

TAB B (TROPICAL HAZARDOUS WEATHER, ADVISORIES AND CONDITIONS OF READINESS) TO APPENDIX 1 (NATURAL DISASTERS) TO ANNEX C (OPERATIONS)

1. General. Hurricanes are relatively rare events in the Hawaiian Islands. Since 1950, five tropical cyclones of varying intensities - Hurricane Nina (1957), Hurricane Dot (1959), Hurricane Iwa (1982), Hurricane Estelle (1986), and Hurricane Iniki (1992) - have caused serious damage in Hawaii. The total cost for these storms is estimated at \$2.12 billion with 11 fatalities.

2. This document serves to describe tropical weather events, describes the conditions of readiness, defines hurricane categories, and explains the Marine Corps Air Station (MCAS) Meteorology and Oceanography (MetOc) Department call out procedures. The adequate and timely issuance of a Tropical Cyclone Conditions of Readiness (TCCOR), coupled with the prompt and effective action by all parties concerned, will help to protect life and minimize property loss and damage from tropical weather.

3. Definitions

a. TCCOR. Are set using the applicable term indicating wind force. Conditions of readiness are based on sustained wind speeds of 50 knots or greater.

(1) TCCOR-V. Set 1 June and ends 30 November each year.

(2) TCCOR-IV. Destructive winds of 50 knots or greater are possible within 72 hours.

(3) TCCOR-III. Destructive winds of 50 knots or greater are possible within 48 hours.

(4) TCCOR-II. Destructive winds of 50 knots or greater are anticipated within 24 hours.

(5) TCCOR-I. Destructive winds of 50 knots or greater are anticipated within 12 hours.

(6) TCCOR-IC (Caution). Destructive winds of 50 knots or greater are anticipated with in six hours.

(7) TCCOR-IE (Emergency). Destructive winds of 50 knots or greater are occurring.

(8) TCCOR-SW (Storm Watch). Destructive winds are no longer being experienced but winds are still gale force. Damage assessment teams are deployed to develop damage assessment and proposed courses of action for the Commanding Officer (CO).

(9) TCCOR-R (Recovery). Winds are below 34 knots and the CO has ordered recovery operations to commence.

b. Tropical Disturbance. A discrete tropical weather system of apparently organized convection generally 100 to 300 nautical miles (nmi) in diameter originating in the tropics or subtropics, having a nonfrontal migratory character, and maintaining its identity for 24 hours or more. It may or may not be associated with a detectable perturbation of the wind field.

c. Tropical Depression. A tropical cyclone in which the maximum sustained surface wind speed is 33 knots or less.

d. Tropical Storm. A tropical cyclone with sustained winds of between 34 and 63 knots.

e. Hurricane Categories. National Weather Service (NWS) Hurricane categories are defined using the United States one minute average wind speed method. Although not used to determine hurricane intensity, storm surge values and associated damage are provided. These values are based on the Saffir-Simpson Hurricane Scale and may apply to MCB Hawaii. Storm surge values and potential damage are dependent upon storm location relative to shoreline features, tidal cycle (high or low), storm persistence and storm strength.

(1) Category One. A tropical cyclone in which the sustained surface wind ranges from 64 to 82 knots (74 to 95 mph).

(a) Storm Surge. Generally four to five feet above normal sea level.

(b) Damage. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, trees and some damage to poorly constructed signs. Low-lying coastal roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.

(2) Category Two. A tropical cyclone in which the sustained surface wind ranges from 83 to 95 knots (96 to 110 mph).

(a) Storm Surge. Generally six to eight feet above normal sea level.

(b) Damage. Some minor damage to buildings, considerable damage to vegetation, mobile homes, poorly constructed signs and piers. Coastal roads and low-lying escape routes inland cut by rising water two to four hours before the arrival of the eye of the storm. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying areas may be required.

(3) Category Three. A tropical cyclone in which the sustained surface wind ranges from 96 to 113 knots (111 to 130 mph).

(a) Storm Surge. Generally nine to 12 feet above normal sea level.

(b) Damage. Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut by rising water three to five hours before arrival of the hurricane center. Flooding near the coast destroys smaller structures with larger structures damaged by battering of floating debris. Terrain continuously lower than five feet above mean sea level may be flooded inland eight miles or more. Evacuation of low-lying residences within several blocks of the shoreline may be required.

(4) Category Four. A tropical cyclone in which the sustained surface wind ranges from 114 to 135 knots (131 to 155 mph).

(a) Storm Surge. Generally 13 to 18 feet above normal sea level.

(b) Damage. More extensive curtainwall failures with some complete roof structure failures on small residences. Shrubs, trees and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Low-lying escape routes may be cut by rising water three

to five hours before arrival of the hurricane center. Major damage to lower floors of structures near shore. Terrain lower than ten feet above mean sea level may be flooded requiring massive evacuation of residential areas as far inland as six miles.

(5) Category Five. A tropical cyclone in which the sustained surface wind is 136 knots or greater (156 mph or greater).

(a) Storm Surge. Generally greater than 18 feet above normal sea level.

(b) Damage. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying escape routes are cut by rising water three to five hours before arrival of the hurricane center. Major damage to lower floors of all structures located less than 15 feet above mean sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within five to ten miles of the shoreline may be required.

Note: Category three through five are classified as major hurricanes.

4. MCAS MetOc Department call out procedures

a. In situations where the MCAS MetOc Department is notified by higher headquarters of the setting of a TCCOR, the duty MetOc Analyst will notify the Base Emergency Operations Center (EOC) reciting the location, strength, movement of the tropical feature, and approximate timing of the onset of destructive winds, if any.

b. Where a TCCOR has been set but the Officer in Charge (OIC), MCAS MetOc Department feels circumstances warrant the recommendation for the setting of a higher condition of readiness (lower TCCOR), the OIC, MCAS MetOc Department will notify the Base EOC upon completion of updating the CO, MCAS. The recommendation will include the rationale for deviation from the senior command TCCOR.

Enclosure: (1) Condition of Readiness Checklist