Deployment of AWIPS-II at the University of Wisconsin-Milwaukee
Final Report, Clark Evans (evans36@uwm.edu), 19 May 2016

Thanks to generous financial support provided by Unidata in summer 2015, the University of Wisconsin-Milwaukee Atmospheric Science Program purchased one Dell PowerEdge T430 server to serve as an AWIPS-II EDEX Data Server and three Dell Precision T1700 workstations to serve as AWIPS-II CAVE clients. After configuration, these machines were deployed in our Atmospheric Science computer lab in mid-August 2015, just prior to the start of the 2015-16 academic year. Over the past year, our program has seen maximum benefit from these resources in two areas: strengthening our partnership with the Milwaukee/Sullivan, Wisconsin National Weather Service Weather Forecast Office (MKX) and as a tool to enhance student development outside of a formal classroom setting.

Historically, our program has had a strong working relationship with NWS WFO MKX that has included research collaborations, student internship placement, and the StormReady program. The deployment of AWIPS-II EDEX and CAVE has only strengthened that relationship. To that end, in mid-October 2015, MKX Warning Coordination Meteorologist Tim Halbach and Meteorologist Intern Ben Herzog visited our program and provided an approximately two hour AWIPS-II CAVE Demonstration to a group of students, instructors, and faculty. (**Figure 1**) Since then, we have been working with Jerry Wiedenfeld from MKX to localize our AWIPS-II deployment to WFO MKX.

Perhaps more important, however, is the enhanced facilitation of student development fostered by the new equipment. This is particularly beneficial to a program such as ours, where ~20% of our undergraduates and ~35% of our graduate students gain employment with the National Weather Service after graduation. Of particular note, during the Spring 2016 semester, a senior undergraduate student interested in National Weather Service employment, Alec Muniz, completed a Capstone experience under the supervision of Prof. Clark Evans related to using AWIPS-II. Beyond an increased familiarity with and ability to use AWIPS-II CAVE, Alec prepared a comprehensive "Introduction to AWIPS-II" training module, covering D2D, Nsharp, GFE, and WarnGen. He used this module to train one of our senior lecturers, Bart Adrian, in the use of AWIPS-II CAVE (**Figure 2**), furthering the culture of servant leadership that we attempt to have permeate our program. The module itself resides in the cloud, where all students and faculty have access to learn from, add to, and revise the information therein. Believing that the entire Unidata community may benefit from this effort, we are pleased to share this module with this report.

Over the course of the next year, we intend to deploy the Mac OS and Windows AWIPS-II CAVE binaries on the machines within our Atmospheric Science computer lab and at our Innovative Weather program's headquarters, respectively. The former will enable for a larger number of students at a time to make use of AWIPS-II, which otherwise would serve as an impediment to our program's utilization of AWIPS-II within course offerings such as Atm Sci 690, Daily Weather Discussion, and Atm Sci 360/361, our Synoptic Meteorology I/II sequence. The latter will allow for students to gain experience utilizing AWIPS-II CAVE in a real-world forecasting operation much like that which they would experience as operational forecasters with the National Weather Service.

Figure 1: NWS MKX Meteorologist Intern Ben Herzog (center-right) leads an AWIPS-II demonstration for a group of students, instructors, and faculty in the UW-Milwaukee Atmospheric Science computer lab.

Figure 2: Undergraduate student Alec Muniz (left) steps senior lecturer Bart Adrian (right) through the process of loading and interpreting NUCAPS-derived soundings in the AWIPS-II CAVE Nsharp environment.