

2001-2002 Project Plan For Robert Rozumalski

SOO/STRC WEB AND FTP SITES

The SOO/STRC web and ftp sites will continue to be maintained and updated through 2002. Current plans for development include the release of an on-line SOO survey (September 2001), a SOO Modeling Resource Center (SOO/MRC), and the inclusion of the SOO Training Resource Center (SOO/TRC). Additions to the SOO/STRC web site will be made as necessary.

The SOO Modeling Resource Center is scheduled for mid-2002 and will combine the SOO/STRC WS Eta resources with the new community Weather Research and Forecasting Model support planned for 2002. The SOO/MRC will include information and guidance on local area and operational models, along with links to current research projects utilizing weather forecast models.

In Review: The survey was released in October 2001 with 103 offices responding. The SOO/TRC was integrated into the SOO/STRC in late 2001. The SOO/WES resource center was released in January 2002 and is under continued development. Additional updates to the SOO/STRC included the NCEP model data inventory as well as STRC software (modsnd and Gribmaster) sections. The STRC search engine was also brought on-line allowing users to search mail archives from the soo_wes, soo_strc, all_soo, and soo_talk mail lists. The SOO/MRC was delayed until 2003.

SOO/STRC DATA ARCHIVE

Currently, a 7-day running archive of all operational Eta model runs on the 40 km experimental (non-operational) 212 grid is maintained on the SOO/STRC ftp site. The dataset is intended for use by NWS SOOs and forecasters, and to support the COMET case study database. These grids are superior to the operational data received locally at WFOs due to the increased temporal (3 vs. 6 hourly) and spatial (40 vs. 90km in the horizontal 25 vs. 50mb in the vertical) resolution. Furthermore, these datasets contain many fields that are not part of the operational data feed, such as soil moisture and precipitation type. Consequently, these datasets are ideally suited for case study and modeling uses.

The current archive will be expanded to include the operational Eta model runs on the 32km, 221 grid and 90km 104 grid. Additional consideration will be given for the inclusion of operational AVN data, provided there is enough disk space available locally to accommodate the large dataset.

In Review: The SOO/STRC data archive was expanded in January 2002 to include 4xdaily operational model forecast grids on the 90km 104 and 32km 221 grids in grib format. In addition, the archive was expanded to include operational Eta model sounding files in BUFR format, to support the SOO/STRC modsnd software. The archive has been extended to a running 10-day repository available through the SOO/STRC ftp server. Older data are now backed up to 4.7GB DVDs, 2 days per disk, to fill requests by both forecasters and SOOs.

A 7-day running archive of all operational AWIPS data was initiated during early 2002. These data are accessible in real-time through the SOO/STRC ftp server. The purpose of the archive was to support WFO and COMET WES case study efforts. Due to the large volume of collected, these data are not saved to DVD for permanent storage.

NAWIPS/GEMPAK

NAWIPS consists of a suite of software programs, including GEMPAK, GARP, NSHARP, NSAT, NMAP, NMAP2, and NTRANS, which continues to be the most frequently used software for the manipulation and display of metrological data in the non-operational environment. Most SOOs are familiar with the package and continue to use it on a semi-regular basis. This use is due, in part, to functionality that is not available in AWIPS and an overall familiarity with the software. Consequently, NAWIPS will continue to be supported through 2002. Support includes help with installation and using, as well as compiling new binary distributions for LINUX and HPUX as new versions are released by NCEP.

In Review: NAWIPS version 5.6.c, 5.6.e, 5.6.f were released in November 2001, April 2002, and June 2003 respectively. NAWIPS support was maintained throughout 2002.

Local Area Modeling Efforts

SOO/STRC WS ETA

Support for the local area modeling package, which includes providing assistance with installation, configuration, and running the WS Eta for both real-time and case study mode will continue through the end of 2002. In addition, the package will be upgraded as new versions are released by NCEP. Binary distributions for HPUX and LINUX operating systems will be created for those offices without local compiler resources.

It is anticipated that a software package for the verification of precipitation forecasts will be made available during 2002. This software will allow offices

to verify WS Eta model precipitation forecasts against operational forecasts and observational analyses.

In Review: Support for the SOO/STRC WS Eta was maintained through 2002. The 2001 SOO/STRC survey indicated that approximately 50-60% of the forecast offices have installed and used the model, while 20-25% use the model guidance operationally. Based upon support requests, it is believed that the number of uses has continued to grow during 2002.

WEATHER RESEARCH AND FORECASTING MODEL

In early 2002, the SOO STRC Coordinator will begin support for the new community Weather Research and Forecast (WRF) model. The WRF model is scheduled to be the eventual successor to the operational and workstation versions of the Eta Model and its introduction should dovetail well with the growing local modeling efforts at NWS WFOs. Development of the SOO/STRC WRF modeling package will be similar to that of the WS Eta with user-friendly documentation and install procedures. In addition, binary distributions will be provided for those offices without compilers.

In Review: support for the WRF has been delayed until late 2003 due to the lack of resources (time) and the official release not being at a point that it can be easily maintained and supported. The SOO STRC is participating in the development of a training plan for the WRF training working group.

SOO/STRC Modeling Service

Beginning in early 2002, NWS SOOS will be able to request high resolution model runs from either the WS Eta or the WRF model for their local training and research needs. These model runs will be configured with help from the SOO STRC Coordinator and run locally at COMET. This service is intended for those offices that do not have the local knowledge or computer power to run a mesoscale model but still need the data for local studies.

In Review: The SOO/STRC modeling services have been extended to classroom activities, workshops and SOOs during 2002. It is estimated that 10-12 requests for model runs have been filled during the past year.

NWS DRT/WES

Support for the NWS Displaced Real-Time/Warning Environment Simulator (DRT/WES) will be limited to assisting Liz Page in the release of AWIPS case studies and providing support to the field on case study installation. Assistance will also be provided for troubleshooting problems with the DRT workstation. DRT/WES information and resources will be posted on the SOO/STRC as necessary.

2 areas of testing and evaluation are scheduled for completion by fall 2001:

1. Dual monitor configuration and testing.
2. Dual-head video card testing and evaluation.

In Review: Ugh, too much too list. Hardware testing and support was provided throughout much of 2002. Numerous WES support material were published on the SOO/STRC throughout 2002. The SOO STRC was available for troubleshooting WES-related hardware and software problems. The SOO STRC collaborated with almost Dr. Page in WES teletraining sessions and the release of NWS/COMET case studies and training guides.

LINUX AND HPUX SUPPORT

The SOO STRC coordinator will continue hardware, software, and administration support for HP and LINUX workstations. In addition to assistance received via email and phone, SOOs and ESAs can take advantage of the web support materials that will continue to be updated as part of the SOO/STRC. The HPUX software support contract with HP for the SAC should be maintained through 2002.

In Review: Support was provided as needed during 2002.

LINUX D3D

Support for installing and running Display 3-Dimensions (D3D) for LINUX workstations will begin during the Fall 2001. D3D was developed at the University of Wisconsin and Forecast Systems Labs (FSL) to be the 3-D compliment to D2D. D3D will allow offices to view NetCDF grid and point data on multi dimensional surfaces using a non-operational LINUX workstation. The SOO STRC coordinator will be distributing the software via the SOO/STRC ftp site and additional resources are to be posted on the SOO/STRC.

In Review: D3D Support delayed until 2003 due to a lack of resources.

COMAP SUPPORT

The SOO STRC Coordinator will play an integral, yet-to-be-determined role in the NWS/COMET COMAP class scheduled for 6 May - 21 June 2002. Some of the possible topics include local area modeling and mesoscale dynamics.

In Review: The SOO STRC participated as a guest instructor during the June 2002 COMAP course at COMET. Talks on the SOO STRC program and local area modeling were presented along with a 2-day modeling exercise, all of which were very well received. Nonetheless I had hoped to play a more prominent role in the 2002 COMAP course; however, my requests were not answered.

SCIENTIFIC SUPPORT

The SOO STRC Coordinator will continue to provide scientific support to the NWS SOOs.

In Review: Support was provided as needed during 2002

ADDENDUM

In addition to those above, the SOO STRC accomplished the following during 2002:

Software releases:

Modsnd 2002: Modsnd is a software package used by NWS WFOs for downloading and processing operational model sounding data in BUFR format for display in either BUFKIT or NSHARP. The development and release was necessitated by a number of factors including a change to the available model data sets and a location of the NCEP data servers. Accompanying the software release was complete on-line documentation and BUFR station locator maps. The original source code was completely rewritten to accommodate the new 8km high-resolution Eta runs, the 20km RUC, the new AVN data, and the Workstation Eta BUFR files. Total development time was about 2 months.

Gribmaster: A new version of Gribmaster was released at the request of Southern Region to address the changes in model data sets and operational data servers. Gribmaster allows NWS WFOs to download and process full resolution non-operational NCEP data sets from the NCEP and OOS ftp servers. The previous version of the software reflected the state of the data and servers in 1997, so significant changes were made to accommodate recent changes. Accompanying the software release was complete on-line documentation and a guide to the non-operational model. Total development time was about 5 weeks.

WS Eta: The SOO STRC began development of the SOO/STRC WS Eta Version 3.0 in August 2002. Development is expected to continue until

October 2002 before release. Please see the project plan for 2002-2003 for more details.

Hardware, software, and system support:

The SOO STRC support and maintains 4 workstations running 5 different versions of operating systems. This is necessary to mirror those systems in the field for troubleshooting purposes. Occasional hardware failures and upgrades along with software upgrades and patches took time away from other support activities.

Training, seminars, workshops, and assorted presentations

The SOO STRC presented attended the following seminars during 2002:

- 1. Western Management Development Center - Leadership Potential Seminar (2 weeks).*
- 2. Southern Region SOO Conference*
- 3. Eastern Region SOO Conference*
- 4. Western Region SOO/DOH Workshop*
- 5. COMAP Symposium*
- 6. WDTB Winter Weather Workshop*