

WPC Announces New Director, Dr. David Novak

David R. Novak, Ph.D., was announced as the new director of NCEP's [Weather Prediction Center \(WPC\)](#), based in College Park, Md. As director, Novak will oversee the development, provision and enhancements to the [National Weather Service's](#) suite of national forecasts for heavy rainfall, snowfall, and hazardous weather up to seven days in advance. Products issued by the [WPC](#) provide foundational guidance to agency forecasters and the weather enterprise.

Since June 2014, Novak has served as the acting director of [WPC](#). Prior to this position, Novak was chief of the [WPC's](#) development and training branch in which he managed complex IT systems and service improvements. He also facilitated research to operations activities on high-impact regional precipitation, weather and land surface conditions, and transition of scientific advances and new tools into forecasting operations. Novak began at [WPC](#) in 2009 as the science and operations officer.

Novak, 37, started at [NOAA's National Weather Service](#) as a fire weather technician in Fairbanks, Alaska in 1999 then worked as a meteorological intern in Duluth, Minn. In 2002 he took a job at the [National Weather Service's](#) Eastern Region headquarters.

Novak has a Ph.D. in atmospheric science from the State University of New York (SUNY) Stony Brook (2009), a M.S. in atmospheric science from SUNY Albany (2002), and a B.S. in meteorology from St. Cloud State University (2000). He is lead author on 10 peer-reviewed journal publications on operational weather topics, and is assistant editor for *Weather and Forecasting*. From 2012-2014, he chaired the American Meteorological Society board for Operational Government Meteorologists and currently serves on the science advisory board of the Developmental Testbed Center.

He is the recipient of the Saint Cloud State University Graduate of the Last Decade Award (2008), an AMS Editor's Award (2010), and a [NOAA Bronze Medal](#) (2012), among other honors.

A native of Minnesota, Novak is a resident of Crofton, Md. He started in his new position on Dec. 14, 2014.



Photo of Dr. David Novak, Director of NCEP's Weather Prediction Center

NCEP Announces Significant Upgrade to High Performance Computing

On December 30, 2014, an undefinitized contract award was made to IBM for [NOAA's](#) Weather and Climate Operational Supercomputing System ([WCOSS](#)). The award of task Order 004 on the [WCOSS](#) contract enabled [NCEP](#) to obligate the \$33.33M Sandy Supplemental funding. [NCEP Central Operations \(NCO\)](#) and [NOAA's](#) Acquisition and Grants Office (AGO) are working with IBM to definitize the award by Feb 13, 2015 and obligate the remaining funding to the contract.

Task Order 004 will deliver ~1.7 petaflops of computing capacity. Combined with the existing [WCOSS](#) computing resources [NCEP](#) will have a total of 2.5 petaflops of computing capacity and just over 8 PetaBytes of storage per system to support the [NCEP](#) production suite and development work. Equipment delivery is scheduled to begin in June 2015 with final acceptance expected to be completed by October 2015. This major increase in supercomputer capacity will provide the vehicle for [NOAA's](#) Numerical Weather Prediction model and observational suite to advance leading to more accurate and consistent forecasts required to build a Weather Ready Nation.



The WCOSS System will be an IBM/Cray XC40 Integrated Platform

Service Center Activities

NCO - Wide Area Network Upgrades Result in Substantial Increase in Network Capacity at Centers

The National Centers for Environmental Prediction ([NCEP](#)) [Central Operations \(NCO\)](#) is implementing network upgrade optimization to increase the network bandwidth and reliability at [NWS NCEP](#) Centers. In December, [NCEP NCO](#) completed the upgrade of the wide area networks (WAN) at the [Aviation Weather Center \(AWC\)](#), [Storm Prediction Center \(SPC\)](#), and the [National Hurricane Center \(NHC\)](#) to a 200Megabit circuit.

This upgrade provided four times the increase in network capacity and the capability to scale to 1Gigabit within a month after a request is made. As a result, this upgrade provides the centers with adequate capacity needed to obtain non-Satellite Broadcast Network (SBN) data for Advanced Weather Interactive Processing System (AWIPS) II, as well as the capacity to obtain eventual increase in Geostationary Operational Environment Satellite R-Series ([GOES-R](#)) satellite data. The recent upgrade provides an integration path to the National Oceanic Atmospheric Administration ([NOAA](#)) Trusted Internet Connection (TIC). These circuits will provide additional capacity to catch up in the event of system failure.

NCEP NCO is providing network upgrade and optimization to ensure the NWS networks support the increased data volumes (satellite, model, radar) and to ensure efficient management of flow and data to and from the centers, partners and customers.



Picture of FEX network hardware

NHC - NOAA Hurricane Conference Looks Backward and Forward

Regardless of how active or inactive a hurricane season, a meeting takes place at NHC once it's over. This year was no exception. The NOAA Hurricane Conference brought several dozen NOAA personnel to the Miami facility, and many more via teleconference, to look back at what worked and what didn't during the 2014 hurricane season, and make recommendations to improve the forecasting and communication process for 2015 and beyond.



NHC Storm Surge Team Leader speaks to attendees of the NOAA Hurricane Conference on November 30, 2014. (Dennis Feltgen, NOAA/NHC Communications)

NHC - Mexican Air Force Continues to Aid NHC and the USAF Hurricane Hunters

The 2014 hurricane season was a busy one on both coasts of Mexico, impacted by six tropical cyclones. That kept the USAF Reserve Hurricane Hunters busy as well, flying into the heart of these storms to obtain critical weather data for the NHC hurricane specialists.

The flight plan often required the aircraft to fly directly over Mexico. Fortunately, NHC has a liaison program with Mexico, whereby an officer from the Mexican Air Force is onsite at NHC to streamline the clearance process. The officer communicates directly with the Mexican Defense Department to coordinate the flight plans, thus saving hours of possible delays in the Hurricane Hunters' reaching the storm. NHC is grateful for this ongoing program, which leads to better forecasts and warnings and thus savings lives.

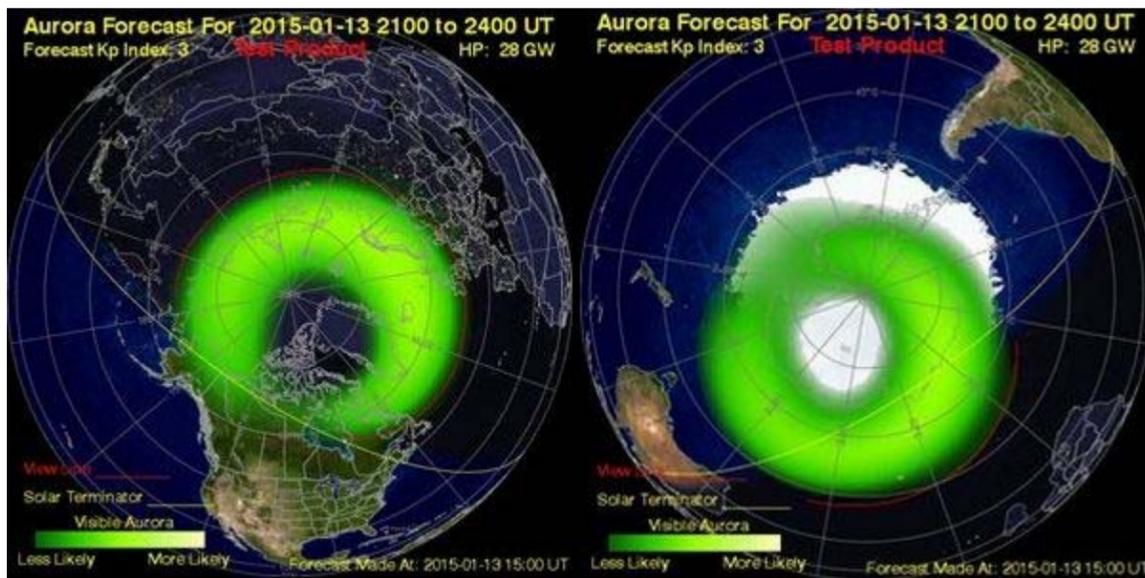


NHC Director Dr. Rick Knabb presents a Certificate of Appreciation to Captain Leopoldo Lopez for his valuable assistance to NHC during the 2014 hurricane season. (Dennis Feltgen, NOAA/NHC Communications)

SWPC - NOAA SWPC Introduces a Three Day Aurora Forecast Test Product

A forecast of the aurora is one of the most frequently requested forecasts by the general public. **SWPC** has typically provided a forecast only of the geomagnetic activity index, Kp, but left it to the customer to interpret how various levels of Kp would change the location and intensity of the aurora. Using the OVATION aurora model, developed by Johns Hopkins University, **SWPC** has created graphical displays associated with various levels of the geomagnetic index, Kp. The forecasters at **SWPC** generate a forecast of Kp going out 3 days into the future on a 3-hour cadence. These forecasts are updated twice daily. Based on the 24 Kp values, we now provide 24 maps for the northern and southern hemisphere showing where the aurora is most likely to be observed for each of the next 24 3-hour periods. The product also includes a line indicating how far from the auroral zone, one might expect to see aurora by looking down closer to the horizon. Static displays and animations of the predicted auroral oval can be found at

<http://www.swpc.noaa.gov/products/aurora-forecast-%E2%80%93-3-day-experimental>



These are two images from the Aurora Forecast 3-Day product that have been introduced by the NOAA Space Weather Prediction Center.

SWPC - The Space Weather Prediction Center Debuts New Website

The **Space Weather Prediction Center (SWPC)** unveiled its new and improved website, spaceweather.gov, on October 20th. [Spaceweather.gov](http://spaceweather.gov) provides a user-friendly, online source for space weather forecasts, alerts, and information. This completely redesigned site leverages the latest web technologies to reach the broadest possible audience.

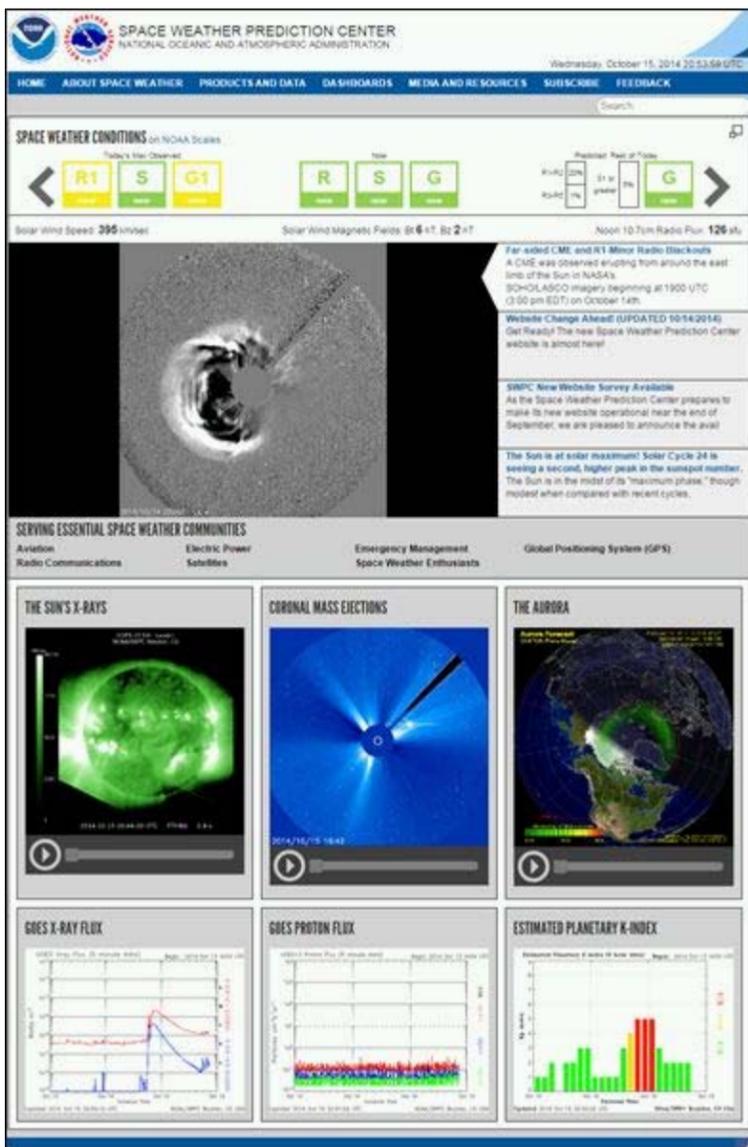
The homepage presents information in a format designed for the general public along with quick links to more detailed information for decision makers. Latest event reports and news stories are front and center. Past, current, and future space weather conditions are visible on every page. The site has an easy to navigate mobile-friendly interface for easy access to **NOAA's** data, maps, video, imagery, and resources.

New Dashboard pages – reachable with a single click from the homepage - show space weather information of critical interest to key user groups such as aviation, electric power, GPS users, satellite operators, radio communications, emergency management, and space weather enthusiasts.

We have enhanced our website to highlight our partners in the space weather enterprise including commercial service providers, international partners, other government agencies, and academia.

Visitors can sign-up for e-mail notifications from **SWPC** on the website. We have also detailed the services available from **SWPC** and made subscription easy.

SWPC's new site is designed to be responsive to user needs, so we look forward to incorporating your feedback as this site continues to evolve and improve.



Screen capture of SWPC's new website

WPC - Leads Training Workshop in Paraguay

Dr. Jose Galvez, research scientist at the [WPC International Desks](#), led a week-long training workshop on severe weather forecasting techniques at Asunción, Paraguay on December 15-19, 2014. Twenty five participants from the Paraguayan Weather Service [Dirección Nacional de Aeronáutica Civil (DINAC)] attended to improve forecasting techniques via the detailed analysis of severe weather cases.

The training consisted of (i) six presentations that covered basic severe weather theory, forecasting techniques, climatology of the region, upper and low-level jet dynamics, stability indices and the Galvez-Davison Index GDI; (ii) analysis of six case studies applying the forecast funnel method; (iii) development of macros/scripts for the analysis and forecasting of severe convection and hail based on the key factors identified; (iv) application of the forecasting techniques to real time severe weather events that occurred during the Workshop timeframe.

The software Wingrids was used for the display and analysis of [GFS](#) model data. Most of the lectures/exercises were interactive, with thorough use of the board (Fig. 2) and constant participation of the audience in building forecasting tables, developing macros/scripts for the analysis of model data, and analyzing model output with the ultimate goal in improving forecast confidence. The development of the material for the workshop and detailed case study analysis also provided important insight on (i) the span of mechanisms that play a key role on the development of severe weather events in Paraguay; and (ii) key variables and threshold values that seem to be potentially dominant predictors. The results opened a set of important questions that could become high-impact research projects for the future.

DVDs with the presentations, case study files and course summary were handed to the participants during the last day of class. This workshop demonstrates [NCEP](#)'s commitment to the international community and application of research and training to build forecast capacities.



Group during the Friday morning Workshop session held at the Paraguay Forecast Office. Dr. Jose Galvez (Front right) lead the workshop.

