NWSTC

CHPS Job Sheets

A Supplemental Resource for the CHPS WFO User Course

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Opening CHPS

Objective: Use CHPS via a Virtual Network Computing (VNC) connection or NX client to provide forecast input. Contact the RFC for the IP address and password.

STEP 1 Connect to Remote System

Step	Action	Notes
1	Ask your Service Hydrologist (SH) or Hydrologic Program Manager (HPM) for the log in credentials and launch CHPS from either an AWIPS or Linux workstation.	
2	Log into the workstation used for accessing CHPS.	

Step	VNC	Step	NX
3	Launch the VNC connection by typing the following command: **vncviewer <remote IP address>**	3	Click the Red Hat icon and choose these from the popup menus: a. Internet b. NX Client c. NX Client Wizard
4	Type the password at the command prompt in the VNC window.	4	In the text entry boxes type: a. Session name b. IP address of host CHPS c. Select “WAN” from the slider d. Click “Next”
		5	From this wizard window, select the following options: a. Unix b. Gnome c. Available Area d. Click “Next”
		6	In the next wizard window, type the following: a. login ID b. password c. session name chosen in Step 4

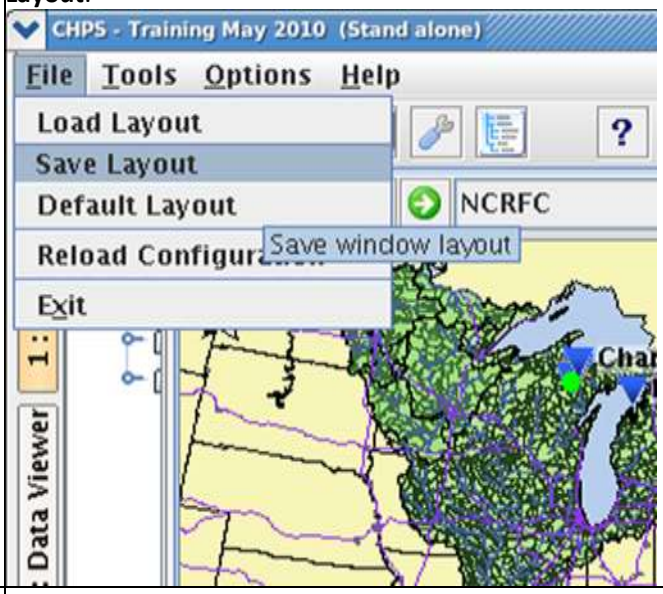
STEP 2 Connect to the CHPS Master Controller

Step	Action	Notes
1	Open CHPS using the method in place at the host RFC.	Options include command line, desktop icon, or AWIPS start menu.
2	Select a Master Controller and synchronization profile from the “Login to Master Controller” popup GUI.	Defaults to primary MC/ full synch profile.
3	Click “OK” and wait for the System Synchronization indicator (a cell in the lower right of the main CHPS GUI) to turn from magenta to green.	Green indicates completed synchronization.
4	Select a forecast group in the “Forecasts” panel and start analyzing segments.	

Saving a Custom Layout

Objective: Save a user-customized layout (not a configuration change) for future use.

Save a Custom Layout

Step	Action	Notes
1	Open the CHPS Interactive Forecast Display (IFD) using the method in place at your office.	
2	Arrange the panels by dragging and dropping them into place.	Keep arranging them until you find a layout you like.
3	Save the layout changes by clicking the **File** menu and selecting **Save Layout**. 	
4	Relaunch CHPS to verify the results.	The interface should have the panels where you specified.

Revert to the Default Layout

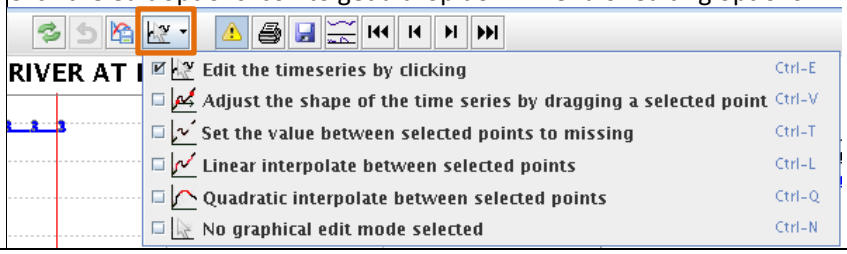
Step	Action	Notes
1	Open the CHPS Interactive Forecast Display (IFD) using the method in place at your office.	
2	Click the **File** menu and select **Default Layout**.	
3	Save the layout changes by clicking the **File** menu and selecting **Save Layout**.	
4	Relaunch CHPS to verify the results.	

Editing Data Graphically

Note: Make sure you are in Forecast Mode. You will not be able to make changes in View Mode!

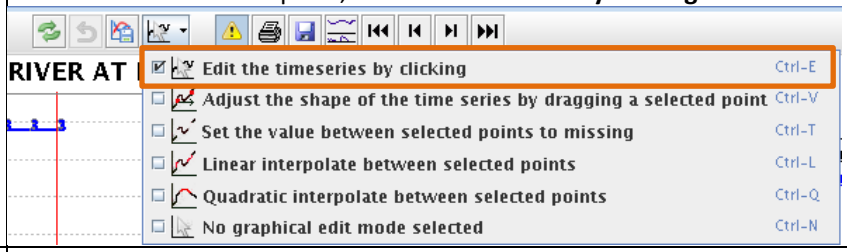
Caution: Undo Modifications does NOT work after clicking **Save and Run**!

Preliminary Steps for All Graphical Editing Methods

Step	Action	Notes
1	Open the CHPS IFD.	
2	On the **Forecasts** panel, click a forecast group folder icon.	
3	Click the paper icon next to a segment in the **Forecasts** panel to select a location.	
4	Click the **Plots** tab.	
5	Click the edit options icon to get a drop down menu of editing options. 	

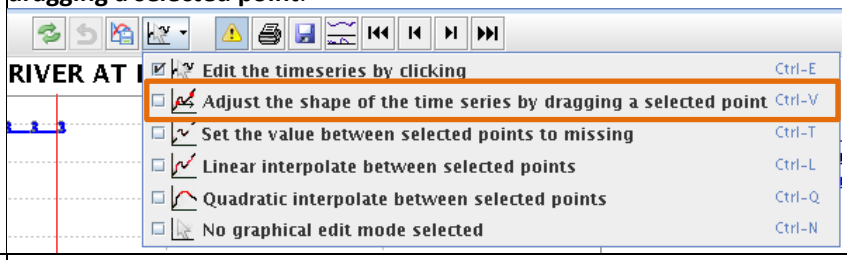
Editing the Time Series by Clicking

This option works well for adding data that did not previously exist (for example, adding precipitation to a previously dry forecast).

Step	Action	Notes
1	Complete Steps 1 through 5 from the **Preliminary Steps** table.	
2	Click to select the first option, **Edit the timeseries by clicking**. 	
3	From the list in the legend, left-click the time series you want to edit.	The editable parameter turns blue in the legend.
4	Hover over the graph until you determine when you want the precipitation to start.	
5	Move the mouse up until you see the precipitation value you want to add.	
6	Left-click to put the precipitation value on the graph.	
7	Continue to left-click as you scroll, moving to the “zero” line for periods of no precipitation.	
8	Click the **Save Changes and Run** icon to save the changes OR the **Undo Modifications** icon to abandon the changes.	

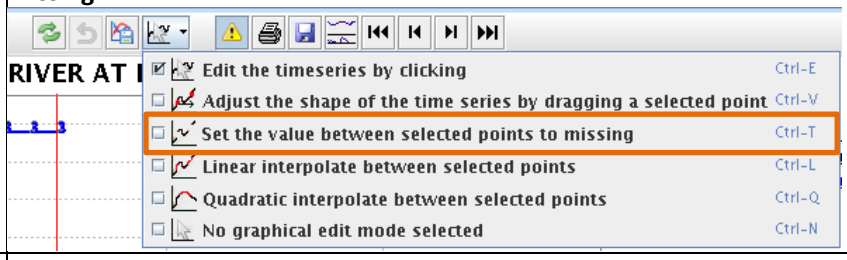
Editing the Time Series by Dragging a Point

This option works well for editing existing data.

Step	Action	Notes
1	Complete Steps 1 through 5 from the **Preliminary Steps** table.	
2	Click to select the second option, **Adjust the shape of the time series by dragging a selected point**. 	
3	From the list in the legend, left-click the time series you want to edit.	
4	Left-click and hold on the data point you want to edit.	
5	Drag the point to a new location and release the left mouse button.	
6	Click the **Save Changes and Run** icon to save the changes OR the **Undo Modifications** icon to abandon the changes.	

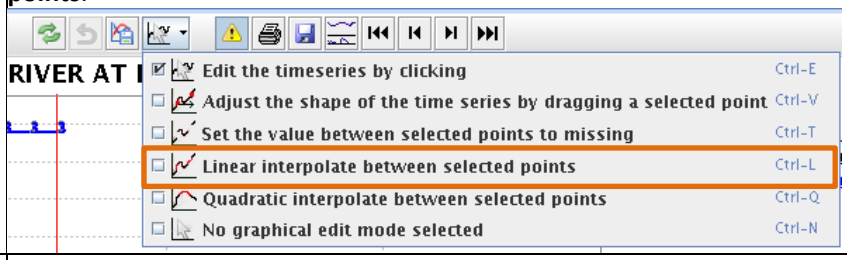
Setting Missing Between Selected Points

Use this option to set bad or questionable values missing (better option: create a modifier to do this!).

Step	Action	Notes
1	Complete Steps 1 through 5 from the **Preliminary Steps** table.	
2	Click to select the third option, **Set the value between selected points to missing**. 	
3	From the list in the legend, left-click the time series you want to edit.	
4	Select the points between which you want to delete data.	
5	Click the **Save Changes and Run** icon to save the changes OR the **Undo Modifications** icon to abandon the changes.	

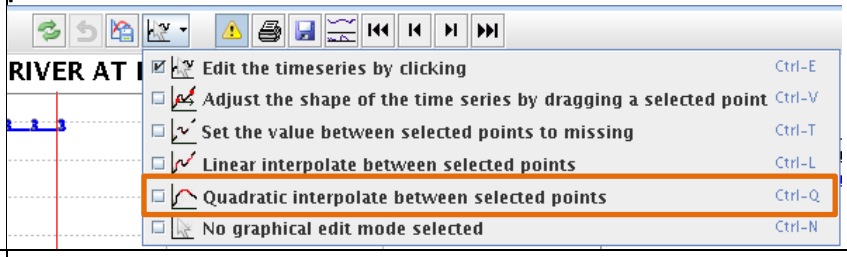
Linearly Interpolate Between Points

This is a good option for creating a realistic curve when “drawing in” data.

Step	Action	Notes
1	Complete Steps 1 through 5 from the **Preliminary Steps** table.	
2	Click to select the fourth option, **Linear interpolate between selected points**. 	
3	From the list in the legend, left-click the time series you want to edit.	
4	Select the points you want to interpolate between.	
5	Click the **Save Changes and Run** icon to save the changes OR the **Undo Modifications** icon to abandon the changes.	

Quadratically Interpolate Between Points

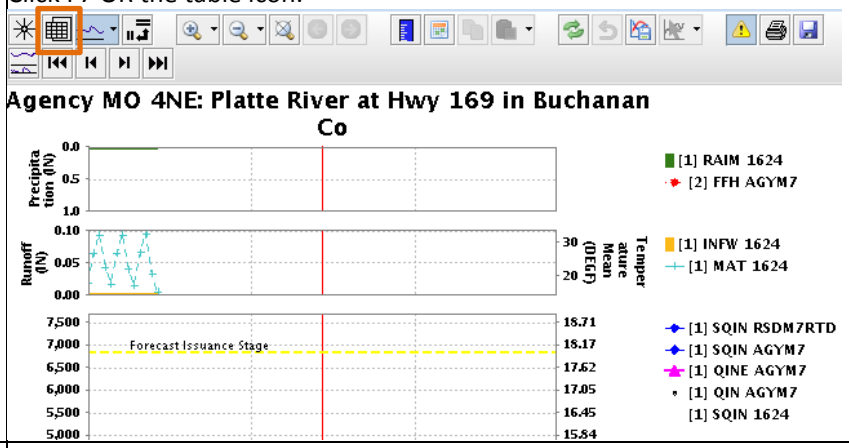
This provides a different mathematical solution when interpolating between points.

Step	Action	Notes
1	Complete Steps 1 through 5 from the **Preliminary Steps** table.	
2	Click to select the fifth option, **Quadratic interpolate between selected points**. 	
3	From the list in the legend, left-click the time series you want to edit.	
4	Select the points you want to interpolate between.	
5	Click the **Save Changes and Run** icon to save the changes OR the **Undo Modifications** icon to abandon the changes.	

Editing Data in the Table

Objective: Edit data in a table for more precision than graphical editing.

This option works well for adding data that did not previously exist (for example, adding precipitation to a previously dry forecast), or adding more precision to what is already in the table.

Step	Action	Notes
1	Open the CHPS IFD.	
2	Click the paper icon next to a segment in the **Forecasts** panel to select a location.	
3	Click the **Plots** tab.	
4	From the list in the legend, left-click the time series you want to edit.	
5	Click F7 OR the table icon. 	
6	Locate the element and time you want to edit. You may need to scroll in the table to find the element.	The header is the same color as the time series trace and the selected element's cells in the table are white (not grey).
7	Click in the table.	
8	Use the keypad to input numerical values.	
9	Click the **Save Changes and Run** icon to save the changes OR the **Undo Modifications** icon to abandon the changes.	

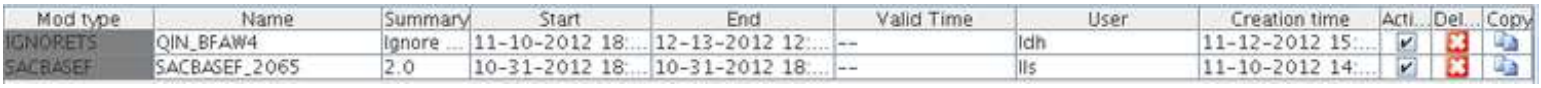
Creating Modifiers

Objective: Create modifiers so the model more accurately represents stage and flow.

Note: Modifiers are created and edited using various methods. The methods are similar to editing time series plots.

Create a New Modifier

Step	Action	Notes
1	Start CHPS using either method from Lesson 1.	
2	Select the icon (Map panel) or segment name (Forecast tab) corresponding to the desired forecast point.	
3	Click a modifier type button on the **Modifiers** GUI or select **Create Mod** and select one from the pull-down menu.	More options on the pull-down menu.
4	Type a name in the **Modifier Properties** box.	Optional
5	Select a start time using the calendar or the up/down arrow selectors.	The date format is MM-DD-YYYY HH:MM:SS.
6	Select an end time using the same technique.	Some mods do not have a selectable end time.
7	Edit the properties of the modifier using slider bars, text entry boxes, clicking on the graphic, or editing tabular data.	Edit method varies by modifier type.
8	Click **Apply to** and choose segments by clicking in the boxes next to the segment name.	
9	Click **Rerun**.	This applies the modifier.



Deactivate Modifiers

Step	Action	Notes
1	Locate the modifier in the list.	
2	Click the check mark in the **Active** column of the modifiers list.	
3	Click **Rerun**.	This deactivates the modifier.

Copy Modifiers

Step	Action	Notes
1	Locate the modifier in the list.	
2	Click the paper icon in the **Copy** column of the modifiers list.	Nothing in the filename indicates this is a copy.

Delete Modifiers

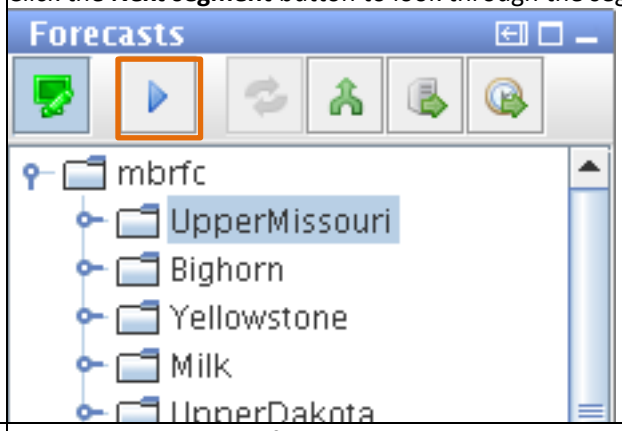
Step	Action	Notes
1	Locate the modifier in the list.	
2	Click the red **X** in the **Delete** column of the modifiers list.	
3	Click **Rerun**.	This permanently deletes the modifier.

Creating Forecast Input

Objective: Create input to hydrologic forecasts.

Note: Grey shading indicates optional steps.

Step	Action	Notes
1	Open CHPS using your preferred method.	
2	After initial synching completes, click the **Tools** menu and select **Manual Forecast**.	Optional steps to import additional data.
2b	Select a workflow from the **Workflow** pull-down menu.	
2c	Select a subbasin.	
2d	In the **State selection** part of the GUI, click the checkbox next to **Select initial state**.	
2e	Use the radio buttons and up/down arrows to select the state and the run start and end times.	
3	Click the folder, labeled with the name of your servicing RFC, in the **Forecast** panel.	The area to select a Run Option becomes available.
4	Click the **Run Options** button to select an initial state.	Only if using states other than the default.
5	Use the radio buttons and/or calendar to make a selection.	Only if using states other than the default.
6	Select the forecast group from the Forecast panel.	This makes the Plots tab active.
7	Click **OK**.	
8	Click **Rerun forecast group** to do all the calculations so you can go through the segments quicker.	Optional step, but considered a best practice at many offices.
9	Double click either the name of the segment or the icon.	
10	Click the **Plot Overview** panel.	Gives you thumbnails of all of the parameters available at the location.
11	Reposition the overview by dragging it to the top of the plot, or to the right or left side.	Click and drag where other panels are located. If you release over the active tab, it will not be repositioned.
12	Make modifiers as needed.	See modifiers job sheet for specific help.

13	Click the **Next segment** button to look through the segments. 	See the lesson on analysis for more details. Use the F4 key to advance through the segments; F3 to see the previous segment.
14	Scroll back to the top of the segment list, and click on the forecast group folder icon.	
15	Note any input for the RFC forecast.	
16	From the **Modifiers** tab, delete any modifiers you made.	
17	Close CHPS. From the **File** menu, select **Log out**.	The keyboard shortcut for this command is Cntrl+M.
18	On the top of the VNC screen, click the **X** to disconnect.	