



AWIPS Technology Transfer

Joanne Edwards

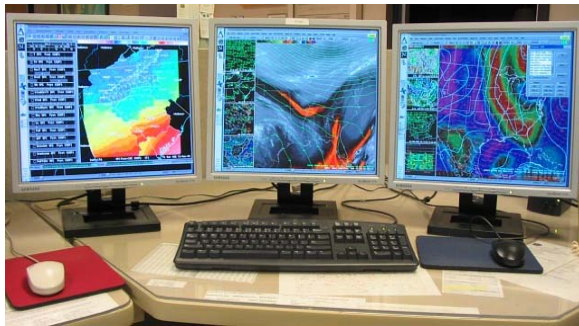
NOAA – Earth System Research Laboratory

Advanced Weather Interactive Processing System The System that Modernized the NWS



Purpose of AWIPS

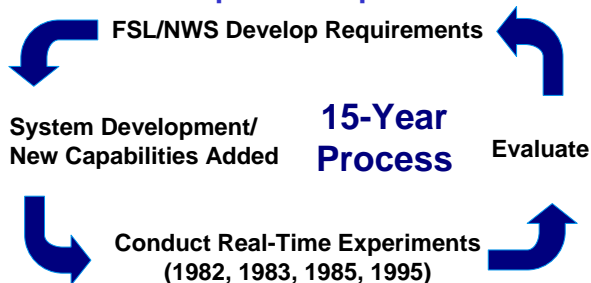
- Serve as central nervous system of modernized NWS
- Improve forecaster productivity
- Contribute to improvements in accuracy and time-liness of forecasts and warnings
- Support NOAA's Weather and Water Goal to enhance the nation's ability to anticipate and plan for weather-related impacts



What is AWIPS?

- An information processing and display system
- Integrates meteorological and hydrological data
- Includes a suite of:
 - satellite imagery
 - radar data
 - surface observations
 - numerical guidance products
- Contains the Graphical Forecast Editor (GFE)
- Developed by FSL in the late 1990's
- Transitioned to NWS contractors

AWIPS Development – Spiral Process



Transition to Operations

- GSD transitioned system to NWS contractors
 - PRC (mid 1990s – 2000)
 - NGIT (2001 – 2005)
 - Raytheon (2005 – present)
- Software transfer
- Knowledge transfer – training
- System documentation
- Contractor maintains system and deploys to sites

Impact On Operations

- NWS Overall
 - over 300,000 warnings issued in 10 years
 - performance significantly improved
- Oklahoma City Tornado Case May 3, 1999
 - good lead time on all warnings (up to 1 hour)
 - Doppler radar and AWIPS were key
 - emergency managers estimated about a 90% reduction in deaths

Testimonial

From Dennis McCarthy (MIC of NWSFO, Norman, OK) to the Subcommittee on Energy and Environment - U.S. House of Representatives - June 16, 1999

“...NEXRAD and AWIPS were critical to the success of the May 3rd warning process. Those of us who have been issuing warnings since the 1970's or the 1980's know we could not have conducted such an efficient warning operation without NEXRAD and AWIPS...”

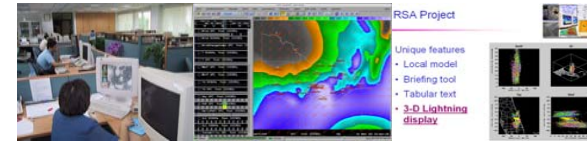


Dennis McCarthy disseminates warnings and severe weather information via HAM radio at about 11:00 pm CDT on May 3, 1999

AWIPS Awarded Gold Medal

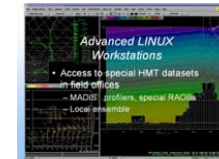
The FSL-NWS AWIPS team was presented with the Department of Commerce Gold Medal Award in 1999 for the design, development, and integration of the AWIPS infrastructure software.

Technology Transfers to Industry

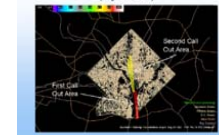


Taiwan's CWB Australia's BOM Air Force RSA

AWIPS Spin-Offs



GTAS Dispersion Plume (HySPLIT)



ALPS/HMT

- Linux based
- Increased performance
- Smart push/pull

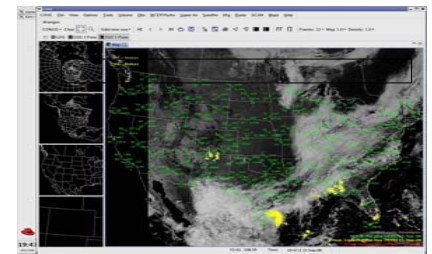
FX-C/GTAS

- Collaborate in real time
- GTAS enables emergency managers to collaborate with FEMA, NWS forecasters

FX-Net/Fire Weather

- Provide low-bandwidth remote access to AWIPS
- Support fire management and firefighters

AWIPS Evolution – AWIPS II



- Need for AWIPS to evolve beyond existing capacity
- Raytheon awarded contract in 2005
- Initial system to have same capabilities of AWIPS I
- Based on Services Oriented Architecture (SOA)
- GSD's role:
 - Evaluate AWIPS II
 - Extend AWIPS II capabilities to include Thin Client, Collaboration and Data Delivery