Required configuration/cleanup: Go through each of the sections below

A. localConfig and other general configuration:

2022 Information
In order to help forecasters with background wind preparation, the following entries are helpful for a specific gfeConfig file for this purpose. The TCMWinds color curve noted was provided with the GTCM DataAddonsManager package back in 2018 so all sites should have it at site.

```
Unset
Wind_graphicColor = 'black'
Wind_density = +2
WindFormat = "ddff"
Wind_fontOffset = -1
Wind_defaultColorTable="SITE/XXX/TCMWinds"
Wind__maxColorTableValue = 200.0
Wind__minColorTableValue = 0.0
```

2021 Information
No significant changes were needed for this season. The Gridded TCM Winds are back, but most offices should already be ingesting them as part of the preliminary WSP ingest. More information on this data flow can be found at https://docs.google.com/document/d/10xZu8Z_KEUTT1AbSAzGxr_DQ9LYGBIhKLynf33nQo0E/edit?usp=sharing.

2020 Information
To facilitate more effective service backup, all of the tropical elements should be part of the grids being sent to the central server. To do this, first, check your svcbu.properties file under GFE Server--> Server Config Files in the localization perspective and search for **SVCBU_TRIM_ELEMS**. It should be set to 1 to ensure only the needed elements are being sent, rather than the entire Official db. Then edit **dx3:/awips2/GFESuite/ServiceBackup/data/svcbu_export_elements.ccc**, where ccc is your site ID, and append the elements as shown below.

```
InundationMax - coastal sites only
InundationTiming - coastal sites only
StormSurgeThreat - coastal sites only
WindThreat
FloodingRainThreat
TornadoThreat
```

The 8 wind speed probability grids can be added as well but are less necessary since it is easy to run the PWS_Procedure and re-create them once the site is being backed up.

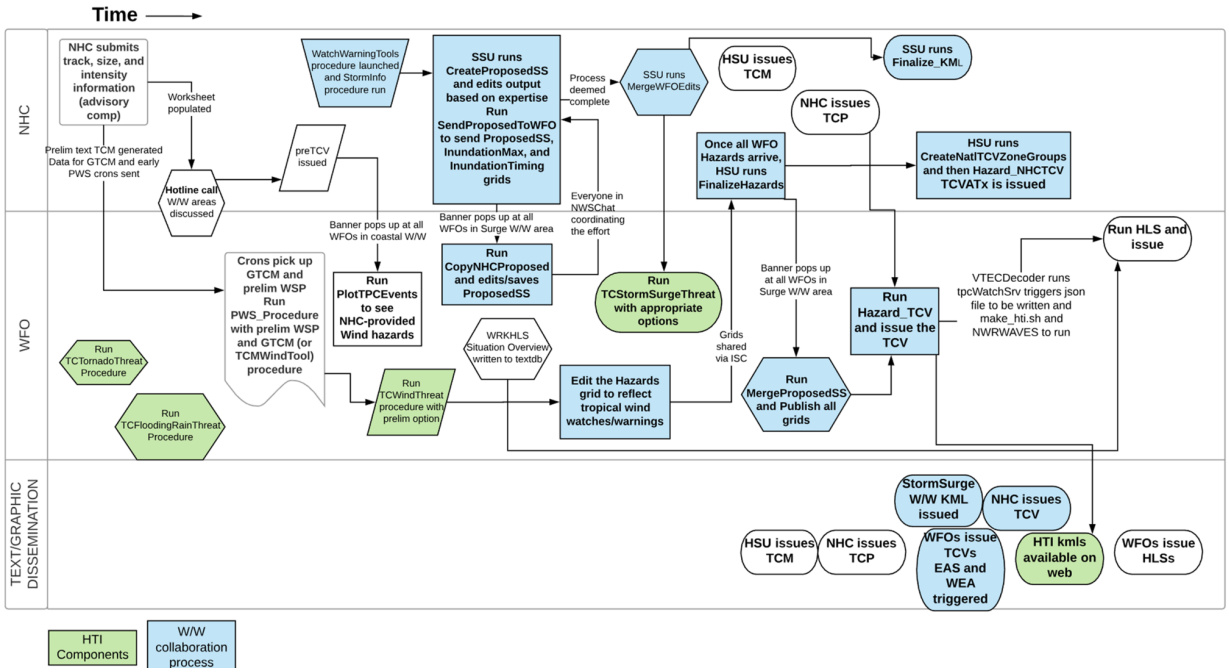
Again this year, little has changed. In order to test the concept of NHC recommending wind hazards, all tropical sites are asked to add **ProposedTropWindWWnc** and **ProposedTropWWGuidancenc** to your REQUESTED_ISC_PARMS list and download and install the updated NHAdomain shapefile. Inland sites will also need to add **NHA** to your REQUESTED_ISC_SITES. Bounce the gfe services or EDEX once complete. All sites will need to remove any SITE-level override of ISC_NHA edit area via the localization perspective. **Only a CONFIGURED-level ISC_NHA edit area should exist.**

The wind hazard guidance grids will not flow regularly, but NHC may do occasional tests with select sites and this addition facilitates that testing.

2019 Information
Very little has changed for 2019. Even though the GTCM will not be in use this season, the cron needs to remain since it also picks up the prelim WSP grids which are needed. The D2D procedures for viewing the GTCM data and the GTCM GFE procedure can be removed.

2018 Information
Configure the cron to process the preliminary WSP grids. Information is on VLAB.

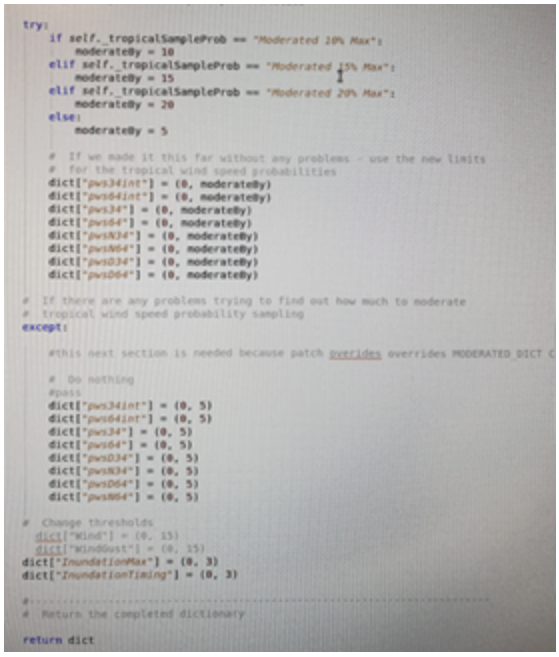
Added 9/2/2018: Added Tropical Workflow diagram which was created for Raytheon to assist with troubleshooting.



With the addition of P-ETSS and the early WSP, make sure you are on the latest NIC version as it handles P-ETSS correctly.

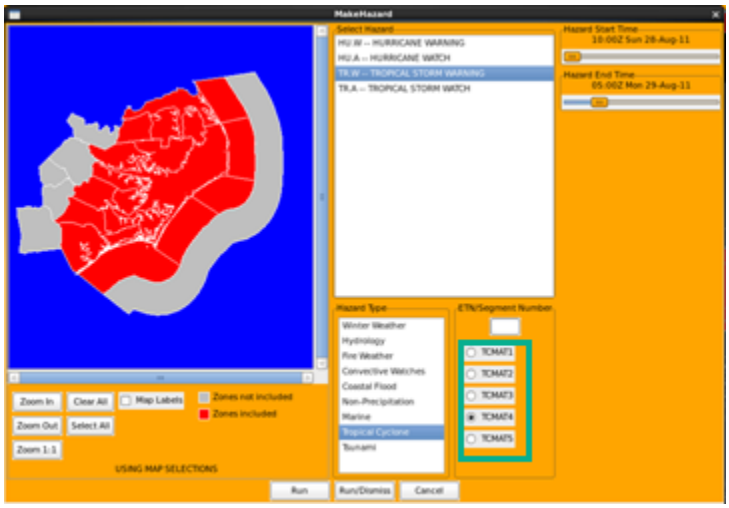
2017 Information

If your office has a **Patch_Overrides** Text Utility file, check for overrides of the default sampling thresholds. No override of the default threshold should exist. If it does, it supersedes the thresholds in the Hazard_TCV. Those **must** be 3% for the TCV to work as designed. The ERTFTF has updated the Patch_Overrides they maintain to address any issues. If you use the ER file, you should be fine. If you have your own, make sure it has the following:



```
try:
    if self._tropicalSampleProb == "Moderated 10% Max":
        moderateBy = 10
    elif self._tropicalSampleProb == "Moderated 15% Max":
        moderateBy = 15
    elif self._tropicalSampleProb == "Moderated 20% Max":
        moderateBy = 20
    else:
        moderateBy = 5

    #  If we made it this far without any problems - use the new limits
    #  for the tropical wind speed probabilities
    dict["pws34int"] = (0, moderateBy)
    dict["pws64int"] = (0, moderateBy)
    dict["pws34"] = (0, moderateBy)
    dict["pws64"] = (0, moderateBy)
    dict["pwsN34"] = (0, moderateBy)
    dict["pwsN64"] = (0, moderateBy)
    dict["pwsD34"] = (0, moderateBy)
    dict["pwsD64"] = (0, moderateBy)

#  If there are any problems trying to find out how much to moderate
#  tropical wind speed probability sampling
except:

    #this next section is needed because patch overrides overrides MODERATED_DICT C

    #  Do nothing
    #pass
    dict["pws34int"] = (0, 5)
    dict["pws64int"] = (0, 5)
    dict["pws34"] = (0, 5)
    dict["pws64"] = (0, 5)
    dict["pwsD34"] = (0, 5)
    dict["pwsN34"] = (0, 5)
    dict["pwsD64"] = (0, 5)
    dict["pwsN64"] = (0, 5)

#  Change thresholds
  dict["Wind"] = (0, 15)
  dict["WindGust"] = (0, 15)
dict["InundationMax"] = (0, 3)
dict["InundationTiming"] = (0, 3)

#-------------------------------------------------------------------------
#  Return the completed dictionary

return dict
```

The following should have been handled in the AWIPS II migration.
Ensure the TCM box appears when you run MakeHazard, as shown.



If it does not, edit your SITE-level MakeHazardConfig utility, comment out the blank tcmList and uncomment the Atlantic basin list (TCMAT1-5).

2016 Information

For coastal sites, to receive the GFE pop-up for the arrival of the pre-TCV, sites need to add text triggers as shown below.

Add the following to your **/data/fxa/siteConfig/textApps/siteTrigger.template**:

```
MIAPTCAT1 /data/local/scripts/copyToManual.sh
```

```
MIAPTCAT2 /data/local/scripts/copyToManual.sh
MIAPTCAT3 /data/local/scripts/copyToManual.sh
MIAPTCAT4 /data/local/scripts/copyToManual.sh
MIAPTCAT5 /data/local/scripts/copyToManual.sh
```

All sites will receive and store the file the same, so no need to localize the node.

Then, as root on dx1, run **/data/fxa/sdc/config_awips2.sh –f triggers LLL** where LLL is your site ID.

2015 information
With the overhaul of tropical products for 2015, the baseline serverConfig was modified in OB 14.3.1 to include all of the necessary elements for all of the tropical products including the Hurricane Threats and Impact (HTI; formerly TCIG). As noted in the 14.3.1 Mod Note, all of the national tropical items that were requested to be added to your localConfig over the years need to be removed. Since all affected WFOs are now past 14.3.1, this should be more informational. But for completeness, the following types of entries need to be **removed**. Also ensure these items do not exist in any regionalConfig you may be importing into your localConfig.

```
All HTI (formerly TCIG) elements
  - element definitions
  - parmsISC entries
  - Threat4Keys def
VDATUMS db entry
Any PWS elements or tropical Time Constraints
All old SurgeHt elements
ProposedSS
  - definition
  - SShazardKeys
  - extraISCParm entry
  - parmsISC entry
NHA domain and projection definition
```

1.

To ensure collaboration can occur for all of the tropical elements, the following entries need to be added (or modified) in your **REQUESTED_ISC_PARMS**:

```
Coastal sites
serverConfig.REQUESTED_ISC_PARMS = [all of your current elements, 'StormSurgeThreat',
'WindThreat', 'FloodingRainThreat', 'TornadoThreat', 'ProposedSS', 'ProposedSSnc',
'InundationMaxnc', 'InundationTimingnc',  'SurgeHtPlusTideMSLnc',
'SurgeHtPlusTideMLLWnc', 'SurgeHtPlusTideMHHWnc', 'SurgeHtPlusTideNAVDnc']
# MFL Example
serverConfig.REQUESTED_ISC_PARMS =
['QPFrfc','CQPF1','CQPF1rfc','ApparentT','Windnc','Swellnc','Hazards','Wx','Sky','Ceil
ing','LAL','PoP06','PoP','QPF','Wind','WindGust','Wind20ft','WaveHeight','Swell','T',
'Td','MinT','MaxT','RH','MaxRH','MinRH','MixHgt','TransWind','LDSI','LVORI',
'ProposedSS', 'ProposedSSnc', 'InundationMaxnc', 'InundationTimingnc',
'SurgeHtPlusTideMSLnc',
'SurgeHtPlusTideMLLWnc',  'SurgeHtPlusTideMHHWnc','SurgeHtPlusTideNAVDnc',
'StormSurgeThreat', 'WindThreat', 'FloodingRainThreat', 'TornadoThreat']
```

```
Inland sites
serverConfig.REQUESTED_ISC_PARMS = [all|of your current elements, 'WindThreat',
'FloodingRainThreat', 'TornadoThreat']
```

2.
3. Ensure **'NHA'** is in your **REQUESTED_ISC_SITES** list for all coastal sites.

The GFE services need to be restarted after making all of these changes.

1. Remove HU.S from site override of MakeHazardConfig utility.
2. Ensure all users are able to write the json files upon TCV transmission. This is needed only if you have changed the baseline GFE permissions. The file **/awips2/edex/data/utility/common_static/site/XXX/roles/userRoles.xml** needs to be modified. This can be done either of the two ways shown below:

```
</role>
    <user userId="ALL">

<userPermission>com.raytheon.localization.site/cave_static/gfe/tcvAdvisories</u
serPermission>
...
</user>
```

or

```
<role roleId="all">

<rolePermission>com.raytheon.localization.site/cave_static/gfe/tcvAdvisories</r
olePermission>
    ...
  </role>
```

B. Hurricane Threats and Impacts

2022 Information
UPDATE
A bug was found in the TCTornadoThreat so all sites need to do the following:

Unset

```
cd /localapps/runtime/Gfe/Procedures/TropicalHti
svn update
/localapps/runtime/bin/GFE_module_installer.sh -f
TCTornadoThreat.Procedure
```

All HTI files become site-level this season. All of the required files and install instructions can be found at [https://vlab.noaa.gov/redmine/projects/nwsscp/wiki/TropicalHti].

In addition to installing the 4 HTI procedures, TCImpactGraphics_KML procedure, and TropicalUtility, you **must** modify px2:/awips2/GFESuite/hti/etc/sitevars.ccc and px2:/awips2/GFESuite/hti/etc/sitevars.<sid> for all site IDs in the directory to change the PRODUCTdir declaration to **PRODUCTdir="${HTI_HOME}/data/${site}"**. Failure to make this change will prevent the needed files from generating. Changing the ccc baseline file will ensure any new site's files for which make_hti is run will have the correct directory.

Details of the changes made to the individual files can be found at the above project page.

2021 Information
The **TCTornadoThreat**, **TCStormSurgeThreat** and **TCWindThreat** procedures are updated as part of 20.2.3. **All sites must remove their SITE-level overrides** of these procedures. The TCStormSurgeThreat was updated to fix the issue where the values were assigned an X.1. The TCWindThreat was updated to fix how the MaxWind is calculated. It will now only include from the current time forward instead of the entire Fcst db grids which could go back 12-48 hours.

The make_hti script has also been enhanced to now notify forecasters via an AlertViz banner that grids are missing if they try to run it with an incomplete set of grids.

2020 Information
The TCStormSurgeThreat, TCFloodingRainThreat and TCTornadoThreat procedures will be updated with OB19.3.3-15. No site should have an override of TCTornadoThreat but **all sites must remove their SITE-level override of TCFloodingRainThreat**. No site override should exist for the 2020 procedure as it is based on WPC's Excessive Rainfall Outlook algorithm and no longer uses RFC FFG. The update for the TornadoThreat is to properly handle the new Day 2 probabilities.

For the TCStormSurgeThreat change, the default was changed back to PHISH as SSU will no longer be sending Inundation grids to WFOs. To better enable sites to match the TCP values and experimental expected value graphic, the Manual options cap has been removed, allowing offices to manually create values over 3 feet. If sites have an override of this procedure to handle MHHW per previous coordination with SSU, those changes need to be merged with this new baseline. No other site should be overriding this procedure now.

More information on these changes can be found in the HTI User Guide at https://docs.google.com/document/d/1m1_uHhHQYmJ2uQHQAfgj6rtPDzhD6V_D-O1UOcISgok/edit?usp=sharing.

2019 Information
It has recently become known that the RFCs that serve the tropical WFOs no longer produce a text FFG bulletin. So sites need to manually change their site-level TCFloodingRainThreat procedure to disable text FFG blending. To do this, edit the beginning of the procedure to match what you see below, making No the default and only selection. Note: this will make the resulting grid have more null pixels since the RFCs do not provide gridded FFG over lakes and rivers that are part of land zones. This will be covered in the user job sheets.

```
##
# This is an absolute override file, indicating that a higher priority version
# of the file will completely replace a lower priority version of the file.
##

MenuItems = ["Populate"]

VariableList = [("Gridded/Text FFG Blending?" , "No", "radio", ["No"]),
                ("Probabilistic QPF Exceedance Level to use:", "10%", "radio", ["Don't Use Prob Guidance", "05%", "10%", "25%", "50%"]),

# Use the above line for the GUI when testing is finished. the line below will be enabled when we are ingesting 20%, 30%, and 40% percentiles
#                ("Probabilistic QPF Exceedance Level to use:", "10%", "radio", ["Don't Use Prob Guidance", "10%", "20%", "30%", "40%", "50%"]),
                ]
```

An updated version of TCWindThreat has been included in OB 18.2.2 which has the regionally agreed-upon wording on the GUI. Ensure your site does not have an override of TCWindThreat. The 2019 version of the HTI User Guide can be found at https://docs.google.com/document/d/1m1_uHhHQYmJ2uQHQAfgj6rtPDzhD6V_D-O1UOcISgok/edit?usp=sharing. It is a living document updated as needed throughout the season.

2018 Information

1. Remove overrides of **all** TCxxxThreat procedures as they have all been updated for this season. This includes the **TCImpactGraphics_KML** procedure.
2. Create new override of **TCFloodingRainThreat** to add FFG information to the 17.3.1 version of the procedure.
3. Create a new override of **TCImpactGraphics_KML** to replace MHX or XXX with your WFO ID.

No overrides should exist for TCWindThreat, TCStormSurgeThreat, or TCTornadoThreat procedures.

For inland sites, these additional steps are needed:

1. Remove StormSurgeThreat from the list of elements in the execute method of TCImpactGraphics_KML.
2. In /awips2/GFESuite/hti/etc/, make a copy of sitevars.ccc and change the ccc to your site ID (e.g. cae)
3. Make site-level versions of the ifpIMAGE gfeConfig files (FloodingRainThreat, WindThreat, TornadoThreat) to change XXX in each file to your ID and legend WFO name from Miami FL to your city/state. Do NOT change anything else other than what maps you would like shown in the image.

Add make_hti to your Scripts menu via your site-level gfeConfig file:

```
"Make and Send HTI:" +     "xterm -e ssh px2f /awips2/GFESuite/hti/bin/make_hti.sh {site}",
```

4.

The 2018 version of the HTI User Guide can be found at https://docs.google.com/document/d/1m1_uHhHQYmJ2uQHQAfgj6rtPDzhD6V_D-O1UOcISgok/edit?usp=sharing. It is a living document updated as needed throughout the season.

Information from 2017

1. The StormSurgeWW_EditArea has been updated to account for the coastal zone work done by all WFOs. It will be pushed to all sites by NCF on 8/1 and will place the edit area in site for the rest of the 2017 season.
2. The StormSurgeWW_EditArea_Local needs to be updated to reflect changes to the SSWW edit area. To do this, load the StormSurgeWW_EditArea and intersect (&) it with your local WFO land area (e.g. MFL or MOB_AllLand). This all-land edit area should be the same one that was updated to reflect the changes made to the coastal zones and the one used as the mask for the other three HTI elements in the ifpIMAGE files.
3. Once saved, promote your StormSurgeWW_EditArea_Local to Site and upload your configuration to the central server.

1. A new site override of **TCFloodingRainThreat.py** should be created via the localization perspective to add the needed FFG guidance. This is noted by comments in the procedure, around line 495. **Your 2016 override should be removed and a new override created so the 2017 code is implemented.**
2. Remove any 2016 site override of TCStormSurgeThreat.py. **No site override of this procedure should exist except for SJU and HFO.**

The rest of this configuration should have been completed in 2015. It is here for reference only.

1. For coastal sites, site overrides of the four ifpIMAGE gfeConfig files need to be made which specify:
   a. the legend
   b. the maps/masks used
   c. the XXX (siteID) inside the file (all instances)
   d. default SampleSet used

NOTE: The variable **Png_filenamePrefix** in the config files **MUST NOT TO BE CHANGED** other than the SID (first 3 letters). Default masks in the files should be left alone. They trim to the proper areas.

2. For coastal sites, create a site-level EditArea which is an intersect (&) between the baseline StormSurgeWW_EditArea and your local WFO land area EditArea. This edit area should be called **StormSurgeWW_EditArea_Local** and use this as the mask in your site-level **StormSurgeThreat.py** ifpIMAGE config file. **NOTE:** DO NOT modify the baseline StormSurgeWW_EditArea. Having this same edit area at all sites ensures consistency when coordinating StormSurgeThreat via ISC and when creating the online mosaics from individual office kmls.

3. For coastal sites, create a site level override of the **TCImpactGraphics_KML.py** procedure and edit lines 209-216 to change MFL to your office's 3-letter ID. Also, change StormSurgeWW_EditArea to StormSurgeWW_EditArea_Local. If you wish to move the legend on the graphics to the bottom right instead of bottom left, edit the long kml.write line and change the 3 instances of x=".02" to x=".98".

4. For the potential impact statements that will accompany the kml and graphics, the office will have the option to customize that via the new **TCVDictionary Utility**. This Utility is also used by the new HLS and TCV so the statements are edited once and kept consistent among all products. More information on editing this file can be found in the TCVDictionary section.

5. For coastal sites, check any override of rsync_parms in **/awips2/GFESuite/ServiceBackup/data/rsync_parms.xxx** and make sure the four threat

parameters specified there are **StormSurgeThreat, WindThreat, FloodingRainThreat, TornadoThreat**. If they exist, remove CoastalThreat, InlandThreat, and MarineThreat.

Share your rsync_parms.xxx with the offices which provide primary and secondary backup for you.
6. For coastal sites, add the following entry to your office-level gfeConfig under the Scripts section:

```
"Make and Send HTI:" +     "xterm -e ssh px2f
/awips2/GFESuite/hti/bin/make_hti.sh {site}",
```

7. Add the following to **/data/fxa/siteConfig/textApps/siteTrigger.template**:

```
CCCTCVSID /awips2/GFESuite/hti/bin/make_hti.sh sid
```

For Miami it looks like this:

```
MIATCVMFL  /awips2/GFESuite/hti/bin/make_hti.sh mfl
```

Then, as root on dx1, run **/data/fxa/sdc/config_awips2.sh –f triggers LLL** where LLL is your site ID. This will also remove the old make_ghls and NWRWAVES triggers you deleted previously.
8. Add the elements to the list going to the NDFD. To do this, first, check your svcbu.properties file under GFE Server--> Server Config Files in the localization perspective and search for **SVCBU_TRIM_ELEMS**. If it is set to 0, you are good to go as everything in the Official db will be sent.

If it is set to 1, edit **dx3:/awips2/GFESuite/ServiceBackup/data/svcbu_export_elements.ccc**, where ccc is your site ID, and append the elements as shown below.

```
StormSurgeThreat - coastal sites only
WindThreat
FloodingRainThreat
TornadoThreat
```

If any site would like specifics on the files included in the baseline for 14.3.2, the HTI_extraInfo.pdf contains the information.

The following should have been done in 2015. It is here for completeness and general reference.
1. Remove all scripts under /home/webapps/AWIPS/gfe/ghls and /data/local/webapps/data/ghls. The new baseline scripts will be installed as part of 14.3.2 under /awips2/GFESuite/hti on the server side px's and dx's.
2. Remove all SITE and user versions of CopyNHCProposed.py, TCWindThreat.py, TCCoastalFloodThreat.py, TCInlandFloodThreat.py, TCTornadoThreat.py, and TCImpactGraphics_KML.py. If you wish to keep customized versions of the impact statements from the KML procedure, copy those to a separate file before deleting TCImpactGraphics_KML.py. The means to incorporate those will be covered later.
3. Remove all SITE or user gfeConfig files (GFE-->gfeConfig in the localization perspective) named XXXWindThreat, XXXCoastalThreat, XXXInlandThreat, XXXTornadoThreat, and XXXMarineThreat

where XXX if your office ID.
4. Remove all SITE or user versions of the following colormaps (CAVE-->colormaps-->GFE in the localization perspective): gHLS_new.cmap, TPCProb.cmap, Inundation.cmap, and w.cmap.
5. Edit all SITE or user level weather element groups which contained the Threat elements to accurately reflect the 2015 naming convention. A new WE group is baselined called HTI which you can customize after your 14.3.2 install.
6. Remove any SITE or user level version of StormSurgeWW_EditArea you might have. This is best done from the localization perspective (GFE-->!EditAreas) rather than the Query dialog so any user-level files can easily be identified and removed.
7. Remove any local site text trigger for the old make_ghls.sh script. These would be entries such as:

```
CCCHLSXXX /home/webapps/AWIPS/gfe/ghls/make_ghls.sh
```

C. HLS Formatter

Critical Information for WFOs who changed public zones since the 2021 season
The site-level **HLS_XXX_Overrides** file needs to be updated via the Localization Perspective to reflect the zone changes. After updating the coastal and inland areas definitions for the new zone numbers, run through the Tropical Testing Exercise to ensure the config is correct.

2022 Information
No change for this season.

2021 Information
In OB20.2, the HLS formatter will allow previous text to be used when there have been no changes to the threat areas, event context, or watches and warnings. Since no office should have overrides of main HLS methods, nothing should be needed for this change to be seen by the forecasters. Additionally, for this change to work, the HLS will now also write out a json file when transmitted. So you will now see 2 json files for each advisory in /awips2/edex/data/utility/cave_static/site/XXX/gfe/tcvAdvisories/.

2020 Information
No changes

2019 Information
Very little has changed for 2019. A fix for the HLS header pulled from the TCP has been included in 18.2.2. No site should have an override of that code. Additionally, if your site moved zones from the inland definition to the coastal definition, that TCV change needs to be mirrored in the HLS_XXX_Overrides file so the threat grid analysis is done correctly by the HLS formatter.

2018 Information
The various Precautionary/Preparedness statements have been overhauled by a field team for this season. Follow instruction in the TCVDictionary section

2017 Information
Due to vocal opposition of having all zones in the UGC header all of the time, the combo map will be used to build the UGC list in 2017. The product remains non-segmented and the content will still cover the whole CWA. This change only impacts the zones notified via the UGC header. To enable this, simply **remove your site-level HLS_XXX_Definitions** text utility. No override of this file is necessary.

No other part of the HLS code should be overridden. If you have any site-level override of the HLS text formatter, or overrides of HLS code in your HLS_XXX_Overrides, it must be removed. The **only items** in the HLS_XXX_Overrides should be as shown

```
66    def _inlandAreas(self):
67        return [
68            "NCZ029", "NCZ044", "NCZ079", "NCZ090", "NCZ091", "NCZ092",
69            ]
70
71    def _coastalAreas(self):
72        return [
73            "NCZ045", "NCZ046", "NCZ047", "NCZ080", "NCZ081", "NCZ093", "NCZ094", "NCZ095",
74            "NCZ098", "NCZ103", "NCZ104",
75            ]
76
77    def _cwa(self):
78        return "MHX"
79
80    def _cwa_descriptor(self):
81        return "EASTERN NORTH CAROLINA"
82
83    def _localReferencePoints(self):
84        # Give the name and lat/lon for each local reference point
85        return [
86                ("Duck, NC", (36.23, -75.77)),
87                ("Nags Head, NC", (35.94, -75.61)),
88                ("Buxton, NC", (35.26, -75.52)),
89                ("Ocracoke, NC", (35.11, -75.98)),
90                ("Morehead City, NC", (34.72, -76.73)),
91                ("New Bern, NC", (35.11, -77.04)),
92                ("Jacksonville, NC", (34.75, -77.42)),
93                ]
94
95    def _localReferencePoints_defaults(self):
96        # Give a list of the local reference point names to be
97        #  turned on by default
98        return ["Duck, NC", "Morehead City, NC"]
99
```

2015 information

The public tropical products have been completely overhauled for the Atlantic Basin WFOs. The HLS is now an unsegmented, non-VTEC product which is generated largely from the threat grids. The new HLS requires some mandatory customization, much like the Hazard_HLS, in order to run. To make these edits, in the CAVE localization perspective, copy the **HLS_XXX_Overrides** (not Hazard_HLS) to SITE and open the SITE-level file for editing. Also, open for viewing the CONFIGURED version of the HLS. Then copy the following code (note the line numbers) from the HLS to your SITE HLS_XXX_Overrides:

```
    ############################################################
    ###  MUST OVERRIDE DEFINITIONS !!!

    def _inlandAreas(self):
        return [
             #"FLZ063", "FLZ066", "FLZ067", "FLZ068", "FLZ070",
             #"FLZ071", "FLZ072", "FLZ073", "FLZ074",
            ]

    def _coastalAreas(self):
        return [
             #"FLZ069", "FLZ075", "FLZ168", "FLZ172", "FLZ173", "FLZ17
            ]

    def _cwa(self):
        return "" #"MFL"

    def _cwa_descriptor(self):
        return "" #"SOUTH FLORIDA"

    def _localReferencePoints(self):
        # Give the name and lat/lon for each local reference point
        return [
                #("West Palm Beach, FL", (26.71, -80.06)),
                #("Fort Lauderdale, FL", (26.12, -80.15)),
                #("Miami, FL", (25.77, -80.20)),
                #("Miami Beach, FL", (25.81, -80.13)),
                #("Naples, FL", (26.14, -81.80)),
                #("Marco Island, FL", (25.94, -81.73)),
                ]

    def _localReferencePoints_defaults(self):
        # Give a list of the local reference point names to be
        #  turned on by default
        return [] #["Miami, FL", "Naples, FL"]

```

If these entries look familiar, it is because they are some of the same entries required for the Hazard_HLS. So open your site-level copy of Hazard_HLS_XXX_Overrides and copy the like entries from that file and paste into the site-level HLS_XXX_Overrides file. The marine references should NOT be copied as they are not part of the new HLS.

```
    def _inlandAreas(self):
        return [
            "NCZ029", "NCZ044", "NCZ079", "NCZ090", "NCZ091", "NCZ092",
            ]

    def _coastalAreas(self):
        return [
            "NCZ045", "NCZ046", "NCZ047", "NCZ080", "NCZ081", "NCZ093", "NCZ094", "NCZ095",
            "NCZ098", "NCZ103", "NCZ104",
            ]
    def _marineAreas(self):
        return [
#            "AMZ130", "AMZ135", "AMZ150", "AMZ152", "AMZ154", "AMZ156","AMZ158","AMZ170",
            ]

    def _cwa(self):
        return "MHX"

    def _cwa_descriptor(self):
        return "EASTERN NORTH CAROLINA"

    def _maor_descriptor(self):
        return "ATLANTIC COASTAL WATERS INCLUDING ALBEMARLE AND PAMLICO SOUNDS"

    def _cwa_maor_descriptor(self):
        return "EASTERN NORTH CAROLINA AND ADJACENT COASTAL WATERS"

    def _localReferencePoints(self):
        # Give the name and lat/lon for each local reference point
        return [
                ("Duck, NC", (36.23, -75.77)),
                ("Nags Head, NC", (35.94, -75.61)),
                ("Buxton, NC", (35.26, -75.52)),
                ("Ocracoke, NC", (35.11, -75.98)),
                ("Morehead City, NC", (34.72, -76.73)),
                ("New Bern, NC", (35.11, -77.04)),
                ("Jacksonville, NC", (34.75, -77.42)),
                ]

    def _localReferencePoints_defaults(self):
        # Give a list of the local reference point names to be
        #  turned on by default
        return ["Duck, NC", "Morehead City, NC"]

```

```
    def _inlandAreas(self):
        return [
            "NCZ029", "NCZ044", "NCZ079", "NCZ090", "NCZ091", "NCZ092",
            ]

    def _coastalAreas(self):
        return [
            "NCZ045", "NCZ046", "NCZ047", "NCZ080", "NCZ081", "NCZ093", "NCZ094", "NCZ095",
            "NCZ098", "NCZ103", "NCZ104",
            ]

    def _cwa(self):
        return "MHX"

    def _cwa_descriptor(self):
        return "EASTERN NORTH CAROLINA"

    def _localReferencePoints(self):
        # Give the name and lat/lon for each local reference point
        return [
                ("Duck, NC", (36.23, -75.77)),
                ("Nags Head, NC", (35.94, -75.61)),
                ("Buxton, NC", (35.26, -75.52)),
                ("Ocracoke, NC", (35.11, -75.98)),
                ("Morehead City, NC", (34.72, -76.73)),
                ("New Bern, NC", (35.11, -77.04)),
                ("Jacksonville, NC", (34.75, -77.42)),
                ]

    def _localReferencePoints_defaults(self):
        # Give a list of the local reference point names to be
        #  turned on by default
        return ["Duck, NC", "Morehead City, NC"]

```

Now you need to disable the ability to run the old Hazard_HLS. Two changes are required. First, **set the displayName to None** in your **Hazard_HLS_XXX_Definition** file. This prevents it from appearing in the formatter launcher.

```
# REQUIRED CONFIGURATION ITEMS
Definition['displayName'] = None
#Definition['displayName'] = "Hazard_HLS (Hurricane Local Statement)"

# Header configuration items
Definition["fullStationID"] = "KMHX"  # full station identifier (4letter)
Definition["wmoID"] = "WTUS82"        # WMO ID
Definition["pil"] = "HLSMHX"          # product pil
Definition["textdbPil"] = "RDUHLSMHX"       # Product ID for storing to AWIPS text database.
Definition["awipsWANPil"] = "KMHXHLSMHX"   # Product ID for transmitting to AWIPS WAN.
Definition["outputFile"] =  "{prddir}/TEXT/FWM.txt"

# OPTIONAL CONFIGURATION ITEMS
#Definition["database"] = "Official"    # Source database. "Official", "Fcst", or "ISC"
#Definition["debug"] = 1
```

Then to be extra safe, **delete the site-level Hazard_HLS_XXX_Overrides** file. This would prevent even an accidental triggering of the formatter to produce output.

No other part of the HLS code should be overridden. The format and content of this product must be consistent from WFO to WFO. The impact statements, evacuation statements and other sources of information provided can be overridden via a site-level TCVDictionary Utility.

D. TCV Formatter

Critical Information for WFOs who changed public zones since the 2021 season

1. The site-level **Hazard_TCV_XXX_Overrides** file needs to be updated to reflect the zone changes. In the localization perspective, copy the modified coastal and inland areas definitions made to HLS_XXX_Overrides as indicated in section C.
2. Edit site-level Hazard_TCV_XXX_Definition and change to showZoneCombiner = 1
3. Delete dx3:/awips2/edex/data/utility/cave_static/site/XXX/gfe/combinations/Combinations_TCV_XXX
4. Restart CAVE
5. Run Hazard_TCV and select new zone order and save combination file as Combinations_TCV_XXX
6. Edit site-level Hazard_TCV_XXX_Definition again and change back to showZoneCombiner = 0
7. Make changes noted in TCVAreaDictionary section
8. Finally run through the Tropical Testing Exercise to ensure the config is correct.

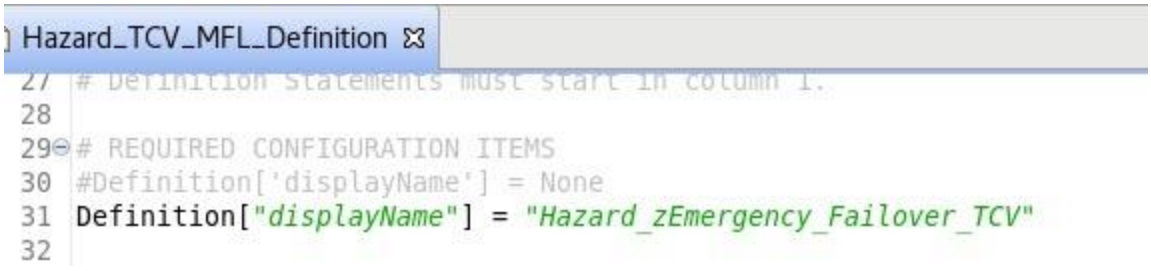
2022 Information
The TCV used this season will be installed from [https://vlab.noaa.gov/redmine/projects/nwsscp/wiki/TCV]. **Make sure your version is Latest Stable: 22.4.9 (April 9, 2022)**

This new formatter will be maintained by the NTFTF like the other GFE hazard formatters. It will install two files, NTFTF versions of Hazard_TCV and HLSTCV_Common. The displayName of this new TCV will be **Hazard_TCV_New**.

Once the svn checkout is complete as shown on the scp page, install it as you would other NTFTF files

```
Unset
cd /localapps/runtime/Gfe/Formatters/NwsFormatterTaskForce/TCV
../install/install_GFE_formatter.sh
```

In order for this new TCV to be used during events by forecasters, it is important to also change the displayName of the baseline TCV so it is clear it should only be used if the new TCV fails. Edit your site-level Hazard_TCV_XXX_Definition in the Localization Perspective and change the displayName as shown below.



Additionally, check your site Patch_Overrides text utility to make sure there is no override of the moderated_dict method that would change how the new formatter handles wind sampling.

2021 Information
No changes to the TCV for 2021

2020 Information
The Threat section wording has changed at the direction of the Tropical Service Program Team (SPT). No changes are needed at the WFO level to implement this change.

Previous information about moving surge-affected zones from inland to coastal
All coastal CONUS WFOs need to closely examine the information for their area at [https://docs.google.com/document/d/1AFr-8E402aJA71moa-Dzc3Sm3pvbazusS1U1JMsYZdo/edit?usp=sharing]. For each **bolded** zone shown for a WFO, a decision needs to be made whether that zone needs to be moved from the inlandAreas definition to the coastalAreas definition or if the points in a given zone are recommended to be removed from the StormSurgeWW_EditArea. The regions will be asking offices make the decision on each zone by 2/15. For areas that are requested to be removed from the StormSurgeWW_EditArea, for 2019 the WFO can keep that zone as inland with the understanding that they need to be extra diligent about removing any proposed SS during collaboration. Once all offices have determined how each zone will be handled for 2019, Shannon will send an image of affected points for each WFO that will need special consideration during collaboration.

The long-term handling of those points/zones will be discussed with SSU prior to the 2020 season.

To move a zone from inlandAreas to coastalAreas:

1. In the Localization Perspective, open the **Hazard_TCV_XXX_Overrides** file
2. For a zone that needs to move, cut the zone entry, including quotes and comma, from the inlandAreas definition and paste it into the coastalAreas definition, making sure the list is properly maintained
3. Ensure the syntax is correct and save
4. Test the result using the Software Testing Exercise by verifying the realigned zones now contain a storm surge section in the TCV
5. Once verified, copy the coastalAreas and inlandAreas definitions to the site-level **HLS_XXX_Overrides** file
6. Upload your config to the central server

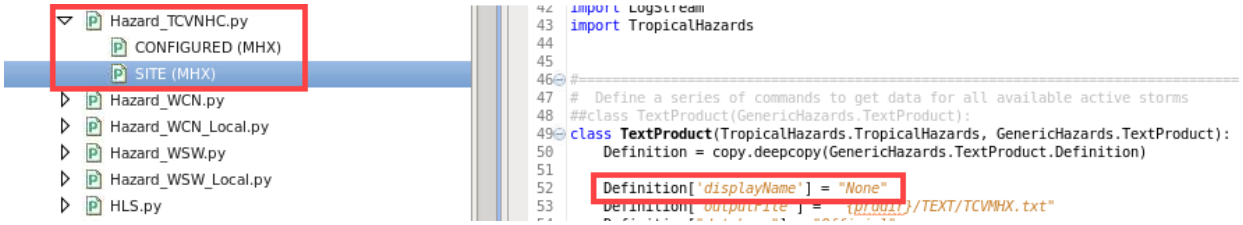
```
def _inlandAreas(self):
    return [
        "FLZ063", "FLZ066", "FLZ067", "FLZ068", "FLZ071", "FLZ072",
        ]

def _coastalAreas(self):
    return [
        "FLZ069", "FLZ070", "FLZ073", "FLZ074", "FLZ075", "FLZ168", "FLZ172", "FLZ173",
        "FLZ174",
        ]
```

```
def _inlandAreas(self):
    return [
        "FLZ063", "FLZ067", "FLZ068", "FLZ071",
        ]

def _coastalAreas(self):
    return [
        "FLZ066", "FLZ069", "FLZ070", "FLZ072", "FLZ073", "FLZ074",
        "FLZ075", "FLZ168", "FLZ172", "FLZ173", "FLZ174",
        ]
```

It is important for offices to understand that moving a zone from inland to coastal will result in that zone having a Storm Surge section present **every time** that zone is included in the TCV, regardless of the presence of a surge W/W. The forecast provided for a given zone will be dependent upon the InundationMax and InundationTiming grids provided by SSU.

2017 Information

An override is needed of the Hazard_TCVNHC so it will not appear as a valid product in the Formatter Launcher. To do this, simply copy the configured to site and change the displayName to None, as shown.



But for the WFO TCV files, **no overrides should exist for Hazard_TCV or HLSTCV_Common text products.** If you have any site-level override of these text formatters, or overrides of TCV code in your Hazard_TCV_XXX_Overrides, it must be removed. Hazard_TCV_XXX_Overrides is required but the **only content** should be as shown:

```
    def _inlandAreas(self):
        return [
            "NCZ029", "NCZ044", "NCZ079", "NCZ090", "NCZ091", "NCZ092",
            ]

    def _coastalAreas(self):
        return [
            "NCZ045", "NCZ046", "NCZ047", "NCZ080", "NCZ081", "NCZ093", "NCZ094", "NCZ095",
            "NCZ098", "NCZ103", "NCZ104",
            ]

    def _cwa(self):
        return "MHX"
```

WindowAndTrendInformation contains details on how the TCV formatter determines various information.

2015 information

The new VTEC vehicle for the Atlantic basin sites is the new TCV. It requires some mandatory customization in order to run, much like the previous Hazard_HLS and the new HLS. To make these edits, in the CAVE localization perspective, copy the **Hazard_TCV_XXX_Overrides** to SITE and open the SITE-level file for editing. Also, open for viewing the CONFIGURED version of Hazard_TCV. Then copy the following code from Hazard_TCV to your SITE Hazard_TCV_XXX_Overrides:

```
    def _inlandAreas(self):
        return [
            #"FLZ052", "FLZ056", "FLZ057", "FLZ061", "FLZ043",
            ]

    def _coastalAreas(self):
        return [
            #"FLZ039", "FLZ042", "FLZ048", "FLZ049", "FLZ050", "FLZ051", "FLZ055", "FLZ060",
            #"FLZ062",
            ]

    def _cwa(self):
        return ""  #"MFL"
```

These three required entries are mirrored in the HLS_Overrides, so for consistency, copy them from the site-level HLS_XXX_Overrides.

```
    def _inlandAreas(self):
        return [
            "NCZ029", "NCZ044", "NCZ079", "NCZ090", "NCZ091", "NCZ092",
            ]

    def _coastalAreas(self):
        return [
            "NCZ045", "NCZ046", "NCZ047", "NCZ080", "NCZ081", "NCZ093", "NCZ094", "NCZ095",
            "NCZ098", "NCZ103", "NCZ104",
            ]

    def _cwa(self):
        return "MHX"

    def _cwa_descriptor(self):
        return "EASTERN NORTH CAROLINA"

    def _localReferencePoints(self):
        # Give the name and lat/lon for each local reference point
        return [
                ("Duck, NC", (36.23, -75.77)),
                ("Nags Head, NC", (35.94, -75.61)),
                ("Buxton, NC", (35.26, -75.52)),
                ("Ocracoke, NC", (35.11, -75.98)),
                ("Morehead City, NC", (34.72, -76.73)),
                ("New Bern, NC", (35.11, -77.04)),
                ("Jacksonville, NC", (34.75, -77.42)),
                ]

    def _localReferencePoints_defaults(self):
        # Give a list of the local reference point names to be
        #  turned on by default
        return ["Duck, NC", "Morehead City, NC"]

```

```
    def _inlandAreas(self):
        return [
            "NCZ029", "NCZ044", "NCZ079", "NCZ090", "NCZ091", "NCZ092",
            ]

    def _coastalAreas(self):
        return [
            "NCZ045", "NCZ046", "NCZ047", "NCZ080", "NCZ081", "NCZ093", "NCZ094", "NCZ095",
            "NCZ098", "NCZ103", "NCZ104",
            ]

    def _cwa(self):
        return "MHX"
```

You also need to configure a zone order that will always be used. By default, the zone combiner appears when running the Hazard_TCV. Launch the TCV from the formatter launcher. The zone map will appear. Select the zones in the order your office wishes them to appear every time. **It is very important to ensure each zone is its own segment number**. Once you have the zones ordered, save the combo to **Combinations_TCV_XXX** (where XXX is your site ID). Now return to the localization perspective and make a site-level copy of **Hazard_TCV_XXX_Definition**. Add the line showZoneCombiner = 0 as shown. This will prevent the zone order from being changed or having zones combined during operations. The formatter will always run with this pre-defined comboSet.

```
31 Definition['displayName'] = "Hazard_TCV (Tropical Cyclone VTEC)"
32
33 # Header configuration items
34 Definition["showZoneCombiner"] = 0 # 1 to cause zone combiner to display
35
```

No other part of the Hazard_TCV code should be overridden. The format and content of this product must be consistent from WFO to WFO. The impact statements provided can be overridden via a site-level TCVDictionary Utility (CWA-wide) or TCVAreaDictionary TextUtility (zone-by-zone).

Another override you need to make is to add locations for each zone and information links for each of your zones. This is done via a site override of TCVAreaDictionary. See the next section on making those overrides.

E. TCVDictionary and TCVAreaDictionary

Critical Information for WFOs who changed public zones since the 2021 season
In the localization perspective, do a compare between the Configured and Site TCVAreaDictionary files. Edit the Site-level one to add the new zones from Configured and adjust Locations Affected entries accordingly. If any affected zone had Impact statement overrides, make those changes as needed for the new zones. **Run through the Software Testing Exercise when all config is complete.** Then update your configuration on the central server.

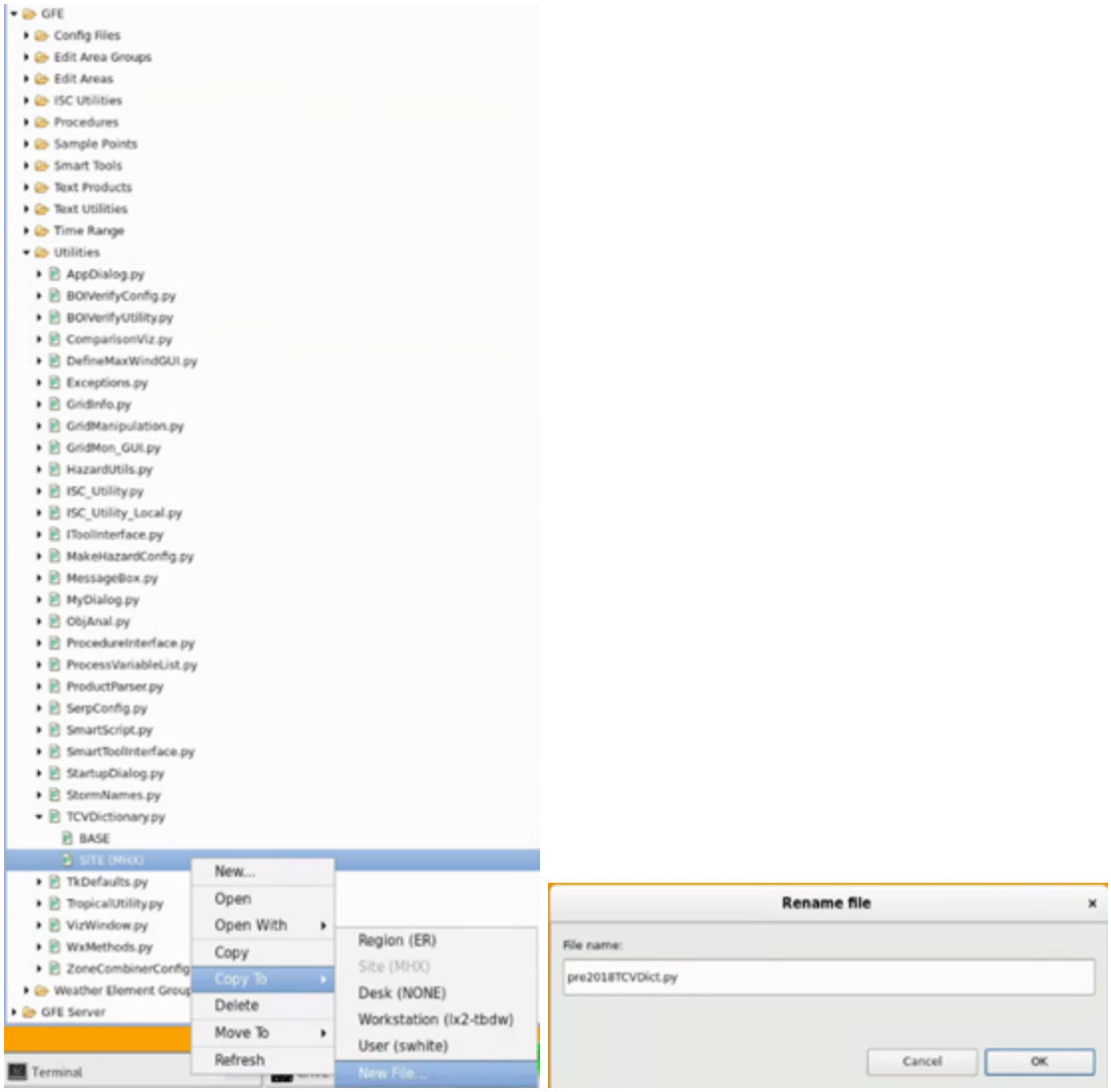
2022 Information
No changes have been made for this season.

2021 Information
No changes have been made for this season.

2020 Information
The Threat section wording has changed at the direction of the Tropical Service Program Team (SPT). No changes are needed to implement this change as the Threat statements are not overridable at the WFO level. Additionally, the vessel qualifier small was removed from threat statements.

2018 Information

The TCVDictionary has been overhauled by a field team for 2018 for streamlined threat labels and statements (not able to be overridden), evacuation statements, and other precautionary/preparedness information statements. To ensure you are utilizing this improved dictionary:
1. In the localization perspective, copy your current TCVDictionary utility override to something else (e.g. pre2018TCVDict) as shown below



2. Remove your current site-level TCVDictionary and copy the current BASE TCVDictionary to Site
3. Copy back in any site-level Potential Impact statement overrides from the pre-2018 dictionary (these did not change)
4. If overrides of the various HLS statements are desired, review the overhauled statements and make edits to these new statements
    a) If your old overrides are still desired, those can be copied back in from the pre-2018 site override

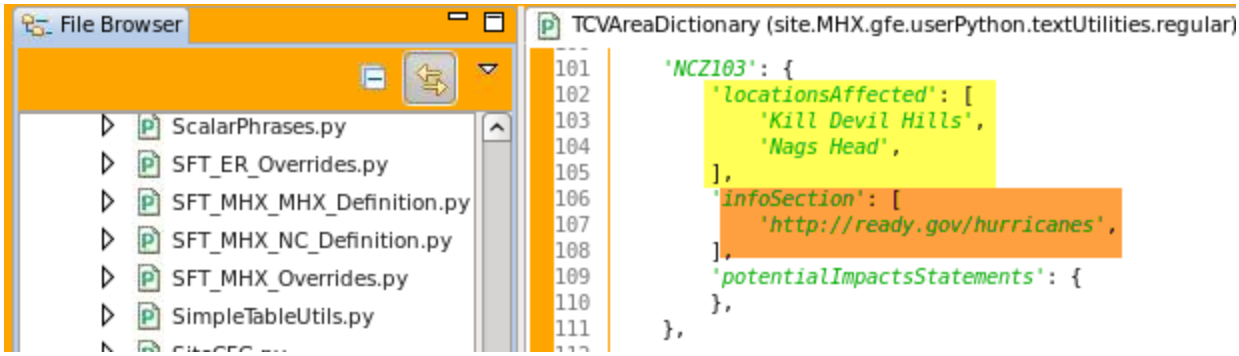
Any override to TCVAreaDictionary is still valid and does not require modification.

2017 Information
Ensure any site-level overrides of TCVDictionary and TCVAreaDictionary have been converted to mixed case. Scripts to do this should have been provided as part of the mixed case migration effort. The TCV and HLS are both mixed case in 2017, so this step must be taken.

2015 information

The basis for all of the threat and impact statements used in the HTI, HLS and TCV come from the new GFE Utility TCVDictionary. The threat statements are standard across the NWS and **cannot be edited**. Even if you modify them in a site-level TCVDictionary, they will not be read by the HTI or TCV. The rest of the file can be modified including the impact statements (used by HTI, TCV and HLS), evacuation statements (HLS only) and additional information sources (HLS only). Overrides in this file will be used in all zone segments in the TCV as well as the HLS and HTI. Guidelines on the types of edits to make can be found at TropicalProductEditingGuidelines.
To override the TCVDictionary Utility, copy the BASE file to SITE in the localization perspective. Then make edits as needed starting on line 560 (impactStatements). You must keep edits in the correct vein for the hazard and line as shown on the editing wiki. For the other sections shown below, **DO NOT** edit things like WATCH/WARNING PHASE and hunker down. Formatter code is relying on those phrases. Also, for the additionalSources section, each entry has a dash (-) in front of it. That is to maintain the list format and needs to be there for any additional websites added.

TCVAreaDictionary is a text utility which is generated for the zones in your CWA, similar to the AreaDictionary. A **site override of this file is required** to add locations for each zone as well as information links. To do that, copy the CONFIGURED version to SITE in the localization perspective. The number of locations in each zone should be kept to three or less. Also, add at least one source of additional information for each zone to be included in the TCV. This can be the government website for that zone (e.g. miamidade.gov), your office's website or a national one such as ready.gov.



If impact statements need to be customized to the zone level for some of the hazards and threat levels, those are added to this site override of TCVAreaDictionary. The entire impact section does not need to be included, just those which need to be overridden for the zone. The same rules apply here on keeping the bullets to the prescribed intent.

```
'NCZ044': {
    'locationsAffected': [
        'Greenville',
    ],
    'infoSection': [
        'http://ready.gov/hurricanes',
    ],
    'potentialImpactsStatements': {
         'Wind': {
            'Mod': ['Test structures',
                    'Test trees and signs.',
                    'Test roads.',
                    'Test power.'],
                  },
    },
},
```

As with any change to these files, **test everything when you are done to ensure the file is being read properly**. If this means creating threat grids that map to the category for a specific zone, then make sure the output is as expected.

F. Marine Weather Message

Nothing has changed for 2022

If any tropical sites are testing the Hazard Services MWW ATAN, they MUST switch back to using GFE if tropical hazards are possible as Hazard Services is not equipped to handle tropical.

The MWW is the sole vehicle for long-fused marine hazards. The baseline and National Text Formatter Task Force MWW formatters have the tropical watches and warnings in the allowedHazards method. The MWW is now in the HazSimp format and the National Text Formatter Task Force formatter is the version to be used.

G. Expressions of Uncertainty Experiment

2023 Information - TBD

2022 Information

While not specifically EoU, all tropical sites are to install the NTFTF versions of the ZFP and CWF to add the new sampling when Include Tropical? is chosen. See [https://vlab.noaa.gov/redmine/projects/nwsscp/wiki/ZfpRr] and [https://vlab.noaa.gov/redmine/projects/nwsscp/wiki/CwfRr] for details on the content and proper installation of these formatters.

Additional Information

To assist in understanding the phrasing generated in the ZFP, CWF, and PnC page, a primer **EoUPrimer.pdf** was developed.

For reference, the OB9 GFE page "contains all of the methods that affect the EoU in the ZFP and CWF. If you run into issues with the tropical output of your ZFP or CWF, **reference this page first** to ensure all of your overrides are compatible!

The document **EouImplementation-2014.pdf** contains a summary related to all pieces of the final implementation for information purposes.

For Eastern Region offices the policy described in the **EouImplementation-2014.pdf** document highlights procedures you should be following during tropical cyclones in coordination with ERH and when using the tropical version of the public and marine forecasts.

H. Gridded TCM

2022 Information
The GTCM [https://vlab.noaa.gov/redmine/projects/nwsscp/repository/entry/AppsAwips/GriddedTcm/trunk/localization/cave_static/gfe/userPython/procedures/GTCM.Procedure] and the TC_WindGust [https://vlab.noaa.gov/redmine/projects/nwsscp/repository/entry/AppsAwips/GriddedTcm/trunk/localization/cave_static/gfe/userPython/procedures/TC_WindGust.Procedure] procedures have been made Python3 compliant and must be updated for this season. Follow the update instructions [https://vlab.noaa.gov/redmine/projects/nwsscp/wiki/GriddedTcm#Download-Instructions] on doing the svn update.

Additionally, see Section A) for helpful configuration items for a site-level gfeConfig file for preparing the background wind field.

2021 Information
The gridded TCM will again be provided for use in the 2021 season. All offices should already be configured to ingest the data, but the instructions for the data flow can be found at

https://docs.google.com/document/d/10xZu8Z_KEUTT1AbSAzGxr_DQ9LYGBIhKLynf33nQo0E/edit?usp=sharing.

The GTCM [https://vlab.noaa.gov/redmine/projects/nwsscp/repository/entry/AppsAwips/GriddedTcm/trunk/localization/cave_static/gfe/userPython/procedures/GTCM.py] and the TC_WindGust [https://vlab.noaa.gov/redmine/projects/nwsscp/repository/changes/AppsAwips/GriddedTcm/trunk/localization/cave_static/gfe/userPython/procedures/TC_WindGust.py] procedures have been made Python3 compliant and should be updated from the SCP.

The 2018 version of the D2D procedures will be used again this year and should still be on your system.

A detailed User Guide can also be found that details the science behind the model. It can be found at https://drive.google.com/file/d/1hoG0VK78Wp9esE7K8eVU4Yr-f1fyDCgG/view?usp=sharing.

If offices would like to receive notifications for the arrival of the prelim PWS and the gridded TCM winds, Jonathan Lamb has an app [https://vlab.noaa.gov/redmine/projects/nwsscp/wiki/TropicalOpsAssistant] that will allow a forecaster to enable banners for the arrival of data so forecasters can complete operational responsibilities in a timely manner.

2020 Information
The TCMWindTool will again be used for tropical Wind grid creation for the 2020 season. NHC and select WFOs will evaluate the new WTCM in parallel for 2020. More information on that technique will be provided for 2021.

All sites should be using a site-level TCMWindTool that was provided via VLab in 2019 after the issues decoding RCL during Hurricane Dorian. This version will continue to be used in 2020.

2019 Information
The TCMWindTool will be used by **all sites** during the 2019 season. The prelim TCM and RCL will be sent around the end of the hotline call for use when running the TCMWindTool.

A scientifically-vetted WindGust tool has been made available and is recommended for all sites who may be impacted by a tropical cyclone. The tool uses an agreed-upon gust factor then tapers that linearly to the NHC-used 1.25 gust factor. Guidance is provided on the GUI and more detailed information is provided in comments within the tool.

2017 Information
The baseline TCMWindTool has not changed. This version of the tool features:

- Ability to account for asymmetries in the inner core of MaxWind. A new Utility also is delivered which supports this.
- Ability to use two different bias correction schemes: 1) The default, a simple 15% reduction in the specified wind radii based on published work, and 2) quadrant dependent bias correction equations developed by NC State with Mid Atlantic offices through a CSTAR project. This was developed using a limited dataset and mostly applicable to hurricanes.

Therefore, it is not default and was made available for evaluation by Mid Atlantic offices mostly.
- Fixed bug in the transition of the 34 kts wind radii and background field.
- Fixed bug to better handled situations when RMW (only available at initial time and assumed constant) equals or exceeds specified wind radii out through time.
- Support for using a preliminary TCM and RCL.
- Will always use Fcst as background model.

The original GenerateCyclone.pdf documentation can still be accessed at the bottom of this page. Your focal point will need to make sure that procedure has been made AWIPS 2 compatible as that procedure is not supported as the TCMWindTool is.

I. Training

2022 Information

See the 2022 Coastal WFO Tropical Operations and 2021 Inland WFO Tropical Operations curricula at [https://doc.csod.com/client/doc/default.aspx] as well as the Tropical COMET Modules and Other Tropical Content curricula. All of the courses in those learning plans are outlined in the **2022TropicalTrainingPlan.pdf**.

Also, as a final "test" of tropical readiness, all sites must run through the Tropical Training and Testing Exercise. **All forecasters** who may work tropical GFE operations should complete the simulation.

J. Software Testing Procedures: Link to repository for the exercise

2022 Information
The 2022 package is now available. All offices should go to the directory where they have installed the software (e.g. /data/local/A2TropTE/) and do an svn update.

This package includes a py2/3 compatible RunExercise, updated preTCVs, and some updated GTCM data for the 2022 bias correction scheme.

2021 Information

The 2021 version of the Tropical Testing and Training Exercise has been released. The instructions for downloading the latest information for your site can be found on the VLAB page [https://vlab.noaa.gov/svn/awips-special-projects/tropical/trunk/doc/]. We will be using the VLab ticketing system this season and beyond to notify the development group of any issues. That link is https://vlab.noaa.gov/redmine/projects/tropical-testing-and-training-exercise/issues. If you cannot access that page, email shannon.white@noaa.gov or donal.harrigan@noaa.gov to be added to the

group. To submit a ticket, click the New Issue button in the top right and choose WFO ticket from the dropdown if you are having issues running the program.

The highlights for this version:

- Gridded wind data available for all WFO cases
- New NE storm (Juliette) available for AKQ to CAR and all 4 NE inland offices

2019 Information
The Exercise has been changed to add WFO HFO and NHC SSU and to update all of the TCVs to account for zone changes the last two years. The pSurge data for all applicable WFOs is still the old format and thus requires the exercise-specific version of TCStormSurgeThreat in order to use it. The updated User Guide can be found at **TropicalTEGuide.pdf**.

The instructions for downloading the latest information for your site can be found on the VLAB page [https://vlab.noaa.gov/svn/awips-special-projects/tropical/trunk]. Ideally you would move off the A2TropTE truck to a backup and do an svn checkout of the latest code. If you just want the updated files, grab the TCVs from the storms/advisories you will be using along with RunExercise.py. HFO and NHC/OPC will do a full svn checkout as new sites.

2018 Information
Changes were made to RunExercise.py to update the sites who do tropical and to fix issues raised in 2017. Additionally, the surge data (2.6) provided with the exercise does not work with the db storage and TCStormSurgeThreat procedure in 17.3.1 (which is 2.7). A special exercise version of that procedure is also part of the overall code repository [https://vlab.noaa.gov/svn/awips-special-projects/tropical/trunk].

To ensure the push of the NHC ProposedSS grid works in the exercise, the /data/local/A2TropTE directory and all of its sub-directories must have 775 permissions. So a **chmod -R 775 /data/local/A2TropTE** should be done. Also, the 17.2.1 install may have incorrectly altered the ownership of the directory. It should be awips:fxalpha. If that is not the case, **chown -R awips:fxalpha /data/local/A2TropTE**.

A short install doc **attachment:TropTE_InstallNotes.pdf** is available, if needed.

2017 Information
The updated files for the Tropical Testing and Training Exercise were installed at all sites by NCF on May 4. No action is needed by sites. The updated User Guide **TropicalTEGuide.pdf** is available and explains the procedure for software validation as well as forecaster proficiency for 2017.

The exercise procedure reference the operational jobsheets which can be very useful to use during actual events: [http://www.nws.noaa.gov/os/training/Tropical.html]

2015 information

There is an AWIPS II version of the software testing and training program which no longer requires the ExerciseSetup script. The required code is all part of the new RunExercise and the AWIPS baseline. So all sites need to delete the AWIPS I version of the code before proceeding to the install

of the AWIPS II code. If the AWIPS II version was installed last year, that is fine as the new install script will simply update what has changed while still installing everything for first-time installations.

```
cd /data/local/
rm -Rf TropicalTE/ (or wherever your exercise is installed)
```

Now as root, mount the DVD (mount -o exec /media/'yourMediaName') which arrived on May 11. Switch to user *awips* and run **tropInstaller.csh** from the DVD. Everything is now installed in /data/local/A2TropTE/. If you did not previously have the A2 version installed, change the testConfig.py.BASE to just **testConfig.py** and edit to add your site ID.

K. Storm Surge Watch/Warning Collaboration

2022 Information
Any site that had a change to a zone inside of the StormSurgeWW_EditArea must ensure that any new zone edit area within the StormSurgeWW_EditArea maintains its same area.

2020 Information
A new NHAdomain shapefile is available in the baselineMaps repository on VLab. All offices need to download this shapefile as well as the Breakpoints and SS_Communication_Points shapfiles. After installing, remove any SITE-level ISC_NHA edit area via the localization perspective. **Only a CONFIGURED-level ISC_NHA edit area should be present.**

As mentioned in the HTI section, SSU will no longer provide inundation grids during tropical events. They will continue to provide ProposedSS grids. Atlantic basin sites can run TCStormSurgeThreat with PHISH or PETSS, using the exceedance value provided before the hotline call in chat, or can use the Manual options to create grids that match the TCP values also provided in chat and collaborated on the hotline.

2019 Information
No changes were made to the national StormSurgeWW_EditArea for 2019. All sites should leave their StormSurgeWW_EditArea_Local as-is. Remember, **no changes should ever be made locally** to the SITE-level StormSurgeWW_EditArea and the StormSurgeWW_EditArea_Local should simply be that area clipped to your local land area. No parts of the edit area in your CWA should be removed.

If your WFO is making changes to add zones previously considered inland to the coastal definition in the TCV and HLS, those instructions can be found here. Again, NO CHANGES should ever be made locally to the StormSurgeWW_EditArea.

2018 Information
The 2018 update of the StormSurgeWW_EditArea has been pushed to the site level at all sites. Update the site-level **StormSurgeWW_EditArea_Local** based on this new national edit area. To do this, load the new StormSurgeWW_EditArea, change the = to & and then load the land-only CWA edit area. It is **CRITICAL** the CWA edit area reflect any changes made to coastal zones. If the CWA

edit area does not include points added to the coastal zones, then those will be removed when the Local edit area is generated.

If the resulting edit area looks good, click the ? and Save this resulting edit area as **StormSurgeWW_EditArea_Local**. Finally go into the Localization Perspective and move the **StormSurgeWW_EditArea_Local** from your user to Site.

2017 Information
As was discovered during the collaboration testing the week of May 8, ISC does not recognize BASE-level edit areas. As a result, the **ISC_NHA needs to be moved to SITE at all sites**. NCF will verify that has occurred before June 1.

All configuration items for the Storm Surge Watch/Warning Collaboration have been either included above or are now part of the AWIPS baseline. This includes the ISC_NHA and the StormSurgeWW_EditArea baseline edit area. **No site should have any User-level override of ISC_NHA or SITE- or User-level StormSurgeWW_EditArea edit areas.** Additionally, with 17.1.1p2, no configured version of StormSurgeWW_EditArea should exist. Patch 2 needs to be installed as soon as possible.

Edits will need to be made at each WFO to coastal zone edit areas. Those changes will inform updates to the baseline StormSurgeWW_EditArea. See Coastal Edit Area Modification for details.

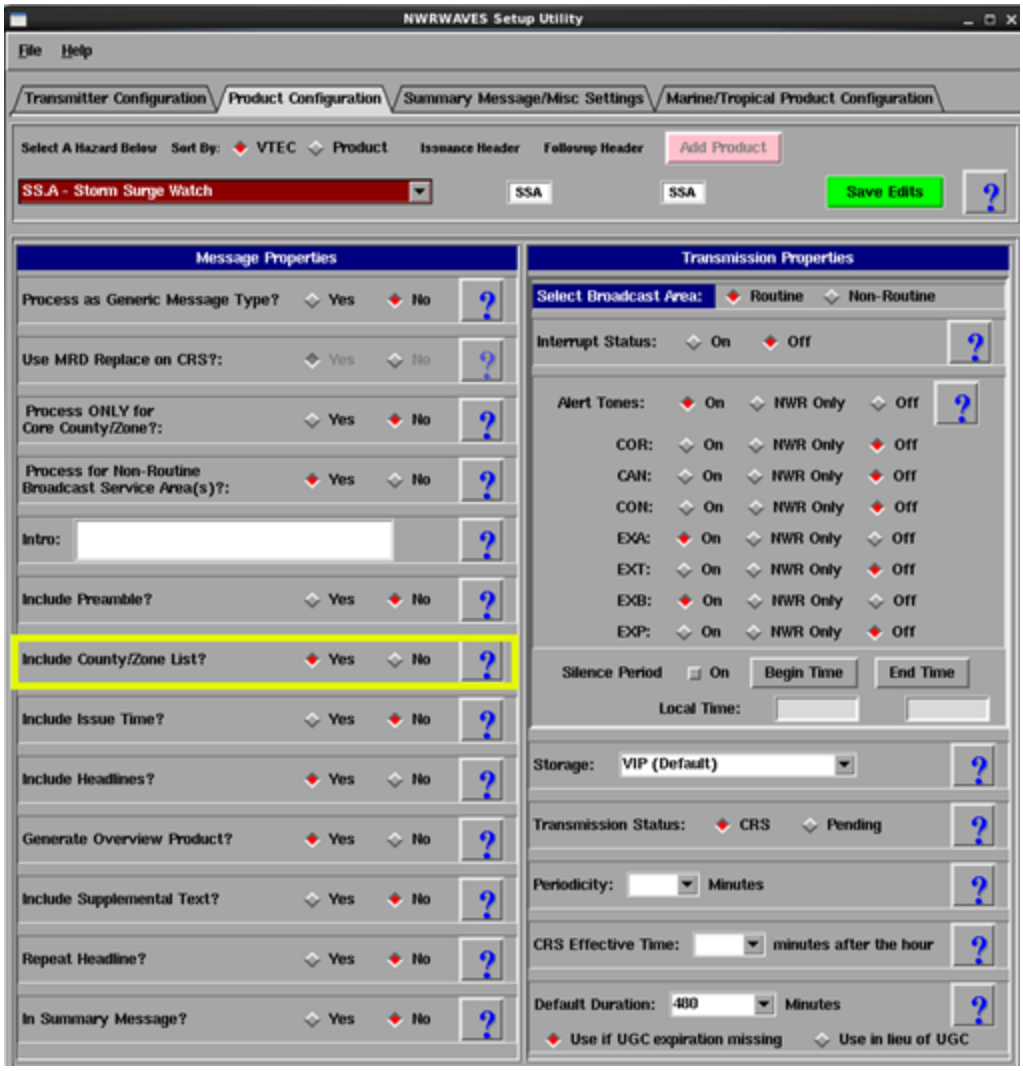
L. NWRWAVES

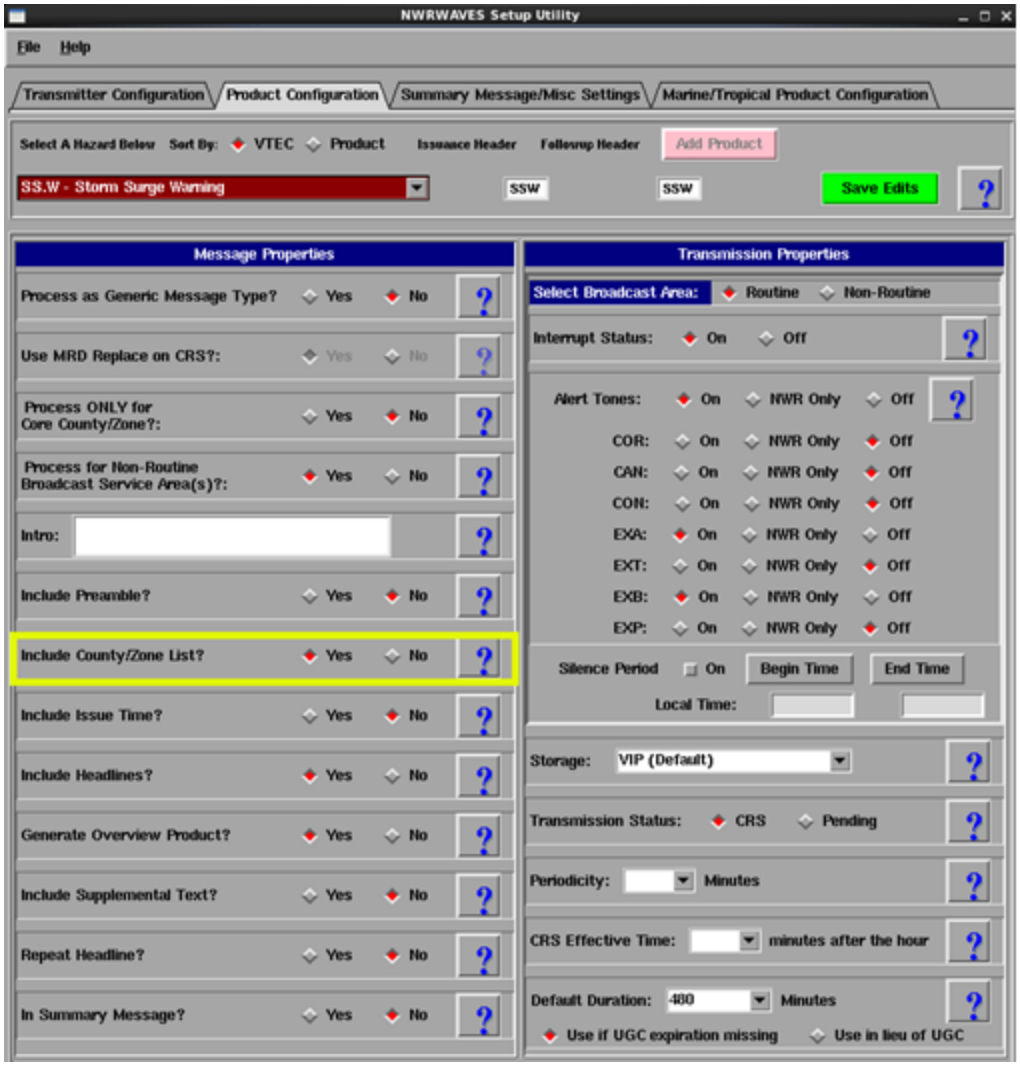
No changes for 2022 season

Previous Information
Add the following to /data/fxa/siteConfig/textApps/siteTrigger.template for any site whose HLS needs to play on your transmitters:

```
CCCHLSXXX /awips/adapt/NWRWAVES/nwrwavestcv.csh
```

To have the zones listed as needed for the SSA and SSW products which can contain the zones that have a wind hazard in addition to the surge hazard, check the **Include Zones List** as shown in the Product Configuration tab of the NWRWAVES Setup Utility.


NWRWAVES Setup Utility
File
Help
Transmitter Configuration
Product Configuration
Summary Message/Misc Settings
Marine/Tropical Product Configuration
Select A Hazard Below
Sort By:
VTEC
Product
Issuance Header
Followup Header
Add Product
SS.A - Storm Surge Watch
SSA
SSA
Save Edits
Message Properties
Process as Generic Message Type?
Use MRD Replace on CRS?:
Process ONLY for Core County/Zone?:
Process for Non-Routine Broadcast Service Area(s)?:
Intro:
Include Preamble?
Include County/Zone List?
Include Issue Time?
Include Headlines?
Generate Overview Product?
Include Supplemental Text?
Repeat Headline?
In Summary Message?
Yes
No
Transmission Properties
Select Broadcast Area:
Routine
Non-Routine
Interrupt Status:
On
Off
Alert Tones:
NWR Only
COR:
CAN:
CON:
EXA:
EXT:
EXB:
EXP:
Silence Period
Begin Time
End Time
Local Time:
Storage:
VIP (Default)
Transmission Status:
CRS
Pending
Periodicity:
Minutes
CRS Effective Time:
minutes after the hour
Default Duration:
480
Use if UGC expiration missing
Use in lieu of UGC



Previous 2017 Information

The new storm surge VTEC has been added to /awips/adapt/NWRWAVES/bin/VTECrank.ini and /awips/adapt/NWRWAVES/product.cfg. Nothing should be needed on your part to enable the NWRWAVES side of things. The EWW will also now be using EWW as the EAS code instead of TOR. The baseline files are correct, but all sites should check to ensure they have the proper settings.

The new SSA and SSW products need to be added to BMH. Instructions on that have been included in the AWIPS SMM and the 17.1.1 release notes.

2015 Information

Playing tropical products on NOAA Weather Radio is much simpler this season. The TCV will go to NWRWAVES upon issuance thanks to code embedded in the same java file that triggers the TCV banner in GFE. The TCV will generate any tone alerts for NEW or EXA tropical wind warnings and will group like zones together with the wind headline. The HLS will have pre-configured sections

pulled out and will be played on all transmitters. NWRWAVES FPs should run the script **/awips/adapt/NWRWAVES/configHLS.bash** pre-season to configure the broadcast. This will bring up a list of the HLS sections that you can choose to include in the NWR script. By default, only the Main Headline and Situation Overview will play. You can also have different files for your WFO and any neighboring WFOs for whose HLSs you play.

Ensure the files NWRWAVES generates from the TCV and HLS will be accepted by BMH. So HLS, HUW, HUA, TRW, and TRA all need to be set up as generic (not transmitter-specific) on BMH.

TRA is set to go to Pending in the NWRWAVES Setup GUI while HUW, HUA and TRW are set to go straight to BMH. Since these are all needed ASAP for SAME and tone alerting, they should all go straight to BMH. It is up to each office if they wish to have the HLS go to BMH or Pending, but the default is Pending.

There are multiple ways to configure the HLS to play.

1) Configure one default file for all WFOs' HLSs.

2) Configure individual files for each WFO that needs to be aired.

3) Do nothing. If no config file is found, the baseline default will be used for all HLSs.

Here is what the configHLS.bash looks like when launched.

```
 1) **MAIN**
 2) NEW INFORMATION
 3)    - CHANGES TO WATCHES AND WARNINGS
 4)    - CURRENT WATCHES AND WARNINGS
 5)    - STORM INFORMATION
 6) SITUATION OVERVIEW
 7) SIGNIFICANT POTENTIAL IMPACTS
 8)    - WIND
 9)    - SURGE
10)    - FLOODING RAIN
11)    - TORNADOES
12)    - OTHER COASTAL HAZARDS
13) PRECAUTIONARY/PREPAREDNESS ACTIONS
14)    - EVACUATIONS
15)    - OTHER PREPAREDNESS INFORMATION
16)    - ADDITIONAL SOURCES OF INFORMATION
17) NEXT UPDATE
18) Save as default & Exit
19) Save for a SITE & Exit
20) Quit
Please enter your choice:
```

None of the options are yet selected, so you would not want to save it now. You make choices by typing the number of the line of the header you wish to include. For NEW INFORMATION, POTENTIAL IMPACTS, and PRECAUTIONARY/PREPAREDNESS ACTIONS selections, those will include all of the listed subsections as well. So if those are chosen, no subsections would need to be included. Once a section is chosen, ++ will appear after the choice. If you choose a section by accident, you can deselect by typing that number again. *You want to keep your selections to a minimum to avoid an overly long broadcast cycle during a tropical cyclone event*.

The image below shows the two default sections selected and NEXT UPDATE about to be added.

```
 1) **MAIN** ++
 2) NEW INFORMATION
 3)    - CHANGES TO WATCHES AND WARNINGS
 4)    - CURRENT WATCHES AND WARNINGS
 5)    - STORM INFORMATION
 6) SITUATION OVERVIEW ++
 7) SIGNIFICANT POTENTIAL IMPACTS
 8)    - WIND
 9)    - SURGE
10)    - FLOODING RAIN
11)    - TORNADOES
12)    - OTHER COASTAL HAZARDS
13) PRECAUTIONARY/PREPAREDNESS ACTIONS
14)    - EVACUATIONS
15)    - OTHER PREPAREDNESS INFORMATION
16)    - ADDITIONAL SOURCES OF INFORMATION
17) NEXT UPDATE
18) Save as default & Exit
19) Save for a SITE & Exit
20) Quit
Please enter your choice: 17
```

Once all of your sections have been selected, the file can be saved as the overall default (option 1 above) or you can save it for a particular WFO's HLSs (option 2). The examples below shows saving to a particular WFO and the resultant file in the NWRWAVES directory.

```
 1) **MAIN** ++
 2) NEW INFORMATION
 3)    - CHANGES TO WATCHES AND WARNINGS
 4)    - CURRENT WATCHES AND WARNINGS
 5)    - STORM INFORMATION
 6) SITUATION OVERVIEW ++
 7) SIGNIFICANT POTENTIAL IMPACTS
 8)    - WIND
 9)    - SURGE
10)    - FLOODING RAIN
11)    - TORNADOES
12)    - OTHER COASTAL HAZARDS
13) PRECAUTIONARY/PREPAREDNESS ACTIONS
14)    - EVACUATIONS
15)    - OTHER PREPAREDNESS INFORMATION
16)    - ADDITIONAL SOURCES OF INFORMATION
17) NEXT UPDATE ++
18) Save as default & Exit
19) Save for a SITE & Exit
20) Quit
Please enter your choice: 19
Please enter 3 characters site ID
MHX
Options chosen:
Option 1  **MAIN**
Option 6  SITUATION OVERVIEW
Option 17  NEXT UPDATE
[swhite@lx3-tbw4 NWRWAVES]$
```

```
drwxrwxr-x 2 fxa    fxalpha 135168 Feb  3 18:26 BACKUP
-rwxrwxr-x 1 fxa    fxalpha     38 Feb 10 21:31 FILENAME.LAST
drwxrwxr-x 2 fxa    fxalpha   4096 Feb 10 21:31 QUEUE
drwxrwxr-x 2 fxa    fxalpha 200704 Feb 10 21:31 ERROR
drwxrwxr-x 2 fxa    fxalpha   4096 Feb 14 00:45 TEST
drwxrwxr-x 2 fxa    fxalpha   8192 Feb 15 00:45 OUTPUT
drwxrwxr-x 2 fxa    fxalpha   4096 Feb 22 00:45 INPUT
drwxrwxr-x 2 fxa    fxalpha   4096 Mar 12 00:45 LOGS
-rw-rw-r-- 1 swhite fxalpha   2723 Mar 12 21:18 HLS_CONFIG.MHX
-rw-rw-r-- 1 fxa    fxalpha      0 Mar 12 21:45 errorout.txt
drwxrwxr-x 2 fxa    fxalpha  90112 Mar 12 21:45 DEBUG
[swhite@lx3-tbw4 NWRWAVES]$
```

NOTE: If you wish to include any POTENTIAL IMPACTS sections, you will need to take special steps as the section header changed after the NWRWAVES code was completed. It is NOT

recommended to include any of those sections due to broadcast length, but if your office wishes to include one or more PI sections, please contact Shannon White directly for instructions.