NOUS41 KWBC 161915
PNSWSH

TECHNICAL IMPLEMENTATION NOTICE 08-85
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
315 PM EDT THU OCT 16 2008

TO: SUBSCRIBERS:
-FAMILY OF SERVICES
-NOAA WEATHER WIRE SERVICE
-EMERGENCY MANAGERS WEATHER INFORMATION NETWORK
-NOAAPORT
OTHER NWS PARTNERS...USERS AND EMPLOYEES

FROM: RICHARD J. VOGT
DIRECTOR...WSR-88D RADAR OPERATIONS CENTER

SUBJECT: ADDITION OF PRODUCTS DERIVED FROM FAA TERMINAL DOPPLER WEATHER RADAR TO SBN/NOAAPORT AND RPCCDS: EFFECTIVE NOVEMBER 18 2008

EFFECTIVE TUESDAY NOVEMBER 18 2008...AT APPROXIMATELY 1500 COORDINATED UNIVERSAL TIME /UTC/...NWS WILL BEGIN A BETA TEST OF DISSEMINATING RADAR PRODUCTS GENERATED BY THE NWS SUPPLEMENTAL PRODUCT GENERATOR /SPG/ USING DATA FROM THE FEDERAL AVIATION ADMINISTRATION /FAA/ TERMINAL DOPPLER WEATHER RADAR /TDWR/. THESE PRODUCTS WILL BE PROVIDED VIA THE RADAR PRODUCT CENTRAL COLLECTION DISSEMINATION SERVICE /RPCCDS/. A SUB-SET WILL BE PROVIDED VIA NOAAPORT.

BETWEEN NOVEMBER 18 2008 AND JANUARY 2009...PRODUCT DISSEMINATION WILL BE PROVIDED FROM UP TO EIGHT BETA TEST SITES. THE REMAINING SITES WILL BE GRADUALLY ADDED BETWEEN FEBRUARY AND JUNE 2009.

TDWR SPG PRODUCTS CONSIST OF A SET OF BASE AND ALGORITHM DERIVED PRODUCTS AND CORRESPONDING PARAMETERS LISTED BELOW IN TABLE 1. ANALOGOUS TO WSR-88D PRODUCTS ALREADY PROVIDED VIA RPCCDS AND NOAAPORT...THESE NEW TDWR SPG PRODUCTS ARE ALSO INTENDED FOR DISTRIBUTION IN NEAR REAL-TIME. THE TDWR DATA ARE PROCESSED BY THE NWS SPG...WHICH EVOLVED FROM THE WSR-88D RADAR PRODUCTS GENERATOR /RPG/. THUS...TDWR SPG PRODUCTS ARE FORMATTED SIMILAR TO WSR-88D RPG PRODUCTS. THE TDWR SPG BASE PRODUCTS WILL BE PROVIDED AT 150 METER /M/ RANGE RESOLUTION...AND 300 M RESOLUTION FOR THE LONG RANGE REFLECTIVITY PRODUCT. ALGORITHM DERIVED PRODUCTS WILL BE PROVIDED AT THE SAME RESOLUTION AS THE CORRESPONDING WSR-88D PRODUCT.

AS AN EXAMPLE...WORLD METEOROLOGICAL ORGANIZATION /WMO/ PRODUCT HEADERS LISTED IN TABLE 1 CORRESPOND TO THE DENVER TDWR /DEN/ WHERE SPG PRODUCTS WILL ORIGINATE FROM THE BOULDER /BOU/ WEATHER FORECAST OFFICE /WFO/. THE LIST OF 45 TDWR RADARS AND 34 WFOS RESPONSIBLE FOR SENDING SPG PRODUCTS ARE LISTED IN TABLE 2.

THREE TDWR IDS WERE MODIFIED /CLE TO LVE...IND TO IDS...ICT TO ICH/ SO THAT WMO HEADERS WOULD BE DISTINCT FROM WSR-88D HEADERS. FOR THE GENERAL STATUS MESSAGE /GSM/ EXAMPLE...THE FULL RANGE OF WFOS...STATE CROSS-REFERENCE NUMBER...AND TDWR SPG ARE REFLECTED IN THIS TABLE.

EXCEPT FOR STATUS AND THE FREE TEXT MESSAGES...THE NWS WILL DISSEMINATE ONE OF EACH OF THESE TABLE 1 TDWR SPG PRODUCTS EVERY SIX-MINUTE VOLUME SCAN FROM EACH TDWR SPG. THE HEADER OF EACH PRODUCT WILL HAVE A VALID TIME CORRESPONDING TO THE DAY OF MONTH AND THE HOUR AND MINUTE OF THE DATA /E.G...100754 MEANS 0754 UTC ON THE TENTH DAY OF THE MONTH/. THE TDWR SPG PRODUCTS WILL BE DISSEMINATED VIA RPCCDS AND NOAAPORT AND AVAILABLE ON THE TELECOMMUNICATION OPERATIONS CENTER /TOC/ FTP SERVER WITHIN 60 SECONDS AFTER THE VALID TIME.

AVAILABILITY OF TDWR SPG PRODUCTS MAY BE LESS THAN THAT OF THE WSR-88D. THE FAA ASSUMES NO LIABILITY FOR THE ACCURACY OR TIMELINESS OF THE TDWR DATA TRANSFERRED TO THE NWS. THE TDWR WILL BE CALIBRATED IN ACCORDANCE WITH STANDARD FAA ORDERS AND REPAIRED ACCORDING TO FAA NORMAL MAINTENANCE AND RESTORATION SCHEDULES.

FOR EACH RADAR...THE AVERAGE HOURLY DATA VOLUME VIA RPCCDS WILL BE APPROXIMATELY 3.9 MEGABYTES /MB/ AND THE DAILY VOLUME WILL BE APPROXIMATELY 92.9 MB. WHEN FULLY IMPLEMENTED...THE AVERAGE DAILY VOLUME FOR ALL 45 TDWR RADARS WILL BE 4.1 GIGABYTES /GB/. SINCE PRODUCTS VIA NOAAPORT ARE FURTHER COMPRESSED...THE ESTIMATED DAILY VOLUME FOR ALL TDWR SPG PRODUCTS IS 2.4 GB.

ALL OF THE PRODUCTS WILL BE PROVIDED BY THE RPCCDS AND WILL BE AVAILABLE FROM THE NWS TOC FTP SERVER. EXCEPT FOR STI...HI...TVS AND SPD...ALL PRODUCTS WILL BE CARRIED ON NOAAPORT. EVERY 10 SECONDS...THE RPCCDS WILL AGGREGATE AND DISSEMINATE BUNDLES OF RADAR PRODUCTS /BUNDLES WILL INCLUDE BOTH WSR-88D AND TDWR SPG PRODUCTS/.

TABLE 1: WMO HEADINGS ASSIGNED TO THE TDWR SPG RADAR PRODUCTS

#	TTUSII	CCCC	NNNXXX	SPG PRODUCT CODE AND DESCRIPTION
1	NXUS65	KBOU	GSMDEN	2 GENERAL STATUS MESSAGE /GSM/
2	NOUS65	KBOU	FTMDEN	75 FREE TEXT MESSAGE /FTM/
3	SDUS45	KBOU	RSLDEN	152 ARCHIVE STATUS PRODUCT /ASP/
4	SDUS55	KBOU	TZLDEN	186 REFLECTIVITY /Z/ - 0.6 DEGREE LONG RANGE
5	SDUS55	KBOU	TR0DEN	181 REFLECTIVITY /Z/ - BASE ELEVATION
6	SDUS25	KBOU	TR1DEN	181 REFLECTIVITY /Z/ - 1.0 DEGREE ELEVATION
7	SDUS25	KBOU	TR2DEN	181 REFLECTIVITY /Z/ - THIRD ELEVATION
8	SDUS55	KBOU	TV0DEN	182 VELOCITY /V/ - BASE ELEVATION
9	SDUS75	KBOU	TV1DEN	182 VELOCITY /V/ - 1.0 DEGREE ELEVATION
10	SDUS75	KBOU	TV2DEN	182 VELOCITY /V/ - THIRD ELEVATION
11	SDUS55	KBOU	NCRDEN	37 COMPOSITE REFLECTIVITY /CZ/
12	SDUS75	KBOU	NETDEN	41 ECHO TOPS /ET/
13	SDUS35	KBOU	NVWDEN	48 VAD WIND PROFILE /VWP/
14	SDUS55	KBOU	NVLDEN	57 VERTICALLY INTEGRATED LIQUID /VIL/
15	SDUS65	KBOU	NSTDEN	58 STORM TRACKING INFORMATION /STI/
16	SDUS65	KBOU	NHIDEN	59 HAIL INDEX /HI/
17	SDUS65	KBOU	NTVDEN	61 TORNADIC VORTEX SIGNATURE /TVS/
18	SDUS35	KBOU	N1PDEN	78 ONE HOUR PRECIPITATION /OHP/
19	SDUS55	KBOU	NTPDEN	80 STORM TOTAL PRECIPITATION /STP/
20	SDUS85	KBOU	DPADEN	81 DIGITAL PRECIPITATION ARRAY /DPA/
21	SDUS65	KBOU	SPDDEN	82 SUPPLEMENTAL PRECIPITATION DATA /SPD/
22	SDUS55	KBOU	DHRDEN	32 DIGITAL HYBRID SCAN REFLECTIVITY /DHR/

23 SDUS55 KBOU DSPDEN 138 DIGITAL STORM TOTAL PRECIPITATION /STP/
24 SDUS35 KBOU NMDDEN 141 MESOCYCLONE /MD/

TABLE 2: WMO HEADING...TDWR SITES

#	TTUSI	I	CCCC	NNN	XXX	TDWR FAA SITE NAME
1	NXUS6	5	KBOU	GSM	DEN	DENVER CO /DEN/
2	NXUS6	1	KBOX	GSM	BOS	BOSTON MA /BOS/
3	NXUS6	1	KCLE	GSM	LVE	CLEVELAND OH /CLE/
4	NXUS6	3	KDTX	GSM	DTW	DETROIT MI /DTW/
5	NXUS6	3	KEAX	GSM	MCI	KANSAS CITY MO /MCI/
6	NXUS6	2	KFFC	GSM	ATL	ATLANTA GA /ATL/
7	NXUS6	4	KFWD	GSM	DAL	DALLAS LOVE FIELD TX /DAL/
8	NXUS6	4	KFWD	GSM	DFW	DALLAS/FT. WORTH TX /DFW/
9	NXUS6	2	KGSP	GSM	CLT	CHARLOTTE NC /CLT/
10	NXUS6	4	KHGX	GSM	HOU	HOUSTON HOBBY TX /HOU/
11	NXUS6	4	KHGX	GSM	IAH	HOUSTON INTERCONTINENTAL TX /IAH/
12	NXUS6	3	KICT	GSM	ICH	WICHITA KS /ICT/
13	NXUS6	1	KILN	GSM	CMH	COLUMBUS OH /CMH/
14	NXUS6	1	KILN	GSM	CVG	COVINGTON KY /CVG/
15	NXUS6	1	KILN	GSM	DAY	DAYTON OH /DAY/
16	NXUS6	3	KIND	GSM	IDS	INDIANAPOLIS IN /IND/
17	NXUS6	4	KLIX	GSM	MSY	NEW ORLEANS LA /MSY/
18	NXUS6	3	KLMK	GSM	SDF	LOUISVILLE KY /SDF/
19	NXUS6	3	KLOT	GSM	MDW	CHICAGO MIDWAY IL /MDW/
20	NXUS6	3	KLOT	GSM	ORD	CHICAGO O/HARE IL /ORD/
21	NXUS6	3	KLSX	GSM	STL	ST. LOUIS MO /STL/
22	NXUS6	1	KLWX	GSM	ADW	ANDREWS AIR FORCE BASE MD /ADW/
23	NXUS6	1	KLWX	GSD	BWI	BALTIMORE/WASHINGTON /BWI/
24	NXUS6	1	KLWX	GSM	DCA	WASHINGTON NATIONAL VA /DCA/
25	NXUS6	1	KLWX	GSM	IAD	DULLES VA /IAD/
26	NXUS6	4	KMEG	GSM	MEM	MEMPHIS TN /MEM/
27	NXUS6	2	KMFL	GSM	FLL	FORT LAUDERDALE FL /FLL/
28	NXUS6	2	KMFL	GSM	MIA	MIAMI FL /MIA/
29	NXUS6	2	KMFL	GSM	PBI	WEST PALM BEACH FL /PBI/
30	NXUS6	2	KMLB	GSM	MCO	ORLANDO INTERNATIONAL FL /MCO/
31	NXUS6	3	KMKX	GSM	MKE	MILWAUKEE WI /MKE/
32	NXUS6	3	KMPX	GSM	MSP	MINNEAPOLIS MN /MSP/
33	NXUS6	4	KOHX	GSM	BNA	NASHVILLE TN /BNA/
34	NXUS6	1	KOKX	GSM	EWR	NEWARK NJ /EWR/
35	NXUS6	1	KOKX	GSM	JFK	NEW YORK CITY/JFK NY /JFK/
36	NXUS6	4	KOUN	GSM	OKC	OKLAHOMA CITY OK /OKC/
37	NXUS6	1	KPBZ	GSM	PIT	PITTSBURGH PA /PIT/
38	NXUS6	1	KPHI	GSM	PHL	PHILADELPHIA PA /PHL/
39	NXUS6	5	KPSR	GSM	PHX	PHOENIX AZ /PHX/
40	NXUS6	2	KRAH	GSM	RDU	RALEIGH/DURHAM NC /RDU/
41	NXUS6	5	KSLC	GSM	SLC	SALT LAKE CITY UT /SLC/
42	NXUS6	2	KTBW	GSM	TPA	TAMPA BAY FL /TPA/
43	NXUS6	4	KTSA	GSM	TUL	TULSA OK /TUL/
44	NXUS6	5	KVEF	GSM	LAS	LAS VEGAS NV /LAS/
45	NXUS6	2	TJSJ	GSM	SJU	SAN JUAN PR /SJU/

WITHIN THE TOC FTP SERVER...TDWR SPG PRODUCTS WILL BE PLACED IN SUBDIRECTORIES BELOW THE FOLLOWING DIRECTORY /USE LOWER CASE/:

FTP://TGFTP.NWS.NOAA.GOV/SL.US008001/DF.OF/DC.RADAR/

PRODUCT FILES WILL BE PLACED IN SITE NAMED SUBDIRECTORIES AS LISTED IN TABLE 4 BENEATH THE PRODUCT NAMED SUBDIRECTORIES LISTED IN TABLE 3. NOTE THAT TDWR SITE NAMED DIRECTORIES ARE EASILY IDENTIFIED BY THE T PREFIX TO THE XXX SPG SITE ID.

FOR SPG PRODUCTS WHICH HAVE A WSR-88D COUNTERPART...PRODUCTS WILL BE PLACED IN TDWR SPG SITE NAMED SUBDIRECTORIES BENEATH EXISTING WSR-88D PRODUCT NAMED DIRECTORIES. ERRONEOUS WSR-88D PRODUCT NAMED SUBDIRECTORIES WILL BE CORRECTED BY THE TECHNOLOGY REFRESHED RPCCDS /E.G...DS.00NMD BECOMES DS.141MD/. WITHIN EACH SITE NAMED SUBDIRECTORY...RADAR PRODUCT FILES FOR THE CURRENT VOLUME SCAN AND THE PREVIOUS 250 VOLUME SCANS WILL BE STORED. THE FILES IN EACH RADAR SITE SUBDIRECTORY WILL BE SEQUENTIALLY NAMED SN.0000 THROUGH SN.0250...AND SN.LAST. EACH VOLUME SCAN...NEW FILES WILL BE WRITTEN TO THE CURRENT FILE NAME SN.LAST AND THE NEXT SEQUENTIALLY NUMBERED FILE...OVERWRITING THE FILE CORRESPONDING TO THE PREVIOUSLY CURRENT PRODUCT AND THE OLDEST FILE IN THE DIRECTORY /USE LOWER CASE FOR ALL FILENAMES/. THE RESIDENCE TIME OF TDWR SPG FILES WILL BE APPROXIMATELY ONE DAY.

TABLE 3: TOC FTP DIRECTORIES ASSIGNED TO THE TDWR SPG PRODUCTS

#	DIRECTORY	SPG PRODUCT CODE AND DESCRIPTION
1	/DS.P2GSM/	2 GENERAL STATUS MESSAGE /GSM/
2	/DS.75FTM/	75 FREE TEXT MESSAGE /FTM/
3	/DS.152RS/	152 ARCHIVE STATUS PRODUCT /ASP/
4	/DS.186ZL/	186 REFLECTIVITY /Z/ - 0.6 DEGREE LONG RANGE
5	/DS.181R0/	181 REFLECTIVITY /Z/ - BASE ELEVATION
6	/DS.181R1/	181 REFLECTIVITY /Z/ - 1.0 DEGREE ELEVATION
7	/DS.181R2/	181 REFLECTIVITY /Z/ - THIRD ELEVATION
8	/DS.182V0/	182 VELOCITY /V/ - BASE ELEVATION
9	/DS.182V1/	182 VELOCITY /V/ - 1.0 DEGREE ELEVATION
10	/DS.182V2/	182 VELOCITY /V/ - THIRD ELEVATION
11/	DS.P37CR/	37 COMPOSITE REFLECTIVITY /CZ/
12	/DS.P41ET/	41 ECHO TOPS /ET/
13	/DS.48VWP/	48 VAD WIND PROFILE /VWP/
14	/DS.57VIL/	57 VERTICALLY INTEGRATED LIQUID /VIL/
15	/DS.58STI/	58 STORM TRACKING INFORMATION /STI/
16	/DS.P59HI/	59 HAIL INDEX /HI/
17	/DS.61TVS/	61 TORNADIC VORTEX SIGNATURE /TVS/
18	/DS.78OHP/	78 ONE HOUR PRECIPITATION /OHP/
19	/DS.80STP/	80 STORM TOTAL PRECIPITATION /STP/
20	/DS.81DPR/	81 DIGITAL PRECIPITATION ARRAY /DPA/
21	/DS.82SPD/	82 SUPPLEMENTAL PRECIPITATION DATA /SPD/
22	/DS.32DHR/	32 DIGITAL HYBRID SCAN REFLECTIVITY /DHR/
23	/DS.138DP/	138 DIGITAL STORM TOTAL PRECIPITATION /STP/
24	/DS.141MD/	141 MESOCYCLONE /MD/

TABLE 4: TOC FTP DIRECTORIES ASSIGNED TO THE TDWR SPG SITES

#	DIRECTORY	SPG ID	TDWR FAA SITE NAME
1	/SI.TDEN/	3013	DENVER CO /DEN/
2	/SI.TBOS/	3004	BOSTON MA /BOS/
3	/SI.TLVE/	3006	CLEVELAND OH /CLE/
4	/SI.TDTW/	3015	DETROIT MI /DTW/
5	/SI.TMCI/	3025	KANSAS CITY MO /MCI/
6	/SI.TATL/	3002	ATLANTA GA /ATL/
7	/SI.TDAL/	3010	DALLAS LOVE FIELD TX /DAL/
8	/SI.TDFW/	3014	DALLAS/FT. WORTH TX /DFW/
9	/SI.TCLT/	3007	CHARLOTTE NC /CLT/
10	/SI.THOU/	3018	HOUSTON HOBBY TX /HOU/
11	/SI.TIAH/	3020	HOUSTON INTERCONTINENTAL TX /IAH/
12	/SI.TICH/	3021	WICHITA KS /ICT/
13	/SI.TCMH/	3008	COLUMBUS OH /CMH/
14	/SI.TCVG/	3009	COVINGTON KY /CVG/
15	/SI.TDAY/	3011	DAYTON OH /DAY/
16	/SI.TIDS/	3022	INDIANAPOLIS IN /IND/
17	/SI.TMSY/	3032	NEW ORLEANS LA /MSY/
18	/SI.TSDF/	3040	LOUISVILLE KY /SDF/
19	/SI.TMDW/	3027	CHICAGO MIDWAY IL /MDW/
20	/SI.TORD/	3034	CHICAGO O/HARE IL /ORD/
21	/SI.TSTL/	3043	ST. LOUIS MO /STL/
22	/SI.TADW/	3001	ANDREWS AIR FORCE BASE MD /ADW/
23	/SI.TBWI/	3005	BALTIMORE/WASHINGTON /BWI/
24	/SI.TDCA/	3012	WASHINGTON NATIONAL VA /DCA/
25	/SI.TIAD/	3019	DULLES VA /IAD/
26	/SI.TMEM/	3028	MEMPHIS TN/MEM/
27	/SI.TFLL/	3017	FORT LAUDERDALE FL /FLL/
28	/SI.TMIA/	3029	MIAMI FL /MIA/
29	/SI.TPBI/	3035	WEST PALM BEACH FL /PBI/
30	/SI.TMKE/	3030	MILWAUKEE WI /MKE/
31	/SI.TMCO/	3026	ORLANDO INTERNATIONAL FL /MCO/
32	/SI.TMSP/	3031	MINNEAPOLIS MN /MSP/
33	/SI.TBNA/	3003	NASHVILLE TN /BNA/
34	/SI.TEWR/	3016	NEWARK NJ /EWR/
35	/SI.TJFK/	3023	NEW YORK CITY/JFK NY /JFK/
36	/SI.TOKC/	3033	OKLAHOMA CITY OK /OKC/
37	/SI.TPIT/	3038	PITTSBURGH PA /PIT/
38	/SI.TPHL/	3036	PHILADELPHIA PA /PHL/
39	/SI.TPHX/	3037	PHOENIX AZ /PHX/
40	/SI.TRDU/	3039	RALEIGH/DURHAM NC /RDU/
41	/SI.TSLC/	3042	SALT LAKE CITY UT /SLC/
42	/SI.TTPA/	3044	TAMPA BAY FL /TPA/
43	/SI.TTUL/	3045	TULSA OK /TUL/
44	/SI.TLAS/	3024	LAS VEGAS NV /LAS/
45	/SI.TSJU/	3041	SAN JUAN PR /SJU/

THE NWS HAS ESTABLISHED THE FOLLOWING FILE TRANSFER PROTOCOL /FTP/ SITE TO PROVIDE PROJECT PLANS AND STATUS...ADDITIONAL INFORMATION...AND FOR PREVIEWING SAMPLE TDWR SPG PRODUCTS...SEE /USE LOWER CASE/:

FTP://FTP.ROC.NOAA.GOV/PUB/TDWR SPG INFO/

BEGINNING ON A DATE TO BE ANNOUNCED...THE INFORMATION WILL MOVE TO /USE LOWER CASE/:

HTTP://WWW.ROC.NOAA.GOV/

IF YOU HAVE QUESTIONS ABOUT THE TECHNICAL CONTENT OR GENERATION OF THESE PRODUCTS...PLEASE CONTACT:

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IF YOU HAVE QUESTIONS ABOUT THE NOAAPORT ACTIVATION OR DATA FLOW OF THESE PRODUCTS...PLEASE CONTACT:

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THE CENTRALLY COLLECTED TDWR SPG PRODUCTS WILL BE ARCHIVED AT THE NATIONAL CLIMATIC DATA CENTER /NCDC/ JUST AS THE WSR-88D PRODUCTS ARE. THE INVENTORY OF THE ARCHIVED PRODUCTS WILL BE AT /USE LOWER CASE/:

HTTP://HURRICANE.NCDC.NOAA.GOV/PLS/PLHAS/HAS.DSSELECT

THE TDWR LEVEL II DATA WILL NOT BE COLLECTED...DISTRIBUTED OR ARCHIVED AT THIS TIME.

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

HTTPS://WWW.WEATHER.GOV/NOTIFICATION/ARCHIVE

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