

2010 Unidata Equipment Award Final Report

Millersville University was a recipient of a 2010 Unidata Equipment Award, which was used to establish THREDDS and RAMADDA servers covering the thematic areas of boundary layer meteorology and air quality, coastal ocean and Chesapeake Bay studies, and cyber-education initiatives. The awarded funds were used to purchase a Dell PowerEdge R510 server with dual Intel Xeon E5630 quad core 2.26GHz processors, 32 GigaBytes of RAM, and twelve one-TerraByte hard drives. This allowed for establishment of both the THREDDS and RAMADDA servers, as well as an upgrade to the LDM. The THREDDS and RAMADDA servers are both fully operational and are hosting data sets which are available for download by the Unidata community.

The currently available data on the THREDDS server consists of

- Fields from the four times daily runs of the WRF model run at Millersville University for the eastern two thirds of the U.S. The operational MU WRF model uses a grid spacing of 25 km in a 170 x 140 grid centered on central Kentucky. Each run forecasts out to 72 hours. The model is used by the MU weather forecasters in creating local forecasts for the south central Pennsylvania region, and for PennDOT. A few TV stations also use the WRF as an aid in forecasts.
- Boundary layer profile data from the Millersville University acoustic sodar site. The data includes the raw high frequency signal, average profiles of the three wind components and virtual potential temperature, and summary statistics for the period 2008 through present. A student is currently developing thumbnail images for quick perusal of the data in each file. We will continue to stream data to this server during periods when the sodar is operational.
- NEXRADII data, which is ingested by our LDM. These data are made available via the THREDDS catalog for our students' and others to use in IDV.
- COSMIC data: Delivered to MU via our LDM feed, this data is made available via THREDDS for use in IDV.

The RAMADDA server is currently serving the WRF data and the sodar data. Other data sets will be added soon, including the Geopod open-source IDV plug-in currently under development. We are targeting a release date for the plug-in around August 2011. Once the Geopod application is being used by members of the community, the RAMADDA server will become the repository for Geopod missions developed by the community and will be available to faculty. In addition, in summer 2011 we will be conducting and recording a series of demonstrations with Millersville's rotating tanks and uploading these videos to the RAMADDA server. Finally, data obtained from the occasional Rawinsonde launches from MU will be placed on the servers and made available to the community.

The servers are available at:

RAMADDA: <http://twister.millersville.edu:8080/repository>

THREDDS: <http://twister.millersville.edu:8080/thredds/catalog.html>
(point to catalog.xml for access via IDV)