

Hazard Services Job Sheets #1

Step 1: **Practice mode.** Close all CAVE windows and go into practice mode.

Open Practice Mode GUI. Under the Applications drop down menu select AWIPS, and then AWIPS start-up menu. Select the Test Mode Control Program  **Test Mode Control Program** to bring up the GUI.

To place workstation into Practice mode select “Change Mode to Practice” If you have completed this successfully then you will see an orange blinking “Practice Mode” pop up. You are now free to open a CAVE window.

Step 2: **Opening Hazard Services.** Open AWIPS. In a state or WFO view, open Hazard Services (Yellow H). Note the stream and forecast zones load automatically. The opening tab is labeled Hydrology-All. You can also drag the Haz Svc panel as a floating box simply by clicking and holding the mouse over the tab and dragging it away from the frame. To place it back in again click on the tag, hold the mouse, and drag it back into the frame. You can have multiple hazard services open at once. Select Hazard Services for every frame you may use for issuing your products.



Step 3: **Close Hazard Services.** Click the X in the tab to close Haz Svcs. You can hit the clear button as well, but if you have active products it is preferred that you use the X.

Issuing Flood Watches

Example 1) New Flood Watch

- Click on the MAPS icon on the Hazard Services toolbar console to select the "Forecast Zones" map
- The map boundaries will turn green and the mouse pointer will become a "+". Left-click specific zones that you want to include in the watch, or left-click and drag over the zones to paint the selected zones in the map. For this example select Lucas, Wood, Hancock, Marion, Wyandot, Seneca, Sandusky, and Ottawa Counties
- When done, right-click to trigger the painted area to be converted to a polygon. The HID will open with only the "Hydrology" category selected.
- Set the "Type" to be FF.A, and then click Preview.
- The Product Editor will open. Enter the necessary details of the Basis Bullet and Impacts Bullet for each zone, and then click "Issue All".

Example 2) New Segmented Flood Watch

- Click on the MAPS icon on the Hazard Services toolbar console to select the "Forecast Zones" map
- Left-click specific zones that you want to include in the first segment of the flood watch, or left-click and drag over the zones to paint the selected zones in the map.
- When done, right-click to trigger the painted area to be converted to a polygon. The HID will open with only the "Hydrology" category selected.
- Set the "Type" to be FF.A. This is now your first segment.
- Now go back to the maps and forecast zones, and select the counties for your second segment. Right-click when done. Set the Type to FF.A
- You should have two tabs open in your HID, one for each segment. If not, go to the status console and click on the first segment to get it to show in the HID.
- Make the beginning and/or end times different for each segment. Enter the necessary details of the Basis Bullet and Impacts Bullet for each zone.
- Preview and modify the text including a Test message.
- Issue All

Example 3) Remove Counties from a Flood Watch

- From the status console select the FF.A that you issued above. Now right-click specific zones that you want to remove. Once finished, go into the HID and select the Update Hazard Hatch Area. The counties you removed should no longer appear in the map segment. You can't make any more adjustments with the selected, so deselect it if you still want to make adjustments.
- Select Preview. A pop up window will come up requesting the reason for the cancellation. Hit ok and then you will see two segments, a CAN for the cancelled watch counties, and a CON for the continued counties.
- Edit and Issue All

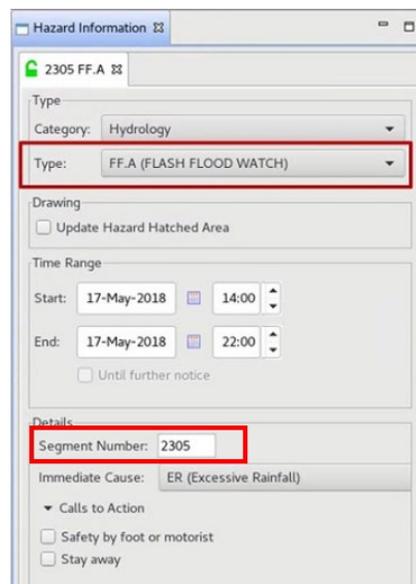
Example 4) Separate an existing Flood Watch into Multiple Segments

- Let's say you want to extend the time for the easternmost counties in your watch. You'll need to separate out these counties and adjust the end times.
- First step is to select the flood watch from the console. Right click off the counties that you wish to make adjustments too. Once you've removed those counties select the Update Hazard Hatch Area in the HID
- Now you'll need to create your new segment. Left click the counties that you removed in the previous step. Right click once they are all highlighted. In the HID assign the Type as a flood watch. This has the effect of producing a separate segment (note the different segment numbers). For this second segment, adjust the end time by adding 3 hours.
- Preview the product. You'll see that the first segment has a VTEC of CON, or continue. The second segment is EXT for an extension in time. Review, add Test wording, and send.

Example 5) Adding Counties to an existing Flood Watch Segment

- Select the segment in the console or spatial display
- If counties aren't already highlighted in green as selectable, then go to maps and select forecast zones.
- Select the pointer in the toolbar 
- Now right click to get the hatching over the counties you wish to add to the segment
- Select the Update Hazard Hatch Area in the HID
- When you preview the product you should see an EXA in the VTEC for the added counties
- When you run a follow up statement you'll see that these counties are now combined in the watch statement

Example 6) Combining 2 Segments by changing the Segment number



The screenshot shows the 'Hazard Information' dialog box for a segment titled '2305 FF.A'. The 'Type' dropdown is set to 'FF.A (FLASH FLOOD WATCH)'. The 'Category' is 'Hydrology'. The 'Drawing' section has the 'Update Hazard Hatched Area' checkbox checked. The 'Time Range' section shows a start time of 14:00 and an end time of 22:00 on 17-May-2018. The 'Details' section shows the 'Segment Number' as 2305 and the 'Immediate Cause' as 'ER (Excessive Rainfall)'. There are also checkboxes for 'Safety by foot or motorist' and 'Stay away'.

- Each segment of a watch will produce it's own segment in the actual text of the FA.A. Say you want to combine like segments to reduce the length of your product as the event unfolds.
- If you don't already have a 2 segmented watch please created one now.
- To combine the two, change the segment number of the 1st segment to match the number of the 2nd or vice versa so they have matching numbers.
- Preview the product and note the combined segment in the text product
- Issue All
- Note in the console that you still have the 2 entries for the flood watch. This is just for database purposes

Example 7) GFE Flood Watch Grid

When you create a flood watch in hazard services it will produce a grid in GFE automatically. This is to be used in your zones, HWO, etc. However you will not issue your flood watch statements in GFE!

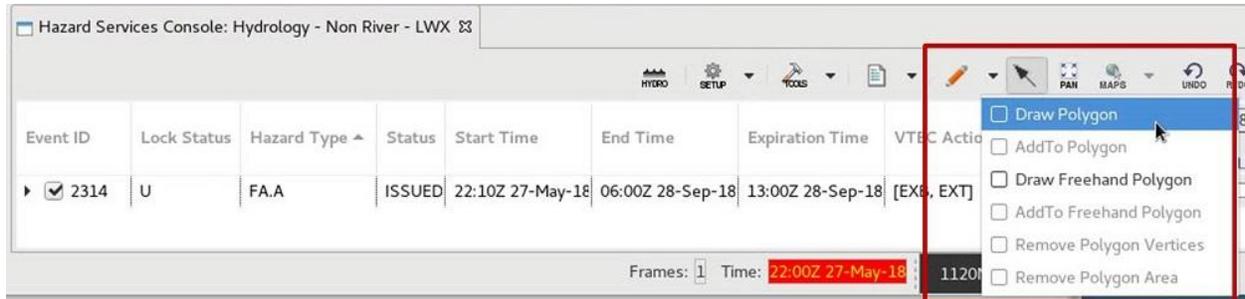
***Note: If someone is using GFE hazard grids you may be blocked. You'll need to coordinate your edits with anyone making edits in GFE hazards.

- Open GFE in a separate AWIPS window
- Go to the hazards grid
- Now in your hazard services frame make adjustments to your flood watch and see if the changes appear in GFE or if you get a message telling you the grid is blocked by someone else.

Issuing Flood Warnings and Advisories (non-river floods)

There are multiple ways of producing the polygons in hazard services. Let's go through examples of each method. In the toolbar select Draw Polygon.

"Draw Polygon": Left-click on the spatial display to set each vertex. Add as many as necessary, then right-click to complete the polygon.



For "Draw Freehand Polygon": Left-click and hold in the spatial display and drag the pointer until the polygon is complete. The polygon is defined when you release the mouse button.

NOTE: Your hazard status in the Console will be PENDING to start. If at any time you want to start over, you can do so in one of two ways: 1) Right-click on the hazard row in the console and select "Delete This", or 2) right-click and hold within the polygon in the spatial display and select "Manage hazards" -> "Delete This".

"Maps": To select an entire county go to maps in the toolbar and select Forecast Zones. Once selected left click on the county(ies) of interest. Once complete right click to bring up the HID.

"Flash Flood Recommender": This is another way to produce a polygon, but we'll get into this more later on.

Example 1) Zone/County Based Products

Note-Make sure forecast zone maps are loaded on the frame (D2D Maps drop down if not)

- Find the dropdown from Maps in the toolbar, select Forecast Zones
- Left click on Trumbull, Mahoning, and Mercer County. The tool will prevent us from selecting a zone outside of our forecast areas. Right click on your selected area to bring up the HID.
- Select Product Type: FF.W
- Update Hazard Hatch Area (this will assign vertices, please review the new polygon as a result)
- Review the details and make any changes you would like
- Select Preview. Note the two tabs at the bottom. Make edits in the Editor, and view the final product in the Formatter. For our example please fill the boxes in the editor with "Test Test No Flooding is occurring or Expected. This is only a test." Highlight and hit ctrl C to

copy the text. We will be using it in several more examples coming up. When done reviewing "Issue All". The product details are in the status console.

The screenshot shows the 'Product Editor' window for a Flash Flooding Warning (FFW) product. The product ID is 2418 - LWX. The MDC is MDC013-021-280415-. The basis time is set to 6:00 PM EDT. The basis text describes a Doppler radar warning of thunderstorms and flash flooding. The IBW hazard is 'Flash flooding caused by heavy rain.' The IBW source is 'Doppler radar.' The IBW impact is 'Flooding of small creeks and streams, urban areas, highways, streets and underpasses as well as other drainage and low lying areas.' The locations affected are 'Some locations that will experience flash flooding include... Mount Airy.' The 'Issue All' button is highlighted with a red box.

Example 2) Draw Polygon Tool and then remove a County

- Using the draw polygon option make a box over the 4 corners of Medina/Wayne/Stark/and Summit Counties.
- In the HID, select FA.Y for Type. You cannot edit the polygon until you have selected the product Type.
- Update Hazard Hatch Area
- Now say you want to remove Medina County. Right click over the county to turn it off. Then reselect the Update Hazard Hatch Area. Medina County should be removed.
- Edit the Details section as you deem appropriate.
- Preview the text. Or you can ctrl V to pasts your Test Test Test verbage. Review the product in the formatter and issue.

Example 3) Zone/County Warning with bad Vertices

- Using the Map-Forecast Zone option, left click on Ottawa and Sandusky Counties. Right click to bring up the HID. Select FF.W for Type.

- Update Hazard Hatch Area. Note the horrible vertices. This notes the importance of checking the hatch area box before issuing your products. This will require editing.
- Use each of the 3 edit features below to improve your polygon. You may need to delete your polygon and start over. Ways to Edit: *Note-You can't delete a vertex that will cause the edit area lines to overlap. You will get an error message. And the 20 vertices rule from WarnGen still applies.*
 - Middle click to delete each vertex
 - From the toolbar draw option select "Remove Polygon Vertices"
 - From the toolbar draw option select "Remove Polygon Area"
- Once satisfied use the Update Hazard Hatch Area. Make any additional edits as necessary.
- Generate and send

Example 4) Issue a Freehand Polygon Flood Advisory

- From the toolbar draw option, Draw a large "Freehand Polygon" over Loudonville including portions of Richland, Ashland, Holmes, Wayne, and Knox County. When the HID opens up select the FA.Y for the product type.
- Left click and hold the center of your polygon to move it to the south only a few miles.
- Now remove all portions of Richland County. Best method is to right click on the county to remove the hatching.
- Now try trimming part of your polygon using the Remove Polygon Area.
- Now try removing some of the polygon using "Remove Polygon Vertices"
- Once satisfied use the Update Hazard Hatch Area. Make any additional edits as necessary.
- Generate and send

Example 5) Upgrade a Flood Advisory to a Flash Flood warning.

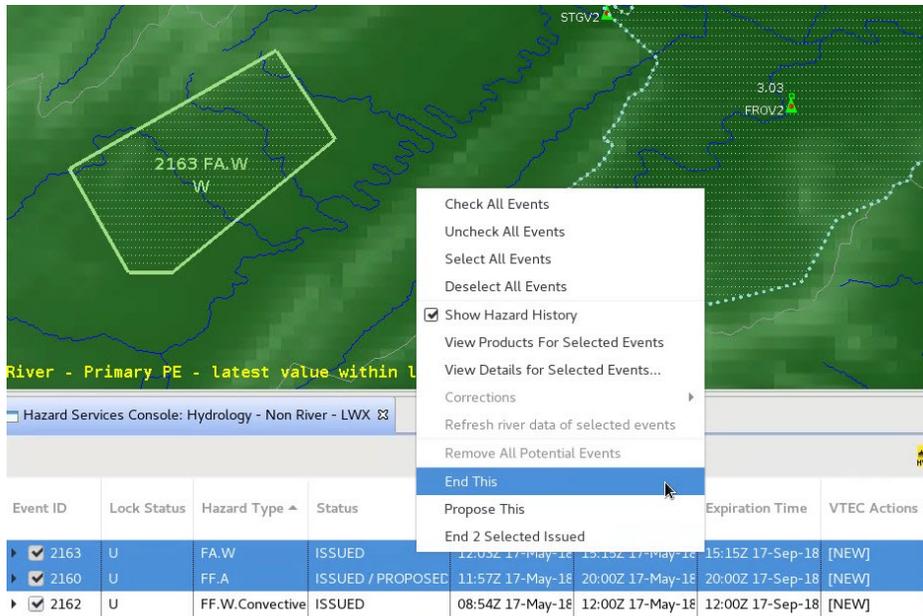
- Find your Loudonville FA.Y in the status console. Select and bring up the HID.
- Change the product type to FF.W and add 2 hrs to the end time using the duration box or manually edit the end time.
- Select Preview. You will see two tabs, a FLS and an FFW. Now look in the status console. You will see a FA.Y ending and a FF.W Pending.
- Review the automated wording the text products. Make any edits (add Test messages) and send.

Example 6) Downgrade a Flash Flood Warning to a Areal Flood Advisory

- Select one of your FF.W's from the status console.
- In the HID, change the product type to FA.Y. Note the change in the status console w FF.W ending and FA.Y pending.
- In the HID you will now have two tabs. Click on the FF.W. Select and ending option.
- Preview the products and send.

Example 7) End and Event

- Select a product in the status console. In the status console right click and hold. Select the option to "End This".



- In the HID, select and ending option.
- Preview and send.

Example 8) Revert

- Select any product in the status console and open the HID.
- Change the hatched area using any edit tools.
- Close the HID. Now right click over the product in the status console.
- Select “Revert This” and all of the original settings will return.

Example 9) Flash Flood Emergency

- Add IBW Type column to your console if not already defined
- Draw a polygon over Findlay
- In the HID make the product type FF.W
- Select the box for Flash Flood Emergency
- Below that option type in all caps CITY OF FINDLAY
- Review the other details of the product
- Preview
- Enter Test verbage in all text boxes
- Send
- Note the color pink in the IBW Type column of the status console

Example 10) User’s Choice 3 Products

- Create and send a Flood Advisory, Areal Flood Warning, and a Flash Flood Warning using any of the drawing options.

Example 11) Propose

- Create a new product, any type and any location.

- In the HID, to the right of the Preview button select Propose
- Have another person view and make adjustments to your proposed product, and then propose it back.
- Review and send

Example 12) Ice Jam/Dam Break FFW

- Manually draw the polygon over the area of interest. Make sure to use the streamlines to define your polygon, including areas above and below the ice jam. Right click to open the HID.
- Select **FF.W NonConvective** for product type.
- In the Details section, select the Hydrologic Cause
- Preview and send

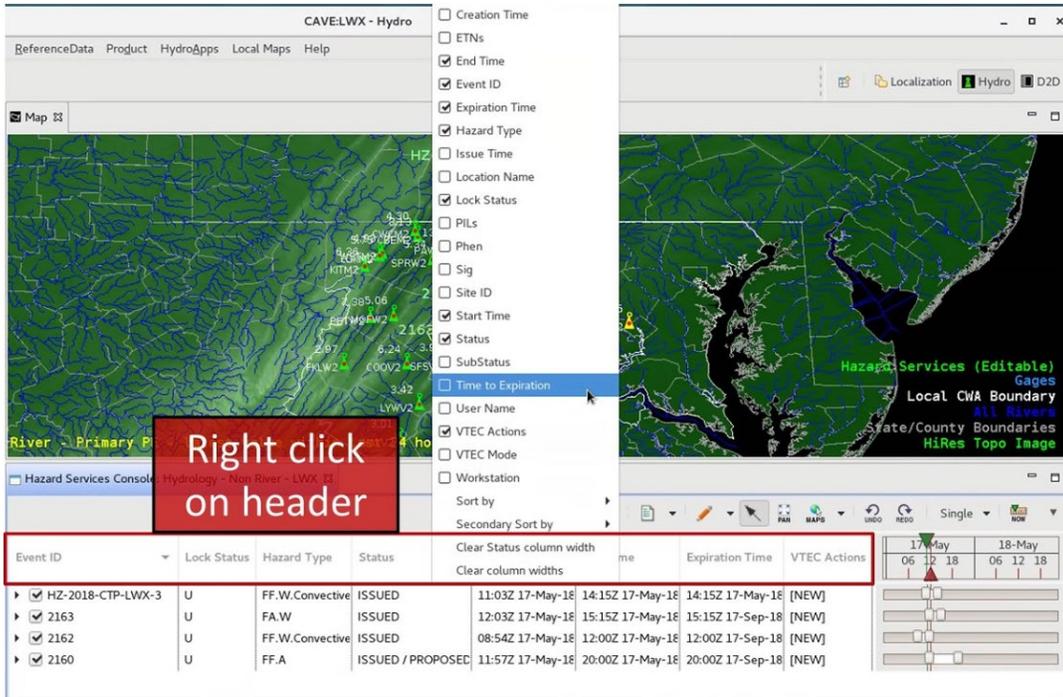
The screenshot shows a software window titled "Hazard Information" with a sub-window for "154 FF.W.NonConvective". The interface is orange-themed. It includes the following fields and options:

- Type:** Category: Hydrology, Type: Flash Flood Warning (FF.W.NonConvective)
- Drawing:** Update Hazard Hatched Area
- Time Range:** Start: 16-Jan-2020 14:49, End: 16-Jan-2020 20:45, Duration: 6 hrs
- Details:**
 - IBW type:
 - General
 - Considerable Flash Flooding
 - Include Flash Flood Emergency / Catastrophic Flooding
 - Enter location: [text input]
 - Flood Severity: [Unknown]
 - Hydrologic Cause: [Ice jam break]
 - Source:
 - County dispatch
 - Local law enforcement reported
 - Corps of Engineers
 - Bureau of Reclamation
 - Public reported
 - Gauge reports
 - Civil Air Patrol
 - Ice Jam Location: [text input]
 - River Name: [text input]
 - Nearest Impacted Occupied Area: [text input]
 - Locations Affected (4th Bullet):
 - Downstream of ice jam
 - List of Cities
 - None

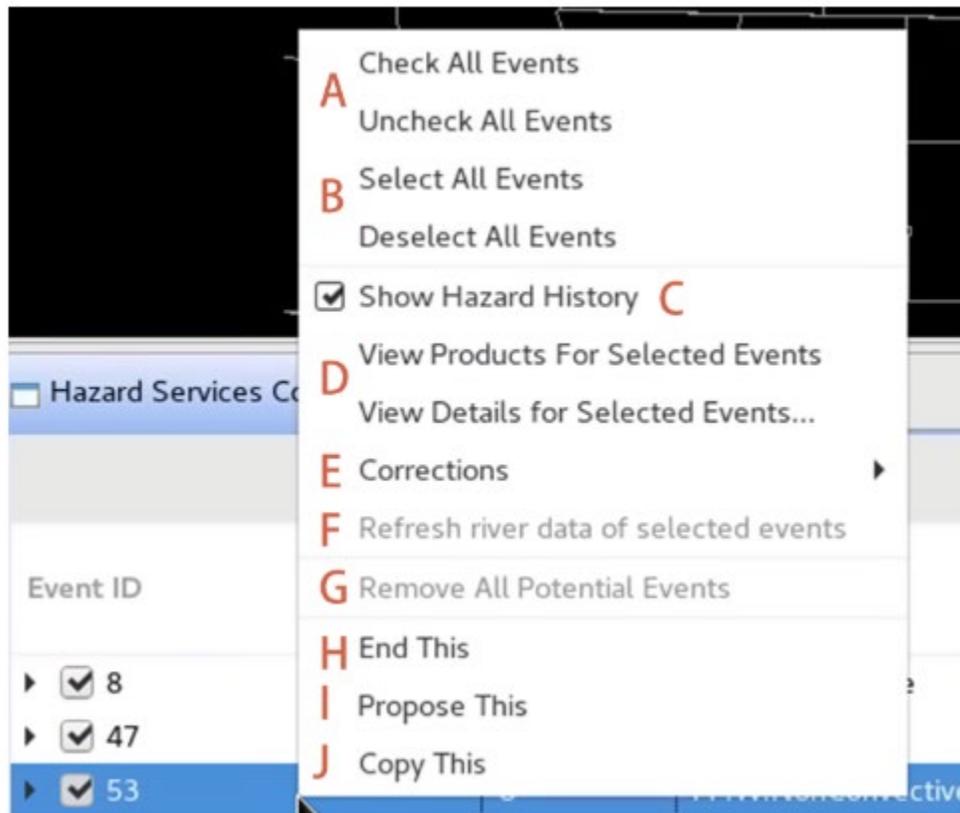
At the bottom of the dialog are "Preview..." and "Propose" buttons.

Example 13) Using the Status Console

- To configure the columns in the Console, right-click on the header row above the hazards. Practice checking on/off any of the boxes like "Time to Expiration".

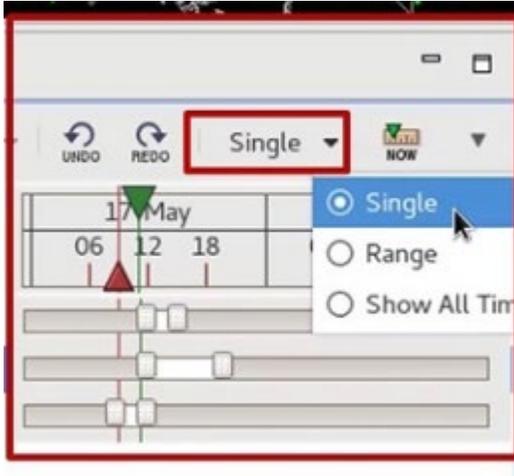


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- Left-clicking on a column header sorts the column, and you can reorder the columns by left click dragging the column header and dropping it where you want it. You can also configure a secondary sort by right-clicking on the header row and selecting "Secondary Sort by". Practice sorting the hazards in the console by left-clicking on the different column headers and moving the columns around.
- To see multiple hazards at once, left-click at least two rows using the Shift or Ctrl buttons. This creates a Hazard Services "selected set". The Hazard Information Display (HID) will pop up with multiple tabs at the top. The lock status icon in the tab will reflect whether the tab is locked or unlocked.
 - NOTE: If you choose more than two hazards, you may not see all the tabs depending on the size of the HID. Simply widen the display.
 - NOTE2: In later builds, the order of the text is changing in the Type: selector in the HID. For example the FL.W (RIVER FLOOD WARNING) in the image below becomes River Flood Warning (FL.W). This will be different in the HID images in all the jobsheets.
- With multiple hazards selected, right-click on the hazard rows to see the options. All of the options are the same as those mentioned above. The only difference is the "End XX Selected Issued", which simply allows you to end multiple hazards at once.
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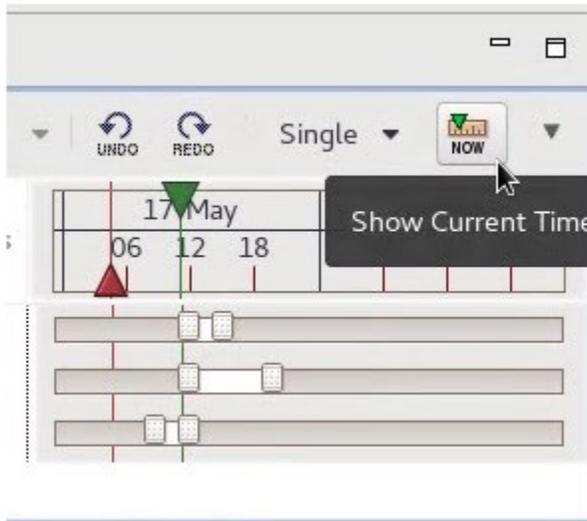


- A** Toggling the Event ID checkbox in the console will control the visibility of the hazard in the spatial display. The "Check All Events" and "Uncheck All Events" (see A in image above) will effectively toggle all polygons on and off in the spatial display.
- B** When you select a row in the console, the spatial display will recenter on that hazard and highlight the polygon. The HID will also populate with the contents relevant for that hazard, allowing you to interact with the hazard. The "Select All Events" will select every row (handy for ending multiple hazards at once), and "Deselect All Events" will deselect all rows (B).
- C** The "Show Hazard History" (C) is on by default and enables the time history of the products to be displayed using the drop-down triangles on the left side of the Console.
- D** You can conveniently view the product directly using the "View Products for Selected Events", while the "View Details for Selected Events" menu displays a large number of Hazard Services hazard attributes (D).
- E** If you are within the appropriate time window to issue a correction for the product, you can issue a COR using the "Corrections" menu pullout and "Correct This Event" (E). In Hazard Services when you start correcting a hazard, it puts you in a special mode, and to get out of correction mode you need to use the Cancel Correction option from this menu.
- F** If you are working with a river hazard for some time and you need to update the new stage levels, clicking "Refresh river data of selected events" (F) will update the river data for your hazards (text changing to "Refresh DATA ONLY for Selected Events" in later builds).
- G** If you have run a recommender that provides a large number of events, you can conveniently get rid of them using the "Remove All Potential Events" (G). This is particularly useful when you want to rerun the recommender.
- H** In order to cancel a hazard from the console you need to select the hazard, right-click, and select "End This" (H). You can also end hazards from the spatial display (covered in other jobsheets).
- I** "Propose This" directly saves the hazard for others to view and collaborate on. This is the same as using the Propose button in the HID.
- J** "Copy This" creates a new Hazard Event (polygon and ID) based off an existing hazard (text changing to Copy to New Event" in later builds).

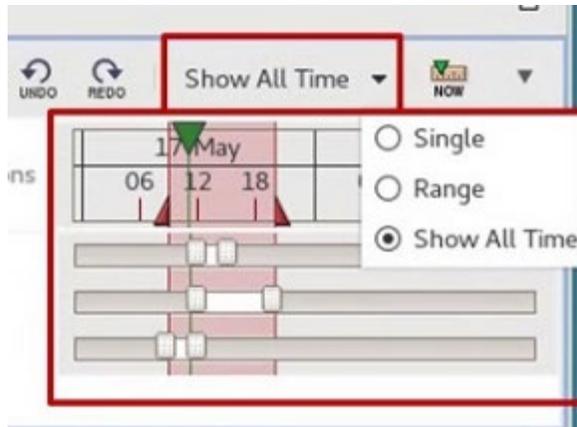
- Use the Time Slider. The time slider on the far right of the console (see image below) controls the time window used to display hazards in the Spatial Display. The green triangle indicates the current time. The red triangle(s) represent the selected time, which can operate in a Single, Range, or Show All Time modes. Click on the button to the left of the NOW button and select Single.



- Grab the red triangle and move it to where it does not intersect one of the white bars indicating the times of each hazard. Your polygons should disappear. Note that filtering the hazard from the spatial display with the time window does not remove the hazard from the console.
- Click on the NOW button to reset the time to the current time.



- In the button to the left of the NOW button, select Show All Time to put the time slider in Range mode with the selected time range bound by the earliest and latest times for all hazard currently visible with this Setting. All your polygons should display for the hazards in the Console. You cannot move the split red triangles in Show All Time mode. If you change the mode to Range, then you can adjust the time range for hazards displayed in the Spatial Display using either split red triangle.

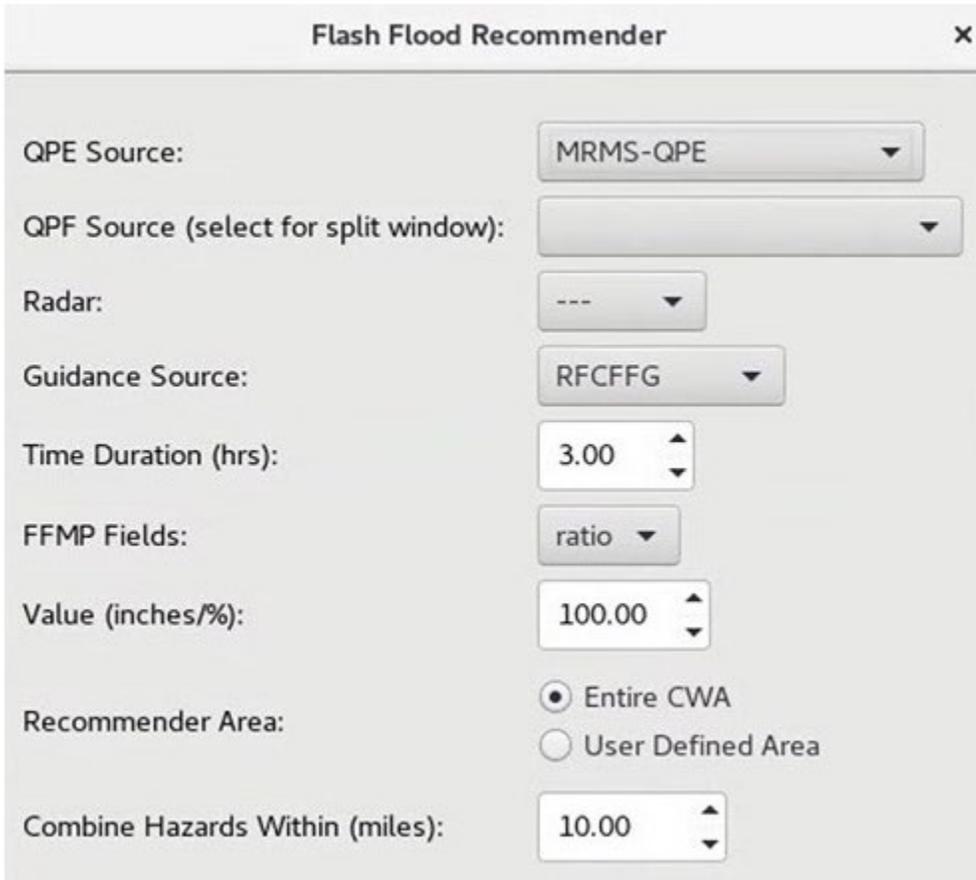


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- Note that the time of each hazard is displayed with a white bar bracketed by rectangular fixed slider bars, and the slider controls cannot be moved. You can resize the time window by left click and dragging the timeline header. You can also zoom in and out of the time using the scroll wheel on the timeline header.

Flash Flood Recommender (FFR)

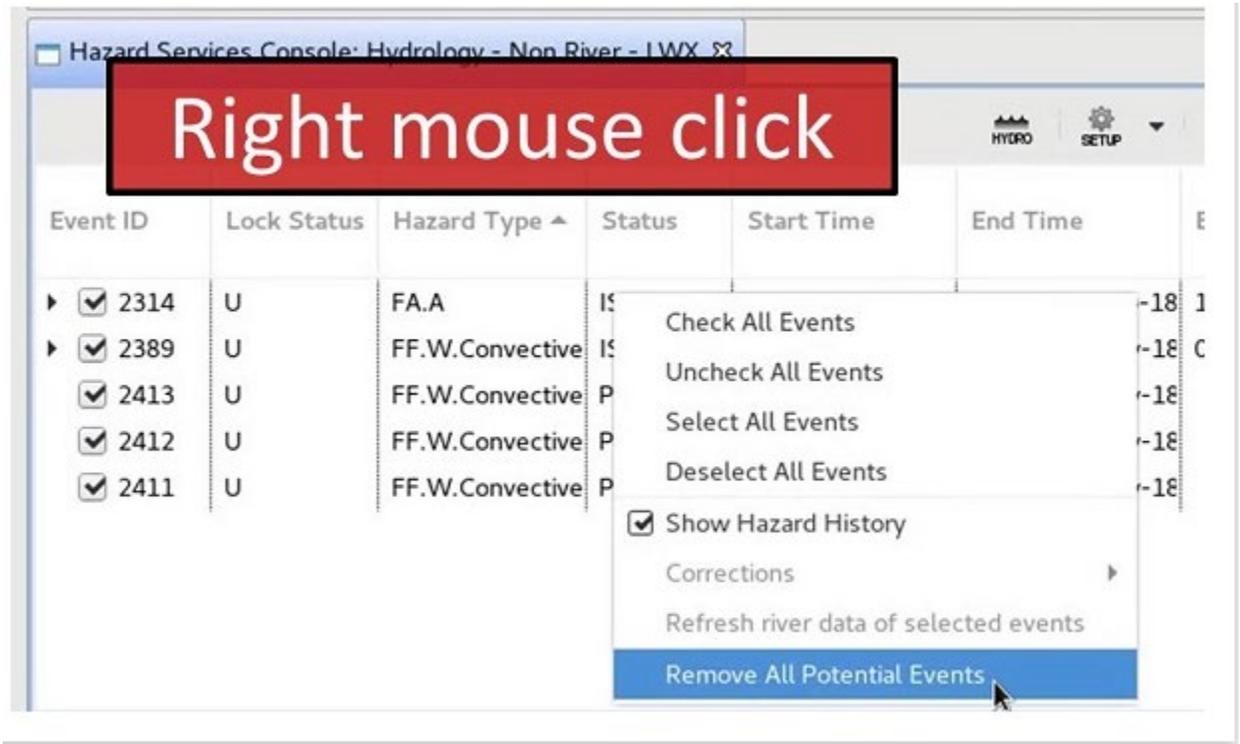
Example 14) Running the Flash Flood Recommender (FFR)

- The FFR is a tool that can be customized to recommend areas for a Flash Flood Warning.
- On the toolbar, select the TOOLS icon . From there select the Flash Flood Recommender.



- For this example, use a QPE source of DPR, and nothing for QPF. KCLE for radar, RFCFFG for guidance, Change duration to 1.00 hr, QPE to 1.00 inches, FFMP Field to QPE.
- Now run the recommender. You should get 0 recommendations.
- Let's rerun it now. Call the FFR back up. Keeping all inputs the same, adjust the Duration to 12 hrs, and the QPE of 0.02. Finalize and run.
- You should receive some "Potential" polygons pop up in the status console. Select these for review. Each proposed FFW will have a different Event ID.
- To edit the area, you first need to define the product type in the HID. Assign it as an FF.W. Now make adjustments to the edit area as appropriate. Note: The FFR will make the recommendations using basin files. However, the 20 vertices rule will make the recommended polygons look much different when you actually issue the product. Be sure to use the Update Hazard Hatch Area.

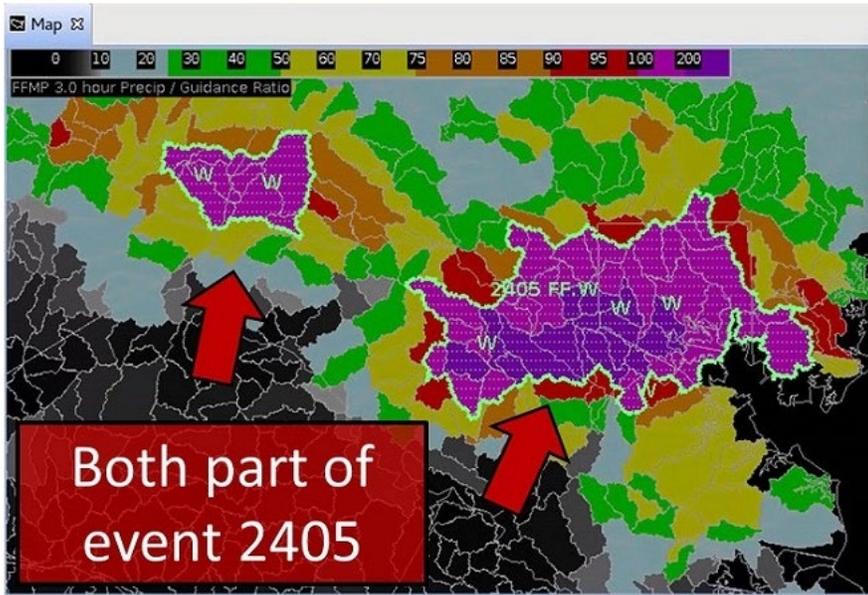
- If you choose to not issue based on the FFR, then remove the recommended events.



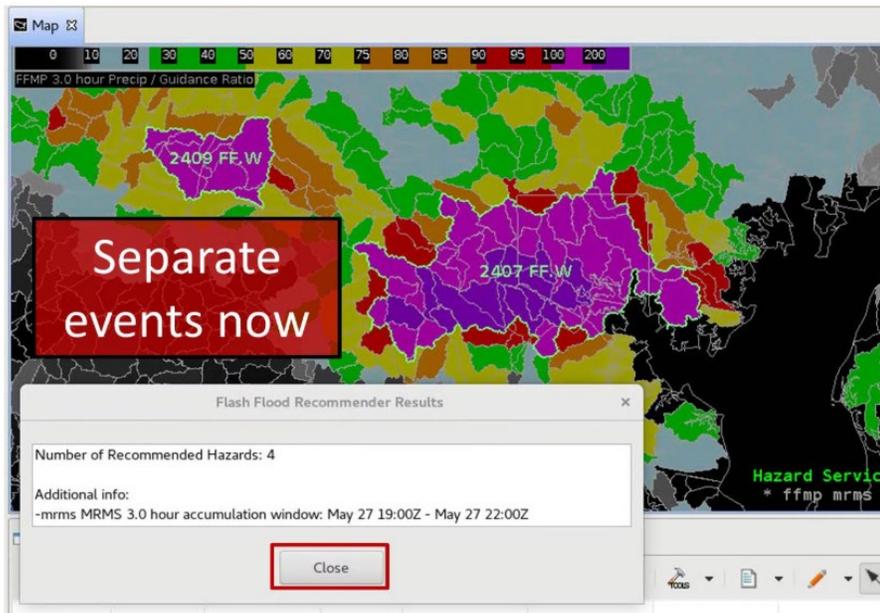
Example 15) Modifying the FFR Recommender Area Distance

- Now say you still aren't happy with the polygon(s). Delete all the "Potential" polygons in the status console before rerunning the tool. Now let's use the tool to improve the recommendations.
- Open the FFR up. Using the same settings as the previous example, except this time let's adjust the distance between the recommended areas from 10 miles up to 50 miles.
- Look for an instance where one hazard initially has more than one polygon. This is not allowed by policy and will be combined in the vertices reduction. To make them two different FFWs

(unique VTEC) you should reduce the miles in the “Combine Hazards Within” option.



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- Review and rerun with different adjustments to the recommender area.
- When done “Remove All Potential Events” polygons in the status console before rerunning the tool.

Example 16) FFR with User Defined Area

The screenshot shows the 'Flash Flood Recommender' dialog box with the following settings:

- QPE Source: MRMS-QPE
- QPF Source (select for split window):
- Radar: ---
- Guidance Source: RFCFFG
- Time Duration (hrs): 3.00
- FFMP Fields: ratio
- Value (inches/%): 100.00
- Recommender Area: Entire CWA, User Defined Area (highlighted with a red box)
- Combine Hazards Within (miles): 10.00

- Let's assume you are interested only in a recommendation for the Cuyahoga County area. To customize the area to query, first open the tool.
- Select the "User Defined Area" in the FFR
- The Freehand Polygon draw feature is turned on in the spatial display. Create a polygon over the area of interest.
- Rerun the recommender, did you get the results you want?
- When done "Remove All Potential Events" polygons in the status console before rerunning the tool.

Example 17) Recommender Overlapping Existing FFWs

- You currently have multiple FFWs issued. Say you want to run the recommender, but you don't want its results to overlap with the current warnings.
- To do this, use the "Hazard Events to Ignore"
- You can select "All" or select the individual warnings (based on Haz Services ID number) to ignore.
- Rerun the recommender and review
- When done "Remove All Potential Events" polygons in the status console before rerunning the tool.

Example 18) Issuing Based on the FFW

- Ok now let's actually issue a warning based on the FFR. Use the tool to produce a recommended polygon.
- To improve the warning polygon proposed by the FFR, it is best to use the drawing tools to increase the area. Use the "AddTo Polygon" or "AddTo Freehand Polygon" tool to do this.
- Be sure to use the Update Hazard Hatch Area in the HID to preview the vertices reduction to 20 vertices. In general it is usually time consuming to work with the high-resolution polygons, and the more work needs to be done after the vertices reduction step. Many times it is easier to just manually draw the polygon or work with low-resolution polygons.

Example 19) Correcting a Product

- Left-click on a freshly issued hazard in the console in order to select it. Right-click the hazard row, and in the "Corrections" menu choose "Correct This Event". Alternatively, you could also go to the Products icon on the console and select "Correct Product".

The screenshot shows a software interface with a map and a console table. The map displays a green area with a blue polygon labeled "2250 FF.W" and several "W" markers. The console table below the map has a red box highlighting the "2250" row. A context menu is open over the "2250" row, with the "Corrections" menu item highlighted in blue and the "Correct This Event (issued 0 minutes ago)" option selected. A red text box with white text says "Right click on row".

Event ID	Lock Status	Hazard Type	Status
2160	U	FF.A	ISSUED / PROPC
2162	Edit	FF.W.Convective	ISSUED
2250	Edit	FF.W.Convective	ISSUED

Expiration Time	VTEC Actions
20:00Z 17-Sep-18	[NEW]
12:00Z 17-Sep-18	[NEW]
15:00Z 17-Sep-18	[NEW]

- Depending on the product you are correcting, you may get a pop-up that asks you to "Select initial Segment(s) to Correct" (click "Continue" if appears). Once you start correcting a product you have entered a special mode in Hazard Services. You will see Production Correction Mode labeled on the bottom of the Console.



- Now the HID knows to assign a correction to the hazard (COR) and not continue (CON) or cancel (CAN), so you must finish this correction before working with other hazards. If you decide not to correct the hazard, you will need to return to the hazard's "Corrections" menu and select "Cancel Correction" before you can work with other hazards
- In the Product Editor make some text changes to the product and then click "Issue Correction". In later builds the "Issue Correction" button is changing to "Issue All" and "Review Correction", so you will be reviewing the correction by clicking on "Review Correction" and issuing the

correction by clicking "Issue All".

Product Editor (Review)

FFW

2250 - LWX
VAC069-171-WVC031-171500-
/O.COR.KLWX.FF.W.0065.180517T1100Z-180517T1500Z/
/00000.U.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/

Basis Time: (* required field)
At 700 AM EDT,

Basis Text: (* required field)
Doppler radar indicated thunderstorms producing heavy rain across the warned area. Flash flooding is ongoing or expected to begin shortly.

IBW Hazard:
Flash flooding caused by heavy rain.

IBW Source:
Doppler radar.

IBW Impact:
Flooding of small creeks and streams, urban areas, highways, streets and underpasses as well as other drainage and low lying areas.

Locations Affected:
Some locations that will experience flash flooding include

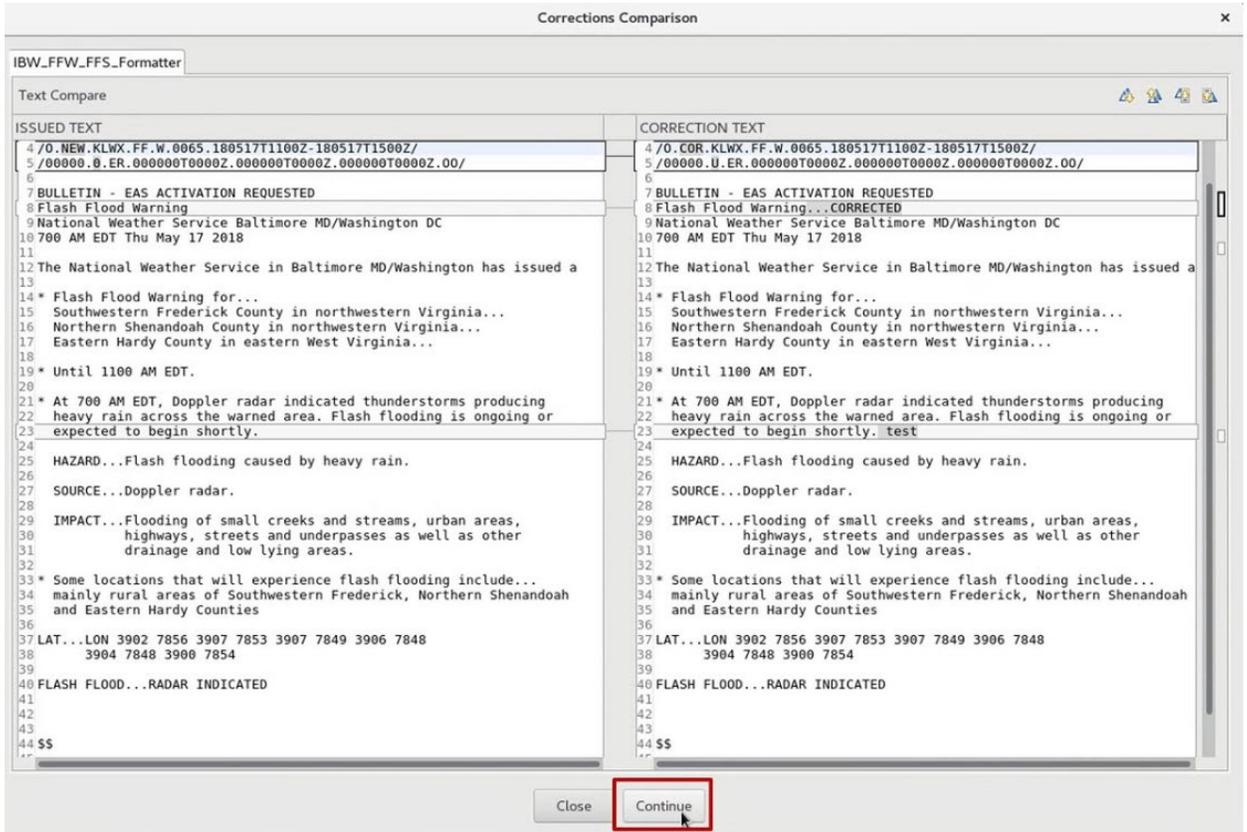
Save Undo

Hazard Data Editor IBW_FF_W_FF_S_Formatter

Issue Correction Dismiss

- A "Corrections Comparison" window will pop up. The original ISSUED text will be displayed next to the initial CORRECTION product. Make sure everything is correct in the corrected text product and note any differences between the two. Then click Continue. In later builds this is changing to

just be a "Dismiss" button.



- Your VTEC Actions entry will change to COR in the console.



Example 20) Dam/Levee Break Flood Recommender

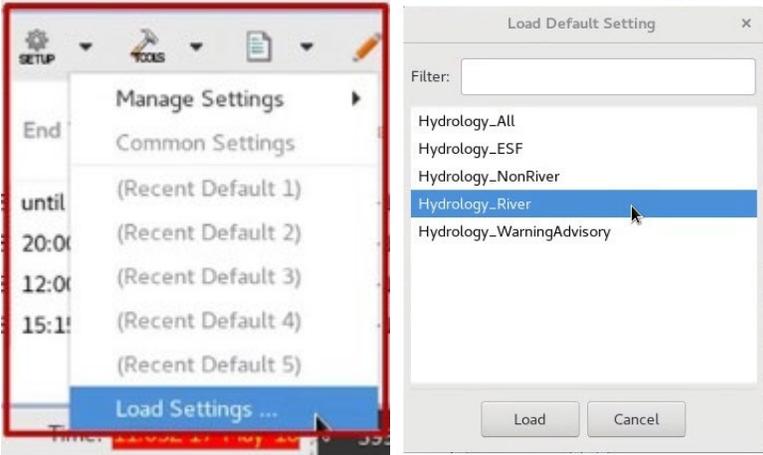
- This tool has yet to be configured for our local area. For the time being we will not be using it.

River Flood Warnings

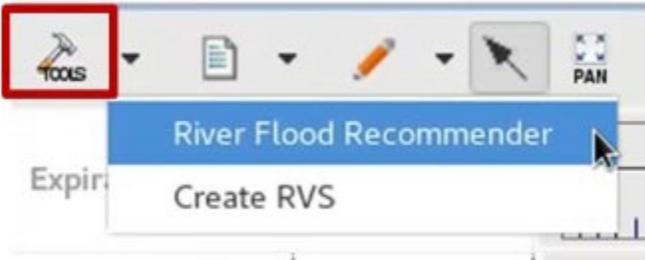
With Hazard Services Riverpro will no longer be used to generate river flood warnings or statements. However, all other river support tools such as riverpost and hydro view are still needed to issue and monitor river gage sites. In order to produce river flood warnings, you have to use the River Flood Recommender (RFR).

1: It is best that you change your CAVE window from D2D to Hydro. Everything will work in D2D, but you won't see the river gage icons and associated data. You should use hydro view to review your river stage and forecast data, and river post to publish your river forecasts prior to running hazard services.

2: Open Hazard Services. Change the Settings to just show river floods to filter out all other headline products. To do this click on the SETUP icon and select Load Settings and select Hydrology_River



3: To open the river flood recommender (RFR), click on the TOOLS button in the console and choose "River Flood Recommender".



4: Run the River Flood Recommender (RFR). The River Flood Recommender runs using the latest observed and forecast stage values in the hydro database.

Flood Recommender x

Type

Warning

ALL

Misc. Options

Include points below advisory

Watch/Warning Cutoff Time (hours) 24

Recommender Run Type

Create/update/end hazards for chosen river points

Refresh existing hazards for chosen river points

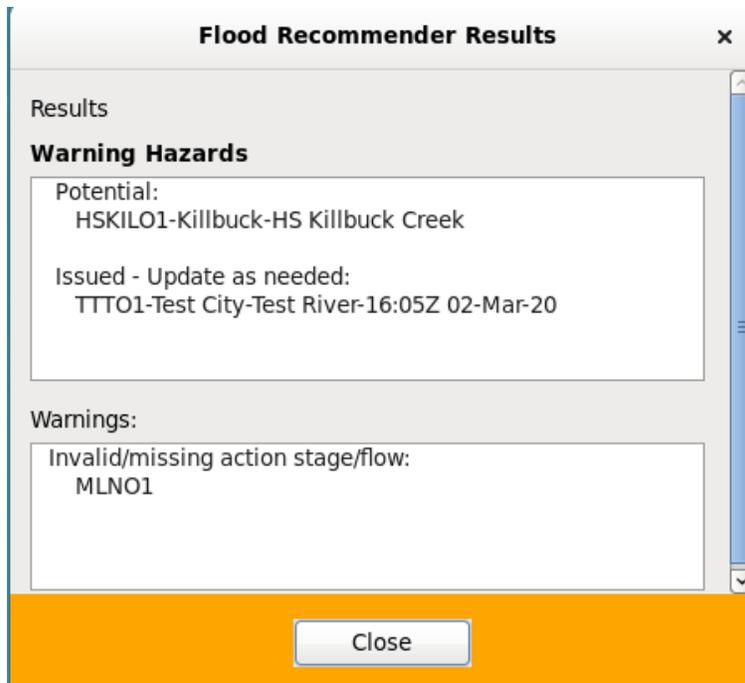
Forecast Point Choices

- Black River
- Blanchard River
- Chagrin River
- Cuyahoga River
- French Creek
- Grand River
- Hazard Services Test Group
- Huron River
- Killbuck Creek

All None

Run Cancel

When you Run the RFR it will look for any gage observations or forecasts that at, above, or are within 5% of flood stage. If any gauges meet any of the above criteria, the events will populate the console with the POTENTIAL status.



Event ID	Lock Status	IBW Type	Hazard Type	Status	Stream	Point ID	Start Time	End Time	Expiration Time	VTEC Actions	Time to Expiration
461	U		FLW	ISSUED	Test River	TTTO1	16:05Z 02-Mar-20	until further notice	02:15Z 03-Mar-20	NEW	10hrs 4min
462	U		FLW	POTENTIAL	HS Killbuck Creek	HSKIL01	16:11Z 02-Mar-20	until further notice			

You may want to sort the console by Status (by left-clicking on the Status column header) in order to identify the recommended hazards. Additionally, the spatial display will update with polygons around the gages. If the polygons don't appear, adjust your time window (using the selected time in the timeline) to overlap with the potential products. Note that you could also just run the recommender for a particular river, which would reduce the number of hazards in the Console. Click on the Group Name column header to sort by river. Select multiple or single gage sites to edit in the HID. It is recommended that you issue your FLW's around the same time and typically each river/basin at the same time.

Event ID	Lock Status	Hazard Type	Status	Group Name	Point Ord	Point ID	Start Time	End Time	Expiration Time	VTEC
2158	Edit	FLW	ISSUED	Cacapon River	1	GCPW2	04:00Z 18-May-18	until further	00:00Z 18-Sep-18	[NEW]
2208	U	FLY	POTENTIAL	Rappahannock River	2	FDBV2	11:03Z 17-May-18	06:00Z 19-May-18		
2209	U	FLA	POTENTIAL	South Branch Potomac	4	SPRW2	01:42Z 19-May-18	21:36Z 19-May-18		
2210	U	FLA	POTENTIAL	Rappahannock River	3	FFDV2	00:00Z 19-May-18	00:00Z 19-May-18		

Select multiple events for one River in the Console by left-click them and using CTRL+left-click to select multiple rows. The selected events show up separately in the HID. Most of the elements are

automatically added based on RFC forecasts and defined settings for the forecast point. You can make any necessary edits.

Hazard Information

462 FL.W HSKIO1 461 FL.W TTTO1

Type

Category: Hydrology

Type: River Flood Warning (FL.W)

Drawing

Update Hazard Hatched Area

Time Range

Start: 02-Mar-2020 16:12

End: N/A N/A

Until further notice

Details

Point Details Crest Comparison Impact Statement

Impact Statement

Impacts Search Parameters

HSKIO1 - Hazard Services Test Group

CurObs	4.00
MaxFcst	-9999.00
FidStg	3.50
FidFlow	-9999.00
Lookup PE	HG
Based On Lookup PE	YES

Impacts to Use

ImpactStg/Flow - Start - End - Tendency

Impacts

- 3.00-01/01-12/31-Rising
Several low lying roads in Holmes County including Township Roads 91 and 92, and County Roads 621 and 622 are flooded.
- 3.50-01/01-12/31-Rising
Flooded roads in and near Killbuck include Water Street, County Road 621, State Route 60 south, State Route 520, as well as local low
- 4.00-01/01-12/31-Rising
Private property on Water Street in the Village of Killbuck flooded. Several county and local roads impassable including State Route 60
- 4.50-01/01-12/31-Rising
Several homes threatened in the town of Killbuck. North Main, Jefferson, and Waters Streets inundated. Northern and southern
- 5.00-01/01-12/31-Rising
Widespread flooding in both north and south end of Killbuck. Many county and local roads impassable. State Route 17 in Millersburg
- 5.50-01/01-12/31-Rising
The FEMA 1 percent flood level.
- 6.00-01/01-12/31-Rising
Severe flooding in the Village of Killbuck and throughout the valley. Flood water back up onto Interstate 71 near Dubuque. Fire Station is

Preview... Propose

One area that you may routinely make edits too are the impact statements. In Hazard Services you have the option of selecting impact statements for rising or falling rivers (where those impacts are available).

Details

FldFlow	-9999.00
Lookup PE	HG
Based On Lookup PE	YES

Impacts to Use
ImpactStg/Flow - Start - End - Tendency

Impacts

- 3.00-01/01-12/31-Rising
Several low lying roads in Holmes County including Township Roads 91 and 92, and County Roads 621 and 622 are flooded.
- 3.50-01/01-12/31-Falling
Flood waters recede from Water Street, County Road 621, State Route 60 south, State Route 520, as well as local low lying roads.
- 3.50-01/01-12/31-Rising
Flooded roads in and near Killbuck include Water Street, County Road 621, State Route 60 south, State Route 520, as well as local low
- 4.00-01/01-12/31-Falling
Several county and local roads impassable including State Route 60 south and County Road 621.
- 4.00-01/01-12/31-Rising
Private property on Water Street in the Village of Killbuck flooded. Several county and local roads impassable including State Route 60
- 4.50-01/01-12/31-Rising
Several homes threatened in the town of Killbuck. North Main, Jefferson, and Waters Streets inundated. Northern and southern
- 5.00-01/01-12/31-Rising
Widespread flooding in both north and south end of Killbuck. Many county and local roads impassable. State Route 17 in Millersburg
- 5.50-01/01-12/31-Rising
The FEMA 1 percent flood level.
- 6.00-01/01-12/31-Rising
Severe flooding in the Village of Killbuck and throughout the valley. Flood waters back up onto Interstate 71 near Burbank. Fire Station in

Once finalized you can Preview the text product. Add your call to action. Then send.

Product Editor

FLW FLS
 WGUS41 KCLE 021612
 FLWCLE

BULLETIN - EAS ACTIVATION REQUESTED
 Flood Warning
 National Weather Service Cleveland OH
 1112 AM EST Mon Mar 2 2020

...The National Weather Service in Cleveland OH has issued a Flood Warning for the following rivers in Ohio...

HS Killbuck Creek Near Killbuck affecting Holmes and Wayne Counties.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Turn around, don't drown when encountering flooded roads. Most flood deaths occur in vehicles.

Additional information is available at www.weather.gov.

The next statement will be issued this evening at 915 PM EST.

\$\$\$

OHC075-169-030215-
 /O.NEW.KCLE.FL.W.0003.200302T1612Z-000000T0000Z/
 /HSKIL01.1.ER.000000T0000Z.200302T1500Z.000000T0000Z.NO/
 1112 AM EST Mon Mar 2 2020

The National Weather Service in Cleveland has issued a

- * Flood Warning for the HS Killbuck Creek Near Killbuck.
- * From this morning until further notice.
- * At 10:00 AM EST Monday the stage was 4.0 feet.
- * Flood stage is 3.5 feet.
- * Minor flooding is occurring.
- * Recent Activity...The maximum river stage in the 24 hours ending at 10:00 AM EST Monday was 4.0 feet.
- * Forecast...No forecast is available for this location.
- * Impact...At 3.5 feet, Flooded roads in and near Killbuck include Water Street, County Road 621, State Route 60 south, State Route 520, as well as local low lying roads. Holmes county fairgrounds inundated.
- * Impact...At 4.0 feet, Private property on Water Street in the Village of Killbuck flooded. Several county and local roads impassable including State Route 60 south and County Road 621.
- * Impact...At 4.5 feet, Several homes threatened in the town of Killbuck. North Main, Jefferson, and Waters Streets inundated. Northern and southern portions of town threatened. Many local and county roads flooded including State Route 16 and 60 north, and County Road 621.
- * Impact...At 5.0 feet, Widespread flooding in both north and south end of Killbuck. Many county and local roads impassable. State Route 17 in Millersburg flooded.
- * Flood History...No available flood history.

\$\$\$

LAT...LON 4099 8203 4099 8193 4067 8190 4045 8191
 4045 8202 4067 8202

\$\$\$

Jamison

Hazard Data Editor Legacy_FLW_FLS_Formatter

Issue All Dismiss

Product Editor

FLW

Overview Headline:
 ...The National Weather Service in [Cleveland](#) OH has issued a Flood Warning for the following rivers in Ohio...

Test River At Test City affecting [Ashtabula](#) County.

Overview Synopsis:

Group Summary:

Calls To Action:
 Turn around, don't drown when encountering flooded roads. Most flood deaths occur in vehicles.

Additional Info Statement:
 Additional information is available at www.weather.gov.

461 - CLE - TTTO1 - Test City - Test River
 OHC007-030215-
 /O.NEW.KCLE.FL.W.0002.200302T1605Z-000000T0000Z/
 /TTTO1.2.ER.000000T0000Z.200302T1500Z.000000T0000Z.UU/

Observed Stage Bullet: (* required field)
 At 10:00 AM EST Monday the stage was 4.0 feet.

Flood Stage Bullet: (* required field)
 Flood stage is 2.5 feet.

Flood Category Bullet: (* required field)
 Moderate flooding is occurring.

Recent Activity Bullet:
 Recent Activity...The maximum river stage in the 24 hours ending at 10:00 AM EST Monday was 4.0 feet.

Forecast Stage Bullet: (* required field)
 No forecast is available for this location.

Impacts Bullet:
 Impact...At 4.0 feet, River Street flooded.

Flood History Bullet:
 Flood History...No available flood history.

Flood Point Table:

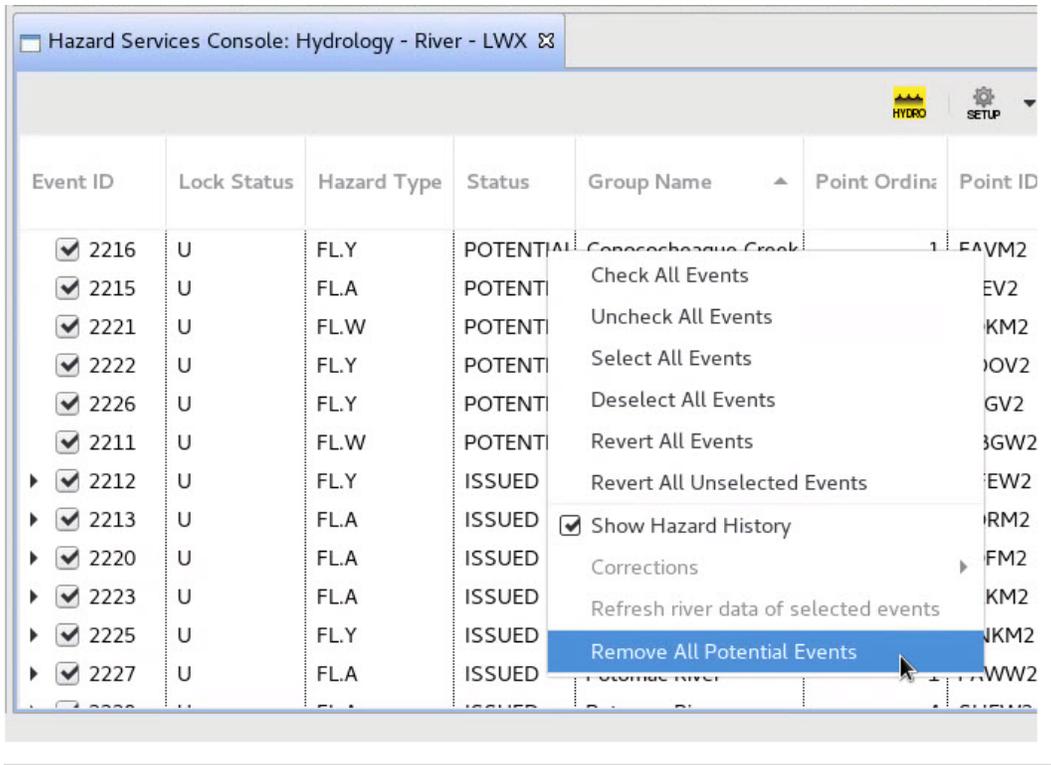
Product expires in: 10.00 At: 02:15Z 03-Mar-20

Save Undo Redo

Hazard Data Editor Legacy_FLW_FLS_Formatter

Issue All Dismiss

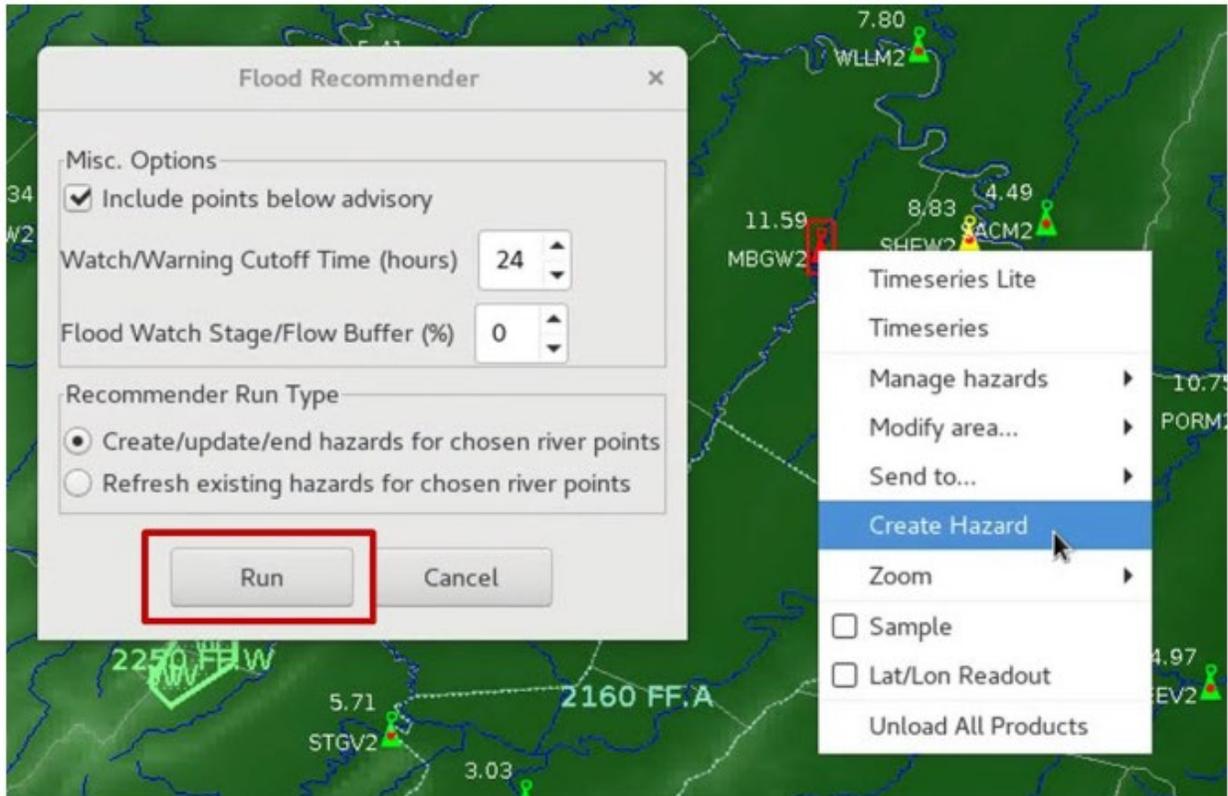
To remove unwanted events created by the recommender, right-click in the console and select "Remove All Potential Events". This is a handy way to clean up the Console and rerun the recommender.



Running RFR for 1 Location

The user can run the RFR for one location at a time. Double left-click on the river gauge. When the gauge is selected, a red rectangle will surround the gauge. Choose a yellow or red-colored gauge to ensure you have something that meets advisory or watch/warning criteria.

Hold down the right mouse button and select "Create Hazard" from the menu, and when the Flood Recommender comes up, click Run. The Flood Recommender is a smaller version of the one run from the TOOLS icon.



Note: Notice the check box “Include points below advisory”. You can use this feature to create an event not recommended by the RFR.

Follow up statements

You can produce a follow up statement either by clicking on the individual product in the console and editing in the HID, which will automatically default to an FLS. Or you can run the RFR and follow the recommendations.

Ending a River Flood Event

There are three methods to end a river flood product:

- Console: Right-click the hazard row and select "End This".
- Spatial Display: Left-click on the polygon to select it. It will become hatched and the HID will appear. Right-click and hold to select Manage hazards -> End This.
- River Flood Recommender: Run the RFR. Once the event is listed in the console as ENDING, select it and review the HID (requires hydro database to recommend ending).

Service Backup

Starting Backup:

The first, and most critical step, is to launch Hydrogen XML file creation for BUF/ILN, follow these steps:

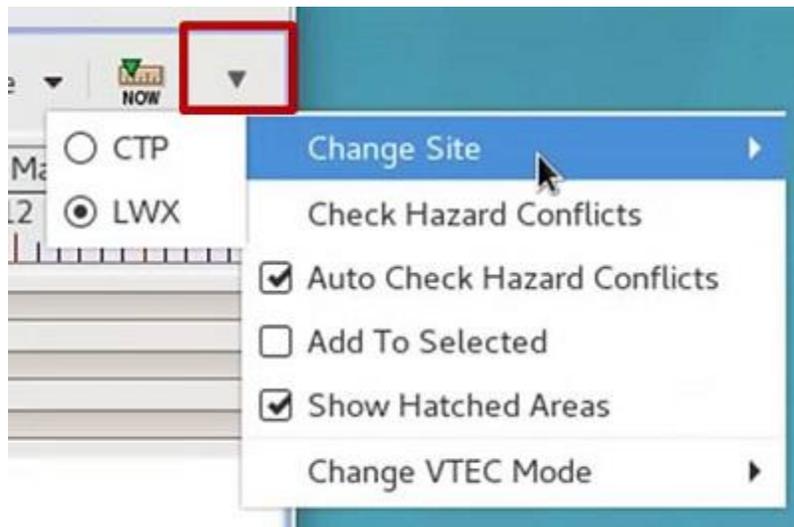
From an AWIPS workstation, right click and hold, then go to Hydro Apps and Start Hydrogen Backup

On the far right hand side of the Hydrogen window, make sure to select the office ID BUF or ILN boxes are activated via the left mouse button (colored red instead of grey).

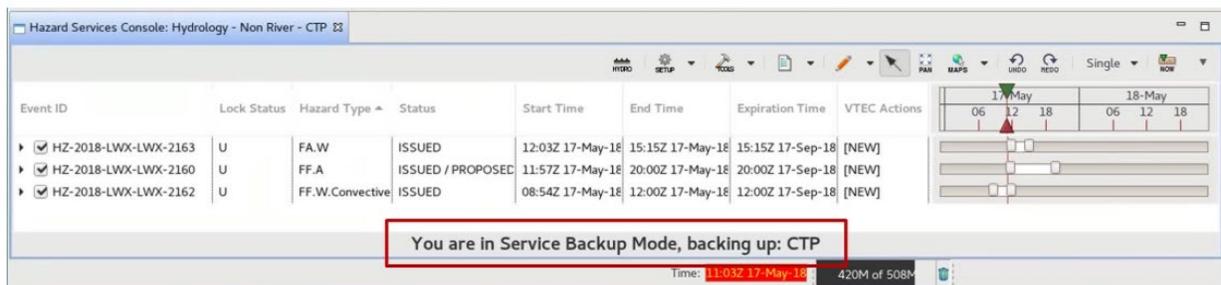
Left click on "Set Backup Mode Only".

Left click on "Done".

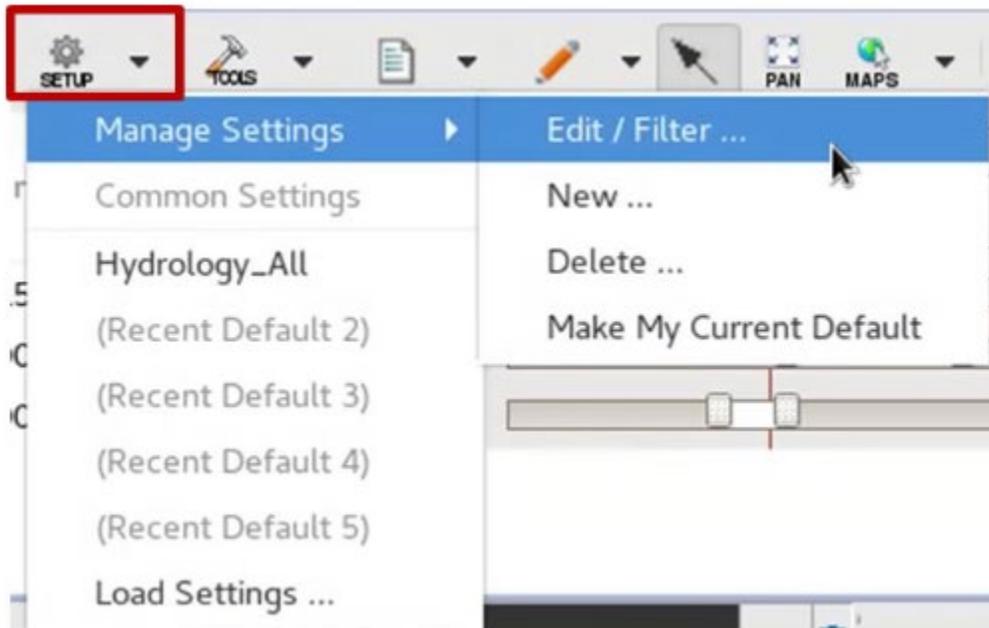
In Hazard Services, to enter service backup for a new CWA, select the down arrow menu on the upper right of the Hazard Services console and under the "Change Site" menu, click the radio button next to the site identifier you want to be.



When you are in Service Backup, the Console will display "You are in Service Backup Mode, backing up: XXX" where XXX is the site. You can now see hazards for that site in addition to your original site.



Your display can become crowded with multiple sites enabled, so may wish to toggle off Site IDs in your Setting using the SETUP icon->Manage Settings->Edit/Filter in the console to filter hazards by site.



Edit Default Setting: Hydrology_NonRiver [X]

Name:

Display Name:

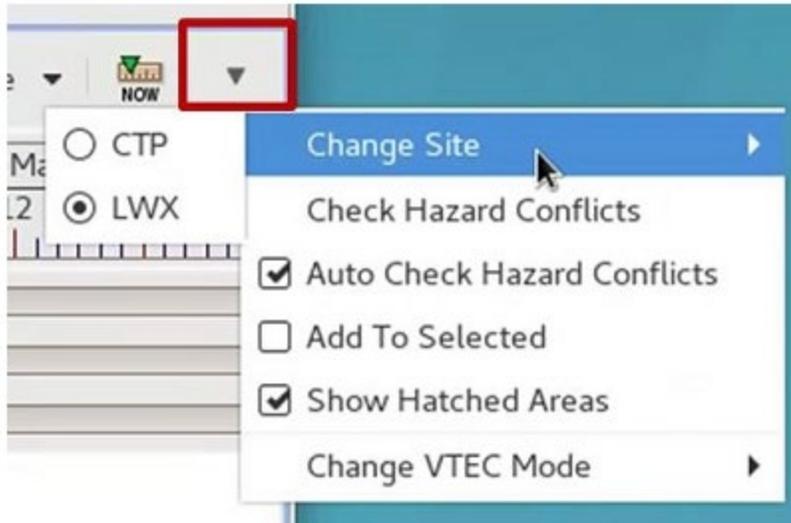
Category:

Hazards Filter | Console | Console Coloring | **HID/Spatial** | Recommenders | Maps/Overlays

Hazard Categories & Types:	Site IDs:	Status:
<input type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> CTP <input checked="" type="checkbox"/> LWX	<input checked="" type="checkbox"/> potential <input checked="" type="checkbox"/> proposed <input checked="" type="checkbox"/> issued <input checked="" type="checkbox"/> elapsing <input checked="" type="checkbox"/> ending <input type="checkbox"/> elapsed <input type="checkbox"/> ended

Ending Backup:

Change site back to your primary site to return to leave service backup.



To stop generating Hydrogen XML files for BUF, follow these steps:

From an AWIPS workstation, right click and hold, then go to Hydro Apps and Start Hydrogen Backup

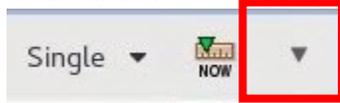
On the far right hand side of the Hydrogen window, modify the boxes so that BUF and ILN boxes are grey.

Left click on "Set Backup Mode Only".

Left click on "Done".

Ending these Jobsheets

- At the end of the toolbar there is a down arrow. From this drop down select "Reset Events"



- Now close out of hazard services
- Turn the workstation back into operational mode. Under the Applications drop down menu select AWIPS, and then AWIPS start-up menu. Select the Test Mode Control Program



to bring up the GUI.

- Using the Practice Mode GUI, select "Change Mode to Operational"

