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9TH RECONNAISSANCE WING**

**BEALE AIR FORCE BASE
INSTRUCTION 15-178**



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Weather

WEATHER SUPPORT DOCUMENT

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This publication implements the outline for weather services for the 9th Reconnaissance Wing, tenant units, and support organizations on Beale Air Force Base. It applies to individuals at all levels including the United States Air Force (USAF), the Air Force Reserve (AFR), all Department of the Air Force (DAF) civilian employees, and those with a contractual obligation to abide by the terms of DAF issuances, except where noted otherwise. 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 (AFRIMS). Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Product*; 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”) number following the compliance statement. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternatively, to the publication OPR for non-tiered compliance items. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Department of the Air Force.

SUMMARY OF CHANGES

This document has been revised and should be completely reviewed. Changes include: restructure of the entire document, removing all support for the 12th Reconnaissance Squadron (12 RS), adding air quality index information provided by Bioenvironmental, changes to the definition and procedures for METWATCH and MISSIONWATCH, providing timeline and preferred points of contact to coordinate weather support, minor changes to phone and room numbers, added information on the Advanced Micro Weather Sensor, and deleted all communication and support from 25th Operational Weather Squadron (25 OWS).

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Chapter 1

GENERAL INFORMATION

1.1. General. This document details required weather support for the 9th Reconnaissance Wing (9 RW), tenant units, and transient aircrews at Beale Air Force Base (AFB). It specifies the ability of the Weather Flight (WF) to meet those requirements and annotates reciprocal support requirements, eliminating the need for separate letters of agreement. Assumptions: Manning, equipment, and communications will be available to carry out the provisions of this document.

1.2. Conditions for Implementation.

1.2.1. Execute this document during day-to-day operations, including peacetime, exercises, contingencies, and conflicts.

1.2.2. Beale AFB WF (9 OSS/OSW) produces official tailored weather forecasts, observations, watches, warnings, and advisories for the needs of the military community on Beale AFB. This instruction does not require Beale AFB WF personnel to take action based on National Weather Service (NWS) issued forecasts, watches, warnings, or advisories. However, NWS products are utilized as a tool to aid Beale WF forecasters and increase situational awareness.

1.3. Concept of Operations: The WF at Beale AFB is the official source for weather information supporting airfield conditions and local flying missions. The WF provides and/or arranges strategic, operational, and tactical-level weather information for Beale AFB units. The WF works out of Building 1060 with operating hours that flex to meet the needs of the 9 RW. The WF furnishes Beale AFB with 24-hour weather observations, tailored forecasts for mission execution, staff weather services, and climate data. WF personnel issue observed and forecasted weather advisories, warnings, and watches. As necessary, the WF activates Severe Weather Action Plan (SWAP) procedures to perform resource protection duties when severe weather threatens the base.

1.4. Administration and Logistics. To obtain weather support, agencies must coordinate and validate their requirements with the WF Commander and/or Flight Chief. Valid requirements exist out of mission necessity and are linked to instructions, manuals, mission orders, or similar directives. This document will not include unsubstantiated requests.

Chapter 2

GENERAL WEATHER SERVICES

2.1. General: The following section describes the weather services provided to the military community on Beale AFB; specifically, it outlines the responsibilities of key weather personnel as well as the Beale AFB WF's limiting factors, hours of operation, meteorological equipment, and communications equipment.

2.2. Key Personnel Responsibilities.

2.2.1. The WF Commander will:

2.2.1.1. Provide and arrange for weather support required by units at Beale AFB and outline them in this document.

2.2.1.2. Review all WF activities, products, procedures, directives, and scientific documents to ensure compliance with this document, Air Force directives, customer requirements, and sound meteorological practice.

2.2.2. The WF Flight Chief will:

2.2.2.1. Assist the WF Commander in the execution of weather requirements described in this document by writing, maintaining, and implementing standard operating procedures (SOPs) and other documents IAW Air Force directives.

2.2.2.2. Supervise creation of the WF duty schedule and delivery of the weekend airfield standby forecaster schedule to the base command post (BCP) monthly.

2.2.2.3. Manage quality assurance (QA) programs to ensure efficient and accurate daily weather service.

2.2.3. The airfield support function (ASF) forecaster will:

2.2.3.1. Serve as the primary point of contact (POC) for the terminal aerodrome forecast (TAF) and weather observations.

2.2.3.2. Responsible for issuing all watches, warnings, and advisories (WWAs).

2.2.3.3. Perform meteorological watch (METWATCH) for Beale AFB.

2.2.3.4. Monitor current weather situations and will provide updates to all required agencies if changes occur that would impact operations, amending products as needed to reflect changes to weather conditions.

2.2.3.5. Perform mission support function (MSF) responsibilities when there is no mission support forecaster scheduled.

2.2.4. The mission support function (MSF) forecaster will:

2.2.4.1. Acts as the primary POC for providing direct customer support and for completing all mission execution products to include the mission execution forecast (MEF), High-Flight Supplement, High-Flight Planning product, and any mission-specific brief for local U-2 and T-38 operations and 940th air refueling missions.

2.2.4.2. Maintain full understanding of mission limiting parameters for all supported aircraft.

2.2.4.3. Perform MISSIONWATCH for local and off-station missions.

2.3. Contact Information and Product Dissemination.

2.3.1. ASF Primary Location: Building 1060, Room 22

2.3.1.1. Comm: (530) 634-9134/9129/9465, DSN: (312) 368-9134/9129/9465

2.3.2. MSF Primary Location: Building 1025, Room 307

2.3.2.1. Comm: (530) 634-8762, DSN: (312) 368-8762

2.3.3. WF organizational e-mail account: 9oss.osw@us.af.mil

2.3.4. SharePoint®: <https://usaf.dps.mil/sites/9OG/9OSS/OSW>

2.3.5. The WF disseminates products via a secure messaging platform; please contact the WF for details. Some products, climatological data, weather tools, and documentation can be found on the SharePoint® page. E-mailing the organizational account is the best way to submit new weather requirements. For the fastest response time, please call to alert the WF of your request.

2.4. Hours of Operation.

2.4.1. The forecast desk is manned from 0600L Monday to 2200L Friday and/or by NOTAM and is closed weekends and holidays. The WF will support any approved airfield closure requests supporting the airfield open and close times provided by Airfield Management Operations (AMOPS). WF personnel will report to the airfield within one hour of notification for airfield opening during weekends and/or holidays. In addition, the weather station will open, or remain open, should any of the following criteria be observed or forecasted to occur: Tornado, severe thunderstorm, winds greater than or equal to 35kts, freezing precipitation, heavy rain (2" in 12 hrs), or heavy snow (2" in 12 hrs).

2.4.2. Saturday and Sunday airfield hours vary according to the flying schedule. WF standby personnel will be on call during closures to support 9 RW mission requirements and resource protection. When the airfield is closed, the WF will continue to provide (or arrange for) weather support for 9 RW and tenant unit missions outside of the local area by request.

2.4.3. Severe Weather Action Plan (SWAP) Team: The duty or standby forecaster will call flight leadership (or the highest-ranking weather personnel during the WF Commander's or Flight Chief's absence) to determine if the SWAP needs to be initiated when a watch or warning for any of the weather phenomena in **Table 2.1** is issued. Once satisfied all required products are issued and the duty forecaster can handle the situation, the team chief will make the decision when the SWAP can be terminated.

Table 2.1. Weather Phenomenon for SWAP recall.

Weather Phenomenon	Special Weather Notice
Tornado	Watch or Warning
Severe Thunderstorm	Watch or Warning
Wind \geq 50 kts	Watch or Warning

Freezing Precipitation	Watch or Warning
Heavy Rain (2" in 12 hrs)	Watch or Warning

2.5. Meteorological Equipment: WF personnel use a variety of meteorological equipment to observe and forecast weather conditions at Beale AFB and the surrounding area.

2.5.1. Weather Surveillance Radar-1988 Doppler (WSR-88D): This equipment provides data critical to the timely detection of tornadic circulations, hail, and downburst/microburst activity within thunderstorms. It also provides data crucial to forecasting high winds and non-severe weather parameters. It can be viewed by weather personnel via multiple means for interrogation and identification of weather phenomena. 9 OSS Radar, Airfield, and Weather Systems (RAWS) personnel maintain the Radar Data Acquisition (RDA). The NWS Forecast Office in Sacramento, CA controls the radar's operating modes.

2.5.2. Automated Meteorological Observing Station AN/FMQ-19 (FMQ-19): This instrument is the primary weather-measuring equipment. The automated system contains instrumentation for recording temperature, relative humidity, dew point, wind direction, speed, gusts, and variability, and cloud heights and depth up to and including 25,000 feet. It also measures the visibility, runway visual range, precipitation, pressure, and cloud-to-ground and cloud-to-cloud lightning distances.

2.5.3. Kestrel 4500/5500 Pocket Weather Tracker: A handheld manual observing instrument used as primary backup to the FMQ-19. The Kestrel is able to measure temperature, dew point, relative humidity, pressure, and wind velocity. The 5500 series can also determine direction with its built-in compass.

2.5.4. Tactical Meteorological Observing System (TMQ-53): This set of equipment comprises the deployable equivalent of the FMQ-19. The TMQ-53 will be utilized as a backup sensor for extended outages greater than 24 hours (if not utilized on deployment).

2.5.5. Mesotech Wind Sensor: Utilized by the 9 OSS weather flight and Supervisor of Flying (SOF) as the last system during backup to the primary airfield wind measurement systems (FMQ-19s). This sensor is connected directly to the air traffic control (ATC) tower and WF and will continue to provide data in the event of a non-secure internet protocol router (NIPR) communications outage.

2.5.6. Advanced Micro Weather Sensor (AMWS): This is a deployable system that can also be utilized to assist the FMQ-19 and/or TMQ-53 in detecting weather parameters. It can monitor and record location, elevation, cloud base, temperature, humidity, pressure, prevailing wind speed and direction, max wind speed and direction, precipitation amount, and lightning frequency and distance.

2.6. Communications Equipment: The WF will use the following communications equipment:

2.6.1. Bridging Environmental Intelligence for Responsive Operational Support (BIFROST): WF personnel will utilize the AF Weather BIFROST as the primary interface for creating and disseminating TAFs, issuing WWAs, and maintaining meteorological watch for Beale AFB. To manage observations, Joint Environmental Toolkit (JET) Sensor Collection Appliance (SCA) may be used. Our weather platform will ingest and display weather sensor data from the FMQ-19. This real-time weather data is used to populate observations and maintain weather situational awareness.

2.6.2. Pilot-to-Metro Service (PMSV) Radio: This radio uses a frequency of 239.8 MHz, which enables WF personnel to relay weather information directly with the pilots. The PMSV operating range is approximately 200 Nautical Miles (NM) at or above FL200.

2.6.3. Multiple-Line Telephones: When automated communications fail, telephones become the primary method of information dissemination. The 9 OSS/OSW will call the SOF, BCP, Tower, and AMOPS with dedicated single and multi-line telephone hotlines.

2.6.4. Classified Communications: The WF has the means to communicate up to a TOP SECRET level. The Secure Internet Protocol Router NETWORK (SIPRNET) is primarily used for mission support of the U-2. The vIPer phone can be used for discussion of classified information up to the SECRET level.

2.7. Communication Outages. WF Communication Outage: When a communication outage occurs, the Airfield Support Function (ASF) and Mission Support Function (MSF) forecasters will relocate to their respective alternate operating locations (AOLs) and continue weather support.

2.8. Alternate Operating Locations (AOLs): In the event of an emergency evacuation of the WF's primary location, weather station operations, to include observing, will stand up at either the weather briefer desk in Bldg 1025 (DSN 368-8762, COMM: 530-634-8762) or on the 5th floor of the ATC tower (DSN 368-3879 COMM: 530-634-3879). If evacuation needs to occur for the MSF forecaster located in Bldg. 1025, they will use Bldg. 1060, Room 20 as the primary and the 5th floor of the ATC tower as the secondary AOL.

Chapter 3

AIRFIELD AND AVIATION SERVICES

3.1. General: The Airfield Support Function (ASF) is the position that will always be manned and is responsible for items detailed in section 2.2.3. The Mission Support Function (MSF) is manned as applicable and is responsible for items detailed in section 2.2.4.

3.2. Observing Location: Beale's official observation site for automated observations is located on the airfield via the FMQ-19. Beale's official observation site for augmented observations is located outside Base Operations (Bldg. 1060) at the DV1 ramp.

3.3. Observing Times: The AN/FMQ-19 will operate 24/7 in Auto mode. The WF will augment the FMQ-19 IAW AFMAN 15-111, *Surface Weather Observations*.

3.4. Augmenting Observations : Weather technicians will maintain situational awareness of the current conditions as well as the FMQ-19-sensed data and observations and be prepared to augment (correct erroneous sensor data) and/or supplement observations as needed. Supplementing Observations: Supplemental observations will be made when weather conditions exist that the FMQ-19 is unable to report, and/or when phenomena requested by WF customers (listed in [Table 3.1](#)) are observed or forecasted to occur within one hour.

Table 3.1. Conditions Requiring a Basic Weather Watch.

Tornado (+FC)
Funnel Cloud (FC)
Hail (GR)
Volcanic Ash (VA)
Sandstorms or Duststorms
Ice Pellets (IP)
Visibility <1/4 mile (400 meters)
Snow Depth, during airfield hours and if heavy snowfall warning has been issued
Tower Visibility decreases to less than 4 SM, and differs from the surface visibility by a reportable value
Ceiling forms, increases from, or decreases to less than 3,000 feet
Visibility increases to equal or exceed, or decreases to less than 3 statute miles (4800 meters)
Precipitation
Thunderstorms (TS)
Fog or Mist

3.5. Cooperative Weather Watch (CWW): Cooperative Weather Watch is a method of assisting the weather forecasters by providing extra information that can enhance the forecasters' situational awareness. This requires air traffic controllers, SOF, and other non-weather personnel to help monitor weather conditions for criteria annotated in [Table 3.1](#). **Tower personnel will immediately notify the on-duty weather forecaster of a runway change.**

3.6. Meteorological Watch (METWATCH): The WF conducts METWATCH by monitoring weather observations, satellite, radar, pilot reports (PIREPs), significant meteorological information (SIGMETs), air reports (AIREPs), and hazard charts and current radiation dosage charts for the development of weather conditions that may adversely impact military operations, thus driving a need for an update or amendment to products.

3.7. Resource Protection: The WF issues Beale AFB weather watches, warnings and advisories listed in **Attachment 5** IAW DAFI 15-129, *Air and Space Weather Operations*.

3.7.1. Weather Advisory: Alerts Beale AFB units to the existence of mission-limiting or hazardous weather observed or forecasted.

3.7.2. Weather Watches: Alerts Beale AFB units to the potential for weather conditions that may threaten life or property. When forecasters issue a watch, base personnel should prepare to take protective actions in case the anticipated weather condition impacts the base.

3.7.3. Weather Warnings: Alerts Beale AFB units of imminent or occurring hazardous weather conditions threatening life or property. When weather personnel issue a warning, the focus shifts from preparation to immediate action.

3.7.4. OPREP-3 Reporting: The WF will review severe weather impacts to higher headquarters when requested by 9 RW Command Post IAW AFMAN 10-206, *Operational Reporting*.

3.8. Dissemination Procedures.

3.8.1. Observations and TAFs will be transmitted globally via BIFROST. Observations may be disseminated via JET SCA. If the capability to transmit fails for observations, they will be first verbally transmitted to ATC and the SOF, and then documented on an AF Form 3813/3803.

3.8.2. Watches, warnings, and advisories will be disseminated via BIFROST. This will transmit an automated message via telephone to the BCP, AMOPS, and all customers requesting notifications. The WF calls the SOF and ATC manually.

3.9. Aviation Support.

3.9.1. TAF: The WF issues the Beale AFB TAF at 0300L (1100Z), 1100L (1900Z), and 1900L (0300Z) Pacific Standard Time (PST) (add one hour to each local time during Daylight Savings Time). Each TAF is issued IAW DAFI 15-129 and AFMAN 15-124, *Meteorological Codes*.

3.9.2. MEF: The MEF provides a low-level flying window forecast within the local flying area (**Attachment 3**). The MEF is issued no later than the first show-time of the day.

3.9.3. MEF High Flight Supplement: The High Flight Supplement provides high-altitude U-2 pilots a flying window forecast of weather conditions relevant to high flight operations within the area encompassing California, Oregon, Nevada, New Mexico, and Arizona. It will be updated every four hours. Due to the semi-static nature of stratospheric weather, the High Flight Supplement will not be updated outside of its standard times.

3.10. Space Weather Support and Services: The Beale AFB WF is the 9 RW 24-hour focal point for solar event information. Should a geomagnetic or solar event occur, the WF will issue the appropriate observed weather warnings. This is IAW AFMAN 11-2U-2 V3, *U-2 Operations Procedures*, Section 6.6.

3.11. Wet Bulb Globe Temperature (WBGT): The Bioenvironmental Engineering Flight measures WBGT for Beale AFB and provides support IAW DAFI 48-151, *Thermal Stress Program*.

3.12. Air Quality Index (AQI): The Bioenvironmental Engineering Flight monitors and issues warnings for AQI values for Beale AFB via the Command Post when experiencing decreased air quality conditions. Warnings are based on a 10-minute average of AQI readings and are accomplished IAW 9 RW AQI Concept of Operations (CONOPS), August 2021.

3.13. Airfield Operations (9 OSS/OSAA) Support: The WF will provide current winds, ceilings, visibility, and expected precipitation for the day for the determination of field operational status as requested. The WF will also provide information such as WF operating hours and meteorological equipment limitations to the Airfield Operations Flight Commander for inclusion in the DoD Flight Information Publications (FLIP) updates. The WF will review each new edition of the FLIP and incorporate all updated information to include RADAR Instrument Approach Minimums, local NOTAMs, and applicable directives for changes in the airfield minima into the applicable procedures. The WF will notify the 9 OSS/OSAA of PMSV outages greater than one hour for inclusion in a local NOTAM. Local Weather Orientation: Provides a local weather orientation to the SOF, ATC, and any other base personnel that need a better understanding of weather to accomplish their mission.

3.14. Briefing Support: IAW AFH 11-203 V2, *Weather for Aircrews – Product and Services*, Table 1.1, the MSF is the prioritized source (unless otherwise designated by MAJCOM) for all written and verbal weather briefs for 9 RW and 940 ARW using the following forms in [Table 3.2](#). The MSF also provides briefings for transient aircrews upon request. Any deviations to this support will be annotated in Section 7 of this document.

Table 3.2. Beale WF Briefing Forms.

U-2 High Flight/ERT	MEF High Flight Supplement/Local U-2 High Flight Briefing Form
U-2 Low Flight and T-38/KC-135 Local	MEF
T-38/KC-135 Out and Back and Off-station	DD Form 175-1: Flight Weather Briefing
Transient Aircraft/Other	DD Form 175-1 or Verbal Briefing Log

3.14.1. Integrated Briefing Support: When manning allows, the Beale WF will integrate weather forecasters within the 99th Reconnaissance Squadron (99 RS)/1st Reconnaissance Squadron (1 RS) to provide support to local and worldwide flying operations. The WF Commander will use the projected duty schedule and UMD to determine forecaster availability.

3.14.2. Flight Weather Briefing Time Requirements: The WF requires all briefing requests (High Flight/ERT, Form 175-1, etc.) to be submitted one day prior to the mission. If requests are made on the same day, the MSF will adhere to the duty priorities ([Attachment 2](#)) and complete briefings as time and priorities allow.

3.14.3. U-2 High Flights: Weather support for U-2 High Flights will be provided via the High Flight Supplement for local flights and the U-2 High Flight Briefing form for flights leaving the local area defined in [Attachment 3](#) of this document.

3.14.4. Off-station and out-and-back sorties: Weather support for sorties traveling outside the coverage area of the MEF will be provided via a 175-1. If a sortie contains multiple legs, the Beale WF will provide initial weather for all legs; however, weather updates for all legs following the first will be obtained through the local WF or servicing OWS. If neither the

local WF nor servicing OWS can provide support, the Beale WF will act as the tertiary method of obtaining weather support.

3.14.5. En-route Recovery Team (ERT/Busy Relay) Support: Planning weather for ERTs is provided upon request. The 99 RS Mission Planning Cell (MPC) can also provide ERT planning forecasts; however, operational forecasts must be obtained via the Beale AFB WF for ERT legs originating from or arriving at Beale.

3.15. MISSIONWATCH: For the greatest mission benefit, the MSF will conduct MISSIONWATCH from the beginning to the end of every customer's mission. This will target the supported customer's defined mission-limiting meteorological parameters, windows of opportunity to promote mission success and communications capability to deliver information to the customer. Tools utilized for METWATCH will also be used to complete MISSIONWATCH. Notification: When the MSF suspects weather may impact missions or training areas, the information is immediately relayed to the SOF to pass on to the appropriate aircrews. The MSF will provide the SOF with information that is as specific as possible, such as impact to individual MOA sectors or flying routes. The MSF will also provide weather information updates for alternate recovery and/or divert bases to the SOF.

3.16. Weather Liaison Program: To continuously improve 9 RW weather support, WF leadership will communicate regularly with POCs from each flying squadron to obtain feedback and suggestions that will further enhance/tailor weather support. This also includes providing training as required. Instrument Refresher Course (IRC) Weather Brief: 30-minute weather brief provided monthly to all pilots on active flying status during the IRC. This brief describes Northern California aviation-weather hazards and how to avoid those hazards. It also reviews local climatology and informs pilots on weather services available to them.

3.17. National Airborne Operations Center (NOAC): Upon arrival at Beale, the WF will be open whenever NOAC is activated. The NOAC aircrew will be provided flight planning information and flight weather briefings (DD Form 175-1) upon request. The ASF will monitor the additional observed and terminal weather advisories listed in [Attachment 5](#).

3.18. 940th Air Refueling Wing (940 ARW): IAW DAFI 15-129 and the Host Tenant Support Agreement, the WF will provide standard airfield weather support and will also provide or arrange mission weather support for 940 ARW routine flying not managed by another agency (e.g., Integrated Flight Management missions). A 175-1 or alternative method may be required for missions outside of the MEF area.

Chapter 4

STAFF INTEGRATION FUNCTION

4.1. General: The Staff Integration Function (SIF) consists of the WF leadership and any designated flight members supporting 9 RW Staff Functions. If assigned, the Wing Weather Officer is responsible for this function and is expected to integrate their environmental expertise into planning and decision making for exercises, deployments, crises, large events, weekly updates, or any other responsibilities that are focused wing staff functions. If there is no Wing Weather Officer assigned, the Flight Commander and Flight Chief will designate duties as necessary.

4.2. Stand-Up Brief: The WF will provide the 9 RW Commander and staff with the current weather picture and planning forecast as requested or required.

4.3. Crisis Action Team (CAT) Support: The WF provides a supporting role to the CAT as required. As alerted by Beale Command Post or the 9 RW CAT Director via official channels, a representative from the weather flight will immediately report to the CAT with the current observation and forecast information. The initial weather brief will be conducted without visual aids (unless initial brief is preplanned for exercise purposes); however, if there are follow-up CAT meetings, slides will be provided as needed.

4.4. Exercise Planning and Exercise Weather Input: The WF provides atmospheric and space environment expertise to exercise planners to help develop realistic weather scenarios as requested or required.

4.5. Climate Data: The WF provides planning forecasts for air shows, changes of command, or other special events upon request.

4.6. Special Occasion Forecasts and Briefs: Once NAOC arrives at Beale AFB, the WF will be open whenever NAOC is activated. The MSF will provide the NAOC aircrew flight planning information and flight weather briefings (DD Form 175-1) upon request. The ASF will monitor for the additional observed and terminal weather advisories listed in [Attachment 5](#).

4.7. Emergency Management: The WF will support Emergency Management and Response in line with DAFI 15-129, Section 3.7. When an Emergency Operations Center (EOC) recall occurs, an appointed weather EOC member will report to the primary/alternate EOC location immediately. The following products will be used in the EOC process:

4.7.1. Chemical Downwind Message (CDM): This coded message contains meteorological information for predicting chemical vapor hazard areas.

4.7.2. Effective Downwind Fallout Message (EDM): This coded message contains meteorological information for predicting nuclear fallout hazard areas.

4.7.3. TAF and MEF: The products will be provided by the weather flight upon arrival at the EOC to identify the authoritative weather forecast for the installation.

4.7.4. Tropical Storm Support: The weather flight will produce a brief for any tropical storms as requested and will not deviate from official forecasts provided by tropical cyclone forecast centers.

Chapter 5

KEY RELATIONSHIPS

5.1. General: Supported agencies will establish and coordinate all weather support requirements with the WF. Any changes to weather support requirements should be requested with sufficient notice (normally 10 duty days). The following describes the 9 RW's responsibilities regarding weather requirements.

5.2. The 99 RS, 1 RS, 940 ARW Responsibilities:

5.2.1. Notify the WF of requirements for additional products and/or specialized forecasts 1-2 weeks prior. Requests can be sent to the WF organizational e-mail and should be followed up with a phone call to DSN: 368-9134.

5.2.2. Notify the WF of changes in operational status, mission requirements, and/or weapons systems that may affect weather support requirements.

5.2.3. Provide the WF any required weather brief requests at least the day prior to the mission and alert the WF to any potential upcoming ERT/Busy Relays. Weather briefs can be requested by calling the ASF or MSF sections via DSN: 368-9134 or 368-8762. Requests may also be made via the WF organizational e-mail.

5.2.4. The 99 RS Mission Planning Responsibilities:

5.2.4.1. The 99 RS Mission Planning Cell (MPC) is responsible for downrange U-2 pre-mission and mission planning weather, as well as weather support for any missions not originating from or landing at Beale. If needed, MSF can assist/support during times of minimum manning. MPC can contact WF Flight Chief or Commander via DSN: 368-9129 and 368-9465 respectively.

5.2.4.2. Communicate with WF as needed to ensure all 99 RS/1 RS weather support requirements are met and that any overlapping forecasts are horizontally consistent.

5.2.5. The 940 RW will provide annual feedback/confirmation to KC-135 Mission Limiting Parameters and confirmation of WWAs issued by the WF.

5.3. The 9th Operations Group Standardization and Evaluation (9 OG/OGV) Responsibilities:

5.3.1. Ensure SOFs and aircrew receive proper training on the interpretation of weather observations, MEFs, and TAFs through their annually required attendance at the IRC IAW AFMAN 11-210, *Instrument Refresher Program (IRP)*, Section 4.3.

5.3.2. Provide annual feedback/confirmation to U-2 and T-38 Mission Limiting Parameters and confirmation of WWAs issued by the WF. A copy of these requirements will be available on the 9 OSS/OSW SharePoint®.

5.4. The 9 OSS/OSA Flight Commander Responsibilities:

5.4.1. When advised of changes to the WF hours or PMSV information, ensure the DoD FLIPs and Handbook are updated IAW AFMAN 15-111, Section 2.2.6.

5.4.2. Notify the WF Commander of quarterly Airfield Operations Boards.

5.4.3. Ensure WF personnel receive prompt notification of all aircraft mishaps and in-flight emergencies.

5.4.4. Ensure WF is notified of the current active runway.

5.4.5. Notify WF when the airfield hours are shortened or extended.

5.4.6. Ensure tower personnel coordinate for weather orientation training before arrival to confirm WF can accommodate at that time or to schedule a future time.

5.4.7. When needed, help the WF reach designated aircrew.

5.4.8. Provide maintenance for weather equipment.

5.5. The 9 RW Scheduling Responsibilities: Provide the WF access to all daily and long-range flying schedules.

5.6. The 9 RW Safety (9 RW/SE) Responsibilities:

5.6.1. Include WF Commander or designated member of WF leadership as a member of an aircraft safety investigation board (SIB) as required.

5.6.2. Provide aircraft SIB training (if required) to the designated WF representative upon selection to a SIB.

5.6.3. Promptly notify the WF Commander whenever damage occurs to aircraft, either in flight or on the ground if weather may have been a contributing factor.

5.6.4. Notify the WF of flying safety meetings as applicable.

5.7. Beale Command Post Responsibilities:

5.7.1. Coordinate training through the WF for command post personnel to read, interpret, and disseminate weather observations, forecasts, watches, warnings, and advisories (as required).

5.7.2. Disseminate all official weather watches, warning, and applicable advisories issued for Beale AFB as soon as possible.

5.7.3. Recall the AF standby forecaster when requested by 9 RW leadership or when a change to airfield hours occurs outside the ASF operating hours.

5.7.4. Notify the WF Commander or Flight Chief if the CAT is activated during WF downtime.

5.7.5. Notify the WF personnel of any incidents requiring OPREP-3 reporting or local reporting requirements IAW AFMAN 10-206 ACC Supplement.

KEAGAN L. McLEESE, Colonel, USAF
Commander, 9th Reconnaissance Wing

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

AFMAN 10-206, *Operational Reporting*, 18 June 2018
AFMAN 11-210, *Instrument Refresher Program (IRP)*, 20 December 2021
AFMAN 15-111, *Surface Weather Observations*, 12 March 2019
AFMAN 15-124, *Meteorological Codes*, 16 January 2019
AFMAN 11-202V3, *Flight Operations*, 10 January 2022
AFMAN 10-206_ACCSUP, *Operational Reporting (OPREP)*, 6 March 2019
AFMAN 11-2U-2V3, *U-2 Procedures*, 17 October 2018
DAFI 15-129, *Air and Space Weather Operations*, 19 November 2025
DAFI 48-151, *Thermal Injury Prevention Program*, 2 May 2022
DAFI 10-2501, *Emergency Management Program*, 16 October 2023
DAFI90-160, *Publications and Forms Management*, 14 April 2022
AFI 33-322, *Records Management and Information Governance Program*, 23 Machr 2020

Adopted Forms

DAF Form 847, *Recommendation for Change of Product*
DD Form 175-1: *Flight Weather Briefing*

Abbreviations and Acronyms

25 OWS—25th Operational Weather Squadron
ACC—Air Combat Command
AFB—Air Force Base
AGL—Above Ground Level
AIREP—Air Report
AMOPS—Airfield Management Operations
AOL—Alternate Operating Location
ASF—Airfield Support Function
ATC—Air Traffic Control
BCP—Beale Command Post
BIFROST—Bridging Environmental Intelligence for Responsive Operational Support
CAT—Crisis Action Team

CDM—Chemical Downwind Message
CWW—Cooperative Weather Watch
EDM—Effective Downwind Message
EOC—Emergency Operations Center
ERT—En-route Recovery Team
EWO—Emergency War Order
FLIP—Flight Information Publication
inHG—Inches of Mercury
IAW—In Accordance With
IRC—Instrument Refresher Course
JET—Joint Environmental Toolkit
kts—Knots
METWATCH—Meteorological Watch
MHz—Megahertz
MOA—Military Operating Area
MPC—Mission Planning Cell
MEF—Mission Execution Forecast
MEFP—Mission Execution Forecast Process
MSF—Mission Support Function
NAOC—National Airborne Operations Center
NIPR—Non-secure Internet Protocol Router
NM—Nautical Mile
NOTAM—Notice to Airmen
NWS—National Weather Service
OPR—Office of Primary Responsibility
OSS—Operations Support Squadron
OWS—Operational Weather Squadron
PIREP—Pilot Report
PMSV—Pilot-to-Metro Service
RAWS—Radar, Airfield, and Weather Systems
RDA—Radar Data Acquisition
RS—Reconnaissance Squadron

RW—Reconnaissance Wing
SCA—Sensor Collection Appliance
SIB—Safety Investigation Board
SIF—Staff Integration Function
SIGMET—Significant Meteorological Information
SIPRNET—Secure Internet Protocol Router Network
SM—Statute Mile
SOF—Supervisor of Flying
SPECI—Aviation Selected Special Weather Report
SWAP—Severe Weather Action Plan
TAF—Terminal Aerodrome Forecast
vIPer—Universal Secure Phone
WBGT—Wet Bulb Global Temperature
WF—Weather Flight
WSD—Weather Support Document
WSR-88D—Weather Surveillance Radar 1988-Doppler
WWA—Watch, Warning, or Advisory
Z—Zulu—Time

Attachment 2

DUTY PRIORITIES

A2.1. General: The duty priorities of the WF reflect their complementary roles in collecting, analyzing, predicting, tailoring, and disseminating weather information to Beale AFB units. [Table A2.1](#) lists the duty priorities of the WF.

Table A2.1. WF Duty Priorities.

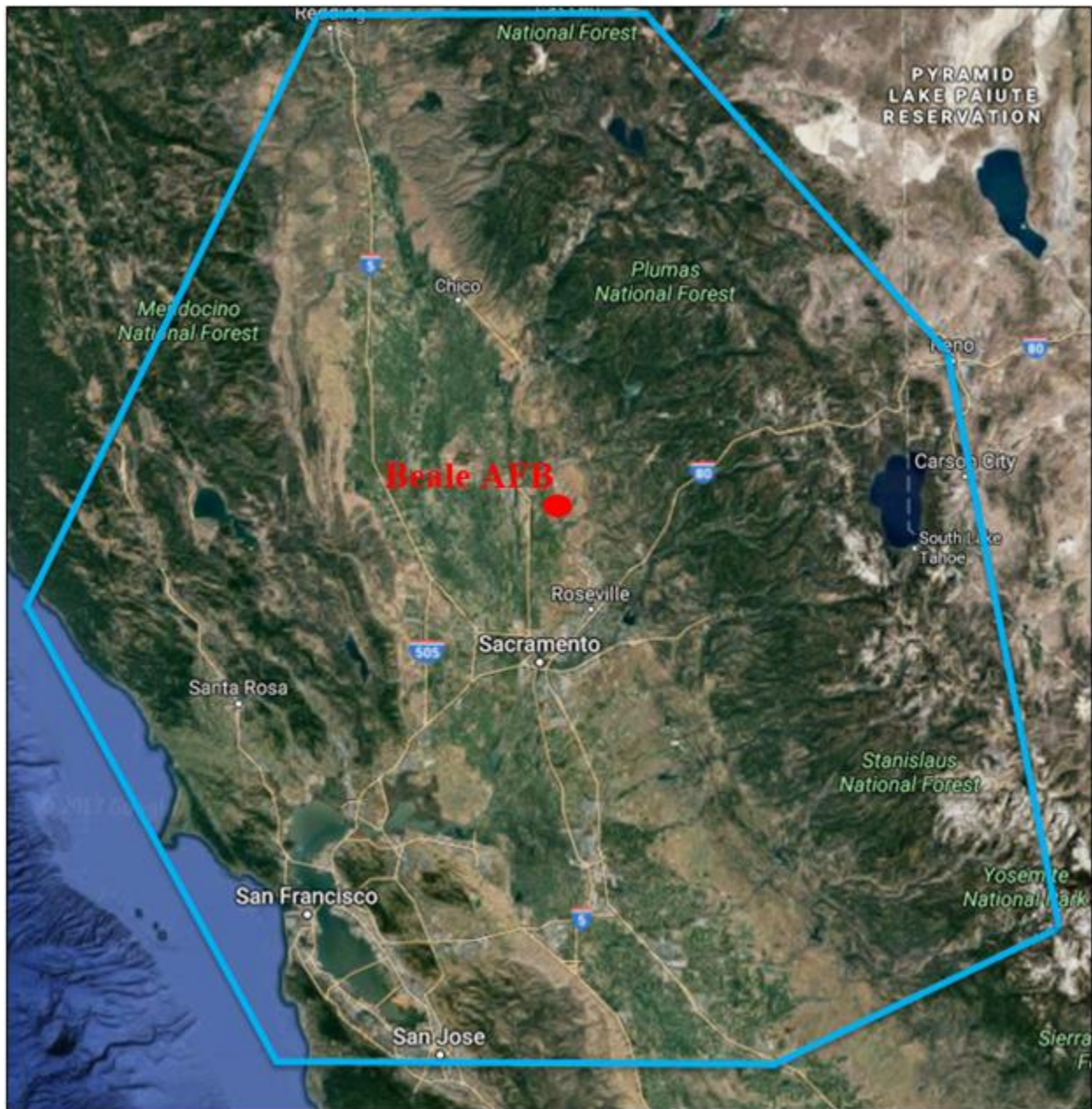
<i>Order Of Priority</i>	<i>Duties</i>
1	Perform WF Emergency War Order (EWO) taskings
2	Execute WF evacuation
3	Respond to aircraft/ground emergencies
4	Respond to Pilot to Metro Service (PMSV) contacts
5	Issue and disseminate watches, warnings, and advisories (as required)
6	Provide weather information for Supervisor of Flying (SOF)
7	Perform Severe Weather Action Plan (SWAP) operations
8	Augment AN/FMQ-19 observations for mandatory elements
9a	Mission Execution Forecast Process (MEFP) -- Produce and disseminate forecasts
9b	Produce Terminal Aerodrome Forecasts (TAFs)
10	Disseminate urgent (UUA) PIREPs
11	Disseminate PIREPs
12	Perform MISSIONWATCH activities
13	Provide weather briefings
14	Conduct weather function training
15	Accomplish administrative tasks

Attachment 3

BEALE LOCAL FLYING AREA

A3.1. The Beale local flying (**Figure A3.1**) area includes all MOAs and stereo routes. All **low-altitude** missions flying within this area may utilize the MEF; all aircraft flying outside this area must obtain a verbal or 175-1 brief from the WF.

Figure A3.1. Beale Local Flying Area.



A3.2. Military Operating Areas (MOAs) and Flying Routes: Beale AFB has standard flying routes and operating areas that are used on a regular basis. It is important to note Ocean View and Mountain View are locally established flying routes (stereos).

Figure A3.2. Map of MOAs and Flying Routes.



Attachment 4

MISSION EXECUTION FORECAST (MEF) AMENDMENT CRITERIA

A4.1. General: This tab provides the amendment/specification criteria for the MEF used by 9 RW aircrews for local U-2 low flights, T-38, and KC-135 sorties.

A4.2. MEF Amendment Criteria: The WF will amend the MEF when any of the conditions below are not currently forecasted and are now occurring or are forecast to occur.

A4.2.1. Ceiling and/or visibility are observed or later forecasted to decrease to less than or, if below, increase to equal or exceed any of the values listed in **Table A4.1**.

Table A4.1. Ceiling and Visibility Categories.

Ceilings (AGL in feet)	Visibility (Statute Miles)
3,000	3
2,500	2
2,000	1 ½
1,500	1
1,000	
700	
500	
300	

A4.2.2. Crosswind: Forecast winds equate to a crosswind component of greater than 10, 15, 20, and/or 25 kts.

A4.2.3. Temperature is inaccurate by 5 degrees Fahrenheit or more.

A4.2.4. Forecast/observed wind speeds increase to equal or exceed or decrease below 30, 40, and 50 kts.

A4.2.5. Altimeter setting is inaccurate by 0.05 inHg or more.

A4.2.6. Non-convective low-level wind shear begins/ends or is forecasted to occur.

A4.2.7. Any weather watch, warning, or advisory is issued, extended, or cancelled.

A4.2.8. The MOAs (China, Whitmore, and Maxwell) and flying routes (Mountain View and Ocean View) of the MEF will be amended when any flight hazards (icing, turbulence, thunderstorms, etc.) are not currently forecasted and are now occurring or are forecast to occur.

Attachment 5

A5.1. WEATHER WARNINGS, WATCHES, AND ADVISORIES.

Table A5.1. Weather Warnings, Watches, and Advisories.

BEALE WWAs		
Weather Watches	Time Required	Desired Lead Time
Tornado	All hours (SWAP)	As Potential Warrants
Severe Thunderstorm w/ hail $\geq 3/4$ " and/or winds ≥ 50 kts	All hours (SWAP)	As Potential Warrants
Damaging Winds ≥ 50 kts (not associated w/ TS)	All hours (SWAP)	As Potential Warrants
Heavy Rain 2" or more in 12 hrs	All hours (SWAP)	As Potential Warrants
Freezing Precipitation	All hours (SWAP)	As Potential Warrants
Lightning within 6 NM	All hours	30 Minutes
Forecast Weather Warnings	Time Required	Desired Lead Time
Tornado	All hours (SWAP)	30 Minutes
Severe Thunderstorm w/ hail $\geq 3/4$ " and/or winds ≥ 50 kts	All hours (SWAP)	60 Minutes
Moderate Thunderstorm w/ hail $\geq 1/2$ " and/or winds ≥ 35 kts	All hours	60 Minutes
Damaging Winds ≥ 50 kts (not associated w/ TS)	All hours (SWAP)	60 Minutes
High Winds ≥ 35 kts but < 50 kts (not associated w/ TS)	All hours	60 Minutes
Freezing Precipitation	All hours (SWAP)	60 Minutes
Heavy Rain 2" or more in 12 hrs	All hours (SWAP)	60 Minutes
Heavy Snow 2" or more in 12 hrs	All hours	60 Minutes
Forecast Weather Advisories	Time Required	Desired Lead Time
Crosswinds >15 kts	Airfield Operating Hours	15 Minutes
Icg: Lgt or Greater w/in 15 NM	Airfield Operating Hours	30 Minutes
Icg: Lgt or Greater w/in 50 NM	Airfield Operating Hours	30 Minutes
Turb: Mdt or Greater (Cat II Acft) w/in 50 NM	Airfield Operating Hours	30 Minutes
Low Level Wnd Shear Below 2,000 FT	Airfield Operating Hours	15 Minutes
Sfc Wnd >25 kts but <35 kts	E-6 only (Call Required)	30 Minutes
Hail $<1/2$ "	E-6 only (Call Required)	30 Minutes
Observed Weather Warnings	Time Required	Desired Lead Time
Lightning within 6 NM	All hours	Observed
Observed Weather Advisories	Time Required	Desired Lead Time
Sfc Wnd >30 kts ¹	Airfield Operating Hours	Observed

Crosswinds >10kts ¹	Airfield Operating Hours	Observed
Crosswinds >15kts ¹	Airfield Operating Hours	Observed
Crosswinds >25kts ¹	Airfield Operating Hours	Observed
TSTMS w/in 10 NM ¹	Airfield Operating Hours	Observed
TSTMS w/in 25 NM ¹	Airfield Operating Hours	Observed
FITS Danger ($\geq 100F$) ²	Airfield Operating Hours	Observed
FITS Caution ($> 90 F$) ²	Airfield Operating Hours	Observed
FITS Cancel ($> 115F$) ²	Airfield Operating Hours	Observed
Temp >105F ²	Airfield Operating Hours	Observed
Solar Yellow (>3 millirems/hour) ²	All Hours	Observed
Solar Red (>10 millirems/hour) ²	All Hours	Observed
Visibility < 1SM ²	E-6 only (Call Required)	Observed
Crosswinds >20 kts ¹	E-6 only (Call Required)	Observed
TSTMS w/in 50 NM ¹	E-6 only (Call Required)	Observed
Observed ICE FOD conditions exist	KC-135 Only (Auto)	Observed
Visibility < 1/4 SM	Security Forces Only	Observed
After dissemination of WWA call: SOF & Tower Call NAOC Watch Officer (if on station)		