An Expanded Data Storage System for the
Department of Geography and Meteorology at Valparaiso University

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In January 2005 the Valparaiso University Department of Geography and Meteorology (GeoMet) moved into Kallay-Christopher Hall, a new facility with a media classroom, a general classroom, two lab classrooms, a meteorological observation deck, a radiosonde launcher and a weather center. The weather center is the signature space of our new facility. Twenty Sun Ray Thin Clients connected to a Sun server and two Windows server provide our meteorology majors with access to live and archived data via a variety of meteorological software packages in the Weather Center. Key to this computing system is the data server, a Sun StorEdge 3310 Storage Array with 1.7 Terabytes of storage from disks and a tape library, acquired through the Unidata Community Equipment Grant.

The Unidata Equipment Grant came at the perfect time during the final planning and budgeting of the new facility's computing needs. Valparaiso University's Electronic and Information Services worked with GeoMet in designing a computing system that would address the needs of our students, new instrumentation, faculty and student research, data archiving and teaching. We also had to consider how to handle not only an increase of data into our system, but out of our system to the community with the implementation of the radiosonde launching system, meteorological observation tower and 5-cm dual-polarization Doppler radar (Fall 2006). The Unidata Equipment Grant allowed us to maximize our computing power, substantially increase our archive capability, increase our real-time data acquisition and prepare for the future influx of radar data.

Our previous weather center consisted of six PCs and two Sun workstations serving over 100 meteorology majors. We had 50 GB of available storage for data with which we were able to access surface and upper air data for the past week, radar data from nearby stations for two days, satellite images for two days, and model output from three or four models for two days, with no archive capabilities. In comparison, our data ingestion now seems limitless, our students have access to over a dozen model forecasts. We actively archive surface and upper air data. Our data storage capacity allows us to easily keep a week of satellite and radar data (with the ability to archive special events). We have recently begun to ingest Level II radar data for use with IDV. The NCEP-NCAR Reanalysis CD-ROMs have been copied to our server for easy access.

The fall 2005 semester has several classes taking full advantage of

the weather center. The first Synoptics Lab was filled with seniors using GEMPAK and McIDAS products to prepare their forecast discussions. The increased number of computer terminals has allowed freshmen to feel welcome to wander in and try out the software products. Later this fall we will begin radiosonde launches. All launch data will be archived on the data server and shared via the LDM and the internet. In fall 2006 we should begin transmission of output from the 5-cm dual-polarization Doppler radar. Again, we plan to archive as much data as possible on our Unidata Equipment Grant funded data server, and, more importantly, share this data with the community via the LDM and the internet via our Sun server.