Server and Laptop Upgrade
for
Metropolitan State College - Meteorology Computer Lab

Equipment Award Report
UCAR Subcontract Award No. S03-38811, May 2003
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The Meteorology Program at Metropolitan State College has been a member of the Unidata community and user of Unidata products since in 1989. Prior Unidata Equipment Awards funded most of the Meteorology Computer Lab equipment. This Lab provides access to weather data that are used in every phase of the undergraduate degree program, from large general education courses to senior-level research projects. The computer equipment, particularly the server, was badly outdated and no longer able to meet the Unidata recommended standards for data servers and software applications. With less than 9 GB of storage for data, we were unable to take advantage of new satellite, radar and model products. It was unable to run the Integrated Data Viewer (IDV) because of its incompatibility with the Solaris X86 operating system. Our proposal requested funds to purchase a new server and a Windows-based laptop computer to expand the use of the IDV as classroom demonstration tool.

The equipment award allowed us to purchase a Hewlett-Packard DL360 server with 144GB of storage and a Dell Inspiron 5150, Windows XP laptop with 1GB memory. In response to Unidata's generosity, the College furnished the Lab with seven new Linux workstations, bringing the total number of workstations to ten. The award also prompted a new level of support from the College's Information Technology service, whereby the server will be officially supported in their central server facility and the Meteorology Lab will be the first and only fully supported Linux Lab on campus. InfoTech also installed the College's first 100 mb network connection between the Lab and server, greatly improving network congestion during times of peak demand. The server, workstations and laptop were purchased, installed, tested and configured during the Fall, 2003 and were ready for the start of Spring Semester classes in January, 2004.

While the overall College enrollment continues to increase, the new equipment has had a large impact on our ability to bring students into the Lab. The new server allows us to store and access well over ten times more data than before. All 88D radar sites with more NIDS products per site are enabled, rather than a small subset. The NEXRAD 1km National Composite is coming in. All 1km, 30-minute satellite imagery is now available. MesoETA and MM5 model grids are now being ingested. Selected NEXRAD Level II data are being stored and displayed using the IDV. Its greater processing speed means faster data access, less down time and a better learning environment for students. We have been able to download and store twice the number of COMET cases studies as before. For the first time, we were able to offer a section of Introduction to Atmospheric Sciences during the Summer Semester, 2004 with a fully functional computer lab component. For Fall 2004 the enrollment in the Introductory Forecasting Lab has nearly doubled from last year, and Synoptic Meteorology has a seen an enrollment increase of about 40 percent.

More and more, the Meteorology application of choice is the Unidata IDV. The award also funded a laptop PC with the capability to run the IDV. It is used to allow faculty to learn how to use the IDV and to learn how it can be used as a teaching tool for a variety of classes. Students with their own laptops have been downloading it and exploring its capabilities. Once they are familiar with it, they can download it and run it in their own accounts on the Linux workstations. The long-term plan is to make the IDV the primary analysis and display application, replacing the current GEMPAK/Garp system.