



Unidata

*Providing data services, tools, & cyberinfrastructure leadership
that advance Earth system science, enhance educational opportunities, & broaden participation*

CommunitE-Letter

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John Horel, University of Utah

The original report was submitted in fulfillment of the contractual agreement for Unidata Equipment Award recipients to submit an article detailing their use of funds received. Editor

The Department of Meteorology at the University of Utah has actively participated in the Unidata program in a number of ways since its inception. In 1997, an equipment grant from the National Science Foundation's Unidata Grant Program, provided workstations for our student computer laboratory. However, despite periodic updates, the core infrastructure had become complicated, cumbersome, and obsolete. In addition, installation of new equipment and maintenance of existing equipment had overwhelmed our in-house information technology staff.

Support from the Unidata 2007 Equipment Grant program, now administered by Unidata and renamed the Equipment Award program, provided the spark for a complete redesign of our department's computational infrastructure during the past year. That redesign is leading to a transition from in-house technical support to staff support from the University's Center for High Performance Computing (<http://www.chpc.utah.edu>) for the entire department, including access to and delivery of real-time data. The installation and maintenance of Unidata software by staff unfamiliar with the nuances of LDM and other products has worked better than expected. Due to the broadening of the scope of our efforts from shoring up our real-time data stream to improved computational resources for the department as a whole, some of our target goals for this project remain to be completed this summer. Most critically, a THREDDS data server to provide real-time and retrospective access to surface mesonet observations and surface analyses for the entire Unidata community remains to be completed.

Integrating automated surface observations from as many sources as possible with analysis and forecast model output, as well as satellite and radar imagery, is critical for students to visualize and understand the impacts of weather where it matters, the Earth's surface. Access to surface observations from mesonets is particularly useful for assessing such weather impacts. Although surface mesonet data streams are available via a number of protocols (e.g., web portals, ftp, LDM, OPeNDAP), access to them in IDV remains awkward. There is no THREDDS IDD archive in place to store and provide direct access to the data seamlessly to the Unidata community via IDV. We intend to continue to work towards providing improved access to surface mesonet observations and will update the Unidata community on that effort later.

Not surprisingly, since we delayed buying hardware until winter 2008 and leveraged our purchases as part of a larger order, the purchasing power afforded by the Unidata funds was greatly enhanced. Instead of dual-dual CPUs, we were able to upgrade to dual-quad CPUs with greater memory. A 10-Tbyte disk array specifically intended for real-time data delivery was

purchased in part with Unidata funds along with an additional 40-Tbytes for research and general department use. The new paradigm for our department's computing infrastructure requires migrating from our present met.utah.edu domain to the chpc.utah.edu domain. Transition of all workstations in the student computer laboratory will be completed prior to the Fall 2008 semester. Migration of the real-time servers is underway, including the completed installation of three dual-quad CPUs with specific functions:

- the IDD server, which processes and archives the Unidata data streams to the real-time data archive
- the MesoWest surface mesonet MySQL database server
- the real-time web server for instructional and public service use, including eventual THREDDS data delivery



A new look and feel for our real-time Weather Center with significant improvements at the server level is under development. See <http://weather.utah.edu>

Web delivery of real-time weather data is being significantly improved through a redesign of our web page by CHPC staff. The new home for our real-time weather products is <http://weather.utah.edu> which will include more intuitive access for students and the public to model graphics. The functionality of these web pages should be greatly enhanced by the beginning of Fall 2008 semester.

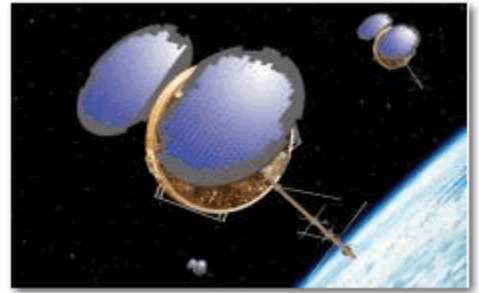
COSMIC Data Access via the Local Data Manager

Ben Cotton, Purdue University Systems Administrator, is enthusiastic about the addition of COSMIC data to Unidata's Internet Data Distribution system.

We announced the availability of COSMIC data in the March CommunitE-letter. You may recall that: "The data provides up to 2,500 radio occultation observations on vertical profiles of atmospheric air density, temperature, and water vapor as well as ionospheric

electron density per day. The spatial/temporal coverage COSMIC offers provides unparalleled spatial and temporal resolution of sounding data." You can read the original article by following this link:

<http://www.unidata.ucar.edu/newsletter/2008mar/index.html#Article2>.



To quote Ben,

"...acquiring the data via the LDM means we can use our existing infrastructure instead of having to set up a new system for retrieving and storing the data. A few quick edits to the LDM configuration files is all it takes to get the data flowing, and since we're just adding another data feed, no additional tasks or resources are needed to maintain and monitor the feed. We're able to provide a whole type of data to our students and instructors at the cost of a few minutes of initial configuration."

At this time he is working with Purdue colleague, Jennifer Haase, who anticipates looking at the COSMIC data profiles with her atmospheric observations class at some future time. She also plans to use it for comparisons with other airborne radio occultation products she's developing.

Ben is willing to discuss his experience with other community members and assist them as they begin the process of downloading the data using the LDM feed for their own or colleagues' use. You may contact Ben at: bcotton@purdue.edu.

New E-mail List

by Linda Miller, Unidata Staff Member

To make it easier for community members to share important announcements, opportunities, and activities with others in the community, Unidata has implemented a Community E-mail list called communityinfo. Examples of activities and opportunities that might be shared are opportunities related to Unidata's mission, AGU and AMS sessions on data and cyberinfrastructure topics or local and regional meetings. As with other topical e-mail lists administered by Unidata, you must be subscribed to the list before you can post. To subscribe go to:

<http://www.unidata.ucar.edu/support/maillinglist/mailling-list-form.html>

We'll continue to send important announcements to the existing all community e-mail list about advocacy matters, newsletters, workshops, software releases, community meetings, equipment awards, and data issues of broad interest. We will also continue to post announcements and open positions to the home page.

We hope that the new communityinfo list will become a valuable vehicle for spreading the word about important issues of interest to the broader community.

Training Workshops



About a month ago, we announced dates for the 2008 Training Workshops on our home page. You can register by using [reg online](#).

The cutoff date for registration is August 29 2008, and September 29 is the last day for return of the fifty dollar registration fee. Sessions are beginning to fill up, so it seems like a good idea to register soon.

For more event details and registration information, please see:

<http://www.unidata.ucar.edu/events/2008TrainingWorkshop/index.html>