

NWS Digital Aviation Services

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Requirements for the FAA's Next Generation Air Transportation System (NextGen) mandate that the Weather Information Database, provided by the NWS, "will include at least the elements of turbulence, icing, ceiling, visibility, convection, and winds." While NextGen is several years away from full implementation, there exists a unique opportunity to provide meaningful input to its development. In addition, stakeholders such as the FAA, U.S. Coast Guard, helicopter medical services, state police, and general aviation have expressed interest in digital and graphical ceiling and visibility forecasts, since they require information beyond the scope of the traditional airport-based Terminal Aerodrome Forecast (TAF).

In preparation for NextGen, and to provide enhanced aviation forecast services, the NWS Eastern Region has initiated a pilot project to explore how digital aviation services can be integrated into today's forecast operations. A regional Aviation Science Steering Team was formed with an initial vision to "assess the state of the science" for producing digital aviation forecasts – ceiling and visibility in particular. In tandem, four Eastern Region NWS offices (Taunton, MA, Greenville-Spartanburg, SC, Charleston, WV, and Caribou, ME) have developed tools and methodologies for preparing experimental gridded aviation forecasts.

Assessments are being made of a number of aviation guidance data sets and an assortment of tools and methods used to generate gridded aviation forecasts, all of which employ sound science. Forecasters populate hourly Ceiling and Visibility grids in addition to other aviation-related grids such as Temperature, Dew Point, Wind, Wind Gust, Sky Cover, and Weather for production of scheduled TAFs. This process allows forecasters to interact with model guidance, rather than simply "draw pictures." Internally, it has been demonstrated to be an efficient process which gives the forecaster additional analysis time. It also ensures consistency with other NWS forecast products.

This presentation will detail the process of creating digital aviation forecasts at NWS Taunton, including a demonstration of the various model guidance sets used by the forecasters. Web graphics of Ceiling and Visibility will be included, in order to show the end result of the process. Finally, a sample of verification statistics will be shown, which so far have been promising, especially during the cool season.

Presenter's Bio

Joe DelliCarpini is the Science and Operations Officer at the National Weather Service in Taunton, MA. He is a native of the New York City area and received a Bachelor of Science degree in Meteorology from the State University of New York at Oswego.

His career with the National Weather Service began as a Student Trainee in Boston before going to the Binghamton, NY office as a Meteorologist Intern. He returned to southern New England in 1996 as a Hydrologic Forecaster at the Northeast River Forecast Center in Taunton, before heading back to the Weather Forecast Office as both a General Forecaster and Senior Forecaster.

One of Joe's interests includes aviation meteorology, and he recently led the effort to begin digital aviation services at the Taunton office. He is also involved with several regional and national aviation teams.