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# Director's Report

## Unidata Policy Committee Meeting

12 May 2008

Mohan Ramamurthy  
Unidata Program Center  
UCAR Office of Programs  
Boulder, CO



# Unidata 2013 Proposal

- **Unidata 2013: A Transformative Community Facility for the Atmospheric and Related Sciences**
  
- **Six focus areas:**
  1. Broadening Participation
  2. Advancing data services
  3. Developing and deploying useful tools
  4. Enhancing user support services
  5. Providing cyberinfrastructure leadership
  6. Promoting diversity



# Use of Unidata in Graduate Research

Estimates of Students using Unidata Data and Tools for Master's and PhD Thesis  
2003-2008

Academic Institution	MS/PhD Candidates	Data/Tools/Services	Total
Florida State-Ruscher	79/25	100%Data/50% Tools	104
U of Hawaii-Businger	26/11	Products/services	37
Iowa State-Gallus	9	Data/Tools	9
U of Missouri-Lupo	27/6	Products	33
NCSU-Lackmann	34	Data/Tools	34
Univ of OK-Carr, Laufersweiler	60/15	Data/Tools/Services	75
St Louis U-Graves	10/8	Data/Tools	18
SUNYA-Bosart	6	Data/Tools	6
Texas A&M-Nielsen-Gammon	6/3	Data/Tools	9
Univ of Utah-Steenburgh	15/4	Data/Tools	19
Univ of Wash-Mass	75	Data/Tools	75
Univ of Wisc-Madison-Martin	40	Data/Tools	40
Univ of Wyo-Geerts, Oolman	18/9	Data/tools	27



# 2008 DeSouza Award

- ❖ This award honors individuals whose energy, expertise, and active involvement enable the Unidata Program to better serve the geosciences.
- ❖ Dr. Mark Laufersweiler, University of Oklahoma, received the 2008 DeSouza Award during the Users Committee meeting earlier this month.
- ❖ Mark was recognized for efforts and contributions through the years that truly reflect the goals and ideals of the Unidata program.
- ❖ His advocacy on behalf of Unidata tools and data, and his entrainment of dozens of students through that advocacy have provided a robust cadre of new Unidata community members.





# Unidata & 2008 AMS Awards



David Fulker Receives the Cleveland Abbe Award



Rich Clark Receives the Teaching Excellence Award



# Dave Fulker, Director Emeritus

- Former Unidata director, Dave Fulker, has been appointed Unidata Director Emeritus, with approval from the UCAR Board of Trustees.
- Emeritus status is bestowed on people who have provided sustained leadership and impact on the UCAR organization.
- It clearly fits Dave who has served in various capacities within UCAR for over 38 years, including 18 years as the founding director of Unidata. Dave retired in 2005 and has continued to offer his time unselfishly to UCAR.





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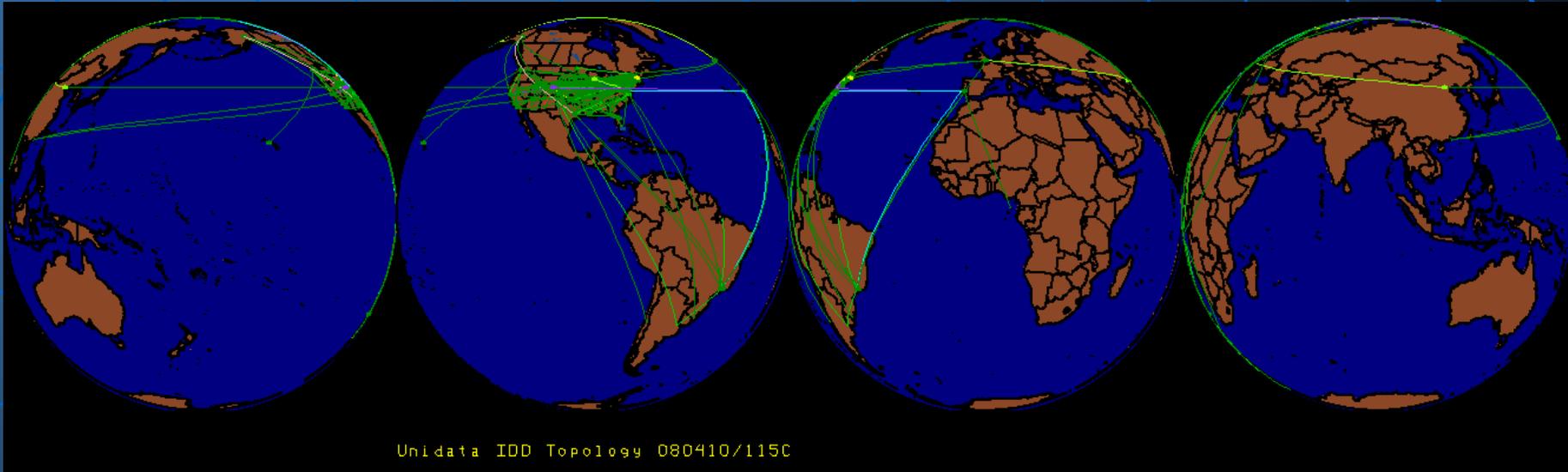
# Staffing Changes

- Steve Chiswell, who provided excellent support for GEMPAK and CONDUIT, left Unidata in January to pursue his scientific interests.
  - A nationwide search for a new person was conducted, but the position remains unfilled at this time. The search was reopened last week.
  - UPC is exploring other options to cover GEMPAK support and the upcoming transition of NAWIPS to AWIPS2. In the meantime, Don, Tom Y. and Jeff W. will continue to provide GEMPAK support.
- Anne Wilson, the developer of the NLDN and TDR, and a co-PI on LEAD, is leaving Unidata on 16 May.
- Dr. Dennis Heimbigner joined UPC in January as a netCDF developer to work on a new NSF-funded project for improving netCDF and OPeNDAP integration.
  - Dennis comes to Unidata from the University of Colorado, where he was involved in research on security, distributed systems, and databases





# Data Flows



- ❖ The number of sites participating in the IDD continues its steady growth. Nearly 500 hosts in 240 unique network domains are running LDM-6 and reporting real time statistics.
- ❖ COSMIC Radio Occultation data is now flowing to universities via the LDM.
  - Nine universities already signed up to receive the data using the LDM
  - Steven Businger: "We are actively working to assimilate the new COSMIC data stream over the data-poor N. Pacific. Once we have some results from that effort, I will share them with you (and COSMIC). This is an important development and I am grateful to Unidata for spearheading it."



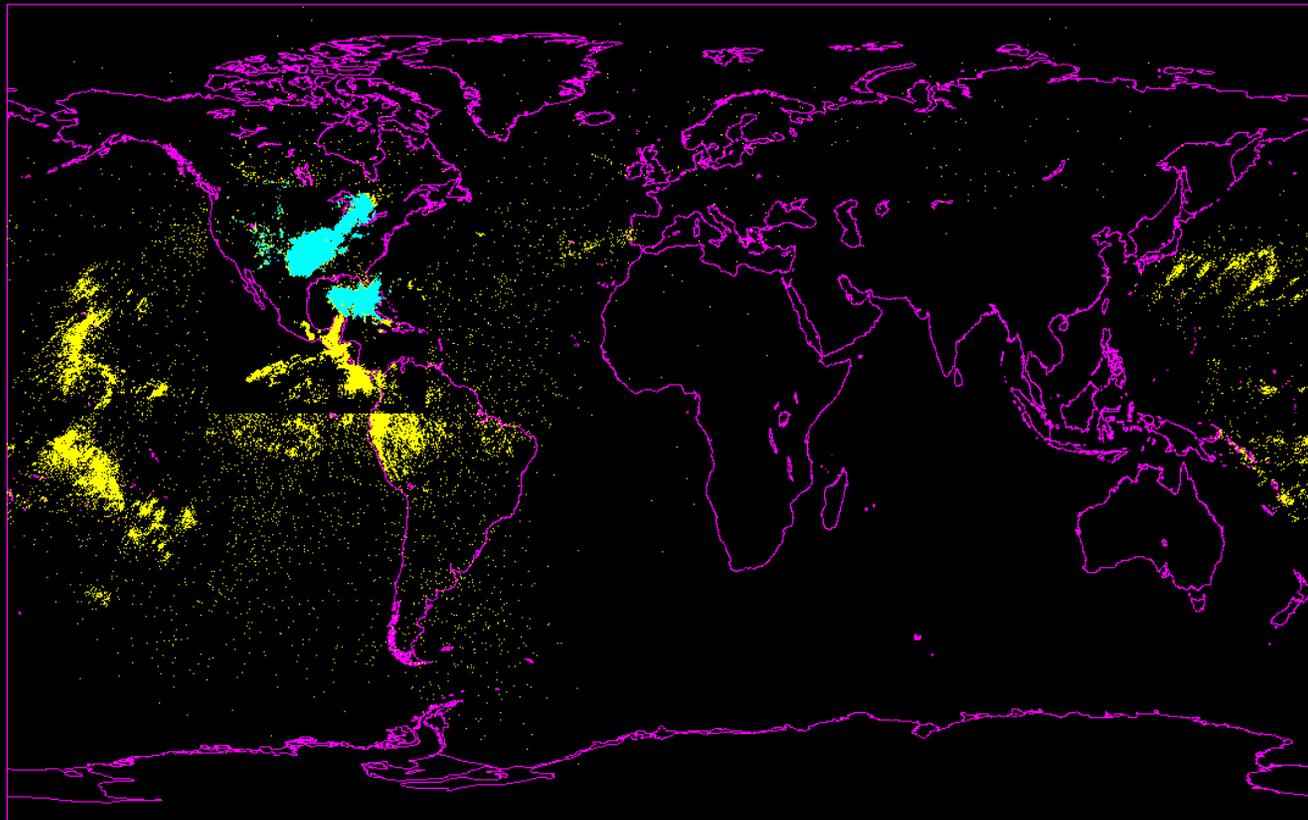
# New Data Streams

- Real-time distribution of USPLN lightning data is in the offing, thanks to efforts spearheaded by Chris Herbster.
- UPC is in discussions with CUAHSI & USGS to access and distribute stream gauge data in near real-time.
- UPC is in discussions with GALEON team and EPA to access and distribute air-quality data in real-time.



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# USPLN-NLDN Composite



ALL FLASH (2942044) 07 Apr 2008/00:00:00 - 10 Apr 2008/17:08:37 UTC  
ALL FLASH (322901) 07 Apr 2008/00:00:12 - 10 Apr 2008/17:11:42 UTC



# NetCDF

- NetCDF-4, the next major upgrade to netCDF, uses the HDF5 format to read and write files through the netCDF API. Benefits include compression, parallel I/O, multiple unlimited dimensions, etc.
- Release planned for June 2008 (delayed by HDF5 v1.8 availability)
- NOAA has recently announced that all GOES-R Level 2 and Level 2+ products will be made available in netCDF-4 format. This is a significant development!



# RAMADDA

## Repository for **A**rchiving, **M**anaging and **A**ccessing **D**iverse **D**Ata)

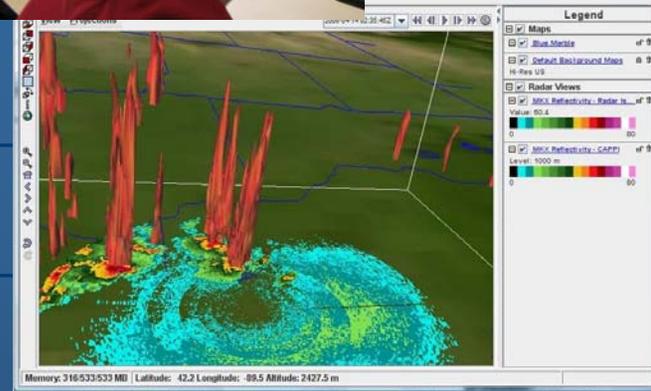
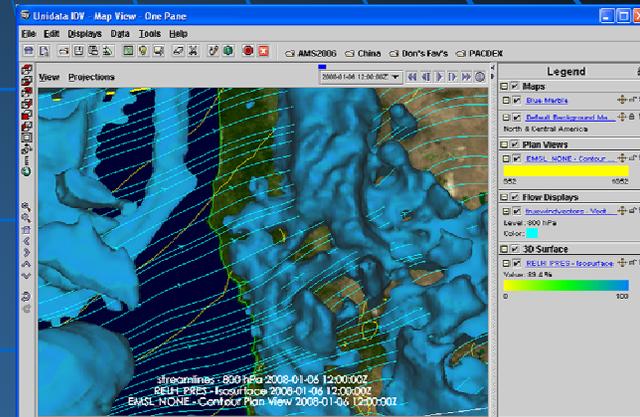
- A is a new effort, spearheaded by Jeff McWhirter, began in December 2007.
- It complements and dovetails with the THREDDS Data Repository effort
- The goal of this project is
  - To provide an open and extensible data repository framework/server. RAMADDA is Java-based and uses a relational database as its underlying metadata storage facility. It has been designed to run both stand-alone as well as running under a Tomcat server.
  - To manage and provide access to an IDD/LDM real time archive.
  - To provide a rich environment to support end users in publishing, organizing and sharing data and other information - a "youtube or flickr for data". Use case
    - Use case: Next-generation, community-centric case studies
  - Embedded in end-user clients (e.g., the Integrated Data Viewer) to provide a richer level of data access services for local disk-based data holdings.
  - Capabilities for supporting field projects during and after the project.



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# Integrated Data Viewer

- ❖ IDV use continues to grow. It now has users in nearly 200 institutions.
- ❖ IDV Version 2.5 was released on 8 May 2008
  - ❖ Support for reading GEMPAK grids
  - ❖ Many GEMPAK grid diagnostics implemented
  - ❖ Support for WSR-88D super-resolution Level III data
- At the University of Wisconsin, a semester-long radar and satellite IDV-centric curriculum is being developed via IDV bundles that can be utilized in future semesters and shared with other interested instructors.



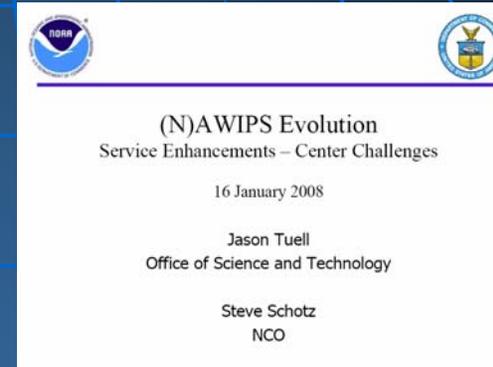
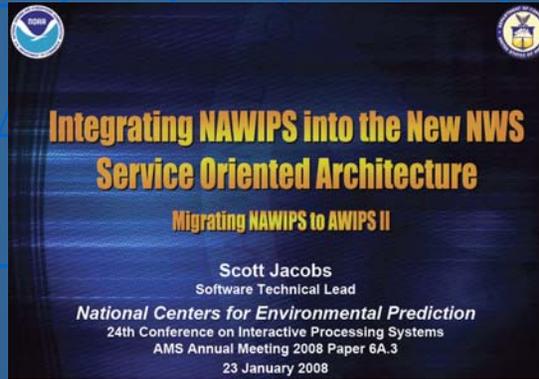
"Overall, our experiences with the IDV in the classroom have been very positive, and student evaluations have consistently credited the IDV as being a crucial, exciting, and practical component of the course."

The 50 dBZ radar reflectivity isosurface overlaid on the base radar reflectivity for a severe hailstorm in Wisconsin



# AWIPS II and N-AWIPS Evolution

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Active development of the current NAWIPS/GEMPAK system will cease in Summer 2008. After that, only routine maintenance (bug fixes, table/map updates as necessary) will occur.

Existing and new NAWIPS development resources will be moved to the AWIPS2 migration.

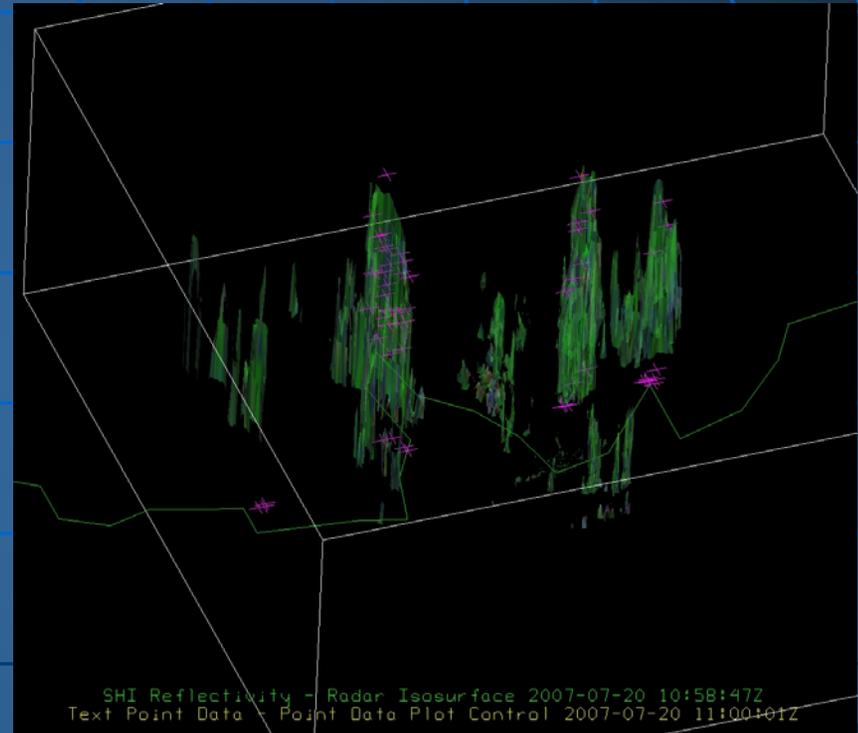
Deployment of NAWIPS functionality in AWIPS2 is planned to be completed in FY11

The migration to AWIPS II has important implications for the Unidata community. UPC staff are working closely with NCEP in tracking AWIPS2 development.



# Collaborations with Shanghai Typhoon Institute

- STI and Unidata will collaborate to design and develop a Tropical Cyclone version of the IDV (TC-IDV)
  - TC-IDV will enhance capabilities of the IDV (diagnostic and visualization functions)
  - Provide an integrated system for TC research and operations
  - Unidata will provide support, training, modifications to IDV framework
  - IDV provided to STI under LPGL





# CONDUIT Update

- A CONDUIT Meeting was held on 23 January 2008 during the AMS Annual Meeting in New Orleans, attended by Unidata staff and people from NCEP, NWS, and one person representing the private sector.
- The meeting was NOT well attended by the university community;
- **Action item 1:** Ask the Unidata Users Committee to take on the responsibility of polling the community for CONDUIT data set input, including deletion of data sets not being used, and addition of new data sets desired for research and education.
- **Action item 2:** Generate usage metrics to enable NCEP, NWS, and Unidata to continue providing the service to the community



Number of sites  
receiving  
CONDUIT  
data: 117



# 2008 *AccessData* Workshop

*April 30- May 3, Portland, OR*



The workshop provides an opportunity for data providers, analysis tool developers, scientists, curriculum developers, and educators to interact with one another in a variety of sessions, all working toward the goal of facilitating the use of data in education.

57 attendees were grouped into teams that include a data provider, analysis tools expert, scientist, curriculum developer, and an educator. Team members will work together to develop an educational module, drawing upon the expertise of individuals in each role on the team.



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# Unidata Regional Workshop at Plymouth State University Lead: Brendon Hoch

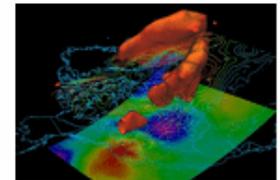
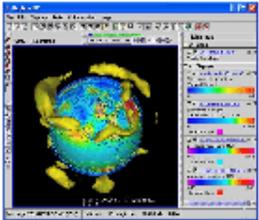


## Unidata Regional Workshop

hosted by

**Plymouth State University  
Judd Gregg Meteorology Institute  
Boyd Science Center  
Plymouth, NH**

**May 18-20, 2008**



This 2½ day workshop will allow for hands on instruction with [Integrated Data Viewer \(IDV\)](#) software. Participants will be a mixture of university faculty and students, research scientists, K-12 teachers, and other interested individuals from across the New England region. Representatives from Unidata will be onsite to provide tutorials on IDV and to discuss other Unidata projects and initiatives.

**The workshop is fully subscribed!!!**



# 2008 Community Equipment Awards

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- ❖ A solicitation was issued to the community in January and advertised at the AMS Annual Meeting
- ❖ We received only four proposals
- ❖ **Themes:**
  - ❖ Further the use of Unidata tools and systems (e.g., THREDDS, NetCDF, IDV, GIS connections) to support education and research on various aspects of climate (e.g., diagnostics, change and impacts), including upgrades to existing classroom and laboratory equipment or procurement of new computers to support climate studies.
  - ❖ Enhance participation and advancement of underrepresented populations in Community and Baccalaureate colleges and minority serving institution.
- ❖ The review panel met on 9 April to rank and recommend funding for the following proposals:
  - Embry-Riddle Aeronautical University, Dr. Christopher G. Herbster – “The Creation of a Community Resource for Weather Case Studies and Innovative Real-Time Weather Data for the IDD”
  - Jackson State University, Loren D. White – “Unidata Equipment Proposal to Upgrade the JSU Meteorology High-Performance Computing Lab”
  - Rutgers, The State University of New Jersey, Steven G. Decker - “Upgrading the Rutgers Weather Center to Meet Today’s Needs”
- Award notifications were mailed out last week.

# State of the Program: A Snapshot

- Community relations : Green
- Data flows : Green
- Software development : Green
- Partnerships : Green
- Staffing : Yellow
- Support : Green
- Finances : Yellow

Questions?