



UNITED STATES MARINE CORPS  
MARINE CORPS AIR STATION  
BOX 99100  
YUMA, ARIZONA 85369-9100

StaO 3145.1J

3BC10  
20 MAR 2001

STATION ORDER 3145.1J Ch 1

From: Commanding Officer  
To: Distribution List

Subj: WARNINGS AND CONDITIONS OF READINESS CONCERNING HAZARDOUS OR  
DESTRUCTIVE WEATHER

Ref: (a) MCO P5215.1G

1. Purpose. To direct pen changes to the basic Order per the reference.
2. Action. Delete paragraph 7a in its entirety on page three. Renumber paragraphs 7b, 7c, 7d, 7e, and 7f to read 7a, 7b, 7c, 7d, and 7e respectively.
3. Filing Instructions. File this change transmittal immediately following the signature page of the basic Order.

  
MARK E. CONDRA

DISTRIBUTION: B



**UNITED STATES MARINE CORPS**

MARINE CORPS AIR STATION  
BOX 99100  
YUMA, ARIZONA 85369-9100

StaO 3145.1J  
3DF6  
05 NOV 1997

STATION ORDER 3145.1J

From: Commanding Officer  
To: Distribution List

Subj: WARNINGS AND CONDITIONS OF READINESS CONCERNING HAZARDOUS OR  
DESTRUCTIVE WEATHER

Ref: (a) OPNAVINST 3140.24D  
(b) NAVOCEANCOMINST 3140.1H  
(c) COMNAVBASESANDIEGOINST 3140.1N  
(d) USAYPGR 115-10

Encl: (1) Conditions of Readiness

1. Purpose. To issue information concerning hazardous and destructive weather phenomena and to establish conditions of readiness in anticipation of hazardous or destructive weather.

2. Cancellation. StaO 3145.1H.

3. Background. Reference (a) defines warnings and conditions of readiness concerning hazardous or destructive weather phenomena. Reference (b) is the U.S. Navy Oceanographic and Meteorological Support System Manual and assigns responsibility to Marine Corps aviation activities, having a weather service unit, to provide weather support to station and tenant activities. Reference (c) tasks Marine Corps Air Station (MCAS) Yuma, Arizona, to provide environmental support to activities within the local area. Reference (d) covers joint responsibilities between MCAS Yuma and U.S. Army Yuma Proving Grounds.

4. Discussion

a. Destructive weather poses a significant threat to the installation, personnel, aircraft, and other resources. Adequate and timely weather warnings, coupled with prompt and effective action by concerned commanders, will minimize losses and damage from destructive weather.

b. Extensive damage may be caused by debris picked up by the wind and hurled with great force. Additional damage can be produced by flooding, sudden wind shifts, gusts, squalls, lightning, and hail.

5. Types of Storms

a. Thunderstorms. Thunderstorms are small scale storms, invariably produced by a cumulonimbus cloud and are always accompanied by lightning and thunder. They may develop within sight of the station and not have a threatening appearance until shortly before arrival, or they may be embedded in and hidden by other clouds. Hail is often associated with

StaO 3145.1J  
05 NOV 1997

thunderstorms and may inflict major damage. Hailstones vary from the size of a pea to that of a grapefruit. Thunderstorms may be accompanied by extremely strong winds with gusts of 40 to occasionally 100 knots or more. These strong winds are usually of short duration and their direction may be radically different from the prevailing winds before the storm. Severe downbursts (microburst/macrobust), sudden winds shifts, extreme turbulence and windshear are often associated with thunderstorm activity. Torrential rainfall and visibilities near zero may also occur. Lightning strikes are common. Strike locations are virtually unpredictable. Yet, they can cause serious or fatal injuries to personnel, detonation of munitions, fuel, and other combustibles, severe damage to electrical/electronic systems and power failures.

b. Tornadoes. A tornado is a violent rotating column of air usually in the form of a "pendant" or funnel from a cumulonimbus (thunderstorm) cloud, with the funnel touching the ground. A Tornado is one of the most destructive types of storms known and is accompanied by a loud roaring noise. Its winds, which spiral upward around the axis of the tornado, have not been measured directly, but are estimated to be 100 to more than 240 knots. The updraft within the tornado may attain speeds of 75 to 175 knots. The speed of movement of a tornado over the earth is often comparatively slow 20 to 35 knots. The lifetime of the average tornado is even briefer, approximately 20 minutes. However, it is not uncommon for several tornadoes to develop, either in families or in succession, from the same parent thunderstorm or line of thunderstorms. A waterspout, usually less violent than a tornado, has the pendant that touches water. A pendant which does not touch the ground or water is referred to simply as a funnel cloud. Implicitly, warnings of tornadic activity mean that thunderstorms, usually severe, will also exist.

c. Major Cyclonic storms. Storms of this type generally affect a wide area and have a life history of days, rather than hours. Examples include hurricanes/typhoons, tropical and subtropical storms, and extratropical low pressure systems.

d. High winds. Winds of significant force can also be generated by other meteorological conditions. Windstorms may be associated with frontal passages, squall lines, monsoons, and strong gradients of high pressure.

Other windstorms, often bearing unique regional names such as the Santa Ana, Bora, and Mistral, are the result of orographic funneling and/or the strong downslope flow off mountain ranges. The onset of strong winds from some of these events can be very sudden and treacherous and their duration is often a matter of several days, interspersed with brief and deceptive lulls.

## 6. Definitions

a. Local Advisories/Warnings. These are issued to alert local commands of impending meteorological phenomena that may have severe or adverse effects on operations, personnel, or property.

b. Local Area. That area within a 25-nautical-mile radius of the Air Station.

c. Station. As used in the text, the station covers a radius of 10 nautical miles from MCAS.

7. Types of Weather Advisories or Warnings Issued by Station Weather

a. Local Wind Advisory. Issued when sustained surface wind speeds of less than 15 knots with gusts of 15 knots or more are occurring or are forecasted to occur within the next six hours.

b. Local Wind Warning. Issued when sustained surface wind speeds of 15 to 33 knots with gusts of 15 knots or more are occurring or are forecasted to occur within the next six hours.

c. Gale Warning. Issued when sustained surface wind speeds of 34 to 47 knots are forecasted to occur within the next six hours.

d. Storm Warning. Issued when sustained surface wind speeds of 48 to 63 knots are forecasted to occur within the next six hours.

e. Hurricane Warning. Issued when sustained surface wind speeds of 64 knots or greater are forecasted to occur within the next 12 to 72-hour period.

f. Thunderstorm Warning

(1) Thunderstorm Condition II. Thunderstorm activity is occurring, or is forecasted to occur, in the local area (within 25 nautical miles) within the next six hours.

(2) Thunderstorm Condition I. Thunderstorm activity is imminent or is occurring at the Air Station (within 10 nautical miles).

8. Conditions of Readiness. Conditions of readiness are set to describe the specific range of wind speed and time period as indicated in enclosure (1). (e.g., set hurricane condition III would indicate destructive winds of the force, as specified in the warning, are possible within 48 hours). Conditions of readiness are set by the Commanding Officer, after being fully advised of the current weather situation. A condition of readiness does not apply to surface wind advisories or warnings.

9. Action

a. Station Activities and Tenant Units

(1) Ensure that routine operating procedures provide for safety of personnel, aircraft, and equipment.

StaO 3145.1J  
05 NOV 1997

(2) Prepare and promulgate a destructive weather checklist for individual units, outlining specific precautionary measures to be taken upon receipt of an advisory/warning or condition of readiness.

b. Weather Service Officer

(1) Keep the Commanding Officer advised of potentially destructive weather and make timely recommendations for setting conditions of readiness.

(2) Disseminate timely local advisories or warnings, using enclosure (2) to notify all station activities and tenant units, of potentially destructive weather. Include in the call sheet the minimum weather conditions expected, maximum sustained surface wind speed and gusts, tornadic activity, if expected, and size of hail, if any.

c. Operations (Flight Clearance)

(1) When advised by weather service personnel of the threat of lightning to be within ten miles of the Air Station (Thunderstorm Condition I), Flight Clearance will call Station Ordnance, Marine Aviation Logistics Squadron-13 (MALS-13) Ordnance, visiting squadron ordnance, and the station refuelers advising them of the potential lightning threat.

(2) When advised that the threat of electrical activity has subsided or outside of ten miles, Flight Clearance personnel will call Station Ordnance, MALS-13 Ordnance, visiting squadron ordnance, and the station refuelers and advise them that the potential lightning threat no longer exists.

d. Aviation Ordnance and Refueling Activities. Suspend operations upon notification that thunderstorms with associated electrical activity is within ten miles of the Air Station (Thunderstorm Condition I is set).

e. Morale, Welfare, and Recreation. Instruct all swimming pool lifeguard personnel to secure swimming during periods of audible thunder or visible lightning.

10. Concurrence. The Commanding Officers of MAG-13, MACS-7, MWSS-371, MAWTS-1, CSSD-16 and VMFT-401 concur in and make this Directive applicable to their respective commands.

11. Summary of Revision. This order incorporates revisions to the cancelled order which may affect the safety of personnel and equipment; therefore, it should be reviewed in its entirety.

  
C. J. TURNER

DISTRIBUTION: B

CONDITIONS OF READINESS

<b>LARGE AREA STORM</b> TROPICAL STORM AND HURRICANE CONDITIONS	
<b>CONDITION IV</b>	Trend indicates a possible threat of destructive winds of the force indicated and/or specified within 72 hrs. Review hazardous and destructive weather implementation plans, as established by local regulations.
<b>CONDITION III</b>	Destructive winds of the force indicated and/or specified are possible within 48 hrs. Take preliminary precautions.
<b>CONDITION II</b>	Destructive winds of the force indicated and/or specified are anticipated within 24 hrs. Take precautions that will permit establishments of appropriate state of readiness on short notice.
<b>CONDITION I</b>	Destructive winds of the force indicated and/or specified are occurring or anticipated within 12 hrs. Take precautions as prescribed.

<b>SMALL AREA STORMS</b> THUNDERSTORM OR TORNADO CONDITIONS	
<b>CONDITION II</b>	Destructive winds accompanying the phenomena indicated are expected in general area within 6 hrs. Associated lightning/thunder, torrential rain, hail, severe downbursts, and sudden windshifts are possible. Take precautions that will permit establishment of an appropriate state of readiness on short notice.
<b>CONDITION I</b>	Destructive winds accompanying the phenomena indicated are imminent or are occurring. Associated lightning/thunder, torrential rain, hail, severe downbursts, and sudden windshifts are possible. Take immediate safety precautions and shelter.

Examples:

Set Tropical Cyclone Condition III. Destructive winds of 50 knots are possible within 48 hrs.

Set Hurricane Condition I. Destructive winds of 80 knots are anticipated within 12 hrs.

