

**1 September 1997**

**Weather**

**WEATHER SUPPORT PROCEDURES**

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Atmosphere and Space Environmental Support*, Air Force Instruction (AFI) 15-114, *Weather Support Evaluation*, AFI 15-118, *Requesting Specialized Weather Support*, Air Force Manual (AFMAN) 15-111, *Surface Weather Observations*, AFMAN 15-124, *Meteorological Codes*, AFMAN 15-125, *Weather Station Operations*, *Air Mobility Command Instruction (AMCI) 15-101*, *AMC Weather Operations*, and *MacDill Air Force Base (AFB) Operations Plan (OPLAN) 32-1*, *Disaster Preparedness Operations Plan*, and establishes responsibilities and weather support procedures. It provides general information for weather services including observations and forecasts, weather warnings, watches, and advisories, dissemination of information, and reciprocal support. This Instruction applies to all units assigned to the 6th Air Refueling Wing (6 ARW) and tenants assigned to MacDill AFB.

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## Chapter 1

### GENERAL INFORMATION

**1.1. General.** The 6th Operations Support Squadron, Weather Flight (6 OSS/OSW), provides weather support to the 6 ARW and tenant units assigned to MacDill AFB as well as the Coast Guard Air Station at Clearwater, Florida, and National Guard Army Aviation Support Facility (AASF) at Lakeland, Florida. This instruction establishes weather support requirements and procedures outlined in Air Force and Air Mobility Command directives, and has been coordinated at the local level to meet mission needs.

#### **1.2. Concept of Operations:**

1.2.1. The 6 OSS/OSW will provide weather information to all supported base agencies for the purposes of operational and planning decisions and for the protection of government resources. The 6 OSS/OSW tailors this information, when possible, to the specific needs of supported agencies. Forecasting and observing services are provided 24 hours a day, 7 days a week. Weather services are normally provided for military, or military-related operational use only.

1.2.2. Since there is usually only one forecaster and one observer on duty at the base weather station (BWS), the list of duty priorities defined below will normally be followed. The shift supervisor (duty forecaster) will use good judgment in complying with these priorities, especially where there is imminent danger to life and property.

1.2.2.1. Complete Emergency War Orders or conventional wartime tasks.

1.2.2.2. Respond to aircraft and ground emergencies.

1.2.2.3. Answer Pilot-to-Metro Service (PMSV) calls.

1.2.2.4. Take and disseminate Surface Weather Observations.

1.2.2.5. Disseminate Terminal and Area Weather Warnings, Watches, and Advisories with first priority to local units (i.e., 6 ARW and tenants) and second priority to external units, including the Avon Park Range Complex and the AASF at Lakeland, FL.

1.2.2.6. Disseminate Pilot Reports (PIREP).

1.2.2.7. Provide Mission Control Forecasts.

1.2.2.8. Prepare and issue Terminal Aerodrome Forecasts (TAF).

1.2.2.9. Provide Flight Weather Briefings.

1.2.2.10. Provide other briefings.

1.2.2.11. Other duties.

#### **NOTE:**

The Automated Weather Distribution System (AWDS) is used to locally disseminate weather observations, forecasts, watches, warnings, advisories, and PIREPs to customers with AWDS terminals. Due to limited staffing and the time-critical nature of this information, the BWS cannot individually notify every agency requesting information. A detailed breakdown of weather products on AWDS is available through the BWS.

**1.3. Operational Support Requirements:**

1.3.1. Supported agencies will:

1.3.1.1. Establish and coordinate all weather support requirements and procedures with the 6 OSS/OSW.

1.3.1.2. Notify the 6 OSS/OSW of any changes in weather support requirements.

1.3.1.3. Coordinate with the 6 OSS/OSW for required weather training.

1.3.2. Unit commanders will:

1.3.2.1. Ensure they are kept informed of critical weather elements affecting their operations. This is accomplished by dissemination of weather information through established communication procedures as outlined in **Chapter 5** and attachments in this instruction.

1.3.2.2. Ensure procedures are established within their organization to adequately respond to disseminated weather information.

1.3.2.3. Review this instruction at least annually for any changes in support requirements. Coordinate these changes with 6 OSS/OSW.

## Chapter 2

### OBSERVING SERVICES

**2.1. General.** Weather observers take official weather observations hourly and when certain special and local criteria are met. The observing section is open 24 hours a day, 365 days a year unless otherwise coordinated with the Commander, 6<sup>th</sup> Operations Group (6 OG/CC). The official point of observation for MacDill AFB is at the northwest corner of Hangar 3.

#### **2.2. Terms Explained:**

2.2.1. Basic Weather Watch (BWW). A BWW is normally conducted from the BWS by weather personnel who, because of other weather operations duties, cannot monitor the weather continuously. Due to other weather operations duties along with other restrictions such as a BWS design that does not allow a 360-degree view of the runway complex, etc., the observer cannot detect and report all weather changes as they occur. In addition to taking and disseminating required observations, the BWW program involves the following minimum requirements as the basis for the detection of significant changes in weather conditions.

2.2.1.1. Recheck weather conditions at intervals not to exceed 20 minutes since the last observation to determine the need for a Local or Special observation when any of the following conditions are occurring or are forecast to occur within 1 hour:

2.2.1.1.1. Ceiling 1,500 feet or less.

2.2.1.1.2. Visibility 3 miles or less.

2.2.1.1.3. Precipitation (any form).

2.2.1.1.4. Fog.

2.2.2. Cooperative Weather Watch (CWW). CWW is a program where qualified nonweather personnel assist the weather observer in monitoring the weather conditions for the occurrence of previously unreported weather conditions that could affect flight safety or that could be critical to the safety or efficiency of other local operations and resources. At MacDill AFB, a CWW is in effect between the BWS and the MacDill Air Traffic Control Tower.

2.2.3. Meteorological Aviation Routine Weather Reports (METAR). METAR observations are complete weather observations taken hourly. The specific contents of these observations are listed in [Attachment 2](#).

2.2.4. Aviation Selected Special Weather Report (SPECI). SPECI observations are unscheduled observations taken when changes in certain weather elements are observed to occur. SPECI observation criteria for MacDill AFB are at paragraph [2.5.2](#).

2.2.5. Local Observations (L). Local observations are taken primarily to report changes in conditions significant to local airfield operations but do not meet Special criteria. Local observation criteria for MacDill AFB are at paragraph [2.5.5](#).

2.2.6. Prevailing Visibility: The greatest visibility equaled or exceeded throughout at least one-half the horizon circle. The visibility does not have to be continuous throughout 180 consecutive degrees; i.e., it may be comprised of sectors distributed anywhere around the horizon circle.

2.2.7. Sector Visibility. The visibility in a specified direction representing a 45-degree arc of the horizon circle.

2.2.8. Surface Visibility. The prevailing visibility determined from the usual point of observation. It normally represents a value observed at a height of 6 feet.

2.2.9. Tower Visibility. The prevailing visibility determined from the air traffic control tower when the surface visibility is determined from another location such as the weather station.

2.2.10. Runway Visual Range (RVR). A value determined by instruments located alongside and about 14 feet higher than the center line of the runway and calibrated with reference to the sighting of either high-intensity runway lights or the visual contrasts of other targets, whichever yields the greater visual range.

2.2.11. Cloud Ceiling. A term used with reference to the height of the base of a layer aloft or of vertical visibility in a surface based totally obscured condition (such as fog). Ceiling is defined as:

2.2.11.1. The height ascribed to the lowest broken or overcast layer aloft that is predominantly opaque.

2.2.11.2. The vertical visibility into a surface-based obscuration.

**2.3. Limitations:** The weather observing site is collocated with the forecasting function; specifically, about 100 feet from the northwest corner of Hangar 3, approximately two miles from the runway. The observer is able to see both approach ends of the runway from this location. From this point, the horizon is visible from 150 degrees southeast through 20 degrees north by northeast; however, buildings obscure the view from 20 degrees through 100 degrees, and Hangar 3 totally obstructs the view from 100 degrees through 150 degrees. Observers are partially able to view the horizon from the east through southeast by walking to the east end of the Hangar. Stadium type lighting along the north ramp further hampers observations after dark. These limitations are partially compensated for by the Cooperative Weather Watch program where control tower personnel alert the observer to changing conditions as described in [Chapter 7](#), Reciprocal Support. Charts of observing obstructions are maintained at the base weather station.

**2.4. Meteorological Equipment Locations and Limitations.** Readouts for all meteorological sensors are in Hangar 3 in the forecasting and observing area (Room 101).

2.4.1. GMQ-32 Transmissometer Sensors are located:

2.4.1.1. RWY 04 end: 100' north of Building 1111.

2.4.1.2. RWY 22 end: 1500' southwest of the intersection of taxiway M and G.

2.4.2. The FMQ-8 Temperature and Dewpoint Sensor is located 900' southwest of the intersection of taxiway M and L. The backup for this sensor is the Dickson model TH550 hand held digital temperature, humidity, dewpoint monitor located in the Manual Observing Kits (MOS).

2.4.3. FMQ-13 Wind Measuring Set with elements located as follows:

2.4.3.1. RWY 04 end transmitter located 600' southwest of Building 1140.

2.4.3.2. RWY 22 end transmitter located 1000' west of the intersection of taxiway M and G.

2.4.3.3. Receivers located:

2.4.3.3.1. Base Weather Station (Hangar 3): one FMQ-13 Digital Wind Display and Recorder.

2.4.3.3.2. Air Traffic Control Tower (Building 360): two FMQ-13 Digital Wind Displays.

2.4.3.4. Backup for these systems consists of a hand-held Turbo Meter Wind Speed Indicator, and a Silva Compass for direction contained in the MOS. The TMQ-36 Tactical Wind Recorder will be used for long-term outages.

2.4.4. GMQ-34 Laser Beam Ceilometer measures cloud base heights accurately up to 12,000 feet above ground level (AGL). Sensors are located parallel with the approach ends of Runways 22 and 04. To measure a cloud base, the cloud must be directly over the projector.

2.4.5. WSR-88D Doppler Weather Radar is located 11 miles southeast of MacDill AFB. A Principal User Processor (PUP) Workstation is located in the BWS. Limitations include:

2.4.5.1. Inability to detect lightning strikes.

2.4.5.2. Range of 150 nautical miles (NM) for most radar products and an effective range of about 60 NM for detection of tornadic activity.

2.4.6. Digital Barometer Altimeter Setting Indicator (DBASI) provides accurate barometric pressure readings. The ML-102 Aneroid Barometer serves as a backup to the DBASI.

**2.5. Observations.** Surface weather observations are encoded using Aviation Routine and Special Weather Reports (METAR/SPECI) Code. The following are the types and content of weather observations provided and the criteria requiring them:

2.5.1. Meteorological Aviation Routine Weather Report (METAR). METAR observations are taken hourly during the 15 minute period prior to each hour. The content, in the order reported on AWDS, is:

2.5.1.1. Location identifier, type of observation, and time (Zulu).

2.5.1.2. Wind direction in degrees magnetic and speed (including gusts) in knots.

2.5.1.3. Prevailing visibility in statute miles.

2.5.1.4. Runway Visual Range (RVR) in feet (if any).

2.5.1.5. Weather and/or obstructions to vision (if any).

2.5.1.6. Sky condition including amount of sky coverage and the height in hundreds of feet (AGL).

2.5.1.6.1. A sky coverage of SKC equals less than one-eighth

2.5.1.6.2. A sky coverage of FEW equals zero to two-eighths

2.5.1.6.3. A sky coverage of SCT equals three to four-eighths

2.5.1.6.4. A sky coverage of BKN equals five to seven-eighths

2.5.1.6.5. A sky coverage of OVC equals eight-eighths

2.5.1.7. Temperature and dew point in degrees Celsius.

2.5.1.8. Altimeter setting in inches, tenths, and hundredths of mercury (Hg).

2.5.1.9. Any significant remarks.

2.5.1.10. Pressure altitude in feet.

2.5.1.11. Observation dissemination time in minutes after the hour and weather observer initials.

2.5.2. Aviation Selected Special Weather Report (SPECI). SPECI observations are taken to report significant changes in weather and consist of all elements contained in a METAR observation. SPECI observations are taken whenever any of the following occur:

2.5.2.1. Ceiling. The ceiling decreases to less than, or if below, increases to equal or exceed:

2.5.2.1.1. 3,000 feet (AFMAN 15-111).

2.5.2.1.2. 1,500 feet (AFMAN 15-111).

2.5.2.1.3. 1,000 feet (AFMAN 15-111).

2.5.2.1.4. 700 feet (AFMAN 15-111).

2.5.2.1.5. 600 feet (*Department of Defense, Flight Information Publication, DOD FLIP*).

2.5.2.1.6. 500 feet (DOD FLIP).

2.5.2.1.7. 400 feet (DOD FLIP).

2.5.2.1.8. 200 feet (DOD FLIP).

2.5.2.2. Sky Condition. A layer of clouds or obscuring phenomenon aloft is present below 600 feet and was not reported in a preceding Record, Record Special, or Special observation (AFMAN 15-111).

2.5.2.3. Prevailing Visibility. Prevailing visibility decreases to less than, or if below, increases to equal or exceed:

2.5.2.3.1. 3 statute miles (AFMAN 15-111).

2.5.2.3.2. 2 statute miles (AFMAN 15-111, DOD FLIP).

2.5.2.3.3. 1 1/2 statute miles (DOD FLIP).

2.5.2.3.4. 1 1/4 statute miles (DOD FLIP).

2.5.2.3.5. 1 statute mile (AFMAN 15-111).

2.5.2.3.6. 3/4 statute mile (DOD FLIP).

2.5.2.3.7. 1/2 statute mile (DOD FLIP).

2.5.2.4. Tower Visibility: A Special observation is taken upon receipt of control tower visibility when that visibility differs by one or more reportable values from the prevailing visibility, and the tower controller's or weather observer's visibility is less than 4 statute miles (AFMAN 15-111).

2.5.2.5. Tornado or funnel cloud: (AFMAN 15-111)

2.5.2.5.1. Is observed.

2.5.2.5.2. Disappears from sight.

2.5.2.6. Thunderstorms. A special observation is taken when a thunderstorm (AFMAN 15-111)

2.5.2.6.1. Begins.

2.5.2.6.2. Ends (15 minutes after the last occurrence of criteria for starting a thunderstorm).

2.5.2.7. Precipitation: (AFMAN 15-111)

2.5.2.7.1. Begins or ends (any form).

2.5.2.7.2. Freezing precipitation begins, ends, or changes in intensity.

2.5.2.7.3. Ice pellets begin, end, or change in intensity.

2.5.2.7.4. Hail begins or ends.

2.5.2.8. Wind or wind shifts: (AFMAN 15-111)

2.5.2.8.1. Squall: A strong wind characterized by a sudden onset in which the wind speed increases at least 16 knots and is sustained at 22 knots or more for at least 1 minute

2.5.2.8.2. Any wind direction change of 45 degrees or more in less than 15 minutes that is:

2.5.2.8.2.1. Associated with a frontal passage (FROPA).

2.5.2.8.2.2. The result of other causes considered operationally significant. (Normally, any occurrence when the wind speed after the shift is 10 knots or more.)

2.5.2.9. Miscellaneous: (AFMAN 15-111)

2.5.2.9.1. Real-World Nuclear Accident. When notified of a real-world nuclear accident, the observer will take and disseminate (locally and longline) a SPECI. The remark AEROB will be appended as the last remark on the longline dissemination.

2.5.2.9.2. Within 15 minutes of resumption of service, following a break in hourly service, if a METAR observation was not filed as scheduled during that 15-minute period.

2.5.2.9.3. Any other meteorological situation that, in the opinion of the observer, is critical to the safety of aircraft operations.

2.5.3. Single Element Special Observations. Single Element Special observations contain only one weather element (altimeter settings are not appended) and are authorized for: (AFMAN 15-111)

2.5.3.1. Tower visibility.

2.5.3.2. Tornadic activity.

2.5.3.3. Runway condition reading (RCR) other than dry (provided to local/base customers on Base Operations/Airfield Advisories (AIRADS) via AWDS).

2.5.4. Local (L) Observations. Local observations are primarily taken to report changes in conditions significant to local operations but do not meet SPECI observation criteria. Local observations are taken for: (AFMAN 15-111)

2.5.4.1. Aircraft mishap:

2.5.4.1.1. Taken immediately upon observation or notification at or near MacDill AFB, unless there has been an intervening METAR observation.

2.5.4.1.2. Consists of all elements normally included in a METAR observation.

**NOTE:**

Per AFMAN 15-111, Local observations are not required for in-flight emergencies; however, weather observers will intensify the weather watch during such in-flight emergencies to ensure maximum support

to the aircraft. If conditions are not representative of the official observation, the observer will take a Local observation.

2.5.4.2. Runway Change:

2.5.4.2.1. Taken after notification of a change in the active runway.

2.5.4.2.2. Consists of all elements normally in a METAR observation.

**NOTE:**

A two minute period of time is required for changed runway sensors to update before this observation is taken.

2.5.4.3. Runway Visual Range (RVR): This observation will be taken as a single element Local observation or included with a METAR or SPECI observation when:

2.5.4.3.1. RVR for the active runway decreases to less than, or if below, increases to equal or exceed:

2.5.4.3.1.1. 6,000 feet (AFMAN 15-111).

2.5.4.3.1.2. 5,000 feet (AFMAN 15-111).

2.5.4.3.1.3. 4,000 feet (DOD FLIP).

2.5.4.3.1.4. 2,400 feet (DOD FLIP).

2.5.4.3.2. Visibility conditions for reporting RVR are first observed and when the conditions are observed to no longer exist.

2.5.4.3.3. RVR is first determined to be unavailable (runway visual range not operating (RVRNO)) for the runway in use, and when it is first determined that the "RVRNO" report is no longer applicable, provided conditions for reporting RVR exist.

2.5.4.4. Wind: (First occurrence and periodically as required.)

2.5.4.4.1. Wind  $\geq$  35 knots (observed weather advisory in observation remarks).

2.5.4.5. Miscellaneous. Any other meteorological situation that in the opinion of the observer is operationally significant.

2.5.5. Half-Hourly Altimeter Local. This observation will be taken as a single element Local observation at a frequency not to exceed 35 minutes since last disseminated altimeter setting. At times when there is no local flying, a Local observation for altimeter setting is necessary only if the altimeter has changed  $\geq$  .01 inches (Hg) since the last observation.

## Chapter 3

### FORECASTING SERVICES

**3.1. General .** The 6 OSS/OSW routinely issues terminal forecasts for MacDill AFB at 0500Z plus every 6 hours.

**3.2. Limitations.** The 6 OSS/OSW will provide forecast support as required by this instruction and other governing directives. Supported agencies must be aware of the inherent limitations of current meteorological techniques and data-sparse locations. Forecasting for elements or locations not contained in pertinent directives is neither implied nor should it be inferred.

**3.3. Terminal Aerodrome Forecast (TAF).** The 6 OSS/OSW issues 24-hour forecasts for MacDill AFB, four times daily at 0500Z, 1100Z, 1700Z, and 2300Z. Operationally significant forecast elements outside this area are related to geographical features whenever possible. The term vicinity (VC) may be used and normally refers to the area between 5 and 25 nautical miles from the center of the runway. The forecaster will disseminate the TAF locally and longline via the AWDS.

3.3.1. Contents of the forecast will be in the following order (as presented on AWDS):

3.3.1.1. Header - KMCF FCST.

3.3.1.2. Valid times for forecast (Zulu).

3.3.1.3. Text:

3.3.1.3.1. Wind direction in magnetic degrees and speed (including maximum gusts) in knots.

3.3.1.3.2. Prevailing visibility with weather and obstructions to vision (if any).

3.3.1.3.3. Cloud heights (AGL) and coverage (e.g., scattered sky condition [SCT], broken sky condition [BKN], overcast sky condition [OVC], obscured sky condition [VV]).

3.3.1.3.4. Intensity, type, levels (AGL), of aircraft icing. Note: Optional if forecast above 10,000 mean sea level (MSL), mandatory if below.

3.3.1.3.5. Intensity, levels (AGL), of turbulence. Note: Optional if forecast above 10,000 MSL, mandatory if below.

3.3.1.3.6. Lowest altimeter setting.

3.3.1.3.7. Remarks.

3.3.2. Specification Criteria. The forecast will specify the time of forecast occurrence to the nearest hour, the duration, and intensity, where applicable, when one or more of the following weather elements is expected to occur within the valid period of the forecast: (AFMAN 15-124)

3.3.2.1. An increase in ceiling or visibility to a condition equal to or higher than, or a decrease to a condition lower than:

3.3.2.1.1. Ceiling: 3,000, 1,500, 1,000, 200 feet.

3.3.2.1.2. Visibility: 3, 2, 1/2 statute miles.

3.3.2.2. A change in wind speed of 10 knots or more.

- 3.3.2.3. A change in wind direction of 30 degrees or more when the wind speed (predominant or gust) after the change is expected to be greater than 15 knots.
- 3.3.2.4. Any precipitation.
- 3.3.2.5. Thunderstorms.
- 3.3.2.6. Any MacDill AFB weather advisory criteria (see [Chapter 4](#)).
- 3.3.2.7. Any MacDill AFB weather warning criteria (see [Chapter 4](#)).
- 3.3.2.8. Icing and/or turbulence and/or low level wind shear (LLWS) not associated with thunderstorms.
- 3.3.2.9. Any other meteorological condition that adequately describes expected weather.

3.3.3. Amendments. Changes to the forecast are disseminated locally in the same format and contents as the original forecast. The amended forecast is valid from the time it is issued through the end of the original forecast period. Provided the conditions are expected to last 30 minutes or longer, an amended forecast will be issued when any of the following is not specified in the original forecast:

- 3.3.3.1. A ceiling and/or visibility out of category condition exists or is expected to occur:
  - 3.3.3.1.1. Ceiling and/or visibility equal to or greater than 3,000 feet and/or 3 statute miles.
  - 3.3.3.1.2. Ceiling and/or visibility equal to or greater than 1,000 feet and/or 2 statute miles, but less than 3,000 feet and/or 3 statute miles.
  - 3.3.3.1.3. Ceiling and/or visibility equal to or greater than 200 feet and/or 1/2 statute mile, but less than 1,000 feet and/or 2 statute miles.
  - 3.3.3.1.4. Ceiling and/or visibility less than 200 feet and/or 1/2 statute mile.
- 3.3.3.2. Surface winds are out of category or is expected to occur:
  - 3.3.3.2.1. The forecast wind speed is in error by 10 knots or more.
  - 3.3.3.2.2. The wind direction is in error by 30 degrees or more when the wind speed (predominant or gusts) are, or are expected to be, greater than 15 knots.
  - 3.3.3.2.3. An unforecast wind occurrence results in a MacDill AFB weather warning being issued, extended, or canceled.
- 3.3.3.3. Precipitation when:
  - 3.3.3.3.1. Freezing precipitation begins or ends.
  - 3.3.3.3.2. The beginning or ending of precipitation causing local weather warning or weather advisory to be issued, canceled, or amended.
  - 3.3.3.3.3. The forecaster considers the occurrence or nonoccurrence of precipitation to be operationally significant.
- 3.3.3.4. Icing when the beginning or ending, not associated with thunderstorms, from surface to 10,000 feet (MSL) first meets, exceeds, or decreases below light or greater thresholds (for CAT II aircraft) and was not specified in the forecast.

3.3.3.5. Turbulence when the beginning or ending, not associated with thunderstorms, from surface to 10,000 feet (MSL) first meets, exceeds, or decreases below moderate or greater thresholds (for CAT II aircraft) and was not specified in the forecast.

3.3.3.6. Low level wind shear (not associated with thunderstorms).

3.3.3.7. When other weather warning criteria:

3.3.3.7.1. Occur, or are expected to occur, during the forecast period, but were not specified in the forecast.

3.3.3.7.2. Are specified in the forecast, but are no longer occurring or expected to occur during the forecast period.

3.3.3.8. The forecaster does not consider the forecast to be representative of existing or expected conditions.

#### **3.4. Avon Park Range Control Forecast (RCF)**

3.4.1. An RCF for Avon Park Gunnery Range will be prepared and disseminated worldwide via the AWDS at 0600L whenever the range is open (normally Mon-Fri).

3.4.1.1. Contents of the RCF will be as prescribed in ACCI 15-150.

3.4.1.2. The absence of observation data from the range makes it difficult, if not impossible, to verify the forecast. The forecaster will use his or her best judgment and information from Radar, Satellite, observations from surrounding stations, and reports from range controllers to determine if and when the forecast will be updated.

3.4.2. Specification/Amendment Criteria.

3.4.2.1. Ceiling goes below, or if below, increases to equal or exceed: 3,000, 2,000, or 1,500 feet.

3.4.2.2. Visibility goes below, or if below, increases to equal or exceed: 5 miles (night), 3 miles (day).

3.4.2.3. Thunderstorms occur or are expected to occur and are not forecast, or are forecast, but no longer expected to occur.

3.4.2.4. Any intensity of turbulence or icing occurs or is expected to occur and is not forecast; or is forecast, but no longer expected to occur.

3.4.2.5. Weather warning criteria, if not already covered in the forecast.

**3.5. Tropical Storms/Hurricanes:** The National Hurricane Center in Miami provides the only official forecast for tropical storms and hurricanes. The 6 OSS/OSW will interpret these forecasts and keep the 6 ARW Commander (6 ARW/CC) and staff informed of any storms that may pose a threat to MacDill AFB in accordance with guidance in **MacDill AFB OPLAN 32-1, Disaster Preparedness Operations Plan.**

3.5.1. A **Tropical Weather Advisory (TWA)** will be issued via AWDS and e-mailed to the 6 ARW/CC, group commanders, and other decision makers whenever any named storm (tropical storm or hurricane) is within 500 nautical miles of MacDill AFB, regardless of the projected track of the storm. Cancellation of the TWA or upgrade to HURCON conditions will be made as appropriate.

**3.5.2. Hurricane Conditions (HURCONs)** are criteria established by the Air Force for use in planning for hurricane evacuation and other storm preparations. HURCONs are forecasted meteorological conditions, determined by the 6 OSS/OSW Flight Commander (or representative) based upon advisories received from the National Hurricane Center. They will be disseminated via AWDS as well as e-mailed to the 6 ARW/CC, group commanders, 6<sup>th</sup> Comptroller Squadron (6 CPTS), and other decision makers. HURCONs are based on the arrival at MacDill AFB of winds of 50 knots or greater, and will be disseminated based on the following timeline:

**3.5.2.1. HURCON 4:** Seventy-two (72) hours prior to forecasted arrival of 50 knot or greater winds.

**3.5.2.2. HURCON 3:** Forty-eight (48) hours prior to forecasted arrival of 50 knot or greater winds.

**3.5.2.3. HURCON 2:** Twenty-four (24) hours prior to forecasted arrival of 50 knot or greater winds.

**3.5.2.4. HURCON 1:** Twelve (12) hours prior to forecasted arrival of 50 knot or greater winds.

3.5.2.5. An **ALL CLEAR** message will be disseminated when the determination has been made that danger from the storm is over.

### **3.6. Recorded Forecasts:**

3.6.1. Recorded forecasts for MacDill AFB are available via an Automated Telephone Answering Device (ATAD) by dialing 828-2421; forecasts are updated approximately with each TAF or as required. The recordings are for nonoperational use by military and civilian personnel assigned to or employed at MacDill AFB.

3.6.2. The forecast will contain general, plain language information such as a 24-hour outlook for sky conditions, precipitation, winds, temperatures, sunrise/sunset information, and the latest positions on any tropical storms/hurricanes that may pose a threat to MacDill AFB.

**3.7. Flight Weather Packages:** Flight weather packages will be provided to aircrews in accordance with AMCI 15-101, *AMC Weather Support Operations*, and AFMAN 15-125, *Weather Station Operations*.

**3.8. Weather Briefings.** The 6 OSS/OSW provides weather briefings to a number of customers on a scheduled and unscheduled basis. These briefings provide commanders and staff, operations, and aircrew personnel with vital weather information for planning and decision making. Wing stand up, predeparture, aircrew, climatological, seasonal, and other briefings are provided routinely with coordination.

3.8.1. Flight weather briefings will, whenever possible, be provided in person at the BWS. Briefings will be conducted in accordance with AMCI 15-101 and AFMAN 15-125.

3.8.1.1. Written weather briefings will be prepared using DD Form 175-1, **Flight Weather Briefing**, AMC Form 181, **AMC Mission Weather Briefing**, or 6 OSS/OSW Form 76, **Flight Weather Brief**.

3.8.1.2. Aircrews may receive verbal briefings upon their request. Verbal weather briefings will be recorded on a locally generated Aircrew Briefing Log.

3.8.2. Crisis Action Team (CAT) initial and follow-up weather briefings will be provided as requested by 6 ARW/CC.

3.8.3. Mobility Concept Briefings will be provided as specified in the tasking OPLAN. The weather portion of the briefing will be provided by a qualified weather briefer and will include a 24-hour and climatological outlook for the local area, the alternate operating base(s), and the exercise/deployed location.

3.8.4. Semiannual weather briefings will be provided to the Army Aviation Support Element (AASE) upon request and will consist of a climatological overview of the upcoming season's weather hazards as well as a discussion of the methods and technology used by the 6 OSS/OSW for disseminating weather information.

**3.9. Pilot-to-Metro Service (PMSV).** The BWS operates a PMSV on the frequency of 344.6 MHz (UHF). It is the primary means of disseminating weather information to airborne aircrews. Base Operations and the Control Tower will be notified of any PMSV outage and the expected time of return to service. During such outages, control tower personnel will monitor the PMSV frequency (if equipment limitations and workload permit).

## Chapter 4

### WEATHER WATCHES, WEATHER WARNINGS, AND WEATHER ADVISORIES

**4.1. General.** Certain weather conditions endanger property or life, pose a safety hazard, or adversely affect a supported agency's operations. 6 OSS/OSW personnel will monitor observations and forecasts for these conditions and advise support agencies when these conditions are observed or forecast. Weather warnings and advisories are the means by which supported agencies are notified of these critical weather conditions.

#### **4.2. Terminal and Area Weather Watches (MacDill AFB and Avon Park Range):**

4.2.1. Terminal weather watches are issued for a 5 NM radius from the center of the runway at MacDill AFB. Area weather watches are issued for the range complex at Avon Park. These products are issued whenever there is the potential for severe weather at the MacDill AFB terminal or in the Avon Park Range. Watches are issued when atmospheric conditions are forecast to become favorable for the development of severe weather. If weather conditions do favor severe weather, or if severe weather is imminent, the watch will be upgraded to a warning. Watches do not have lead-time requirements and are normally issued well in advance of severe weather occurrences. Weather watch criteria follow:

4.2.1.1. Tornado watch.

4.2.1.2. Severe thunderstorm watch (surface wind  $\geq$  50 knots and or hail  $\geq$  3/4 inch).

4.2.1.3. Lightning watch.

4.2.2. Dissemination of weather watches will be in accordance with [Attachment 2](#) and [Attachment 3](#). Watches are issued via AWDS with an urgent alert and accompanied by a hotline call to the wing operations center to ensure receipt. Watches are not assigned numbers (as are warnings).

#### **4.3. Terminal and Area Weather Warnings (MacDill AFB and Avon Park Range):**

4.3.1. Terminal weather warnings are issued for a 5 NM radius from the center of the runway at MacDill AFB. Area weather warnings are issued for the range complex at Avon Park. These products are issued whenever the following weather elements are expected at the MacDill AFB terminal or in the Avon Park Range complex. Desired lead times are listed after each criterion as follows:

4.3.1.1. Tornado: Zero minutes lead time.

4.3.1.2. Severe thunderstorm (surface wind  $\geq$  50 knots and/or hail  $\geq$  3/4 inch): 60 minutes lead time.

4.3.1.3. Lightning within 5nm: Zero minutes lead time.

4.3.1.4. Surface Wind  $\geq$  50 knots (not associated with thunderstorms): 60 minutes lead time.

4.3.2. Warnings are numbered consecutively (starting at one) for each month (Ex. 07-01, for the first warning in July)

4.3.3. A warning will not be issued if there is an unforecast occurrence that has stopped and is not expected to recur.

4.3.4. Dissemination of warnings will be in accordance with [Attachment 2](#) and [Attachment 3](#) (as applicable). Warnings are issued via AWDS with an urgent alert and accompanied by a hotline call to the wing operations center to ensure receipt.

#### **4.4. Avon Park Range Area Weather Advisories.**

4.4.1. Area weather advisories are issued for the Avon Park Range. These products are issued whenever the following weather elements are expected anywhere in the Avon Park Range. As defined below, all of these are observed weather advisories (OWA), meaning they are issued when conditions are observed to exist. Area weather advisory criteria, corresponding desired lead-times (when applicable), and any mission-specific requirements follow:

- 4.4.1.1. Thunderstorm within 20nm
- 4.4.1.2. Moderate or greater icing
- 4.4.1.3. Moderate or greater turbulence
- 4.4.1.4. LLWS (not associated with thunderstorms).

4.4.2. Dissemination of area weather advisories will be in accordance with [Attachment 4](#) and will be issued via AWDS with an urgent alert and accompanied by a phone call to Avon Park Range Operations to ensure receipt.

#### **4.5. MacDill AFB Observed Weather Advisories.**

4.5.1. Weather advisories are issued for a 5 NM radius from the center of the runway at MacDill AFB.

- 4.5.1.1. Crosswind (wind direction and speed which result in a crosswind)  $\geq$  10, and 25 Knots.
- 4.5.1.2. Wind  $\geq$  35 Knots.
- 4.5.1.3. Moderate or greater icing
- 4.5.1.4. Moderate or greater turbulence
- 4.5.1.5. LLWS (not associated with thunderstorms).

4.5.2. Dissemination of MacDill AFB weather advisories will be in accordance with [Attachment 4](#) and [Attachment 5](#). Weather advisories will be disseminated via AWDS with an urgent alert and will be followed up with a call to the air traffic control tower and base operations to ensure receipt.

#### **4.6. Tropical Weather Advisories (TWA) and Hurricane Conditions (HURCONs).**

4.6.1. TWAs and HURCONs are issued with respect to their location or effect on MacDill AFB.

4.6.2. Dissemination of TWAs and HURCONs will be in accordance with instructions in section 3.5 of this document.

## Chapter 5

### DISSEMINATION OF WEATHER INFORMATION

**5.1. General .** The 6 OSS/OSW will assist supported agencies in maintaining an efficient, effective means of disseminating weather support information. Procedures developed to this end must ensure weather personnel do not spend more time communicating than monitoring weather conditions. All units receiving weather support must be involved in a continuous program of evaluation and improvement of the weather dissemination system, including interunit dissemination. Weather dissemination procedures must ensure the information is received by those who need it. Commanders of individual units in need of weather information are responsible for having their units listed on wing operations center or base operations weather warning and/or advisory notification lists, and in the correct order.

#### **5.2. Automated Weather Distribution System (AWDS):**

5.2.1. The primary means of disseminating weather information is via the AWDS. AWDS terminals are located at:

- 5.2.1.1. 6 ARW/CP MacDill Wing Operations Center.
- 5.2.1.2. 6 OSS/OSAA Base Operations (Operations Desk and Flight Planning Room).
- 5.2.1.3. 6 OSS/OSAT Air Traffic Control (Control Tower).
- 5.2.1.4. Army Aviation Support Element (AASE), Hangar 3.
- 5.2.1.5. Deployed Unit Complex (Bldg 71).
- 5.2.1.6. 91 ARS (Bldg 53).
- 5.2.1.7. Tampa Air Traffic Control Tower (Tampa International Airport).
- 5.2.1.8. Avon Park Range Control Tower.

5.2.2. The AWDS is used to disseminate the following information:

- 5.2.2.1. Weather observations.
- 5.2.2.2. Terminal Aerodrome Forecasts (TAFs) and amendments.
- 5.2.2.3. Terminal and area weather warnings, watches, and advisories.
- 5.2.2.4. Tropical Weather Advisories (TWA), and Hurricane Conditions (HURCONs).
- 5.2.2.5. Pilot reports (PIREP).
- 5.2.2.6. Airfield advisory (AIRAD) to include Runway Condition Reading (RCR) and Runway Surface Condition (RSC).

5.2.3. The following applies to all AWDS transmissions:

- 5.2.3.1. All wind directions are in degrees magnetic.
- 5.2.3.2. All weather observation and TAF heights are AGL. PIREP heights are MSL. Other products, such as weather advisories, reference MSL and AGL as appropriate, but are normally in MSL.

5.2.3.3. All distances are statute miles except observed thunderstorm advisories and PIREPs which use references to nautical miles.

5.2.3.4. Wind speeds are in knots.

5.2.3.5. All times are in Universal Time Coordinate (UTC, also known as ZULU) unless the time is appended with an "L", in which case it is local time.

5.2.4. Those units possessing an AWDS terminal must monitor their system for operational status. Each agency experiencing an outage of their AWDS terminal will report it to the BWS (ext. 8-2854) so back-up telephone procedures may be initiated (when required/necessary) and maintenance actions can be taken.

**5.3. AWDS Local Dissemination Back-up Procedures.** The telephone will be used as a back-up for the AWDS when the AWDS system is inoperative. When required, 6 OSS/OSW will telephone weather data to: Wing Operations Center, Hotline or ext. 8-4361; Air Traffic Control, Hotline or ext. 8-2120.

**NOTE:**

A read back of disseminated weather information is recommended.

**5.4. Total Communications Outage .** When the BWS experiences a total communications outage (i.e., power outage, BWS relocation, etc.), the BWS will locally disseminate via telephone: Weather observations, forecasts, warnings and advisories to the agencies listed in [Attachment 6](#).

**5.5. Weather Warning, Watch, and Advisory Notification.** As prescribed in [Chapter 4](#), 6 OSS/OSW will enter weather warnings and advisories into the AWDS. Additionally, the BWS will notify the wing operations center and base operations of applicable weather warnings and watches. The wing operations center and base operations will further disseminate warnings and advisories they receive in accordance with [Attachment 2](#) through [Attachment 5](#).

**5.6. Public Release of Weather Information.** The 6 OSS/OSW Weather Flight will forward all requests for weather information from nonDOD/public agencies to the 6 ARW Public Affairs (PA) office. 6 OSS/OSW Weather Flight will not routinely provide MacDill AFB historical or real-time weather data to non-military agencies.

## Chapter 6

### SPECIAL MISSION REQUIREMENTS

**6.1. General.** The previous chapters covered support requirements for the majority of the operations on MacDill AFB and Avon Park Range. Information on units requiring unique support is outlined in this chapter. Any special support requirements not covered here should be coordinated with 6 OSS/OSW.

**6.2. 6 ARW Commander and Staff.** 6 OSS/OSW will provide weather briefings at scheduled 6 ARW senior staff meetings or upon request. 6 OSS/OSW will also respond to any recall as required by the 6 ARW Commander.

**6.3. Airfield Operations (6 OSS/OSAA).** Base operations will provide RCR and RSC for the runway, taxiways, and ramps to aircrews using AWDS AIRADs. (AFI 13-213, *Airfield Management*).

**6.4. Wing Safety.** The 6 OSS/OSW will provide meteorological data to assist in the investigation of ground or aircraft mishaps, as required.

**6.5. 6th Communications Squadron (6 CS):**

6.5.1. The 6 OSS/OSW will notify communications job control (6 CS/CJC) of communications and support equipment outage, interruptions, and restorals. The 6 OSS/OSW duty observer will open and close all applicable job control numbers regarding meteorological and communications support equipment with the 6 CS.

6.5.2. The 6 OSS/OSW will assist 6 CS/CJC with any mission impact reports and coordinate scheduled maintenance to minimize the impact on weather operations.

**6.6. 6th Civil Engineer Squadron, 6th Aeromedical Squadron, and the US Army Corps of Engineers.** 6 OSS/OSW will provide these agencies with a summary of the previous month's weather information. This summary will include:

6.6.1. Daily and average monthly maximum, minimum and mean temperatures with extremes.

6.6.2. Cooling degree days and heating degree days.

6.6.3. Relative humidity at 1800 GMT.

6.6.4. Daily peak wind direction and speed.

6.6.5. Total daily, monthly, and yearly precipitation.

6.6.6. Daily occurrence of thunderstorms.

**6.7. 6th Civil Engineer Squadron, Readiness Flight (6 CES/CEX).**

6.7.1. 6 OSS/OSW will provide meteorological information such as wind direction and speed during chemical spills.

6.7.2. The 6 OSS/OSW will assist the readiness flight by having the Effective Downwind Fallout Message (message heading designator FUUS45 KGWC) available for pick up by the 6 CES/CEX staff. It is the responsibility of the readiness flight to pick up or arrange delivery of this information.

**6.8. 6th Operations Support Squadron, Air Traffic Control (6 OSS/OSAT):** 6 OSS/OSW will provide training and certification of air traffic control personnel to take limited weather observations and to participate in the Cooperative Weather Watch Program.

**6.9. Bioenvironmental Engineering Flight (BEF) (6 AMDS/SGPB):** 6 OSS/OSW will provide meteorological input such as wind direction and speed for the BEF to determine the appropriate toxic cordon and toxic corridor in the event of a toxic chemical spill or emergency response.

## Chapter 7

### RECIPROCAL SUPPORT

**7.1. General.** The 6 OSS/OSW requires reciprocal support from various base agencies, particularly where the required support is beyond 6 OSS/OSW capabilities. The support requirements outlined are essential to the base weather flight's ability to provide timely, accurate weather support to MacDill AFB.

**7.2. Wing Operations Center (6 ARW/CP).** The 6 ARW/CP will:

7.2.1. Notify 6 OSS/OSW with sufficient lead time of any wing events or incidents such as alerts or recalls that may involve or require weather support.

**NOTE:**

Briefing format information is usually needed. Preparation time varies based on required format.

7.2.2. Disseminate weather warnings, watches, and advisories to supported agencies as outlined in [Attachment 2](#) through [Attachment 5](#).

7.2.3. Immediately notify the 6 OSS/OSW forecaster (ext. 8-2854) of reported damage to government property resulting from weather phenomena for appropriate weather reporting requirements.

7.2.4. Provide time during training meetings for 6 OSS/OSW to present information and training on weather subjects in which wing operations center personnel are involved, as applicable.

7.2.5. Store 6 OSS/OSW's classified documents if the base weather station must be evacuated. Also provide 24-hour access to that material until access at the BWS is once again available.

**7.3. Base Operations (6 OSS/OSAA) .** The 6 OSS/OSAA will:

7.3.1. Notify 6 OSS/OSW duty personnel of:

7.3.1.1. Aircraft and ground emergencies, mishaps, and accidents promptly.

7.3.1.2. Any alerts or recalls.

7.3.1.3. Changes in threat conditions (THREATCON), security postures, and states of readiness.

7.3.2. Provide notice to the 6 OSS/OSW duty forecaster of any toxic chemical spill (actual or exercise) to include location and any additional information as it becomes available.

7.3.3. Notify 6 OSS/OSW of all impending arrivals and or diversions (due to weather conditions) of distinguished visitors.

7.3.4. Provide further dissemination of weather warnings, watches, and advisories in accordance with [Attachment 2](#) through [Attachment 5](#) of this instruction.

7.3.5. Publish 6 OSS/OSW hours of operation and PMSV frequency in FLIP and provide copies of these pamphlets as well as two copies of the Air Almanac (as available) to the BWS.

7.3.6. Ensure the BWS is included in all notifications via the secondary crash net.

7.3.7. Notify 6 OSS/OSW of runway changes and conditions (RSC/RCR).

7.3.8. Notify 6 OSS/OSW of the landing of the last scheduled aircraft for the day.

7.3.9. Locally disseminate via the AWDS all RCRs and RSCs in the form of an airfield advisory (AIRAD).

7.3.10. Notify 6 OSS/OSW of changes to the bird condition.

**7.4. 91st Air Refueling Squadron (91 ARS).** The 91 ARS will:

7.4.1. Provide pilot reports (PIREP) of any significant or unexpected weather encountered in flight, via PMSV, Air Traffic Control, or debrief to 6 OSS/OSW.

7.4.2. Coordinate and provide time during flying safety meetings for weather presentations on selected subjects.

**7.5. Scheduling (6 OSS/OSOS).** The wing scheduling office will provide 6 OSS/OSW with a copy of weekly training and/or mission schedules, daily schedule updates, and notification of any special support required.

**7.6. Air Traffic Control (6 OSS/OSAT).** Weather support by the control tower will be accomplished as a secondary function, with respect to the primary function of air traffic control. The control tower will:

7.6.1. Solicit PIREPs when any of the following criteria exist:

7.6.1.1. Ceilings are at or below 5,000 feet (AGL).

7.6.1.2. Visibility is at or below 5 statute miles.

7.6.1.3. Thunderstorms are in the vicinity.

7.6.1.4. Moderate or greater turbulence is observed or forecast.

7.6.1.5. Icing is observed or forecast.

7.6.1.6. Windshear is observed or forecast.

7.6.1.7. Crosswind advisories are in effect.

7.6.2. Relay all PIREPs with weather information to the 6 OSS/OSW duty forecaster or observer.

7.6.3. Relay to the 6 OSS/OSW duty observer all runway and wind sensor changes and light setting changes when the airfield visibility is reduced to, or forecast to be, 2 miles or less.

7.6.4. Upon request by 6 OSS/OSW, perform a PMSV radio check.

7.6.5. Notify 6 OSS/OSW when wind equipment:

7.6.5.1. Is inoperative.

7.6.5.2. Readings differ from visual references.

7.6.6. Provide wind sensor change to the inactive end of the runway upon request of 6 OSS/OSW.

7.6.7. Monitor 6 OSS/OSW PMSV frequency during outages.

7.6.8. Provide air traffic control indoctrination training to 6 OSS/OSW personnel upon request.

7.6.9. Participate in the Cooperative Weather Watch Program. This requires notification of 6 OSS/OSW duty observer when any of the following weather conditions occur and are not in the latest available observation:

- 7.6.9.1. Precipitation starts or stops.
- 7.6.9.2. Wind gusts of 25 knots or greater, when no gusts are forecast.
- 7.6.9.3. Thunderstorms and or lightning is initially observed.
- 7.6.9.4. Rapid decrease of visibility that lowers a quadrant's visibility to below 6 miles.
- 7.6.9.5. Lower clouds or weather approaching from any direction.
- 7.6.9.6. Any weather phenomena that might be considered significant.
- 7.6.9.7. Provide tower visibility when control tower personnel observe the prevailing visibility decrease to less than 4 statute miles or increase to 4 statute miles or more. Report all changes when the prevailing visibility, at the usual point of observation or at tower level, is less than 4 statute miles.
- 7.6.10. Coordinate limited weather observing training for control tower personnel with 6 OSS/OSW.

**7.7. 6th Communications Squadron (6 CS).** The 6 CS will:

7.7.1. Maintain a priority listing for restoration of weather equipment. This list will be coordinated between 6 OSS/OSW and 6 CS and incorporated into 6 CSI 21-1. The 6 OSS/OSW may alter this precedence with coordination from 6 CS if the meteorological situation warrants. Upon notification of a meteorological or communications outage of any type, Communications Job Control (6 CS/CJC) will take the appropriate maintenance action in accordance with the priority listing, unless previously coordinated.

7.7.1.1. The following restoration time codes apply:

Code A - Within 30 minutes during duty hours; however, a 1-hour response time is permitted during nonduty hours. Deferment of maintenance may occur only with the concurrence of both the Chief of Maintenance and the user.

Code B - A response time of 30 minutes is required during duty hours, 1 hour during nonduty hours. Maintenance may be deferred after 2200 with concurrence of both the chief of maintenance and the weather flight.

Code C - A response time of 30 minutes during duty hours only--single shift maintenance unless otherwise requested.

Code D - Response time determined by work center/chief of maintenance.

7.7.1.2. Restoration priorities: The following order of restoration priorities listed under the major equipment headings applies to the listed equipment/facilities:

*CODE*

1A FMQ-13 (Runway Winds)  
 2A GMQ-32 (Runway Visibility)  
 3A AN/GMQ-34 (Cloud Height Set)  
 4A WSR-88D (NEXRAD PUP)  
 5A Thunderstorm Sensor (Lightning Detector)

*CODE*

6C FMQ-8 (Digital Temp/Dewpoint)  
 7C ML-658 (DBASI Digital Barometer)  
 8C ML-102 (Aneroid Barometer)  
 9C ML-17 (Rain Gauge)

**NOTE:**

For those systems with the same restoration code, should simultaneous failures occur, response will be in the order as listed unless deviation is requested by the weather flight.

7.7.2. Provide access to the meteorological equipment sensors for 6 OSS/OSW.

7.7.3. Provide access to weather equipment technical orders for 6 OSS/OSW.

7.7.4. Coordinate all scheduled maintenance on meteorological equipment with 6 OSS/OSW. If weather conditions dictate caution, weather equipment will not be taken out of service for scheduled maintenance.

7.7.5. Coordinate all mission impacts for inoperable weather equipment with 6 OSS/OSW.

**7.8. 6th Air Refueling Wing, Public Affairs Office (6 ARW/PA).** The 6 ARW/PA will:

7.8.1. Act as a liaison office between the weather station and all nonmilitary agencies and/or individuals.

7.8.2. Receive, process, and forward all valid requests for weather services (forecasts, climatology, lectures, visits, etc.) from nonmilitary sources to the BWS.

**7.9. United States Special Operations Command (USSOCOM) Weather (SOJ3-OW).** USSOCOM weather personnel will forward weather outlook information for CINC flights from MacDill AFB.

JOHN D. BECKER, Brig Gen, USAF  
Commander

KENDEL R. SMITH JR., Chief, Support Flight

## Attachment 1

## GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

***References***

AFPD 15-1, *Atmosphere and Space Environmental Support*  
AFI 15-114, *Weather Support Evaluation*  
AFI 15-118, *Requesting Specialized Weather Support*  
AFI 13-213, *Airfield Management*  
AFI 31-101, Vol 1, *The Physical Security Program*  
DOD FLIP, *Department of Defense, Flight Information Publication*  
AFMAN 15-111, *Surface Weather Observations*  
AFMAN 15-124, *Meteorological Codes*  
AFMAN 15-125, *Weather Station Operations*  
AMCI 15-101, *AMC Weather Operations*  
MacDill AFB OPLAN 32-1, *Disaster Preparedness Operations Plan*

***Abbreviations and Acronyms***

**AFI**—Air Force Instruction  
**AFPD**—Air Force Policy Directive  
**AFGWC**—Air Force Global Weather Center (Offutt AFB NE)  
**AGL**—Above Ground Level  
**AWDS**—Automated Weather Distribution System  
**BKN**—Broken Sky Condition  
**Bldg**—Building  
**BWS**—Base Weather Station, also called Weather Flight and 6 OSS/OSW  
**C**—Degrees Celsius  
**DV**—Distinguished Visitor  
**F**—Degrees Fahrenheit  
**FA**—Functional Area  
**FCST**—Forecast  
**FLIP**—Flight Information Publication  
**FROPA**—Frontal Passage  
**Hg**—Symbol for Atomic Mercury

**L**—Local

**LWDS**—Local Weather Data Set

**LLWS**—Low Level Wind Shear

**MHz**—Mega Hertz (unit for the measurement of radio frequency)

**MSL**—Mean Sea Level (height above the average sea level)

**NEXRAD**—Next Generation Weather Radar. (The NEXRAD is also termed the WSR-88D)

**NM**—Nautical Mile. (Unit for measuring distance)

**NOTAMS**—Notice to Airman

**OVC**—Overcast Sky Condition

**PIREP**—Pilot Report

**PMSV**—Pilot-to-Metro Service

**RCR**—Runway Conditions Reading

**RSC**—Runway Surface Conditions Reading

**RVR**—Runway Visual Range

**RVRNO**—Runway Visual Range Not Operating

**SCT**—Scattered Sky Condition

**TAF**—Terminal Aerodrome Forecast

**TEMPO**—Temporary Forecast Condition

**THREATCON**—Threat Condition

**UTC**—Universal Time Coordinate

**VC**—Vicinity

**X**—Obscured Sky Condition

**>**—Greater than

**<**—Less than (below)

**≤**—Less than or equal to

**≥**—Greater than or equal to

### ***Terms***

**Basic Weather Watch**—a program designed to provide official weather observations for MacDill AFB. A certified weather observer takes, records, and disseminates these observations. Under this program the observer has other duties to perform in a prioritized listing. Therefore, the observer cannot continuously monitor weather conditions, but checks at intervals not to exceed 20 minutes since the last observation. As a minimum, the weather observer is required to take and transmit a new weather observation at least hourly.

**Ceiling**—the height of the lowest broken or overcast layer aloft which is predominantly opaque.

**Celsius**—a metric unit used to measure temperature.

**Cooperative Weather Watch**—a program in which air traffic control (ATC) personnel assist in the basic weather watch by alerting weather personnel to changing weather conditions.

**Desired Lead-time**—the amount of advance notice a supported agency needs to react to an advisory or warning (within the limits of state-of-the-art forecast capabilities).

**Fahrenheit**—an English standard unit to measure temperature.

**Local Observation**—observation taken to report changes in conditions significant to local airfield operations, but does not meet special observation criteria. Local observations are not transmitted into the Automated Weather Network for use by other meteorological offices.

**METAR Meteorological Aviation Report.**—The aviation code form used throughout the United States and most of the world for hourly observations. (Ref. AFMAN 15-124, AFMAN 15-111)

**Observed Weather Advisory (OWA)**—an advisory issued when critical weather conditions are observed to occur. It can be disseminated as part of a regular observation (i.e., in the remark section) or as a separate advisory product. No valid times or desired lead times accompany this advisory. If disseminated as part of a regular observation, the first occurrence of the criteria will be sent with an urgent alert.

**Pilot-to-Metro Service (PMSV)**—a two-way radio service used for exchange of weather information between the base weather station (BWS) and aircraft.

**Prevailing Visibility**—the greatest distance that can be seen throughout at least half of the horizon circle (360-degree circle based at the horizon).

**Severe Thunderstorm**—a thunderstorm with winds 50 knots or greater and/or hail 3/4 inch or greater.

**SPECI**—the aviation code form used throughout the United States and most of the world for unscheduled special observations.

**Terminal**—the area within a 5 nautical mile radius of the center of the runway.

**Weather Advisory**—a special notice provided to a supported agency when an established weather condition that could affect its operation is occurring or is expected to occur.

**Weather Warning**—a special notice provided to a supported agency when an established weather condition of such intensity as to pose a hazard to property or life is occurring or is expected to occur. A weather warning is issued for situations that require the supported agency to take protective action.

**Weather Watch**—a special notice provided to customers to alert them that atmospheric conditions are favorable for tornadoes, severe thunderstorms, or winter storm conditions. A warning will follow a watch when and if severe weather activity appears imminent.

**ZULU**—a system of time, also known as Greenwich Mean Time or Universal Time Coordinate. This is the time measured on the prime meridian (0° longitude) in Greenwich, England.

**Attachment 2****MACDILL AFB TERMINAL WEATHER WARNING, WATCH, ADVISORY NOTIFICATION SYSTEM**

Duty Forecaster notifies the following

agencies then issues via AWDS \*:

**Wing Operations Center**                      **Base Operations**

which notifies

which notifies

6 OG/CC

6 SPTG/CC

MACC\*\*

USCENTCOM

CE Emergency Svc

Comm Job Control

Firing Range

Flt Simulator

USSOCOM

Emergency Room

Navy PSD

DUC

SOCCENT

Security Forces

SRCC

Safety

JCSE

Fire Department

Munitions

622 AES

Lodging\*\*\*

EOD

Tinker Elementary

NOAA

\* Agencies notified by AWDS include those stated in para [5.2.1](#).

\*\* MACC notifies additional agencies.

\*\*\* Lodging notifies additional Services agencies.

**Attachment 3****AVON PARK RANGE AREA WEATHER WARNING, WATCH NOTIFICATION SYSTEM**

Duty Forecaster issues via AWDS \*

then notifies the following agencies:

**Avon Park Range Operations**

which notifies

Range Tower

Airfield Tower

QAE

RN

RS

CE

UTES

**Attachment 4**

**OBSERVED WEATHER ADVISORY (OWA) NOTIFICATION SYSTEM**

Duty Forecaster notifies the following  
agencies then issues via AWDS\*:

<b>Wing Operations Center</b>	<b>Base Operations</b>
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which notifies

which notifies

91 ARS/CC

Transient Alert

6 OSS/OSOS (as appropriate)

local aircraft

\* Agencies notified by AWDS include those stated in para [5.2.1](#).

**Attachment 5****AVON PARK AREA WEATHER ADVISORY NOTIFICATION SYSTEM.**

Duty Forecaster issues via AWDS \*  
then notifies the following agencies:

**Avon Park Range Operations**

which notifies

Range Tower

Airfield Tower

QAE

RN

RS

CE

UTES

Attachment 6

AWDS WEATHER WATCH, WARNING, AND ADVISORY EXAMPLES

A6.1. Weather Watch

A6.1.1. Tornado Watch MACDILL AFB. TORNADO WEATHER WATCH

VALID 10/2200Z (1800L) TO 10/2300Z (1900L)

CONDITIONS ARE FAVORABLE FOR TORNADIC ACTIVITY ASSOCIATED WITH SEVERE THUNDERSTORMS "WINDS 50KTS OR GREATER AND/OR HAIL 3/4" OR GREATER" IN AND AROUND MACDILL AFB.

SPECIFIC WARNINGS MAY FOLLOW!

30/HONADLE

A6.1.2. Severe Thunderstorm Watch MACDILL AFB WEATHER WATCH

VALID 24/2200Z (24/1800L) TO 25/0500Z (25/0100L)

CONDITIONS ARE FAVORABLE FOR SEVERE THUNDERSTORMS. AND (WINDS 50KTS OR GREATER AND OR HAIL 3/4 INCH OR GREATER) TO DEVELOP IN AND AROUND MACDILL AFB.

SPECIFIC WARNINGS MAY FOLLOW!

35/GRAHAM

A6.1.3. Lightning Watch MACDILL AFB. WEATHER WATCH

VALID 23/1800Z (23/1400L) TO 24/0100Z (23/2100L)

CONDITIONS ARE FAVORABLE FOR LIGHTNING WITHIN 5NM OF MACDILL AFB. A LIGHTNING WARNING WILL FOLLOW IF REQUIRED.

32/GRAHAM

A6.2. Weather Warning

A6.2.1. Tornado MACDILL AFB WEATHER WARNING 06-003

VALID 24/2245Z (24/1845L) TO 24/2345Z (24/1945L)

A (TORNADO/FUNNEL CLOUD/WATERSPOUT) WAS LOCATED 5NW MOVG NE.

45/WOOD

A6.2.2. Hail MACDILL AFB WEATHER WARNING 06-002

VALID 26/2200Z (26/1800L) TO 26/2300Z (26/1900L)

HAIL 3/4" OR GREATER IS EXPECTED TO OCCUR AT MACDILL AFB.

55/VIEIRA

A6.2.3. Winds  $\geq$  50 Knots

**MACDILL AFB WEATHER WARNING 06-005****VALID 30/2100Z (30/1700L) TO 30/2200Z (30/1800L)****SURFACE WIND 320 DEGREES AT 35KTS GUSTING TO 55KTS THESE STRONG SURFACE WINDS ARE ASSOCIATED WITH THUNDERSTORM ACTIVITY.****54/HEWKO****A6.2.4. Lightning MACDILL AFB WEATHER WARNING 06-004****VALID 30/1800Z (30/1400L) TO UFN****WEATHER WARNING FOR LIGHTNING WITHIN 5NM OF MACDILL AFB.****42/CAMPANA****A6.3. MacDill Observed Weather Advisories****A6.3.1. Low-Level Wind Shear (LLWS) (weather advisory product)****ADVISORY 06-004****VALID 10/2223Z (1823L) TO UFN****LOW-LEVEL WIND SHEAR WAS OBSERVED BY KC-135 ON DECENT  
23/HATTERY****A6.3.2. Moderate or Greater Turbulence or Icing (weather advisory product)****ADVISORY 06-005****VALID 10/2230Z (1830L) TO UFN****MODERATE TURBULENCE WAS OBSERVED BY A KC-135 ON TAKE-OFF.  
30/THOLEN****A6.3.3. Crosswinds Greater than 10 or 25kts (weather advisory product)****ADVISORY 06-005****VALID 10/2230Z (1830L) TO UFN****CROSSWIND ADVISORY FOR WINDS GREATER THAN OR EQUAL TO 10KTS BUT  
LESS THAN 25KTS...ACTUAL WINDS ARE 13015KTS.****30/BUERKERT**

**Attachment 7**

**DISTRIBUTION:**

6 ARW/CC/XP/CP.....3  
6 OG/CC.....1  
6 OSS/CC.....1  
91 ARS/CC.....1  
6 SVS/CC.....1  
6 CPTS/CC.....1  
NOAA/CC.....1  
DET 1 347 OG/CC.....1  
ARMY AVIATION SUPPORT FACILITY #2.....1  
USCG/CC CLEARWATER.....1  
290 JCSS/CC.....1  
AASE USSOCOM.....1  
AMDS-SGPB.....1