

## Improving the HEMS Weather Tool Leads to Improved Safety

*Low Altitude Weather Reporting is Valuable to All Helicopter Pilots, Not Just EMS*

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The Helicopter Emergency Medical Services (HEMS) Weather Tool was born out of a HEMS Weather Summit held in Colorado in 2006 by the HEMS industry, the National Center for Atmospheric Research (NCAR) and the FAA. The summit was dedicated to identifying proactive measures to prevent three of the primary causes of fatal accidents in the HEMS industry:

- Inadvertent Flight into Instrument Meteorological Conditions (IIMC),
- Loss Of Control (LOC),
- and Controlled Flight Into Terrain (CFIT).

At this summit, the participants determined that a product was needed to better show weather conditions relative to ground level to support operations at lower altitudes common to HEMS and other sectors of the helicopter community.

Following the summit, the FAA tasked NCAR's Research Applications Laboratory (RAL) to develop a low altitude weather tool. In less than four months, RAL fielded the first version of the HEMS Weather Tool - a downloadable app as part of an experimental, short-term project.

After the NTSB labeled 2008 as *“the deadliest year on record for the HEMS industry,”* they placed HEMS Safety on their Most Wanted List of Transportation Safety Improvements. In early 2009, the NTSB held a four-day hearing to address the HEMS industry's high accident rate. The NTSB then asked the FAA to permit the HEMS community to use the new Weather Tool as an official fully funded weather product.

By late 2013, a pathway to transition the HEMS Tool from 'experimental' to 'operational' status was developed. In full collaboration with the FAA, NOAA's National Weather Service and numerous other industry stakeholders, it became a fully funded weather product.

Few weather applications have ever been designed to specifically meet the essential demands to safely operate in the low-level weather environment with such a high degree of accuracy, granularity and fidelity as the HEMS Weather Tool.

Last August, NOAA, the FAA, NEMSPA, the USHST and numerous helicopter pilots and safety experts worked collaboratively to gather valuable feedback that evaluated the HEMS Weather Tool and the Graphical Forecasts for Aviation (GFA) Tool and consider what updates could be made.

The brand new improvements to the HEMS Weather Tool include:

- user interface enhancements to make the experience more intuitive,
- and improved accuracy from the integration of the updated ceiling and visibility products. (The updated ceiling and visibility analysis replaced an outdated product that is no longer supported and includes additional coverage for offshore environment.)
- The improved ceiling and visibility forecast provides new supplemental information to assist users in their decision-making process.
- In addition, the hourly forecast of ceiling and visibility is now available out to six hours to coincide with the other available forecast information in the tool.

With these new enhancements comes a new look. A newly adopted color scheme has better readability across a variety of background map options and is more consistent with displays on other pages of AviationWeather.gov to include the popular GFA tool. Additionally, the color fill is now consistent with the coloring of the station icons depicting the same conditions within the tool itself.

New interface improvements have been implemented as well. These include:

- A time slider that is now always visible and displays the time in which the product being viewed is valid.
- And an updated 'Options' menu that is easier to navigate and more mobile friendly. This allows for easier user configuration of the display interface.

While the HEMS Weather Tool was originally conceived to reduce the accident rate within just the HEMS industry, it has proven itself to be a valuable resource to all aviators who operate equipment in the lower altitudes of the national airspace.

To those who have yet to try it, we invite you to check it out at [www.aviationweather.gov/hemst](http://www.aviationweather.gov/hemst) .

For those of you who currently rely on it, we hope that you will find the latest improvements beneficial.