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Public Information Statement, Comment Request  
National Weather Service Headquarters Washington DC  
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From: Kathryn Gilbert  
Chief, Statistical Modeling Branch  
Meteorological Development Laboratory

Subject: Soliciting Comments on Proposed Additions to the  
Global Forecast System (GFS)-Based Gridded MOS  
Products over the CONUS and Alaska through  
December 6, 2013

The NWS Meteorological Development Laboratory (MDL) is soliciting public comments by December 6, 2013, on the proposed addition of several weather elements to the GFS-Based Gridded Model Output Statistics (GMOS) Guidance over the CONUS and Alaska.

#### 1. Addition of precipitation type and PoPO

MDL is proposing to add the following precipitation type guidance to the suite of GFS-based Gridded MOS over the CONUS and Alaska:

- (1) Conditional probability of freezing precipitation
- (2) Conditional probability of frozen precipitation
- (3) Conditional probability of liquid precipitation
- (4) Conditional precipitation type best category

Equations for precipitation type probability are derived from present weather observations at METAR sites and then evaluated directly at each NDGD gridpoint to produce the gridded forecasts. A gridded best category forecast is generated by applying statistically-derived thresholds to the probability forecasts at each gridpoint. Forecasts are produced for valid times every 3 hours (on the hour) out to 192 hours in advance for the 0000 and 1200 UTC model cycles.

The precipitation type probability and best category forecasts are conditional on some form of precipitation occurring at the top of the valid hour. For users who wish to calculate unconditional probabilities for precipitation type,

MDL is proposing to add the Probability of Precipitation Occurrence on the hour (PoPO). Like precipitation type, PoPO is derived from present weather observations at METAR sites, and the resulting MOS equations are applied directly at each grid point. The unconditional precipitation type probability is the product of the conditional probability and the PoPO value. Forecasts for PoPO are produced for the same valid times as precipitation type, i.e., for every 3 hours out to 192 hours in advance for the 0000 and 1200 UTC cycles.

Graphics, links to GRIB2 data for download, and more details on the experimental GFS-based precipitation type products over the CONUS and Alaska can be found at:

[http://www.mdl.nws.noaa.gov/~mos/gmos/ptype\\_conus2p5/](http://www.mdl.nws.noaa.gov/~mos/gmos/ptype_conus2p5/)

[http://www.mdl.nws.noaa.gov/~mos/gmos/ptype\\_alaska/](http://www.mdl.nws.noaa.gov/~mos/gmos/ptype_alaska/)

## 2. Addition of predominant weather and PPI

MDL is proposing to add grids of predominant weather and Precipitation Potential Index (PPI) to the suite of GFS-based gridded MOS guidance over the CONUS and Alaska. The experimental MOS weather grid is the predominant weather valid at the indicated hour, generated from a collection of other gridded MOS elements. The gridded MOS weather element provides type, probability, and intensity information valid every 3 hours out to 192 hours in advance.

PPI supports the categorical information provided by the GMOS weather grid. PPI values range from 0 to 100 and resemble PoP12 values in magnitude. The PoP12 for any 12-hour period can be derived by taking the maximum PPI value within the desired period. PPI is not a probability forecast, which has different statistical characteristics. For example, as temporal resolution increases, probability should decrease (i.e., 12-hour PoP forecasts will have a larger magnitude than 6-h PoP forecasts). As temporal resolution increases, the magnitude of PPI is unaffected. Forecasts for PPI are produced for every 3 hours out to 192 hours in advance for the 0000 and 1200 UTC cycles.

Graphics, links to GRIB2 data for download, and more details on the experimental weather grid and PPI over the CONUS and Alaska can be found at the following link:

<http://www.mdl.nws.noaa.gov/~wxgrid/index.php>

Users are encouraged to provide feedback on these experimental products by using the brief survey and comment form available at the following link:

<http://www.nws.noaa.gov/survey/nws-survey.php?code=GPTPW>

General information on the gridded MOS file structure and additional references is available at:

<http://www.weather.gov/mdl/synop/gmos.php>

Comments and questions regarding the proposed addition of precipitation type to the GFS-Based Gridded MOS suite over the CONUS and Alaska should be submitted to:

Phil Shafer  
NWS Meteorological Development Laboratory  
301 713-0023 x113  
Phil.Shafer@noaa.gov

Comments and questions regarding the proposed addition of predominant weather and PPI to the GFS-Based Gridded MOS suite over the CONUS and Alaska should be submitted to:

Tabitha Huntemann  
NWS Meteorological Development Laboratory  
301 713-0224 x119  
Tabitha.Huntemann@noaa.gov

National Public Information Statements are online at:

<http://www.weather.gov/os/notif.htm>

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