

June 23, 2005 NOAA/NWS Partners' Meeting - Breakout Session Notes

Observations and Surface Weather - Mike Campbell/Jim O'Sullivan

First session – attended by:

John Lasley, SAIC

Jim Giraytys – SHENAIR Institute at James Madison University

Andrew Stern - FHWA

Paul Pisano – Federal Highway Administration

Ed Johnson - SP

Potential Topics to Discuss:

NOAA Surface Weather

- FY07 plans

Observations

- GEOSS
- USIEOS – US component to GEOSS
- Complementary networks
- Metadata
- Latency issues

Comments:

Jim – Noted a deficiency in meteorological observing systems in the Shenandoah Valley. The SHENAIR Project is trying to bring Syracuse wind profiler to Shenandoah Valley. The project will study air pollution issues and proposes to study the impacts of expanding Interstate-81 from four to eight (in some places, 12 lanes). This has a large effect on air quality in the valley. Budget for SHENAIR next year is \$1.7M – focus on infrastructure. Mike Campbell expressed NOAA/NWS interest in partnering with the SHENAIR Project to efficiently utilize data that may be of value to several programs and projects. The SHENAIR domain extends from the Potomac River south to the headwaters of the Shenandoah River (Augusta County, VA). It extends north to Berkeley and Jefferson Counties in WV.

Mike C. – UrbanNet - data management system tied into DHS. The goal, in coordination with NOAA's Surface Weather Program, is to consolidate all available real-time data (AWOS, Road Weather Information Systems, etc.).

John requested more information on GEOSS. Mike responded that NOAA has ISOS, IUOS, IOOS components. These components, when integrated, for the U.S. Integrated Earth Observing System, the U.S. contribution to GEOSS. The PBA for ISOS has been submitted for FY08. NIDIS, Surface Weather, Coastal Inundation (from three of four NOAA Goal Teams) were used as examples of early opportunities for ISOS. Satellite services spreads across all three (IOOS, IUOS and ISOS) components.

A status report on NERON was requested. NERON, NOAA's Environmental Real-Time Observing Network, was submitted as a NOAA Program for the FY07 budget cycle. NOAA then requested a cost and operational effectiveness analysis to determine if NERON would become a formal NOAA Program. NWS is currently funding NERON, but at a pace that is slow and such that O&M costs will outweigh implementation costs. Less than 100 sites currently installed. Efforts are also underway to integrate state networks into NERON..

Andrew – Message from research community for Surface transportation:

1. Provide hourly model output (precipitation start times/NAM) out to 24 hours – currently every three hours. Interpolation/Extrapolation not working well.
2. Spatial resolution – resolve features on road scales. 5 km desired, but less than 10 km.
3. ASOS data – request for 1-min high resolution data. Used for validation and forward corrections to models. Data quality not very good.
4. Winter precipitation - Measurements are a problem, especially water-equivalent. We also don't know how much snow falls on roads. Mike C. - Improving the forecast accuracy of freezing and frozen precipitation onset and end times is a performance measure of the NOAA Surface Weather Program. Once automated snowfall/snow depth sensors are available, they also could be used on Road Weather Information Systems.
5. Solar insolation – models do not have a good solution for predicting this. Throws heat balance off and ability to predict road surface temperature. Maintenance issues with these sensors. Continuing research issue.

New Ridge radar display – good! Need to discuss what roads should be on the display. Currently out for comment. FHWA requests that county lines be depicted with more contrast. Lots of comments, mostly positive. Negative issue (slow delivery) with dial-up access. Query regarding Section 508 compliance. FHWA request to add velocity/SRM.

Second session – attended by:

Kathleen Strebe (TWC), Fred Branski (NOAA), Michael Sager (AccuWeather), Ian Miller (TWC), Lasley, Pisano, Stern, Barry Reichenbaugh and Curtis Carey (COM), Tim Ecker (DTN), Clay Anderson (WRC4), Dennis McCarthy (OS)

MADIS –Customer brought up issue with latency with MADIS observations. When asked to clarify types of observations and quantify latency, customer could not provide specifics. Mike Campbell indicated that MADIS currently processes approximately 17,000 observations per hour and will process 50,000 observations per hour in the next two to three years when it becomes operational at the NWS Telecommunications Gateway. Once MADIS is operational (as part of NOAA's Surface Weather Program), the frequency of receipt and data throughput times will increase. With the ingest of many types of (and levels of quality) observations, MADIS relies heavily on metadata for customers to assess the utility of the data for their applications.

MADIS currently leverages several types of automated quality control methods utilizing internal and external data checks, the use of remote sensing data (satellite, profiler, radar, etc.) and model data to provide quality observations. Additionally, the transition of MADIS to operations will take a best practices approach to quality and implement quality control and quality assurance methods resulting from research funding in the NERON.

Private sector access to ASOS one-and five-minute observations – the NWS is working with the U.S. Navy to investigate the feasibility of displaying one-minute data as a web display. The operational use of five-minute data is less than 2 years away. ASOS Program Office is implementing. Fred Branski noted that an important issue is infrastructure to get real-time data (2/3 of systems are owned by FAA and use FAA line – cannot handle one-minute data currently (neither can NWS)). However, if the necessary ports are available in FAA, NWS and DOD systems (precluding the need for dissemination over existing communications infrastructure), the web display idea can be pursued. Data formats were briefly discussed. What data format(s) should be used in? BUFR, XML, NetCDF, etc. Will there be WMO standardization of legacy formats? This is an important issue regarding the utility of data provided by NOAA. There is much interest and knowledge of this issue in the private sector.

Quality of ASOS data – efforts to improve? Lots of work ongoing. Big one is snowfall/water equivalent/ice accretion/snow depth. FHWA asked, “How do you shield the sensor?” Mike Campbell noted there are research efforts underway regarding automated snowfall/snow depth measurement – instruments needed not only for ASOS but for use in climate and surface transportation support.

Why aren't folks “babysitting” ASOS sites not augmenting observations (like report snow depth/water equivalent)? Mike Campbell explained that certain ASOSs (at large airports) are augmented by human observers. He also stated that the NWS has a ‘Snowpaid Program’ to support climate requirements at ASOS LCD (local climatological data) sites. Observers are paid to take up to five observations/day (synoptic observations). ASOS was originally designed to meet aviation observation requirements and is now serving the climate community. Climate inter-comparisons are planned for several ASOS sensors, the first being dew point sensors.

Severe Weather Breakout Session – Mark Tew

Overview: Mark presented a few slides on the VTEC milestones, product statistics and warning-by polygon. The vast majority of customer feedback in these areas was extremely positive.

Session 1:

Question: Why were this week's FFA and WCN numbers low?

Answer: There was a backup test of the FFA which had problems. The WCN issue was a result of the forecaster making an illegal operation.

Question: Where should the warning by polygon program go? Should it be grids?

Answer: Some customers want data for use in GIS applications but county-based is how all warnings are still disseminated. Need to be able to disseminate same information in multiple ways – this is where private sector really comes in.

Question: VTEC pairs with this WBP concept when multiple polygons in a county
But how does this work with radio/non-visual media?

Answer: No answers yet.

- NWR is being upgraded to handle much of the upcoming technology (GIS)
- SBIR NWR with GIS capability – looking for funding

Question: What if there were 2 warning products – text and hi-res digital display of warning area?

Answer: Something to investigate.

Session 2:

- Customers are using headlines to QC VTEC – it is a fallback
- Want to see update WOU as soon as they are ready
- TWC will be decoding the CWF/NSH VTEC for their use
- WBP not conducive for radio broadcasts

Question: Where can private sector go for information on NWS plans for GIS?

Answer: **ACTION – OSP to gather data and consolidate for external use (NWS GIS game plan).**

**Digital Services Planning/GIS/XML Partnership Planning sessions – Glenn Austin
Summary and Action Items**

Two 40 minute sessions entitled Digital Services Planning/GIS/XML were held during the second half of the NWS Partners meeting. Glenn Austin, the NWS Digital Services Program Manager, facilitated the session, and was supported by Chris Alex of his staff and Bob Bunge of the NWS Office of the Chief Information Officer.

First session participants:

- Steven Smith – AccuWeather
- Mike Mazzella - SAIC
- Mohan Ramamurthy – UNIDATA
- Linda Miller – UNIDATA
- Scott Brunza – Sonalysts, Inc.
- Ian Miller – Weather Channel
- Harry McWreath – DOI – USGS
- JT Johnson – Weather Decision Technologies, Inc.
- Dana Irvin – Avtec Systems, Inc.
- Joel Martin – The University of Oklahoma
- Micah Wengren and Mike Allard - NOS Coast Survey

Second session participants:

- Chad Johnson – Weather Central Inc.
- Mark Hoekzema – WeatherBug
- Joe Witte – WJLA - TV (ABC affiliate – Washington, DC)
- Jim Giraytys – SHENAIR Institute

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Summary of the discussion and actions:

Glenn polled the Partners to see if they are using the NDFD data, and if so, in which format (ftp, XML, graphics). Several companies are downloading the GRIB2 files via the ftp server; some companies are evaluating the data internally and others are using the data operationally and distributing it to their customers. A common theme in both sessions was the need for data access via traditional dissemination methods and more efficient data exchange.

UNIDATA proposed working together with NWS to investigate using their systems to disseminate NDFD data to the academic community (and other users of UNIDATA systems).

Digital Services ACTION #1: Initiate a discussion with UNIDATA regarding the possibility of distributing NDFD data via Local Data Manager (LDM) and/or Internet Data Distribution (IDD).

ASSIGNED TO: OCIO

DUE DATE: provide an update July 29, 2005

STATUS: Open

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Three Partners (Sonalyst, Weather Decision Technologies, and Weather Central) asked if NWS has plans to disseminate NDFD data via NOAAPort. If it is not feasible to provide the NDFD grids via NOAAPort, another option may be to distribute the data using UNIDATA's systems (see Digital Services ACTION #1, above). Deirdre Jones of the Office of Science and Technology mentioned another possible option in the future might be a proposed new capability in AWIPS for WFOs to "register" for the data they want to receive. Perhaps that capability, when it is developed, could be applied to external data distribution as well.

Digital Services ACTION #2: The Digital Services staff of the Office of Climate, Water, and Weather Services will discuss options to push NDFD data to external users via traditional dissemination methods with the appropriate people and provide a status report to the NWS Partners.

ASSIGNED TO: OCWWS

DUE DATE: provide an update July 29, 2005

STATUS: Open

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The Weather Channel representative asked if NWS plans to upgrade the XML via web service from experimental status to operational and if so, in what timeframe.

Digital Services ACTION #3: Develop and provide to the NWS Partners a timeline and plan for making the currently experimental XML feed of NDFD data operational.

ASSIGNED TO: OCIO

DUE DATE: provide an update July 29, 2005

STATUS: Open

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Several Partners asked about NWS' plans to make additional data available in GIS and how they can stay informed about NWS' plans. Bob Bunge of the Office of the Chief Information Officer is developing a web page which inventories *current* GIS-compatible information available from the NWS. He expects this page will be posted a week or so after the June 2005 NWS Partners meeting. No long-term plan for GIS development within NWS currently exists. The product and services tracking data base described in the new NWS Instruction 1-1001, "[Tracking and Public Notification of Proposed Changes to NWS Information Systems](#)", is a resource for staying abreast on future NWS products, including anything related to GIS.

Digital Services ACTION #4: Send the URL to the Partners and notify the Partners when the URL is activated.

ASSIGNED TO: OCIO

UPDATE: The URL for the current inventory of GIS-compatible NWS data is: <http://mi.nws.noaa.gov/gis/>. This page is online as of June 28, 2005.

STATUS: Closed

Several Partners mentioned they are struggling with the volume of NDFD data. One asked what efforts are being made to provide a “delta feed” (changes since the last forecast). The NWS considered implementing “delta grids” two years ago, but the priority was not high enough to develop. NWS has no current plan to develop “delta grids”.