

AFPS Quarterly Report FY93 Q3: April - June 1993

1. Introduction

The AWIPS Forecast Preparation System (AFPS) is being developed by the Enhanced Forecaster Tools Branch of the Forecast Systems Laboratory (FSL) Modernization Division and some of the staff of the Techniques Development Laboratory (TDL).

As in previous reports, only FSL work is reported herein. Information on TDL's work is included in the TDL Quarterly Report. The use of "we" below refers to FSL staff.

David Leserman has left our project to become the technical lead of the newly-combined DARE and FX work, known as FX-ALPHA (FSL X Window System AWIPS-Like Prototype for Hydrometeorological Applications). Sue Young and Mark Mathewson are now sharing the major design duties. Jennifer Longstaff, formerly of the Advanced Development Facility branch, has joined the AFPS team.

2. Accomplishments

The highlight of our work this quarter was the completion of our AFPS Level 0 prototype. This first experience with object-oriented design and C++ coding was a big success, and featured an almost effortless integration of the code developed by our staff of six programmers. We presented an FSL Technical Review of our project in mid-April, and demonstrated the prototype then. Documentation was complete by the end of April, and we have now begun work on the Level 1 prototype. Key design features of this next prototype are database locking, communication between multiple windows and multiple workstations, addition of temporal presentations, and preparation of a full suite of editing tools.

Also:

- We revised our Data Requirements document. Additional information on initialization and derivation of weather elements is now included, as well as a description of map projections and coordinate systems.
- Distribution of our development plan (the "Yellow Book") has been delayed by the publication process. It has been reviewed by an ERL Technical Editor, and will be printed and distributed to all NWS offices (WSFOs, WSOs, RFCs, ROs, etc.) after final editorial changes are made.
- We have been investigating bounded area (weather bubble) concepts, time interpolation of gridded data, and time series editing.

- A transition plan has been prepared, describing how we will use the GDP (Government Development Platform) Hewlett Packard computers. Four HP-730 workstations and one HP-700 X terminal have been ordered, and should be delivered in July.
- We prepared a questionnaire for the AFWG members on some aspects of our Graphical Forecast Editor plans.
- We worked with TDL to get some ICWF grids put in a form compatible with our prototype database, and successfully shipped them from Silver Spring to Boulder and displayed them.
- We prepared a White Paper on our C++ experience for the Advanced Data and Dissemination Laboratory (ADDL) and AWIPS Program Office (APO).
- We submitted an abstract for next January's IIPS conference in Nashville. We will demonstrate our prototype (which will by then be running on an HP workstation) and discuss forecaster use of our GFE tools.

3. Presentations/Visitors/Travel

Several visitors to FSL came by our offices for an overview of our project. This included groups from the APO, NWS headquarters, the Taiwan Central Weather Bureau (two groups), and the Swedish Meteorological and Hydrological Institute.

Mark McCloy, head of the APO, and Hank Schmidt and Naba Barkakati of ADDL visited in April and June, respectively. A significant topic of conversation in both cases was our use of C++.

As noted above, we presented a two-hour FSL Technical Review. All of our staff participated in the presentations.

Jennifer Longstaff participated in a visit to PRC (the AWIPS contractor) to investigate and discuss the Open Developers Workbench (DWB). She helped write the evaluation report.

Sue Young attended InterCHI (the International Computer-Human Interface conference) in April.

Also in April, Bob Mayer went to ObjectExpo in New York. He attended a number of lectures on C++.

4. Plans for the next quarter

We will continue work on our Level 1 prototype. We plan to add new spatial editing tools (move area, add and delete contours), to implement the distributed database, and to develop an initial time series display. Additionally, we will make a number of changes to the user interface.

As noted, we expect to take delivery of our first HP workstations in July. These and additional systems to be ordered will allow us to move our development work from our current Sun platform. Most of our software will run on the HPs, but we need to convert to a new graphics system. We considered PHIGS, a standard, but it puts unacceptable limits on the number of windows that can be opened. We must decide whether to choose a commercial but portable system or use HP Starbase, which is AWIPS-compatible but limits our ability to provide our editors to other groups in FSL. We also are looking into a replacement for our C++ development environment, since ObjectWorks is not available for HP systems.

In late July, Mark Mathewson and Joe Wakefield will travel to Silver Spring for an OSD (NWS Office of Systems Development) presentation, and to talk with TDL staff about development issues.

At February's AFWG meeting, we tentatively set our next meeting for September. No further plans have been made at this point.