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PNSWSH

TECHNICAL IMPLEMENTATION NOTICE 05-51  
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC  
1135 AM EDT TUE JUL 12 2005

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

FROM: MIKE CAMPBELL  
CHIEF...OCWS OBSERVING SERVICES DIVISION

SUBJECT:REPLACEMENT OF AUTOMATED SURFACE OBSERVING SYSTEM WIND  
SENSOR

THE FOLLOWING CHANGES HAVE NO IMPACT ON NOAA WEATHER WIRE  
SERVICE SUBSCRIBERS.

THE AUTOMATED SURFACE OBSERVING SYSTEM /ASOS/ PRODUCT IMPROVEMENT  
PROGRAM WILL SOON DEPLOY A REPLACEMENT WIND SENSOR. THE NEW  
SENSOR WILL REPORT WIND INFORMATION USING THE 3-SECOND WORLD  
METEOROLOGICAL ORGANIZATION /WMO/ GUST STANDARD.

THE CURRENT ASOS WIND SENSOR /BELFORT 2000 / USES ROTATING CUPS  
TO MEASURE WIND SPEED AND A VANE TO MEASURE WIND DIRECTION. OVER  
A 2-MINUTE PERIOD...ASOS USES 24 5-SECOND AVERAGES TO  
DETERMINE THE 2-MINUTE AVERAGE WIND SPEED AND DIRECTION. EVERY  
MINUTE ASOS STORES THE HIGHEST 5-SECOND AVERAGE SPEED FOR THE  
PAST MINUTE... ALONG WITH ITS DIRECTION... IN THE 12-HOUR ARCHIVE  
FOR ADDITIONAL PROCESSING. THIS HIGHEST SPEED VALUE IS USED TO  
DETERMINE IF A GUST AND/OR A PEAK WIND REMARK WILL BE REPORTED.

THE NEW ASOS WIND SENSOR /VAISALA 425NWS/ IS A SONIC ANEMOMETER.  
IT HAS NO MOVING PARTS AND WILL OPERATE BETTER IN WINTER WEATHER  
CONDITIONS. AS WITH THE BELFORT SENSOR...OVER A 2-MINUTE  
PERIOD...ASOS USES 24 5-SECOND AVERAGES TO DETERMINE THE  
2-MINUTE AVERAGE WIND SPEED AND DIRECTION. BUT THE HIGHEST  
3-SECOND RUNNING AVERAGE SPEED IS STORED FOR GUST AND PEAK WIND  
PROCESSING.

WHILE THERE WILL BE LITTLE DIFFERENCE IN 2-MINUTE AVERAGE WIND  
SPEED AND DIRECTION REPORTING...THE CHANGES IN GUST AND PEAK WIND  
REPORTING MAY BE SIGNIFICANT. WE CAN EXPECT TO SEE MORE GUSTS  
AND PEAK WINDS REPORTED WITH THE NEW SENSOR. THE MASS OF THE  
MOVING PARTS IN EXISTING SENSORS LIMITS RESPONSIVENESS. THE NEW  
SENSOR WILL BE MORE RESPONSIVE TO SHORT TERM GUSTS.

THE NEW SENSOR... KNOWN AS THE ICE FREE WIND /IFW/SENSOR... WILL  
BE DEPLOYED AT ALL ASOS LOCATIONS OVER A 12 MONTH PERIOD

BEGINNING LATER THIS MONTH ...MORE SPECIFIC INFORMATION WILL BE ISSUED BY THE RESPONSIBLE WEATHER FORECAST OFFICE FOR EACH INDIVIDUAL SITE WHEN THE IFW IS IMPLEMENTED. THESE SITE SPECIFIC NOTICES WILL INDICATE THE DATE OF TRANSITION TO THE IFW AND CONTAIN THE FOLLOWING INFORMATION:

SID STATION NAME CONFIGURATION DEPLOYMENT DATE

FURTHER INFORMATION ON IFW IMPLEMENTATION PLANS AND STATUS CAN BE FOUND ON THE SURFACE OBSERVATIONPROGRAM WEB PAGE AT (USE LOWER CASE LETTERS EXCEPT...PLEASE NOTE THAT S IN SURFACE IS IN UPPER CASE):

[WWW.NWS.NOAA.GOV/OPS2/SURFACE/INDEX.HTM](http://WWW.NWS.NOAA.GOV/OPS2/SURFACE/INDEX.HTM)

IF YOU HAVE ANY QUESTIONS ABOUT THIS CHANGE...PLEASE CONTACT ONE OF THE FOLLOWING INDIVIDUALS AT NWS HEADQUARTERS:

DAVID MANNARANO  
ASOS IMPLEMENTATION MANAGER  
PHONE: 301-713-2093 X103  
E-MAIL: [DAVID.MANNARANO@NOAA.GOV](mailto:DAVID.MANNARANO@NOAA.GOV)

OR

RICHARD AHLBERG  
ASOS PLANNED PRODUCT IMPROVEMENT PROGRAM MANAGER  
PHONE: 301-713-1975 X160  
E-MAIL: [RICHARD.AHLBERG@NOAA.GOV](mailto:RICHARD.AHLBERG@NOAA.GOV).

THIS AND OTHER NWS TECHNICAL IMPLEMENTATION NOTICES ARE AVAILABLE ONLINE AT /USE LOWER CASE/:

[HTTP://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM](http://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM)

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