

September 14,2011

MEMORANDUM FOR: NCEP Model Implementation Scientific Review Team

FROM: Chris Caruso Magee, Team Lead, Production Control
Production Management Branch, NCEP Central Operations

SUBJECT: Proposed Implementation of Combined NCEP/FNMOC Global
Ensemble Ocean Wave Product V1.0.0

The Environmental Modeling Center (EMC) has proposed implementation of a new product which combines the NCEP wave ensemble output with wave ensemble output generated at the Fleet Numerical Meteorology and Oceanography Center (FNMOC). Although NCEP and FNMOC use the same wave model code (WAVEWATCH III) as the basis for their wave forecast products, differences between the two wave forecasting system may provide benefits when a combined NCEP/FNMOC product is generated. FNMOC ensembles are driven with raw NOGAPS EFS winds, whereas NCEP's ensembles are driven by bias-corrected GEFS winds. Other differences include initial conditions and derivation of sea ice concentration and sea surface temperature. EMC expects the differences will lead to a combined system with improved mean ensemble products and possibly improved ensemble statistical information.

The changes include :

1. Generation of a new product consisting of combined significant wave height outputs from the NCEP and FNMOC wave ensembles.
2. NCEP and FNMOC grib2 data will be combined and processed via a single post-processing script.
3. New wave ensemble products will include
 - a. Mean significant wave height,
 - b. Significant wave height spread,
 - c. Wave-height probabilities of exceedance.
4. Addition of grib2 files containing data from the 20 FNMOC wave ensemble members.

Near real time parallel data:

Beginning Thursday, September 15, 2011, and starting with the 1200Z cycle, a consistent parallel feed of data will be available at:

HTTP:

<http://www.ftp.ncep.noaa.gov/data/nccf/com/wave/para/nfcens.YYYYMMDD>

FTP:

<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/wave/para/nfcens.YYYYMMDD>

where YYYYMMDD is the current year/month/day.

Data delivery, Timing, Volume and Content changes:

The combined NCEP/FNMOC wave ensemble products will be produced for the 00Z and 12Z cycles daily. Output is available at approximately CYC+5:53. Gempak output (produced for the NCEP Centers) will be available 10 minutes later. Total output data volume for the grib2 files is approximately 128 MB/day.

Request for Evaluation

Please complete the attached "Intent to Participate" form and return to Chris.Caruso.Magee@noaa.gov no later than September 20, 2011. NCO requires an intent form be filed by all NCEP Service Centers. For the NCEP Service Centers, if, in your estimation the nature of the proposed change would have little or no impact on the forecast process at your Service Center, simply indicate that you do not intend to participate in the subjective evaluation and return the form.

The 30-day evaluation period will start at 12Z on Thursday, September 15 and run through October 15. Participants need to complete the attached "Model Implementation Subjective Evaluation Report" form and return to Chris.Caruso.Magee@noaa.gov no later than October 21, 2011. Please indicate the overall performance of the product, with any additional comments on specific cases with noteworthy positive or negative performance. Please note that NCO requires evaluators to specifically address the benefits stated in the attached form as to whether those benefits were observed or not. Any feedback you wish to provide during the evaluation period should be emailed to Chris.Caruso.Magee@noaa.gov.

A final coordination teleconference will be scheduled to review the objective evaluation and address any outstanding issues. Based on the outcome of that teleconference EMC and NCO will prepare a recommendation for Dr. Uccellini (NCEP Director). This teleconference has not yet been scheduled.

Points of Contact

Chris.Caruso.Magee@noaa.gov (NCO)

Henrique.Alves@noaa.gov (EMC)

Hendrik.Tolman@noaa.gov (EMC)

**Intent To Participate
Model Implementation Subjective Evaluation**

Scientific Review Team Member: _____

Team Member E-mail: _____

Region, Service Center Company Representing: _____

**(Govt Only) Authorizing Official or
Service Center Director:** _____

Intent to Participate:

____ Will Participate in the Evaluation

____ Will Not Participate in the Evaluation

Model Implementation Subjective Evaluation Report

Scientific Review Team Member: _____

Region, Service Center or Company Representing: _____

Proposed Change: Combined NCEP/FNMOC Global Ensemble Ocean Wave Product

Model Developer: Henrique Alves

Real-Time Parallel Runs:

General comments: _____

Direct comparison of operational and proposed change:

Evaluation of expected benefits:

Do you observe the following and are they beneficial to you?

1. Combined NCEP/FNMOC significant wave height ensemble data provides improved mean ensemble products.

2. Ensemble statistical information is improved.

Recommendation:

Implement as proposed ____

Reevaluate after changes ____

Do not implement ____