

CHAPTER 4

NATIONAL WEATHER SERVICE PRODUCTS FOR THE DEPARTMENT OF DEFENSE

4.1. General. The Department of Defense (DOD) and the Department of Commerce (DOC) weather forecasting, reconnaissance, and distribution agencies share technical information and some responsibilities. Mutually supportive relationships have developed over the years and have resulted in a mutual dependency. Due to the nature and distribution of DOD resources and operations, the DOD requires certain meteorological information beyond that available to the general public. Accordingly, the DOC provides DOD with special observations and advisories on tropical and subtropical storms threatening DOD resources or operations.

4.2. Observations. The Tropical Prediction Center/National Hurricane Center (TPC/NHC) and Central Pacific Hurricane Center (CPHC) will make available to DOD all significant tropical and subtropical cyclone observations that they receive.

4.3. Tropical Cyclone Forecast/Advisories.

4.3.1. General. The TPC/NHC and CPHC will provide to DOD forecasts and related information for tropical and subtropical weather disturbances of depression intensity or greater. Forecasts will include location, movement, intensity, and dimension of the disturbances. Tropical cyclone forecast/advisories will be disseminated through the National Weather Service (NWS) communications facility at Suitland, MD, to the Weather Product Management and Distribution System (WPMDS) at the Air Force Weather Agency (AFWA), Offutt AFB, NE, for further relay to DOD agencies. The DOD forecasters, who must give advice concerning an imminent operational decision, may contact the appropriate hurricane center forecaster (see Chapter 2) when published tropical cyclone forecast/advisories require elaboration. Telephone numbers for the hurricane centers are in Appendix I.

4.3.2. Tropical Cyclone Forecast/Advisory Issue Frequency. The first tropical cyclone forecast/advisory will normally be issued when meteorological data indicate that a tropical or subtropical cyclone has formed. Subsequent advisories will be issued at 0300, 0900, 1500, and 2100 UTC from TPC/NHC and CPHC. The public advisories issued by the NWS Forecast Office (WFO) Guam, are issued 1 hour after the JTWC guidance. Advisories will continue to be issued until the system is classified below the depression intensity level. In addition, special forecasts will be issued whenever the following criteria are met:

- A significant change has occurred, requiring the issuance of a revised forecast package.
- Conditions require a hurricane or tropical storm watch or warning to be issued.

Remarks stating the reason for the special forecast or the relocation will be mandatory in all special forecasts or advisories that include a relocated position.

4.3.3. Tropical Cyclone Forecast/Advisory Content. Tropical cyclone forecast/advisories issued by the TPC/NHC and CPHC will contain appropriate information as shown in

Figure 4-1. The forecast will contain 12, 24, 36, 48, 72, 96, and 120-hour tropical cyclone forecast positions. A code string is appended at the end of the line "NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL." This is the Automated Tropical Cyclone Forecasting (ATCF) System Storm Identification Character String recognized by the WMO for tracking and verification of tropical cyclones. The ATCF <Storm ID> is three spaces after "FL" and uses the following format:

NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL BBCCYYYY
where:

BB = Ocean Basin

AL - North Atlantic basin...north of the Equator
SL - South Atlantic basin...south of the Equator
EP - North East Pacific basin...eastward of 140°W
CP - North Central Pacific basin...between the Dateline and 140°W
WP - North West Pacific basin...westward of the Dateline
IO - North Indian Ocean basin...north of the Equator between 40°E and 100°E
SH - South Pacific Ocean Basin and South Indian Ocean basin

CC = Cyclone Number

Numbers 01 through 49 are reserved for tropical and subtropical cyclones. A cyclone number is assigned to each tropical or subtropical cyclone in each basin as it develops. The numbers are assigned in chronological order.

Numbers 50 through 79 are reserved for internal use by operational forecast centers.

Numbers 80 through 89 are reserved for training, exercises and testing.

Numbers 90 through 99 are reserved for tropical disturbances which have the potential to become tropical or subtropical cyclones. Although not required, the 90's should be assigned sequentially and reused throughout the calendar year.

YYYY = Four-digit year

This is the calendar year for the Northern Hemisphere. For the Southern Hemisphere, the year begins July 1, with calendar year plus one.

Note: Tropical cyclone public advisories issued by the TPC/NHC, CPHC, and WFO Guam will contain appropriate information as shown in the example in Figure 4-2.

4.3.3.1. Definition of Wind Radii by Quadrant. The working definition of the wind radius for a quadrant is: use the largest radius of that wind speed found in the quadrant. Example: TPC/NHC's quadrants are defined as NE (0°-90°), SE (90°-180°), SW (180°-270°), and NW (270°-360°). Given a maximum 34-knot radius of 150 nm at 0°, 90 nm at 120°, and 40 nm at 260°, the following line would be carried in the forecast/advisory: 150NE 90SE 40SW 150NW.

4.3.3.2. Numbering of Tropical Cyclone Forecast/Advisories. All tropical cyclone forecast/advisories will be numbered sequentially; for example,

Tropical Depression ONE Forecast/Advisory Number 1
Tropical Depression ONE Forecast/Advisory Number 2
Tropical Storm Anita Forecast/Advisory Number 3
Hurricane (Typhoon) Anita Forecast/Advisory Number 4
Tropical Depression Anita Forecast/Advisory Number 5

WTNT25 KNHC 230300
TCMAT5

HURRICANE ISIDORE FORECAST/ADVISORY NUMBER 28
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL AL102002
0300Z MON SEP 23 2002

A HURRICANE WARNING REMAINS IN EFFECT ALONG THE GULF OF MEXICO AND
CARIBBEAN COASTS OF THE YUCATAN PENINSULA FROM CAMPECHE NORTH AND
EASTWARD TO TULUM...INCLUDING THE ISLAND OF COZUMEL.

HURRICANE CENTER LOCATED NEAR 20.8N 89.5W AT 23/0300Z
POSITION ACCURATE WITHIN 20 NM

PRESENT MOVEMENT TOWARD THE SOUTHWEST OR 220 DEGREES AT 4 KT

ESTIMATED MINIMUM CENTRAL PRESSURE 950 MB
MAX SUSTAINED WINDS 90 KT WITH GUSTS TO 110 KT.
64 KT..... 45NE 25SE 25SW 45NW.
50 KT..... 75NE 50SE 50SW 75NW.
34 KT.....200NE 130SE 100SW 150NW.
12 FT SEAS..300NE 200SE 150SW 300NW.
WINDS AND SEAS VARY GREATLY IN EACH QUADRANT. RADII IN NAUTICAL
MILES ARE THE LARGEST RADII EXPECTED ANYWHERE IN THAT QUADRANT.

REPEAT...CENTER LOCATED NEAR 20.8N 89.5W AT 23/0300Z
AT 23/0000Z CENTER WAS LOCATED NEAR 21.0N 89.4W

FORECAST VALID 23/1200Z 20.7N 90.3W
MAX WIND 80 KT...GUSTS 100 KT.
64 KT... 40NE 20SE 25SW 40NW.
50 KT... 60NE 40SE 40SW 60NW.
34 KT...180NE 60SE 60SW 150NW.

FORECAST VALID 24/0000Z 21.0N 91.0W
MAX WIND 95 KT...GUSTS 115 KT.
64 KT... 45NE 25SE 25SW 45NW.
50 KT... 75NE 50SE 50SW 75NW.
34 KT...200NE 150SE 100SW 150NW.

FORECAST VALID 24/1200Z 21.8N 92.0W
MAX WIND 115 KT...GUSTS 140 KT.
64 KT... 60NE 45SE 45SW 60NW.
50 KT...100NE 75SE 75SW 100NW.
34 KT...200NE 150SE 125SW 180NW.

FORECAST VALID 25/0000Z 22.8N 92.5W
MAX WIND 125 KT...GUSTS 155 KT.
50 KT...100NE 100SE 75SW 100NW.
34 KT...200NE 200SE 150SW 200NW.

FORECAST VALID 26/0000Z 25.0N 93.0W
MAX WIND 125 KT...GUSTS 155 KT.
50 KT...100NE 100SE 75SW 100NW.
34 KT...200NE 200SE 150SW 200NW.

EXTENDED OUTLOOK. NOTE...ERRORS FOR TRACK HAVE AVERAGED NEAR 275 NM
ON DAY 4 AND 375 NM ON DAY 5...AND FOR INTENSITY NEAR 20 KT EACH DAY

OUTLOOK VALID 27/0000Z 22.8N 92.5W
MAX WIND 100 KT...GUSTS 120 KT.

OUTLOOK VALID 28/0000Z 25.0N 93.0W
MAX WIND 90 KT...GUSTS 110 KT.

REQUEST FOR 3 HOURLY SHIP REPORTS WITHIN 300 MILES OF 20.8N 89.5W

NEXT ADVISORY AT 23/0900Z

FORECASTER PASCH

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NNNN

Figure 4-1. Tropical Cyclone Forecast/Advisory Format

WTNT34 KNHC 260359
MIATCPAT4

BULLETIN

TROPICAL STORM DEBBY ADVISORY NUMBER 18
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL AL042006
1100 PM AST FRI AUG 25 2006

...DEBBY BARELY HANGING ON AS A TROPICAL STORM...

AT 1100 PM AST...0300 UTC...THE CENTER OF TROPICAL STORM DEBBY WAS
LOCATED NEAR LATITUDE 25.2 NORTH...LONGITUDE 45.6 WEST OR ABOUT 1400
MILES...2255 KM...SOUTHWEST OF THE AZORES.

DEBBY IS MOVING TOWARD THE WEST-NORTHWEST NEAR 14 MPH...22 KM/HR...
AND A TURN TO THE NORTHWEST AND THEN NORTH-NORTHWEST IS EXPECTED
DURING THE NEXT DAY OR TWO.

MAXIMUM SUSTAINED WINDS ARE NEAR 40 MPH...65 KM/HR...WITH HIGHER
GUSTS. LITTLE CHANGE IN STRENGTH IS FORECAST DURING THE NEXT 24
HOURS.

TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 105 MILES...165 KM
FROM THE CENTER.

ESTIMATED MINIMUM CENTRAL PRESSURE IS 1008 MB...29.77 INCHES.

...SUMMARY OF 1100 PM AST INFORMATION...

LOCATION...25.2N 45.6W
MAXIMUM SUSTAINED WINDS...40 MPH
PRESENT MOVEMENT... WEST-NORTHWEST OR 295 DEGREES AT 14 MPH
MINIMUM CENTRAL PRESSURE...1008 MB

THE NEXT ADVISORY WILL BE ISSUED BY THE NATIONAL HURRICANE CENTER AT 500 AM AST.

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FORECASTER NAME

Figure 4-2. Tropical Cyclone Public Advisory Format

