

**Fort Sill Regulation 115-9**

**Climatic, Hydrological, and Topographic Services**

# **Fort Sill Weather Support**

**Headquarters, U.S. Army Garrison  
462 Hamilton Road, Suite 120  
Fort Sill, Oklahoma 73503  
3 January 2024**

**UNCLASSIFIED**

DEPARTMENT OF THE ARMY  
HEADQUARTERS, U. ARMY GARRISON  
462 HAMILTON ROAD, SUITE 120  
FORT SILL, OK 73503  
3 January 2024

Fort Sill Regulation 115-9

Effective 31 January 2024

Climatic, Hydrological, and Topographic Services  
**Fort Sill Weather Support**

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**History.** This regulation supersedes Fort Sill Regulation 115-9, Fort Sill Weather Support, 20 April 2021.

**Summary.** This regulation implements Army Regulation (AR) 115-10, Weather Support for the US Army {AFI 15-157 (IP)} and AR 5-25, Army Weather Functional Activities at Fort Sill. This regulation is distributed and published solely through the Directorate of Human Resources, Administrative Services Division Homepage at: <https://sill-www.army.mil/USAG/publications.html>

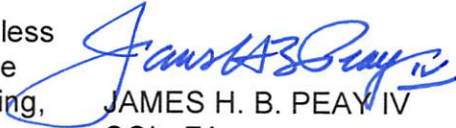
**Supplementation.**

Supplementation of this regulation is prohibited, unless specifically approved by the Directorate of Plans, Training, Mobilization, and Security (DPTMS).

**Suggested Improvements.**

The proponent of this regulation is Operating Location 'E' (OL-E), 3d Combat Weather Squadron (3 CWS). Users may send comments and suggested improvements on Department of the Army (DA) Form 2028 (Recommended Changes to Publications and Blank Forms) to DPTMS, ATTN: AMIM-SIO, Fort Sill Oklahoma 73503.

**Applicability.** This regulation applies to all activities, departments, and units described herein.

  
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## **Chapter 1 Introduction**

### **1-1. Purpose**

This regulation outlines the weather support provided to Fort Sill (FS) agencies by Operating Location 'E' (OL-E), 3d Combat Weather Squadron (3 CWS) and the 26<sup>th</sup> Operational Weather Squadron (26 OWS), Barksdale Air Force Base, Louisiana. It also outlines the reciprocal support provided to OL-E, 3 CWS by FS agencies to ensure timely and accurate weather support.

### **1-2. References**

Required and related references are listed in Appendix A.

### **1-3. Explanation of Abbreviations and Terms**

Abbreviations and terms used in this regulation are explained in the glossary.

### **1-4. Applicability**

The provisions of this regulation apply to all units assigned to Fort Sill (FS). This regulation will be reviewed as required by OL-E, 3 CWS and all FS units and activities requiring weather support. Units and activities will forward all changes to weather support requirements, or reciprocal support capabilities, to OL-E, 3 CWS as they occur. The OL-E, 3 CWS Superintendent of Weather Operations (SWO) is responsible for making changes to this regulation, as required.

### **1-5. Operations**

OL-E, 3 CWS is a United States Air Force (USAF), Air Combat Command (ACC) unit, reporting directly to Headquarters (HQ), 3 CWS, Fort Cavazos, Texas. OL-E, 3 CWS provides weather forecasting and observing services, and resource protection for Fort Sill, Henry Post Army Airfield (HPAAF), and the local training reservation as outlined within this regulation. The OL-E, 3 CWS SWO will coordinate any weather support requests beyond local support capabilities within higher headquarters.

### **1-6. Priority of Duties**

The OL-E, 3 CWS and 26 OWS duty priorities listed in Table 1-1 ensure that tasks are accomplished in order of relative importance and balance limited manning and mission-critical tasks. This listing exists to avoid misunderstandings among supported agencies and to focus efforts during peak work periods prone to task saturation and priority conflicts. Weather technicians may alter these priorities if the situation warrants using sound risk management guidelines in accordance with (IAW) Air Force Manual (AFMAN) 15-129 and Air Force Instruction (AFI) 90-802, especially when there is imminent danger to life and/or property.

<b>Priority</b>	<b>OL-E, 3 CWS Duty Priorities</b>	<b>26 OWS Duty Priorities</b>
<b>1</b>	Emergency War Order Taskings	Emergency War Order Taskings
<b>2</b>	Weather station/facility evacuation	OWS Evacuation/Continuity of Operations
<b>3</b>	Aircraft/ground emergencies/mishaps	Respond to aircraft/ground emergencies/mishaps
<b>4</b>	Pilot-to-Metro Service contacts	Pilot-to-Metro Service contacts
<b>5</b>	Urgent (UUA) Pilot Reports (PIREPs)	Urgent (UUA) Pilot Reports (PIREPs)
<b>6</b>	Severe Weather Action Procedures (SWAP)	Provide Force Protection weather products (WWAs, etc.)
<b>7</b>	Weather watches, warnings, and advisories (WWAs)	Assist other regions in providing Force Protection weather products as required
<b>8</b>	Augment/Backup FMQ-19 for mandatory elements	Ensure horizontal consistency of WWAs, FITL products, etc.
<b>9</b>	METWATCH	Prepare and disseminate Military Operations Area Forecast (MOAF)/Joint Operations Area Forecast (JOAF) as required
<b>10</b>	Mission Execution Forecast Process (MEFP) – produce and disseminate mission weather products	Routine (UA) PIREPs
<b>11</b>	Routine (UA) PIREPs	Monitor Plan of the Day
<b>12</b>	MISSIONWATCH	Conduct 15-minute spin-up
<b>13</b>	Other briefings (CAT, 95-1, etc.)	Other routine weather requirements
<b>14</b>	Weather functional training	Participate in shift change
<b>15</b>	Administrative tasks	Administrative tasks

**Table 1-1: OL-E, 3 CWS and 26 OWS Duty Priorities**

### **1-7. Release of Weather Information**

OL-E, 3 CWS generates weather information for use by official Department of Defense (DoD) agencies only and will not release weather data to non-DoD agencies, except as coordinated with the Garrison Public Affairs Office, Staff Judge Advocate, and through official weather channels.

### **1-8. Responsibilities**

Responsibilities are outlined in chapters 2, 3, 4, 6 and 7 of this document.

## Chapter 2 Forecasting Services

### 2-1. General

Weather support to the US Army is provided by the US Air Force and organized into tiers to serve various levels of military organizations and operations. The 26 OWS is at the operational level, focusing on meteorology and overarching weather products for southcentral and southeastern portions of the United States. OL-E, 3 CWS partners with the 26 OWS to provide forecast services and products for Fort Sill activities, and tailors these products into decision-quality weather information focused on the mission needs of supported units at Fort Sill.

### 2-2. Henry Post Army Airfield (HPAAF) Weather Station

a. Operating Hours. The HPAAF Weather Station is open Monday through Friday excluding federal holidays. The SWO and Maintenance Technician are available from 0730-1630hrs.

b. Forecasters are routinely on duty from 0700-2200hrs. If/when local 'live fire' training activity is scheduled to stop before 2200hrs, or if/when the SWO determines otherwise due to manning constraints, the weather station will close early as a 'good stewardship' practice WRT the efficient and effective use of resources. The weather station will not close earlier than the end of the administrative duty day (1630hrs) except under circumstances when "Early Release" has been announced ISO safety of persons. Refer to Appendix F for contacts and phone numbers.

c. An "On-Call" forecaster will be recalled after duty hours upon receipt of a weather watch or warning from the 26 OWS that meets OL-E, 3 CWS SWAP criteria (Table 3-4).

d. Duty Priorities. Refer to Table 1-1 for OL-E, 3 CWS Duty Priorities.

e. Routine Mission Planning and Execution Products include the following (reference Table 2-1 below for issue and valid times):

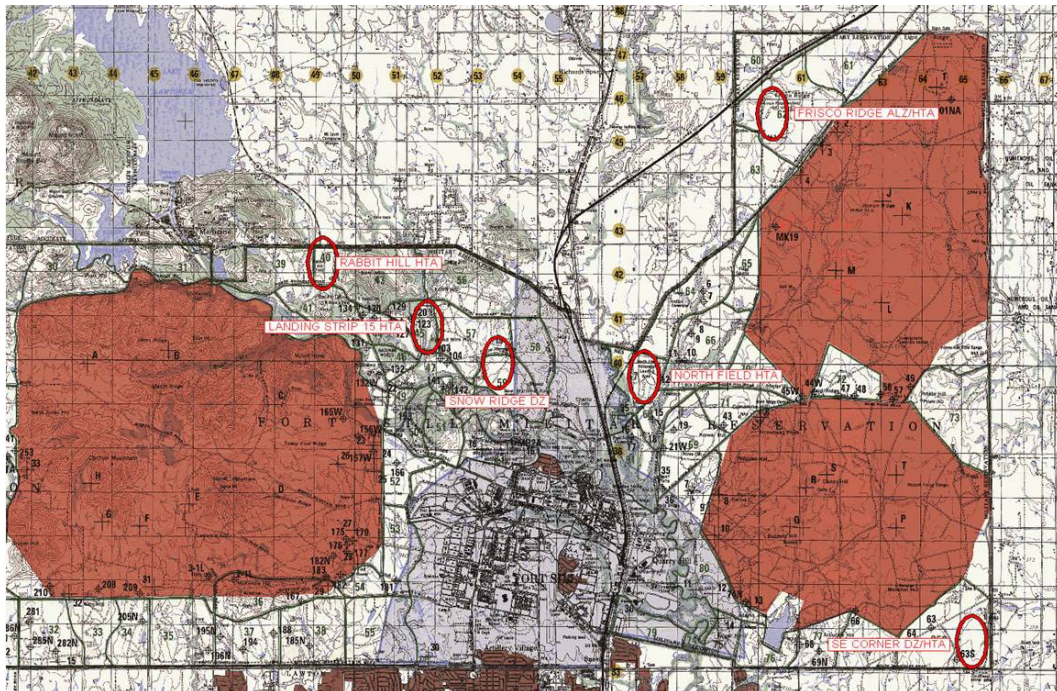
f. **Mission Execution Forecast (MEF).** The MEF (refer to example at Appendix D, figure D-1) is designed to incorporate the needs of most Fort Sill units into a single product for the planning and execution of the majority of Fort Sill missions and is posted to the OL-E, 3 CWS intranet webpage (<https://sillc2nec462001.nasw.ds.army.mil/weather/3dws/>) and the WebEOC Weather Boards. MEFs are identified based on the date with an alphanumeric suffix representing the time of day the forecast period begins (9am = A; 5pm = B). MEFs are amended (updated) when specific mission types (i.e., Artillery Fires, UAS operations, etc.) are ongoing and any of the mission limiting thresholds listed in Appendix E either a) occur when not originally forecasted and are expected to continue, or b) were forecasted to occur but are no longer expected to occur. Amendments will be indicated with an AMD number and Time of issue to the right of the MEF ID (i.e., the second amendment of the 25A MEF

would be indicated “25A AMD: 2 Time: HHMM”). The MEF provides mission planning and execution information for VFR flight operations within the Local Flying Area, live-fire and non-firing Field Artillery & Air Defense Artillery training missions, and ground operations (personnel, maneuver, and trafficability) within the Fort Sill cantonment area. The MEF is tailored to the following operating areas/locations (refer to figure 2-1):

(1) The Fort Sill R5601 Military Operations Area (as defined in FS Reg 95-1) to include Henry Post AAF.

(2) Field Artillery and Air Defense Artillery ranges (i.e., Quannah Range, West Range and N/S Arbuckle Range).

(3) Landing strips (i.e., Frisco Ridge), drop/landing zones (i.e., Snow Ridge and SE Corner), and Helicopter Training Areas (i.e., Rabbit Hill and North Field).



**Figure 2-1: MEF Forecast Areas**

g. **Flight Weather Briefings.** Are annotated on either a Department of Defense (DD) Form 175-1 or on a “local” briefing log, as requested by the aircrew and IAW FS Reg 95-1. Briefing requests from aircrews on temporary duty (TDY) to Fort Sill can be made in person, by phone, or through e-mail (refer to Appendix F for phone numbers/email addresses). When aircrews on TDY to Fort Sill are operating away from the Fort Sill Reservation, an OL-E, 3 CWS forecaster will determine the most effective means of ensuring the aircrew(s) receive mission execution weather information. This support could be provided by reach-back to the weather station, by a HQ 3 CWS Weather Operations Center forecaster, or by the 26 OWS. At a minimum, flight weather briefings will include a general meteorological situation of the mission area, current and forecasted weather for



takeoff, enroute weather (including flight hazards, SIGMETs and AIRMETs), and conditions at destinations and alternate airfields.

h. **DD Form 175-1.** Are required for missions operating outside a 50 nautical mile radius (rotary wing) of HPAAF. Briefings are completed IAW AFMAN 15-129 and are normally distributed to aircrews in person or via e-mail. The electronic DD Form 175-1 will not contain a briefing time, void time, or the initials of the forecaster providing the briefing. The pilot must call back after receipt of the DD Form 175-1 to complete the briefing process. Only then will the forecaster provide the brief time, void time, and his or her initials. The DD Form 175-1 will not be considered complete without these times and initials. If the aircrew does not have access to e-mail, the DD Form 175-1 may be briefed verbally over the phone. Aircrews should set up all DD 175-1 briefing requests at least a day prior, when possible, but at minimum forecasters require a 120-minute lead time to complete before delivery (independent of takeoff time). When weather conditions are poor, the time required to complete these briefings increases considerably. During significant communications outages or a weather station evacuation, responsibility for flight weather briefings may transfer to the 26 OWS until local support is resumed.

i. **“Local” Verbal Briefings.** Are authorized for all VFR or IFR missions operating within a 50 nautical mile radius (rotary wing) of HPAAF. Aircrews are encouraged to reference the most current OL-E, 3 CWS MEF, or talk with an OL-E, 3 CWS forecaster, to determine if a verbal briefing is feasible. Verbal briefings include all pertinent weather data for aviation operations. Due to the nature of verbal briefings, there is no required lead-time to complete these briefs, however they will not be issued any earlier than the standard 90-minute void window.

j. **Pilot-to-Metro Service (PMSV).** OL-E, 3 CWS provides PMSV on ultra-high frequency (UHF) frequency 306.5 using the call sign “Henry Post Metro” for the relay of weather information only. The PMSV is monitored continuously during the weather station operating hours listed above. This service allows aircrews to receive current and forecast weather conditions, as well as updates to flight weather briefings. The PMSV should not be used as an alternate means of the normal briefing request process, so that the frequency is clear to support aircraft in-flight. Aircrews shall relay Pilot Reports (PIREPs) via the PMSV, and weather personnel will review each PIREP received and transmit them IAW AFMAN 15-129 and AFMAN 15-124. If unable to contact “Henry Post Metro” via PMSV, aircrews must relay information via the HPAAF ARAC. During extended PMSV outages, a NOTAM will be disseminated by HPAAF Airfield Operations.

k. **5-Day Weather Outlook.** The 5-day forecast is a mission-planning forecast valid for Fort Sill to include HPAAF and the entire training reservation. This product is posted to the OL-E, 3 CWS intranet webpage, public facing webpage (<https://sill-www.army.mil/weather/>), and WebEOC Weather Boards no later than 0900 hours local time. It is only amended or updated based on OL-E, 3 CWS leadership discretion.

<b>Product</b>	<b>IssueTime(s)</b>	<b>Valid Times</b>
Mission Execution Forecast (MEF)	0900L & 1700L	+12 hours
DD 175-1 Flight Weather Briefing	Upon request with a desired minimum 120-minute lead-time before delivery	Varies based upon mission and/or flight parameters.
“Local” Verbal Flight Weather Briefing	Upon request. Verbal briefings will be issued no earlier than 90 minutes prior to take-off.	Varies based upon mission and/or flight parameters.
5-Day Weather Outlook	Monday through Friday, excluding federal holidays NLT 0900L hours.	+5 days

**Table 2-1: Routine HPAAF Weather Station Mission Products**

i. **Transient Aircrew Weather Support.** Weather briefings to transient aircraft will be provided as workload permits, otherwise transient crews will be referred to the 26 OWS for weather briefing support.

m. **Mission-scale Meteorological Watch (MISSIONWATCH).** A deliberate process for monitoring terrestrial weather or the space environment for specific mission-limiting environmental factors. This process is applied to all weather support listed in this section, and utilizes the basic steps identified in Table 2-2:

<b>Item #</b>	<b>Task</b>
<b>1</b>	Determine the mission(s) placed at risk due to terrestrial or space weather conditions.
<b>2</b>	Continuously monitor risk mission routes, areas, installations, etc. for significant changes. Spot-check low risk missions.
<b>3</b>	Focus on mission-limiting weather thresholds for each specific mission.
<b>4</b>	Evaluate for change in risk category and reprioritize MISSIONWATCH as appropriate. Notify operational users of weather conditions crossing mission-limiting thresholds.
<b>5</b>	Integrate weather impacts into the operational alternative decision process.
<b>6</b>	Update mission products as necessary.
<b>7</b>	Continue to monitor based on MISSIONWATCH threat.

**Table 2-2: MISSIONWATCH Steps**

### **2-3. 26<sup>th</sup> Operational Weather Squadron (26 OWS)**

a. Operating hours. 24 hours a day, seven days a week. Refer to Appendix F for contact information.

b. Duty Priorities. Refer to Table 1-1 for 26 OWS Duty Priorities

c. Flight Weather Briefings. The 26 OWS provides flight weather briefing support to aircrews in transient status, or as backup to the HPAAF Weather Station during communications outages and/or evacuations.

## 2-4. Non-Routine Forecast Services

a. Definition. Weather services provided by OL-E, 3 CWS or 26 IOWS upon request or as environmental conditions warrant.

b. Forecast products include the following:

(1) **Climatological Data.** Monthly climatological summary data for HPAAF can be accessed from the OL-E, 3 CWS webpages and WebEOC Weather Boards. Additional climatological data for Fort Sill, or any location worldwide, can be obtained by contacting the HPAAF Weather Station (refer to Appendix F for phone numbers).

(2) **Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) support.** OL-E, 3 CWS forecaster(s) will provide surface observations or forecasts representative of the location/time of the CBRNE event as requested by the Fort Sill Operations Center (FSOC)/Emergency Operations Center (EOC) or other agencies.

(3) **Space Weather.** OL-E, 3 CWS forecasters will use 557<sup>th</sup> Weather Wing produced space weather products to determine impacts to High Frequency (HF) and UHF communications, and single-frequency Global Positioning Systems (GPS) in support of mission commanders. Space weather conditions will be included on flight weather briefings and other weather products as applicable.

(4) **Tropical Weather.** The National Hurricane Center (NHC) issues official forecasts for tropical storms and hurricanes. In addition, the 26 OWS produces a Tropical Cyclone-Threat Analysis Product (TC-TAP) derived from the NHC official forecast that can be obtained from the 26 OWS webpage: <https://26ows.us.af.mil/product/tropical/>. OL-E, 3 CWS forecasters will not deviate from the tropical cyclone information (i.e., official forecast position, track, movement, maximum wind speed, or intensity trend) provided by the 26 OWS derived from the NHC. OL-E, 3 CWS forecaster(s) will provide tropical cyclone forecasts and updates to supported organizations as required for mission execution decisions such as evacuation and force protection (refer to example at Appendix D, figure D-3).

(5) **Volcanic Ash Advisories.** OL-E, 3 CWS will use appropriate theater-specific volcanic ash products from civil Volcanic Ash Advisory Centers (VAAC) and supplement with 2d Weather Squadron products and services. OL-E, 3 CWS forecasters will provide volcanic ash forecasts and updates to supported organizations as required for mission execution decisions.

## 2-5. Forecast Feedback

Mission planners, aircrews, and other users of weather information are highly encouraged to provide positive and/or negative feedback to the HPAAF Weather Station on the quality and/or accuracy of OL-E, 3 CWS weather products. Users can simply provide feedback via the feedback link on the OL-E 3 CWS webpage or on any product. Refer to Appendix F for contact information.

## Chapter 3

### Weather Watches, Warnings and Advisories (WWAs)

#### 3-1. General

Weather watches, warnings, and advisories (WWAs) are provided by the HPAAF Weather Station, with the 26 OWS serving as a backup. WWAs are issued to be valid for the Fort Sill garrison, Henry Post Army Airfield, and the local training reservation to include the cantonment area and range boundaries, unless otherwise stated within the text. Each WWA will contain an assigned number, valid time, title, and text explaining the criteria forecast or observed. See Appendix C for example verbiage of WWA products, and Appendix E for impacts of WWAs.

Note: OL-E, 3 CWS does not calculate heat stress indices. Refer to FS Reg 385-10, Safety, Appendix F and G, for heat stress information.

#### 3-2. Weather Watches

A watch is issued when weather conditions are favorable for the formation of the criteria listed in Table 3-1 below. A watch is intended to heighten awareness and maximize the protective posture on the installation and are typically followed by a weather warning for the same type/criteria. Weather watches will be allowed to expire or cancelled when the potential for the watch criteria no longer exists.

Watch Type	Desired Lead Time
Tornado	As potential warrants
Severe Thunderstorm with Damaging Wind ( $\geq 50$ knots) -and/or- Damaging Hail ( $\geq 1$ inch)	As potential warrants
Damaging Wind ( $\geq 50$ knots, not associated with thunderstorm)	As potential warrants
Freezing Precipitation (any intensity) produces ice on exposed surfaces accumulating $\geq 0.10$ inches	As potential warrants
Heavy Rain ( $\geq 2$ inches within 12 hours)	As potential warrants
Heavy Snow ( $\geq 8$ inches within 24 hours)	As potential warrants
Snow ( $\geq 6$ inches within 12 hours)	As potential warrants
Blizzard Conditions (falling and/or blowing snow AND visibility $\leq \frac{1}{4}$ mile AND winds $\geq 30$ knots lasting at least 3 hrs.)	As potential warrants
Lightning within 10 miles of HPAAF	30 minutes

Table 3-1: Weather Watch Criteria

### 3-3. Weather Warnings

A weather warning is a special notice provided when an established weather condition (see Table 3-2 below) posing a hazard to property or life is occurring or is expected to occur. Separate warnings will be issued for each criterion (i.e., tornado lightning, severe thunderstorms, heavy rain, etc.). Warnings are upgraded by crossing into a higher threshold and downgraded by crossing into a lower threshold (i.e., moderate thunderstorm warning is amended and upgraded to a severe thunderstorm warning). Weather warnings will be allowed to expire or cancelled when the warning criteria is no longer occurring and are not expected to reoccur within the desired lead time of the warning.

Warning Type	Desired Lead Time
Tornado	15 minutes
Severe Thunderstorm with Damaging Wind ( $\geq 50$ knots) -and/or- Damaging Hail ( $\geq 1$ inch)	60 minutes
Moderate Thunderstorm with Strong Wind ( $\geq 35$ knots but $< 50$ knots) -and/or- Large Hail ( $\geq \frac{1}{4}$ inch but $< 1$ inch)	60 minutes
Damaging Wind ( $\geq 50^*$ knots, not associated with thunderstorm)	60 minutes
Strong Wind ( $\geq 35$ knots but $< 50$ knots, not associated with thunderstorm)	60 minutes
Freezing Precipitation (any intensity) produces ice on exposed surfaces accumulating $\geq 0.10$ inches	60 minutes
Heavy Rain ( $\geq 2$ inches within 12 hours)	60 minutes
Heavy Snow ( $\geq 8$ inches within 24 hours)	60 minutes
Snow ( $\geq 6$ inches within 12 hours)	60 minutes
Blizzard Conditions (falling and/or blowing snow AND visibility $\leq \frac{1}{4}$ mile AND winds $\geq 30$ knots lasting at least 3 hrs.)	60 minutes
Lightning within 10 miles of HPAAF	When observed

**Table 3-2: Weather Warning Criteria**

Note: Due to geographic location and customer needs, it has been determined Fort Sill does not require warnings for Sandstorm and Dust Storm.

### 3-4. Weather Advisories

Weather advisories are a special notice provided to supported agencies that alert them to weather conditions that could affect operations. All advisories are observed conditions (i.e., they are issued without lead time as observed upon occurrence) and are valid until further notice.

Advisory Type	Desired Lead Time
Lightning within 25 miles of HPAAF	When observed
Equivalent Wind Chill Temperature $\leq -1^{\circ}\text{C}$ ( $31^{\circ}\text{F}$ )	When observed
Equivalent Wind Chill Temperature $\leq -29^{\circ}\text{C}$ ( $-20^{\circ}\text{F}$ )	When observed

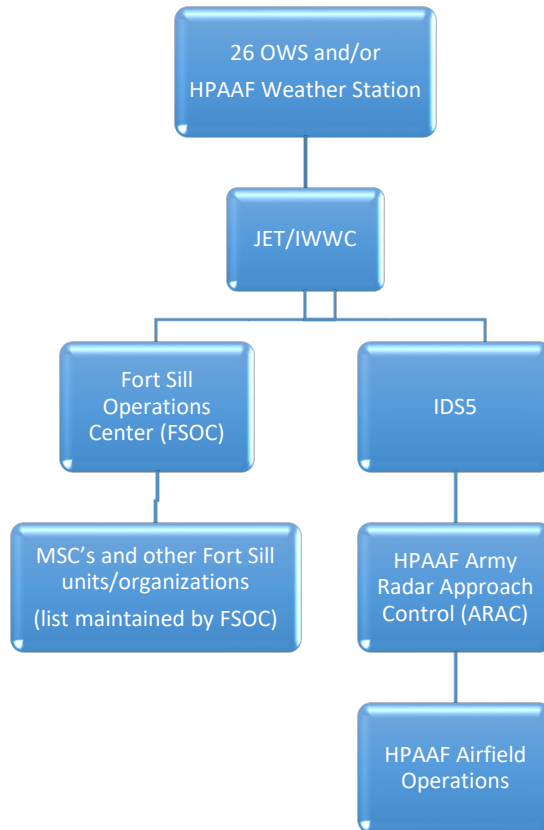
Temperature $\geq 31^{\circ}\text{C}$ ( $88^{\circ}\text{F}$ )	When observed
Temperature $\leq -9^{\circ}\text{C}$ ( $16^{\circ}\text{F}$ )	When observed

**Table 3-3: Weather Advisory Criteria**

### **3-5. WWA Dissemination**

OL-E, 3 CWS and 26 OWS will disseminate WWAs through the Joint Environmental Toolkit (JET) system. JET is connected to the Fort Sill local area network (LAN) and is the primary system for disseminating weather information, to include WWAs, to Fort Sill units and agencies. All WWAs are disseminated to Fort Sill units and agencies IAW this publication and FSOC and HPAAF Weather Station local procedures. The FSOC will maintain the notification list of Major Subordinate Commands (MSCs) and other Fort Sill units/organizations, and in the event of a Tornado Warning will activate the Mass Notification System (Giant Voice). Aviation unit commanders TDY to Fort Sill should refer to FS Reg 95-1, Chapter 9, for severe weather plans/actions. Reference Figure 3-1 below for the Fort Sill WWA notification pyramid. When issuing WWAs the FSOC may:

- a. Send an e-mail message via weather notification distribution list (Commanders, MSCs and our partners in excellence).
- b. Further disseminate WWAs to subordinate units via telephone and/or other local dissemination systems.
- c. Update the Fort Sill Installation Information Banner on the Fort Sill webpage.
- d. Record messages on the Information Alert Hotline.



**Figure 3-1: Fort Sill WWA Notification Pyramid**

If the JET or Fort Sill LAN is inoperative, the HPAAF Weather Station (primary) and/or 26 OWS (backup) will disseminate WWAs via telephone to the following agencies in the order listed:

- a. FSOC
- b. HPAAF ARAC (and ATC Tower if open)
- c. HPAAF Airfield Operations

**3-6. Severe Weather Action Procedures (SWAP)**

The HPAAF Weather Station is manned with at least one certified forecaster during the hours identified in paragraph 2-2. To help mitigate the threat of severe and/or mission-limiting weather, OL-E, 3 CWS will maintain procedures IAW AFMAN 15-129 to ensure sufficient personnel are recalled and/or available during potential and/or actual severe weather events as listed in Table 3-4 (below). The HPAAF Weather Station will maintain procedures to conduct expanded “Eyes Forward” to support 26 OWS operations and enhanced MISSIONWATCH. Weather forecasters will employ risk management techniques to focus activities and allocate resources to exploit weather conditions, mitigate mission delays, and enhance the overall effectiveness of weather operations. Upon activation of SWAP, OL-E, 3 CWS forecasters will divide duties IAW local

procedures to ensure a heightened watch over the weather situation and to enhance interaction with supported units and the 26 OWS.

<b>Severe Weather Action Procedures (SWAP) Activation Criteria</b>
Tornado Watch is valid
Tornado Warning is issued
Severe Thunderstorm Warning is issued
Damaging Wind Warning is issued
Freezing Precipitation Warning is issued
*Natural or man-made disaster (CBRNE)
*Backup/Continuity of Operations Measures (COOP)
*Any other event/situation that the Duty Forecaster deems notification necessary

**Table 3-4: Mandatory SWAP Activation Criteria**

\*Note: activated when additional manpower is needed to meet customer requirements.

## **Chapter 4 Observing Services**

### **4-1. General**

Weather observations at HPAAF are taken 24 hours a day, seven days a week. The primary means of taking observations is via the FMQ-19 automated sensor group which continuously monitors weather conditions and generates meteorological observations based on standard hourly and special criteria. These automated observations are the official observation for HPAAF. However, there are instances where automated observations may require augmentation (add or edit data) by weather station personnel. The two augmentation processes used are supplementation and back-up:

a. Supplementing is a method of manually adding meteorological information to an automated observation that is beyond the capabilities of the automated sensor group to detect and/or report:

(1) OL-E, 3 CWS forecasters will supplement the HPAAF automated observations IAW AFMAN 15-111 (refer to Table 4-1 below).

<b>Mandatory Supplement Conditions</b>
Tornado ( <b>+FC</b> )
Funnel Cloud ( <b>FC</b> )
Freezing Precipitation ( <b>FZDZ/FZRA</b> )
Ice Pellets ( <b>PL</b> )
Hail ( <b>GR</b> )
Volcanic Ash ( <b>VA</b> )
*Tower Visibility Remark
1. The immediate reporting of tornadic activity takes precedence over all other phenomena. 2. All Remarks and references are provided in AFMAN15-111, Attachment 3. * Only when HPAAF ATC Tower is open.

**Table 4-1: Mandatory Supplement Conditions**



b. Back-up is the method of manually providing meteorological data and/or dissemination capability when the primary automated method is not operational, is unavailable due to sensor and/or communication failures or is suspected to be providing erroneous data. There is no requirement to back-up the HPAAF FMQ-19 when the weather station is closed unless tornadic activity is occurring or forecast to occur.

#### **4-2. HPAAF Weather Observations**

The FMQ-19 at HPAAF is operated in full automated mode to provide the official METAR and SPECI observations using International Civil Aviation Organization (ICAO) airport identifier KFSI. Refer to Appendix B for HPAAF special (SPECI) weather observation criteria. OL-E, 3 CWS forecasters are available to augment the KFSI automated observation IAW AFMAN 15-111 and risk management principle during weather station duty hours (paragraph 2-2). There is no requirement to augment the HPAAF FMQ-19 when the weather station is closed unless tornadic activity is occurring or forecast to occur. In addition to the mandatory augmentation requirements listed in Table 4-1 forecasters will:

- a. Augment observations based on defined duty priorities (Table 1-1).
- b. Augment KFSI automated observations using manual observing methods when the reported visibility and/or ceiling does not reflect actual conditions and either the FMQ-19 report, or actual visibility is less than 3SM and/or ceiling is less than 3,000 feet.
- c. Augment the HPAAF FMQ-19 anytime it does not accurately encode the occurrence (beginning/ending) of thunderstorms.

There are inherent limitations with fully automated weather observing systems, especially during rapidly changing weather conditions when some delay in reporting cloud ceilings and visibilities may occur. To ensure flight safety OL-E, 3 CWS forecasters and HPAAF ATC personnel work together to maintain situational awareness of actual weather conditions and the observation reported by the FMQ-19. The official manual observation point at HPAAF for augmenting observations is located near the southeast corner of Building 4907, Airfield Operations, on the runway side of the building. This location has a 360-degree view of the airfield complex, but buildings and/or hangars to the north and northeast restrict the view of the sky and/or horizon and horizontal visibility in those directions. In addition, glare from medium and high intensity lights surrounding Building 4907 may limit the ability to make accurate reports of sky conditions at night.

#### **4-3. Observation Dissemination**

KFSI weather observations are disseminated through the JET. The JET system is connected to the Fort Sill LAN and is the primary system for disseminating weather information, to include observations, to Fort Sill units and agencies (see formats in Appendix C). In the event the JET system is inoperative, observations will be disseminated IAW backup/outage procedures, and a weather station forecaster will contact the following agencies in the order listed:

- a. HPAAF ATC Tower (if open)
- b. HPAAF ATC ARAC

Note: A log detailing backup phone calls will be maintained by OL-E, 3 CWS IAW Air Force directives.

#### **4-4. Cooperative Weather Watch (CWW) Program**

AFMAN 15-111 and Army ATC directives require AF weather units to establish a Cooperative Weather Watch (CWW) program with ATC and other appropriate post agencies. Of primary concern is the report of tower visibility different from the prevailing surface visibility when the HPAAF ATC Tower is open, local PIREPs, and any occurrence of previously unreported weather conditions that could affect flight safety or be critical to the safety or efficiency of any local operations and resources. In lieu of a formally documented letter of agreement, OL-E, 3 CWS and HPAAF ATC establish this CWW program for the FS Reservation IAW AFMAN 15-111, AR 115-10 and FAA JO 7110.65V.

##### **a. OL-E, 3 CWS will:**

- (1) Task-certify ATC personnel as limited weather observers IAW AR 115-10.
- (2) HPAAF ATC Facility Chief will coordinate this training with the Lead Forecaster.
- (3) Provide HPAAF ATC personnel with weather facility familiarization and local phenomenon training upon request.
- (4) Assist the ATC Facility Chief with preparing tower visibility checkpoint charts (VCCs) when required and review these charts annually.
- (5) Re-evaluate surface prevailing visibility, as soon as practicable, upon initial receipt of a differing control tower value and upon receipt of subsequent reportable changes at the control tower level **when the HPAAF ATC Tower is open.**
  - (a) Use HPAAF ATC Tower values of prevailing visibility *as a guide* in determining the surface visibility when the view of portions of the horizon is obstructed by buildings, aircraft, etc.
  - (b) Augment the KFSI automated observation as applicable to include a Tower Visibility remark in the next METAR or SPECI when either the surface prevailing visibility or the control tower visibility is less than 4 statute miles (SM), and the control tower visibility differs from the surface prevailing visibility by a reportable value (refer to Table 4-2 below).

Reportable Visibility Values			
M1/8 SM	7/8 SM	1 3/4 SM	4 SM
1/8 SM	1 SM	1 7/8 SM	5 SM
1/4 SM	1 1/8 SM	2 SM	6 SM
3/8 SM	1 1/4 SM	2 1/4 SM	7 SM
1/2 SM	1 3/8 SM	2 1/2 SM	8 SM
5/8 SM	1 1/2 SM	2 3/4 SM	9 SM
3/4 SM	1 5/8 SM	3 SM	10 SM

**Table 4-2: Reportable Visibility Values**

(c) Disseminate a SPECI observation with the Tower Visibility remark when notified that tower visibility has decreased to less than or, if below, increased to equal or exceed 1, 2 or 3 SM, and the control tower visibility differs from the prevailing visibility.

**b. HPAAF ATC will:**

(1) Notify the HPAAF Weather Station when tower prevailing visibility decreases to less than or increases to equal or exceed 4 SM **when the HPAAF ATC Tower is open.**

(a) Report all changes of one or more reportable visibility value (refer to Table 4-2) when the prevailing visibility at the tower or the surface is less than 4 SM.

(b) Relay any occurrence of previously unreported weather conditions that affect flight safety or be critical to the safety or efficiency of other local operations and resources.

(2) Relay PIREPs to the HPAAF Weather Station as soon as practical within established ATC duty priorities.

**Chapter 5  
Weather Station Evacuation Procedures**

**5-1. General**

It could become necessary for OL-E, 3 CWS personnel to evacuate the HPAAF Weather Station during actual emergencies (i.e., toxic spill, bomb threat or natural disaster) or other disruptive conditions, such as major equipment/communications outages. In these events, all weather personnel will relocate to the Alternate Operating Location (AOL) in Building 4915. The SWO and forecasters will work from Room 13, and the maintenance technician from Room 12 (refer to Appendix F for telephone numbers), provided it is safe to do so. If Building 4915 is in the 'corridor of evacuation' OL-E, 3 CWS personnel will establish an alternate AOL at another safe location.

A weather forecaster will contact the FSOC, HPAAF ATC Tower (if open), HPAAF ARAC, and the 26 OWS prior to evacuation if time permits, or immediately upon arrival at the

AOL and provide alternate contact phone number(s). Since HPAAF Airfield Operations will likely relocate in such emergencies, a forecaster will coordinate with Airfield Operations during evacuation.

## **5-2. Alternate Operating Location (AOL) Procedures**

Upon arrival at the AOL, weather forecasters will implement back-up procedures using risk management principles/processes to obtain weather situational awareness and continue providing mission-essential functions in support of Fort Sill activities. All possible means will be implemented to provide uninterrupted weather support to Fort Sill agencies, but some limitations will likely occur.

- a. Aircrew briefing services may be delayed or temporarily unavailable.
- b. PMSV will not be available at the AOL. HPAAF ARAC will, as their duties permit, monitor the PMSV frequency and pass contact information to forecaster(s) at the AOL.
- c. If augmentation of the HPAAF FMQ-19 is required, forecasters will have a limited view of the horizon due to obstructions of buildings and/or hangars that could limit estimations of surface visibility and sky condition. Additionally, ceiling heights, wind direction and speed, and altimeter readings may have to be estimated if the FMQ-19 is not operational.

## **5-3. Continuity of Operations (COOP)**

To ensure continued weather support to Fort Sill during significant outages (i.e., prolonged network outage) or during an extended evacuation of the HPAAF Weather Station, responsibility for Fort Sill WWAs and flight weather briefings for aviation units TDY to Fort Sill may transfer to the 26 OWS until support is resumed.

# **Chapter 6**

## **Staff Weather Support Functions**

### **6-1. General**

For the purposes of this document, staff weather support is defined as any weather services not already provided by the HPAAF Weather Station. OL-E, 3 CWS is organized to integrate weather intelligence data into Army mission planning and execution of ground and aviation training and contingency operations for supported units. The OL-E, 3 CWS SWO is responsible for providing and/or arranging environmental weather support to Fort Sill Garrison IAW AR 115-10. Requests for weather support must be routed to the SWO (refer to Appendix F for contact information) and coordinated as far in advance as possible. Staff weather support includes, but is not limited to:

- a. Assess the meteorological impact on the Garrison's mission and systems.
- b. Advise supported commanders of Air Force weather support capabilities, limitations, and on mitigating and exploiting weather impacts to operations.
- c. Provide forecasts to planners in support of special Garrison events.

- d. Present staff weather briefings, as required.
- e. Provide climatological data, summaries, and studies.
- f. Provide input to boards and committees where weather has a potential effect.
- g. Provide weather data/briefings for periodic flight and ground safety (or instrument refresher), seasonal training, planned exercises, operations, pre-deployment, large aircraft movements, etc. upon request. These requests should be coordinated as far in advance as possible.
- h. Solicit feedback from supported customers on the quality and/or accuracy of OL-E, 3 CWS weather products.

## **Chapter 7**

### **Post Agency Reciprocal Support and Responsibilities**

#### **7-1. General**

The following list of post agency reciprocal support and associated responsibilities are IAW AR 115-10, AFMAN 15-129 and local procedures.

#### **7-2. Air Traffic Control (ATC)**

- a. Ensures the proper equipment configuration for the active runway and notifies the HPAAF Weather Station when the active runway changes.
- b. Accomplishes an annual review of ATC visibility charts and, if necessary, makes appropriate changes.
- c. Provides PMSV radio checks upon request.
- d. Notifies the duty forecaster when current weather data is not available via the AAAS.
- e. Provides a basic orientation of HPAAF ATC facilities to newly assigned weather personnel.
- f. ATC Maintenance Branch maintains and repairs UHF PMSV radios.
- g. Monitors the PMSV radio frequency, as other duties permit, during weather station equipment outages or evacuations and relays information to/from forecasters.
- h. Participates in the CWW program IAW Chapter 4 of this publication.

i. Makes available the use of an ATC vehicle for the HPAAF Weather Station maintenance technician if an Airfield Operations vehicle is unavailable or its use (2-wheel drive) is unfeasible to respond to FMQ-19 sensor outages.

j. Provides working space and telephones for HPAAF Weather Station personnel during weather station evacuations.

### **7-3. Airfield Division**

#### **a. The HPAAF Airfield Manager will:**

(1) Notify the SWO of any emerging or changing installation weather support requirements.

(2) Ensure the SWO is included Fort Sill Aviation Safety Council and Garrison Airfield Operations Board meetings.

(3) Allow for unrestricted access to meteorological equipment located on HPAAF by the weather maintenance technician.

(4) Provide current copies of the Flight Information Publication (FLIP) to the HPAAF Weather Station and assist in updating weather support information (duty hours, PMSV frequency, etc.) in the FLIPs upon request.

(5) Provide a basic orientation of HPAAF to newly assigned weather personnel, to include locations of meteorological equipment.

#### **b. HPAAF Airfield Operations will:**

(1) Notify the HPAAF Weather Station of any aircraft mishap involving aircraft operating from Fort Sill that occur in the local flying area as defined in Fort Sill Regulation 95-1. In addition, notify the HPAAF Weather Station of any in-flight emergencies.

(2) Notify the HPAAF Weather Station when local NOTAMs and applicable directives change airfield minima.

(3) Disseminate a NOTAM and/or airfield advisory when notified by HPAAF Weather Station personnel of extended PMSV outages.

(4) Ensure weather watches, warnings and advisories are appropriately disseminated IAW local procedures.

#### **c. HPAAF Aviation Safety will:**

(1) Notify the HPAAF Weather Station ASAP whenever they suspect or confirm an aircraft incident or accident, and weather or weather services may be a factor.

(2) Notify the HPAAF Weather Station when hazard reports are received indicating weather or weather services may be or has been a hazard to aviation safety.

#### **7-4. Directorate of Plans, Training, Mobilization and Security (DPTMS)**

##### **a. The DPTMS will:**

(1) Ensure weather support from the HPAAF Weather Station is integrated into contingency plans, training and exercises relevant to the management of all emergencies and/or hazard response.

(2) Ensure the HPAAF Weather Station is notified in advance of all garrison emergency management response exercises.

(3) Provide office space necessary to operate the HPAAF Weather Station management, forecasting, and maintenance functions.

(4) Provide funding for the HPAAF Weather Station's expendable supplies.

(5) Provide the HPAAF Weather Station with logistic support, to include, but not limited to, budget for the Lightning Tracking System (LTS) annual data contract.

(6) Provide, or arrange for, administrative support to the HPAAF Weather Station. This will include staff coordination and staff representation.

(7) Notify the HPAAF Weather Station of installation weather support requirements.

##### **b. Fort Sill Operations Center (FSOC) will:**

(1) Serve as the primary focal point for the dissemination of all WWAs received from the 26 OWS and/or HPAAF Weather Station to Fort Sill units and/or agencies.

(2) Notify the HPAAF Weather Station when damage reports due to a weather event are received from anywhere on the Fort Sill reservation.

(3) Activate the mass notification system when notified of a tornado warning by the 26 OWS and/or HPAAF Weather Station.

(4) Notify the HPAAF Weather Station in the event of a CBRNE event on the Fort Sill installation or any emergency management event that may require weather support.

(5) Recall the "On-Call" forecaster, during weather station non-duty hours (refer to paragraph 2-2), upon receipt of a weather watch or warning from the 26 OWS that meets SWAP criteria (see Table 3-4).

(6) Include the HPAAF Weather Station on Alert Notification and Access Rosters.

(7) Notify the HPAAF Weather Station of significant events/incidents that may affect operations.

**c. Range Operations will:**

(1) Disseminate all WWAs received from the FSOC and/or HPAAF Weather Station forecaster(s) to units on Fort Sill training ranges.

(2) Assist the HPAAF Weather Station in conducting a CWW, by reporting tornadoes/funnel clouds (when observed) or any damage/injury caused by weather on the Fort Sill Ranges.

(3) Include the weather station's unit mailbox (usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil) and the Lead Forecaster on the distribution list for the weekly Air Activities Report and Range Bulletin.

(4) Provide access to the Range Facility Management Support System website for HPAAF Weather Station forecasters.

**7-5. Directorate of Public Works (DPW)**

a. Prioritizes the status of work orders to avoid catastrophic equipment failure to the HPAAF Weather Station's heat sensitive FMQ-19 Terminal Data Acquisition Unit.

b. Forwards all storm damage assessments to the SWO as soon as they are available for inclusion in after-action reports. AF directives require this information to be disseminated through higher AF channels.

c. Provides allied support requirements for meteorological, and communications equipment upgrades or replacements IAW AR 115-10 for the weather sensors located on HPAAF.

d. Notifies the HPAAF Weather Station through Airfield Operations when a test of the back-up power system to Building 4907 will occur. If local weather conditions are unfavorable, DPW will delay the test. This will be coordinated through the DPW Maintenance Division and the Airfield Manager.

**7-6. Network Enterprise Center (NEC)**

a. Maintains common user communications NIPRNET service 24 hours a day, 7 days a week, with a minimum 2-hour response time to repair outages during non-duty hours.

(1) Weather information, including WWAs, are received, and disseminated via NIPRNET making it critical to Fort Sill resource protection.



(2) Daily flying/operational weather is gathered via NIPRNET, with outages causing degradation to flight/mission safety.

b. Provides maintenance for the HPAAF Weather Station telephone (voice) and data communication lines.

c. Provides maintenance for data communication lines for all meteorological sensors located on Fort Sill.

d. Maintains the JET Server IAW Memorandum of Agreement (MOA) between the JET Program Office, 557<sup>th</sup> Weather Wing, US Army Network Enterprise Technology Command/9th Signal Command (Army), and AR 5-25.

e. Provides allied support requirements for meteorological and communication equipment upgrades or replacements IAW AR 115-10 for the weather sensors located on HPAAF.

f. Maintains and updates the HPAAF Weather Station webpages <https://sill-www.army.mil/weather/> on the Fort Sill Public Website and <https://sillc2nnec002mv.nasw.ds.army.mil/weather/3dws/> on the Fort Sill Intranet.

#### **7-7. Directorate of Emergency Services (DES)**

Assists the HPAAF Weather Station in conducting a CWW by reporting tornadoes/funnel clouds (when observed) or any damage/injury caused by weather on Fort Sill.

#### **7-8. Commanders of Supported Units**

a. Assist the HPAAF Weather Station with identifying and documenting weather sensitivities and thresholds applicable to supported units' operations, missions, aircraft, and weapons systems.

b. Ensure the SWO has direct interface with supported unit commanders and staff, and access to command, control, and planning functions. The SWO must inject weather into the planning and execution process to allow for development of courses of action during the planning process to mitigate environmental threats.

c. Inform the SWO of any change in operational weather support requirements or thresholds, as required.

d. Provide the HPAAF Weather Station weekly flight/training schedules and any changes to these schedules via e-mail to: [usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil](mailto:usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil).

e. Provide feedback on weather products and services through the SWO or HPAAF Weather Station forecasters.

## **Appendix A – References**

**AFI 11-202 V3:** General Flight Rules

**AFI 15-157:** Weather Support for the U.S. Army

**AFI 90-802:** Risk Management

**AFMAN 15-111:** Surface Weather Observations

**AFMAN 15-124:** Meteorological Codes

**AFMAN 15-129:** Air and Space Weather Operations

**AR 5-25:** Army Weather Functional Activities

**AR 95-1:** Aviation Flight Regulations

**AR 115-10:** Weather Support for the U.S. Army

**FS Reg 95-1:** General Provisions and Flight Regulations

**FS Reg 385-10:** Safety

**DD Form 175-1:** Flight Weather Briefing

## Appendix B – Special (SPECI) and LOCAL Observation Criteria

### B-1. References

- a. AFMAN 15-111 (*Surface Weather Observations*).
- b. AR 95-1 (*Flight Regulations*)
- c. DOD Flight Information Publications (FLIPs).
- d. Local operating procedures.

### B-2. Special Weather Report (SPECI) observation criteria

a. Visibility. Surface visibility (statute miles) as reported in the body of the report decreases to less than, or if below, increases to equal or exceed:

3 miles (AFMAN 15-111)	1 mile (AFMAN 15-111 & DOD FLIPS)
2 miles (AFMAN 15-111 & DOD FLIPS)	$\frac{3}{4}$ mile (DOD FLIPS)
1 $\frac{3}{4}$ miles (DOD FLIPS)	$\frac{1}{2}$ mile (DOD FLIPS – Airfield Minimum)
1 $\frac{1}{2}$ miles (DOD FLIPS)	$\frac{1}{4}$ mile (AR 95-1)
1 $\frac{1}{4}$ miles (DOD FLIPS)	

**Table B-1: SPECI Visibility Thresholds**

b. Ceiling. All heights are measured above ground level (AGL). The ceiling (rounded off to reportable values) forms or dissipates below, decrease to less than, or if below, increases to equal or exceed:

3,000 feet AGL (AFMAN 15-111)	600 feet AGL (DOD FLIPS)
2,000 feet AGL (AFI 11-202 Vol. 3)	500 feet AGL (AFMAN 15-111 & DOD FLIPS)
1,500 feet AGL (AFMAN 15-111)	400 feet AGL (DOD FLIPS)
1,000 feet AGL (AFMAN 15-111)	200 feet AGL (DOD FLIPS – Airfield Minimum)
800 feet AGL (AFMAN 15-111)	100 feet AGL (AR 95-1)
700 feet AGL (AFMAN 15-111)	

**Table B-2: SPECI Ceiling Thresholds**

c. Sky condition. A layer of clouds or obscuring phenomena aloft is observed below **800 feet** AGL and no layer aloft was reported below 800 feet AGL in the previous METAR or SPECI.

d. Wind shift. Wind direction change by 45 degrees or more in less than 15 minutes and the wind speed is 10 knots or more throughout the wind shift.

e. Squall. When squalls occur – a strong wind characterized by a sudden onset in which the wind speed increases by at least 16 knots and is sustained at 22 knots or more for at least 1 minute.

- f. Volcanic eruption. Eruption or volcanic ash cloud is first noted.
- g. Thunderstorm (occurring on station).

- (1) Thunderstorm begins.
- (2) Thunderstorm ends.

NOTE: A SPECI is not required to report the beginning of a new thunderstorm if one is currently reported.

h. Precipitation. Except for freezing rain, freezing drizzle, hail, and ice pellets, a SPECI is not required for changes in type (i.e., drizzle changing to snow grains) or the beginning or ending of one type while another is in progress (i.e., snow changing to rain and snow). A SPECI is required when:

- (1) Hail begins or ends.
- (2) Freezing precipitation begins, ends, or changes in intensity.
- (3) Ice pellets begin, end, or change in intensity.
- (4) Any other type of precipitation begins or ends.

i. Tornado or Funnel Cloud. A SPECI is required whenever a tornado or funnel cloud is first observed, disappears, or ends.

j. Runway visual range (RVR). Runway 35 only. RVR decreases to less than or, if below, increases to equal or exceed:

6,000 feet (AFMAN 15-111 & DOD FLIPS)	2,000 feet (AFMAN 15-111)
5,000 feet (AFMAN 15-111 & DOD FLIPS)	1,200 feet (AR 95-1)
4,000 feet (DOD FLIPS)	1,000 feet (AFMAN 15-111)
2,400 feet (AFMAN 15-111 & DOD FLIPS)	600 feet (AFMAN 15-111)

**Table B-3: SPECI RVR Thresholds**

NOTE: A SPECI is required when RVR is first determined as unavailable (RVRNO) for Runway 35, and when it is first determined that the RVRNO report is no longer applicable, provided conditions for reporting RVR exist.

k. Upon resumption of observing functions. A SPECI will be taken within 15 minutes after the OL-E, 3 CWS forecaster(s) returns to duty following a break in observing coverage, or augmentation at the observing location, unless a METAR observation is filed during that 15-minute period.

I. Aircraft Mishap. When the automated weather sensor array is operating in an augmented mode (refer to paragraph 4-1. a. Supplement and b. Back-up) OL-E, 3 CWS forecaster(s) will 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.

### **B-3. Local observation criteria**

a. A LOCAL is an unscheduled observation, reported to the nearest minute, not meeting SPECI criteria.

b. There is no requirement for LOCAL observations under normal operations as the automated weather sensor array operates in AUTO mode.

c. During back-up (refer to paragraph 4-1. b.) of the pressure values, altimeter setting (ALSTG) observations will be taken at an interval not to exceed **35 minutes** when there has been a change of **0.01-inch Hg** (0.3 hPa) or more since the last ALSTG value.

(1) A METAR or SPECI taken within the established time interval will meet this requirement or the observation may be taken and disseminated as a LOCAL observation following the METAR format.

(2) All LOCAL ALSTG reports will be prepared and disseminated as soon as possible after the relevant altimeter setting change is observed.

## Appendix C – Examples of JET Disseminated Weather Products

### C-1. Weather data transmitted via the JET system will be in the following formats:

#### a. Sample Surface Observation (METAR or SPECI)

LOCATION, Type, Time (Z), “AUTO” (for automated observation), Wind (Dir, Speed, Gust), Visibility (SM), Weather, Sky Condition (hundreds of feet), Temperature (Celsius), Dew point (Celsius), Altimeter Setting, Remarks, Pressure Altitude, Density Altitude.

KFSI METAR 1955 AUTO 20018G30KT 7SM -RA SCT005 OVC021 30/27 A3014 RMK PA+302 DA+2360

#### b. Sample PIREP

Transmitting Organization, “PIREP”, Location (Radial/Distance from KFSI), Time (Z), Flight Level, Type Aircraft, Sky Condition, Weather.

KFSI PIREP FSI330010 TM1420 FL060 TP H60 SKY SCT090-UNKN WX FV03SM HZ

#### c. Sample Weather Watch

*Line 1: WWA Type and Number for the month, Location (ICAO), Valid Date/Time Zulu (Local).*

Weather Watch 12-005 for Henry Post AAF (KFSI) valid 9/2330Z (9/1730L) to 10/0230Z (9/2030L).

*Line 2: Watch Criteria, Specific Weather Threat, Forecasted Value (if applicable).*

Potential for Severe Thunderstorms. Damaging Winds greater than or equal to 50 kts. Forecast value 60 kts.

#### d. Sample Weather Warning

*Line 1: WWA Type and Number for the month, Location (ICAO), Valid Date/Time Zulu (Local).*

Weather Warning 12-001 for Henry Post AAF (KFSI) valid 9/1200Z (9/0600L) to 9/1600Z (9/1000L).

*Line 2: Warning Criteria, Specific Weather Threat, Forecasted Value (if applicable).*

Accumulation of Freezing Precipitation greater than or equal to 1/10 in forecast value 1/10 in. is forecast to occur within the Fort Sill Reservation.

**e. Sample Weather Advisory**

*Line 1: WWA Type and Number for the month, Location (ICAO), Valid Date/Time Zulu (Local).*

Weather Advisory 12-003 for Henry Post AAF (KFSI) valid 9/1555Z (9/0955L) UFN.

*Line 2: Advisory Criteria, Specific Weather Threat, Location.*

Observed Wind Chill is less than or equal to -1C at Henry Post Army Airfield.

# Appendix D – Samples of Mission Weather Products

## D-1. Mission Execution Forecast



Mission Execution Forecast												Fort Sill Weather Operations OL-E, 3rd Combat Weather Squadron									
		Tuesday, March 9, 2021		9/0900L (9/1500Z) to 9/2100L (10/0300Z)				MEF: 9A													
<b>Forecaster</b> Robinson	<b>Customer Feedback</b>  Please provide feedback: <a href="https://www.surveymonkey.com/fr/LCBV8P">https://www.surveymonkey.com/fr/LCBV8P</a>	<b>Flight Hazards</b>  See 26th OWS: <a href="https://26ows.us.af.mil/product/hazards/">https://26ows.us.af.mil/product/hazards/</a>	<b>Advisory / Warning / Watch</b>  See 26th OWS: <a href="https://26ows.us.af.mil/tech_ref/utp/index_utp.cfm?utp_id=52">https://26ows.us.af.mil/tech_ref/utp/index_utp.cfm?utp_id=52</a>	<b>Solar / Lunar Data</b> BMNT: 0558L MOONRISE: 0454L SUNRISE: 0653L MOONSET: 1500L SUNSET: 1836L MOON PCT: 11% EENT: 1930L				<b>Space Weather</b> GPS: Unlikely Impact UHF: Unlikely Impact HF: Unlikely Impact		<b>Tropical Weather</b>  None	<b>Mission</b>  Equipment: FA	<b>Briefing Record</b> Brief time/initials:  Void time/initials:  Rebrief/initials:									
<b>Within the Vicinity of Henry Post Army Airfield</b>												<b>Mission Limiting Thresholds</b>				<b>Max / Min Data</b>		<b>Field Artillery Message</b>			
Time	Temperature	Dew Point	RH	Wind Chill	ALSTG	PA (KFSI)	DA (KFSI)	FA	ADA	GND	RQ-11	Max Temp	Min Temp	m, AGL	Line	Wind (kt)	Vir.T	Pres			
0900L 1500Z	14 °C 57 °F	53 °F	87%	NA	30.14 ins	987 ft	1063 ft	Green	Yellow	Yellow	Red	22 °C 72 °F	14 °C 57 °F	200	01	340	022	2889	0963		
1000L 1600Z	15 °C 59 °F	53 °F	81%	NA	30.13 ins	999 ft	1220 ft	Green	Yellow	Yellow	Red	14 °C 57 °F	14 °C 57 °F	500	02	345	029	2861	0935		
1100L 1700Z	16 °C 61 °F	53 °F	75%	NA	30.11 ins	1012 ft	1378 ft	Green	Yellow	Yellow	Red	Max PA	Max DA	1000	03	367	036	2838	0891		
1200L 1800Z	17 °C 63 °F	53 °F	70%	NA	30.10 ins	1024 ft	1535 ft	Green	Yellow	Yellow	Red	1,134 ft	2,233 ft	1500	04	417	032	2877	0839		
1300L 1900Z	19 °C 66 °F	54 °F	64%	NA	30.07 ins	1051 ft	1767 ft	Green	Yellow	Yellow	Red	Min ALSTG	29.98 ins	2000	05	447	024	2881	0791		
1400L 2000Z	21 °C 69 °F	54 °F	59%	NA	30.04 ins	1079 ft	2000 ft	Green	Yellow	Yellow	Red	Relative Humidity	87%	2500	06	435	022	2845	0745		
1500L 2100Z	22 °C 72 °F	55 °F	55%	NA	30.01 ins	1107 ft	2233 ft	Green	Yellow	Yellow	Red	Max	3500	07	429	021	2797	0701			
1600L 2200Z	21 °C 70 °F	55 °F	58%	NA	30.00 ins	1116 ft	2140 ft	Green	Yellow	Yellow	Red	Min Freezing Level	NA	3000	08	423	021	2749	0660		
1700L 2300Z	20 °C 69 °F	55 °F	62%	NA	29.99 ins	1125 ft	2048 ft	Green	Yellow	Yellow	Red	Min Wind Chill	NA	4000	09	426	025	2704	0620		
1800L 0000Z	20 °C 67 °F	55 °F	66%	NA	29.98 ins	1134 ft	1956 ft	Green	Yellow	Yellow	Red	NA	4500	10	440	031	2664	0582			
1900L 0100Z	19 °C 66 °F	56 °F	69%	NA	29.99 ins	1128 ft	1874 ft	Green	Yellow	Yellow	Red	NA	5000	11	460	038	2627	0545			
2000L 0200Z	18 °C 65 °F	56 °F	72%	NA	29.99 ins	1122 ft	1792 ft	Green	Yellow	Yellow	Red	NA	6000	12	462	040	2577	0494			
2100L 0300Z	18 °C 64 °F	56 °F	75%	NA	30.00 ins	1116 ft	1710 ft	Green	Yellow	Yellow	Red	NA	7000	13	465	042	2513	0432			
<b>R5601 Mission Weather</b> (e.g. Frisco Ridge; DZs, LZs & HTAs; Quannah, West & Arbuckle Ranges)												Hazards: NONE				(FA) Go / No Go					
All Ranges Valid: 0900L - 1200L		Max Wind Speed: S12G22KT Min Ceiling: BKN 020				Min Vis/WX: 7SM				Hazards: NONE											
All Ranges Valid: 1200L - 1800L		Max Wind Speed: SW20G30KT Min Ceiling: BKN 120				Temp: SW25G35 (13) Min Vis/WX: 7SM				Hazards: NONE											
All Ranges Valid: 1800L - 2100L		Max Wind Speed: SW12G22KT Min Ceiling: BKN 030				Min Vis/WX: 7SM				Hazards: NONE											
<b>Garrison Planning Forecast</b>																					
<b>Wednesday, 10 Mar</b>			<b>Thursday, 11 Mar</b>			<b>Friday, 12 Mar</b>			<b>Saturday, 13 Mar</b>												
0000-1200L MIN VIS: 7 RAIN WIND: SW12G25KT		1200-2400L MIN VIS: 7 RAIN WIND: SW20G30KT		0000-1200L MIN VIS: 7 NONE WIND: SW12G22KT		1200-2400L MIN VIS: 7 NONE WIND: SW12KT		0000-1200L MIN VIS: 7 RAIN WIND: S12G22KT		1200-2400L MIN VIS: 4 TSTM WIND: SW15G25KT		0000-1200L MIN VIS: 7 TSTM WIND: NE20G30KT		1200-2400L MIN VIS: 7 TSTM WIND: NE25G35KT							
HI/LO: 28C (79F) 16C (61F) AM WCF: NA		HI/LO: 27C (81F) 17C (63F) AM WCF: NA		HI/LO: 24C (75F) 16C (61F) AM WCF: NA		HI/LO: 19C (66F) 5C (41F) AM WCF: 34°F															
<b>Solar / Lunar Data</b> BMNT: 0557L MOONRISE: 0537L SUNRISE: 0651L MOONSET: 1603L SUNSET: 1837L MOON PCT: 11% EENT: 1931L			<b>Solar / Lunar Data</b> BMNT: 0556L MOONRISE: 0614L SUNRISE: 0650L MOONSET: 1706L SUNSET: 1837L MOON PCT: 5% EENT: 1932L			<b>Solar / Lunar Data</b> BMNT: 0554L MOONRISE: 0647L SUNRISE: 0649L MOONSET: 1807L SUNSET: 1838L MOON PCT: 2% EENT: 1933L			<b>Solar / Lunar Data</b> BMNT: 0553L MOONRISE: 0716L SUNRISE: 0647L MOONSET: 1905L SUNSET: 1839L MOON PCT: 0% EENT: 1933L												
Contact Information: Phone: 580-442-4887, DSN: 639-4887												HPAAF METRO: 306.5 UHF				Weather Homepage: OL-E, 3d Combat Weather Squadron					

Figure D-1. Sample MEF



## D-2. 5-Day Weather Outlook



# Fort Sill 5-Day Weather Outlook & Effects

**March Climatology**  
**Avg Hi: 69F Avg Low: 44F**  
**Avg Precip: 2.3 Inches**

UNCLASSIFIED

**FORT SILL 5-DAY FORECAST**  
AS OF 0000 HRS LOCAL 09 MAR 21

	Wed 10 Mar 21		Thu 11 Mar 21		Fri 12 Mar 21		Sat 13 Mar 21		Sun 14 Mar 21	
12H PRECIP	Trace		0.10 in		0.00 in		0.00 in		0.00 in	
TEMPS	LO: 61F/16C DP: 52F/11C RH: 72%	HI: 79F/26C DP: 54F/12C RH: 42%	LO: 63F/17C DP: 55F/13C RH: 77%	HI: 81F/27C DP: 57F/14C RH: 45%	LO: 61F/16C DP: 54F/12C RH: 77%	HI: 75F/24C DP: 69F/15C RH: 57%	LO: 41F/5C DP: 41F/5C RH: 100%	HI: 66F/19C DP: 57F/14C RH: 73%	LO: 64F/18C DP: 57F/14C RH: 77%	HI: 66F/19C DP: 59F/15C RH: 78%
WINDS	12G22 KTS	20G30 KTS	12G19 KTS	12 KTS	12G22 KTS	15G25 KTS	20G30 KTS	25G35 KTS	20G30 KTS	20G30 KTS
X-WINDS	W10 LAR: 4 KTS	W10 LAR: 5 KTS	W10 LAR: 3 KTS	W10 LAR: 6 KTS	W10 LAR: 3 KTS	W10 LAR: 3 KTS	W10 LAR: 10 KTS	W10 LAR: 12 KTS	W10 LAR: 23 KTS	W10 LAR: 23 KTS
SKY/MSWX	7 SM / 1000FT SCATTERED SHOWERS	7 SM / 1000FT RAINFALL	7 SM / 1000FT CLOUDY	7 SM / 2500FT MOSTLY CLOUDY	7 SM / 1000FT RAIN	4 SM / 1000FT THUNDERSTORMS	7 SM / 1000FT SCATTERED TSMS	7 SM / 2000FT SCATTERED TSMS MOSTLY CLOUDY	7 SM / 2000FT SCATTERED TSMS MOSTLY CLOUDY	7 SM / 2000FT SCATTERED TSMS MOSTLY CLOUDY
DA / PA	MAX DA: +3079FT	MAX PA: +1329FT	MAX DA: +3125FT	MAX PA: +1290FT	MAX DA: +2792FT	MAX PA: +1228FT	MAX DA: +1731FT	MAX PA: +1163FT	MAX DA: +2284FT	MAX PA: +1367FT
SOLAR / LUNAR DATA (LOCAL)	BMNT: 05:56 SR: 06:51 MR: 05:37	EENT: 19:32 SS: 18:37 MS: 19:03	BMNT: 05:55 SR: 06:49 MR: 06:14	EENT: 19:33 SS: 18:38 MS: 17:05	BMNT: 05:54 SR: 06:48 MR: 06:46	EENT: 19:34 SS: 18:39 MS: 18:06	BMNT: 05:52 SR: 06:46 MR: 07:15	EENT: 19:34 SS: 18:40 MS: 19:04	BMNT: 05:51 SR: 06:45 MR: 07:42	EENT: 19:35 SS: 18:41 MS: 20:01
ILLUM DATA	5:37 / 4:28	0:19	5:55 / 4:27	0:00	5:54 / 4:26	0:00	5:52 / 4:26	0:00	5:51 / 3:59	0:26
ARTILLERY FIRES	W						W		W	
AIR DEFENSE										
SHADOW UAS										
RAVEN SUAS	CW	W	W	W	CW	W	W	W	W	W
ROTARY WING										
GROUND OPS										
VEHICLES										
TIME (LOCAL)	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00	00 06 12 18 00
TIME (ZULU)	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06	06 12 18 00 06

W-Wind TS-Thunderstorms C-Ceiling P-Precipitation RH-Rel. Humidity T-Temperature 1-TS W 2-C TS 3-C TS W 4-C PRHW 5-C PW 6-CW 7-C RHW 8-C PRH TS W 9-C PT S W 10-C PT S W 11-P W 12-P RH W 13-P RH TS W 14-TW  
 FORECASTER: Robinson

UNCLASSIFIED

*Integrity - Service - Excellence*  
**Figure D-2. Sample 5-Day Weather Outlook**

### D-3. Tropical Weather Outlook

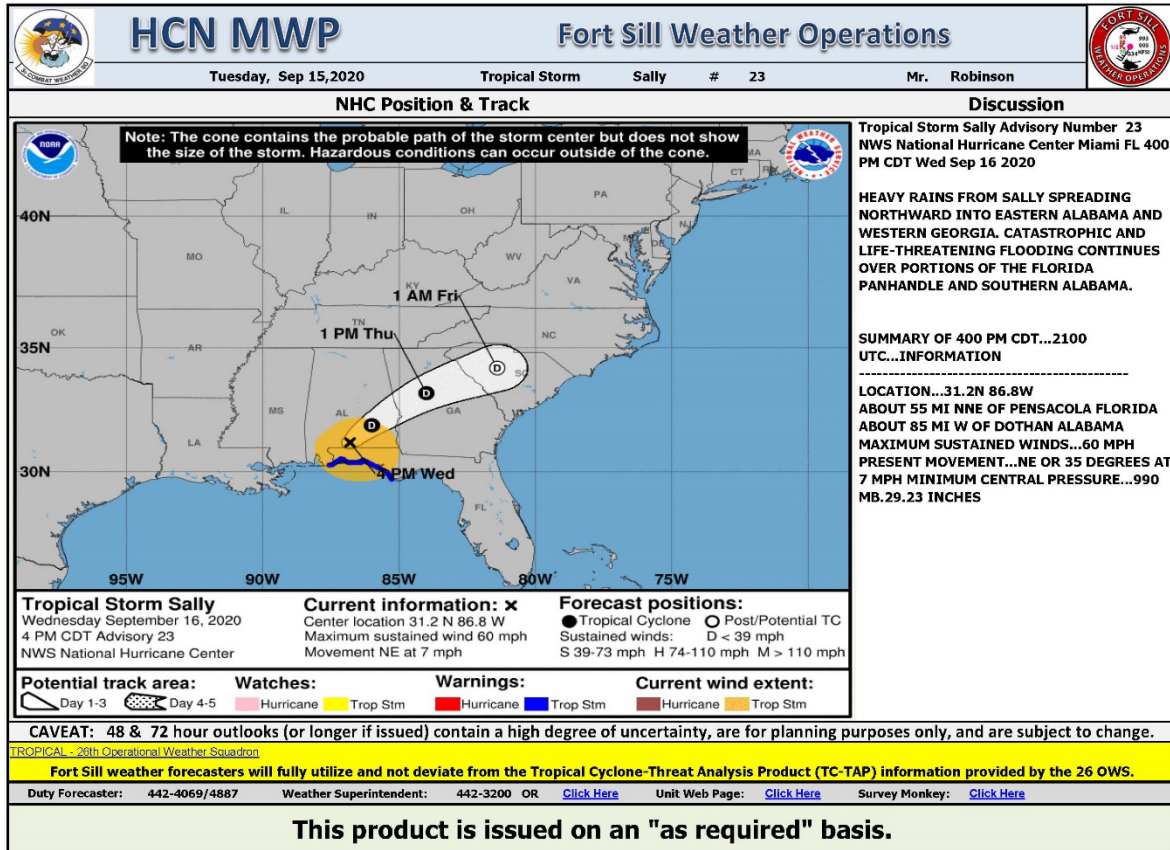
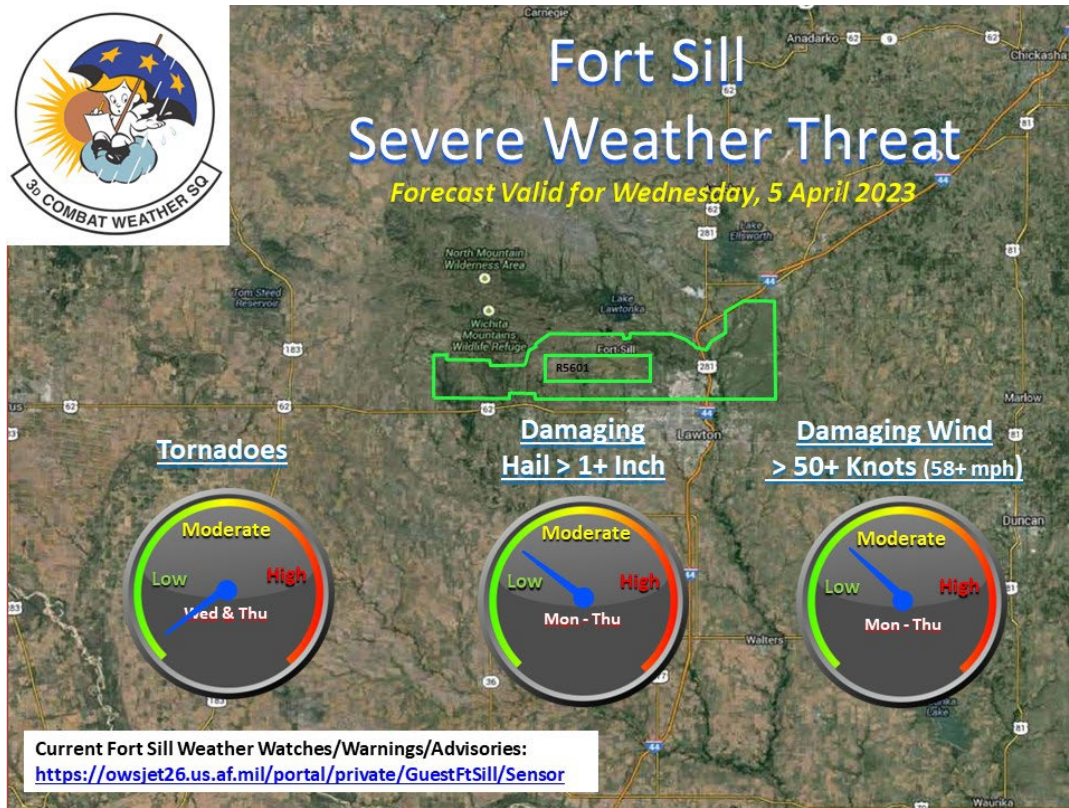


Figure D-3. Sample Tropical Weather Outlook

## D-4. Special Weather Statements



### Fort Sill Special Weather Statement

**BLUF:** A slight risk of strong to severe thunderstorms early morning Wednesday, just around morning commute time with the greatest threat of damaging wind and large hail.

**Weather Watches / Weather Warnings:** There are no Weather Watches or Warnings at this time. Fort Sill weather forecasters will continue to monitor the situation and issue watches and warnings as conditions warrant.

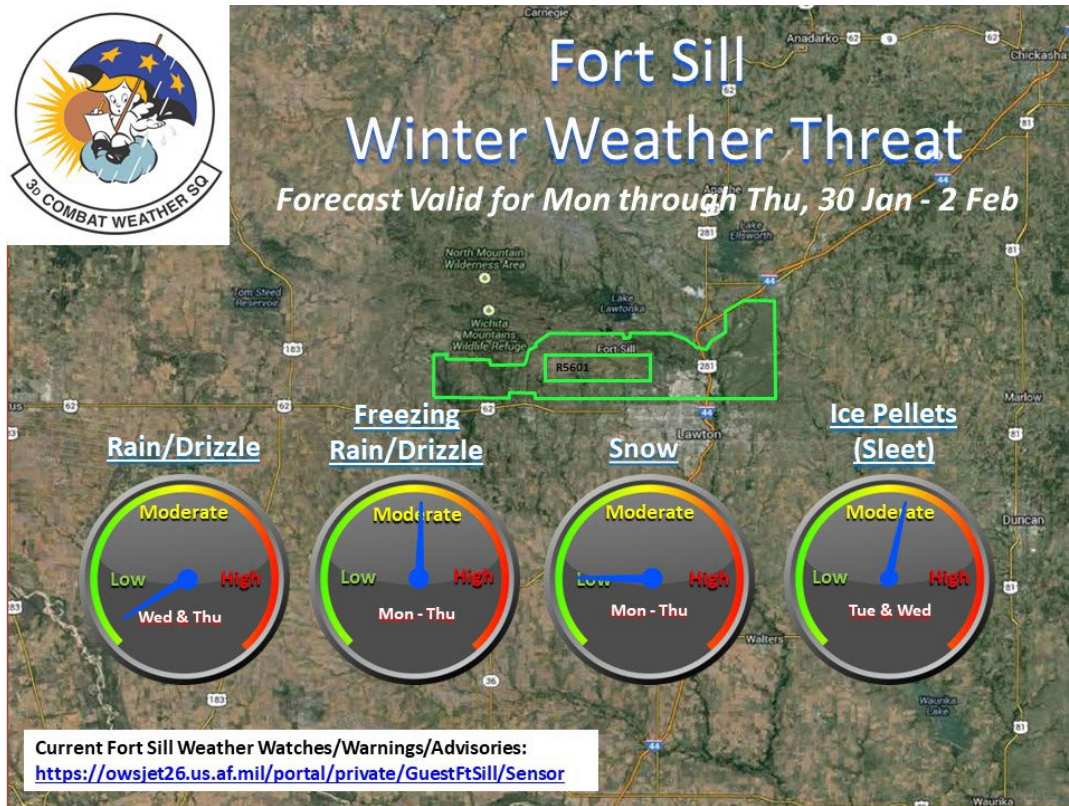
**Synopsis:** A strong cold front will move across western Oklahoma early Wednesday morning, and a line of severe thunderstorms is expected to form ahead of it and push across the Fort Sill area just around commute/PT time 0400-0900L. The primary modes of severe weather will be the risk of damaging wind and hail. The tornado risk will be low.

**Main Impacts:** Damaging hail up to 1 inch; wind gusts 50KT (58mph) or greater could pose a risk of damage to facilities, aircraft/equipment, and personnel. Localized flooding always possible in the vicinity of the thunderstorms.

Forecast updates are available via the Fort Sill Weather Station duty forecaster at 442-4000/4887 during duty hours and/or the 26<sup>th</sup> Operational Weather Squadron at (xxx) XXX-XXXX. **Please stay weather alert!**

Please provide feedback via our [Unit Mailbox](#)

**Figure D-4. Special Weather Statement (Severe Weather)**



### Fort Sill Special Weather Statement

**BLUF:** Freezing Rain / Drizzle / Sleet (Wintery Mix) Monday and lasting through Thursday morning will lead to dangerous driving conditions being the most significant impacts.

**Weather Watches / Weather Warnings:** There is currently an advisory in effect for Fort Sill.

**SYNOPSIS:** Temperatures remaining below freezing until Wednesday afternoon. A series of weak upper-level impulses bringing a light intermittent wintery mix into our area. Precipitation chances and amounts will increase early Tuesday through Wednesday morning significantly increasing the risk of ice accumulation. Temperatures will finally rise above freezing Wednesday afternoon with precipitation transitioning into just rain. It will freeze again Wednesday night with another risk of freezing rain/drizzle until mid-day on Thursday. Extensive cloud cover until Thursday afternoon will slow the melting of the ice.

**MAIN IMPACTS:** **Monday:** Spotty freezing rain and/or drizzle with accumulation of < 1/10<sup>th</sup> of an inch. **Tuesday - Wednesday:** Freezing rain and/or drizzle mixed with ice pellets, expect accumulation of 1/10<sup>th</sup> an inch on Tuesday & maybe just a trace on Wednesday. **Thursday:** Freezing rain becoming rain after noon when temperatures rise above freezing. Expect another accumulation of 1/10<sup>th</sup> an inch on Thursday morning.

**EXTENDED OUTLOOK:** **Friday** afternoon high in the 50s with no precipitation.

Forecast updates are available via the Fort Sill Weather Station duty forecaster at 442-4000/4887 during duty hours and/or the 26<sup>th</sup> Operational Weather Squadron at (xxx) XXX-XXXX. **Please stay weather alert!**

Please provide feedback via our [Unit Mailbox](#)

**Figure D-5. Special Weather Statement (Winter Weather)**

## Appendix E – Environmental Mission Limiting Thresholds

### E-1. General

Per joint publication 3-59, Commanders, operators and planners must communicate their mission specific thresholds to weather support personnel so assessments of potential operational impacts can be developed, and accurate, relevant, and timely information can be provided to decision makers during mission planning and execution. In addition, weather support personnel must be knowledgeable about weather effects and critical mission limiting thresholds (MLTs) for the weapon systems they support to ensure they provide important information required by decision makers.

a. MLTs identified in this appendix are derived from various publications such as AF- and Army-level regulations/instructions, Fort Sill regulations, Field Manuals (FM) and Technical Orders (TO), and local operating procedures.

b. The following lists are designed to present a general picture of weather impacts on operations and is not meant to be all-inclusive. OL-E, 3 CWS forecasters will use these lists as a baseline, expanding or changing it as required to support mission-specific operational requirements. Units will assist in developing MLTs per paragraph 7-8.

Aviation Operations / Rotary Wing - Environmental Mission Limiting Thresholds (MLTs)											
NOTE: This list is not meant to be all inclusive. Forecasters will attempt to identify "Go/No-Go" terrestrial and space weather threshold values (i.e., airframe, mission types, weapon systems, decision timelines) from aircrews and mission planners when preparing all flight/mission weather briefings											
MISSION Aircraft	Description / Location	Ceiling (ft) / Visibility (mi) Launch/Recovery	Ceiling (ft) / Visibility (mi) Enroute	Surface Wind (kt)	Thunderstorms	Turbulence (CAT II)	Icing				
Instruction Training (VFR) <i>Includes the following/missions:</i> Local Area Orientation (LAG) RL Progression (RL PROG) Continuation Training AH-64, UH-60, CH-47	R5601, CARS, FSI traffic pattern, low-level navigation, (Day/Night)	< 1000 / 3	Day: no min ceiling / 1/2 Night: 500 / 1	≥ 45	Avoid all thunders forms by at least 20 nm (FH Reg 95-1)	Forecast/Observed Severe	Forecast/Observed Severe				
IFR Training AH-64, UH-60, CH-47	R5601, FSI traffic pattern, or local flying area (Day/Night)	< 500 / 1/2	IAW AR95-1								
VMC Cross Country (CC) AH-64, UH-60, CH-47	Visual Meteorological Conditions (VMC) cross country local flying area (Day/Night)	< 1000 / 3	< 1000 / 3 (Some work requires no clouds below 10,000 ft MSL in the MTF areas)								
Maintenance Test Flight (MTF) AH-64, UH-60, CH-47	Operate SFC - 10,000 ft MSL		< 1000 / 3								
Limited Maintenance Test Flight (LMTF) AH-64, UH-60, CH-47	Ground testing--FSI Traffic Pattern	< 1000 / 3	< 1000 / 3								
Gunnery AH-64, UH-60	R5601 (West & N/S Arbuckle Ranges)	< 1,500 / 3	< 1,500 / 3								
Bambi Training UH-60, CH-47	Fire fighting (sling-load bucket water from local lakes)--R5601 or local communities	< 1000 / 3	< 1000 / 3								
Sling Load UH-60, CH-47	Airlift equipment via sling--R5601	< 500 / 1/2	< 500 / 1/2								
MEDEVAC UH-60	Medical airlift--R5601, local flying area	< 1000 / 3	< 1000 / 3								
Nap of the Earth (NOE)* AH-64, UH-60, CH-47	Flight 0-25 ft Above Highest Obstacle (AHO); Reservation	< 500 / 1/2	< 500 / 1/2								
<b>*For training, a safe airspace is used based on ambient light, flight visibility, terrain, wind, turbulence, obstacles, and crew proficiency</b>											
Search and Rescue (SAR) UH-60, CH-47	Locate, communicate with, and recover downed aircrews and isolated personnel	< 500 / 1/2	< 500 / 1/2					Forecast/Observed Severe	Forecast/Observed Severe		
Air Assault UH-60, CH-47	Reservation—rapid deployment of forces via multi-aircraft	< 1000 / 3	< 1000 / 3								

**Table E-1. Aviation Operations – Rotary Wing Environmental MLTs**

Aviation Operations / UAS - Environmental Mission Limiting Thresholds (MLTs)										
NOTE: This list is not meant to be all inclusive. Forecasters will attempt to identify "Go/No-Go" terrestrial and space weather threshold values (i.e., airframe, mission types, weapon systems, decision timelines) from aircrews and mission planners when preparing all flight/mission weather briefings										
MISSION Aircraft	Ceiling (ft) / Visibility (mi) Launch/Recovery	Ceiling (ft) / Visibility (mi) Enroute	Cross-Wind (kt)	Surface Wind (kt)	Wind Aloft (kt)	Thunderstorms	Precipitation	Turbulence (CAT I)	Icing	Space
Intelligence, Surveillance, and Reconnaissance (ISR)										
Shadow (RQ-7B)	3000 / 3	3000 / 3	N/A	≥ 25	≥ 50	Avoid all	Moderate	Forecast/Observed Severe	Forecast/Observed Any Icing	Severely degraded HF/UHF or High GPS (Single-Frequency) Impacts (> 50 meter errors)
Raven (RQ-11B)	1000 / 3	1000 / 3	N/A	≥ 15	≥ 20		Any	Forecast/Observed Moderate		

**Table E-2. Aviation Operations – UAS Environmental MLTs**

Range Operations - Environmental Mission Limiting Thresholds (MLTs)						
NOTE: This list is not meant to be all inclusive. Forecasters will attempt to identify "Go/No-Go" terrestrial and space weather threshold values (i.e., mission types, weapon systems, decision timelines) from mission planners when preparing all mission weather products						
MISSION	Location	Ceiling (ft) / Visibility (mi)	Surface Wind (kt)	Precipitation	Temperature	Other
Field Artillery (FA) <i>Includes the following Missions:</i> Self propelled & towed Howitzer Paladin Multiple Launch Rocket System High Mobility Artillery Rocket System	Quanah & West Range; N/S Arbutle Range (collectively East Range)	< 1/2 mile (Ceiling N/A)	≥ 35	Any 'Heavy' Precipitation Any 'Freezing' Precipitation Large Hail (GR)	> 125°F  < 20°F	N/A
Air Defense Artillery (ADA) <i>Includes the following Missions:</i> Stinger / Avenger Patriot Missile Counter Rocket, Artillery & Mortar	Quanah & West Range; N/S Arbutle Range (collectively East Range)	< 2500 (Visibility N/A)	≥ 35	Any 'Heavy' Precipitation or Large Hail (GR)	> 125°F	N/A
Ground Operations (GND) <i>Includes the following Missions:</i> Basic Combat Training Annual Weapons Qualification Maneuver & Trafficability Field Training Exercises Night Infiltration Course Hand Grenade Wet/Dry Range	Quanah & West Range; N/S Arbutle Range (collectively East Range); 6000 Training area (BCT); Fort Sill Garrison	< 1/2 mile (Ceiling N/A)	≥ 35	Any 'Heavy' Precipitation Any 'Freezing' Precipitation Large Hail (GR)	≥ 95°F  ≤ -15°F	Wind Chill < -20°F  Snow and/or Ice on Roads

**Table E-3. Range Operations – Environmental MLTs**

Threshold Value	Impact	Supported Unit Action(s)
<b>Tornado / Funnel Cloud</b> (radar detected or visually observed) AND threatening the Fort Sill Cantonment Area or Range Boundaries	Immediate threat of catastrophic damage to personnel and property	Warn populace ( <b>refer to FS EM Plan</b> )--seek immediate shelter; recall/ground all aircraft—hangar high priority aircraft, divert aircraft; secure equipment; man emergency control centers/disaster response teams
<b>Severe Thunderstorm</b> (Damaging Wind ≥ 50 knots and/or Damaging Hail ≥ 1 inch)	Immediate threat to exposed personnel; high risk of damage to facilities and exposed aircraft and equipment	Seek shelter; recall/ground all aircraft—hangar/tie down aircraft, divert aircraft; secure loose equipment; limit outdoor high-risk activities
<b>Moderate Thunderstorm</b> (Strong Wind ≥ 35 to < 50 knots and/or Large Hail ≥ 1/4 inch to < 1 inch)	Increased risk to exposed personnel; increased risk of damage to unsecured property; increased risk to outdoor activities and damage to exposed aircraft and vehicles	Secure loose equipment; hangar high priority aircraft—consider hangar/tie down all aircraft, divert aircraft; limit outdoor high-risk activities—

		increase operational risk assessment
<b>Damaging Wind</b> (surface wind not associated with thunderstorms $\geq$ 50 knots)	Immediate threat to exposed personnel; increased risk of damage to facilities and equipment	Recall/ground all aircraft—hangar/tie down aircraft; secure loose equipment; limit outdoor high-risk activities
<b>Strong Wind</b> (surface wind not associated with thunderstorms $\geq$ 35 knots to < 50 knots)	Increased risk to exposed personnel; increased risk of damage to unsecured property; increased risk to outdoor activities and damage to exposed aircraft and vehicles	Consider hangar/tie down aircraft; secure loose equipment; limit outdoor high-risk activities—increase operational risk assessment
<b>Lightning within 10 NM</b>	Immediate threat to exposed personnel; lightning strike/static discharge damage—delay of operations	Cease aviation refueling, cease all ramp activities; cease explosives and/or ammunition operations; limit outdoor activities to protect personnel; shutdown computers—use backup generators
<b>Freezing Precipitation, or Heavy Snow</b> ( $\geq$ 8 inches in 24 hours), or <b>Snow</b> ( $\geq$ 6 inches in 12 hours)	Disrupts personnel movement or flightline activities; Poses significant risk of damage to facilities and rapidly creates hazardous conditions for personnel and vehicle movement that cannot easily be mitigated as conditions worsen; icing on roads—hazard to driving; icing on aircraft/equipment—delay or curtailment of operations	Cease flying, hangar or protect aircraft; report runway conditions (runways/taxiways/ramps); sand/salt on overpasses and intersections, close roads—limit and/or restrict post driving (Refer to FS EM Plan)
<b>Blizzard Conditions</b> (falling and/or blowing snow AND visibility $\leq$ 1/4 mile AND winds $\geq$ 30 knots lasting at least 3 hours.)	Imposes significant risk to personnel movement; significant risk to maneuver or flightline activities	Seek shelter; cease flying; recall/ground all aircraft—hangar/tie down aircraft, divert aircraft; secure loose equipment; limit outdoor high-risk activities
<b>Heavy Rain</b> (> 2 inches in 12 hours)	Increased threat of flash flooding or systemic flooding posing credible threat to unprotected resources and personnel; disrupts flightline and maneuver activities; imposes increased risk on personnel movement	Restrict vehicle movement (off-road)—avoid water crossings; beware of flash flood potential; increase operational risk assessment

**Table E-4. Garrison Operations – Environmental MLTs**

## Appendix F – Contact Information

Office	Commercial	DSN	Fax and/or E-mail
<b>Superintendent</b>	580-442-3200	639-3200	<a href="mailto:james.c.adams3.civ@mail.mil">mailto:james.c.adams3.civ@mail.mil</a>
<b>Lead Forecaster</b>	580-442-4000	639-4000	<a href="mailto:darin.g.robinson.civ@mail.mil">mailto:darin.g.robinson.civ@mail.mil</a>
<b>Forecaster(s)</b>	580-442-4069 580-442-4887	639-4069 639-4887	Fax: 580-442-7761 <a href="mailto:usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil">mailto: usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil</a>
<b>Weather Maintenance</b>	580-442-4043	639-4043	<a href="mailto:usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil">mailto: usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil</a>
<b>26 OWS Flight Weather Briefings</b>	318-529-2651 318-529-2652 318-529-2653	331-2651 331-2652 331-2653	Fax: 318-529-2609 DSN: 331-2609
<b>Alternate Operating Location Bldg 4915, Room 13</b>	580-442-2614	639-2614	Fax: 580-442-7126 <a href="mailto:usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil">mailto: usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil</a>
<b>Alternate Maintenance Facility Bldg 4915, Room 12</b>	580-442-2975	639-2975	Fax: 580-442-7045 <a href="mailto:usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil">mailto: usarmy.sill.imcom.mbx.ft-sill-dptms-weather@mail.mil</a>

**Table F-1. Directory**



## **Glossary**

### **Section I Abbreviations**

#### **ACC**

Air Combat Command

#### **AFI**

Air Force Instruction

#### **AFMAN**

Air Force Manual

#### **AGL**

Above Ground Level

#### **AIRMET**

Airmen's Meteorological Information

#### **ALSTG**

Altimeter Setting

#### **AOL**

Alternate Operating Location

#### **AOR**

Area of Responsibility

#### **ARAC**

Army Radar Approach Control

#### **ATC**

Air Traffic Control

#### **BKN**

Broken (as in sky condition of 5/8ths to 7/8ths cloud coverage)

#### **CAT**

Crisis Action Team

#### **CBRNE**

Chemical, Biological, Radiological, Nuclear & High-Yield Explosive

#### **COOP**

Continuity of Operations

**CWW**

Cooperative Weather Watch

**DES**

Director of Emergency Services

**DPTMS**

Director of Plans, Training, Mobilization and Security

**DPW**

Director of Public Works

**EM**

Emergency Management

**FEW**

Few (as in sky condition of 1/8ths to 2/8ths cloud coverage)

**FL**

Flight Level

**FLIP**

Flight Information Publication

**FSOC**

Fort Sill Operations Center

**FV**

Flight Level Visibility

**HF**

High Frequency

**Hg**

Inches of Mercury

**HPAAF**

Henry Post Army Airfield

**ICAO**

International Civil Aviation Organization

**IWWC**

Integrated Weather Warning Capability

**JET**

Joint Environmental Toolkit

**KFSI**

ICAO locator for Henry Post Army Airfield

**KT**

Knots

**LAN**

Local Area Network

**LOCAL**

Aviation Selected Local Weather Report (Observation)

**LTS**

Lightning Tracking System

**MEFP**

Mission Execution Forecast Process

**METAR**

Aviation Routine Weather Report (Observation)

**MISSIONWATCH**

Mission-Scale Meteorological Watch

**MLT**

Mission Limiting Thresholds

**MSC**

Major Subordinate Command

**NEC**

Network Enterprise Center

**NHC**

National Hurricane Center

**NIPRNET**

Non-Secure Internet Protocol Router Network

**NM**

Nautical Mile

**NOTAM**

Notice to Airmen

**OVC**

Overcast (as in sky condition of 8/8ths cloud coverage)

**OWS**

Operational Weather Squadron

**PAO**

Public Affairs Office

**PIREP**

Pilot Report

**PMSV**

Pilot to Metro Service

**R5601**

Restricted Area

**RM**

Risk Management

**RMK**

Supplementary Remarks Follow

**RVR**

Runway Visual Range

**RVRNO**

Runway Visual Range Not Available

**RWY**

Runway

**SCT**

Scattered (as in sky condition of 3/8ths to 4/8ths cloud coverage)

**SIGMET**

Significant Meteorological Information

**SK**

Sky Condition

**SLP**

Sea Level Pressure

**SM**

Statute Mile

**SPECI**

Aviation Selected Special Weather Report (Observation)

**SWAP**

Severe Weather Action Procedures

**SWO**

Superintendent of Weather Operations

**TA**

Outside Air Temperature

**TC-TAP**

Tropical Cyclone-Threat Analysis Product

**TM**

Time

**TP**

Aircraft Type

**UA**

Routine PIREP

**UAS**

Unmanned Aircraft System

**UFN**

Until Further Notice

**UHF**

Ultra-High Frequency

**UUA**

Urgent PIREP

**VAAC**

Volcanic Ash Advisory Centers

**VFR**

Visual Flight Rules

**WWA**

Weather Watch Warning or Advisory

**WX**

Weather

**Section II  
Terms****Augmentation**

The process of having certified weather personnel manually add or edit data to an observation generated by a properly sited automated observing system. The two augmentation processes used are supplementing and back up.

**Aviation Routine Weather Report (METAR)**

METAR is a routine scheduled observation as well as the primary observation code used by the United States to satisfy requirements for reporting surface meteorological data.

**Aviation Selected Special Weather Report (SPECI)**

SPECI is an unscheduled observation completed and transmitted when special weather criteria are observed at manual observing stations or determined by sensor equipment at automated stations.

**Backup**

The method of manually providing meteorological data, and/or dissemination to an automated weather observation when the primary automated method is not operational or unavailable (due to sensor or communication failures) or when unrepresentative and operationally significant.

**Basic Weather Watch**

A program to ensure weather forecasters provide the proper level of weather awareness to detect and report significant changes in specified weather elements.

**Ceiling**

The height above ground level of the lowest broken (5/8 coverage or more) or overcast (8/8 coverage) cloud layer or total obscuration.

**Climatology**

The historical record of weather conditions measured or observed at a specific location is known as climatology. Some data go back over 100 but generally a 10- to 25-year history is more common. Climatology is useful in planning operations beyond 5 to 7 days. It usually describes the average (or mean) conditions such as high and low temperatures and extremes.

**Cooperative Weather Watch**

A practice of augmenting a basic weather watch with information received from non-weather sources. Air traffic controllers are the most common example.

**Desired Lead-Time**

The amount of advance notice a supported customer requires to react to a weather watch, warning, and/or advisory.

**Equivalent Chill Temperature**

An approximate measure of the cooling effect on exposed skin of the ambient air temperature and wind speed combined.

**Eyes Forward**

Base/Post level weather forecasters are the eyes forward for the forecasters in the 26 OWS area of responsibility (AOR) and integrate weather radar data, satellite imagery, lightning detection readouts, and nonstandard weather data systems to create an integrated weather picture and near-term trend forecasts for the 26 OWS AOR. Eyes forward yields meaningful meteorological information not contained in coded observations to the servicing OWS and is an integral part of the meteorological watch for an installation.

**ICAO Identifier**

A specifically authorized 4-letter identifier assigned to a location and documented in ICAO Document 7910. ICAO.

**Meteorological Data**

Meteorological facts pertaining to the atmosphere, such as wind, temperature, air density, and other phenomena that affect military operations. See also weather data. In the context of this regulation, synonymous with weather data.

**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 determining courses of action to update or amend a forecast product or group of products and designated agencies notified.

**Mission Execution Forecast**

A tailored mission weather product issued for the specific support of military operations.

**MISSIONWATCH**

A deliberate process of monitoring specific mission-limiting environmental factors that may adversely impact missions in execution. The MISSIONWATCH process is intended to identify previously unidentified environmental threats and alert decision-makers at the operational unit and/or airborne mission commanders, enabling dynamic changes to

mission profiles that may mitigate the environmental threat and optimize the chance of mission success.

### **Observed Weather Advisory**

A weather advisory issued when a particular weather event first occurs, and the customer does not require advanced notification of the observed weather phenomenon.

### **Observed Weather Warning**

A weather warning issued when a particular weather event first occurs, and the customer does not require advanced notification of the observed weather phenomenon.

### **Operational Weather Squadron**

An organization comprised of management, technician, and training personnel responsible for providing regional weather support. Their mission is to produce fine-scale tailored weather forecast products and services to customers within their area of responsibility.

### **Pilot Report**

A report of in-flight weather conditions relayed by an aircrew member.

### **Potential**

Conditions indicate a given weather phenomenon is capable of development within a specified amount of time.

### **Prevailing Visibility**

The greatest visibility equaled or exceeded through half or more of the horizon circle.

### **Staff Supervision**

As a member of the supported commander's special staff, the SWO requires Army staff guidance to fully execute those duties. A staff relationship consisting of formal guidance and assistance provided to AF SWOs by Army Chiefs of Staff, G-2/S-2s, and other staff members with Army administrative functions, interpretation of the Army guidance, staff, budget, and other issues.

### **Staff Weather Officer**

The AF senior weather representative at each Army echelon, who serves as a member of the Army commander's special or personal staff.

### **Supplement**

A method of manually adding meteorological information to an automated observation that is beyond the capabilities of the automated observing system to detect and/or report.

### **Transient Missions**

Aviation missions passing through an airfield other than the flying unit's home station. Missions are considered transient when the mission aircraft lands or conducts pattern work at an airfield and subsequently departs to another location (or home station) in the



same crew duty day. Usually, this intermediate stop in the overall mission occurs for fuel and services, or to drop off/pick up duty passengers or equipment.

### **Unmanned Aircraft System (UAS)**

That system whose components include the necessary equipment, network, and personnel to control an unmanned aircraft. Also called UAS.

Note: Unmanned aircraft may also be referred to as unmanned aerial vehicles (UAVs).

### **Weather Advisory**

A special product notifying an end user when an established environmental condition effecting operations is occurring or is expected to occur.

### **Weather Data**

See Meteorological Data.

### **Weather Observation**

An evaluation of one or more meteorological elements that describes the state of the atmosphere at the observation location.

### **Weather Operations**

Five core processes-collection, analysis, prediction, tailoring, and integration-to characterize the past, current, and future state of the atmosphere and space environment then enable the exploitation of this environmental information at key decision points.

### **Weather Services**

A specialized task performed by air and space forces to provide timely and accurate environmental information to support strategic, operational, and tactical military operations.

### **Weather Warning**

A special notice provided when weather meeting specified warning criteria is occurring or expected to occur. Weather Warnings provide concise information and 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 notice provided 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 should consider taking protective measures.