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TECHNICAL IMPLEMENTATION NOTICE 06-44
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
922 AM EDT TUE JUN 20 2006

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS...NOAA WEATHER
WIRE SERVICE /NWWS/ SUBSCRIBERS... EMERGENCY MANAGERS
WEATHER INFORMATION NETWORK /EMWIN/ SUBSCRIBERS...
NOAAPORT SUBSCRIBERS... OTHER NATIONAL WEATHER SERVICE
/NWS/ CUSTOMERS AND PARTNERS...NWS EMPLOYEES

FROM: PAUL HIRSCHBERG
CHIEF...SCIENCE PLANS BRANCH
OFFICE OF SCIENCE AND TECHNOLOGY /OST/

SUBJECT:UPGRADES TO THE NATIONAL CENTERS FOR ENVIRONMENTAL
PREDICTION GLOBAL FORECAST SYSTEM...EFFECTIVE JULY 25 2006

EFFECTIVE JULY 25 2006...BEGINNING WITH THE 1200 COORDINATED
UNIVERSAL TIME /UTC/ RUN...THE NATIONAL CENTERS FOR ENVIRONMENTAL
PREDICTION /NCEP/ WILL IMPLEMENT UPGRADES TO ITS GLOBAL FORECAST
SYSTEM /GFS/ MODEL. THESE UPGRADES ARE AS FOLLOWS:

- BEGIN USE OF THE HYBRID /SIGMA-PRESSURE/ VERTICAL COORDINATE
SYSTEM /SPECTRAL STATISTICAL INTERPOLATION ANALYSIS REMAINS IN
SIGMA COORDINATE/
- ADDITION OF NAVAL RESEARCH LABORATORY /NRL/ OZONE PHYSICS
- ADDITION OF GLACIAL ICE PHYSICS WITH MODIFIED OROGRAPHY
- IMPROVED GLOBAL SNOW ANALYSIS /LESS INTERPOLATION/
- CORRECTION TO SURFACE DOWNWARD LONGWAVE RADIATION
- CHANGE OF THE TIME-FILTER COEFFICIENT /0.85/
- UPGRADES TO SURFACE CYCLING...COMPATIBLE WITH THE NEW
SNOW ANALYSIS
- USES EARTH SYSTEM MODELING FRAMEWORK/ESMF/ SUPERSTRUCTURE
- RESTART FILES ARE IN FULL PRECISION /FORECASTS ARE THUS
REPRODUCIBLE/
- WILL ALLOW MULTIPLE ENSEMBLE MEMBER FORECASTS TO BE RUN
CONCURRENTLY

THE PURPOSE OF THESE CHANGES IS TO:

- TAKE ADVANTAGE OF THE HYBRID VERTICAL COORDINATE
- USE ESMF
- MAKE MINOR IMPROVEMENTS /TIME FILTER COEFFICIENT AND DOWNWARD
LONGWAVE RADIATION/
- MAKE UPGRADES THAT HAVE BEEN PLANNED FOR AWHILE /NEW SNOW
ANALYSIS/
- MAKE PHYSICS CHANGES /OZONE AND GLACIAL ICE/

THE EXPECTED IMPACTS ARE GENERALLY MINOR...THOUGH UV FORECASTS
ARE EXPECTED TO BE IMPROVED BY THE CHANGED OZONE SCHEME.

THE NCEP ENVIRONMENTAL MODELING CENTER /EMC/ BEGAN RUNNING
PARALLEL FORECASTS ON MAY 9 2006...AND IS CURRENTLY UP TO REAL-
TIME. STATISTICAL SCORE COMPARISONS FOR BOTH THE OPERATIONAL AND
NEW GFS ARE AVAILABLE ONLINE AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.EMC.NCEP.NOAA.GOV/GC_WMB/WD20XW/HTML_DIE/INDEX_PRYO_NEW.HTML](http://www.emc.ncep.noaa.gov/gc_wmb/wd20xw/html_die/index_pryo_new.html)

[HTTP://WWW.EMC.NCEP.NOAA.GOV/GC_WMB/WD20XW/HTML_LINE/INDEX_PRYO_NEW.HTML](http://www.emc.ncep.noaa.gov/gc_wmb/wd20xw/html_line/index_pryo_new.html)

IF YOU HAVE ANY QUESTIONS CONCERNING THESE CHANGES...PLEASE CONTACT:

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ONLINE AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM](http://www.nws.noaa.gov/om/notif.htm)

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