

AWIPS Build 17.3.1 Informational Overview

Stas Speransky
Warning Decision Training Division



Welcome to the AWIPS Build 17.3.1 Informational Overview. I'm Stas Speransky from WDTD, and I will be introducing you to some of the significant changes in 17.3.1.

The screenshot displays a presentation player interface. On the left, there is a tabbed interface with three tabs labeled 'Tab 1', 'Tab 2', and 'Tab 3'. The 'Image 2' content area is visible. To the right, under the heading 'Course Completion Info', there are two bullet points: '• Tabs - 4 Tabs (Including Introduction)' and '• Last Modified: Jun 27, 2017 at 09:43 AM'. Below this, the 'PROPERTIES' section lists three settings: 'Show interaction in menu as: [Single item](#)', 'Allow user to leave interaction: [At any time](#)', and 'Prev/Next player buttons go to: [Slide in presentation](#)'. At the bottom, there are two buttons: 'Edit in Engage' (with a green 'a' icon) and 'Edit Properties' (with a gear icon).

Go ahead and review the slides, and then access the references pages in the VLab from AWIPS LX workstations or the Internet. For a comprehensive list of all enhancements and bug fixes in 17.3.1, see the Resources tab in the upper-right part of the player.

Learning Objectives

After taking this training you will be able to identify some of the more notable AWIPS changes in 17.3.1:

- Tropical enhancements
- Ensemble Tool enhancements
- FFMP fixes
- AvnFPS TAF XML format
- FLASH MRMS menu and update
- WarnGen changes: dust storms and snow squalls
- All cuts/Lowest cuts radar product requests, FTM enhancement
- Model enhancements
- Under the Hood Changes for ITO's/AWIPS Focal Points

The goal of this training is to provide a general awareness of the following new capabilities and recent changes, for forecasters, in around 10 minutes, including some additional material for focal points.

Tropical Enhancements

- Overhaul of threat labels and statements in Tropical Cyclone VTEC (TCV)

- Overhaul of the Hurricane Local Statement (HLS) Precautionary/Preparedness statements

- Support for Probabilistic Extra Tropical Storm Surge (P-ETSS) and early Wind Speed Probabilities

- Training in CLC titled **2018 Tropical Operations**

OTHER PREPAREDNESS INFORMATION:

!* Now is the time to stay inside and away from windows. Listen for updates and be ready in case you lose electrical power. Keep a battery-powered radio, charged cell phone and flashlight handy.

During the peak of the storm be ready to move quickly. Keep your shoes on and rain gear handy. Boots and athletic shoes offer the best foot protection if you become unexpectedly exposed to the weather.

Keep your cell phone charged and in power-saving mode. If you lose power, use it sparingly and mainly for personal emergencies and check-ins.

Do not venture outside while in the eye of a hurricane as any improvement in weather will only be temporary. Once the eye passes, conditions will become life threatening as winds immediately return to dangerous speeds, so remain safely sheltered from the storm.

Do not be a thrill seeker or risk your life for senseless photos or videos.

Quickly move to the safest place within your shelter if it begins to fail, preferably an interior room on the lowest floor as long as flooding is not a concern.

If you are prone to flooding or in an area under a storm surge watch or warning, be prepared for the possibility of a quick and dramatic rise in water levels.

If a tornado warning is issued for your area, quickly move to the safest place within your shelter. Protect your head and body.

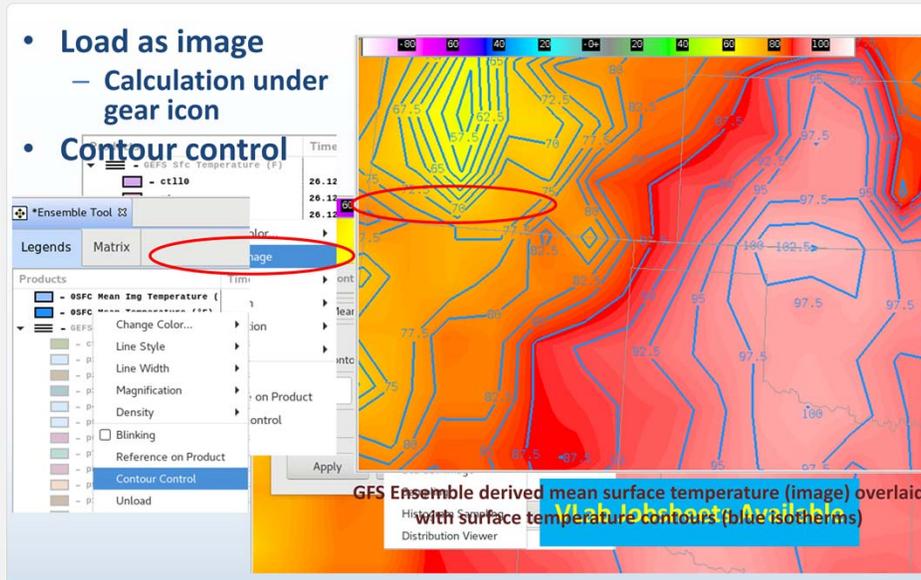
If an Extreme Wind Warning is issued for your area, move to the safest place within your shelter. Take the same life-saving actions as if it were a violent tornado.

!*

There are a number of enhancements to the Tropical program in build 17.3.1. Among the major changes is an overhaul of threat labels and statements in the Tropical Cyclone VTEC product, as well as an overhaul of Hurricane Local Statement Precautionary and Preparedness statements. In addition, there is now support for Probabilistic Extra Tropical Storm Surge and early Wind Speed Probabilities. Please refer to the 2018 Tropical Operations course for a comprehensive overview.

Ensemble Tool Enhancements

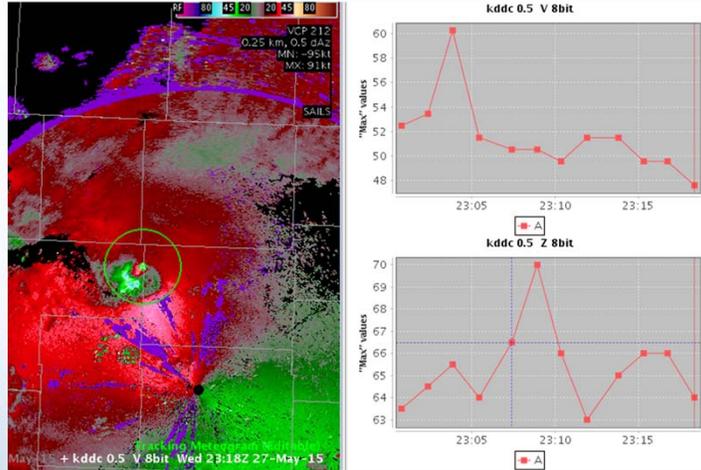
- Load as image
 - Calculation under gear icon
- Contour control



There are 2 enhancements to the Ensemble Tool in this build. The first is the ability to load ensemble model parameters as image fields. Each member's parameter can be loaded as an image with the conventional "Load as Image" action upon right clicking on the individual member. However, to load the ensemble mean, max, or other calculations, you must click on the gear icon in the top right of the ensemble tool tab and select a calculation with an Image label. For example, select Mean Image from the gear pulldown menu to display the ensemble mean temperature as an image. The second ensemble tool enhancement is contour control and it gives the user control to contour a specific value, such as 32 degrees or 95. The image shows both enhancements on the same display with the GFS ensemble mean temperature image field overlaid with a 95 degree contour. For more practice using the Ensemble Tool, please refer to jobsheets in the Vlab, referenced at the end of this presentation.

Tracking Meteogram Tool (TMT) Keyboard Shortcut Fix

- TMT no longer breaks product toggle using the dot (.) key on the keypad



Prior to Build 17.3.1, the Tracking Meteogram would break the dot key product toggle keyboard shortcut upon loading of the Tool. This issue is now fixed. For more information on the Tracking Meteogram, see the Resources tab in the upper right.

FLASH Products Menu Now Baseline

- SBN FLASH ingest planned to be baselined later in 2018

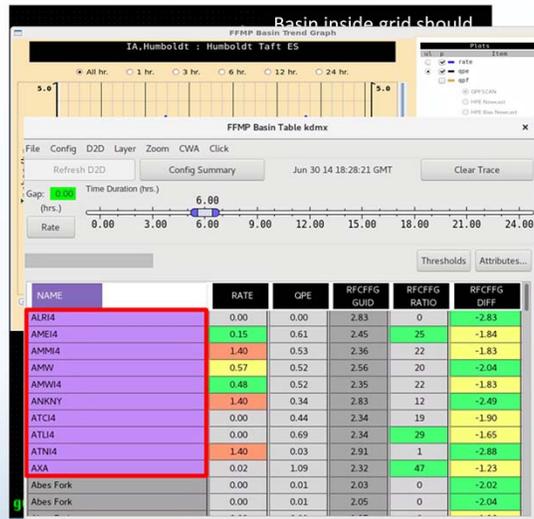
FLASH Products	
----- QPE Models -----	
CREST Streamflow	27.1600
CREST Unit Streamflow	27.1600
CREST Soil Moisture	27.1600
SAC Streamflow	27.1600
SAC Unit Streamflow	27.1600
SAC Soil Moisture	27.1600
HP Streamflow	27.1600
HP Unit Streamflow	27.1600
----- QPF Models -----	
CREST Streamflow	-----
CREST Unit Streamflow	-----
SAC Streamflow	-----
SAC Unit Streamflow	-----
----- Precipitation Return Periods -----	
Maximum Precipitation Return Period of All Accumulations	
30-min Precipitation Return Period	-----
1-hr Precipitation Return Period	-----
3-hr Precipitation Return Period	-----
6-hr Precipitation Return Period	-----
12-hr Precipitation Return Period	-----
24-hr Precipitation Return Period	-----
----- Flash Flood Guidance -----	
Maximum Ratio of all QPE to FFG Accumulations	
1-hr MRMS Radar-Only QPE to FFG Ratio	27.1616
3-hr MRMS Radar-Only QPE to FFG Ratio	27.1616
6-hr MRMS Radar-Only QPE to FFG Ratio	27.1616

In build 17.3.1, the FLASH products submenu is now a baseline item of the MRMS menu. You may have already seen this menu at your office if your ITO set up the FLASH data ingest through LDAD and implemented the menu as a site override. If your ITO hasn't set up the FLASH data ingest, then you will still need to wait to use the data until the FLASH data is distributed on the SBN, which is currently planned for later in 2018. One thing to note is the QPF-driven streamflow product is a new menu item, but those are placeholders for future products that are a ways off.

FFMP fixes

- “gauge” label in Basin Trend Graph now correct
- FFG sometimes mapped to wrong basin fixed
- Filter out Virtual Gauge Basins (VGBs)

Raw RFC FFG (boxes) and FFMP basins (black polygons)



There are several FFMP fixes in Build 17.3.1.

The first is the gauge overlay trace in the basin trend of the Virtual Gauge Basin (or VGB) is now correctly labeled as “gauge” instead of vgb.

The second is that the FFG sometimes being mapped to the wrong basin is now fixed. Prior to 17.3.1, the coordinates of the FFG was off slightly in the data creation, causing some basins to have incorrect basin-averaged FFG.

Lastly, the excludeVGBs tag is now working in the FFMPtemplateConfig, so your AWIPS focal point now has the ability to filter out any of the numerous Virtual Gauge Basins (VGBs) for gauges that don't report precip.

WarnGen and Hazard Simplification

- New products for **dust storms** and **snow squalls**
- Volcano Special Marine Warning (SMW) Impact Based Warning (IBW) template
- More “Basis for warning” options

There are new products for dust storms and snow squalls in this build for experimental offices to use. For dust storms, operational scenarios include new short duration Dust Storm Warnings and Advisories, along with existing long duration Blowing Dust Storm Warnings and Advisories. The short duration products are issued using WarnGen while the long duration products are issued using GHG.

For snow squalls, operational scenarios include a new short duration Snow Squall Warning.

Volcano Special Marine (SMW) Impact Based Warnings (IBW) statements have been added to the impactStatements.vm template in Pacific and Alaska Regions.

Also, additional “Basis for warning” options for how a hazard was reported have been added to baseline templates for Special Marine Warnings. These additional options are: Law Enforcement Reported, Emergency Management reported, Ship reported, and Buoy reported.

There has been a bug that leads to incorrect expiration times for warnings when you change the storm track from “one storm” to “line of storms” and change the duration to 60 minutes on a severe thunderstorm warning. To prevent any issues, make sure

that setting the warning duration is the last thing you do before creating text.

Radar RPG Build 18 Changes

- **One Time Request (OTR) and Routine Multiple Request (RMR)**
 - All Cuts
 - At or Below
 - Lowest N elevations
- **Free Text Message (FTM) on text workstation**
 - Now distributed to FAA

WSR-88D Radar Outage Notification / Free Text Message
 Issued by NWS Chicago, IL

[Current Version](#) | [Previous Version](#) | [Text Only](#) | [Print](#) | [Product List](#) | [Glossary On](#)
 Versions: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#)

000
 NWS63 KLOT 112236
 FTML0T
 Message Date: Sep 11 2013 22:36:41

KLOT RADAR IS CURRENTLY EXPERIENCING TECHNICAL DIFFICULTIES. ESTIMATE RETURN TO SERVICE TIME IS UNKNOWN.

New in this build is the ability to make products requests for all cuts at or below a certain elevation as well as all cuts of lowest N elevations, where N is a number. You can do this with either a One Time Request or a Radar Multiple Request. You may have noticed these menu items in prior builds but the capability to actually go through with the request is new to 17.3.1. Now, if you send a free text message through the text workstation it will not only go out to the wide area network as before, but it will also now go out to the FAA.

AvnFPS TAF XML Format

- **TAFs will be produced in XML format, along with current ASCII format**
- **No extra steps required**

TAFs will now be produced in XML format in addition to ASCII format. Forecasters do not need to do anything different, as the XML file will be produced and sent out automatically when a TAF is sent.

Forecast Enhancements

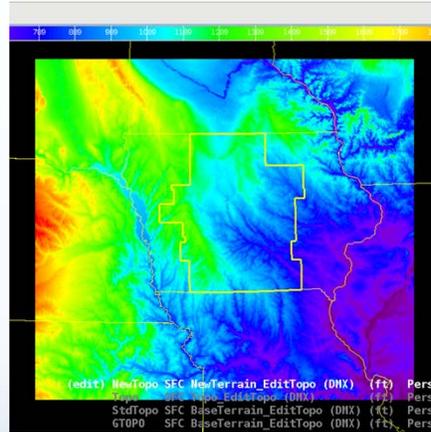
- LAPS/MSAS better data
- National Blend of Models
 - Additional data elements (ceiling height, visibility, QPF)
 - Additional inputs (HRRR, RAP, GLAMP, HRRR-GLAMP MELD)



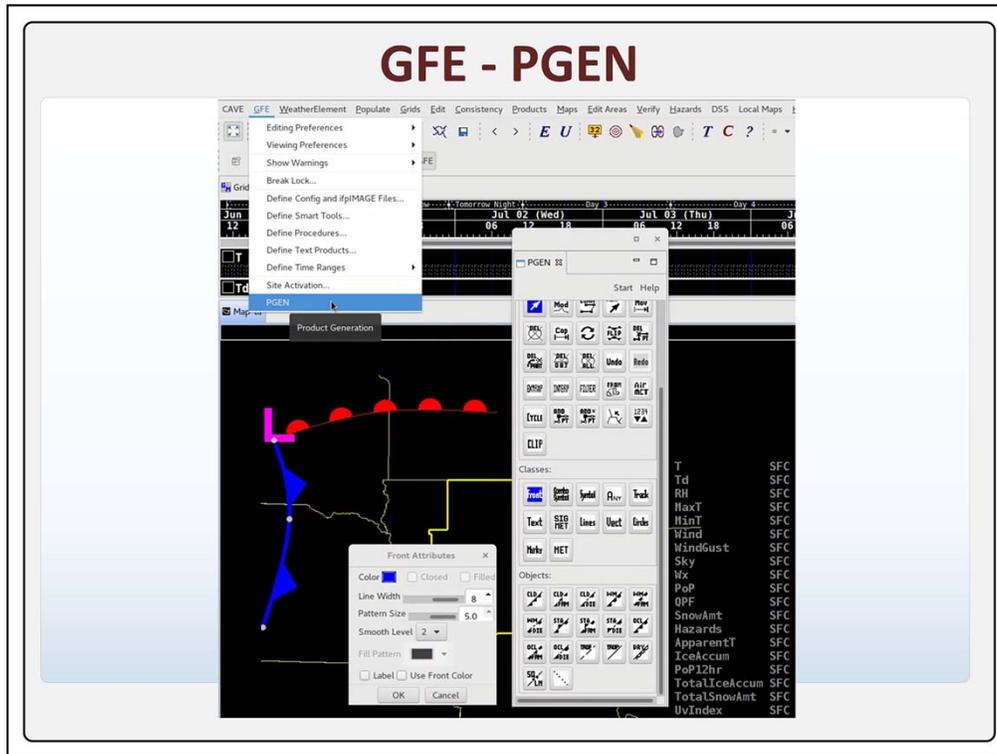
Since the Data Access Framework (DAF) software was updated in Build 16.4.1, some LAPS and MSAS data has been incorrect. For 17.3.1, LAPS and MSAS software has been updated to make DAF data requests more specific and thus produce correct data. The National Blend of Models has received an upgrade in this build. There are additional data elements, including ceiling height, visibility, and model QPF, as well as additional inputs, including the HRRR, RAP, GLAMP, and HRRR GLAMP MELD.

GFE – New Topo

- **New terrain file for GFE**
 - NAVD88 vertical datum
 - Includes Coastal Relief Model (CRM)
 - Improved coastline accuracy
 - AK, HI, PR
 - Variety of input sources
 - Latest used in RTMA/URMA and NBM
 - Same 2.5km grid resolution



Also in this build, there is a new terrain file for GFE. It includes the Coastal Relief Model which improves the coastline accuracy and is now available in Alaska, Hawaii, and Puerto Rico. It is the latest used in RTMA, URMA and the National Blend of Models and it comes in the same 2.5km grid resolution as before. Each region will provide instructions on how to work with the data.



The Product Generation Tool (PGEN) has been added to the GFE perspective. This is mainly for the National Centers, but WFOs may want to poke around the annotation tools when creating graphics for the web.

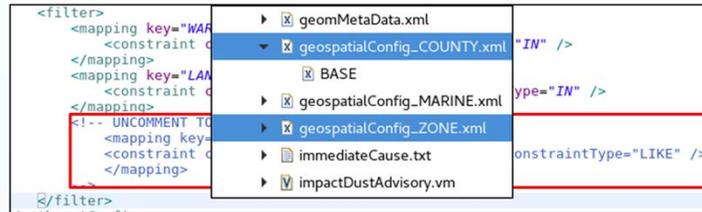
Under the Hood Changes For ITO's and Focal Points



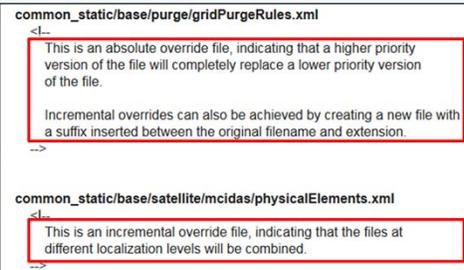
The following 2 slides are for ITOs and AWIPS Focal points. If you are a forecaster, you may skip these slides and advance to the summary slide.

For ITO's and Focal Points

- Local apps postgres authentication enforced
- Uncomment WarnGen filter to remove cities outside CWA



- **Best Practice Tip: compare SITE overrides in WarnGen to baseline templates**
- **Description of override behavior added to localization files**
- **AlertViz scripting now works**



Before you install 17.3.1, you must have all your local applications converted to using the new postgres authentication because this is now enforced. Although not common, it is actually possible to include a city outside your CWA if the clipped portion of the polygon ends up in the neighboring CWA. To prevent this, a filter needs to be applied in the geospatial config files. The syntax is baselined for 17.3.1 but it is commented out, so just uncomment it if your SITE wants to implement the filter. Additionally, as a Best Practice Tip, you should compare any SITE-level override in WarnGen to the latest baseline templates for minor bug fixes and corrections, and merge in any necessary changes. Description of override behavior has been added to the top of the localization xml's to make it convenient to find this information. Also added to build 17.3.1 is the capability to run scripts on AlertViz in response to alerts. See the DR steps documentation also included in the Resources tab for information on how to do this.

For ITO's and Focal Points

- **Backup localization capability**
 - Do NOT try until directed by Region
 - See Release Notes
- **Distribution files in localization perspective**
- **Restrictions for permission on NFS shares**
 - World read removed for all files

```
/awips2/fxa/bin/set-nfs-perms.sh
```

- **Exclude VGBs in FFMP**
- **GFE Spot Formatter crash**
 - See Resources tab

```
FFMPTemplateConfig.xml - SITE
1 <?xml version="1.0" encoding="
2 <FFMPTemplate extents="20000.0
3
4
5 <excludedVGBs>
6 <vgb>AXA</vgb>
7 </excludedVGBs>
8
9 <cwa>OAX</cwa>
10 <cwa>EAX</cwa>
11 <cwa>MPX</cwa>
12 <cwa>FSD</cwa>
13 <cwa>DVN</cwa>
14 <cwa>DMX</cwa>
15 <cwa>ARX</cwa>
16 </FFMPTemplate>
```

FFMP Basin Table Index

File Config DSD Layer Zoom CWA Click
Refresh DSD Config Summary Jun 30 14:18:21 GMT Clear Trace

Gap: 0.00 Time Duration (hrs): 6.00
Rate: 0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00

NAME	RATE	QPE	RFCFG QID	RFCFG RATIO	RFCFG DEF
ALD04	0.00	0.03	2.36	1	-2.33
ALB04	0.00	0.00	2.83	0	-2.83
AME04	0.15	0.61	2.45	26	-1.84
AMM04	1.40	0.53	2.36	22	-1.83
ANW	0.57	0.52	2.56	20	-2.04
ANM04	0.60	0.52	2.35	22	-1.83
ANKNT	1.40	0.34	2.83	12	-2.49
ATC04	0.00	0.44	2.34	19	-1.90
ATL04	0.00	0.69	2.34	20	-1.65
ATN04	1.40	0.03	2.91	1	-2.88
Abes Fork	0.00	0.01	2.03	0	-2.02
Abes Fork	0.00	0.01	2.05	0	-2.04

In 17.3.1, they are starting to add the capability to automatically push your site's localization files that are managed through the localization perspective to your backup sites. This has lots of potential for overwriting files, but it has not been fully tested yet, so do not do this until authorized by your region. See the Living Release notes for more on this. Also in this build, distribution files can now be found in the localization perspective. Restriction on maximum UNIX permissions for files and directories is now being enforced for most NFS shares. Specifically, world read access has been removed for almost all shares. Some will have even more restricted permissions (e.g. 640 or 600). A delta script has been provided to enforce this. This script should be run during AWIPS II post-install, and after that it can be run as often as necessary to remove excessive permissions from files and directories on NFS shares. The script itself is commented in detail in this path. To exclude VGBs from the basin table, just add an excludedVGBs tag along with the VGB name to the FFMPTemplateConfig.xml file in the localization perspective as in the image on the right and hit save. There's no need to restart CAVE for changes to take effect. Finally, the GFE Spot Formatter will crash when Build 17.3.1 is installed if you don't modify your configuration files. Please see the Spot Formatter update link in the Resources tab for instructions on updating the formatter.

Summary

- Tropical enhancements
 - 2018 Tropical Operations course
- Ensemble Tool enhancements
- TMT no longer breaks out key shortcuts
- FLASH menu
- New products for dust storms and snow squalls
- OTR/RMB radar products
- All products for below a certain elevation
- FFMP fixes
- PGEN in GFE
- New Topo data in GFE
- Model enhancements
- LAPS/MSAS improvements
- TAFs add XML for WIPS
- Under the hood changes
- AWIPS Focal Point

The National Weather Service in Binghamton has issued a

Snow Squall Warning

* Snow Squall Warning For...

Southern Cortland County in Central New York...

Northwestern Broome County in Central New York...

Southeastern Tompkins County in Central New York...

Northern Tioga County in Central New York...

* Until 4:15 PM EST

* At 3:38 PM EST, a dangerous snow squall was located over South Danby or 12 miles south of Ithaca, moving northeast at 50 mph.

HAZARD... White-out conditions in heavy snow and blowing snow.

SOURCE... Radar indicated and webcams.

IMPACT... Dangerous life-threatening travel.

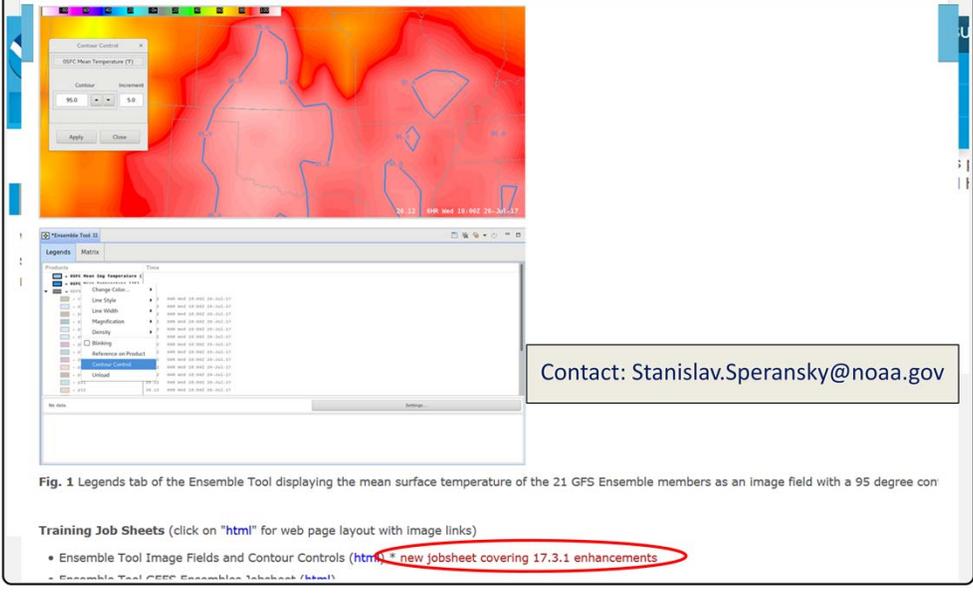
To summarize, there are a number of enhancements to the Tropical Program in Build 17.3.1. See the 2018 Tropical Operations course in the CLC for a comprehensive overview. The Ensemble Tool has also received additional enhancements and you now have the ability to display a field as an image as well as have more control over contouring. The Tracking Meteogram breaking of the product toggle keyboard shortcut has been fixed. The FLASH products submenu is now a baseline item. However, FLASH data will not be distributed on the SBN until later this year so unless your ITO has set up a FLASH data ingest for your local site, you will not be able to view the data. There are some new products in WarnGen for dust storms and snow squalls in this build for experimental offices to use. Also new in this build is the ability to make products requests for all cuts at or below a certain elevation as well as all cuts of lowest N elevations, where N is a number. Additionally, free text messages through the text workstation now go out to the FAA.

There are a number of FFMP fixes in this build. The gauge trace on the basin trend graph is now correctly labeled gauge instead of vgb. FFG is no longer mapped to the wrong basin, as was occasionally the problem in previous builds. And you can now filter out Virtual Gauge Basins from the Basin Table that don't report precip. The Product Generation Tool (PGEN) has been added to the GFE perspective and the topography data used in GFE has been updated. The National Blend of Models has received an upgrade with additional data elements and inputs. A bug that led to incorrect LAPS and MSAS data has now been fixed. TAFs will now be produced

in XML format in addition to ASCII format. This will be automatic so you don't have to do anything different. Finally, 17.3.1 comes with many under the hood changes that are relevant to ITOs and AWIPS Focal Points so make sure to use the Resources provided in the Resources tab and carefully read the Living Release notes.

Check Out VLab & Job Sheets

<https://vlab.ncep.noaa.gov/web/oclo/home>



The screenshot displays the Ensemble Tool interface. At the top, a "Contour Control" dialog box is open, showing "95.0" for the contour value and "5.0" for the increment. Below this is a map of the United States showing mean surface temperature with a 95-degree contour. The "Legends" tab is active, displaying a list of products and their corresponding times. A red circle highlights the "Ensemble Tool Image Fields and Contour Controls" link in the "Training Job Sheets" section.

Contact: Stanislav.Speransky@noaa.gov

Fig. 1 Legends tab of the Ensemble Tool displaying the mean surface temperature of the 21 GFS Ensemble members as an image field with a 95 degree con

Training Job Sheets (click on "html" for web page layout with image links)

- Ensemble Tool Image Fields and Contour Controls ([html](#)) * new jobsheet covering 17.3.1 enhancements
- Ensemble Tool GFSF Ensemble TabSheet ([html](#))

You are now done with the AWIPS 17.3.1 Informational Overview.

Just enter this address in a browser on your LX workstation or on the Web and select the AWIPS Build Changes VLab page from the Forecaster References. From there, navigate to the 17.3.1 section, where you can check out the new jobsheets available for the Ensemble Tool enhancements.

Let me know if you have any further questions, and good luck with the new 17.3.1 capabilities.