

October 06, 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 Multi-grid Global Wave V2.1.0

The Environmental Modeling Center (EMC) has proposed implementation of the Multi-grid Global Wave model V2.1.0. This model runs four times daily for the 0000Z, 0600Z, 1200Z, and 1800Z cycles.

The changes include :

1. Change the spectral output to match the resolution of the internal model domain. The current resolution is a spectral domain of 25x24 (frequency and direction) and the new resolution will be 50x36.
2. The frequency spectrum will now start from 0.035 (instead of 0.0412).
3. The logarithmic increment will now be 1.07 (as opposed to 1.1). I.e. the next frequency will be 7% higher as opposed to 10% higher earlier.
4. There will be 50 frequency components as opposed to the earlier 25 frequency components (with the highest resolved frequency being 0.963 as opposed to 0.406 earlier).
5. There will be 36 directional components as opposed to the 24 directional components earlier. This means that the directional resolution will now be 10 degrees as opposed to 15 degrees earlier.

Near real time parallel data:

Beginning Tuesday, October 11, 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/wave.YYYYMMDD>

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

where YYYYMMDD is the year, month, day.

The following files will be affected:

akw.txxz.spec_tar
enp.txxz.spec_tar
multi_1.txxz.spec_tar
wna.txxz.spec_tar

where xx is the model cycle.

This change will not affect the non-spectral output files from these models. The spectral products that are changing are not available on NOAAPORT or in AWIPS.

Sample output files reflecting this spectral resolution change are available at:

<ftp://polar.ncep.noaa.gov/pub/waves/develop/>

Details about the NCEP Multi-grid Wave Models are online at:

<http://polar.ncep.noaa.gov/waves/index2.shtml>

Request for Evaluation

Please complete the attached “Intent to Participate” form and return to Chris.Caruso.Magee@noaa.gov no later than October 14, 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 Tuesday, October 11 and run through November 10. Participants need to complete the attached “Model Implementation Subjective Evaluation Report” form and return to Chris.Caruso.Magee@noaa.gov no later than November 17, 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)

Arun.Chawla@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: Multi-grid Global Wave Model

Model Developer: Arun Chawla and Hendrik Tolman

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. Does the increased directional and frequency resolution provide a more detailed spectrum that can be used as boundary conditions for nearshore local models?

Recommendation:

Implement as proposed ____

Reevaluate after changes ____

Do not implement ____