AWIPS-2 in NOAA’s Hazardous Weather Testbed: Implementation and Display of Experimental Datasets
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Overview
• NSSL Experimental Warning Program (EWP) tests/evaluates operational utility of new science, technology, and products
• 80 new products/datasets implemented in EWP 2012
• 2012: First year next-generation AWIPS software (AWIPS-2) utilized in operations
• AWIPS provides a familiar environment to NWS participants to view current and experimental datasets side-by-side

System Features
• Web mapping interface allows for selection of experimental product domains and radars
  ▪ 4 static multi-radar/multi-sensor (MR/MS) domains
  ▪ 1 floating MR/MS domain
  ▪ 4 floating 3D variational data assimilation (3DVAR) domains
  ▪ 10 floating Radar Product Generators (RPGs) for Level-III data creation
• The flexibility to view and issue warnings using any NWS forecast office’s area of responsibility on-the-fly
  ▪ Allows forecasters to track events through multiple office domains

Experimental Products
• MR/MS
  ▪ Isosurface Reflectivity
  ▪ Maximum Expected Size of Hail (MESH)
  ▪ Merged Azimuthal Shear
  ▪ Rotation Tracks
• 3DVAR
  ▪ 3D Wind Fields
  ▪ Updraft Strength
  ▪ Updraft Helicity
  ▪ Divergence
  ▪ Vorticity
• OUNWRF
  ▪ Maximum (Hourly) Updraft Helicity and Column Hail
  ▪ 10m Wind Speed
• Synthetic GOES-R Datasets
  ▪ Convective Products
  ▪ Lightning Detection
  ▪ Model-Derived Satellite Imagery

Phased Array Radar Innovative Sensing Experiment (PARISE) 2012
• Goal?
  ▪ Evaluate the impact of PAR data on the warning decision making process using AWIPS-2
• How?
  ▪ Raw PAR files passed through RPG with output reflectivity, velocity, spectrum width fields archived
  ▪ Two standalone AWIPS-2 installations process and display the data (EWP9 & EWP10)
  ▪ Additional elevation angles and menus added to assist in decoding and forecaster interrogation
  ▪ Archived PAR data played through the system in displaced real-time

CAVE Workstation Specifications
• 2x Intel Xeon Quad-Core 2.4 GHz CPUs
• Supermicro X8DTG-QF, Motherboard
• 24GB DDR3-1333Mhz RAM
• Nvidia GeForce GTX580 1536MB DDR5
• 2DVI/Mini HDMI PCI-Express Video Card
• 1.5 TB 7200 RPM SATA Hard Drive

Web interface for selecting radars (left) and the resulting Level-III data in AWIPS-2 (right)