

NCEP Quarterly Newsletter - June 2013

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Weather and Climate Operational Supercomputing System Transition

NCEP continues to stay ahead of schedule on the transition of operations to the new Weather and Climate Operational Supercomputing System (**WCOSS**) system. The operational transition date is July 16, six weeks earlier than the originally scheduled date. All network links providing the required operational connectivity are now in place and all software originally scheduled for migration has been delivered, installed and configured on both **WCOSS** systems. The first live test was run on June 25 and was successful with only minor issues identified and resolved prior to a 2nd scheduled live test in July. Final model suite tuning to meet scheduled delivery times continues and system failover testing has begun. Products continue to be posted to a parallel **NCEP** FTP server and to a parallel version of the **Model Analysis and Guidance (MAG)** website for customers to perform evaluation and comparison with the CCS output.



IBM iDataPlex Supercomputer

Service Center Activities

Partnership with Environment Canada

The Aviation Weather Center (**AWC**) hosted visitors from the Canadian Aviation Weather Programs for two days of meetings in early June. The Canadian visitors were Marion Oullet, Head of the Aviation Program at Environment Canada, Serge Dsormeaux, Manager of the Canadian Meteorological Aviation Center -- East (CMAC-E), and Alister Ling, Senior Development Meteorologist from the Canadian Meteorological Aviation Center -- West (CMAC-W). Many other meteorologists and forecasters from both the **AWC** and Canada participated via conference call and online meetings.



Figure 1. The Canadian contingency briefs AWC managers in the Aviation Weather Testbed at AWC.

This two day meeting was held to kick-start continued collaboration and sharing between the [AWC](#) and the two Canadian aviation weather centers. Each center gave an overview of their current operational and experimental states. It was surprising how similar the centers are in operations and challenges. However, while many similarities exist, there are enough differences that each country can learn much from the experiences of the other. For example, Canada has just completed an overhaul of their aviation weather products to ensure they conform to the international standards of the International Civil Aviation Organization. Also, the CMACs have been operating an ISO 9001-certified Quality Management System for several years. The lessons learned from these experiences are benefit the [AWC](#) as the United States is investigating moving weather products toward the international standards. The [AWC](#) just earned ISO 9001 certification for its Quality Management System late last year and this partnership will help [AWC](#) refine and maintain that certification with the goal of continually improving aviation weather products and services in support of safe and efficient flight.

In addition to the topics above, the meetings covered a broad spectrum of discussions on aviation policy, technical development efforts such as numeric modeling and ensemble forecasts, probabilistic forecasting, the [FAA's](#) Next Generation Air Transportation System (NextGen), verification, and many other topics. Of immediate concern is coordinating the transition from U.S. products to Canadian products at the border; and making them easier and consistent for pilots to access and understand.



Figure 2. The AWC management team and Canadian guests pose for a group photo.

In closing, [AWC](#) Director Bob Maxson said, "This has been a very productive, enlightening, and enjoyable meeting, and we look forward to long collaborative relations ship with our sister centers in Canada."

NWS Diversity Workshop

A joint [NWS](#) diversity workshop was held at the [NOAA](#) facility in Kansas City, Missouri June 12, 2013. The National Weather Service hosted the Kansas City Diversity Workshop. All federal employees in the Kansas City area were invited to attend. Over 70 federal employees attended the workshop from agencies such as [Environmental Protection Agency](#), [U.S. Department of Agriculture](#), [Federal Emergency Management Agency](#),

and several [NOAA](#) offices.

Several Aviation Weather Center ([AWC](#)) staff participated in the planning and execution of workshop. Shari Mutchler, [AWC](#) Senior Forecaster and Diversity focal point, assisted in planning the workshop. Shari also facilitated the breakout session, "Human Beings/Doings."

Dave Rowell from the [National Weather Service Training Center](#) and vice chair of the [NWS](#) Diversity Council, opened the workshop by welcoming guests and participants. The workshop included panel discussions on gender traits/trends, mentoring, family issues, diverse workforce recruitment/retention, diversity management and [EEO](#), diverse teams, and servicing diverse customers. In addition to the panel discussions, several breakout sessions provided interaction among the participants.

Teri Schwein ([NWS](#)), Teresa Murphy ([NWS](#)), and Doug Kluck ([NOAA](#)) each spoke briefly about how some of the breakout topics affected them personally before the participants began the first of three sessions. Breakout session topics included: building diverse teams, mentoring, celebrating diversity, work and family issues, gender trends and traits, and outreach to diverse customers. Sky Young-Wick (retired [NWS](#)) and Mike Hudson ([NWS](#)) facilitated the final activity of the day, a session on building an inclusive environment, which brought everyone back together for a sharing of lessons learned from the breakout sessions.

[NWS](#) Diversity Council Vice Chair, Dave Rowell summed up by saying, "Everyone said it [the workshop] was valuable. The 'open discussion' format allowed everyone to participate at their own level of comfort." Many participants expressed their hope that this would become an annual event.



Figure 1. Employees from several federal agencies in the Kansas City area participate in the Kansas City Diversity Workshop, June 12, 2013.



Figure 2. Terri Schwein of the [NWS](#) leads a breakout session on gender issues.

International Training Workshop

NOAA's [Climate Prediction Center](#) led the Fifth International Training Workshop Climate Variability and Predictions (5ITWCVP) combined this year with the Global Symposium Climate Variability, Predictions and Services (GSCVPS). The training workshop and symposium was hosted by the Turkish State Meteorological Service (TSMS) and was held in Istanbul, Turkey, 17 . 28 June 2013. It was funded by the US Agency for International Development ([USAID](#)) through the World Meteorological Organization ([WMO](#)) and the US National Weather Service under the PAPA agreement. Dr. Wassila Thiaw of [CPC](#) is the lead organizer for the [NOAA-USAID](#) global climate training workshop series.

The objectives of the 5ITWCVP and GSCVPS were to: (1) assess the mastery of climate prediction techniques by participants from the four previous workshops and some former African Desk trainees; (2) reinforce some of the concepts taught in previous workshops; (3) introduce new concepts such as verifications; (4) discuss ideas that will help develop a strategy for future training workshops; and (5) provide trainees with insights on recent advances in climate science and applications in various socio-economic sectors. A total of thirty-three countries from Africa, Asia, the Caribbean and Central America, Europe, and South America were represented at the workshop and symposium. There were thirty-five participants from 27 countries. Twenty-three lecturers, drawn from various government and international agencies as well as academic institutions, including the Korean Meteorological Administration (KMA), the International Center for Theoretical Physics (ICTP), IRI, [NOAA](#), [USAID](#), [WMO](#), the Indian Institute of Tropical Meteorology (IITM), the Institut National des Sciences et Technologie de la Mer in Tunisia, the Istanbul Technical University, the University of Buenos Aires, the University of Colorado, and the University of Nairobi, contributed a combined 33 lectures during the workshop and symposium. The participants had an opportunity to run several prediction experiments and work on forecast verification exercises for a cumulative twenty-two hour lab during the hands-on training in the first week.

There were several recommendations that the organizing committee will consider when developing a strategy for future training workshops. The general consensus to be evaluated by the committee was to bring back the same group of trainees for next year.s workshop to close some of the gaps identified by the trainees themselves as a priority for training. These include but were not limited to subseasonal forecasting, forecast verification, climate monitoring tools, and GIS applications.



Group Picture for the Global Symposium Climate Variability, Predictions, and Services, Istanbul, Turkey, 17-28 June, 2013.

Congressional Members Stress Hurricane Preparation

With the arrival of another active hurricane season, the [National Hurricane Center \(NHC\)](#) hosted a media day at its Miami-Dade facility. [NHC](#) Director Dr. Rick Knabb joined [FEMA](#) Administrator Craig Fugate throughout the day, providing individual interviews to more than two dozen media outlets.

As part of the event, several members of Congress came to [NHC](#) for a press conference to stress hurricane preparation. In addition to Fugate and Knabb, remarks were provided by U.S. Senator Bill Nelson, U.S. Representatives Debbie Wasserman Schultz and Joe Garcia, as well as [WFO Miami](#) MIC Pablo Santos.

A dozen television cameras filled the media room for the press event along with several print and radio outlets. Each outlet carried a strong message back to their respective viewers, listeners and readers - get ready, the season is here.



U.S. Rep. Debbie Wasserman Shultz addresses the media about the importance of being prepared this hurricane season. Behind her are U.S. Sen. Bill Nelson, NHC Director Dr. Rick Knabb, U.S. Rep. Joe Garcia, FEMA Administrator Craig Fugate and WFO Miami MIC Dr. Pablo Santos.

Florida Hurricane Conference

A hurricane has not made a landfall onto the Florida coastline since Hurricane Wilma in 2005. That's a record seven years in row for the state.

Whether or not Floridians can escape again this year remains to be seen. But the message at the 27th annual (Florida) Governor Hurricane Conference remained the same -- prepare as if the luck will run out.

NOAA's [National Hurricane Center](#) Director Dr. Rick Knabb and several [NHC](#) hurricane specialists were in attendance at the May gathering in Ft. Lauderdale, conducting workshops and training sessions. Attendees include [NOAA](#) personnel, emergency managers, and state and local decision makers. Knabb provided the keynote address at the opening general session, discussing the 2012 season and the 2013 hurricane program. More than three dozen media interviews were provided as well.



NHC Director Dr. Rick Knabb speaks with the Associated Press at the Governor Hurricane Conference in Ft. Lauderdale, Fla.

Record-Setting Tweet Chat

As part of National Hurricane Preparedness Week, [NHC](#) took to Twitter for a live Tweet Chat. [NHC](#) hurricane specialist unit branch chief James Franklin and [NHC](#) hurricane specialist Robbie Berg were the experts, answering questions ranging from controlling hurricanes to possible furlough impacts to the latest in track and intensity forecasting.

In the span of just one hour, 45 questions were answered - an all-time record for a [NOAA](#) Tweet Chat. Another one is planned for early August, just before the peak of the hurricane season.



NHC hurricane specialist Robbie Berg and hurricane specialist unit branch chief James Franklin answer questions in a live Tweet Chat.

Integrating Marine Forecasts into ECDIS

Over the past year, the [Ocean Prediction Center \(OPC\)](#) has led the effort on behalf of the National Weather Service and the World Meteorological Organization ([WMO](#)) to develop an international digital standard for integrating maritime meteorological and oceanographic products and services into Electronic Chart Display and Information Systems (ECDIS) for ship navigation and route planning. [OPC](#) is working with [NOAA's National Ocean Service](#) along with others to integrate weather information into what has traditionally been a tool for ship navigation. This new format for marine weather dissemination promises to be compact, efficient, and will take advantage of new communication and navigation technology commonly used by mariners. In addition to receiving forecasts in a new manner, mariners will have the added ability to overlay the forecast information directly on their nautical charts and planned routes for advanced decision support. The forecast products will also be useful for other users, as the format is in a geo-referenced vector format that is easily loaded into most geographic information systems (GIS). Most of the charts currently available are in a raster format that does not work well with modern GIS systems.



Figure 1. NOAA Ship Oscar Dyson (<http://www.moc.noaa.gov/od/>)



Figure 2. Picture of the Electronic Chart Display and Information System (ECDIS) from the bridge of NOAA ship Oscar Dyson.

While this is a multi-year effort, the first major project milestone was met at the end of June, 2013 with the submission of a package of documents to the [WMO](#) Expert Team on Maritime Safety Services (ETMSS). The package included a draft feature catalogue, which defines the different meteorological and oceanographic features (objects) and their attributes that may be potentially plotted in this format. Weather features such as fronts, watch and warning hazard areas, tropical storm symbols and low pressure symbols are defined so that they can be integrated into weather displays in the ECDIS.

In the future, [OPC](#) plans to help the expert team apply for an official registry for the maritime weather feature catalogue. [OPC](#) will make changes to the standards based on the comments and feedback from the international community. The Brazilian Government is funding a scientific program to establish exchanges with other countries to develop new technologies called "Science without Borders". The Brazilians have requested that [OPC](#) hosts a visiting scientist from the Brazilian Navy to work with ECDIS development. The final approved meteorological and oceanographic feature catalogue, product specification, and other associated documents are expected to be completed by April 2014.

Operational Gridded Data Offshore Forecasts

On May 1, 2013 the [Ocean Prediction Center \(OPC\)](#) started producing operational gridded forecasts for the offshore waters in the Atlantic and Pacific Oceans (Figure 1). These grids align with data produced by local Weather Forecast Offices (coastal waters forecasts), as well as the Tropical Analysis and Forecast Branch of the [National Hurricane Center](#) south of about 31 N latitude.

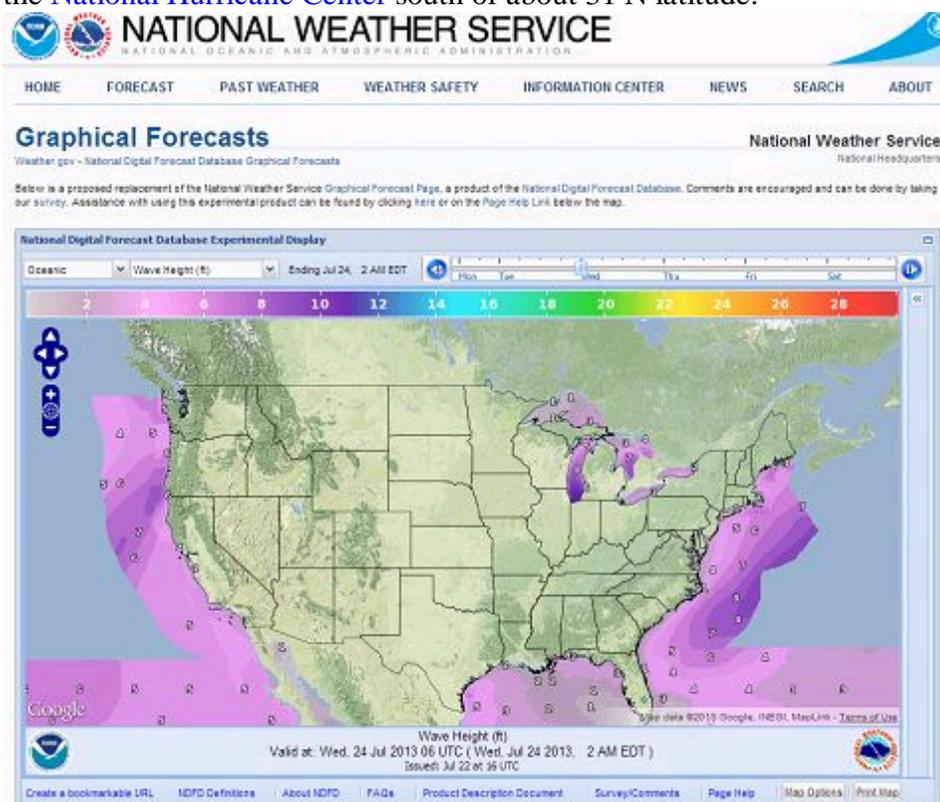


Figure 1. 36 Hour graphical forecast of Significant Wave Height Forecast (feet) valid 24 July 2013 06 UTC. OPC Offshore grids are shown north of 31N in the Atlantic Ocean and north of 30N in the Pacific Ocean. The graphic is from the website <http://preview.weather.gov/graphical/>.

Prior to May 1, 2013 the Offshore Forecasts were manually typed to produce a 5 day forecast for each of the offshore zone areas. [OPC](#) meteorologists no longer need to manually type long text-based Offshore Waters forecasts (<http://www.opc.ncep.noaa.gov/shtml/NFDOFFNT1.shtml>). Forecasters import digital computer model data into the Graphical Forecast Editor (GFE). The forecasters interactively manipulate the digital data for each forecast element or grid using advanced tools and techniques within the GFE.

Each point on a grid represents a separate place and time in the forecast period. Using the GFE, forecasters assign a value to every grid point for each different weather element, and for each time in the forecast period. The weather elements include wind speed and direction, wind gusts, significant wave heights and warning hazards. Warning hazards include gale (34 kt), storm force (50 kt) and hurricane force (64 kt) winds. Each forecast point has a resolution of 5 km, giving a much more detailed description of the warning hazard area than was previously available.

With GFE, forecasters use an interactive process to prepare their forecasts, storing meteorological fields in a common digital database. The database becomes part of the National Digital Forecast Database ([NDFD](#)), with the database itself offered as an [NWS](#) product. The digital database increases detail in both time and space, provides a greater amount of forecast information, and has the flexibility from which to create a wide range of customized text, graphical and image products. Text generation formatters are run to produce the traditional forecast text for the offshore waters forecasts.

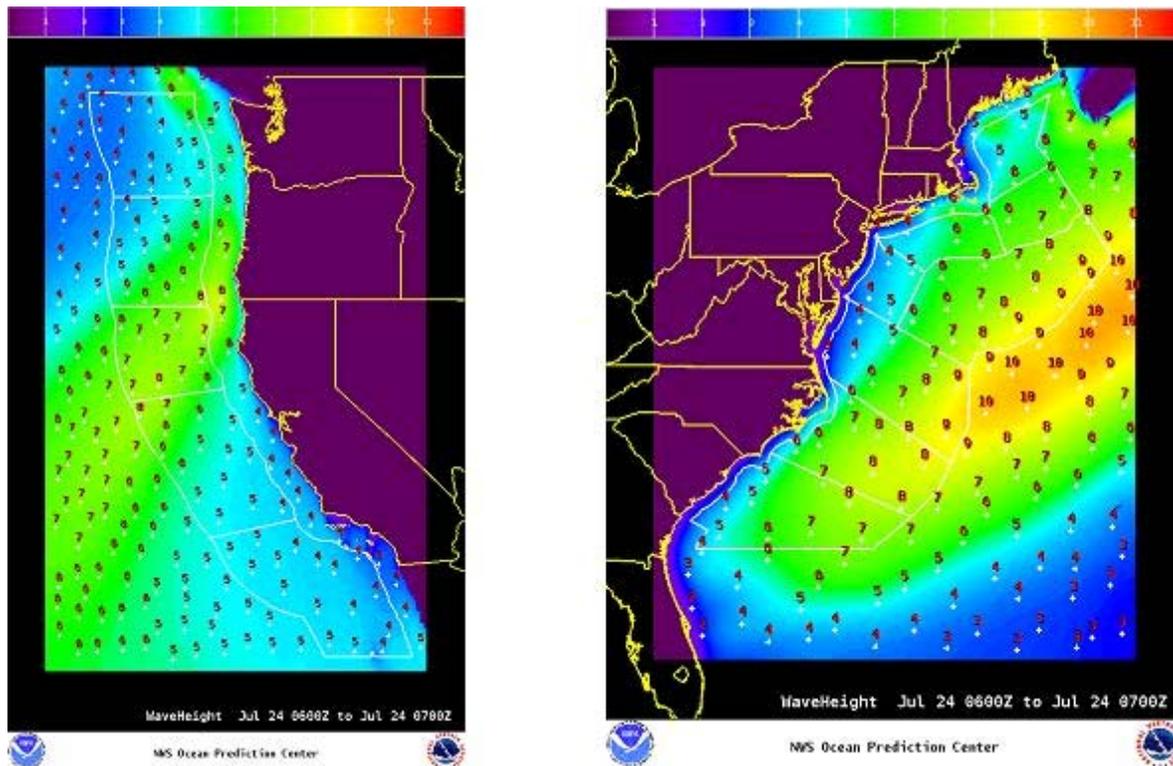


Figure 2. Forecaster workstation images of gridded data and point values of significant wave heights (feet) for a 36 hour forecast valid 24 July 06 UTC. White outline is the OPC Offshore zone boundary. Images are color-coded according to significant wave height values in feet.

Collaboration with neighboring marine forecast offices is also improved since forecasters can compare their grids to those of surrounding offices. This encourages more coordination between forecast offices and also helps make the forecast more consistent by minimizing "seams" across different forecast office boundaries.

Future plans are to expand the gridded data into the high seas forecast domain.

HWT Spring Forecast Experiment

Each spring, the Experimental Forecast Program (EFP) of the NOAA/Hazardous Weather Test (HWT), organized by the Storm Prediction Center (SPC) and National Severe Storms Laboratory (NSSL) conducts a collaborative experiment to investigate and test emerging concepts and technologies designed to improve the prediction of hazardous convective weather.



Hazardous Weather Test Bed (Photo by James Murman, NOAA Affiliate, Norman, OK)

The primary goals of the HWT are to accelerate the transfer of promising new tools from research to operations, to inspire new initiatives for operationally relevant research, and to identify and document sensitivities and the performance of state-of-the-art (3 to 4 km grid-spacing) experimental convection-allowing modeling systems (CAMs).

The 2013 Spring Forecast Experiment (SFE) was held from May 6th through June 7th in the [HWT](#) facility at the National Weather Center in Norman. More than 40 forecasters and research scientists from government agencies and the private sector, and faculty/students from 6 universities participated in the SFE activities. A prime research to operations focus was the development and evaluation of new guidance and visualization tools to support issuance of updated high temporal resolution probabilistic forecasts of severe convective weather. Cutting edge data mining from multiple storm-scale ensemble prediction systems and a new mesoscale ensemble system utilizing state-of-the-art advanced EnKF data assimilation was utilized. In addition, international partners included the United Kingdom Meteorological Office which provided special daily 4 km and 2 km versions of their Unified Model convective storm forecasts for assessment and comparison with U.S. models. A summary report of SFE results will be completed this summer.

FEMA Visit

In the wake of a devastating Tornado outbreak that hit Oklahoma, [Federal Emergency Management Agency \(FEMA\)](#) Administrator Craig Fugate visited the Storm Prediction Center ([SPC](#)) and the Norman [NWS Forecast Office](#) on May 22.



Left to Right: Brynn Kerr (sitting), Bill Bunting, Ryan Jewell (sitting), Administrator Fugate and SPC Director Dr. Russ Schneider (Photo by James Murnan, NOAA Affiliate Norman, OK)

Administrator Fugate was given operational tours of both agencies where he talked with the staff individually. Administrator Fugate was effusive in his praise for the Storm Prediction Center, the importance of our services, including their critical impact on [FEMA](#) operational preparation. Mr. Fugate has served as a local emergency manager, led the State of Florida Emergency Management Agency, and now has served as [FEMA](#) Administrator for more than four years. He recalled the February 1998 tornado outbreak in Florida, and how he kept the state Emergency Operations Center (EOC) open based on the [SPC](#) Watches prior to the onset of storms and tornado damage in central Florida. He discussed how important the Moderate and High Risk threshold in [SPC](#) Outlooks were to [FEMA](#) preparations, and how they were ready to deploy to Oklahoma even before damage reports were filed, all due to [SPC](#) severe weather outlooks. He also talked with Dr. Bothwell at the fire weather desk and demonstrated his command of Fire Weather issues. He particularly focused on the increasing threat in the Southeast and Mid Atlantic states with dense populations encroaching on densely forested areas. We are pleased that Administrator Fugate is a strong supporter of the [SPC](#), and that he advises the President on all weather-related disasters. Mr. Fugate served on the [SPC](#)'s external review team back in 1998.

Obama Meeting

The last two weeks of May 2013 were eventful for tragic reasons in Central Oklahoma.



Left to right: Rick Smith, President Obama, David Andra and Russell Schneider



Front to back: Jared Guyer, Steve Goss, President Obama, Brynn Kerr, Russell Schneider, Erin Maxwell, Forrest Mitchell, Ryan Barnes, Scott Curl, Rick Smith and David Andra

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On May 26, a group of 10 representatives from the [SPC](#) and Weather Forecast Office (WFO) in Norman met with President Obama at Tinker Air Force Base on the tarmac near Air Force One as he prepared to depart from Oklahoma. He expressed his sincere thanks for the service our organizations perform for the Nation each day, how important the warnings we provide are for the public, and indicated that he was working to get the resources needed to continue our important work. We also spoke with Ahsha Tribble who works in the [White House](#) where she prepares briefings for the President on weather-related situations, including those prior to the Moore tornado. Using briefing materials provided by the [SPC](#) and WFO Norman, Ahsha spent much of the plane ride to Oklahoma briefing the President and his staff on how the [NWS](#) functions, and in particular the roles and partnership between the [SPC](#) and local forecast offices. Ahsha was effusive in her praise for our services, and believes the visit was incredibly important for the President's understanding of the [NWS](#) forecast services. Also on the tarmac was [Federal Emergency Management Agency \(FEMA\)](#) Administrator Craig Fugate.

Space Weather Week

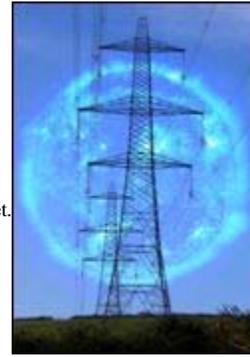
The [NOAA Space Weather Prediction Center \(SWPC\)](#) co-hosted the annual Space Weather Workshop on April 16-19, 2013. Over 250 attendees from 20 nations joined [SWPC](#) staff in an excellent week of discussion on space weather impacts, user needs, forecasting, and research and modeling developments.

The workshop began with a strong focus on power grid impacts. Personnel from [NOAA](#), [NASA](#), and [USGS](#) engaged several power utility representatives to discuss ways to improve space weather products and services in support of bulk power system reliability. Key discussion items included: integrating the geophysics-based models with the power system models; understanding the quantity and spatial distribution of magnetometers necessary to support E-field calculations; and what measurements are openly available to the space weather

community from the utility companies. Information was provided to help [SWPC](#) staff focus support efforts. This year's workshop also featured a session on communicating operational needs to the research community. [SWPC](#) representatives, joined by various user groups (aviation, GPS, and power grid), provided the research community with details on how forecasts are developed, while user groups explained actions when forecasts and warnings are received. Gaps in forecast capability and user needs were emphasized to help direct research activities.



Commercial airliner flying into the sunset.



Electrical tower array with the sun in the background.

Another of the week's highlights was a large panel of international partners sharing details of their respective country's alerting and notification process during an extreme space weather scenario. In recognition of the global nature of the space weather threat, the U.S. State Department led a discussion on appropriate international collaboration during extreme space weather to ensure consistency in communication to government leadership.

By all accounts the workshop accomplished a key underlying goal to better understand what information (observations, models, climatology, nowcasts, predictions, etc.) is needed to mitigate or manage space impacts and what research is being done, or should be done to provide the needed information.



Attendees at the 2013 Space Weather Workshop



Many participated in tours of the Space Weather Prediction Center



Session on International Communication and Coordination Related to Extreme Space Weather Events

AWIPS II Display of Solar Imagery

[SWPC](#) has created a real-time solar image pipeline to support the [AWIPS II](#) system in its forecast office. As [SWPC](#) moves toward consolidating its operational systems into [AWIPS II](#), the first milestone is bringing in solar image data. We have created a pipeline that will replace a set of diverse pieces of software that obtained

data varying from web-browser quality to science-grade quality. The new system brings in science grade data from a multitude of observing systems. The [AWIPS II](#) system at [SWPC](#) is running Operational Build (OB) 13.3 which allows for the display of this science-grade solar imagery.

[AWIPS II](#) OB13.3 display capabilities include basic image adjustments, synchronized movie looping and latitude-longitude grid overlays for two solar mapping conventions. [SWPC](#) has worked closely with the Systems Integration Branch of [NCEP Central Operations](#) so that the software could be developed to meet [SWPC](#)'s needs.

[SWPC](#) forecasters use these observations to understand the current and evolving state of the Sun from its surface magnetic fields to its outermost atmosphere, the corona. The solar surface observations, made from ground- and space-based telescopes tell forecasters about longer term evolving conditions of the sun and allow for the creation of probabilistic forecasts for eruptive events. The corona observations allow forecasters to see the solar-wind streaming away from the sun in real-time, which will arrive one to three days later at Earth. In addition [SWPC](#) uses data from spacecraft at other points on Earth's orbit around to give both three dimensional perspectives of solar storms as well as global coverage of the Sun's atmosphere.

[SWPC](#) uses data from observing systems belonging to [NOAA](#), [NASA](#), [NSF](#), [DoD](#) and international partners. Each system has different observing parameters and data formats. The solar image data pipeline and [AWIPS II](#) system serves to consolidate the diverse set of data sources used by [SWPC](#) currently into a single, well integrated system. It will lead to the eventual removal of legacy software that supports current custom displays at [SWPC](#).

With the upcoming introduction of OB13.4, the user interface will reach its final form and additional display capabilities will be realized. At that time, forecasters will begin to use the [AWIPS II](#) system in parallel to the existing, custom display system. This will allow forecasters to provide feedback for the continued refinement of the functionality.



Getting familiar with the [AWIPS II](#) solar imagery

Mesoscale Precipitation Discussion Product

On April 9, 2013, the [NCEP Weather Prediction Center \(WPC\)](#) assumed responsibility for issuing Mesoscale Precipitation Discussions (MPDs) for heavy rainfall events that could produce flash flooding. These products include a graphic outlining the areas of concern and a discussion in text format explaining why the threat exists. These products are similar to and replace the Mesoscale Convective Discussions (MDs) for heavy rainfall that had been issued by the Storm Prediction Center ([SPC](#)). The products fit into the [WPC](#) product suite, complementing the Quantitative Precipitation Forecasts (QPFs) forecasting rainfall amounts and serving as a finer detailed product than the 24 hour Excessive Rainfall Outlook which provides guidance concerning areas where flash flooding may occur over the next three days.

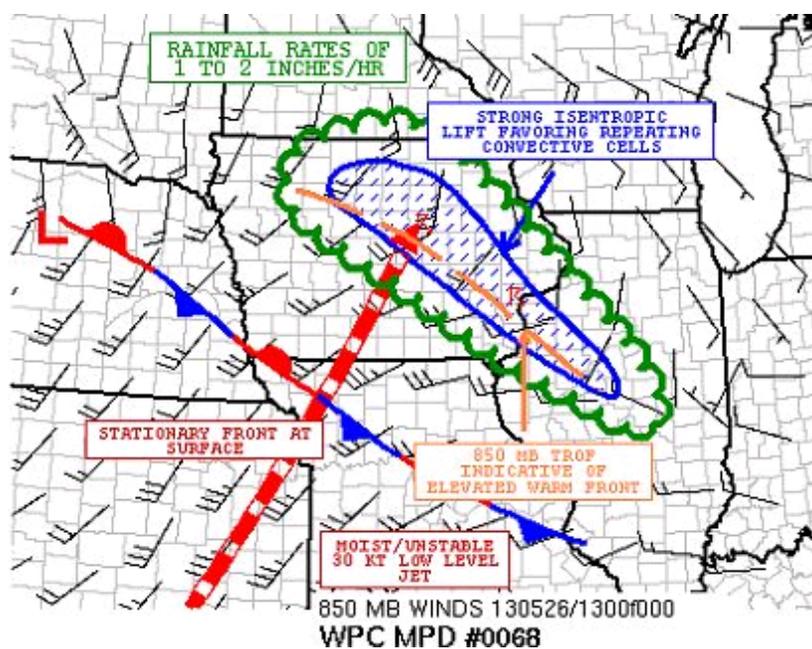
This product was initiated in response to a request for [NCEP](#) to provide a product similar to [SPC](#)'s MDs but

focused on heavy rainfall. The goal of the product is to enhance [NWS](#) flash flood warning services by providing enhanced situational awareness of potential flash flood events. Like the [SPC](#) MDs, [WPC](#)'s MPDs are event-driven and focus on events impacting an area approximately the size of half the state of Kansas.

In order to initiate this product within current forecaster resources we combined responsibility for this MPD with the Model Diagnostic Discussion. One forecaster is responsible for both sets of products. As a result, the Model Diagnostic Discussion is occasionally a little shorter than in the past and only two are issued each cycle.

The MPD is focused on either ongoing or anticipated areas of organized heavy rainfall that are expected to generate a threat of flash flooding. Ideally, the MPD will be issued with as much lead time as possible, up to 6 hours. MPDs can also be issued for events where conditions are appearing less conducive for flash flooding with time or to indicate that the threat for flash flooding has ended. If an organized area of heavy rainfall is expected or ongoing but not expected to produce a threat of flash flooding, no MPD will be issued.

The MPD does not focus on storms that result solely in flooding in urban areas. These smaller scale events are best handled by local offices who know the local effects of their area of responsibility. Before issuing an MPD, [WPC](#) provides a notice to the [SPC](#) and any affected local offices. This is part of a collaborative process with the local Weather Forecast Offices and River Forecast Centers with [WPC](#) providing a heads up to an event, leaving the local offices to decide what action is appropriate. [WPC](#) has received several positive comments about the product. The MPDs are available on the [WPC](#) web site at http://www.wpc.ncep.noaa.gov/metwatch/metwatch_mpd.php



An example of the graphical part of a Mesoscale Precipitation Discussion product issued on May 26, 2013

UKMET/ECMWF Visit

During the week of June 17 . 21, the [NCWCP](#) hosted distinguished representatives from the World Meteorological Organization, World Bank, and [NOAA](#) to address the need to develop a sustainability plan involving the sharing of weather and climate data among national hydrometeorological agencies. The [Weather Prediction Center](#) ([WPC](#)) hosted tours for the distinguished representatives, as well as dedicated one-on-one sessions with Ken Mylne, head of Numerical Modeling at the United Kingdom Office of Meteorology, and David Richardson, head of Meteorological Operations at the European Center for Medium-Range Weather Forecasting.

The [NCEP](#) International Desks were showcased (Figure 1) as an example of how [WMO](#) training support can translate into advancements in the predictive capabilities of [WMO](#) member states. The [WMO](#) Severe Weather

Demonstration projects in Africa and potentially South America were also discussed as a method to improve capabilities. During the domestic operations part of the tour, the use of international model guidance was demonstrated. This spurred discussion of challenges facing forecast operations in many countries, including the optimal role for the forecaster, the role of local modeling, and the pros and cons of centralization.

During one-on-one meetings with David Richardson and Ken Mylne, [WPC](#) forecasters discussed their use of numerical model data and shared their observations of recent performance of the ECMWF and UKMET modeling systems, with particular focus on precipitation and temperature forecasts. Staff from the Hydrometeorological Testbed (HMT) at [WPC](#) met with both scientists to discuss the collaborative forecasting activities ongoing both at [WPC](#) and within the visiting scientists' organizations. The UKMET in particular has been involved in [NOAA](#) Hazardous Weather Testbed in improving convective forecasts, and showed interest in the recent HMT flash flood experiment.

In general this week of international visitors made clear the global impact of [NCEP](#) information, and the mutual benefit of sharing information among international partners. Such engagement with the international community can help inform [NCEP](#), the [NWS](#), and ultimately [NOAA](#) on major science and service decisions.



WPC International Desks Coordinator Mike Davison (right) welcomes visitors from the World Meteorological Organization (WMO) and discusses activities ongoing at the WPC International Desks. Photo courtesy David Novak (WPC).

<http://www.ncep.noaa.gov/newsletter/>