

**BY ORDER OF THE COMMANDER
482D FIGHTER WING**

**482D FIGHTER WING INSTRUCTION
15-101**



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Weather Operations

**BASE OPERATIONAL WEATHER
SUPPORT**

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Air Force Weather Operations*; Air Force Instruction (AFI) 10-206, *Operational Reporting*, AFI 15-114, *Functional Resource and Weather Technical Performance Evaluation*; AFI 15-128, *Aerospace Weather Operations – Roles and Responsibilities*; Air Force Manual (AFMAN) 15-111, *Surface Weather Observations*; AFMAN 15-124, *Meteorological Codes*; AFMAN 15-129, *Air and Space Weather Operations*. It defines the weather services and outlines the responsibilities and procedures for weather support provided by the Weather Flight (WF) to supported agencies. It also outlines the reciprocal services and support provided by base agencies to the WF. This instruction shall be reviewed annually. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using an Air Force (AF) Form 847, *Recommendations for change of Publication*; route AF Form 847 from the field through the appropriate functional chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFI 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System Records Disposition Schedule located at <https://www.my.af.mil/gcss-af61a/afrims/afrims/rim/cfm>.

Note: The reports in this directive are exempt from licensing according to AFI 33-322, *Records Management and Information Governance Program*.

SUMMARY OF CHANGES

This publication has been completely revised and should be reviewed in its entirety.

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Chapter 1

CHARACTERIZATION UNIT (CU) & EXPLOITATION UNIT (EU) INTERACTIONS

1.1. General. The WF is the official weather information agency for Homestead Air Reserve Base (HARB), Florida. The WF is the focal point for all weather-related issues and provides weather services to the 482d Fighter Wing (482 FW), 125th Fighter Wing, Detachment 1 (125 FW/Det.1), transient aircrews, federal agencies and United States Government contractors assigned to, working on, or operating from, HARB.. This instruction establishes requirements and procedures pertaining to weather support during peacetime operations. This instruction will be reviewed and revised at a frequency not to exceed biennially or IAW with host/parent unit procedures if the time is less than biennially.

1.1.1. The 26 Operational Weather Squadron (26 OWS), Barksdale Air Force Base (BAFB), Louisiana is the servicing OWS. The 26 OWS is a regional center of expertise providing theater support and aviation services supporting the WF.

1.1.2. The role of the WF is to assess the mission environment to determine environmental threats, and where possible, find alternatives to mitigate those threats. The WF supports the entire spectrum of mission types including aviation and ground operations. WF functions include Staff Integration, Mission Integration and Airfield Weather Services.

1.2. Concept of Operations.

1.2.1. The WF is the primary source of tailored weather services in support of the 482 FW, 125 FW/Det.1, transients, federal agencies and contractors assigned to, working on, or operating from, HARB. Agencies requiring special weather support should contact the WF to coordinate support requirements and provide any pertinent details as early as possible (72 hour notice is preferred). Agencies requiring recurring support should contact the Weather Operations Manager at Defense Switched Network (DSN) 535-7786.

1.2.2. Meteorological Watch (METWATCH). The WF performs a continuous METWATCH for HARB. METWATCH is a deliberate continuous process for monitoring terrestrial weather, or the space environment, in an area or region. The purpose of a METWATCH is to identify when and where observed conditions significantly diverge from forecast conditions, determine a course of action to update or amend a forecast product (or group of products), and notify designated agencies.

1.2.3. Adequate notice and close coordination is essential for optimal support. The WF must be kept informed of all changes to the weather sensitivities of assigned aircraft, weapons and guidance systems, as well as any other weather criterion affecting operations.

1.3. Responsibilities.

1.3.1. General responsibilities of the WF are outlined in AFI 15-128 and AFMAN 15-129.

1.3.1.1. The WF issues the HARB Terminal Aerodrome Forecast (TAF).

1.3.1.2. The WF issues all weather watches, warnings and advisories (WWA) for HARB.

1.3.1.3. The WF creates Mission Weather Products (MWP) that fuse theater-scale products with local mission requirements to enable the direct inject of weather impacts

into warfighter planning and/or execution. Upon request, the WF will provide flight weather briefings and operational weather support for local and transient aircrews.

1.3.2. HARB Installation Data Page. The WF and 26 OWS will coordinate and maintain a HARB Installation Data Page detailing TAF specification and amendment criteria, warning, watch, and advisory thresholds, desired lead times, mission impacts, unit information, JET backup contacts and local outage backup information.

1.4. Duty Priorities. In accordance with AFMAN 15-129, Table 3.2, the WF has created the following duty priorities based on 482 FW mission requirements.

Table 1.1. Duty Priorities.

Priority	Duties
1	Perform HARB Emergency War Order (EWO) Tasking
2	Perform Emergency War Order Tasks
3	Execute Evacuation / Continuity of Operations Plan
4	Issue/Disseminate Imminent Hazardous Weather Warnings
5	Respond to Aircraft/Ground Emergencies
6	Issue/Disseminate Imminent Weather Advisories
7	Respond to PMSV calls supplementation/backup
8	Disseminate Weather Observations
9	Disseminate Urgent PIREPs
10	Disseminate Terminal Aerodrome Forecasts
11	Provide Flight Weather Briefings
12	Collaborate Weather Products with Supported Units
13	METWATCH/Amend Weather Products
14	Respond to Support Assistance Request or Request for Information
15	Provide Staff Briefings
16	Weather Functional Training
17	Accomplish Administrative Tasks

1.5. Hours of Operation. 0500-2300L. The WF will remain open when the Unit Commander or local missions dictate, and during automated sensor outages. In the event that severe weather is forecast to occur, the WF will be recalled. The 26 OWS assumes METWATCH responsibilities for HARB during overnight hours and when otherwise coordinated.

1.6. Continuity of Operations Plan (COOP). Continuity of support to HARB is susceptible to communication outages.

1.6.1. In the event of a building evacuation, WF personnel will relocate to the twelfth floor of the Air Traffic Control tower. The WF will continue operational weather support. If access to weather sensing equipment is lost, manual equipment will be used to take observations. WF personnel will follow duty-specific standard operating procedures and evacuation checklists (including a list of required backup equipment) and resume services at the Alternate Operating Location (AOL) as soon as possible. Most WF services/support will continue to be provided, but will require a case-by-case assessment depending on communication-line status, equipment status, etc. Expect most weather services to be

somewhat degraded due to limited facilities and the loss of dedicated data services, including sensors and various data types (meteorological satellite, radar imagery, etc.). For flight safety reasons, WF personnel will not evacuate during exercises.

Chapter 2

AIRFIELD SERVICES

2.1. General. Airfield services include those actions affecting the HARB aerodrome (defined as a 5NM radius from the center point of the runway complex).

2.2. Surface Weather Observations. Observations are taken, recorded, and disseminated IAW AFMAN 15-111, *Surface Weather Observations*, utilizing the FMQ-19 Automated Meteorological Observing System. Most observations are taken automatically by the FMQ-19 with no human intervention. At times, it is necessary for a meteorological technician to augment the system. Automated and augmentation processes are outlined in [paragraph 2.2.4](#). Two types of surface weather observations are created and disseminated:

2.2.1. Aviation Routine Weather Report (METAR). Observations which are created between 45 and 59 minutes after every hour. A METAR is disseminated locally and longline between 55 and 59 minutes after every hour.

2.2.2. Aviation Selected Special Weather Report (SPECI). An unscheduled observation completed and transmitted when any of the HARB special criteria listed in [Attachment 2](#) have been observed or sensed. SPECI will contain all data elements found in a METAR plus additional remarks that elaborate on data in the body of the report. All SPECI reports will be prepared and transmitted as soon as possible once relevant criteria are observed.

2.2.3. Official Observing Point. The official observing point is the location of the FMQ-19 sensors.

2.2.3.1. Augmented weather observations are taken at the primary augmentation site, which is at the end of the sidewalk, East of building 702.

2.2.3.2. During relocation to the AOL, augmented weather observations will be taken near the East parking lot of the Air Traffic Control tower.

2.2.4. Observing Point Limitations.

2.2.4.1. The FMQ-19 is properly sited with no limitations noted.

2.2.4.2. Thunder may not be heard in some instances due to airfield noise.

2.2.4.3. Buildings restrict the view of the horizon from the Southwest through the Northwest.

2.2.4.4. The sky condition may be difficult to assess in darkness when ramp lights are in use.

2.2.5. Automated Surface Weather Observation. An automated observation is any observation which has been evaluated, prepared, and transmitted by an observing system without human intervention. In automated mode, the FMQ-19 observing system will record and disseminate weather observations. The FMQ-19 uses time-averaging of sensor data. In an automated observation, sky condition will be an evaluation of sensor data gathered during the 30-minute period ending at the actual time of the observation. All other elements evaluated are based on sensor data that is within 10 minutes or less of the actual time of the observation.

2.2.6. Forecaster Augmented Surface Weather Observation. Augmentation is the Operational Risk Management (ORM) based process of having a certified meteorological technician manually add or edit data to an observation generated by the FMQ-19 observing system. The two augmentation processes used are supplementing and back up.

2.2.6.1. Supplementing. Manually adding meteorological information to an observation generated by the FMQ-19 that is beyond the system's capability to measure and report. For example, the sensor cannot specifically sense a tornado or hail.

2.2.6.2. Supplementing Procedures. WF personnel will supplement surface weather observations when weather conditions in **Table 2.1** are observed, and be prepared to supplement surface weather observations if the conditions in **Table 2.1** are forecast to occur within 2 hours. WF personnel must also be prepared to implement supplementing procedures whenever a forecast watch or warning has been issued for tornadic activity.

Table 2.1. Mandatory Supplementary Weather Conditions.

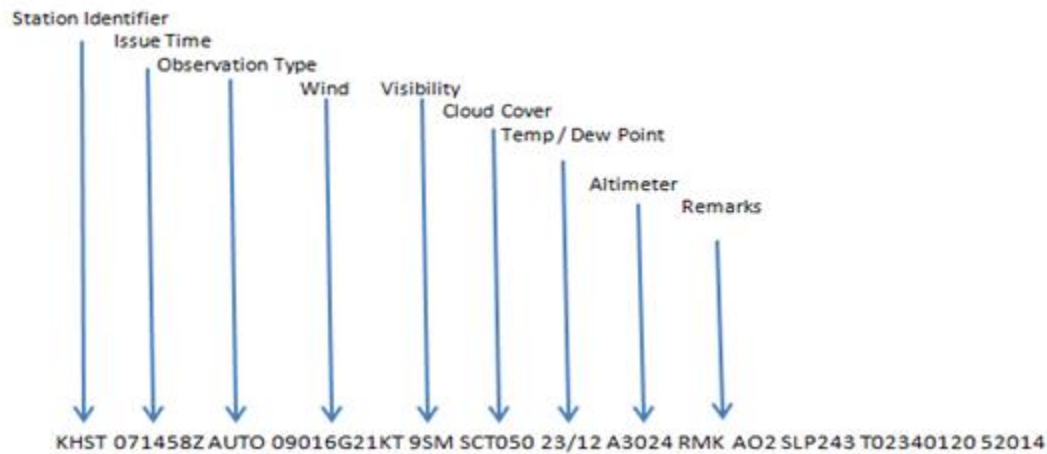
Mandatory Supplementary Weather Conditions – Body of Report (Note 1.)
Tornado (+FC) (Note 2) (Note 3)
Funnel Cloud (FC) (Note 2) (Note 3)
Waterspout (+FC) (Note 2) (Note 3)
Hail (GR)
Volcanic Ash (VA)
Sandstorms (SS) or Dust Storms (DS) (Note 4) (If local warning required)
Ice Pellets (PL)
Visibility <1/4 mile (400 meters)(FMQ-19 only – if locally required)
Mandatory Supplementary Weather Conditions – Remarks Section of Report (Note 1.)
Funnel Cloud (Tornadic Activity_B/E(hh)mm_LOC/DIR_(MOV)) (Note 2)
Snow Depth (Note 4) (only during airfield operating hours)
Tower Visibility (See AFMAN 15-111, paragraph 2.16.2.3)
Notes:
1. References for coding augmentable weather conditions are in AFMAN 15-111, Chapter 13.
2. The immediate reporting of funnel clouds takes precedent over any other phenomena.
3. Log on to the FMQ-19 and be prepared to supplement for tornadic activity anytime a warning is issued or a watch is valid for the phenomena.
4. All Remarks and Additive Data references are provided in AFMAN 15-111, Attachment 3.

2.2.6.3. Backup. The process of manually providing meteorological data and/or dissemination of an FMQ-19 generated observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure.

2.2.6.4. Backup Procedures. In the event of an FMQ-19 malfunction or failure, backup procedures will be implemented. WF personnel will use manual observing procedures

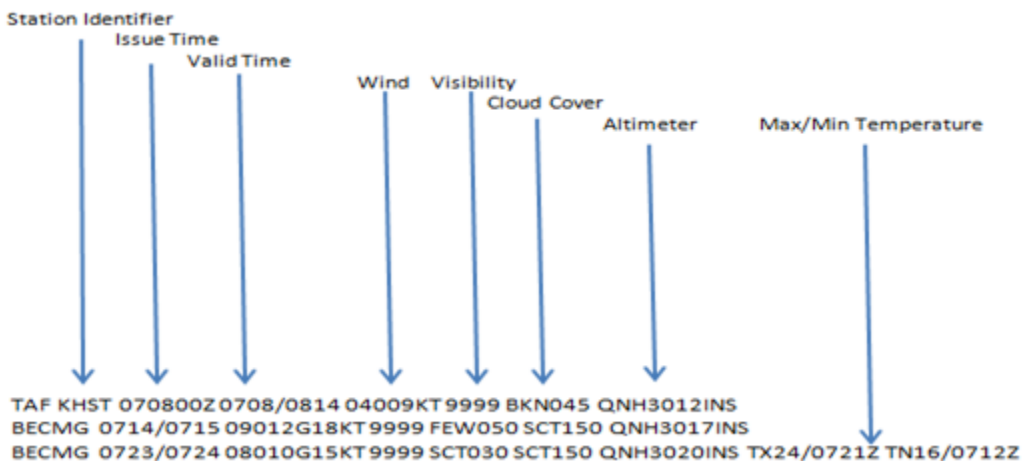
when performing backup operations, and when required, will encode and disseminate METAR and SPECI observations IAW AFMAN 15-111 Table A2.1. All element entries must be observed within 15 minutes of the time of the observation with the exception of wind gusts and squalls, which are reported only if they are observed within 10 minutes of the observation time. When utilizing backup equipment, wind and pressure values are estimated.

Figure 2.1. Observation Example.



2.3. Terminal Aerodrome Forecast Support. The TAF is valid for 30 hours, applies to the area within a 5NM radius of the center point of the Homestead ARB runway complex. The TAF will be issued at 0700L, 1500L and 2300L each day.

Figure 2.2. TAF Example.



2.4. Resource Protection Support and WWAs. The WF conducts a continuous METWATCH to identify and assess emerging and imminent threats to HARB. Weather watches, warnings and advisories are special notices provided to assist military leadership with resource protection decision aids. Watches and warnings provide notice of weather events which may pose a hazard

to life or property. Advisories provide specific notice to an operational agency of environmental phenomena with the potential to impact operations.

2.4.1. Weather Watch. A weather watch is a special notice of potential environmental conditions which may pose a hazard to life or property. A weather watch is used by installation personnel and supported units to make force protection and ORM decisions. A weather watch is issued for a 5NM radius from the center point of the HARB runway complex and is defined in [Table 2.2](#)

Table 2.2. Weather Watch Criteria.

Watch Criteria	Criteria	Desired Lead Time
Tornado	Potential for Tornado or Funnel Cloud	As Potential Warrants
Severe Thunderstorm	Potential for Surface Wind \geq 50kt or Hail GTE 3/4 inch	As Potential Warrants
Destructive Wind	Potential for Surface Wind \geq 50kt	As Potential Warrants
Lightning	Lightning within 5NM of the airfield	30 Minutes
Deviation from AFMAN 15-129 standard: Freezing Precipitation Watch/Warning, Heavy Snow Watch/Warning, Blizzard Watch/Warning, Sandstorm Watch/Warning, and Dust Storm Watch/Warning are not a threat to HARB based on climatology.		

2.4.2. Weather Warning. A weather warning is a special notice of an environmental condition which may pose a hazard to life or property which is, or is expected to occur. Weather warnings provide information outlining environmental threats, and are intended to aid leadership in making resource protection decisions. Warnings are issued for a 5NM radius from the center point of the HARB runway complex and are defined in [Table 2.3](#)

2.4.2.1. Lightning Warning. A lightning warning is the only observed weather warning issued for Homestead ARB. A lightning warning will not be issued until lightning has been observed, either visually, or via the National Lightning Detection Network. A lightning warning will remain in effect until it has not been observed for at least 15 minutes.

Table 2.3. Weather Warning Criteria.

Warning Criteria	Criteria	Desired Lead Time
Tornado	Tornado or Funnel Cloud	15 minutes
Severe Thunderstorm	Surface Wind \geq 50kt and/or Hail \geq 3/4 inch	1 hour
Moderate Thunderstorm	Surface Wind 35-49kt and/or Hail 1/4 inch - < 3/4 inch	1 hour
Damaging Wind	Surface Wind Not Associated with Thunderstorms \geq 50kt	1 hour
Strong Wind	Surface Wind Not Associated with Thunderstorms 35kt-49kt	1 hour

Lightning	Lightning Observed within 5NM of the airfield	N/A (Observed)
Deviation from AFMAN 15-129 standard: Freezing Precipitation Watch/Warning, Heavy Snow Watch/Warning, Blizzard Watch/Warning, Sandstorm Watch/Warning, and Dust Storm Watch/Warning are not a threat to HARB based on climatology.		

2.4.3. Weather Advisory. A weather advisory is a special product notifying an end user when an established environmental condition affecting operations is occurring, or is expected to occur on HARB and is defined in [Table 2.4](#)

Table 2.4. Weather Advisory Criteria.

Advisory Criteria	Forecast/Observed
Crosswind Component \geq 25kt*	Observed
Surface Wind \geq 25kt	Observed
Tailwind Component \geq 15kt on Runway 240	Observed
Ceiling and/or Visibility Observed $<$ 500ft / 1 1/2 SM	Observed
Ceiling and/or Visibility Observed $<$ 300ft / 1 SM	Observed
Water Spout within 5 NM	Observed
Thunderstorms within 10 NM	Observed
Low-Level Wind Shear Not Associated with Thunderstorms	Observed
Heavy Rainfall (2" in previous 12 hours)	Observed
*Crosswind is calculated based on the maximum observed wind gust, or sustained speed if no gust is occurring, and worst case observed magnetic direction (including variability).	

2.4.4. WWA Upgrades and Downgrades. A weather watch, warning or advisory will be upgraded or downgraded as required. Upgrades should meet the desired lead times specified in [Table 2.2](#) and [Table 2.3](#). Tornado and lightning warnings will be issued as single-phenomena weather warnings. Apart from this exception, only one warning will be in effect at a given time, and shall include multiple warning criteria as required. If a warning is issued for one criteria, and it becomes necessary to warn for additional criteria, a new warning will be issued to include all criteria. A separate valid time may be specified for each warning criteria if necessary.

2.4.5. WWA Amendments. An amended weather watch, warning or advisory will clearly state the effect on any previously issued notice. When a WWA no longer adequately describes the phenomenon's expected occurrence, a completely new WWA will be issued.

2.4.6. WWA Extensions. A weather watch, warning or advisory may be extended, provided the extension is issued prior to the expiration of the original notice.

2.4.7. WWA Cancellation. Weather warnings and watches are canceled when the phenomena is no longer occurring or expected to occur. Warnings which are not extended or canceled will automatically expire at the end of the valid period. Observed advisories will be canceled when the criteria is no longer occurring and have not occurred within the previous

30 minutes. Lightning and tornado warnings will be cancelled when the threat has passed. Refer to [paragraph 2.4.2.1](#) for more detail on lightning warning cancellation guidelines.

2.4.8. WWA Notes.

2.4.8.1. More than one weather advisory may be in effect at any given time.

2.4.8.2. All newly issued watches, warnings and advisories will state their effect on any previously issued notice. Extensions will be issued prior to the original product's expiration and may only change the valid end time.

2.4.8.3. WF personnel will notify 482 FW/CP once 2 inches of rainfall has occurred in the preceding 12 hours. This observed warning will be cancelled 30 minutes after it is issued.

2.4.8.4. The 15 knot tailwind and reduced ceiling and visibility advisories will not be issued when 125FW/Det.1 has evacuated due to an airfield closure ([3.11.5](#), [3.11.6](#), [3.11.7](#)).

2.5. Dissemination Process.

2.5.1. Weather Observations. Weather observations are disseminated via JET. When JET is non-operational, WF personnel will relay observations to local organizations in the prioritized order listed in [Table 2.5](#)

Table 2.5. Notification Priority (from top to bottom).

Agency	Contact Information
Air Traffic Control (ATC)	Hotline, DSN: 535-6601, Commercial: (786) 415-6601
482 FW/CP	DSN: 535-7023, Commercial: (786) 415-7023
482 OSS/OSAA	DSN: 791-7516, Commercial: (305) 224-7516
26 OWS	DSN: 331-2634, Commercial: (813) 529-2634

2.5.2. TAF Dissemination. The WF disseminates the TAF via JET. If JET is non-operational, the TAF will be disseminated longline via the Air Force Weather webpage.

2.5.3. WWA Dissemination. Weather watches, warnings and advisories will be disseminated via JET. Automated telephone notifications will be made to 482 FW/CP, 482 FW/MXG, 125 FW/CP, and 482 OSS/OSAA (Airfield Management Operations). If JET is out-of-service, WF personnel will log watches, warnings and advisories, and make backup telephone calls to each organization.

2.6. Cooperative Weather Watch. The WF and Air Traffic Control have established a Cooperative Weather Watch (CWW) as required by AFMAN 15-111. The agreement outlines the ATC responsibility of notifying the WF when ATC personnel observe specific meteorological phenomena. Of primary concern is tower prevailing visibility, local pilot reports, and any occurrence of previously unreported weather conditions that could affect flight safety or efficiency. WF personnel must thoroughly understand and be able to execute every element in the local CWW agreement.

2.6.1. HARB Air Traffic Control personnel will notify the WF to:

2.6.1.1. Report tower prevailing visibility to WF personnel when either the surface *or* tower prevailing visibility is observed less than 4 statute miles (6000 meters).

2.6.1.2. Report tower prevailing visibility to WF personnel when either the surface *or* tower prevailing visibility is observed to decrease to less than, or if below, increase to equal or exceed 4 statute miles (6000 meters).

2.6.1.3. Report when PIREPs of previously unreported weather conditions are received that could affect flight safety, or be critical to the safety and efficiency of other local operations and resources.

2.6.2. ATC Limited Observation Training. The WF oversees the HARB Limited Observation Training Program, which trains ATC personnel to evaluate prevailing visibility values from the control tower. To satisfy these training requirements, tower personnel are required to score 80% or higher on an exam and receive an orientation of the weather facilities. The ATC training manager will coordinate training with the Weather Operations Manager.

2.7. Pilot to Metro Service (PMSV). The WF provides PMSV support 24 hours a day on assigned frequency UHF 318.65, and will provide current weather and flight weather briefing updates over the PMSV. Aircrews are encouraged to relay pilot reports during PMSV contacts.

2.7.1. For aircraft outside the range of the PMSV system, the WF can provide PMSV support through a phone patch to the 482 FW/CP at DSN 535-7023 or Commercial (786) 415-7023.

2.7.2. No nearby Air Force unit uses the same PMSV frequency as Homestead ARB. As a result, during a PMSV outage, ATC will perform limited backup procedures and request that aircraft contact the 482 FW/CP to initiate a phone patch to the WF.

2.8. Emergency Action Response.

2.8.1. Aircraft Mishap. When notified of an aircraft mishap, the WF will save all applicable data used in the development of any weather product. This data will be provided to investigating agencies upon request.

2.8.1.1. If the aircrew involved in a mishap was provided a flight weather briefing or MWP by the WF, any agencies involved in the development of the MWP will be notified to ensure data is saved. Environmental data covering a period before and after the mishap will be saved to reconstruct environmental conditions.

2.8.1.2. If another weather station or OWS provided the flight weather briefing or MWP, that particular agency will conduct the data save involved in the product's development.

2.8.2. Severe Weather Action Procedures (SWAP). The WF will initiate SWAP in accordance with criteria listed in **Table 2.6** SWAP ensures sufficient available manpower to provide unit support during significant weather events. It is imperative that timely and accurate weather watches, warnings and advisories are disseminated to all agencies to ensure personnel and resource protection. The WF will initiate a heightened METWATCH to monitor severe weather threats.

Table 2.6. Criteria Requiring SWAP Activation.

SWAP Activation Criteria
SWAP activation occurs when the following are issued:
1. Tornado Watch
2. Tornado Warning
3. Severe Thunderstorm Warning
See Tables 2.2, 2.3 and 2.4 for more detailed WWA information.

2.8.3. Chemical, Biological, Radiological, Nuclear and High-Yield Explosive (CBRNE).
The WF will:

- 2.8.3.1. If requested, ensure provided surface observations and alphanumeric forecasts are representative of the location and time of the CBRNE event.
- 2.8.3.2. Work closely with Emergency Management or other functions to ensure 482 FW/CC receives a consistent picture of environmental conditions.
- 2.8.3.3. Obtain and provide Chemical Downwind Messages to base agencies upon request.

Chapter 3

MISSION SERVICES

3.1. General. The WF supports HARB flying and non-flying missions. This chapter identifies local flying and non-flying missions, and the weather support provided.

3.2. Flying Missions. Weather support is provided to the 482 FW, 125 FW/Det. 1 and transient aircrews at HARB.

3.2.1. Out-of-station support for special missions, multi-ship formations, flight safety and seasonal briefings are provided upon request.

3.3. Mission Weather Product (MWP). Mission Weather Products fuse theater scale products with local mission requirements, enabling the direct inject of weather impacts into warfighter planning and execution. The result is a product designed to provide timely, accurate, and relevant environmental information for planning and execution. An MWP must be horizontally consistent with (but not necessarily mirror) products issued by the 26 OWS.

3.3.1. Flight Weather Briefings. Flight weather briefings should be requested at least 2 hours in advance and are provided at the WF. Briefings are also available by contacting Tanker Airlift Control Center (TACC) for TACC controlled missions. Unscheduled flight weather briefings will require between 10 minutes to an hour to prepare, and may be delayed by higher priority duties ([Table 1.1](#)).

3.3.2. Daily Mission Weather Product. The Daily MWP will be disseminated via email to the 125 FW/Det. 1 and available via network storage to local units. The Daily MWP will be made available to visiting units upon request.

3.3.2.1. The Daily MWP is completed 7 days a week, including all federal holidays. It will be disseminated no later than 0700L each day, be valid for a 24-hour period, and include weather for all scheduled flying areas.

3.3.2.2. The Daily MWP will be updated ahead of all 93rd Fighter Squadron (93 FS) scheduled brief times.

3.4. Mission-Scale Meteorological Watch (MISSIONWATCH). MISSIONWATCH is a deliberate process for monitoring terrestrial weather, or the space environment, for mission-limiting environmental factors. The MISSIONWATCH process helps alert decision makers to environmental changes which may impact missions.

3.4.1. Daily MWP MISSIONWATCH. During rapidly changing weather, the WF will update the Daily MWP and contact 93 FS and/or 125 FW/Det. 1 by telephone when necessary. The SOF will also be updated during 93 FS mission hours. These immediate updates are in addition to routine Daily MWP updates detailed in [paragraph 3.3.2](#)

3.5. Post-Mission Feedback. Aircrews are requested to contact the WF with post-mission information and/or follow-up support. The WF will utilize customer feedback to improve internal processes and enhance training, forecast proficiency and product accuracy. Feedback methods may include a phone call, email, or face-to-face feedback with the WF.

3.6. Transient Aircrew Support. WF personnel will provide-or-arrange-for weather support for transient aircrews IAW the duty priorities listed in [Table 1.1](#). The WF will provide flight weather briefings and updates to aircrews upon request. In addition, aircrews may request flight weather briefings from the 26 OWS briefing cell by phone (DSN 331-2651), or via the 26 OWS web-based briefing application. Web access via the aircrew briefing terminal is located in the flight planning room of building 702.

3.7. Non-Flying Missions. The WF primarily supports non-flying missions at HARB through weather watches, warnings and advisories. Specialized weather information can be provided to support any non-flying mission upon request. Non-governmental agencies must formally request weather support through the 482 FW, Public Affairs office (482 FW/PA).

3.8. Space Weather Impacts. Broad coverage space weather products are used by the WF to update flight weather briefings (radar, frequency, GPS) and the Daily MWP (HF, UHF, GPS).

3.9. Tropical Weather Support. The WF will not deviate from the broad overarching official National Hurricane Center (NHC) forecast, but has the leeway to depict weather impacts for HARB based on the localized effects expected. Requests for tropical weather information from non-operational sources will be directed to public agency websites, such as the National Weather Service and National Hurricane Center.

3.10. Agency Support. Specific base agency support is outlined below.

3.10.1. 482 FW/CP (Command Post).

3.10.1.1. Notification of forecast weather watches, warnings and advisories will be provided to 482 FW/CP via JET and telephone notification.

3.10.1.2. The WF will notify the 482 FW/CP whenever the AOL is activated.

3.10.2. 482 OSS/OSAA (Airfield Management Operations).

3.10.2.1. The WF will provide notification of weather watches, warnings and advisories in-person or by telephone.

3.10.2.2. The WF will notify Airfield Management Operations whenever the AOL is activated.

3.10.2.3. The Weather Operations Manager will participate as a member of the Airfield Operations Board as directed in AFI 13-204, Airfield Operations Procedures and Programs.

3.10.3. 482 OSS/OSAT (Air Traffic Control).

3.10.3.1. Notification of weather watches, warnings and advisories will be provided via JET.

3.10.3.2. The WF will notify Air Traffic Control whenever the AOL is activated, and whenever any meteorological outages are occurring.

3.10.3.3. The Weather Operations Manager will provide training and certification for Air Traffic Control personnel to participate in the Cooperative Weather Watch program.

3.10.4. 482 FW/SE (Safety).

3.10.4.1. Upon request, the WF will provide all weather information pertaining to an aircraft mishap and damage to an aircraft, equipment, or facilities caused by severe wind or weather conditions.

3.10.5. All Supported Flying Units (482 FW, 125 FW/Det.1, DUC).

3.10.5.1. The WF will provide services as outlined throughout this publication.

3.11. Reciprocal Agency Support. Reciprocal base agency support is outlined below

3.11.1. 482 FW/CP (Command Post).

3.11.1.1. Perform applicable Quick Reaction Checklists to notify base leadership and agencies of severe weather upon notification by the WF.

3.11.1.2. Ensure dissemination of weather watches, warnings and advisories.

3.11.1.3. Notify the WF of any weather related Operational Reports or incidents.

3.11.2. 482 OSS/OSAA (Airfield Management Operations).

3.11.2.1. Notify the WF of in-flight or ground emergencies, mishaps and terminations via the secondary crash network.

3.11.2.2. Notify the WF of all pending arrivals and or diversions (due to weather conditions) of distinguished visitors.

3.11.2.3. Ensure dissemination of weather watches, warnings and advisories.

3.11.2.4. Provide Runway Surface Condition to the WF.

3.11.3. 482 OSS/OSAT (Air Traffic Control).

3.11.3.1. Participate in the Cooperative Weather Watch

3.11.3.2. Notify the WF of all changes in active runway and ensure the PAPI light setting aligns with the active runway.

3.11.3.3. Relay pilot weather reports to the WF.

3.11.3.4. Notify the WF when the FMQ-19 and/or JET appear inoperative.

3.11.3.5. Participate in radio checks to ensure proper PMSV radio operation.

3.11.3.6. Report tower prevailing visibility to WF personnel when either the surface or tower prevailing visibility is observed less than 4 statute miles (6000 meters).

3.11.3.7. Report tower prevailing visibility to WF personnel when either the surface or tower prevailing visibility is observed to decrease to less than, or if below, increase to equal or exceed 4 statute miles (6000 meters).

3.11.4. 482 FW, Safety (482 FW/SE).

3.11.4.1. Request all weather information pertaining to an aircraft mishap and damage to an aircraft, equipment, or facilities caused by severe wind or weather conditions.

3.11.5. 482 OSS, Radar, Airfield and Weather Systems (482 OSS/OSAM).

3.11.5.1. Provide, coordinate or arrange for the installation, maintenance and repair of weather communication and meteorological sensing equipment.

- 3.11.5.2. Ensure scheduled maintenance does not degrade METWATCH and/or MISSIONWATCH performed by the WF during periods of inclement weather. Notify the WF prior to routine maintenance.
- 3.11.5.3. Utilize the restoration priorities for weather communication and meteorological-sensing equipment ([Table 5.2](#)), and ensure established maintenance response times are met.
- 3.11.5.4. Notify responsible service agents for weather communication and meteorological-sensing equipment outages.
- 3.11.5.5. Ensure weather data and telephone circuits are assigned repair priorities.
- 3.11.5.6. Coordinate with the WF prior to taking any equipment offline for maintenance.
- 3.11.6. 482d Security Forces Squadron (482 SFS).
 - 3.11.6.1. Promptly inform the WF of any hazardous weather, such as hail or a tornado, reported by 482 SFS personnel.
- 3.11.7. All Supported Flying Units (93 FS, 125 FW/Det.1, DUC).
 - 3.11.7.1. Notify the WF of current and planned weather alternates and any special environmental considerations which may affect the mission.
 - 3.11.7.2. Notify the WF of required additional support as soon as it becomes known. This includes monitoring alternate observations or forecasts and tracking weather conditions which may impact local flying operations.
 - 3.11.7.3. Provide timely notification of changes to scheduled operations affecting weather support requirements.
 - 3.11.7.4. Provide PIREPs directly to the WF, or via the ATC or SOF.
 - 3.11.7.5. Provide feedback to the WF for all missions considered non-effective due to incorrect forecast weather.
 - 3.11.7.6. Provide guidance to the Weather Operations Manager regarding any weather training or educational requirements if applicable.
- 3.11.8. 482d Communications Squadron (482 CS).
 - 3.11.8.1. Ensure weather data and telephone circuits are assigned repair priorities.
- 3.11.9. 482 FW/PA (Public Affairs).
 - 3.11.9.1. Act as the liaison office to receive, process and forward all valid weather support requests from non-military sources to the Weather Operations Manager.
- 3.11.10. All Weather Support Recipients.
 - 3.11.10.1. Notify the Weather Operations Manager when new weather support requirements are identified.
 - 3.11.10.2. Coordinate changes or additions to weather support requirements as soon as possible.

Chapter 4

STAFF SERVICES

4.1. General. Staff services are typically accomplished by the Weather Operations Manager and include staff meteorological functions, ensuring WF personnel are equipped for day-to-day operations and working with base agencies to ensure optimal weather support.

4.2. Staff Meteorological Functions. Staff meteorological functions aid leadership in identifying and understanding specific weather and environmental impacts. The WF is available to assist commanders in determining meteorological support requirements and impacts to operations. Examples of staff meteorological functions provided are:

4.2.1. 482 FW Staff Briefings. Staff weather briefings for 482 FW will be provided as required.

4.2.2. Crisis Action Team (CAT) Briefings. Crisis Action Team briefings include, but are not limited to tropical weather condition support and base exercises. Each CAT briefing will be tailored to provide any environmental information requested by base leadership.

4.2.3. Pre-deployment Briefings. The WF will provide pre-deployment weather briefings as requested.

4.2.4. Climatology Services. The WF will provide climatology information, such as precipitation data or historical averages, upon request.

Chapter 5

WEATHER EQUIPMENT

5.1. General. This chapter provides a brief description of meteorological and communications equipment used by the WF. Additionally, it will provide information on backup systems, maintenance, and restoration priorities.

5.2. Meteorological Equipment. The WF uses the FMQ-19 and Gibson Ridge radar software to determine the current state of the atmosphere. These critical systems aid in providing customers the most timely, accurate and relevant weather intelligence possible.

5.2.1. FMQ-19. The FMQ-19 samples, measures and reports temperature, wind speed, wind direction, visibility, cloud height, cloud coverage, pressure, and liquid precipitation accumulation. These measurements are processed to create properly formatted, fully automated observations that comply with various reporting standards and protocols defined in the Federal Meteorological Handbook (FMH-1), the World Meteorological Organization (WMO), the Federal Aviation Administration (FAA), National Weather Service (NWS), and military reporting standards.

5.2.2. Gibson Ridge. The WF utilizes Gibson Ridge radar software as the primary source of radar data. WF personnel make use of this software to analyze complex radar signatures and obtain detailed information on storm intensity, movement, internal storm circulation and general wind flow. WF personnel incorporate radar information into all mission weather products.

5.3. Communications Equipment. The following systems are critical to WF operations:

5.3.1. Joint Environmental Toolkit. JET is the primary communication system for disseminating weather observations, weather watches, warnings, advisories and forecasts.

5.3.2. PMSV Radio. The PMSV Radio enables communication with in-flight aircrews.

5.3.3. Phones/Hotlines. Phones and hotlines are used to pass along time-sensitive information and, during network outages, as a backup dissemination device for weather information.

5.3.4. Local Area Network (LAN). The base LAN is critical to WF operations.

5.4. Maintenance. The following table identifies which organizations repair and provide preventive maintenance to weather and communications equipment.

Table 5.1. Equipment Maintenance Organizations.

Organization	Equipment
482 OSS/OSAM (Airfield Systems)	FMQ-19
482 CS/SCOO / 557 Weather Wing Fielded Systems	JET Server
482 OSS/OSAM (Airfield Systems)	PMSV Radio
482 CS/SCOS (Comm. Focal Point)	Phones/Hotlines
482 CS/SCOS (Comm. Focal Point)	LAN

5.4.1. Restoration Priorities. Priorities for restoring critical systems have been established in the event of a base-wide systems impact. The priority for weather equipment is listed below.

Table 5.2. Equipment Restoration Priorities.

Equipment	Organization	Priority Level
FMQ-19	482 OSS/OSAM	1
LAN/Internet Connectivity	482 CS/SCOS	1
PMSV Radio	482 OSS/OSAM	1

5.4.2. Facility Power. In the event of a commercial power interruption, building 702 is designed to automatically switch to a backup generator. Real Property Maintenance personnel perform routine performance tests to ensure the generator is working properly.

DAVID M. CASTANEDA, Colonel, USAF
Commander, 482d Fighter Wing

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 15-1, *Air Force Weather Operations*, 14 November 2019

AFI 10-206, *Operational Reporting*, 22 February 2017

AFI 15-114, *Weather Technical Readiness Evaluation*, 16 March 2017

AFI 15-128, *Weather Force Structure*, 21 June 2019

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFMAN 15-111, *Surface Weather Observation*, 12 March 2019

AFMAN 15-129, *Air and Space Weather Operations*, 9 July 2020

Prescribed Forms

AF Form 673, *Air Force Publication/Form Action Request*

AF Form 847, *Recommendation for Change of Publication*

AF Form 1098, *Special Task Certification and Recurring Training*

AF Form 3622, *Air Traffic Control/Weather Certification and Rating Record*

AF Form 3813, *Weather Observation Log* (Only listed and utilized on JET, not listed in e-publishing forms index)

Abbreviations and Acronyms

AF—Air Force

AFMAN—Air Force Manual

AFRC—Air Force Reserve Command

AOL—Alternate Operating Location

ARB—Air Reserve Base

ATC—Air Traffic Control

BWW—Basic Weather Watch

CC—Combatant Commander

CP—Command Post

CWW—Continuous Weather Watch

DSN—Defense Switched Network

DUC—Deployed Unit Complex

EWO—Emergency War Order

FAA—Federal Aviation Administration

FLIP—Flight Information Publications
FS—Fighter Squadron
FW—Fighter Wing
FWI—Fighter Wing Instruction
IAW—In Accordance With
JET—Joint Environmental Toolkit
MAJCOM—Major Command
METAR—Aviation Routine Weather Report
METWATCH—Meteorological Watch
MOC—Maintenance Operations Center
MWP—Mission Weather Product
NM—Nautical Mile
OG—Operations Group
OPR—Office of Primary Responsibility
ORM—Operations Risk Management
OSAA—Airfield Management Operations
OSAT—Air Traffic Control Tower
OWS—Operational Weather Squadron
PA—Public Affairs
PIREP—Pilot Report
PMSV—Pilot-to-Metro Service
RVR—Runway Visual Range
SM—Statute Miles
SPECI—Aviation Selected Special Weather Report
SWAP—Severe Weather Action Procedures
TACC—Tanker Airlift Control Center
TAF—Terminal Aerodrome Forecast
WF—Weather Flight
WWA—Weather Watch, Warning, and Advisory

Terms

Aircraft Mishap—Used to denote the occurrence of an aircraft accident or incident; it does not include in flight emergencies.

Basic Weather Watch (BWW)—During periods when the FMQ-19 Automated Meteorological Observing System is not operational, or the weather is beyond the equipment's ability to accurately measure, a meteorological technician will visibly check weather conditions as appropriate. Depending on the situation, augmentation, supplementation, or back up the FMQ-19 will occur until the issue is resolved.

Ceiling—The height above ground level of the lowest broken (5/8ths coverage or more) or overcast cloud layer or the vertical visibility into an indefinite ceiling.

Cooperative Weather Watch—The name given to the cooperative effort between weather and control tower personnel, in identifying significant weather changes. Due to a limited view of the horizon from ground level, tower personnel will notify the WF of the occurrence of previously unreported weather conditions, which could affect flight safety, or be critical to the safety of other local operations and resources.

Desired Lead Time—The total amount of time required to disseminate a forecast WWA to all affected end-users.

Indefinite Ceiling—The vertical visibility, reported in feet, into a surface-based total obscuration which hides the celestial dome (8/8ths coverage).

Joint Environmental Toolkit (JET)—The primary communication system for disseminating weather observations, weather watches, warnings, advisories, and forecasts.

Meteorological Watch (METWATCH)—A deliberate continuous process for monitoring terrestrial weather, or the space environment, in an area or region. The purpose of a METWATCH is to identify when and where observed conditions significantly diverge from forecast conditions, determine a course of action to update or amend a forecast product (or group of products), and notify designated agencies.

Mission Weather Product (MWP)—Any weather product or group of weather products generated by an EU that is integrated into the military decision making process. MWPs may be planning or execution products and are not limited to aviation missions.

Planning Forecast—A forecast, usually provided well in advance, for the planning of a military mission or activity. This type of forecast is intended solely for mission planning, and should never be used for operational purposes.

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

Runway Visual Range (RVR)—An instrumentally derived value that represents the horizontal distance that a pilot can see down the runway, at a height corresponding to the average eye level of pilots during aircraft landing.

Terminal Aerodrome Forecast (TAF)—The TAF is the summation of the 30 hour projected forecast. Pertinent data and meteorological reasoning are combined into a concise text depiction of what the atmosphere is expected to do for a 30-hour period. The TAF is used primarily to support flight operations and general base activities.

Weather Advisory—A special product notifying an end user when an established environmental condition affecting operations is occurring or is expected to occur on Homestead ARB and is defined in **Table 2.4**.

Weather Warning—A special notice of an environmental condition which may pose a hazard to life or property which is, or is expected to occur. Weather warnings provide information outlining environmental threats, and are intended to aid base leadership in making resource protection decisions. Warnings are issued for a 5NM radius from the center point of the HARB runway complex and are defined in **Table 2.3**.

Weather Watch—A special notice of potential environmental conditions which may pose a hazard to life or property. A weather watch is used by installation personnel and supported units to make force protection and ORM decisions.

Attachment 2

SPECIAL CRITERIA

A2.1. Special (SPECI) Observation Criteria. SPECI criteria are based on the published airfield minima in the current FLIP for all approaches, and other Air Force, higher headquarters, MAJCOM, and Army directives. During augmentation, weather personnel will recheck conditions, at intervals not to exceed 20 minutes since the last check, to determine the need for a SPECI observation.

A2.1.1. Prevailing visibility is observed to decrease to less than, or if below, increase to equal or exceed (items with * are published local airfield minima):

Table A2.1. Prevailing Visibility Special Criteria Table.

Prevailing Visibility	
3 Statute Miles	1 Statute Mile
2 $\frac{3}{4}$ Statute Miles*	$\frac{3}{4}$ Statute Mile*
2 Statute Miles	$\frac{1}{2}$ Statute Mile
1 $\frac{1}{2}$ Statute Miles*	$\frac{1}{4}$ Statute Mile
1 $\frac{1}{4}$ Statute Miles*	

A2.1.2. The ceiling (rounded to reportable values) forms or dissipates below, decreases to less than, or if below, increases to equal or exceed (items with * are published local airfield minima):

Table A2.2. Ceiling Special Criteria Table.

Ceiling	
3,000 ft.	600 ft.*
2,000 ft.	500 ft.
1,500 ft.	300 ft.
1,000 ft.	200 ft.
800 ft.	100 ft.
700 ft.	

A2.1.3. A layer of clouds or obscuring phenomena aloft is observed below 800ft and no layer was reported below 800ft in the previous METAR or SPECI observation.

A2.1.4. The wind direction changes by 45 degrees or more, in less than 15 minutes, with sustained winds of 10kt or more throughout the wind shift.

A2.1.5. A squall has occurred

A2.1.6. A volcanic eruption or volcanic ash cloud are first observed.

A2.1.7. Thunderstorm (occurring at the station) begins or ends.

A2.1.8. Precipitation.

A2.1.8.1. Hail begins or ends.

A2.1.8.2. Freezing precipitation begins, ends, or changes in intensity.

A2.1.8.3. Ice pellets begin, end, or change in intensity.

A2.1.8.4. Any other type of precipitation begins or ends.

A2.1.9. Tornado, Funnel Cloud, or Water Spout appears or disappears from sight.

A2.1.10. Runway Visual Range (RVR).

A2.1.10.1. Prevailing visibility first observed \leq 1SM, and again when visibility goes above 1SM.

A2.1.10.2. RVR for the active runway decreases to less than or, if below, increases to equal or exceed (items with * are published local airfield minima):

Table A2.3. RVR Special Criteria Table.

Runway Visual Range	
6,000 ft.	2,400 ft.
5,000 ft.	2,000 ft.
4,000 ft.*	

A2.1.10.3. When RVR is first determined to be unavailable (RVRNO) for the active runway

A2.1.10.4. When the RVRNO report is first determined to no longer be applicable, provided that conditions for reporting RVR currently exist

A2.1.11. Upon notification of a real-world nuclear accident, "AEROB" will be appended as the last remark to the observation

A2.2. Non-Weather SPECI Criteria.

A2.2.1. Upon notification of an Aircraft Mishap, a mishap SPECI observation will be disseminated only if already operating under augment mode via JET.

A2.2.2. METWATCH will be intensified in the event of an Aircraft Emergency. WF personnel will be ready to respond to short-notice requests for terminal weather information. During an Aircraft Emergency, it is not required for a SPECI observation to be taken.

A2.2.3. Within 15 minutes of arrival to, or returning from the AOL, a meteorological technician will complete and transmit an augmented or manual transmission. An observation is not required if both the FMQ-19 and JET are working properly, and no mandatory supplementary criteria is occurring.