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TECHNICAL IMPLEMENTATION NOTICE 05-33
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
200 PM EDT WED APR 27 2005

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS...NOAA WEATHER
WIRE SERVICE /NWWS/ SUBSCRIBERS...EMERGENCY MANAGERS
WEATHER INFORMATION NETWORK /EMWIN/ 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: UPGRADE OF THE NCEP GLOBAL FORECAST SYSTEM EFFECTIVE:
MAY 31 2005

EFFECTIVE MAY 31 2005...BEGINNING WITH THE 1200 COORDINATED
UNIVERSAL TIME /UTC/ RUN...THE NATIONAL CENTERS FOR ENVIRONMENTAL
PREDICTION /NCEP/ WILL UPGRADE THE GLOBAL FORECAST SYSTEM /GFS/
TO IMPROVE ITS ACCURACY AND PRODUCTS.

THIS UPGRADE INVOLVES INCREMENTAL IMPROVEMENTS TO THE ANALYSIS
AND FORECAST OF THE GFS. DETAILS OF THESE CHANGES INCLUDE:

ANALYSIS CHANGES:

- INCREASE HORIZONTAL RESOLUTION TO T382.
- ASSIMILATE AQUA AIRS AND AMSU-A BRIGHTNESS TEMPERATURES.
- MODIFY THINNING ALGORITHM FOR BRIGHTNESS TEMPERATURES.
- ADD SURFACE MICROWAVE EMISSIVITY MODEL OVER SNOW AND ICE.
- MODIFY BRIGHTNESS TEMPERATURE QUALITY CONTROL ALGORITHM
TO CHECK FOR THE PRESENCE OF CLOUDS IN IR FIELDS OF VIEW.

FORECAST MODEL CHANGES:

- HORIZONTAL RESOLUTION INCREASED FROM T254 (~55 KM) 64 LAYERS TO
T382 (~35KM) 64 LAYERS FOR FORECAST HOURS 0-180.
- HORIZONTAL RESOLUTION INCREASED FROM T126 (~100 KM) 42 LAYERS
TO T190 (~70 KM) 64 LAYERS FOR FORECAST HOURS GREATER
THAN 180.
- ADDITION OF THE NOAH LAND SURFACE MODEL WITH 4 SOIL LAYERS.
- NEW SEA ICE MODEL.
- REDUCED VERTICAL DIFFUSION.
- ENHANCED MOUNTAIN BLOCKING.

THIS UPGRADE WILL NOT CHANGE GFS PRODUCTS SENT OVER NOAAPORT.
NCEP CENTRAL OPERATIONS IS CURRENTLY RUNNING A REAL-TIME PARALLEL
RUN OF THE T382 GFS. RESULTS FROM THESE PARALLEL RUNS CAN BE
VIEWED AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.NCO.NCEP.NOAA.GOV/PMB/NWPARA/ANALYSIS/](http://www.nco.ncep.noaa.gov/pmb/nwpara/analysis/)

FOR QUESTIONS CONCERNING THESE CHANGES...PLEASE CONTACT:

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THIS AND OTHER NWS TECHNICAL IMPLEMENTATION NOTICES ARE AVAILABLE
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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