear in the Obs menu (Figure 9).

The first menu contribution file for the Obs menu is menus/obs/index.xml (Figure 10). It's also found in the Localization Perspective under CAVE ►Menus ► obs ► index.xml.

The first include adds the first surface plot (Ⓐ in Figure 9 after the invisible "SURFACE" separator that was defined in the plugin.xml shown in Figure 8 to be at the very top of the Obs menu). The two visible separators (the horizontal line ① and the METAR label ②) come from the plugin.xml. As you can see, the remaining separators in the plugin.xml and the includes in the index.xml file show up accordingly in the menu, down through the maritime section (③–⑧ and Ⓑ–Ⓔ).

The next menu item (the SAFESEAS pullout) is defined in the SAFESEAS plugin itself. It is packaged in a jar file (localization/menus/safeseas/index.xml in com.raytheon.uf.viz.monitor.safeseas_*.jar; Figure 11). There is a *jar* command in linux (Figure 12) that allows you to examine the contents of the jar file. It works much like the tar command, and here is an example of using it. Copy the jar file to your home directory, then use the jar command to look at the contents of the file (the tvf option), and then use the xvf option to extract the index.xml file from the safeseas plugin. Just like the tar command, the extract option creates the directory structure defined in the file, so the index.xml file will be in your home directory in a localization/menus/safeseas subdirectory. The SAFESEAS index.xml is also available in the Localization Perspective under CAVE ►Menus ► safeseas ► index.xml.

Following the EndOfMaritime separator (⑨) and the Hazards label (⑩), the next part of the Obs menu consists of the warning plots in the Hazards section. There is an index.xml file defined in the warning plugin (cave/plugins/com.raytheon.viz.warnings*/localization/menus/warnings/index.xml), but this particular menu file has a site override. User overrides are also possible. Because of the site override, the actual menu file that's used is in the localization store (/awips2/edex/data/utility/cave_static/site/OAX/menus/warnings/index.xml; Figure 13). This file has a site override because of having to define the WFO sites for which to plot the warnings. The base, site, and any user overrides are viewable in the Localization Perspective under CAVE ► Menus ► warnings ►index.xml.

```
<menu
      id="volume"
      label="Volume"
      mnemonic="V">
   <visibleWhen>
      <reference
            definitionId="com.raytheon.uf.viz.d2d.ui.inD2DActionSet">
      </reference>
   </visibleWhen>
   <separator name="top" visible="false"/>
</menu>
<menu
      id="obs"
      label="Obs"
      mnemonic="O">
   <visibleWhen>
      <reference
            definitionId="com.raytheon.uf.viz.d2d.ui.inD2DActionSet">
      </reference>
   </visibleWhen>
   <separator
         name="SURFACE"
         visible="false">
   </separator>
   <separator
      ①  name="EndOfInitial"
         visible="true">
   </separator>
   <command
      ②  commandId="com.raytheon.viz.ui.actions.titleAction"
         label="------ METAR ------">
   </command>
   <separator
         name="METAR"
         visible="false">
   </separator>
   <separator
      ③  name="EndOfMetar"
         visible="true">
   </separator>
   <command
      ④  commandId="com.raytheon.viz.ui.actions.titleAction"
         label="------ Synoptic ------">
   </command>
   <separator
         name="SYNOPTIC"
         visible="false">
   </separator>
   <separator
      ⑤  name="EndOfSynoptic"
         visible="true">
   </separator>
   <command
      ⑥  commandId="com.raytheon.viz.ui.actions.titleAction"
         label="------ Local data ------">
   </command>
      <separator
         name="LocalData"
         visible="false">
      </separator>
   <separator
      ⑦  name="EndOfLocalData"
         visible="true">
   </separator>
   <command
      ⑧  commandId="com.raytheon.viz.ui.actions.titleAction"
         label="------ Maritime ------" id="MARITIME">
   </command>
   <separator
      ⑨  name="EndOfMaritime"
         visible="true">
   </separator>
   <command
      ⑩  commandId="com.raytheon.viz.ui.actions.titleAction"
         label="------ Hazards ------" >
   </command>
   <separator name="HAZARDS" visible="false"/>
   <separator name="LIGHTNINGPLACEHOLDER" visible="false"/>
   <separator name="FOGPLACEHOLDER" visible="false"/>
   <separator name="SNOWPLACEHOLDER" visible="false"/>
   <separator
         name="EndOfHazards"
         visible="true">
   </separator>
</menu>
```

Figure 8: Obs menu section of com.raytheon.uf.viz.d2d.ui/plugin.xml

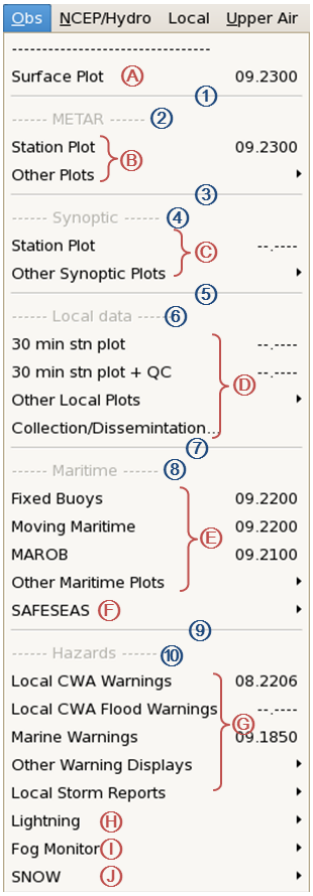


Figure 9. CAVE's Obs menu. Annotated numbered circles correspond to commands and circles shown in Figure 8. Circled letters correspond to menu entries in various menu contribution files (Figures 10-11, 13-16).

```
<menuContributionFile>
<include installTo="menu:obs?after=SURFACE"
         fileName="menus/obs/baseSurface.xml"/>
    <include installTo="menu:obs?after=METAR"
         fileName="menus/obs/baseMetar.xml"/>
    <include installTo="menu:obs?after=SYNOPTIC"
         fileName="menus/obs/baseSynoptic.xml"/>
    <include installTo="menu:obs?after=LocalData"
         fileName="menus/obs/baseLocalData.xml"/>
    <include installTo="menu:obs?after=MARITIME"
         fileName="menus/obs/baseMaritime.xml"/>
</menuContributionFile>
```

Figure 10. /awips2/cave/etc/menus/obs/index.xml found in the localization perspective under CAVE ►Menus ►obs ► index.xml.

```
<menuContributionFile>
    <include installTo="menu:obs?before=EndOfMaritime"
         fileName="menus/safeseas/baseSafeSeas.xml"
         subMenu="SAFESEAS"/>
```

Figure 11. localization/menus/safeseas/index.xml

```
% cd /awips2/cave/plugins
% cp com*safeseas*.jar ~
% cd
% jar tvf com*safeseas*.jar
% jar xvf com*safeseas*.jar
  localization/menus/safeseas/
  index.xml
% vi localization/menus/safeseas/index.xml
```

Figure 12. Example of using the jar command to access files packaged inside a .jar file.

```
<menuContributionFile>
    <include installTo="menu:obs?after=HAZARDS"
             fileName="menus/warnings/baseWarnings.xml">
        <!-- Defaults to OAX, if there is a warnings index.xml file for the site
        you are localized to, that file will be used instead of the one here -->
        <substitute key="site" value="KOAX"/>
        <substitute key="sites" value="KABR, KFSD,  KUNR, KBIS, KFGF, KBOU, KGJT, KPU
    </include>
</menuContributionFile>
```

Figure 13. /awips2/edex/data/utility/cave_static/site/OAX/menus/warnings/index.xml (site override for cave/plugins/com.raytheon.viz.warnings_*/ localization/menus/warnings/index.xml) and available in the localization perspective under CAVE► Menus ►warnings ►index.xml.

After the warning plots, there's a contribution for the fog monitor. Like SAFESEAS, its index.xml is packaged in a jar file. It's also available in the Localization Perspective under CAVE ► Menus ► fog ►index.xml.

```
<menuContributionFile>
    <include installTo="menu:obs?after=FOGPLACEHOLDER"
(H)          fileName="menus/fog/baseFog.xml"
             subMenu="Fog Monitor"/>
</menuContributionFile>
```

Figure 14. localization/menus/fog/index.xml in com.raytheon.uf.viz.monitor.fog_*.jar

Then comes the lightning pullout menu. This menu is also defined in the plugin, but this plugin is not distributed as a jar file. In the Localization Perspective, it's under CAVE ► Menus ► lightning ►index.xml.

```
<menuContributionFile>
    <include installTo="menu:obs?after=LIGHTNINGPLACEHOLDER"
(I)          fileName="menus/lightning/baseLightning.xml"
             subMenu="Lightning"/>
</menuContributionFile>
```

Figure 15. com.raytheon.viz.lightning_*/ localization/menus/lightning/index.xml

Finally, the SNOW menu is added, and it's in a jar file as well. In the Localization Perspective, it's under CAVE ► Menus ► snow ►index.xml.

```
<menuContributionFile>
    <include installTo="menu:obs?after=SNOWPLACEHOLDER"
(J)          fileName="menus/snow/baseSnow.xml"
             subMenu="SNOW"/>
</menuContributionFile>
```

Figure 16. localization/menus/snow/index.xml in com.raytheon.uf.viz.monitor.snow_*.jar

So in summary, the menu contributions came from the plugins themselves (either expanded or in jar files) and from CAVE's /etc directory. Any of these could be subject to a site or user override in the localization store in the EDEX utility tree, and are available in the localization perspective. If you need to override one of these files, the general strategy would be to start with a copy of baseline file for your override and then make whatever changes you require.