

Digital Aviation Services - Building TAFs from Grids

Steve Abelman
NOAA 4-D Cube Contents Lead
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Special thanks to:

Cammye Sims – Aviation Services Branch, NWS HDQ

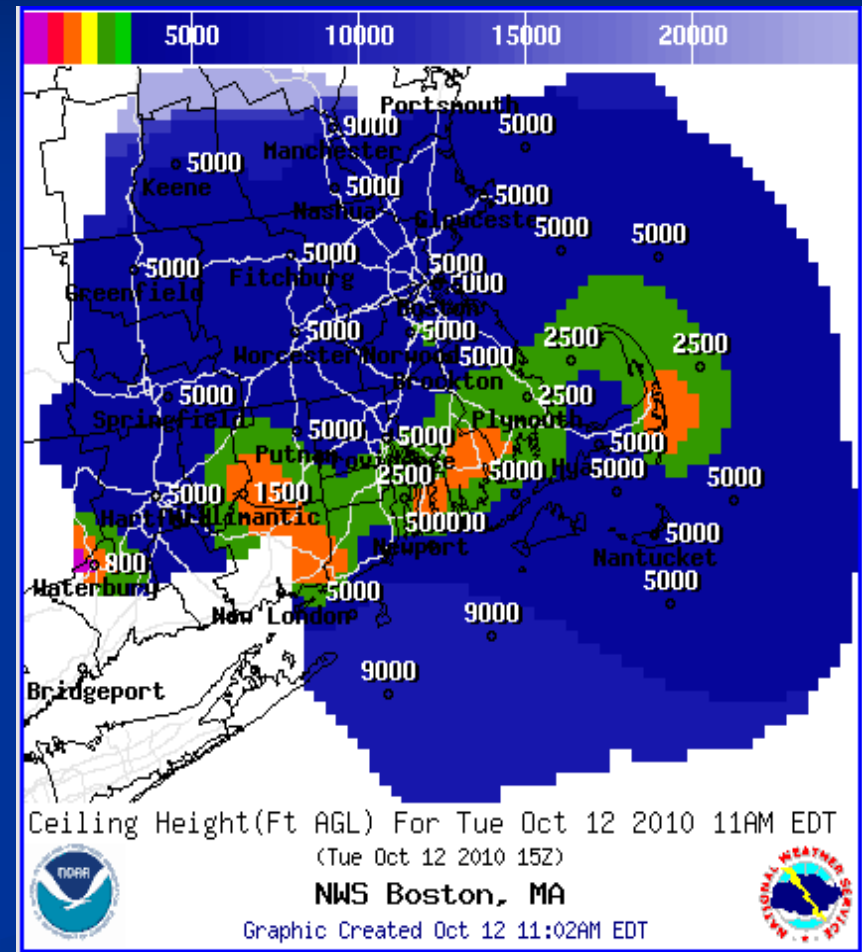
Joe Dellicarpini - WFO Taunton, MA

Fred McMullen – WFO Pittsburgh, PA

Jeff Waldstreicher – NWS Eastern Region HDQ

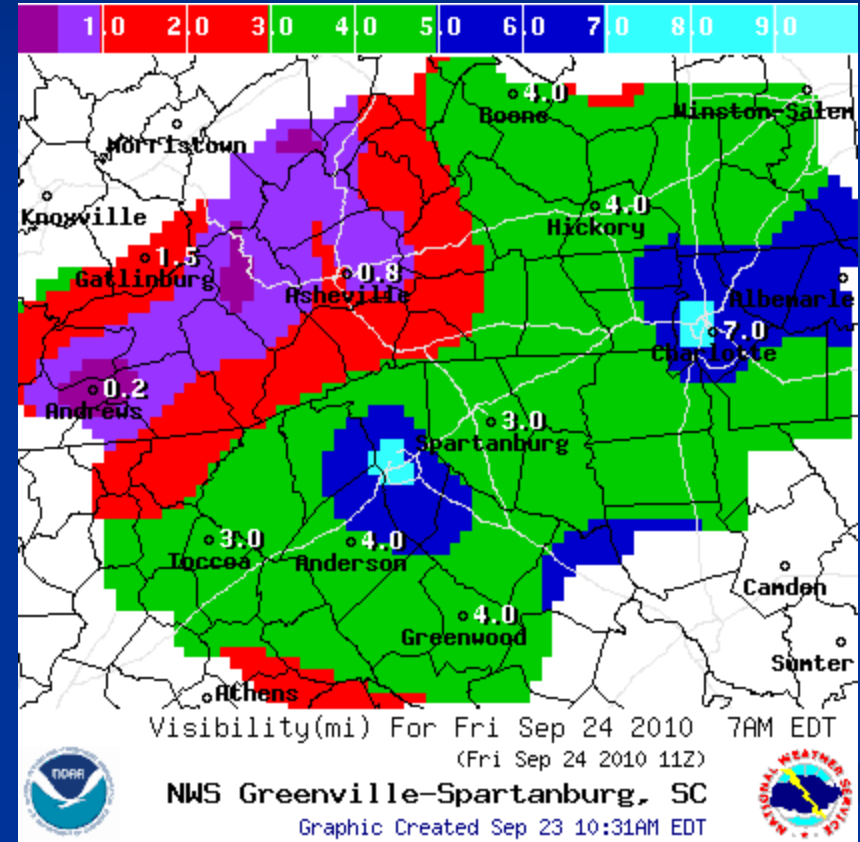
What are Digital Aviation Services

- Participating Weather Service Forecast Offices (WFOs) are producing experimental digital forecasts (grids) of ceiling, visibility, and probability of thunder
- Local applications developed in which TAFs fall directly out of these grids
- These are not necessarily guidance TAFs, most offices using the output directly
 - Still an option to change (TEMPOs, PROBs)



Why Digital Aviation Services?

- Moves toward the NextGen requirement of digital ceiling and visibility
- Moves toward the NextGen requirement of consistent forecasts of aviation impact parameters and eventually the SAS
- Important guidance tool for helicopter medical services, search and rescue operations, and GA
- Improves NWS forecast consistency beyond aviation (not just aviation short term grids)



Current and Future Direction

- Graphical aviation forecasts are available on the following WFO web sites:

- Boston, MA
- Jackson, KY
- Caribou, ME
- Charleston, WV
- Greenville-Spartanburg, SC

www.weather.gov and click these approximate locations on the national map

- Formalizing requirement to expand services for nationwide coverage
- Examine and work with new guidance tools like Gridded LAMP, NCV, and high resolution numerical models
- A national C&V grid used by AWC for the Area Forecast

Graphical Forecasts - Boston, MA

Today	+12Hrs											
Valid Hour (EDT):	8	9	10	11	12	1	2	3	4	5	6	7
Temperature												
Dewpoint												
Weather												
Wind Speed & Direction												
Sky Cover												
Relative Humidity												
Amount of Precip.												
Snow Amount												
Surface Visibility												
Ceiling Height*												

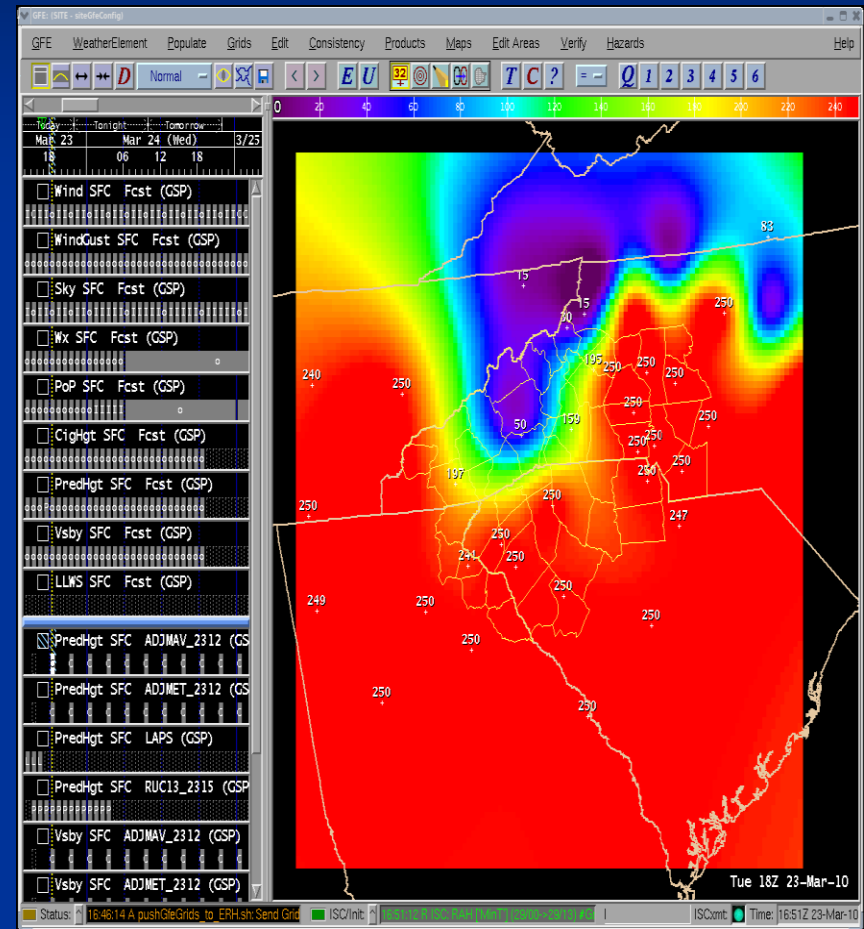
1Hr Snow Amount (in) For Wed Oct 13 2010 6PM EDT
 (Wed Oct 13 2010 22Z)
NWS Boston, MA
 Graphic Created Oct 13 7:32AM EDT

NOAA's National Weather Service Aviation Weather Center

FAUS41 KFCI 130845
 FAIN
 BOSC FA 130845
 SYNOPSIS AND VFR CLDS/WX
 SYNOPSIS VALID UNTIL 140300
 CLDS/WX VALID UNTIL 132100...OTLK VALID 132100-140300
 ME NH VT MA RI CT NY LO NJ PA OH LE WV MD DC DE VA AND CSTL WTRS
 -
 - SEE AIRMET SIERRA FOR IFR CONDS AND MIN OBSCN.
 - TS IMPLY SEV OR GTR TURB SEV ICE LLWS AND IFR CONDS.
 - NON MSL HGTS DENOTED BY AGL OR CIG.
 -
 - SYNOPSIS...HI PRES CNTRD OVR LWR GREAT LAKES MOVG EWD BY 03Z TO NEW ENGLAND. CDFNT XTRM SW OH SEWD ACRS SRN WV-SWRN VA-NERN NC MOVS SWD. BY 15Z NWRNT WRN OH-SWRN WV-SWRN VA-NRN NC-SERN NC INTO CSTL WTRS. BY 03Z LOW E CNTRL OH. CDFNT SWRN WV-SWRN VA-NERN NC-SERN NC INTO CSTL WTRS.
 -
 - ME
 - MINS-NWRN...BKN045 TOP 070. OTLK...VFR.
 - NERN...BKN050 TOP 070. OTLK...VFR.
 - WRN-W CSTL...SKC. 14Z SCT050. OTLK...VFR.
 - ERN-E CSTL...SKC. 12Z SCT050. OTLK...VFR.
 -
 - NH VT
 - N HLF...BKN050 TOP 070. IN VLYS VIS OCNL 3SM BR. 14Z SCT050. OTLK...VFR.
 - S HLF...SKC. IN VLYS TIL 13Z VIS 3SM BR. OTLK...VFR.

Challenges Ahead

- Coordinating the national requirement
- C&V transition between forecast offices (e.g. can you tell where the one office domain ends and another begins)
- Meaningful verification
- Office prioritization
- Cloud top information as required by the Area Forecast



Example of smart tools used by forecasters to produce grids

So What Have we Deduced So Far?

- Participating offices do not want to go back to writing TAFs!
 - Operations far more efficient
 - Short term forecaster no longer removed from grids to compose TAFs
 - Participating offices say product consistency is indeed improved
- No discernable decrease in skill (POD and FAR)
- Interesting assessments of guidance products for common biases

