

# Product Description Document

## Experimental World Area Forecast System (WAFS) Grids

### Part 1 – Mission Connection

**1. Product Description:** The NWS Display of WAFS Grids for Turbulence, Icing, Cb Cloud and Wind is a graphical representation of the grids issued jointly by the World Area Forecast Centers (WAFCs) in the US and the UK. These grids are sanctioned by the ICAO and the FAA for use in flight planning. They are available for various levels from forecast hours 6 to 36, in three hourly time steps, in GRIB2 format. This product will provide users a way to display the grids at all levels and time steps via a web page with a GIS display. Users will be able to overlay multiple levels and forecast parameters and loop through the time range, as well as pan and zoom on the map. For more information about the grids themselves, see

<http://www.icao.int/safety/meteorology/WAFSOPSG/Guidance%20Material/Guidance%20on%20the%20Harmonized%20WAFS%20Grids%20for%20Cumulonimbus%20Cloud,%20Icing%20and%20Turbulence%20Forecasts%20-%2011%20September%202012.pdf>

**2. Purpose/Intended Use:** The purpose of the display is to provide a rudimentary way to visualize the WAFS Grids for Turbulence, Icing, Cb Cloud and Wind. This visualization is intended for users who need to check that their own display software is correctly decoding the GRIB2 files and properly displaying the gridded data in graphical format. It is also intended to serve as a common reference point for the NWS and its customers when discussing the WAFS forecast data. Note:

**3. Audience/Users:** The intended users are software vendors that design flight planning software, plus airline dispatchers and air traffic managers.

**4. Presentation Format:** The product is available as a GIS layer on the AviationWeather.gov website.

**5. Feedback Method:** Feedback will typically be collected via comments provided to the AviationWeather.gov webmaster. It will also be collected during meetings with users and with the ICAO's WAFS Operations Group.

For further information please contact:

Matt Strahan  
National Weather Service  
Aviation Weather Center  
7220 NW 101<sup>st</sup> Street Terrace  
Kansas City, MO  
Phone: 816.584.7203  
Email: [matt.strahan@noaa.gov](mailto:matt.strahan@noaa.gov)

## Part 2 – Technical Description

- 1. Format and Science Basis:** The graphics will be created from existing WAFS grids that are a part of the existing NWS product suite. The gridded data will be displayed as a multi-colored image with a color coded key provided to relate the colors to numerical values. The images will be provided for each time step and level in the WAFS Grids. A GIS capable browser plugin, called OpenLayers, will be used to pan/zoom and loop the images. A menu system will allow users to select which grids will be displayed. A map background depicting the world's countries and oceans will also be provided, as will a map background of Flight Information Regions.
- 2. Training:** A help page will be provided. This will supplement existing training and documentation on the WAFS grids.
- 3. Availability:** The display will be available 24/7. It will be updated 4 times per day, following the completion of each GFS model run.

The Experimental WAFS Global Grids Visualization will be available at:

<http://new.aviationweather.gov/wafs>

A current example of the Experimental WAFS Global Grids Visualization is available at:

<http://new.aviationweather.gov/wafs>