

**BY ORDER OF THE COMMANDER
WHITEMAN AIR FORCE BASE
(AFGSC)**

**WHITEMAN AIR FORCE BASE
INSTRUCTION 15-101**

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Weather

BASE WEATHER SUPPORT



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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Air Force Weather Operations* and provides guidance on Department of the Air Force Manual (DAFMAN) 91-203, *Air Force Occupational Safety, Fire and Health Standards*, Air Force Instruction (AFI) 15-128, *Air Force Weather Force Structure* and (AFMAN) 15-129, *Air and Space Weather Operations*. It establishes the responsibilities and procedures for providing and using weather services at Whiteman Air Force Base (AFB). It provides general information on weather services including weather observations and forecasts, weather warnings and advisories, dissemination of weather information, and reciprocal support. This instruction applies to all Whiteman AFB personnel and tenant units to include Air National Guard or Air Force Reserve. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, Records Management and Information Governance Program, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing, unit, delta or garrison level requirements in this publication are identified with a Tier (“T-0, T-1, T-2, T-3”)

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SUMMARY OF CHANGES

This instruction makes updates to local policy and procedures regarding bioenvironmental support for PT testing, Fighter Index of Thermal Stress (FITS) support, and weather flight operating hours. The weather flight's operating hours will reflect airfield operating hours except during periods of significant weather. See section 6.13 for bioenvironmental information and section 5.10 for FITS information.

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Chapter 1

GENERAL INFORMATION

1.1. The 509th Operations Support Squadron Weather Flight (509 OSS/OSW). Is the official weather information agency for weather services to the 509th Bomb Wing (509 BW) and all units assigned to Whiteman AFB.

1.1.1. This instruction establishes requirements and procedures for weather support, which must be coordinated at the local level to meet mission needs. It consolidates weather support requirements and procedures for peacetime operations and eliminates the need for individual written agreements between the weather unit and supported operations. It does not cover weather support procedures for emergency war operations or certain other special operations or procedures.

1.2. Designators. All weather products disseminated by or for Whiteman AFB will use KSZL as the International Civil Aviation Organization (ICAO) location indicator.

1.3. Weather Operations.

1.3.1. Operational Weather Squadron (OWS) are sources for environmental characterization in their respective Area of Responsibilities (AOR). The 26 Operational Weather Squadron (26 OWS) at Barksdale AFB, LA is responsible for collection of atmospheric data/information and generation of products based on this analysis for use by Weather Flights (WFs). The 26 OWS is located: 50 Vandenberg Ave, Barksdale AFB, Louisiana 71110, Building 5376.

1.3.2. The primary purpose of the WF is to facilitate exploitation of the environment through integration into every phase of operations, planning and execution process. The WF assesses the mission environment to determine environmental threats, and where possible, find alternatives to mitigate those threats. The WF supports mission types including but not limited to: aviation and ground operations conducted at home station and deployed locations. The WF is also responsible to support other parent/host unit operations where success may depend on mitigation of environmental threats. The WF functions include staff integration, mission integration, and airfield support. The WF is located at 770 Arnold Avenue, Building 38, Whiteman AFB MO 65305.

1.3.3. The Whiteman AFB installation datasheet page, between 509 OSS/OSW and 26 OWS contains reciprocal weather information, products and services identifying support for Whiteman AFB operations.

1.4. Assumptions. Adequate resources and communications will be available to execute this instruction and sufficient weather intelligence will be available from various sources on which to base weather operations and production.

1.5. Shortfalls and Limiting Factors. The official observation point has blocked/limited visibility to the southwest quadrant due to its position in reference to Building 38. There are no limitations for airfield sensors.

1.6. Duty Priorities. All base weather station tasks cannot be accomplished simultaneously. Therefore, duty priorities are established to ensure tasks are accomplished in order of relative importance and publicized to avoid misunderstanding among supported agencies. Duty priorities will ensure timely response to situations under normal conditions. However, the list will not replace good judgment. The weather technician may deviate in the best interest of flight safety and/or protection of personnel or property. The weather technician will use the following priority list as a guide for accomplishing duties.

- 1.6.1. Perform Emergency War Order (EWO) Taskings.
- 1.6.2. Execute Base Weather Station Evacuation.
- 1.6.3. Issue/Disseminate Imminent Weather Warnings and Lightning Watch
- 1.6.4. Respond to Aircraft/Ground Emergencies (e.g., Conference Hotel/Toxic Corridors).
- 1.6.5. Issue/Disseminate Imminent Weather Advisories.
- 1.6.6. Respond to Pilot-to-Metro Service (PMSV) Contacts.
- 1.6.7. Disseminate weather observation.
- 1.6.8. Disseminate Urgent Pilot Weather Reports (PIREP).
- 1.6.9. Produce/Disseminate TAF.
- 1.6.10. Produce/Disseminate Mission Execution Forecasts (MEF) and Flight Weather Briefings.
- 1.6.11. Provide Weather Information to Supervisor-of-flying and MADDOG.
- 1.6.12. METWATCH/Amend weather products.
- 1.6.13. Provide Staff Weather Briefings.
- 1.6.14. Accomplish Weather Functional Training.
- 1.6.15. Accomplish Administrative Tasks.

1.7. Geographic Area of Responsibility.

1.7.1. The area of responsibility for products and services provided by the WF is the terminal area, which for the WF is the area located within a 5 nautical mile radius around the center of the Whiteman airfield complex. The WF will also MISSIONWATCH all areas and routes in which Whiteman flying units are conducting operations.

1.8. Operating Hours and Contact Information.

1.8.1. Staff services are available from 0730CT to 1630CT, Monday through Friday, except federal holidays and down days.

1.8.2. The WF will operate in accordance with (IAW) weather flight hours posted in the Flight Information Publication booklets. Weather technicians are available at the weather flight 24-hours a day, 365 days a year, with the exception of approved airfield closures. Current operating hours are subject to change and are available through Flight Information Publication booklets and Notice to Airmen messages.

1.8.3. The on-duty WF technician can be contacted at Defense Switch Network (DSN) 975-3061/3062 or Comm (660) 687-3061/3062. The WF Chief can be reached at DSN 975-6117 and the WF Commander can be reached at DSN 975-6120.

1.9. Base Weather Station Evacuation.

1.9.1. If the WF is required to evacuate the weather station they will relocate to the alternate operating location (AOL), which is at 442d Fighter Wing, building 52, room 108, (AOL contact phone numbers DSN 975-5210 or COMM 660-687-5210). During evacuations, personnel safety take priority over all other duties. Prior to departure and with time and safety considered, the WF will notify 509 BW Command Post, Tower, SOF (509th and 303rd), Radar approach Control (RAPCON), and 26 OWS upon evacuation of the building. Upon resumption of weather support at the primary or alternate location, the WF will contact all aforementioned agencies.

1.9.2. AOL Limitations. If AN/FMQ-19 back-up needs to be performed with tactical equipment (i.e., Kestrel), wind, altimeter setting (ALSTG) and station pressure values will be estimated. Weather services will continue after the forecaster has relocated to the alternate location.

1.9.3. In the event of a total comm outage and/or any emergency event that causes the WF to lose all capabilities of producing data, the 26 OWS will provide emergency back-up services until the WF's capabilities are restored.

1.9.4. The weather technician will provide these services from the AOL:

1.9.4.1. Monitor the FMQ-19 sensors via the Joint Environmental Toolkit (JET) and augment if necessary. In case of a communication outage, the weather technician will take surface weather observations using the Kestrel and AF Form 3803, *Surface Weather Observations (METAR/SPECI)*. They will disseminate observations by phone or email. An observation will be taken within 15 minutes of arriving at AOL if the FMQ-19 or JET are inoperable and weather conditions warrant. The first observation will at a minimum contain prevailing visibility, present weather and obscurations, sky condition, wind direction and speed (estimated if using Kestrel), temperature and dew point, and altimeter setting (estimated if using Kestrel).

1.9.4.2. Continue to issue and update MEFs if the capability exists. The MEF will continue to be updated on the WF webpage if possible. If the webpage is inaccessible, the MEF will be faxed or emailed to the flying squadrons.

1.9.4.3. Provide METWATCH for Whiteman AFB from the AOL. Weather WWAs may be disseminated by phone if the Joint Environmental Toolkit (JET) is non-operational.

1.9.4.4. Brief aircrews and MISSIONWATCH. Briefings will be conducted in- person, or by phone or fax.

1.9.5. PMSV radio support will not be available from the AOL. However, radio frequency 344.6 MHz will be monitored by Air Traffic Control (ATC) and the command post will forward phone patches.

1.10. Joint Environmental Toolkit (JET). The term JET is standard and used to identify the WF's primary weather data dissemination system on Whiteman AFB. All required agencies will utilize the guest portal or maintain a user account through the 509 OSS/OSW program manager at DSN 975-3061. It is recommended that accounts be current and operational at all times to receive weather updates as they occur. The WF will issue all necessary weather WWAs via the Integrated Weather Warning Capability (IWWC) and disseminate them through the JET.

Chapter 2

AIRFIELD SERVICES ELEMENT

2.1. General. Airfield services are actions taken by weather technicians pertaining to the Whiteman aerodrome (for WF purposes this is defined as the area within 5 statute miles of the airfield's center). Examples include weather observations, TAF, PMSV, and METWATCH.

2.2. Automated Surface Weather Observations. As a routine airfield service, the WF records and disseminates a Meteorological Terminal Air Report (METAR) at a minimum of every hour at the top of each hour. Additionally Special (SPECI) observations are generated during increased weather activity. Special observation criteria are outlined in [Attachment 2](#).

2.2.1. AN/FMQ-19 AOS. The AN/FMQ-19 is an integrated system of multiple weather sensors and data automation components that continually measures environmental conditions to provide responsive, reliable, accurate, real-time weather information in support of flight operations. These measurements are processed to create properly formatted, fully automated observations that comply with applicable 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 AFMAN 15-111, *Surface Weather Observations*.

2.2.2. Automated Meteorological Observing Station Operations. In the automated mode, the system continually senses and measures the atmosphere for the following weather parameters: wind, visibility, precipitation and obscurations, cloud height, sky cover, temperature, dew point, and altimeter.

2.2.3. Disseminating Automated Observations. AN/FMQ-19 automated observations will be disseminated through the JET communications interface. If the JET is inoperable, observations will be disseminated by phone to the tower and SOF.

2.3. Augmentation of AN/FMQ-19. Augmentation is the process of having position- qualified weather technicians manually add or edit data to an observation generated by a properly sited AN/FMQ-19. The two augmentation processes used are *supplementing* and *back-up*. Supplementing is a method of manually adding meteorological information to an automated observation that is beyond the capabilities of the AN/FMQ-19 to detect and/or report. Back-up is the method of manually providing meteorological data and/or dissemination to an AN/FMQ-19 observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure.

2.3.1. When supplementing the automated observing system, the weather technician must maintain situational awareness of current weather conditions and the system- generated observation. While some days may require more effort to maintain situational awareness than others, the system is set-up and designed to require minimal review. Mandatory supplementing of the AN/FMQ-19 by a certified weather technician must occur when any of the following are forecasted to occur or are observed from the airfield:

Table 2.1. Conditions for Mandatory AN/FMQ-19 Supplementing - Body of Report.

1. Tornadoes (+FC), Funnel Clouds (FC), Waterspouts (+FC) (see Notes 1, 2 in Table 2.2).
2. Hail (Local warning criteria – Any size hail)
3. Volcanic Ash (VA) is observed from the airfield.
4. Ice Pellets (PL)
5. Any weather element deemed operational significant that is beyond the capabilities of the automated weather observing system (see Table 3.1 for criteria).
6. Freezing Precipitation (FZRA)

Table 2.2. Conditions for Mandatory AN/FMQ-19 Supplementing - Remarks Section Report.

1. Funnel Cloud (Tornadic Activity/E(hh)mm Loc/DIR_(MOV)) (Note 1).
2. Snow Depth (only during airfield operating hours and if heavy snow warning has been issued and snowfall is occurring)
3. Tower Visibility
Note 1: The immediate reporting of funnel clouds takes precedent over any other phenomena. Note 2: Forecasters will logon to JET and be prepared to supplement for tornadic activity whenever a warning is issued, or a watch is valid for the phenomena.

2.4. Back-up Augmentation of AN/FMQ-19. Back-up (editing) is the process of providing meteorological data when the AN/FMQ-19 is unavailable, or when an element is unrepresentative and operationally significant. Back-up of the AN/FMQ-19 by the weather technician provides the minimum acceptable level of available data for meteorological operations and the support of aviation operations in the event of a partial or total AN/FMQ- 19 failure.

2.4.1. To perform back-up duties, the weather technician must remain aware of current weather conditions and AN/FMQ-19 observations. In the case of conflicting responsibilities or tasks, the weather technician will use Risk Management (ORM) process and posted duty priorities to determine which takes precedence, with the highest priority being flight safety.

2.4.2. Back-up will occur when weather technicians are present. All conditions in the main body of the observation will be backed-up to ensure availability and proper representation of actual meteorological conditions. Most automated, manual, plain language and additive data remarks will be backed-up. Required back-up remarks are included in [Table 2.3](#) below.

Table 2.3. AN/FMQ-19 Remarks Required to be Backed-Up.

Tornadoic Activity: Tornadoic activity_B/E(hh)mm_LOC/DIR_(MOV)
Augmented Unit Indicator (AO2A)
Peak Wind (PK_WND_dddff(f)/(hh)mm)
Wind Shift (WSHFT_(hh)mm)
Tower Visibility (TWR_VIS_vvvvv)
Variable Prevailing Visibility (VIS_vvnvnvnvnVvxvxvxvx)
Lightning (LTG[LOC])
Beginning/Ending of Precipitation (w'w'B(hh)mmE(hh)mm)
Beginning/Ending of Thunderstorms (TSB(hh)mmE(hh)mm)
Hailstone size (GR_[size]_[Plain Language])
Variable Ceiling Height (CIG_hnhnhnVhxhxhx)
Variable Sky Condition (NSNSNS(hShShS)_V_NSNSNS) [Plain Language]
Pressure Rising/Falling Rapidly (PRESRR/PRESFR)
Sea Level Pressure (SLPppp)
Aircraft Mishap (ACFT_MSHP [Plain Language])
Estimated Wind and Pressure (WND DATA ESTMD or ALSTG/SLP ESTMD)
3- and 6-Hour Precipitation Amount (6RRRR)
Runway Visual Range Sensor Status (RVRNO)
Maintenance Indicator (\$)
Correction (COR)

2.5. Back-Up Surface Observing. During complete FMQ-19 outages, weather personnel take official weather observations hourly and when certain special criteria are met (see [Attachment 2](#) for criteria.). Weather technicians take all observations IAW AFMAN 15-111 and AFMAN 15-129. The official point of observation for Whiteman AFB is located at the bottom of the stairs outside building 38.

2.5.1. When wind equipment is inoperative, the WF will notify the Control Tower and RAPCON that the winds and altimeter setting will be estimated.

2.5.2. Basic Weather Watch (BWW). Weather personnel normally conduct a BWW from the base weather station. Due to other duties, along with other restrictions such as a design that does not allow a 360-degree view of the runway complex, etc., weather personnel cannot monitor the weather continuously and cannot be expected to detect and report all weather changes as they occur. In addition to taking and disseminating required observations, the BWW observing program includes minimum requirements to recheck weather conditions at intervals not to exceed 20 minutes since the last observation/recheck, to determine the need for a SPECI observation, when any of the following conditions are observed to be occurring or are forecast to occur within 1 hour:

2.5.2.1. Ceiling forms below or decreases to less than 1,500 feet.

- 2.5.2.2. Ceiling dissipates or increases to equal or exceed 1,500 feet.
- 2.5.2.3. Visibility decreases to less than 3 miles.
- 2.5.2.4. Visibility increases to equal or exceed 3 miles.
- 2.5.2.5. Precipitation (any form).
- 2.5.2.6. Thunderstorms.
- 2.5.2.7. Fog or Mist.
- 2.5.2.8. All supplemental criteria specified in AFMAN 15-111 Table 5.1.
- 2.5.2.9. During mandatory back-up of AN/FMQ-19.
- 2.5.2.10. In addition to the above minimum requirements, weather personnel will remain alert for any other changes in weather conditions that will require a SPECI observation.
- 2.5.2.11. When a reliable source (ATC personnel, pilots, off-base law enforcement, 509th Security Forces Squadron, etc.) reports weather conditions different from the last report, weather personnel will recheck the weather and, if required, disseminate a new observation.

2.6. Aircraft Mishap Procedures. Augmented units will check the latest AN/FMQ-19 observation (i.e., METAR/SPECI/one minute observation (OMO)) and perform augmentation as required.

2.6.1. Because AN/FMQ-19 automatically prepares and archives an observation every minute, weather units are not required to include an aircraft mishap remark in the observation. Dissemination is not required unless AN/FMQ-19 has generated a pending METAR or SPECI observation.

2.6.2. Augmented units will collect and save data related to an aircraft mishap according to instructions in AFMAN 15-129. Managers of automated units will retrieve the archived surface observation data from AN/FMQ-19 when required by the requesting agency.

2.7. Conference Hotel. 509th Bomb Wing Command Post (509 BW/CP) will initiate and announce the Conference Hotel. After all members have been polled, and Spirit Control will ask for weather, WF will verbally transmit the following in the order shown:

2.7.1. Ceiling/Visibility/Weather/Runway Visual Range (RVR).

2.7.2. Temperature/Dew Point & Wind Direction/Speed/Gusts.

2.7.3. Any significant remarks.

2.7.4. Weather Warnings, Watches or Advisories in effect for SZL.

2.7.5. A brief one-hour forecast noting significant changes impacting the area.

2.8. Cooperative Weather Watch (CWW). A CWW is a program wherein qualified non-weather personnel assist weather technicians in monitoring the weather conditions. CWW assists in the reporting of any weather conditions which could affect flight safety or could be critical to the safety or efficiency of other local operations and resources. Since tower controllers have a complete 360-degree view of the airfield complex, a CWW agreement exists between ATC and the WF. Assistance is provided IAW AFMAN 13-204V3, *Air Traffic Control*.

2.8.1. The WF will provide initial and if requested, assist in annual recertification weather training to all ATC controllers in support of the CWW and ATC Limited Observation programs. The WF will train all ATC personnel to take tower visibility measurements. In addition, ATC personnel will be trained to pass PIREP information.

2.8.2. When informed by ATC personnel of significant weather events, the WF weather technician will verify/validate weather conditions and disseminate appropriately as a local, special, or within-the-hour observation, IAW 13-204V3. When tower reports weather conditions different from the last disseminated observation, the weather technician will reevaluate the weather conditions. Based on reevaluation of the different weather conditions reported and local policy, the technician will:

2.8.2.1. Begin augmentation of AN/FMQ-19 and send SPECI observation if different conditions warrant immediate dissemination. If surface or tower visibility is below 4SM, and they differ by one or more reportable values, tower visibility will be reported in the remarks section of the observation.

2.8.2.2. Include the report of the differing conditions in the next METAR or SPECI observation if the different conditions alone do not warrant immediate dissemination.

2.9. Terminal Aerodrome Forecast (TAF).

2.9.1. Dissemination. The WF will prepare and disseminate a TAF via JET. Unless otherwise specified, forecast elements in the main body of the forecast text apply to the area within a 5 nautical mile radius of the Whiteman AFB airfield complex. TAF issue times are 0300Z, 1100Z, and 1900Z.

2.9.2. Amendment Criteria. Amendment criteria are specified IAW AFMAN 15-129 and mutually agreed upon criteria specific to the mission needs of customers at Whiteman AFB.

2.10. B-2 Engine Run Time (ERT). Anytime the temperature is 43 degrees Fahrenheit or less, the WF will issue an ERT advisory. Once the ERT advisory has been issued, the WF will calculate the ERT using temperature and dew point data from airfield sensors and consider the presence of visible moisture. This ERT will be coordinated with the B-2 Operations Supervisor (MADDOG), and MADDOG will make the final determination if the visible moisture is significant enough to adjust the official airfield ERT. If the airfield is open and MADDOG is not on duty, the official ERT will be coordinated with the Supervisor of Flying (FOXTROT). Once the official airfield ERT is confirmed by MADDOG or FOXTROT and ATC, the WF will disseminate the ERT over the OG Net until the advisory is cancelled. If FOXTROT does not acknowledge receipt over the radio, they will be called by phone.

2.10.1. 509 OSS/OSW will maintain a record of airfield temperatures, dew points, and whether visible moisture was present during all periods an ERT advisory is in effect.

2.10.2. Per AFI 11-2B 2V3, *B-2--Operations Procedures*, WAFB Addendum A, the WF will provide weather condition updates to MADDOG every 15 minutes, or less as needed, during periods of rapidly changing conditions. Additionally, anytime the calculated or declared ERT is 60 minutes or less, the weather flight will monitor temperature, dew point and visibility at intervals not to exceed 15 minutes. If a weather condition exists that would warrant a change in the official ERT, the WF will coordinate with MADDOG to ensure that the most updated information is provided, to include expected forecast conditions, which could potentially impact operations. See [Attachment 4](#) for Engine Induction Icing Ground Run Times.

2.10.3. For WF ERT calculations, visible moisture shall be defined IAW AFMAN 15- 111 Chapter 8 *Visibility* and chapter 10 *Present Weather*. When determining if visible moisture is present, visible moisture shall be defined as any form of falling precipitation regardless of intensity (including drizzle, rain, snow, snow grains, ice crystals, ice pellets), surface obscurations such as fog or mist in which visibility is reduced below 7SM (9999 meters), and any standing water, ice, or snow in close proximity to B-2 ground operations.

2.11. Winter Weather.

2.11.1. WF personnel will notify and update the 509th Operations Support Squadron Airfield (509 OSS/OSA) and 509th Civil Engineer Squadron (509 CES) snow control when any freezing precipitation or snow is expected to significantly impact trafficability at Whiteman AFB. During airfield management closures, the forecaster will contact the designated airfield staff member on stand-by.

2.11.2. During the winter season the WF will provide Situational Reports (SITREP) to the 509th BW Commander, the 131st BW Commander, the 442 FW Commander, and all other local commanders through standard email format when winter storms are expected to impact base operations. The first SITREP will be produced 24-hours prior to the event, with another update 12-hours later and then as needed every 6-hours thereafter until the end of the event. The on-duty forecaster will predict estimated snowfall and/or continuing hazardous weather conditions.

Chapter 3

MISSION SERVICES ELEMENT

3.1. General. Mission services are actions taken by weather technicians pertaining to the effective accomplishment of Whiteman's flying sorties (both training and operational). The WF will develop and maintain a Mission Execution Forecast Process (MEFP) that provides or arranges for flight weather services for aircrews departing Whiteman AFB. MEFs are a weather information resource produced in a format agreed upon by the user and tailored to meet specific mission requirements that are focused on the commander's needs and objectives and can be integrated into the planning process early to successfully plan and execute military operations. Additionally, the WF will provide decision-grade information to all host and tenant flying units that clearly and concisely defines the environmental impacts to missions, platforms, weapon systems, targets, tactics, and mission timing.

3.2. Flying Weather Support.

3.2.1. Flight Weather Briefs. The MEF acts as an official source of weather information for local flying operations. They will be delivered in the format and at the time and place of the user's request following the guidelines and principles outlined within this instruction. Below are the types of flight weather briefs produced:

3.2.1.1. Verbal Briefings: Aircrew members can choose to receive mission weather information verbally without the use of hard copies. In such cases, the WF will maintain a log recording information passed to the aircrew as well as the brief time and a member of the aircrew's initials.

3.2.1.2. DD Form 175-1: This form is tailored to individual missions and is useful for aircrews (local or transient) flying one- or multi-stop missions with or without en-route events (AR, Range, MOA, etc.). The WF will ensure these briefings are available to aircrews as requested. Typically, B-2 aircrew briefs will be ready no later than (NLT) 3 hours prior to take-off. Other flying missions will be supplied briefs on an as requested basis.

3.2.1.3. Web-based: The WF will maintain and provide access to web-based weather information for use by local aircrews while flight planning or receiving execution weather briefs remotely by phone. The local MEF can be found on the WF's SharePoint Site.

3.2.2. **Special / Higher Headquarters Mission Briefings.** The WF will provide specific briefings for special or higher headquarters missions as directed by operations order, fragment order, message, or other official means. Aircrew and/or staff weather briefings will be presented in person by WF personnel at the time and location desired by requester.

3.2.3. **Supervisor of Flying (SOF).** At the request of either the 509 BW SOF (FOXTROT) or the 442nd Fighter Wing (442 FW)/303rd Fighter Squadron (303 FS) SOF, Weather Flight (WF) will verbally brief the local flying conditions, alternate base forecasts, and other weather data that may affect flying activities.

3.2.3.1. WF will provide a MEF or verbal brief when requested by the SOFs and during the SOF assumption and change-over briefings.

3.2.3.2. SOFs can review/print the MEF via the WF's SharePoint Site for additional information.

3.2.4. **Planning MEF.** The WF will provide a Planning MEF by 0500L (Monday- Friday mornings). Monday's planning weather will be posted NLT 0700L the Friday prior. The Planning MEF will focus on the next day flying window and is based off the published flying schedule. Briefings include:

3.2.4.1. Whiteman AFB Forecast

3.2.4.1.1. Solar, Lunar, and Space Weather.

3.2.4.1.2. Weather threat of the day.

3.2.4.1.3. Surface and flight hazards.

3.2.4.1.4. Visibility, temperature, dew-point, and engine run time forecasts.

3.2.4.1.5. Flight level winds and D-values.

3.2.4.2. Military Operations Area (MOA, Range, Air Refueling Tracks, and Alternate Bases.

3.2.4.2.1. Contrails

3.2.4.2.2. Surface and flight hazards.

3.2.4.2.3. Flight level winds.

3.2.4.2.4. D-values.

3.2.5. **Tactical Decision Aids (TDAs).**

3.2.5.1. The WF will utilize the Target Acquisition Weapons Software (TAWS) program. The WF will reference the 442 FW flying schedule to determine the need for TDAs. Generally, TDAs will be created as required for range support. TDAs will be made available on the WF's SharePoint Site NLT 3 hours prior to takeoff.

3.2.5.2. For an accurate TDA the following information is needed: Time over Target, latitude/longitude of target location, sensor type, munitions being used, dimensions of target, if the target is a building, whether the target is heated or not, attack altitude, and for training purposes, the attack heading.

3.3. MISSIONWATCH. The WF will conduct a continuous MISSIONWATCH of all routes and flying areas used by Whiteman flying units during the times they are using them. The WF will relay weather WWAs and any significant changes in weather conditions previously briefed to the T-38 SOF and Operations Supervisor (Top3/MADDOG). During emergency situations or rapidly changing conditions, the WF will immediately notify the SOF and Operations Supervisor IAW Duty Priorities.

3.4. Mission Weather Verification. The WF tracks all sorties that received a Whiteman Flying MEF Brief and performs a GO/NO GO verification for forecast conditions at takeoff, the mission area (AR, Range, MOA, etc.), and landing.

3.5. Pilot-to-Metro Service (PMSV). The WF will provide full service PMSV on the assigned UHF frequency of 344.6 MHz or via phone patches to (COM: 660-687-3061/3062 or DSN: 94-975-3061/3062). Aircrews are highly encouraged to relay pilot reports during PMSV contacts.

3.5.1. The WF will check the PMSV radio to ensure operational status at least once daily with the control tower or an aircraft. Notify tower, base operations, command post, and ATCALs or RAWS of PMSV status/outage.

3.5.2. The WF will notify 509 OSS/OSA of extended PMSV outages lasting more than 1 hour for incorporation into Notice to Airmen (NOTAMs).

3.6. Space Weather Support. Space weather data and forecasts for Whiteman AFB customers are available upon request. Information available includes space weather impacts on radio frequencies and the Global Positioning System (GPS).

3.7. Toxic Corridors. IAW AFI 10-2501, *Emergency Management (EM) Program*, the WF will provide the 509th Civil Engineer Squadron Emergency Management (509 CES/CEX) with weather data so they can calculate toxic corridors for chemical spills. The WF will not be responsible for producing toxic corridors.

3.8. Chemical Downwind Messages: The WF will provide weather inputs to Chemical Downwind Messages upon request from Emergency Management and Emergency Operations Center personnel for disaster response, chemical/nuclear attack, and exercise purposes via the 26 OWS website and/or the Air Force Weather Web Service (AFW-WEBS) website.

3.9. Mission Execution Forecast (MEF). The MEF contains hourly forecast weather information pertaining to Whiteman. In addition, MOAs and standard ranges used daily will be included when necessary. It is designed for local use and is posted on the WF SharePoint site no later than 1 hour after the issuance of each TAF and/or TAF amendment. The weather information in this MEF is valid for 24 hours, in one-hour increments, and will be updated every eight hours or as needed by the weather technician to reflect the current conditions, forecast changes and/or support of local flying operations.

3.9.1. Specification and Amendment Criteria. The MEF will be reviewed continuously and updated/amended anytime specification criteria are met or when a new TAF has been issued for Whiteman AFB. Specification Criteria for the MEF will begin with ceilings and visibilities (CIG/VIS) of 5000/5 and 1500/1. In addition, the amendment criterion below needs to be specified. This MEF will be checked every two hours at a minimum and amended appropriately. Amendments are required when any of the thresholds below are met:

Table 3.1. MEF Amendment Criteria.

1. Ceiling (CIG)/Visibility (VIS): $\geq 3000/3$, $1000/2$, $700/1$, 300
2. Surface Winds: >30 -degree difference in wind direction with 10 kts or $>$ in speed (including gusts)
3. Temperature: 3 degrees Celsius or greater or 5 degrees Fahrenheit or greater
4. Icing: Any icing forecast or differing by a reportable value for SZL
5. Turbulence: LGT-MDT or greater (Cat II) forecast or differs by reportable value for SZL
6. Thunderstorms and Precipitation forecast or change for SZL
7. B-2 Induction Icing: Forecast or change in Run time
8. Altimeter Setting: $> .09$ inches of mercury (QNS) difference
9. An issued weather watch, warning and or advisory

Chapter 4

STAFF WEATHER ELEMENT

4.1. Wing Standup. Presented in person Monday, Wednesday, and Thursday at 1400L, or as requested by the 509th Bomb Wing Commander (509 BW/CC) (POC Maintenance Operations Center (MOC) 687-1950). The Briefing is held in Bldg. 509, Spirit Conference Room. The content of the briefing is flexible, but at a minimum will include a current satellite and a 5-day forecast for Whiteman AFB.

4.2. 509 BW Staff Meeting. Presented in person on the 2nd and 4th Thursdays at 0930L or as requested by the 509 BW/CC (POC: 509th Bomb Wing Executive Administration (509 BW/CCA) 687-5127). The briefing is held in Bldg. 509, Spirit Conference Room. The content of the briefing is flexible but will include a current satellite depiction and a 5-day forecast for Whiteman AFB.

4.3. Commander's Senior Staff. Presented when an Unrestricted Commander's Senior Staff recall is announced. Normally presented by Command Meteorologist, Operational Meteorologist or for immediate recall, first weather technician available will attend the contingency/exercise briefing. The format of the briefing will be tailored to the scenario driving the Commander's Senior Staff's formation. At a minimum, the briefing will include current satellite depiction, a 24-hour impact slide, and a 5-day forecast for Whiteman AFB. Other information will be briefed as requested.

4.4. Special Assignment Airlift Mission (SAAM). 509th Munitions Squadron (509 MUNS) Munitions Accountable Systems Officer (MASO) will notify WF by email calendar invite. WF will provide the requested 5-day forecasts to the MASO no later than 2 hours prior to brief time. A weather briefer will attend the meeting, generally held in Building 509, Spirit Conference Room.

4.5. Mobility Concept/Pre-deployment Briefing. Presented in person, requested by Installation Deployment Officer, deployment staff will print a 5-day hard copy from weather SharePoint site (upon request hand-carry 5-day PowerPoint soft copy). At a minimum, the briefing will include forecast conditions at Whiteman AFB for departure time, deployed area climatology, and forecast conditions for destination arrival time. Other topics will be briefed as required. The briefing is typically conducted in the Mobility Center, Building 705.

4.6. Instrument Refresher Course (IRC). A WF representative will provide a local weather briefing to all IRC classes. The briefing format is dependent on the season and includes climatology, seasonal threats, and weather products. IRC schedulers will provide the WF with a schedule of upcoming IRCs as early in the process as possible.

4.7. Climatology Support. A WF representative will maintain a monthly and yearly climatology report and distribution list monthly and when requested. Data will include daily and monthly high and low temperatures, mean temperature, heating degree days, cooling degree days, total precipitation, total snowfall, maximum snow depth, days with thunderstorms, days with fog, peak wind direction, and peak wind speed.

4.7.1. Climatic data for Whiteman AFB will be faxed or emailed to the agencies listed below.

4.7.1.1. 509th Civil Engineer Squadron (509 CES).

4.7.1.2. 509th Contracting Squadron (509 CONS/LGCA).US Army Corps of Engineers (USACE-NWK-EC-MW).

4.7.1.3. Whiteman Army Aviation Support Facility (AASF). Climatology briefings will be presented twice a year, normally in spring and fall. These in-person briefings include information on seasonal hazards to flight. Coordinate with Battalion Director of Operations.

4.7.2. Other climatology data will be available upon request including data for other locations. Requests should be made at least two business days in advance to allow the WF to research and compile the data available from 14th Weather Squadron (14 WS).

4.8. Emergency Operations Center (EOC) Support. The WF will assist the EOC with weather related issues, not operations or airfield issues. They will ensure the EOC commander is aware of pertinent meteorological conditions to assist with attack actions, natural disasters, major accident response, and Department of Energy Safe Haven for National Defense Area procedures.

4.9. Air Traffic Control Limited Observation Program. All tower controllers must receive local weather familiarization (to include tower visibility observation training) and participate in Cooperative Weather Watch. WF leadership/personnel will assist with coordination of tower visibility observation training and certification. Initial documentation of limited weather certifications will be documented on AF Form 3622, *Air Traffic Control/Weather Certification and Rating Record (LRA)* and signed off by a designated weather examiner.

4.10. Wet-Bulb Globe Temperature Readings. The WF will use approved sources outlined in DAFI48-151 to calculate and relay WBGT readings to PTLs between the times of 1630L – 0700L CST.

4.11. Other Briefing Support. Any other support will be given as requested or arranged through the WF leadership.

Chapter 5

METEOROLOGICAL WATCH (METWATCH)

5.1. General.

5.1.1. The WF will monitor observed and forecast weather conditions and notify selected agencies when pre-established weather conditions occur or are expected to occur.

5.1.2. Desired Lead Time. Advanced warning of threatening weather conditions allows local agencies to take specific actions prior to occurrence. The desired lead-time is the minimum amount of advanced notice an agency requires prior to the onset of a particular weather phenomenon.

5.1.3. All weather WWAs are issued IAW AFMAN 15-129. Warnings and advisories may be issued as forecast or observed. They are specialized METWATCH products and are issued to customers for use in making operational decisions and taking protective actions. Customers must regularly review their operational need for WWAs. Coordinate additions, changes and/or deletions with the weather flight commander or the flight chief.

5.2. Responsibilities.

5.2.1. The WF will perform a continuous terminal METWATCH for Whiteman AFB. They will issue all WWAs (forecasted and observed) for the aerodrome.

5.2.2. During approved WF closures, standby personnel will monitor weather conditions and report in to issue any required WWAs.

5.3. Weather Watches.

5.3.1. A weather watch provides advance notice to designated agencies of the existence of the POTENTIAL for weather conditions of such intensity to pose a hazard to life or property for which the agency should consider taking protective measures.

5.3.2. Whenever meteorological conditions are favorable or forecast to be favorable for such conditions to develop, the WF will issue a weather watch for Whiteman AFB, valid for a given time period. The text of the weather watch will contain all essential information. [Table 5.1](#), on the next page contains watch criteria.

Table 5.1. Forecast Weather Watch Criteria and Associated Desired Lead-Times.

Criteria	Desired Lead- Time
Potential for Tornado or Funnel Cloud exists and is in effect at Whiteman AFB.	75 minutes, or as potential warrants
Potential for Severe Thunderstorms are forecast at Whiteman AFB. Damaging Winds \geq 50KT and/or Hail \geq 3/4 in.	2 hours, or as potential warrants
Potential for Damaging winds \geq 50KT not associated with thunderstorms are forecast at Whiteman AFB.	2 hours, or as potential warrants
Potential for Freezing Precipitation (Any Intensity) and produces glazed ice on exposed surface at Whiteman AFB.	2 hours, or as potential warrants
Potential for Heavy Snow \geq 2 in. within 12 hours at Whiteman AFB.	2 hours, or as potential warrants
Potential for Blizzard conditions; Falling and or Blowing Snow lasting \leq 3 hrs. with winds \geq 30KT & visibility \leq 1/4SM.	2 hours, or as potential warrants
Potential for Lightning exists within 5SM of Whiteman AFB.	30 minutes
NOTE: If conditions arise that require less time to issue a notice, a warning will always take priority over a watch. Example: 60KT winds and hail are reported in Kansas City and are expected to occur at WAFB within the next 60 minutes, the forecaster will issue the warning.	

5.4. Weather Warnings.

5.4.1. A weather warning alerts designated agencies to the IMMEDIATE or actual occurrence of weather conditions of such intensity that poses a hazard to life or property for which the agency must take immediate protective actions. All weather warnings, upgrades/downgrades, extensions, and cancellations cover a five (5) statute mile radius from the runway midpoint.

5.4.2. Weather warning criteria are divided into "observed" and "forecast" criteria. Observed weather warnings are issued by the WF whenever the criteria listed below is observed and canceled when the criteria ceases. Forecast weather warnings are issued with an expected valid period (i.e., criteria forecast to occur during this period). **Table 5.2**, on the next page contains warning criteria. Expected forecast values will be specified in the warning text.

Table 5.2. Weather Warning Criteria and Associated Desired Lead-Times.

Criteria	Desired Lead-Time
Tornado or Funnel Cloud within 5SM of Whiteman AFB	15 Minutes
Severe Thunderstorms are forecast at Whiteman AFB. Damaging Winds \geq 50KT and/or Hail \geq 3/4 in.	60 Minutes
Moderate Thunderstorms are forecast at Whiteman AFB. Strong Winds \geq 35KT but $<$ 50KT or Hail \geq 1/4 in but $<$ 3/4 in.	60 Minutes
Damaging winds \geq 50KT not associated with thunderstorms are forecast at Whiteman AFB.	60 Minutes
Strong Winds \geq 35KT but $<$ 50KT not associated with Thunderstorms are forecast at Whiteman AFB.	60 Minutes
Freezing Precipitation (Any Intensity) and produces glazed ice on exposed surface is forecast to occur.	60 Minutes
Heavy Snow \geq 2 in. within 12 hours is forecast to occur at Whiteman AFB *	60 Minutes
Blizzard Conditions in Falling and or Blowing Snow lasting at least 3 hrs. and winds \geq 30KT and visibility \leq 1/4SM is forecast to occur *	60 Minutes
Observed Lightning is occurring within 5SM of Whiteman AFB	OBSERVED
Observed Lightning is occurring within 10SM of Whiteman AFB	OBSERVED
* = Maximum values will be specified in text.	

5.5. Weather Advisories.

5.5.1. A weather advisory (WA) alerts designated agencies of the occurrence of, or imminent occurrence of, weather conditions impacting operations. An advisory is issued for Whiteman AFB and covers an area within a five (5) statute mile radius of the center point of the runway unless otherwise stated in the advisory.

5.5.2. Observed Weather Advisories. Observed weather advisories are issued whenever the criteria is first observed and cancelled when the criteria ceases. **Table 5.3** contains observed advisory criteria.

Table 5.3. Weather Advisory Criteria and Associated Desired Lead-Times.

Criteria	Desired Lead-Time
Hail <1/4 inch	30 Minutes
Crosswinds \geq 25 knots (Issued during airfield operating hours only)	As Observed
Crosswinds \geq 15 knots but <25 knots (Issued during airfield operating hours only)	As Observed
Surface Winds > 25 knots but < 35 knots	As Observed
B-2 Induction Icing exists with temperature \leq 43°F	As Observed
Wind Chill reading \leq 15°F but \geq -14°F	As Observed
Wind Chill reading -15°F to -44°F	As Observed
Wind Chill reading -45°F to -65°F	As Observed
Wind Chill reading < -65°F	As Observed
Temperature \leq 40°F but > 33°F	As Observed
Temperature \leq 33°F	As Observed
Lightning within 25SM	As Observed
Lightning within 50SM	As Observed

5.6. Dissemination of Watches/Warnings/Advisories. The WF will disseminate weather WWAs via standard communication systems (e.g., NIPRNET) and Air Force Weather (AFW) meteorological communication systems such as JET and IWWC. IWWC will make automated notifications via phone and email. If JET and IWWC are inoperative, WWAs will be disseminated by phone to command post, base operations, tower, all SOFs, and MOC (509 BW & 442 FW).

5.7. Weather Warning/Watch/Advisory Text Format. The text of weather WWAs will contain the WWA number, the specific valid time (until further notice for observed products), and specific conditions expected. They will be numbered consecutively with the # of the month, and the # of the warning (which is generated by IWWCs). The following additional requirements apply to warnings issued for criteria other than observed lightning.

5.7.1. The WF will not issue a warning for different thresholds of the same phenomenon valid for overlapping times. More than one warning may be in effect at the same time for the same location (i.e., lightning within 5SM and damaging winds \geq 35 knots), but only one warning will be in effect for a particular phenomenon.

5.7.2. Warnings issued to add or delete a weather phenomenon will include the explanation, "This warning upgrades/downgrades Weather Warning (previous warning)."

5.7.2.1. UPGRADES. The new warning forecasts more severe weather.

5.7.2.2. DOWNGRADES. The new warning forecasts less severe weather.

5.7.2.3. EXTENDS. The valid period of a previously issued warning is extended.

5.7.3. Warnings and watches issued to extend the valid time will not be re-issued or re-numbered. These will include the explanation "This is an extension of Weather Warning # (current warning)."

5.7.4. When the weather forecaster believes that phenomena meeting warning, watch, or advisory criteria are no longer expected during the valid time, they will be canceled with the explanation "Weather Warning # (current warning) is canceled."

5.8. Severe Weather Action Procedures (SWAP). These procedures are in place to ensure sufficient personnel are available during severe weather events or during meteorological or operational events critical to mission success. For the purposes of these procedures, severe weather is defined as any weather phenomenon considered critical enough by the customer to require advance/special notice and subsequent actions to prevent serious injury or damage to personnel, property, or resources. It is imperative that timely and accurate weather WWAs are disseminated to all Whiteman AFB agencies to ensure personnel and resource protection.

5.8.1. WF Responsibilities. WF will perform the SWAP responsibilities as defined in AFMAN 15-129 and AFMAN 10-206, *Operational Reporting*. More specifically, WF will accomplish the following procedures:

5.8.1.1. Notification. The on-duty weather forecast will notify the Severe Weather Action Team (SWAT) standby member(s) according to the following guidance:

5.8.1.1.1. During normal staff duty hours (0730L to 1630L, Monday through Friday, except federal holidays/authorized down days) the weather forecaster will implement SWAP by notifying the WF Commander, the WF Chief, Wing Weather Officer (WVO) and/or the SWAT standby member in their office or by phone whenever one or more activation conditions is expected to occur.

5.8.1.2. Activation. The weather forecaster on duty will discuss the meteorological situation, manning requirements, and the recall of additional personnel (or place on standby) with the SWAT standby member. (If the SWAT standby member is unavailable, coordinate with the WF Commander, WF Chief, WVO, or section Non-Commissioned Officer in Charge (NCOIC)).

5.8.1.2.1. SWAT will be activated if one of the following conditions occurs or is expected to occur.

5.8.1.2.1.1. Tornado

5.8.1.2.1.2. Severe Thunderstorm

5.8.1.2.1.3. Damaging Winds

5.8.1.2.2. If determined by flight leadership SWAT standby member will report to the weather station no later than 30 minutes after notification by the weather technician. Once the SWAT standby member has arrived, they will assist in evaluating the situation and determine the need to recall additional personnel.

5.8.1.3. Upon arrival at the weather station the SWAT standby member, time permitting, will conduct a Meteorological Watch (METCON) with the shift forecaster.

5.8.1.4. Post Event Procedures. If severe weather occurs the following procedures will be executed if necessary.

5.8.1.4.1. OPREP-3 BEELINE reporting procedures. When damage to the installation or aircraft has occurred due to weather, provide the information to the 509 BW/CP.

5.9. Tornado Procedures.

5.9.1. The WF will issue a TORNADO WATCH as early as possible to alert personnel that conditions exist or are forecast to exist that favor tornadic activity. Personnel should take appropriate actions deemed necessary by their chain of command, remain alert to changing weather conditions and monitor radio or TV when threatening weather is moving toward the Whiteman AFB area. A tornado watch means people should prepare for a possible tornado and take cover.

5.9.2. A TORNADO WARNING will be issued if a funnel cloud or tornado is seen approaching the base by reliable sources, is indicated on radar, or the NWS issues for an area that includes WAFB. All personnel should seek shelter at that time.

5.9.3. Tornado Notification Process.

5.9.3.1. The WF will brief the 509 BW/CP personnel on tornadic activity expected to affect the base so they can sound the base siren.

5.9.4. The WF will cancel all Tornado warnings as soon as the tornado threat moves out of the immediate area.

5.9.4.1. Tornado warnings may be issued with little notification as conditions change.

5.9.4.2. All units and agencies will ensure all reports of tornadoes, funnel clouds, or hail are quickly relayed to the WF, 687-3061 or 687-3062. If the lines are busy, call 509 BW/CP and ask them to relay the data to the WF.

5.10. Fighter Index of Thermal Stress.

5.10.1. The WF will support the Thermal Stress program in accordance with DAFI48-151, *Thermal Stress Program*.

5.10.1.1. The WF will calculate the current FITS condition using approved sites outlined in the DAFI48-151. The FITS condition will be calculated at any time the ambient air temperature reaches 80 degrees Fahrenheit or higher.

5.10.1.2. The WF will relay risks of thermal illness to current Supervisors of Flying (SOFs) on a Bi-hourly basis.

5.10.1.3. The WF will participate in the Heat Alert Program and Heat Working Group, if activated.

5.10.1.4. With the exception of responsibilities outlined in section 6.13, Bioenvironmental will remain the primary source for Wet-Bulb Globe Temperature (WBGT) readings.

Chapter 6

ROLES AND RESPONSIBILITIES

6.1. General.

6.1.1. 509 OSS/OSW supports numerous units with diversified missions. Most units have common requirements regarding Mission Weather Products (MWP), TAFs, and WWA support for resource protection as listed above. Units with more specific requirements are listed below. The agencies in this chapter will also provide services and information to 509 OSS/OSW as described below.

6.2. 509th Bomb Wing (509 BW) staff:

6.2.1. 509 OSS/OSW will provide detailed planning forecasts, long range outlooks, climatological assessments, and other products for any AOR as required to local commanders for situational awareness, resource protection, and decisions impacting operations and mission accomplishment.

6.3. All flying units, including associate units will:

6.3.1. Inform the WF 48 hours in advance of any special weather briefing or forecast requirements. At a minimum be prepared to provide the following information: Takeoff/time-over-target/landing times; route of flight; flight level; alternate/abort bases; refueling tracks if applicable. Also inform the WF of any upcoming operations for which they will require weather support.

6.3.2. Ensure all PIREPs during departure, in-flight, post-flight are relayed to the WF in a timely manner.

6.3.3. Provide at least 72-hour notice for Instrument Refresher Course lectures or seasonal safety presentations.

6.3.4. Notify WF of all changes in mission weather support and provide daily flying schedules.

6.3.5. Provide key mission information necessary (as security clearance permits) to ensure weather briefings are as timely, as accurate and as relevant as possible.

6.3.6. Provide feedback on MEFs to WF through electronic or physical feedback forms.

6.3.7. Establish weather support requirements and procedures with the WF flight commander.

6.3.8. Notify WF of contingency/deployment weather briefing support requests with a one-week advanced notice when possible.

6.4. Supervisors of Flying (SOF) will:

6.4.1. Obtain a weather briefing prior to assuming SOF duties.

6.4.2. Monitor weather information disseminated via JET.

6.4.3. Coordinate with the 509 OSS/OSW on the selection of an alternate airfield.

6.4.4. Relay all PIREPs to the weather technician (especially working areas) in a timely manner.

6.5. 509th Bomb Wing Command Post (509 BW/CP) will:

- 6.5.1. Disseminate weather WWAs IAW their local procedures.
- 6.5.2. Notify the WF when a weather technician is needed for Crisis Action Team.
- 6.5.3. 509 OSS/OSW will provide weather observations, forecasts, and briefings as required during Crisis Action Team recalls and shift change briefings.
- 6.5.4. During back-up of PMSV or when a phone patch is requested, patch PMSV calls through to weather technician via phone line to Whiteman AFB METRO. Pass pilot reports (PIREPs) as they are received to Whiteman AFB METRO.
- 6.5.5. Monitor weather information disseminated.
- 6.5.6. Notify the WF whenever there is weather related property damage to Whiteman AFB and/or aircraft.
- 6.5.7. Sound the base siren system if a tornado warning is issued by the WF.

6.6. 509th Maintenance Operations Center (MOC) Senior Controller will:

- 6.6.1. Notify weather technician of any weather-dependent maintenance activities requiring special weather support.
- 6.6.2. Establish procedures to ensure affected maintenance activities are promptly notified of all applicable weather WWAs.
- 6.6.3. During approved airfield closures, notify the WF standby forecaster of any required support through the closure.
- 6.6.4. During approved airfield closures, utilize the Engine Run Time (ERT) created by production controllers and crew chiefs.

6.7. 509th Operations Support Squadron.**6.7.1. Airfield Management (509 OSS/OSAA) will:**

- 6.7.1.1. Notify weather personnel of all in-flight emergencies (including exercises) inbound to Whiteman AFB.
- 6.7.1.2. Include appropriate weather information in the Flight Information Publications (FLIPs); to include, but not limited to, operating hours, PMSV frequency and outages, supporting OWS contact information, and pertinent observing information such as use of automated equipment and outages, and limitations hindering unobstructed visibility observations. Required changes will be submitted when requested by the WF. Provide new FLIPs when required.
- 6.7.1.3. Relay weather WWAs to the agencies IAW their local procedures.
- 6.7.1.4. Notify the WF of aircraft mishaps/incidents at, or in the vicinity of Whiteman AFB and all aircraft mishaps involving Whiteman based aircraft.
- 6.7.1.5. Notify WF of any changes to normal airfield operating hours. This includes the notification of early opening and airfield holiday closures.

6.7.2. Air Traffic Control Tower (509 OSS/OSAT) will:

- 6.7.2.1. Notify the WF of weather communications equipment (phones, radios, PMSV, etc.) outages.
- 6.7.2.2. When JET is not operational, the WF will be disseminate the observation via hotline or other suitable means to ATC.
- 6.7.2.3. Conduct daily operational checks of the PMSV frequency (344.6). If the WF's PMSV equipment is inoperative, include the outage in Airfield Advisories and NOTAMs upon WF's request.
- 6.7.2.4. Notify WF via hotline, or other suitable means, of runway changes.
- 6.7.2.5. Tower personnel will receive weather training and local familiarization prior to certification. The WF will provide the initial training seminar and administer an exam. Tower personnel will administer recurring weather training with the WF's assistance, as necessary.
- 6.7.2.6. Perform a cooperative weather watch, report tower visibility, and notify the WF of any unreported changes in weather conditions to include:
 - 6.7.2.6.1. Tower prevailing visibility decreases to less than or increases to equal or exceeds 4 statute miles.
 - 6.7.2.6.2. Tower prevailing visibility changes by a reportable value (ref: AFMAN 15-111) when less than 4 statute miles.
 - 6.7.2.6.3. Formation/dissipation, raising/lowering of cloud bases.
 - 6.7.2.6.4. Precipitation begins/ends.
 - 6.7.2.6.5. Obstruction to visibility appears or dissipates.
 - 6.7.2.6.6. Thunderstorms, tornado, funnel cloud, lightning seen, or thunder heard.
- 6.7.2.7. Provide weather personnel with initial ATC indoctrination.
- 6.7.2.8. Expeditiously provide PIREPS to WF when they are received or requested to include location of encountered phenomena, time of encountered phenomena, flight level, aircraft type and at least one other element (sky cover, weather, temperature, winds, turbulence (including Low-Level Wind Shear (LLWS)), icing, or other significant remarks).
- 6.7.2.9. Relay weather WWAs to aircrews
- 6.7.2.10. Notify OSW of all runway changes, so that the forecaster on shift may change the FMQ-19 automated observing system reporting wind sensors as required. When FMQ-19 wind equipment is inoperative the WF will notify the 509 OSS/OSAT and OSAR that the winds will be estimated.
- 6.7.2.11. Relay significant weather information to aircrews IAW FAA JO 7110.65Y, *Air Traffic Control*.

6.8. 509th Operations Support Squadron RAPCON (509 OSS/OSAR) will:

- 6.8.1. Provide a radio check for PMSV frequency (344.6) to WF upon request. Monitor PMSV frequency/provide aircrews with weather data when WF PMSV equipment is inoperative.

6.8.2. Provide PIREPS to WF when they are received or when requested to include location of encountered phenomena, time of encountered phenomena, flight level, aircraft type and at least one other element (sky cover, weather, temperature, winds, turbulence (including LLWS), icing, or other significant remarks).

6.8.3. Relay significant weather information to aircrews IAW FAA JO 7110.65Y.

6.8.4. When JET is not operational, the WF will be disseminate the observation via hotline or other suitable means to RAPCON.

6.8.5. 509th Operations Support Squadron Radar Airfield Weather Systems (RAWS) (509 OSS/OSAM):

6.8.5.1. Provide routine and emergency maintenance for weather observing, weather dissemination, and weather-related communications, located on Whiteman not covered by outside contractor agreements.

6.8.5.2. RAWS personnel will *always* receive clearance from the weather technician before taking the FMQ-19 system or components down for maintenance.

6.8.5.3. Respond to an equipment outage. The weather technician will provide a verbal mission impact statement (significant or minimal) to the RAWS technician upon notification of outage. Weather personnel may defer maintenance for minimal outages during non-duty hours if back-up equipment is available. Maintenance will only be deferred until the beginning of the next duty day.

6.8.6. Weapons and Tactics Flight (509 OSS/OSK) or the Mission Planning Cell Chief will:

6.8.6.1. Coordinate operation plans through WF if support is required for plan execution.

6.8.6.2. Ensure workspace with SIPR Net and NIPR Net access is available for use by WF personnel during operations or exercises (dependent on security clearance).

6.8.7. Operations Plans Flight (509 OSS/OSX) will:

6.8.7.1. Notify the WF of any higher headquarters missions for which weather support could be required.

6.9. 509th Bomb Wing Safety Office (509 BW/SE) will:

6.9.1. Notify WF of any local aircraft mishap/incidents where weather or weather service may have been a factor. The WF will collect, save, and provide weather data to support accident and mishap investigations upon request.

6.9.2. Notify the WF of any damage on Whiteman AFB caused by weather.

6.9.3. Coordinate with WF on all messages containing references to weather.

6.10. 509th Security Forces Squadron (509 SFS) will:

6.10.1. Notify WF of observed hail, tornadoes, freezing precipitation, or other significant weather encountered during routine patrols.

6.11. 509th Civil Engineer Squadron (509 CES) will:

- 6.11.1. Provide emergency electrical power to Whiteman AFB weather equipment. Failed generators will be repaired/replaced IAW priorities listed in the war support plan or base recovery plan, as appropriate.
- 6.11.2. Refuel generator's fuel storage tank through coordination with fuels management.
- 6.11.3. Notify WF through airfield management prior to emergency power generator operational tests. Switch to and from back-up power will not occur until the duty forecaster or designated representative has been advised and concurs.
- 6.11.4. The WF will provide weather observations, forecasts, and CDMs as required.

6.12. 509th Communications Squadron (509 CS) will:

- 6.12.1. Respond to an equipment outage if the outage is judged to be significant by the weather personnel. The weather technician will provide a verbal mission impact statement (significant or minimal) to the 509 CS Communications Focal Point upon notification of outage. Weather personnel may defer maintenance for minimal outages during non-duty hours if back-up equipment is available. Maintenance will only be deferred until the beginning of the next duty day.
- 6.12.2. 509 CS/SCOSC (Communications Focal Point) will:
 - 6.12.2.1. Record all WF outage reports as well as contract/vendor-driven communications such as phone circuits, etc., and issue a job control number.
 - 6.12.2.2. Notify the responsible repair agent for maintenance and follow up with the responsible repair agent until service has been restored.
 - 6.12.2.3. Coordinate all outage restoration times with the WF, who solely approves scheduled outages (including Preventative Maintenance Inspection (PMI)) or restoration to operational status of weather equipment.

6.13. 509th Medical Group Bioenvironmental Engineering (BE) Flight will:

- 6.13.1. Monitor and report Wet-Bulb Globe temperature (WBGT) between 0700L and 1630L CST IAW local policies.
- 6.13.2. Notify the WF of any outages that would prevent BE from obtaining the WBGT, where the WF would then assume responsibility until BE's capabilities are restored.

6.14. 509th Fitness Assessment Cell (FAC) will:

- 6.14.1. Train current and incoming physical training leaders (PTLs) on how to obtain WBGT readings between 1630L and 0700L CST, IAW with DAFMAN36-2905, *Department of the Air Force Physical Fitness Program*, and the MOU between Bioenvironmental and the WF.

6.15. All units with needs not met by JET guest portal access will:

- 6.15.1. Request an account from the WF JET system manager at 687-3061. Agencies will provide a POC to contact with the system link, username, and password.

Chapter 7

SUPPORTED CUSTOMER MISSION AND AIRCRAFT WEATHER SENSITIVITIES

7.1. Supported Customer Mission and Aircraft Weather Sensitivities.

Table 7.1. B-2 Spirit.

Supported Customer Mission and Aircraft Weather Sensitivities.	
B-2 Spirit Bomber:	
Unit Supported: 509th Bomb Wing/131st Bomb Wing Location: Whiteman AFB, MO	
Mission: Conventional/Nuclear Bomber	
PERFORMANCE DATA:	
Cruise Airspeed: 420kts Range: --- Endurance: ---	Cruise Altitude: High 40,000ft – Low 20,000ft Max Cruise Altitude: 50,000ft Service Ceiling: 50,000ft
GROUND WEATHER LIMITATIONS:	
Ceiling/Visibility: Takeoff: 200 / ½ RVR: 1,600ft. Runway Condition Reading (RCR): 7 Taxi, 9 Takeoff Landing: 200 / ½ RVR: 2,400ft (or published mins) RCR: 9 or higher Touch-Go: 300 / 1 with Instructor Pilot 1,000 / 3 without Instructor Pilot	Winds: Crosswind Touch-Go: 20kts Limit without Instructor Pilot 25kts Limit with Instructor Pilot 30kts = No Landing
IN-FLIGHT WEATHER LIMITATIONS:	
Icing: No sustained flight aircraft in known/forecast icing. May climb and descend through light icing only.	
Turbulence: Aircraft may operate in light and moderate turbulence but avoid severe turbulence with limitations during air refueling.	
Thunderstorm: Avoid thunderstorms laterally by 20nm below FL200. Avoid thunderstorms laterally by 40nm at/above FL200. When at/above FL200, stay VMC when within 40nm of any convective activity, not just thunderstorms, which have built above FL200.	
OTHER AIRCRAFT FEATURES:	
Aircraft has good weather radar and good communications.	
WEATHER ADVISORIES/WEATHER WARNINGS:	
Tornado: Hangar Aircraft Severe Thunderstorm: Hangar Aircraft, No takeoff/landings Thunderstorm/Lightning w/i 10SM: OG approval for takeoff/land (20nm); Cease munitions upload Thunderstorm/Lightning w/i 5SM: Cease refueling	Crosswinds > to 15kts: Cease B-2 lift operations (maintenance) Crosswinds > to 25kts: Limit Touch-Go operations Surface Winds > to 35kts: Parachute operations limit Potential for B-2 Induction Icing: Limit engine run times

Table 7.2. T-38 Talon.

Supported Customer Mission and Aircraft Weather Sensitivities.	
T-38: Unit Supported: 509th Bomb Wing Location: Whiteman AFB, MO Mission: Trainer Aircraft	
PERFORMANCE DATA:	
Cruise Airspeed: 540kts Range: 700nm Endurance: 1.5 hours	Cruise Altitude: 39,000ft Max Cruise Altitude: 43,000ft Service Ceiling: 50,000ft
GROUND WEATHER LIMITATIONS:	
Ceiling/Visibility: Takeoff: 300 / 1 RVR: 200 / 1 with OG approval RCR: 7 Taxi, 9 Takeoff Landing: 300 / 1	Winds: Cross Component: 30kts max takeoff and full stops dry runway 25kts max touch and go dry runway 20kts max takeoff and full stops wet runway 15kts max takeoff/landing formation flights 10kts icy/standing water
IN-FLIGHT WEATHER LIMITATIONS:	
Icing: Aircraft possesses no anti-icing and de-icing equipment. Climb or descent through <i>forecast</i> conditions more severe than light rime or any <i>observed</i> conditions are prohibited. Turbulence: None.	
OTHER AIRCRAFT FEATURES:	
Aircraft does not have weather radar.	
WEATHER ADVISORIES/WEATHER WARNINGS:	
Tornado: Hangar Aircraft Severe Thunderstorm: Hangar Aircraft Thunderstorm/Lightning w/i 10SM: OG approval for takeoff and landing Thunderstorm/Lightning w/i 5SM: Cease refueling	Crosswinds \geq to 15kts: No touch and go Formation flight crosswind limit for takeoff/landing Crosswinds \geq to 25kts: Crosswind limit Surface Winds \geq to 35kts: Parachute operations limit

Table 7.3. A-10 Thunderbolt II.

Supported Customer Mission and Aircraft Weather Sensitivities.	
A-10: Unit Supported: 442d Fighter Wing Location: Whiteman AFB, MO Mission: Close Air Support, Combat Search and Rescue	
PERFORMANCE DATA:	
Cruise Airspeed: 250kts Range: 800 – 1,800 nm Endurance: 3 – 7 hours	Cruise Altitude: 10,000ft Max Cruise Altitude: 34,000ft Service Ceiling: 40,000ft
GROUND WEATHER LIMITATIONS:	
Ceiling/Visibility: Takeoff: 300 / 1 Landing: 300 / 1 Range: 1,500 / 3	Winds: Cross Component: 25kts
IN-FLIGHT WEATHER LIMITATIONS:	
Icing: Aircraft possesses anti-icing windscreen. Light icing may degrade mission. Operating into moderate icing should not exceed 5 minutes; operating into known/forecast severe icing is prohibited. Turbulence: Aircraft may operate into light, maneuver around moderate, and must avoid severe turbulence.	
OTHER AIRCRAFT FEATURES:	
Aircraft does not possess weather radar. Its weather minimums change significantly with different missions. Missions with ordinance require minimum cig/vis of 1,500 / 3.	
WEATHER ADVISORIES/WEATHER WARNINGS:	
Tornado: Hangar Aircraft Severe Thunderstorm: Hangar Aircraft Thunderstorm/Lightning w/i 10nm: OG approval for takeoff and landing Thunderstorm/Lightning w/i 5 nm: Cease refueling, munitions upload, and unsheltered ground operations	Crosswinds \geq to 25kts: Crosswind limit Surface Winds \geq to 35kts: Parachute operations limit

Table 7.4. UH-60 Blackhawk Helicopter.

Supported Customer Mission and Aircraft Weather Sensitivities.	
<p>UH-60 Helicopter: Unit Supported: 1st of the 135th Aviation Battalion, Missouri Army National Guard Location: Whiteman AFB, MO Mission: Utility Helicopter</p>	
PERFORMANCE DATA:	
Cruise Airspeed: 120kts Range: 300nm Endurance: 2.5hours	Cruise Altitude: 2,000-8,000ft Max Cruise Altitude: 12,000ft Service Ceiling: 22,500ft
GROUND WEATHER LIMITATIONS:	
<p>Ceiling/Visibility: Day: Airfield published minimums Night: Airfield published minimums</p>	<p>Winds: Peak Gust Spread: 15kts Prevailing Wind Speed: 45kts</p>
IN-FLIGHT WEATHER LIMITATIONS:	
<p>Icing: Flight into trace, light, and moderate icing is authorized if all anti-ice equipment and blade de-ice equipment is installed and operational. Flight into heavy or severe icing is prohibited. Turbulence: Aircraft may operate into light and moderate turbulence. Flight into known or forecast extreme turbulence or into known severe turbulence is prohibited.</p>	
OTHER AIRCRAFT FEATURES:	
<p>Aircraft does not possess weather radar. Low level wind shear, heavy rain, snow, freezing precipitation or ice (freezing) fog can seriously affect helicopter performance depending on aircraft configuration.</p>	
WEATHER ADVISORIES/WEATHER WARNINGS:	
<p>Tornado: Hangar Aircraft Severe Thunderstorm: Hangar Aircraft – No takeoff/landings Thunderstorm/Lightning w/i 25SM: Mission Go / No Go Thunderstorm/Lightning w/i 10SM: OG approval for takeoff and landing Thunderstorm/Lightning w/i 5SM: Cease refueling Gust Spread \geq to 15kts: Limits engine start up</p>	

KEITH J. BUTLER, Colonel, USAF
 Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, 09 Mar 2020

AFMAN 10-206, *Operational Reporting*, 17 June 2018

AFMAN 11-2B-2V3, *B-2--Operations Procedures*, 29 Oct 2020

AFMAN 13-204V3, *Airfield Operations Procedures and Programs*, 21 July 2020

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

AFMAN 15-111, *Surface Weather Observations*, 11 March 2019 AFMAN 15-129, *Air and Space Weather Operations*, 09 July 2020

AFI 33-322, *Records Management and Information Governance Program*, 27 Jul 2021

DAFMAN 36-2905, *Department of the Air Force Physical Fitness Program*, 20 April 2022

DAFI 48-151, *Thermal Stress Program*, 01 May 2022

DAFMAN 91-203, *Air Force Occupational Safety, Fire and Health Standards*

AFPD 15-1, *Air Force Weather Operations*, 13 Nov 2019

FAA JO 7110.65Y, *Air Traffic Control*, 20 June 2019

FMH-1, *Federal Meteorological Handbook, Surface Weather Observations and Reports*, 24 July 2019

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

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

AF Form 3803, *Surface Weather Observations (METAR/SPECI)*

DD Form 175-1, *Flight Weather Briefing*

Abbreviations and Acronyms

14WS—14th Weather Squadron

26OWS—26th Operational Weather Squadron **303FS**—303rd Fighter Squadron

442FW—442d Fighter Wing

509BW—509th Bomb Wing

509BW/CC—509th Bomb Wing Commander

509BW/CCA—509th Bomb Wing Executive Administration
509BW/CP—509th Bomb Wing Command Post
509BW/SE—509th Bomb Wing Safety Office
509CES—509th Civil Engineer Squadron
509CES/CEX—509th Civil Engineer Squadron Emergency Management
509CONS/LGCA—509th Contracting Squadron
509CS—509th Communications Squadron
509CS/SCOSC—509th Communications Focal Point
509MUNS—509th Munitions Squadron
509OSS—509th Operations Support Squadron
509OSS/CC—509th Operations Support Squadron Commander
509OSS/OSA—509th Operations Support Squadron Airfield
509OSS/OSAA—509th Operations Support Squadron Airfield Management
509OSS/OSAM—509th Operations Support Squadron ATCALs
509OSS/OSAR—509th Operations Support Squadron RAPCON
509OSS/OSAT—509th Operations Support Squadron Control Tower
509OSS/OSK—509th Operations Support Squadron Weapons and Tactics
509OSS/OSW—509th Operations Support Squadron Weather Flight
509OSS/OSX—509th Operations Support Squadron Plans Flight
509SFS—509th Security Forces Squadron
AASF—Army Aviation Support Facility
AIREP—Air Report
AFB—Air Force Base
AFMAN—Air Force Manual
AFPD—Air Force Prescribing Directive
AFRIMS—Air Force Records Information Management System
AFW—Air Force Weather
AFW-WEBS—Air Force Weather Web Service
ALSTG—Altimeter Setting
AMD—Amendment
AOL—Alternate Operating Location
AOR—Area of Responsibility

ATC—Air Traffic Control
BWW—Basic Weather Watch
CDM—Chemical Downwind Message
CIG/VIS—Ceiling and Visibilities
CONUS—Continental United States
COR—Correction
CWW—Cooperative Weather Watch
DSN—Defense Switch Network
EDM—Effective Downwind Message
EOC—Emergency Operations Center
ERT—Engine Run Time
EWO—Emergency War Order
FAA—Federal Aviation Administration
FLIP—Flight Information Publication
FMH-1—Federal Meteorological Handbook
FOD—Foreign Object Damage
GPS—Global Positioning System
IAW—In Accordance With
ICAO—International Civil Aviation Organization
IRC—Instrument Refresher Course
IWWC—Integrated Weather Warning Capability
JET—Joint Environmental Toolkit
LAN—Local Area Network
LLWS—Low-Level Wind Shear
MAJCOM—Major Command
MASO—Munitions Accountable Systems Officer
MEF—Mission Execution Forecast
MEFP—Mission Execution Forecast Process
METAR—Aviation Routine Weather Report
METCON—Meteorological Conference or Discussion
METWATCH—Meteorological Watch
MOA—Military Operations Area

MOU—Memorandum of Understanding
NCOIC—Non-Commissioned Officer in Charge
NLT—No Later Than
NOTAMS—Notice to Airmen
NWS—National Weather Service
OMO—One Minute Observation
OWS—Operational Weather Squadron
PIREP—Pilot Weather Report
PMSV—Pilot-to-Metro Service
POC—Point of Contact
RCR—Runway Condition Reading
RDS—Record Disposition Schedule
SAAM—Special Assignment Airlift Mission
SITREP—Situational Report
SOF—Supervisor of Flying
SPECI—Aviation Selected Special Weather Report
SWAP—Severe Weather Action Procedures
TAF—Terminal Aerodrome Forecast
TAWS—Target Acquisition Weather Software
TDA—Tactical Decision Aid
USACE—US Army Corps of Engineers
VIS—Visibility
WA—Weather Advisory
WF—Weather Flight
WMO—World Meteorological Organization
WWA—Watches, Warnings and/or Advisories
WWO—Wing Weather Officer

Terms

Aircraft Mishap—Term used to denote any event resulting in damage to, or destruction of any aircraft to include lightning strikes, inadvertent departure from the paved runway or taxiway surface, aircraft, or Aerospace Ground Equipment (AGE) fires, and forced landings due to in-flight emergencies.

Amendment (AMD)—Used as a message modifier when transmitting an aerodrome forecast amendment.

Climatology—In contrast to weather, which encompasses the state of the atmosphere over a brief period, climatology represents the statistics of day-to-day weather conditions averaged over a longer period of time. A locations' climatology may be represented by quantities such as average (or mean) and extreme conditions that are often based on 10 or more years of measured or observed conditions. Within the DoD, climatology data and depictions can inform planning, design, basing, and strategy decisions.

Desired Lead-time (DLT)—Customer defined time (in minutes) the supported organization requires a WWA to be issued, to complete protective actions prior to the onset of hazardous weather phenomenon.

Issue Time—The time when an agency is notified of a watch, warning, or advisory. When more than one agency is notified, the issue time is the time the last agency is notified. Follow-up notifications are not considered when determining issue time.

LOCAL Observation—An unscheduled observation taken when specific local criteria are met. All LOCALs shall be made as soon as possible after the relevant criteria are observed.

METAR Observation—Meteorological Aviation Report. A routine scheduled surface weather observation. It contains a report of wind, visibility, runway visual range, present weather, sky condition, temperature, dew point, and altimeter setting. In addition, significant remarks are appended to the METAR observation.

METWATCH—A deliberate process for monitoring the terrestrial weather or 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 and determine courses of action to update or amend a forecast product or group of products and notify designated agencies.

Mission Execution Forecast (MEF)—A customized weather product providing terrestrial and space weather data and forecasts for a specific mission or set of missions. It fully integrates aerospace weather with the customer's tactics, weapon systems, environmental sensitivities of equipment, and other operational requirements.

MISSIONWATCH—A deliberate process of monitoring terrestrial weather or the space environment for specific mission-limiting environmental factors that may adversely impact missions in execution. The MISSIONWATCH process is performed by WFs and is intended to identify previously unidentified environmental threats and alert decision-makers enabling dynamic changes to mission profiles that may mitigate the environmental threat and optimize the chance of mission success.

Operational Weather Squadron (OWS)—An organization comprised of management, technician, and training personnel responsible for providing regional weather support. Their mission is to produce theater-scale tailored weather forecast products and services to customers within their area of responsibility.

Pilot Report (PIREP)—A report of in-flight weather provided by an aircrew member.

Special (SPECI) Observation—An unscheduled observation taken when significant changes in weather elements meet special criteria. All SPECIs shall be made as soon as possible after the relevant criteria are observed.

Terminal Aerodrome Forecast (TAF)—A coded weather bulletin providing the official forecast information for an aerodrome complex to facilitate flight planning and command and control activities.

Weather Flight (WF)—A military weather organization whose primary purpose is the facilitate exploitation of the environment through integration at every step of the operations planning and execution process.

Weather Advisory (WA)—A special weather product to alert an end user of the occurrence of, or imminent occurrence of weather conditions impacting operations.

Weather Warning (WW)—A special weather product to facilitate resource protection decisions. Weather Warnings alert designated agencies to the imminent or actual occurrence of weather conditions of such intensity as to pose a hazard to life or property for which the agency must take immediate protective actions.

Weather Watch—A special weather product to facilitate resource protection decisions. Weather Watches provide advance notice to designated agencies of the existence of a potential for weather conditions of such intensity as to pose a hazard to life or property for which the agency must take immediate protective actions.

Attachment 2**AUTOMATED AND AUGMENTED SPECIAL OBSERVATION CRITERIA**

A2.1. Ceiling. The ceiling is observed to form below, decrease to less than or, if below, increase to equal or exceed:

A2.1.1. 3,000 feet

A2.1.2. 2,000 feet **

A2.1.3. 1,500 feet

A2.1.4. 1,000 feet

A2.1.5. 800 feet

A2.1.6. 700 feet

A2.1.7. 600 feet*

A2.1.8. 500 feet*

A2.1.9. 400 feet*

A2.1.10. 300 feet

A2.1.11. 200 feet*

A2.1.12. Other minima as specified in current FLIP (*FLIP requirement / ** ATC requirement)

A2.2. Sky Condition. A layer of clouds or obscuring phenomena aloft is observed below 600 feet and no layer aloft was reported below 600 feet in the previous METAR or SPECI observation.

A2.3. Prevailing Visibility. Prevailing visibility is observed to decrease to less than or, if below, increase to equal or exceed:

A2.3.1. 3 statute miles.

A2.3.2. 2 statute miles*

A2.3.3. 1 1/2 statute miles*

A2.3.4. 1 1/4 statute miles*

A2.3.5. 1 1/8 statute miles*

A2.3.6. 1 statute mile*

A2.3.7. 3/4 statute mile*

A2.3.8. 5/8 statute mile*

A2.3.9. 1/2 statute mile*

A2.3.10. Other minima as specified in current FLIP (*FLIP requirement)

A2.4. Tornado, Funnel Cloud. Is observed or disappears from sight (Supplement).

A2.5. Thunderstorm begins or ends. (A SPECI is not required to report the beginning of a new thunderstorm if one is currently being reported).

A2.5.1. Begins: For reporting purposes, a thunderstorm is considered to have begun and to be occurring on-station when (1) thunder is first heard, (2) when hail is falling or lightning is observed at or near the airfield and the local noise level is such that resulting thunder cannot be heard, or (3) lightning detection equipment indicates lightning strikes within 5SM of the airfield.

A2.5.2. Ends: A thunderstorm is considered to have ended 15 minutes after the last occurrence of any criteria listed in [paragraph A2.5.1](#) above.

A2.6. Precipitation.

A2.6.1. Hail begins or ends (Supplement).

A2.6.2. Freezing precipitation begins, ends, or changes in intensity. Ice pellets begin, end, or change in intensity.

A2.6.3. Any other type of precipitation begins or ends. Note that, except for freezing rain, freezing drizzle, hail, and ice pellets, a SPECI is not required for changes in type or the beginning or ending of one type while another is in progress.

A2.7. 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 one minute.

A2.8. Wind Shift. The wind direction changes by 45 degrees or more in less than 15 minutes and the wind speeds are 10 knots or more throughout the wind shift.

A2.9. Runway Visual Range (RVR). The highest value during the preceding 10 minutes from the designated RVR runway decreases to less than, or if below, increase to equal or exceed:

Table A2.1. Runway Visual Range. (indicates reference to FLIP requirement).

6,000 feet*	RVR 6,000 feet*
5,500 feet*	RVR 5,500 feet*
5,000 feet	RVR 5,000 feet
4,000 feet*	RVR 4,000 feet*
3,500 feet*	RVR 3,500 feet*
2,400 feet*	RVR 2,400 feet*
2,000 feet	RVR 2,000 feet

A2.9.1. Report RVRNO when RVR information is not available, and conditions exist for reporting RVR.

A2.9.2. Prevailing Visibility first observed \leq 1SM/1600 meters, again when prevailing visibility goes above 1SM/1600 meters.

A2.10. Aircraft Mishap. When operating in back-up mode, take an aircraft mishap SPECI immediately following notification or sighting of an aircraft mishap at or near the observing location unless there has been an intervening observation.

A2.11. Miscellaneous.

A2.11.1. Volcanic Ash. When first observed (Supplement).

A2.11.2. Any other meteorological situation which, in the opinion of the technician, is critical to the safety of aircraft operations.

A2.12. Single Element SPECI. Single element SPECIs are authorized for Tornadic Activity and Volcanic Eruptions when a delay in reporting all elements of the SPECI would cause an immediate threat to life or property.

Attachment 3

MISSION LIMITING WEATHER THRESHOLDS

Figure A3.1. Mission Limiting Weather Thresholds.

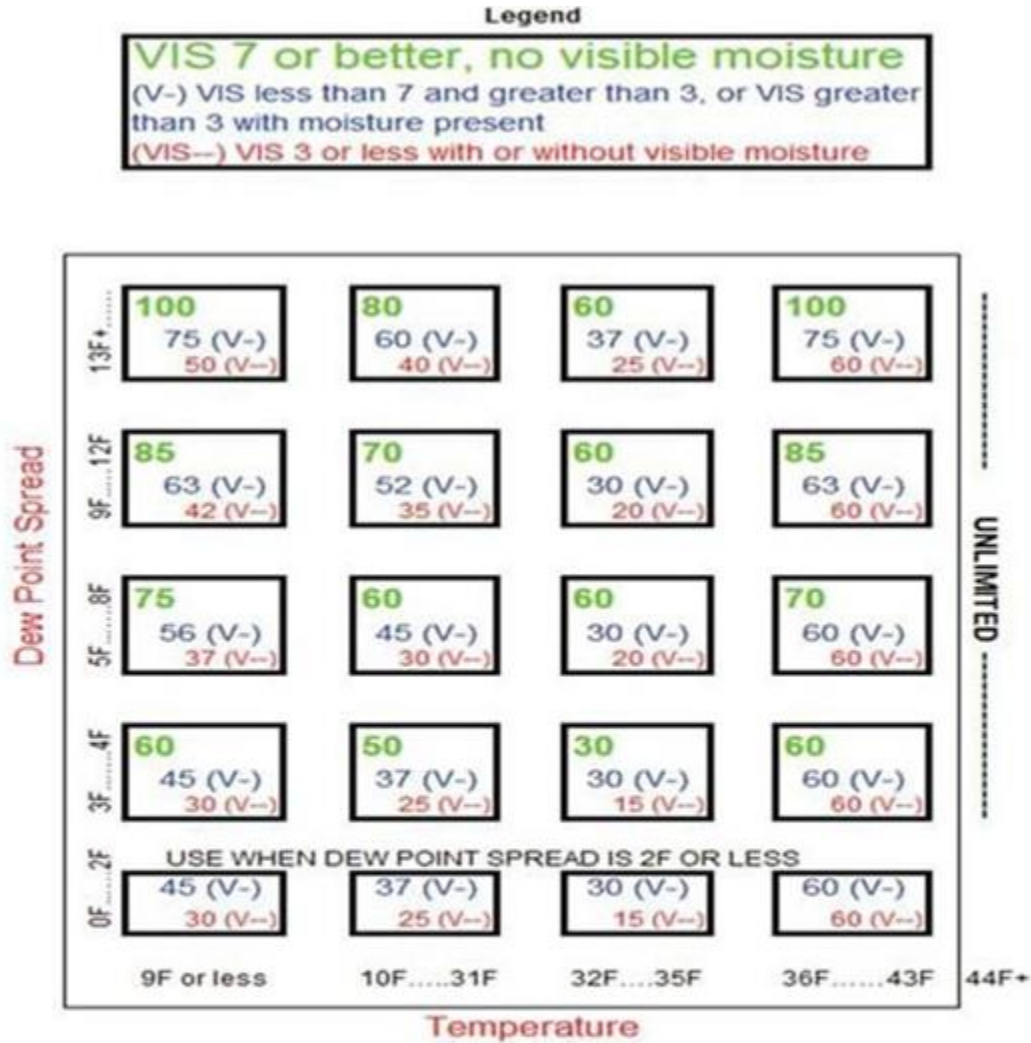
OPERATION	FAVORABLE (No Degradation)	MARGINAL (Some Degradation)	UNFAVORABLE (Significant Degradation)
B-2 OPS	CIG > 3000 FT	CIG 200 - 3000 FT	CIG < 200 FT
	VIS > 4800 METERS	VIS 800 - 4800 METERS	VIS < 800 METERS
		LGT ICING	MDT ICING
		MDT TURB	SVR TURB
(TSTMS VCTY AND/OR DSNT)	NO TSTMS	FEW TSTMS	SCT OR SVR TSTMS
(ENG RUN TIME)	ENG RUN TIME > 60 MIN	ENG RUN TIME >= 30 MIN < 60 MIN	ENG RUN TIME < 30 MIN
	XWIND < 25 KTS	XWIND > 25 < 30 KTS	XWIND >= 30 KTS
(LIGHTNING)		LIGHTNING 20 - 40 NM	LIGHTNING <= 20 NM
T-38 OPS	CIG > 3000 FT	CIG 300 - 3000 FT	CIG < 300 FT
	VIS > 4800 METERS	VIS 1600 - 4800 METERS	VIS < 1600 METERS
			NIGHT VIS < 4800 METERS
		LGT ICING	MDT ICING
			LIGHTNING <= 20 NM
	XWIND < 15 KTS	XWIND > 15 < 25 KTS	XWIND >= 25 KTS
			NIGHT VIS < 3 NM
(TSTMS VCTY AND/OR DSNT)	NO TSTMS	FEW TSTMS	SCT OR SVR TSTMS
A-10 OPS	CIG > 1000 FT	CIG 300 - 1000 FT	CIG < 300 FT
	VIS > 4800 METERS	VIS 1600 - 4800 METERS	VIS < 1600 METERS
			NIGHT VIS < 1600 METERS
		MDT TURB	SVR TURB

		LGT ICING	MDT ICING
			LIGHTNING <= 20 NM
	XWIND < 15 KTS	XWIND > 15 < 25 KTS	XWIND >= 25 KTS
(TSTMS VCTY AND/OR DSNT)	NO TSTMS	FEW TSTMS	SCT OR SVR TSTMS
GROUND OPS	DRY ROADS	WET ROADS	SNOW / ICE ON ROADS
	LGT PRECIP	MDT PRECIP	HVY PRECIP
(TEMP)	VIS > 3200 METERS	VIS 1000 - 3200 METERS	VIS < 1000 METERS
HEAT AND/OR WINDCHILL INDICES	TEMP 20 - 85 F	TEMP 85 - 95 F	TEMP > 95 F
		TEMP -15 - 20 F	TEMP < -15 F
(PERSONNEL)	NO PRECIP	LGT PRECIP	MDT - HVY PRECIP
		TEMP 85 - 95 F	TEMP > 95 F

Attachment 4

ENGINE INDUCTION ICING GROUND RUN TIMES MATRIX

Figure A4.1. Engine Run Times Matrix.



Note 1: If the Ground Run Time (with an original start time) is changed to a MORE restrictive Ground Run Time, operate from that point on (with a new reference time) no longer than the MORE restrictive Ground Run Time, not to exceed the ORIGINAL Ground Run Time (from the original start time).

Note 2: If the Ground Run Time (with an original start time) is changed to a LESS restrictive Ground Run Time, use the FULL Ground Run Time for the LESS restrictive Ground Run Time (from the original start time). A subsequent change back to a MORE restrictive Ground Run Time would revert back to the MORE restrictive Ground Run Time (from the original start time).