

Question #3: How should each NCEP centers support the WFO's contribution to the digital forecast process?

GENERAL COMMENTS: Due to the large number of centers and their individual focus it would be hard to ever have a commonality for this particular question. In combination, the Regional teams identified support roles for seven different centers: Aviation Weather Center (AWC), Climate Prediction Center (CPC), Environmental Modeling Center (EMC), Hydrometeorological Prediction Center (HPC), Ocean Prediction Center (OPC), Storm Prediction Center (SPC) and the Tropical Prediction Center (TPC). The two centers that were identified as playing the most significant role were, not surprisingly, EMC and HPC. The two most discussed topics that emerged from the responses were HPC Day 4-7 grids and model data available to the WFOs at native resolution. Verification was also mentioned – specifically as it relates to the Analysis of Record (AoR), which needs to be produced to aid in verification of all gridded forecasts including EMC and HPC products.

GENERAL REQUESTS:

All NCEP guidance/forecasts that have benefit to the DFP need to be in gridded form and as close to NDFD resolution as possible for use in IFPS. For example, there are current products that cannot be used effectively in IFPS because they are either graphics or text products. This greatly compromises their value to the field. These include: MOS, weather outlooks and medium range guidance.

Probabilistic guidance grids need to be generated for certain parameters (at parameter dependant thresholds) and ensemble output needs to be provided in gridded format (means and members).

Research needs to be done to aid regions that have mountainous terrain generate better wind forecasts at higher elevations.

Climatology grids need to be produced at the highest possible temporal and spatial resolution with the aid of NCEP. These grids could become part of the GFE baseline for each verification element. In addition to this, local/regional libraries could be created to aid in seasonal variations.

REQUESTS SPECIFIC TO EMC:

EMC should produce the best possible AOR grids using all available, quality observational data sets. They should also support the production of an Analysis of the Moment (AOM) to continually validate and update the first period of the forecast.

Model output should be provided to WFOs at native resolution in a timelier manner to support the first period and to support local models.

Non-NCEP model guidance (e.g., ECMWF, UKMET, etc.) output in the operational data stream to WFOs is needed to help in modifying the days 4-7 grids.

REQUESTS SPECIFIC TO HPC:

HPC should produce high-quality Day 4-7 grids and make them available in a timely manner such that they can be directly ingested (with very little editing) to meet WFO deadlines during high workload demand. HPC must conduct robust verification of these grids.

HPC should provide the best possible guidance/forecasts in the medium and extended range such that the WFO can focus their attention on the first three days. To insert a specific quote: “Focusing on the short term (days 1-3) is not a form of relinquishing our duties, it is a redistribution of duties: the same workload, just more concentration on the short term. – John Distefano, WFO Wilmington, OH”

All snow and QPF data should be produced by HPC in a gridded format. Two regions requested that HPC produce gridded data with a resolution down to 2.5km.

REQUESTS SPECIFIC TO OPC:

OPC needs to produce offshore element grids (wind/wave) at 60 to 250 nm in a gridded format that would go over the SBN and into AWIPS for ingestion into GFE. If OPC is unable to produce these grids then support should be made available to local WFOs such that they are able to run locally developed model data.

OPC should create and provide a climatology analysis of wind and wave conditions in coastal waters, probabilistic forecast guidance, statistical wave guidance and a high resolution Great Lakes wave model.

OPC should incorporate TPC guidance into their products for better overall wind, wave height and surge guidance.

REQUESTS SPECIFIC TO TPC:

Timeliness of TCM grids from TPC is very important to the WFO because of the discontinuities it can create between WFOs. NCEP should use the TPC positions from the TCM as input into model data and incorporate the radius of cyclone winds. This information would result in better wind and wave forecasts in the near shore.

REQUESTS SPECIFIC TO SPC:

Products produced by SPC need to be in a gridded format. These products should be limited to days 1-3 for the present time. Other products of value from SPC should be a gridded CAPE product and fire weather grids.

REQUESTS SPECIFIC TO AWC:

AWC needs to provide gridded guidance on ceiling and visibility as well as the CCFP and other aviation fields in gridded format for use by WFOs and CWSUs.

ADDITIONAL NOTES: There were a few requests or overarching comments that seem to identify critical areas or premises: native center resolution, higher center resolution (NDFD scale), better timeliness of the centers' products, incorporation of additional data and that the onus should be on the WFO for days 1-3 and on the centers for the medium and extended range.

The additional data products and native center resolution are problems that are inherent of AWIPS and not the centers. It should also be noted that additional products will also have a two-fold problem, bandwidth and performance issues. Timeliness or availability of products is also a bandwidth issue.

Work should be done to ensure all of the NWS is on an even playing field. The OCONUS still requires a lot of work in this regard specifically relating to NCEP guidance and products.

The WFO should have the best guidance possible for the medium and extended range forecast periods. This will allow the WFO more time to work on the days 1-3 grids and better collaborate with neighboring offices. There is still a great deal of work required in that arena.