Legacy Area Forecast

Aviation Area Forecast Facts

✈ Text product that encompassed large time frame broad brushed phenomena
✈ Didn’t allow for seeing trends
✈ Issued 3 times a day.
✈ Had a character limit, could take 2-3 hours to complete.
✈ This format had been used for over 50 years!
Why the Change?

- May 2015: FAA submits a request to the NWS to cease production of the FA
  - Contingent on graphics of the same meteorological information.
- Move towards more modern way for pilots to get their weather information.
- Pilots highly desire graphical product
- Allow AWC forecasters to focus efforts on operational benefits to aviation end users.
Graphical Forecast for Aviation (GFA)

✈ Multiple weather displays on one domain.
✈ Data overlaid on high-resolution basemaps.
✈ Forecast section with up to +15 hour data.
✈ Obs/Warn section with previous data, -14 hours to current.
✈ Based on core partner feedback and collaboration.
✈ Additional weather elements available than in the text FA.

Aviationweather.gov/gfa
GFA Data

Observations & Warning Products

✈ METAR.
✈ Precipitation and weather
✈ Ceiling, Visibility, Flight Category
✈ PIREPs levels up to FL480
✈ Radar and Satellite
✈ SIGMETS
Forecast Products

✈ TAFs
✈ Ceiling and Visibility
✈ Weather / Thunderstorms (NDFD)
✈ Winds
  o Contoured areas for wind speed
  o clickable wind barbs
  o levels from Sfc to FL480, Max
✈ Turbulence
  o From GTG grids (Graphical Turb Guidance)
  o Levels from Sfc to FL480
  o Hi = maximum above 18K
  o Lo = maximum below 18K
✈ Icing
  o From FIP grids
  o Levels from Sfc to FL480, Max
GFA Forecast Clouds

Forecast Clouds

✈ Derived from RAP grids

✈ Cloud layer information under 18,000ft

✈ Shows “cirrus” for clouds above 18,000ft

✈ Heights of bases and tops in MSL
What’s Next for the GFA?

- GFA is continuously being improved by developers at AWC
- Expansion to the Gulf of Mexico and Caribbean Sea
- Enhanced menu options for map overlays
- More mobile friendly
- Eventual Expansion to Hawaii and Alaska and extended planning times
- Inclusion of more DAS grids as they become available
- [https://testbed.aviationweather.gov/gfa](https://testbed.aviationweather.gov/gfa)
Domain expansion over the Gulf of Mexico and Caribbean Sea will allow AWC to retire the legacy text Area Forecasts in this location and ramp up new graphical solutions.

Supports island hopping and offshore platform operations.

Bahamas Meteorology excited about this product.
As more local offices begin to produce aviation grids (ie. ceiling grids at left) we will be incorporating those into the GFA tool.

This provides increased consistency between the point based TAF the gridded products in the GFA.

Goal in the NWS is to provide a consistent message across offices from local to regional to national to global.
Adding Longer Term Guidance

✈ Medium Range (6-36hrs)
✈ coarser resolution (5-10km)
✈ Hourly time steps

✈ Extended (Day 2 - Day 8) and global forecasts
✈ Coarse vertical and horizontal resolution (~20 km)
✈ 3 to 6 hour time steps
✈ Leverage probabilistic forecasts beyond day 3

✈ What is important in the extended?
GFA Example

MCI-PHX
Departing @ 1150am CDT (1650Z)
Arriving @ 1235pm MST (1935Z)
Preflight Planning:

✈ AIRMETs (Hazards)
   ✈ LLWS on takeoff
   ✈ Turbulence
   ✈ Convection??
     ✈ TCF
     ✈ Convection that doesn’t reach TCF criteria?
   ✈ Clouds?
     ✈ No Sierra AIRMETs
✈ TAF
✈ Winds (surface and aloft)
✈ GFA Tool!
GFA Example

Turbulence:

✈ High-level Turb
✈ HI = Above FL180
✈ Click up through layers
✈ Potential for MOD turb below FL240 and above FL400.

✈ Low-level Turb:
✈ AIRMET FL180-100
✈ Mainly over Mountains
Winds:

- Upper-level winds
- Surface Winds
  - Ridgetop winds approaching 30 knots sustained.
- What are your wind thresholds?
Showers and/or Thunderstorms:
- PCPN/WX and TS
- Clouds
- Mountain Obscn
- TAF
Current Conditions:

✈ Obs/Warn Tab
✈ Active SIGMETs
✈ PIREPS
✈ Satellite/Radar
✈ Past 14 hours
GFA Example
Thank You!!

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