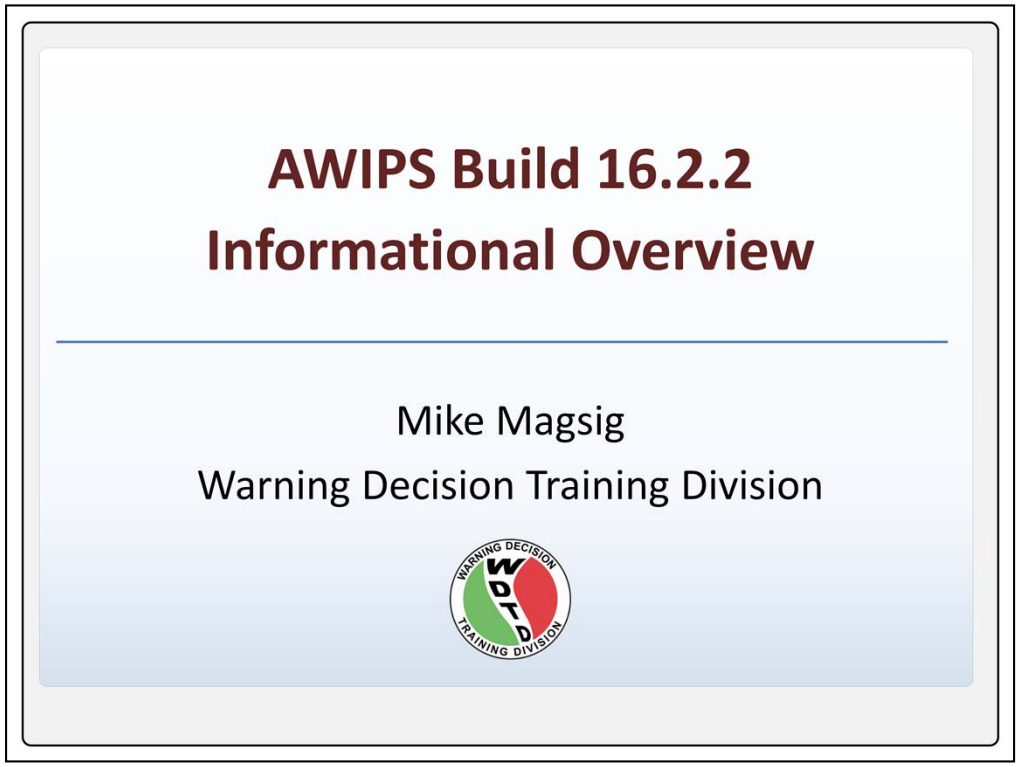
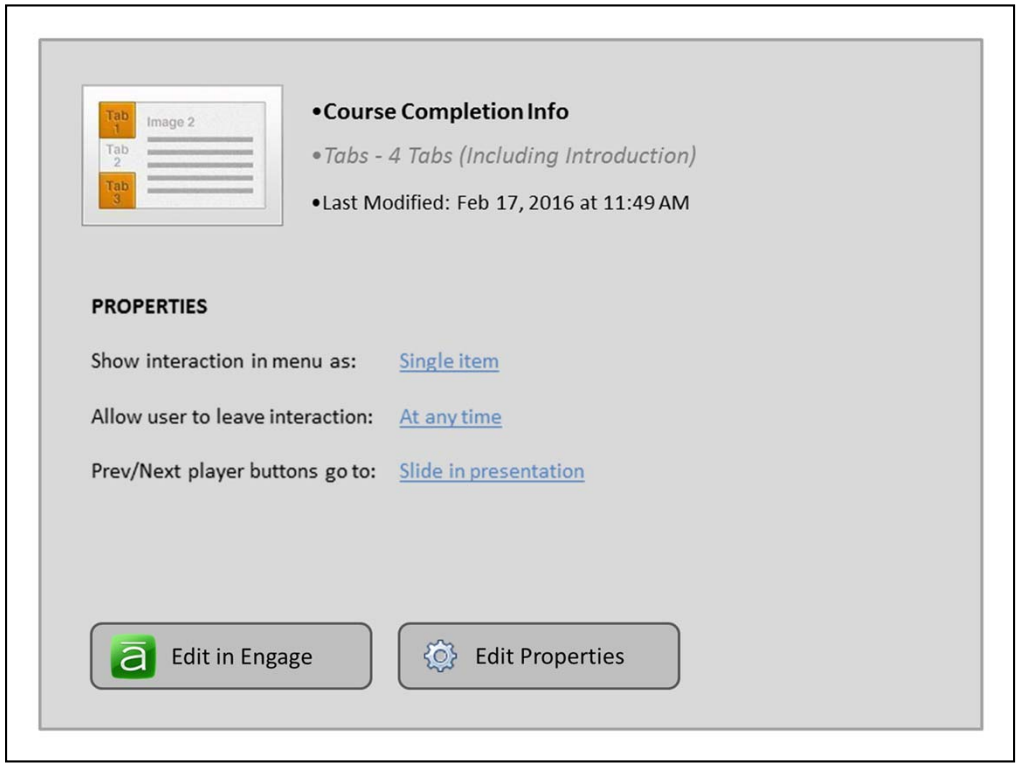


Welcome to the AWIPS Build 16.2.2 Informational Overview. I'm Mike Magsig from WDTD, and I will be introducing you to some of the significant changes in 16.2.2.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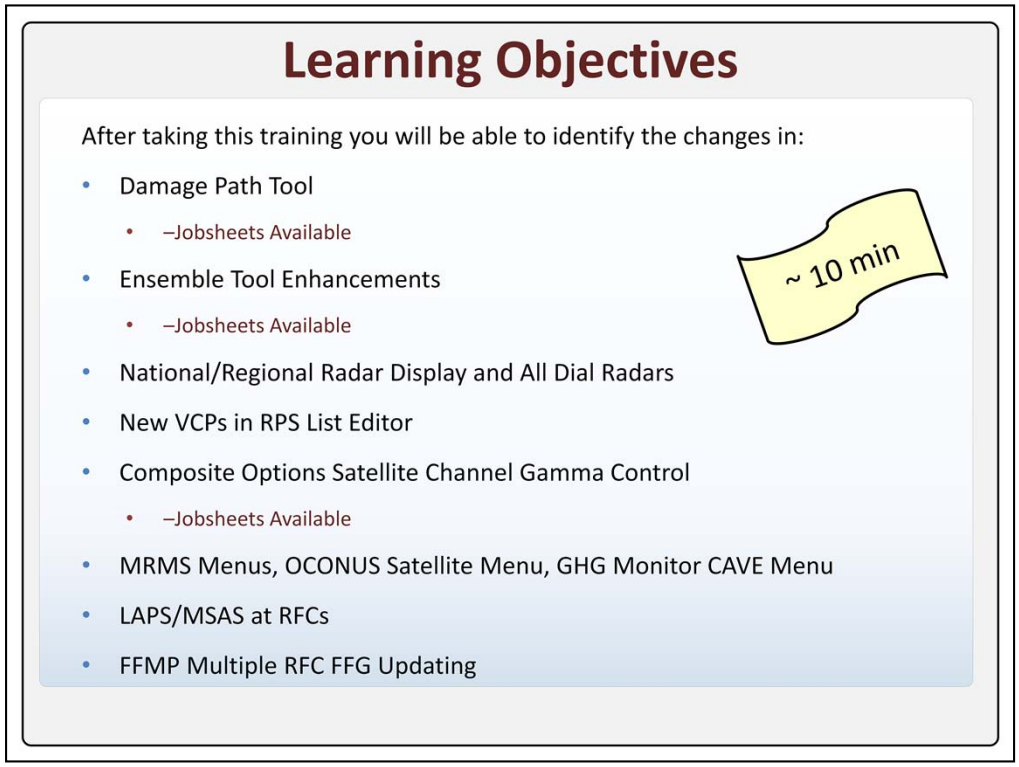
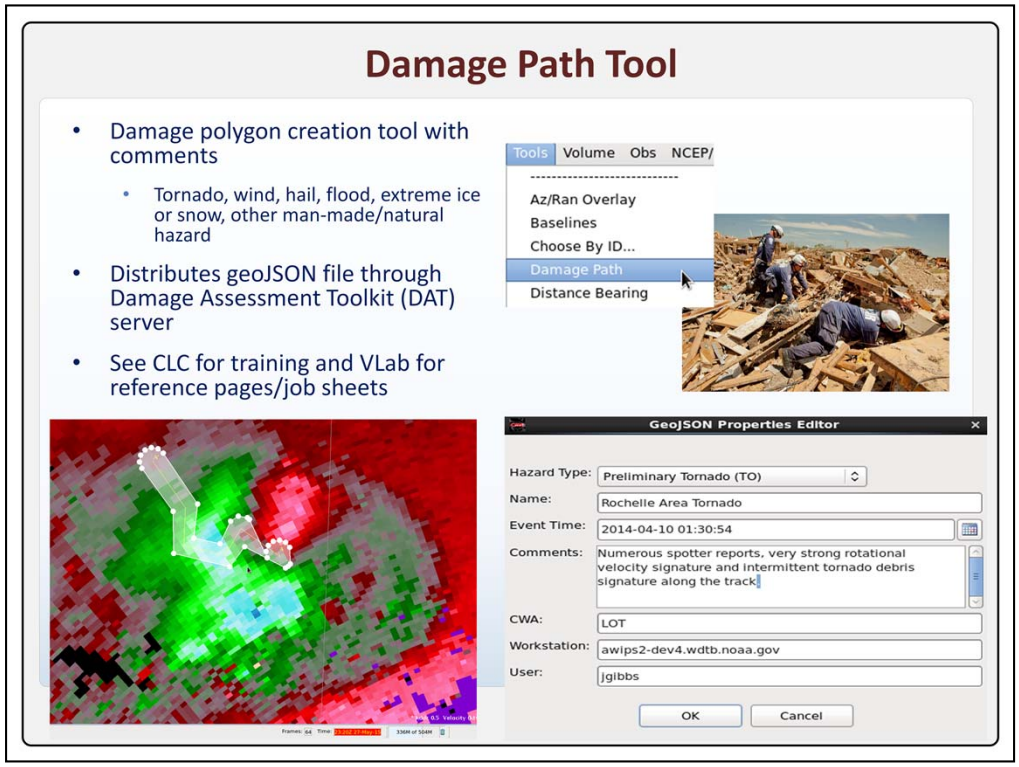
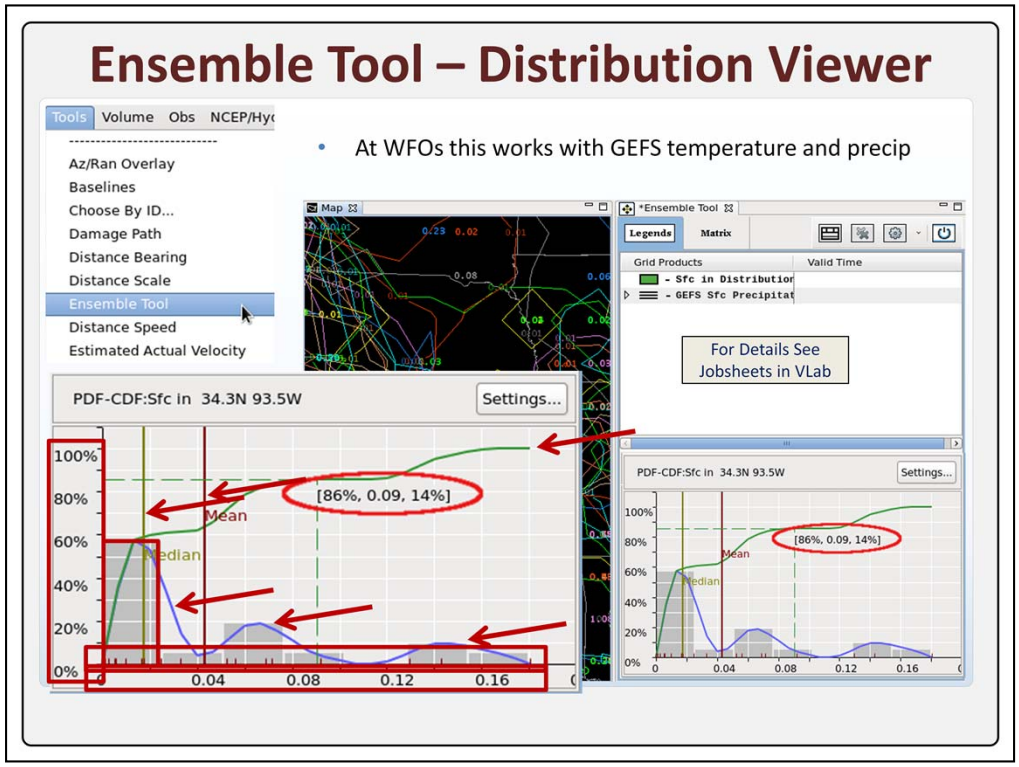


The goal of this training is to provide a general awareness of the following new 16.2.2 capabilities in around 10 minutes and provide some job sheets for forecasters to get some practice for some of the more involved applications.



One of the significant new enhancements in 16.2.2 is the Damage Path Tool. This new tool allows forecasters to identify areas of significant damage for a number of different phenomena and distribute a geoJSON file to the DAT server in real-time to first responders and other key stakeholders. With the damage path tool you can create a polygon from a simple default box, or you can use the tornado track tool with AWIPS baselines to create a tornado track that incorporates the uncertainty of tornado position due to radar range. At lot of preparation needs to happen at the local level before these products are created, and for everything you need to know about the Damage Path Tool, see the training in the CLC and VLab reference page. At the end of this presentation I will review the VLab references accompanying this training.



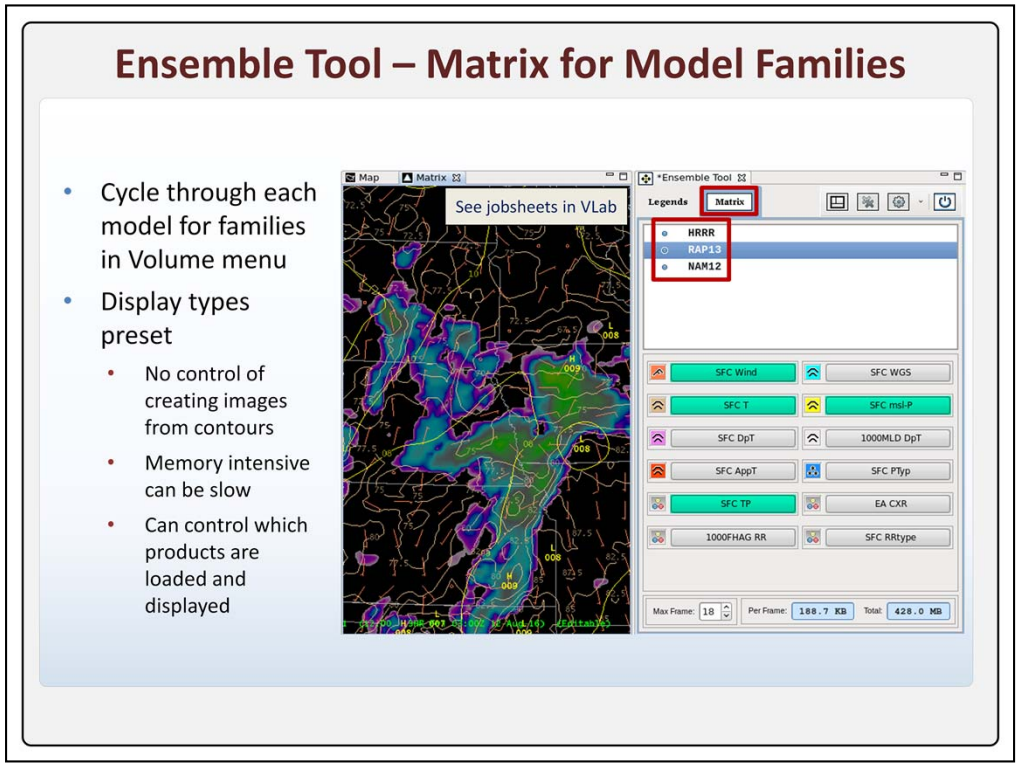
One of the other significant upgrades in 16.2.2 include a distribution viewer for the recently-released ensemble tool, where you can click on the editor display in AWIPS to generate a Probability Density Function or Cumulative Density Function at the nearest gridpoint. At WFOs the data you are typically limited to is the GEFS temperature and precip forecasts, which feature all 21 members of the GFS ensemble.

Here is a display of precipitation from the GEFS at the 120hr forecast valid for the previous 6hr period. The x-axis is precipitation and the y-axis is the percentage of members in bins of a little over 2 hundredths of an inch. Each small red tick mark on the x-axis is one of the 21 members of the GEFS. At this gridpoint, over half the members are in the first bin of around 2 hundredths of an inch as indicated by the height of the first grey box.

The median value of around 0.02” is indicated by the vertical yellow line, and the mean value of a little over 0.04” is indicated by the vertical red line. The blue line is the probability density function for the distribution indicating a tri-modal distribution with most members having less than 0.02” of precip, with other clusters of solutions around 0.05” and 0.15”.

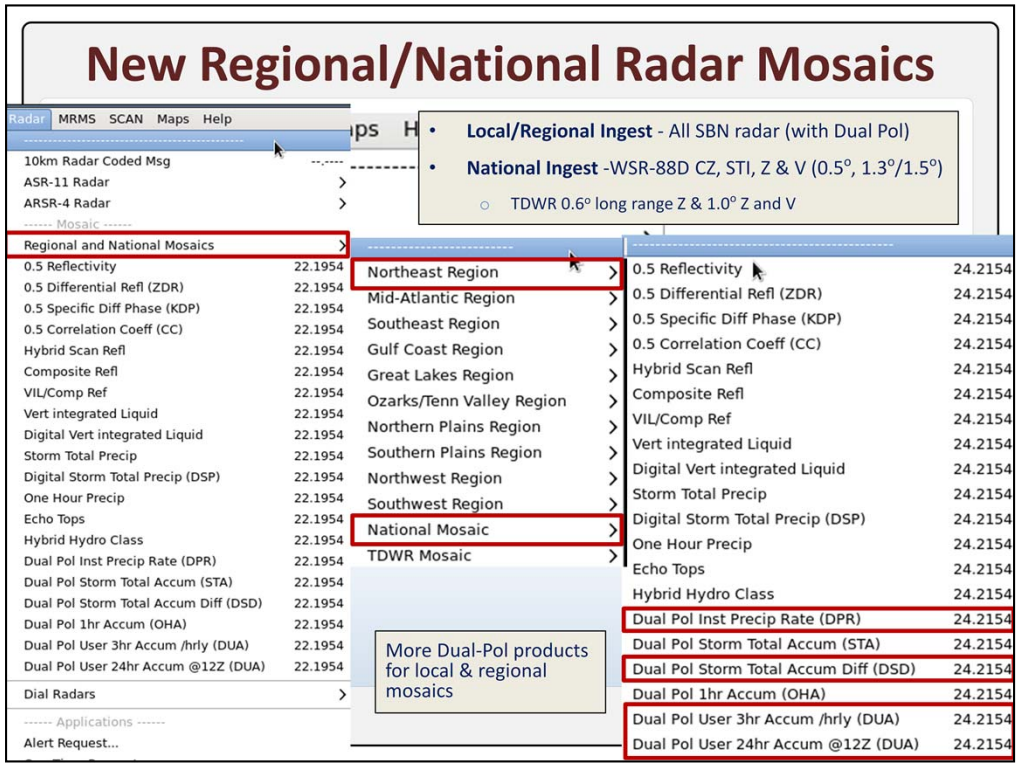
The green line shows you the cumulative density function which indicates how many solutions are below and above a given threshold. Clicking inside the graph will provide summary information for a particular parameter threshold. For instances in this example clicking on 0.09” in the graph shows 86% of the solutions (or 18) are below 0.09” and 14% of the solutions (or 3) are above 0.09”.

If you have good diversity of model solutions in your GEFS ensemble, then this tool can help you assess certainty in model solutions faster.

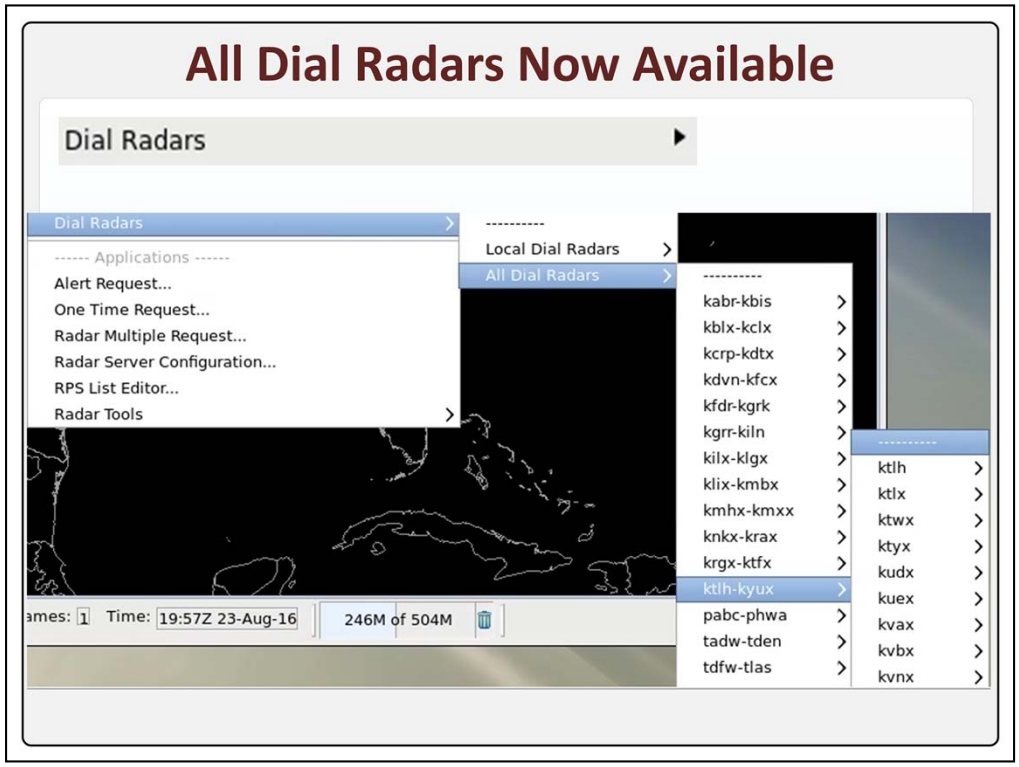


The ensemble tool in 16.2.2 also comes with a matrix button capability which allows you to load Volume menu model family products and cycle through different models.

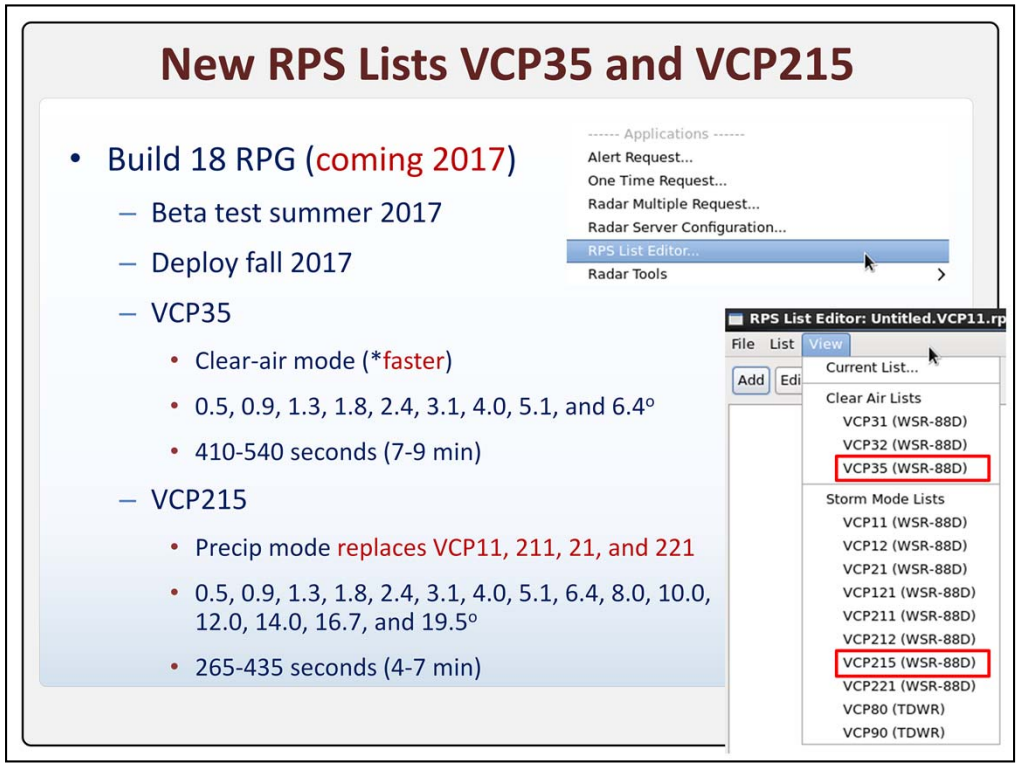
One of the limitations of the Ensemble Tool is that all the display types of contours and images are preset, so for instance you can't change temperature to load as an image. Another limitation is that it is memory intensive, so it can be slow for multiple model family products. You do have control over what products and models are loaded, so you can manage the performance of this by choosing what you want to display.



The CAVE Radar menu contains new regional and national radar mosaic menus in 16.2.2. Along with this, EDEX now ingests *all* SBN radar products for your *regional* 88Ds and TDWRs and *six* new products for *all* radars nation-wide, including composite reflectivity, storm track information, and the two low tilts of reflectivity and velocity. You will notice more Dual-Pol menu items on *both* national and regional pullout menus though the *Dual-Pol* mosaics will only load radars from your *local and regional* ingest.



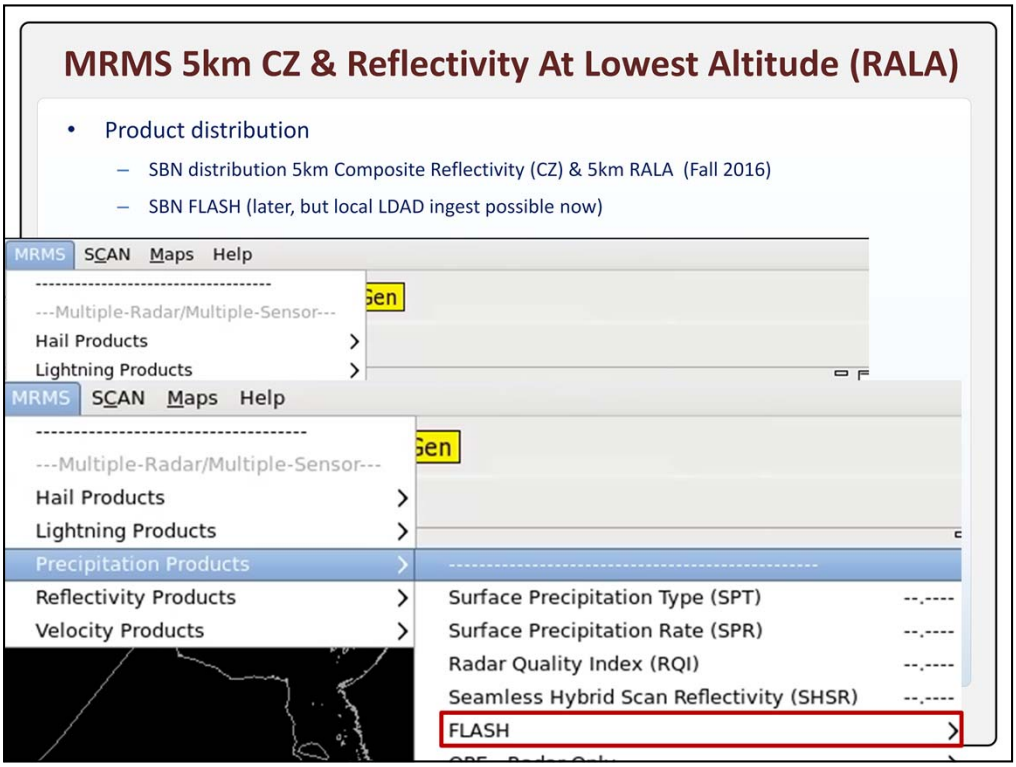
The dial radars menus have also been expanded to include all potential radars. With the new national ingest of a limited set of products for every radar, now you have the menus to load products for any radar.



In 16.2.2 the RPS list editor will contain two new VCPs, VCP35 and VCP215 in preparation for Build 18 of the RPG which is planning to deploy in late 2017.

VCP35 will provide a faster clear-air mode VCP with more angles.

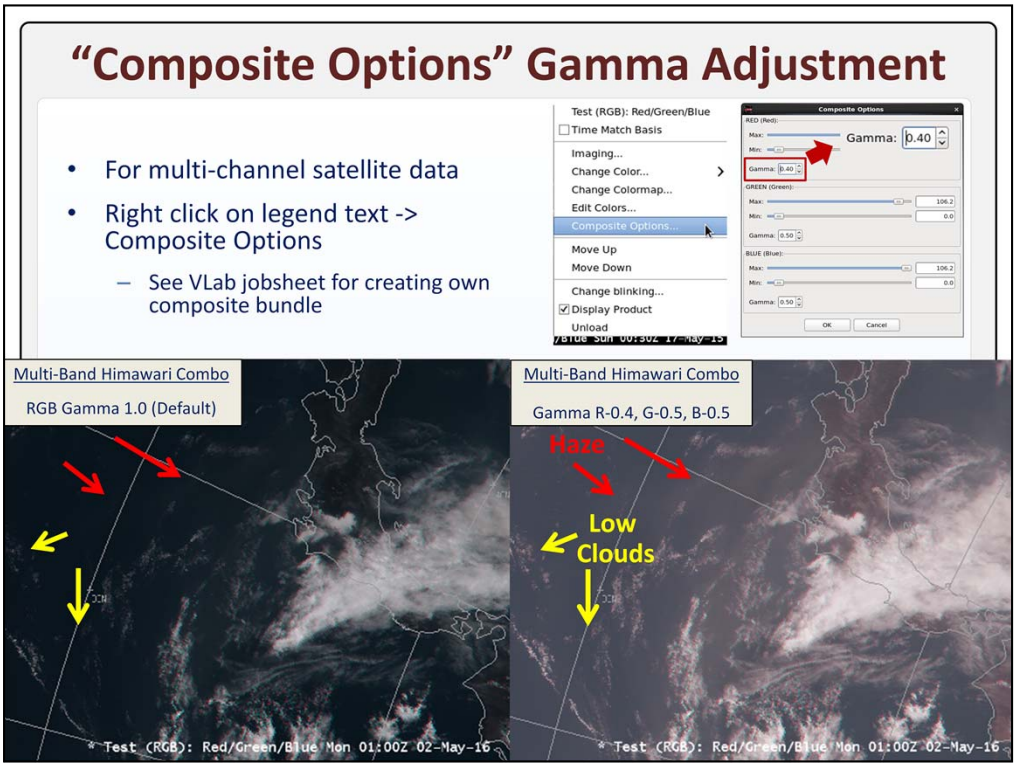
VCP215 will combine the best of multiple VCPs and will replace VCP11, 211, 21, and 221.



In 16.2.2 MRMS added Reflectivity Products menus for the 5km resolution composite reflectivity and 5km resolution reflectivity at the lowest altitude, or RALA. Under the MRMS Precipitation Products menu a FLASH menu has also been added for the Flooded Locations and Simulated Hydrographs Project, which is a 1km hydrologic model run every 2 min for flash flood forecasting.

The 5km CZ and RALA products should start flowing over the SBN in fall 2016, but FLASH will be later than that. Some regions and WFOs are ingesting FLASH through LDAD, but you will need to check with your regional AWIPS Focal Point if you are interested in accessing FLASH before it gets on the SBN.

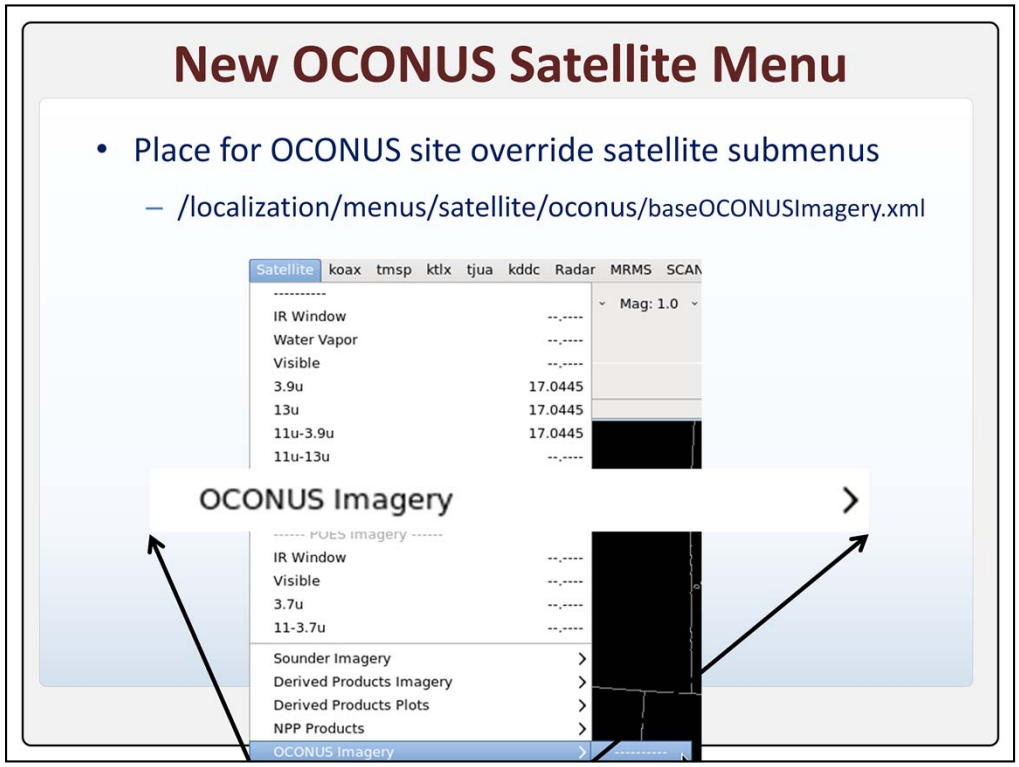
For more information on FLASH or the similar National Water Model which runs every hour see the links in the Resources tab on the top right of the presentation.



In 16.2.2 there is a new capability to adjust gamma settings of composited imagery, which is particularly applicable in manipulating the display of different channels of satellite data. The gamma settings are accessed by right clicking on the legend text and selecting Composite Options for a bundle that was created with this unique capability.

When you adjust an image's gamma settings you control the contrast of the red, green, and blue channels independently to create a composite combination which can draw out details and shadows optimally for the human eye. Here is an example of a composite combination Himawari satellite product with the default gamma of 1 and a gamma adjustment to highlight the haze and low-cloud structure off the coast of Japan.

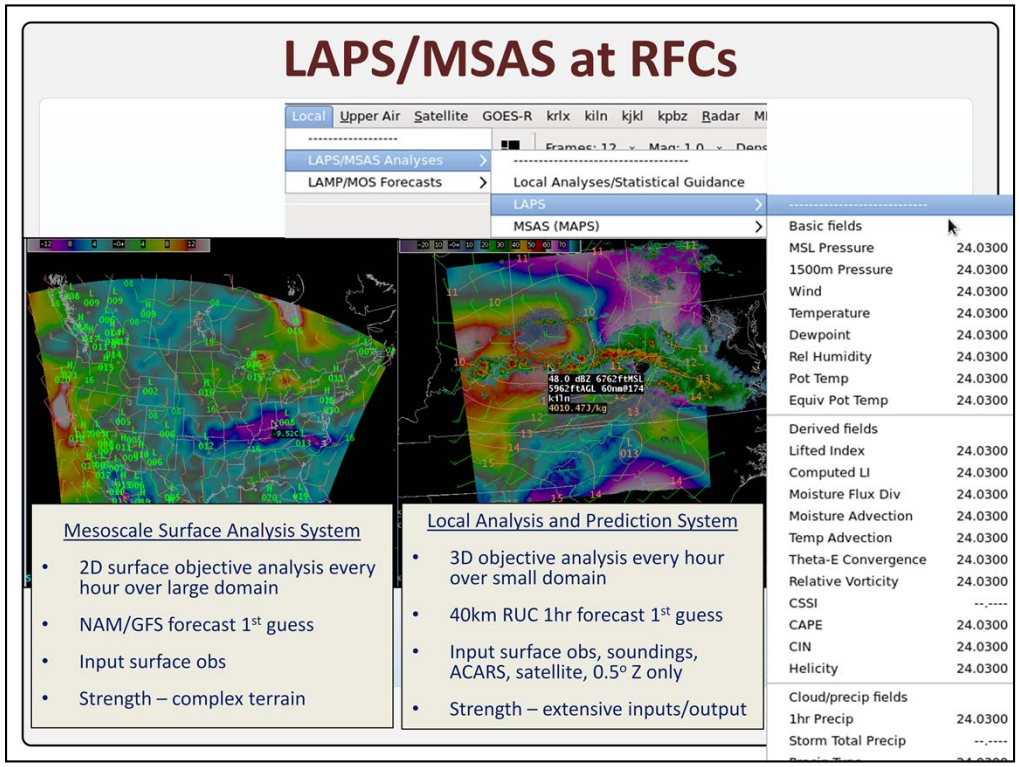
The jobsheet in the VLab has step-by-step instructions for forecasters to create a composite image bundle with gamma adjustment controls using the localization perspective.



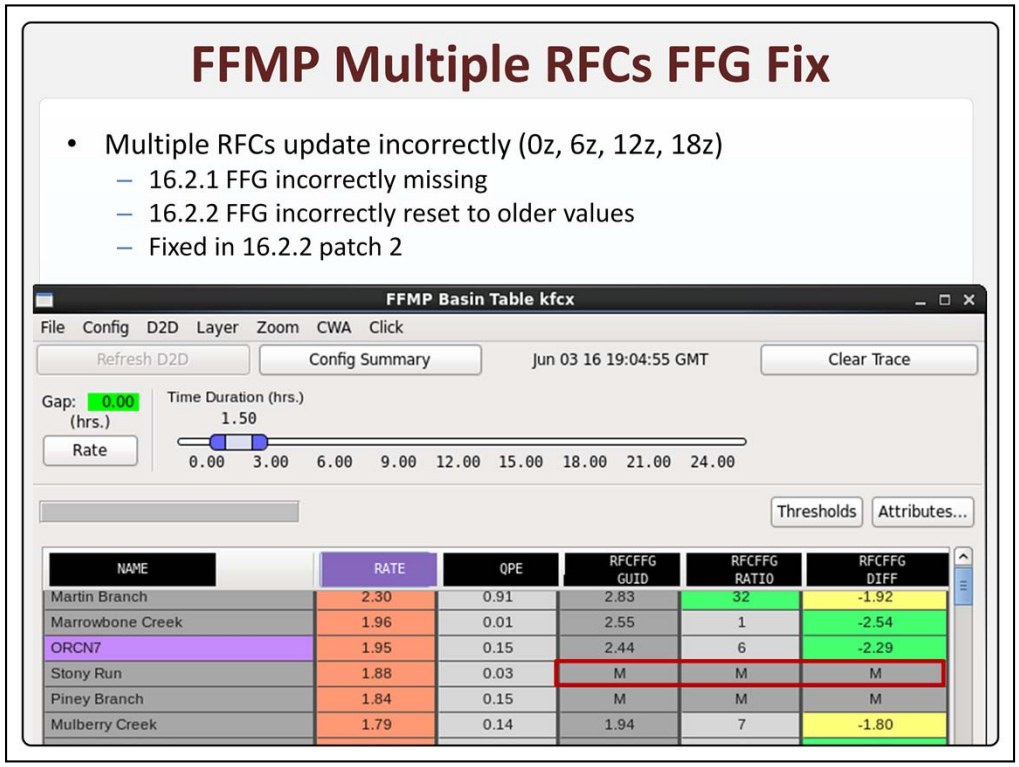
The menus in 16.2.2 have come with an OCONUS Imagery menu that is blank by default. This is intended to be a place where OCONUS sites can add all their local OCONUS satellite menus. See the AWIPS living release notes for more on that in our AWIPS Build Changes VLab reference page.

GHG Monitor Now in CAVE->New Menu

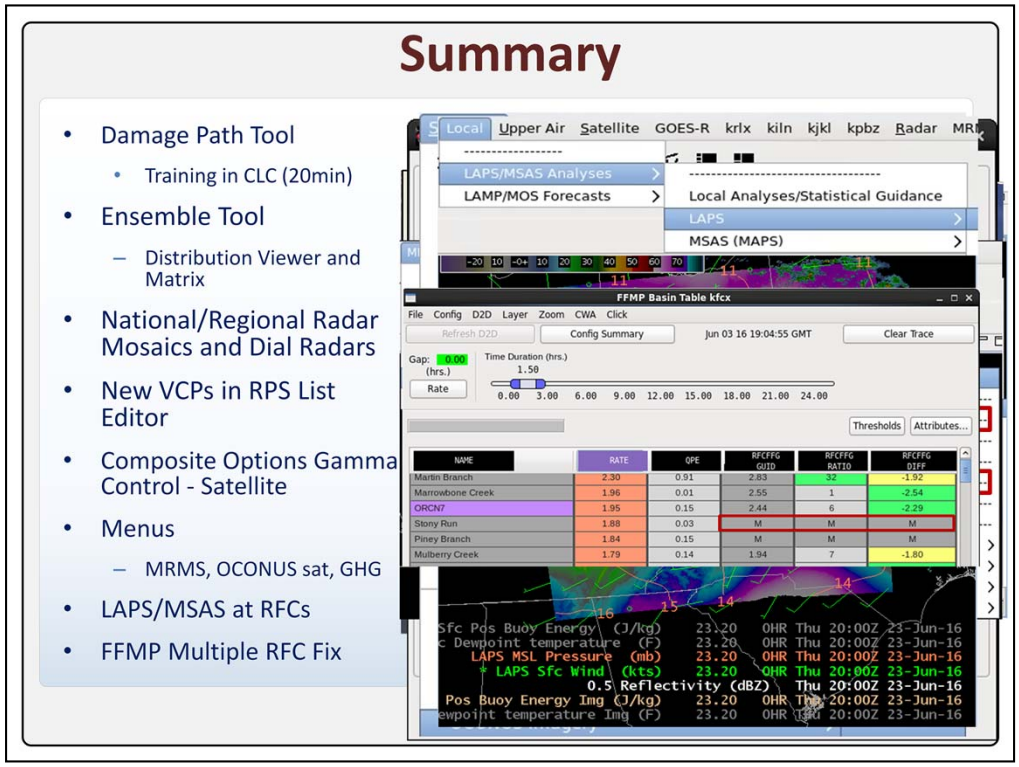
Another minor enhancement in 16.2.2 is the GHG Monitor can now be launched from the CAVE->New menu.



The Local Analysis and Prediction System, or LAPS, and the Mesoscale Surface Analysis System, or MSAS, are now available at RFCs. These objective analysis packages have significant differences, but both can be useful for assessing the environment.



There is an FFMP fix on the way for multiple RFCs updating incorrectly. In 16.2.1 when a new RFC FFG came in, the other RFC data would incorrectly go missing. In 16.2.2 that was fixed, but then the other RFC FFG data would be incorrectly reset to older values. This issue is supposed to be fixed in the 16.2.2 patch 2 which will roll out sometime during 16.2.2 deployment.



To summarize, the Damage Path Tool is a significant new enhancement designed to provide real-time damage polygons with comments through the DAT server for emergency responders to use in incident response. A lot of preparation needs to happen at the local level before you should consider using it, so see the Damage Path Tool training in the CLC for more on that.

The recently fielded Ensemble Tool has been updated in 16.2.2 to include a distribution viewer, so now you can better slice and dice the GEFS ensemble members in AWIPS. The Ensemble Tool Matrix capability also allows you to cycle through different models for products defined in the Volume Menu families.

New national and regional radar mosaics and dial radar menus have been created to allow you to better utilize the 16.2.2 national ingest of a select number of radar products nation-wide. The RPS list editor was also updated to prepare for the future VCPs 35 and 215.

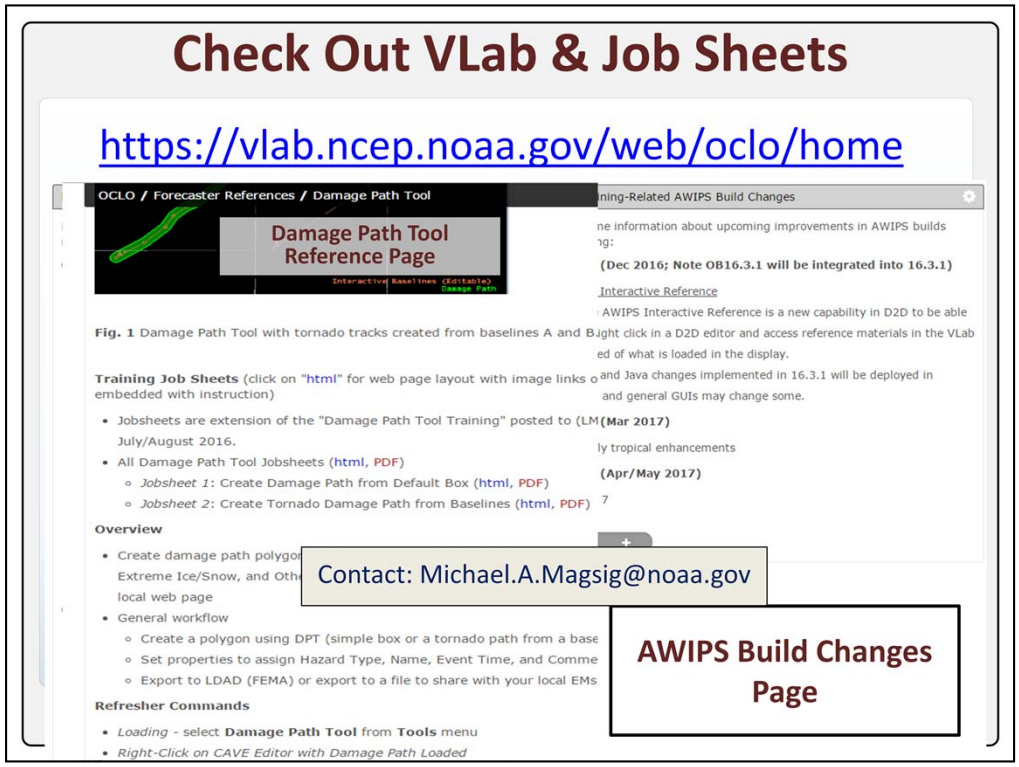
In the satellite world, there is a new Composite Options gamma control for combining multi-channel satellite data like Himawari and GOES-R, and we have jobsheets in the VLab for that.

There are also new CAVE menus for future MRMS products, an OCONUS satellite pullout for misc. OCONUS satellite additions, and GHG can now be launched directly from the CAVE->New menu.

LAPS and MSAS data have been implemented at RFCs.

And lastly an FFMP fix for multiple RFC FFG updating will arriving during 16.2.2

deployment.



You are now done with the AWIPS 16.2.2 Informational Overview. Next you should try accessing the training reference materials from the Forecaster References menu at the top of our OCLO public VLAB home page. You don't need to log in to the VLab, just enter this address in a browser on AWIPS or on the Web.

The Forecaster References menu is your one-stop shop place to go for OCLO references in AWIPS. You can access the AWIPS Build Changes menu to refresh yourself on the build changes, or you can click on the standalone pages, like the Damage Path Tool page, or the Ensemble Tool, or the Gamma Adjustment page.

The reference pages contain job sheets, refresher commands, and more.

Let me know if you have any further questions, and good luck with the new 16.2.2 capabilities.