

July 27, 2012

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 Columbia River Estuary Operational
Forecast System V1.0.0

The Center for Operational Oceanographic Products and Services (CO-OPS) and the Coast Survey Development Lab (CSDL) of the National Ocean Service (NOS) have proposed implementation of the Columbia River Estuary Operational Forecast System (CREOFS) V1.0.0. CREOFS will provide the maritime community with nowcasts (i.e. analysis) and short-term (2 day) forecast guidance of water levels, currents, water temperature, and salinity for the Columbia River Estuary basin. These parameters are fundamental variables for other applications such as emergency response (e.g. oil spills; search and rescue) and ecological forecasting. CREOFS will run four times daily for the 0000Z, 0600Z, 1200Z, and 1800Z cycles on the NCEP Central Computer System (CCS). Each cycle, a 6-hour nowcast and 48-hour forecast will be produced.

CREOFS is based on a three-dimensional hydrodynamic model, the Semi-implicit Eulerian-Lagrangian Finite Element (SELFE) model developed at the Oregon Health & Science University (OHSU). CREOFS is implemented and operated within an NOS standardized functional framework called the Coastal Ocean Modeling Framework (COMF). COMF is a set of standards and tools for developing and maintaining NOS's hydrodynamic model-based operational forecast systems. The main functions of COMF include: (1) decoding/reformatting many kinds of NCEP products in different formats, such as GRIB, GRIB2, BUFR, and NetCDF; (2) two-step quality control processing for real-time observations; (3) horizontal and vertical interpolation; and (4) generating forcing files of surface meteorological forcing, river forcing, and lateral open boundary forcing for NOS's operational forecast systems.

Once CREOFS has been implemented into operations, gridded and point forecast guidance from will be available in netCDF files on the NCEP server at NOAA's Web Operations Centers (WOC) (<ftp://ftp.ncep.noaa.gov>) in the directory /pub/data/nccf/com/nos/prod/creofs.YYYYMMDD (where YYYYMMDD = year, month day), at NOS/CO-OPS OPeNDAP server <http://opendap.co-ops.nos.noaa.gov/netcdf> and at CO-OPS THREDD server <http://opendap.co-ops.nos.noaa.gov/thredds/catalog.html>

Near real time parallel data:

Beginning Friday, August 03, 2012 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/creofs/para/creofs.YYYYMMDD>

FTP:

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

where YYYYMMDD is the year, month, and day.

CREOFS output will also be available for review at the following CO-OPS website:

<http://tidesandcurrents.noaa.gov/ofs/creofs/creofs.html>

The Technical Implementation Notice (TIN) for CREOFS is available at:

<http://www.nws.noaa.gov/os/notification/tin12-35creofs.txt>

Request for Evaluation

Please complete the attached “Intent to Participate” form and return to Chris.Caruso.Magee@noaa.gov no later than August 06, 2012. NCO requires an intent form be filed by all NCEP Service Centers. The list of recommended government evaluators includes: NOS/OCS, NOS/ORR, WFO Portland, the Northwest River Forecast Center, USCG, US Navy, USGS, and BPA. All NCEP Service Centers, the NWS Regions, WFOs and government agencies other than those listed above and private sector companies are optional. 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 Friday, August 03, 2012 and run through September 02, 2012. Participants need to complete the attached “Model Implementation Subjective Evaluation Report” form and return to Chris.Caruso.Magee@noaa.gov no later than September 10, 2012. 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 evaluation and address any outstanding issues. Based on the outcome of that teleconference, NOS 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)

Aijun.Zhang@noaa.gov (NOS/CO-OPS)

Frank.Aikman@noaa.gov (NOS/OCS/CSDL)

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

Scientific Review Team Member: _____

Region, Service Center or Company Representing: _____

Proposed Change: CREOFS

Model Developer: Aijun Zhang (NOS/CO-OPS)

Real-Time Parallel Runs:

General comments: _____

Evaluation of expected benefits:

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

1. Are the CREOFS nowcasts and forecasts of water level, currents, water temperature, and salinity beneficial to you? Please describe.

Recommendation:

Implement as proposed ____

Reevaluate after changes ____

Do not implement ____