unidata

providing data services, tools and cyberinfrastructure leadership

Towards Open Weather and Climate Services
A Unidata Academic Perspective

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2011 AMS Summer Community Meeting

Wednesday, August 10, 2011

Then…

Unidata was conceived 28 years ago at a meeting at the University of Wisconsin's Space Science & Engineering Center (SSEC)

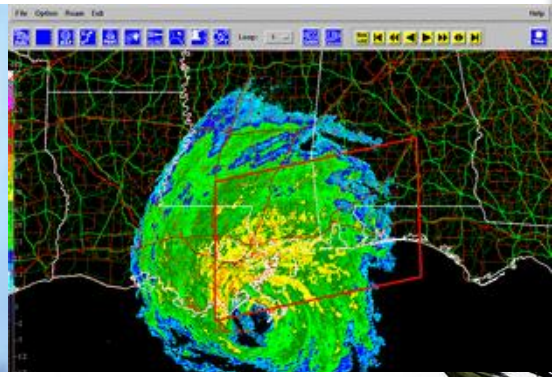
- NWS had developed a system (circa 1970's-AFOS) that left university researchers and educators without weather data to conduct their research and teaching
- University, NSF, UCAR, NWS reps attended a workshop to discuss the situation, and it was agreed that a 'university data' program (Voila! Unidata) was needed to fill the gap
- Agreement that the program would be at UCAR to serve the university community with data, analysis, and visualization capabilities
- NSF played a major role as sponsor of the new program

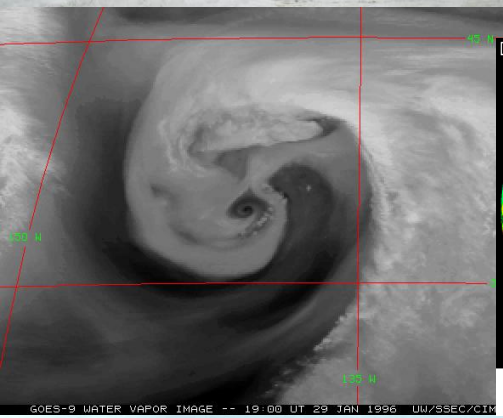
Community Driven!

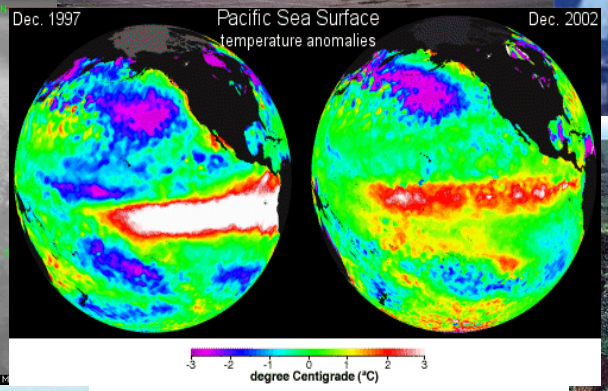
- Unidata governance began with a "steering committee" in 1983
- Later, two committees: Policy Committee and Users Committee
- Both committees consist of university members (including one student representative on Users Committee)

- The committees also include Agency liaisons from NSF, NOAA, NASA, USGS
- Committees provide feedback to the program on its effectiveness in serving university needs

Weather – a science driver







Data, data, everywhere!

NOAA provides volumes of data from observational systems, models, text bulletins, climate data, and much more

- NOAA data is made available to serve the needs of the Weather Enterprise
- Some users have special data requirements depending on the services they provide
- Technology exists to provide more data (vast storage systems handling petabytes of data, etc)
- Small colleges/universities cannot handle all of the data (don't have the resources)
- We need to be wise in the way we provide access to the data

More Transparency

- There is a wealth of data that the community can benefit from but is not aware of
- Further transparency is needed to provide additional data and information about the data (ASOS?)
- There is a need for greater engagement from the academic community, as well as the overall weather enterprise
- Over the years, Unidata has advocated for the needs of the academic community, especially in the area of data for education and research

Collaboration

Unidata collaborates with NOAA labs, NWS, NCEP Centers, and Forecast Offices by sharing technology (LDM, THREDDS, netCDF, etc.)

- CONDUIT (Cooperative Opportunity for NCEP Data Using IDD Technology) makes high-res model data from NCEP available to ~150 sites
- CRAFT (Collaborative Radar Acquisition Field Test) WSR-88D level II data: Unidata LDM software played an important role in facilitating distribution of WSR-88D data to the Weather Enterprise, and also saved NCDC nearly $1M per year with greater reliability and faster data access
- THREDDS and netCDF are widely used by Federal agencies and the private sector and beyond

…and Now

- Unidata is currently collaborating with NWS and NCEP to help smooth community members' transition from GEMPAK to AWIPS II
- Unidata tracks NOAA/ESRL projects for areas of possible collaboration, i.e., Policy Committee-Fall 2010
- Unidata actively works toward adoption of standards that make data accessible – netCDF adopted by OGC
- Budgets are tight - we need to work together to provide the services needed by our community

Future

- Need to work toward a balance of data needs by the combined community, i.e., academia, government, and private industry (weather enterprise)
- The community needs to know what's available
  - **Do we need a framework for creation of on-line data catalogs?**
- Consider the work under the hood (data formats, decoders, metadata, QC, data transfer mechanisms, etc)
- Collaborate and make wise decisions – can we use all of the data, all of the time?
- Communication and building consensus is key!
- Excellent start – working with AMS, U.S. Weather Enterprise, NWS Partners meetings ….