

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 Automated Weather Network (AWN) hub at the Air Force Weather Agency, 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 (NWSO) Tiyan, 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:

- C A significant change has occurred, requiring the issuance of a revised forecast package.
- C 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.

[NOTE: Tropical cyclone updates are permitted without the requirement of a special forecast, including when coastal warnings are cancelled. However, in some cases, a special forecast may follow.]

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 forecast positions. A code string is appended at the end of the line "NATIONAL WEATHER SERVICE 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 identifier is three spaces after "FL" and uses the format below.

NATIONAL WEATHER SERVICE MIAMI FL BSNOYR
where: BS is the basin (AL, EP, or CP)
NO is the storm number (01, 02, 03,...99)
YR is the last two digits of the year.

Tropical cyclone public advisories issued by the NWS Forecast Office, Tiyan, Guam, will contain appropriate information as shown 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 AL1002
 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

WTPQ31 PGUM 011600
BULLETIN
SUPER TYPHOON STORMY ADVISORY NUMBER 14
NATIONAL WEATHER SERVICE OFFICE TIYAN GU
2AM LST MON NOV 02 1998

...STORMY HAS BEEN UPGRADED TO A SUPER TYPHOON...

TYPHOON WARNINGS REMAIN IN EFFECT FOR GUAM...ROTA...TINIAN AND SAIPAN IN THE MARIANA ISLANDS.

AT 1AM...1500Z...THE CENTER OF SUPER TYPHOON STORMY WAS LOCATED NEAR LATITUDE 13.0 DEGREES NORTH AND LONGITUDE 149.2 DEGREES EAST...OR ABOUT 300 MILES EAST OF GUAM.

STORMY IS MOVING TOWARD THE WEST-NORTHWEST AT 15 MPH... AND IS EXPECTED TO CONTINUE MOVING IN THE SAME DIRECTION FOR THE NEXT 24 HOURS. ON ITS PRESENT COURSE TYPHOON CONDITIONS WILL BEGIN TO AFFECT THE MARIANAS AROUND NOON TODAY.

MAXIMUM SUSTAINED WINDS ARE 150 MPH...WITH HIGHER GUSTS. TYPHOON FORCE WINDS EXTEND OUTWARD 60 MILES FROM THE CENTER AND TROPICAL STORM FORCE WINDS EXTEND OUTWARD 150 MILES FROM THE CENTER.

EXTREMELY HAZARDOUS SURF IN EXCESS OF 20 FEET AND TORRENTIAL RAINS OF 7 TO 9 INCHES ARE EXPECTED AS STORMY MOVES THROUGH THE MARIANAS TONIGHT. BEACH EROSION AND FLOODING OF LOW-LYING AREAS ARE LIKELY.

THIS IS A VERY POWERFUL TYPHOON AND IS A VERY SERIOUS THREAT TO THE MARIANAS. FINAL PREPARATIONS FOR THE ONSET OF DAMAGING WINDS...ESPECIALLY BY PEOPLE LIVING ALONG THE COASTLINE AND IN POORLY DESIGNED STRUCTURES...SHOULD BE COMPLETED IMMEDIATELY. RESIDENTS SHOULD SEEK SAFE SHELTER AND REMAIN INSIDE UNTIL THE ALL-CLEAR IS GIVEN BY CIVIL DEFENSE OFFICIALS.

REPEATING THE 1 AM POSITION...13.0 NORTH LATITUDE AND 149.2 EAST LONGITUDE MOVING WEST-NORTHWEST AT 15 MPH WITH MAXIMUM SUSTAINED WINDS OF 150 MPH.

AN INTERMEDIATE ADVISORY IS SCHEDULED TO BE ISSUED BY THE NATIONAL WEATHER SERVICE AT 5AM GUAM LST...FOLLOWED BY THE NEXT COMPLETE ADVISORY ISSUED AT 8AM LST.

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Figure 4-2. Tropical cyclone public advisory format