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PUBLIC INFORMATION STATEMENT...TECHNICAL IMPLEMENTATION NOTICE 99-08
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
1130 AM EDT THU MAY 13 1999

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS
NOAA WEATHER WIRE SERVICE /NWS/ SUBSCRIBERS
OTHER NWS CUSTOMERS...PARTNERS AND EMPLOYEES

FROM: LEROY SPAYD
CHIEF...SCIENCE AND TRAINING CORE

SUBJECT: CHANGES TO THE NCEP OPERATIONAL ETA MODEL SYSTEM...EFFECTIVE MAY
13 1999

AT 1200 COORDINATED UNIVERSAL TIME /UTC/ MAY 13 1999...THE 3-DIMENSIONAL
/3-D/ VARIATIONAL /3DVAR/ ANALYSIS USED IN THE OPERATIONAL ETA MODEL RUNS
/00 UTC...03 UTC...12 UTC AND 18 UTC/ AND USED IN THE ETA DATA
ASSIMILATION SYSTEM /EDAS/ WAS CHANGED TO CORRECT PARAMETERS INFLUENCING
THE BALANCE BETWEEN THE ANALYZED MASS AND WIND FIELDS. IN NOVEMBER
1998...THESE PARAMETERS WERE ADJUSTED IN SUCH A WAY AS TO DRAW MORE
CLOSELY FOR RADIOSONDE DATA...BUT THIS ADJUSTMENT HAD THE NEGATIVE EFFECT
OF PRODUCING MUCH WEAKER BALANCE BETWEEN MASS AND WIND ANALYSIS FIELDS.
THIS OCCURRED PRIMARILY IN REGIONS WITH MOSTLY SINGLE LEVEL OR SINGLE TYPE
DATA /E.G. SATELLITE TEMPERATURE PROFILES...FLIGHT-LEVEL AIRCRAFT DATA OR
SATELLITE CLOUD-DRIFT WINDS/. THE RESULT WAS FREQUENT POOR ETA ANALYSES
ESPECIALLY OVER OCEANIC REGIONS AND POOR FORECASTS ESPECIALLY AT LONGER
RANGES. THE CORRECTED 3DVAR PRODUCES MORE BALANCED MASS AND WIND ANALYSES
AT SLIGHT EXPENSE OF THE INITIAL FIT TO RADIOSONDE DATA. TESTS OF THE
CORRECTED 3DVAR ANALYSIS PRODUCED MUCH HIGHER FORECAST ACCURACY.

FURTHER DETAILS ON THIS CHANGE CAN BE FOUND AT /USE LOWER CASE/:

[HTTP://WWW.NWS.NOAA.GOV/OM/TPB/3D-ETA.HTM](http://www.nws.noaa.gov/om/tpb/3d-eta.htm)

IF YOU HAVE FURTHER QUESTIONS...PLEASE CONTACT:

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NATIONAL TECHNICAL IMPLEMENTATION NOTICES ARE ONLINE AT /USE LOWER CASE/:

[HTTPS://WWW.WEATHER.GOV/NOTIFICATION/ARCHIVE](https://www.weather.gov/notification/archive)

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