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PUBLIC INFORMATION STATEMENT...TECHNICAL INFORMATION NOTICE 00-12  
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC  
210 PM EDT FRI MAY 5 2000

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

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

SUBJECT: CHANGES IN THE NATIONAL CENTERS FOR ENVIRONMENTAL PREDICTION  
OPERATIONAL WAVE MODEL SUITE...EFFECTIVE MAY 10 2000

TWO CHANGES IN THE NATIONAL CENTERS FOR ENVIRONMENTAL PREDICTION /NCEP/  
OPERATIONAL WAVE MODEL SUITE WILL BE IMPLEMENTED WEDNESDAY...MAY 10 ON THE  
1200 COORDINATED UNIVERSAL TIME /UTC/ MODEL CYCLE RUN. THESE CHANGES  
IMPROVE THE MODEL PREDICTIONS IN SHALLOW WATER AREAS...WHILE MAINTAINING  
SUPERIOR FORECASTS IN THE OPEN OCEAN. THE CHANGES AFFECT ALL MODELS BASED  
ON THE STATE-OF-THE-ART NOAA WAVEWATCH III MODEL WHICH INCLUDES GLOBAL  
(NWW3)...ALASKA WATERS (AKW) AND WESTERN NORTH ATLANTIC /WNA/ DOMAINS.

ONE CHANGE FIXES THE SEEDING ALGORITHM IN THE MODEL. WHEN THE WIND DIES  
AND THE SPECTRAL ENERGY PRODUCES NO NOTICEABLE WAVES...THIS ALGORITHM  
KEEPS ENOUGH ENERGY AVAILABLE TO GROW THE WAVE SPECTRUM REALISTICALLY WHEN  
THE WIND RETURNS. BUT...AS WRITTEN IN THE MODEL SOFTWARE...THE ALGORITHM  
SOMETIMES FAILED TO PUT THE SEED ENERGY IN THE CORRECT PORTION OF THE  
SPECTRUM...AND THE MODEL SOMETIMES FAILED TO GENERATE WAVES QUICKLY ENOUGH  
WHICH LEAD TO A CONDITION KNOWN AS FLATLINING. THIS CONDITION HAS BEEN  
CORRECTED SO THE ALGORITHM WILL ALWAYS PUT SEED ENERGY IN THE CORRECT  
PORTION OF THE MODEL SPECTRUM. THE EFFECTS OF THIS FIX ARE SYSTEMATICALLY  
POSITIVE IN THE MODEL SUITE...BUT ARE CONFINED TO THE GULF OF  
MEXICO...U.S. EAST COAST...DAVIS STRAITS...BERING SEA AND BEAUFORT SEA AS  
WELL AS OTHER AREAS OUTSIDE DIRECT U.S. INTERESTS. THE EFFECT IS LARGEST  
IN THE WNA.

THE OTHER CHANGE WAS MADE BECAUSE THE WAVES NEAR THE MISSISSIPPI GULF  
COAST WERE STILL SYSTEMATICALLY LOW EVEN WITH THE POSITIVE RESULTS FROM  
THE CHANGE TO THE SEEDING ALGORITHM. THIS SUGGESTED AN OVER-ESTIMATION OF  
ENERGY LOSS DUE TO BOTTOM FRICTION. SO...THE BOTTOM ROUGHNESS WAS REDUCED  
SOMEWHAT WHICH RESULTED IN GENERALLY POSITIVE RESULTS IN SHALLOW WATER  
AREAS. THIS IS PARTICULARLY TRUE IN THE GULF OF MEXICO. THERE ARE SOME  
NEGATIVE IMPACTS IN DEEPER WATER IN THE EASTERN BERING SEA AND IN THE  
BAHAMA ISLAND CHAIN WHERE MANY OF THE ISLANDS ARE NOT RESOLVED IN THE WNA.  
THESE NEGATIVE IMPACTS ARE HIGHLY LOCALIZED...AND THE POSITIVE IMPACTS FAR  
OUTWEIGH THE FEW NEGATIVE IMPACTS THAT HAVE BEEN NOTED.

FOR ADDITIONAL INFORMATION AND TEST RESULTS SEE /USE LOWER CASE/:  
[HTTP://POLAR.WWB.NOAA.GOV/WAVES/MOD/SEED/](http://POLAR.WWB.NOAA.GOV/WAVES/MOD/SEED/)...AND  
[HTTP://POLAR.WWB.NOAA.GOV/WAVES/MOD/BOT1/](http://POLAR.WWB.NOAA.GOV/WAVES/MOD/BOT1/)

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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