BY ORDER OF THE COMMANDER
MCCONNELL AIR FORCE BASE

MCCONNELL AIR FORCE BASE
INSTRUCTION 15-101

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Weather

MCCONNELL AIR FORCE
BASE WEATHER SUPPORT

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This instruction implements Air Force Policy Directive 15-1, *Weather Operations*, AFMAN 15-111, *Surface Weather Observations*, AFMAN 15-124, *Meteorological Codes*, AFI 15-128, *Weather Force Structure*, AFMAN 15-129, *Air and Space Weather Operations*, and Air Mobility Command Instruction (AMCI) 15-101, *Weather Operations and Support*. It establishes responsibilities, weather support procedures and provides general information for weather services, including weather observations and forecasts, weather warnings, watches, and advisories; space weather data, information dissemination, and base-wide reciprocal support. It applies to units assigned to the 22d Air Refueling Wing (22 ARW) and units assigned, attached, or supported by McConnell AFB, including the 931st Air Refueling Wing (931 ARW) (AFRC) and the 184th Intelligence Wing (IW) (ANG). Refer recommendation changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication; route AF Forms 847 from the field through the appropriate functional' s chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, Management of Records, and disposed of in accordance with the Air Force Records Information System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/**.

SUMMARY OF CHANGES

This document has been substantially revised and should be completely reviewed. Major changes include: updates hours of operations for the McConnell Weather Flight, agency of responsibility for weather watches, warnings and advisories, briefing production.

Chapter 1

WEATHER ORGANIZATION INTERACTIONS

1.1. General. The 22d Operations Support Squadron Weather Flight (22 OSS/OSW) and the 618th Air Operations Center (Tanker Airlift Control Center) Weather Directorate are the official weather information agencies for McConnell Air Force Base, Kansas. 22 OSS/OSW is commonly referred to as the Weather Flight (WF) and is the McConnell Air Force Base focal point for all weather-related issues. 618 AOC (TACC)/XOW is commonly referred to as TACC/XOW throughout this document. This document establishes requirements and procedures for areas of weather support that must be coordinated at the local level to meet mission needs. It consolidates weather support requirements and procedures for operations and eliminates the need for written agreements between the weather unit and supported organizations.

1.2. Concept of Operations. 22 OSS/OSW provides flight weather briefings for all non-IFM missions, creates and transmits terminal aerodrome forecasts and augments weather observations as required during airfield operating hours, and creates and issues weather watches, warnings, and advisories for McConnell AFB. TACC/XOW provides Flight Weather Briefings for all IFM missions. The 26th Operational Weather Squadron (26 OWS) provides backup support should the WF not be able to provide required/requested support.

1.2.1. Meteorological Watch (METWATCH). METWATCH is a deliberate process for monitoring terrestrial weather or the space environment in an area or region. 22 OSS/OSW performs a continuous METWATCH for McConnell AFB.

1.2.2. WF (Non-IFM) and TACC/XOW (IFM) are the primary sources of tailored weather services in support of 22 ARW, 931 ARW, 184 IW, and visiting aircrews. WF and TACC/XOW make every effort to ensure that mission-limiting weather is anticipated and exploited, and that safety and Resource Protection (RP) are maintained.

1.3. Responsibilities. General responsibilities of WFs and OWSs are outlined in AFI 15-128, *Weather Force Structure* **para 2.3.3.** and **para 2.3.4.,** respectively.

1.3.1. 22 OSS/OSW implements their responsibilities under three (3) main elements:

1.3.1.1. Staff Integration Function provides direct interface to 22 ARW Commander (22 ARW/CC) and staff. 22 OSS/OSW assists in the development of weather support plans and processes for 22 ARW and associated units. WF will support McConnell AFB with weather related information required by regulations or as directed by 22 ARW/CC.

1.3.1.2. Airfield Support Function provides resource protection, meteorological watch (METWATCH), and are the “eyes forward” for 26 OWS. WF has the role of issuing, amending, and cancelling all weather watches, warnings, and advisories with the exception of fire and flood warnings that will be issued by the National Weather Service. WF will create and disseminate Terminal Aerodrome Forecasts (TAFs) for the installation with the following specifications:

1.3.1.2.1. TAFs will be issued every eight hours (02Z, 10Z and 18Z) and will cover a 30-hour period.

1.3.1.2.2. TAFs will be amended in accordance with the Installation Data Page (IDP) and SPECI criteria discussed in **Attachment 2**.

1.3.1.2.3. During periods of extended airfield closure (weekends, holidays, etc.), TAFs will not be issued unless there is a mission requirement.

1.3.1.3. Mission Integration Function provides support to 22 ARW and tenant units through Mission Weather Products (MWP), which is commonly known as the Mission Execution Forecast (MEF), or similar means. This includes providing or arranging for flight weather briefings for all non-Integrated Flight Management (IFM) 22 ARW and 931 ARW missions, as well as verbal or written flight weather briefing support for transient aircraft leaving McConnell AFB and IFM missions in the event that TACC/XOW is unavailable. WF is responsible for mission/event planning briefs for the 22 ARW mission.

1.3.2. TACC/XOW. TACC/XOW provides flight weather briefings and operational weather support for 22 ARW and 931 ARW Integrated Flight Management missions.

1.3.3. Eyes Forward & Collaboration. McConnell WF acts as the eyes forward for 26 OWS by relaying significant, time-sensitive meteorological information not found in coded meteorological reports to assist in forecast operations across their area of responsibility.

1.3.4. Duty Priorities. All WF tasks cannot be accomplished simultaneously. Therefore, IAW AFMAN 15-129, WF has established the duty priorities listed in **Table 1.1** based on their order of relative importance to mission accomplishment. WF personnel use risk management to determine the need to recall personnel to assist in meeting requirements.

Table 1.1. 22 OSS/OSW Duty Priority Listing.

Priority	Duties
1	Wartime Defense of Duty Site/Location
2	Perform OPLAN/emergency war order tasks
3	Execute WF Evacuation / Continuity of Operations Plan
4	Issue/Disseminate Imminent Hazardous Weather Warnings
5	Respond to Aircraft/Ground Emergencies
6	Issue/Disseminate Imminent Weather Advisories
7	Respond to Pilot to Metro Service (PMSV) Contacts
8	Augment Fixed Base Weather Observing System (FBWOS) Observation for Mandatory Elements (transmit locally and longline as required)
9	Disseminate Urgent Pilot Reports (PIREPs) and Special AIREPs
10	Disseminate Terminal Aerodrome Forecasts (TAFs)
11	Provide Flight Weather Briefings
12	Collaborate Weather Products with Supported Units
13	METWATCH/Amend Weather Products
14	Respond to Support Assistance Request (SAR) or Request for Information
15	Provide Staff Briefings / Non-Standard Weather Products
16	Weather Functional Training
17	Accomplish Administrative Tasks

1.4. Hours of Operation.

1.4.1. WF. Airfield and mission services will be monitored and available 24/7. In case of airfield closure on holidays and weekends, a standby forecaster will monitor mission and resource protection requirements 24 hours a day. A standby roster will be provided to Command Post. Staff services are available Monday-Friday 0730L-1630L or as requested.

1.4.2. 26 OWS and TACC/XOW. Hours of operation are 24/7, 365 days a year.

1.5. Contact Information.

1.5.1. WF (316) 759-3707/4311 / DSN 743-3707/4311

1.5.2. WF AOL (316) 759-1697/1698 / DSN 743-1697/1698

1.5.3. PMSV 374.2 MHz

1.5.4. TACC/XOW **(**618) 229-0353 **/** DSN 779-0353

1.5.5. 26 OWS (318) 529-2618 / DSN 331-2618

1.6. Support Continuity. Support continuity to the installation and flying operations is susceptible to equipment and communication outages at 26 OWS, TACC, and WF. WF participates in various Wing, 26 OWS, and AMC exercises to maintain procedures for and proficiency at tasks necessary to ensure operations' continuity.

1.6.1. WF Support. In the event of a building evacuation, WF will move to the Air Traffic Simulator Facility (Building 72) to resume support. Manual equipment may be used to take observations. Some services may be degraded (weather products, pilot briefings, etc.) due to facility limitations and loss of dedicated data services/software. For flight safety reasons, the WF does not evacuate during exercises.

1.6.2. TACC/XOW Support. IAW AMCI 15-101, if the TACC/XOW loses the capability to provide flight weather briefing services, WF assumes responsibility for briefing local Wings' IFM missions. If WF is unable to provide the required support, briefing responsibility is transferred to 26 OWS.

1.6.3. AMC Weather Exercises. AMC weather units typically conduct coordinated exercises on the second Wednesday/Thursday of each month. McConnell WF may conduct locally generated exercises at other times to maximize training opportunities. WF coordinates timelines and potential impacts with supported units prior to all scheduled exercises.

1.6.3.1. Global Decision Support System (GDSS) Proficiency/Outage Exercise. GDSS proficiency exercises ensure WF is prepared to provide full-spectrum briefing support. During TACC/XOW GDSS proficiency/outage exercises, WF:

1.6.3.1.1. Provides mission weather packages NLT 4.5 hours prior to scheduled departure through GDSS or alternate means if a GDSS outage is simulated.

1.6.3.2. Manual/Tactical Observing Exercise. Manual/Tactical observing exercises ensure WF is proficient in the use of tactical weather systems and manual observing methods. During manual/tactical observing exercises, WF:

1.6.3.2.1. Follows AMC/A3AW published SPINS. These SPINS contain the specifics for each exercise.

1.6.3.2.2. Ensures real-world, augmented observations are available to support airfield operations.

1.7. Release of Weather Information to Non-DoD Agencies and Individuals. General current weather observation data is disseminated/commercially available in the public domain and can be given to the public, such as temperature, winds, humidity, and sky condition. However, specific weather information that requires research, aggregation or compilation will not be released to non-DoD agencies/non-base agencies without approval from 22 ARW Public Affairs (22 ARW/PA) and Legal offices, such as total number of days with precipitation during a specific month.

1.8. Post-Mission Analysis/Feedback. Per AFH11-203, Volume 2, Weather for Aircrews, units that regularly utilize weather support from WF should provide post-mission/utilization feedback, when possible. This information will be used to ensure products delivered to customers are timely, accurate, and relevant.

1.8.1. Formal/informal feedback methods include:

1.8.1.1. Calling the Forecast counter at (316) 759-3707.

1.8.1.2. Email or phone calls to the Flight Chief or NCOIC, Mission Weather Services.

1.8.1.3. Face to face feedback after any briefing.

1.8.2. WF will, in turn, utilize this data to refine their mission support role and gauge unit strengths and weaknesses.

Chapter 2

AIRFIELD INTEGRATION FUNCTION

2.1. General. Airfield support includes those actions affecting the McConnell aerodrome (defined within a 5NM radius of the airfield up to 10,000 feet above ground level) or McConnell AFB as a whole. These functions include, but may not be limited to, weather observing, meteorological watch, and resource protection.

2.2. Automated Observation. The FMQ-19 FBWOS works in concert with the JET to evaluate, prepare, and transmit weather observations for McConnell AFB. IAW AFMAN 15-111, *Surface Weather Observations,* automated systems at Department of Defense controlled airfields operate in full-automated mode except under the conditions specified in **paragraphs 2.2.4** or when conditions are not properly captured by the FBWOS. The three basic types of observations provided are METAR, SPECI, and LOCAL. **Attachment 2** lists all special weather observation (SPECI) criteria specific to McConnell AFB (not including those listed in AFMAN 15-111). Operators requiring an observation for a threshold not listed in **Attachment 2** or AFMAN 15-111, Table A2.1. should contact WF leadership for coordination.

2.2.1. Point of Observation. On McConnell AFB, the point of observation is where the FMQ-19 sensors are located on the airfield. During periods of augmentation from the primary site, the point of observation for those elements becomes the physical location from which the duty technician determines weather elements. McConnell's augmentation observation site is located approximately 100 feet away from the flight line side of building 1112, next to 4 yellow pylons.

2.2.2. Observing Location Limitations.

2.2.2.1. The FMQ-19 is properly sited and no limitations are currently noted.

2.2.2.2. The following physical limitations may impact the representation of McConnell AFB weather observations, taken at the primary site (Bldg. 1112), when augmentation is required.

2.2.2.2.1. Buildings, hangars, parked aircraft and trees block portions of the sky as well as ground visibility reference markers, especially clockwise from north to south.

2.2.2.2.2. There are few adequate ground visibility reference markers beyond 1 mile. This especially degrades determination of nighttime visibility.

2.2.2.2.3. Nearby lighting contaminates and complicates observing nighttime sky condition.

2.2.2.2.4. The south end of the runway is not visible from the observation point. When fog and (or) low clouds are present over the approach end of Runway 01 (south of the field), conditions reported from the observation point may not be representative.

2.2.2.2.5. Lightning. Lightning may not be seen due to distance, low clouds, or poor visibility. Thunder may not be heard because of flight-line noise. The FBWOS lightning detection system only detects cloud to ground lightning. NOTE: The Cooperative Weather Watch (CWW), section 2.6., exists to help alleviate these deficiencies.

2.2.3. Automated FMQ-19 Observation**.** An automated observation is any observation evaluated, prepared, and transmitted by an observing system without human intervention.

2.2.4. FMQ-19 Augmentation. Augmentation is a method of having a weather technician manually add or edit data to an observation generated by the FMQ-19. The two augmentation processes used are supplementing and backup.

2.2.4.1. Supplementing. Supplementing is the process of manually adding meteorological information to an observation generated by the FMQ-19 that is beyond the system's capability to detect and/or report. For example, the sensor cannot sense tornadoes, hail, or ice pellets.

2.2.4.2. Supplementing procedures**.** WF personnel supplement observations when the weather conditions in **AFMAN 15-111 Table 5.1.** are observed or are forecast to occur within 1 hour. Additionally, WF personnel are required to log on to an FBWOS and be prepared to supplement whenever a watch or warning has been issued for severe weather conditions in the same table**.**

2.2.4.3. Backup. Backup is a method of manually providing meteorological data and/or dissemination of an FMQ-19 generated observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure. Back-up procedures are implemented during airfield operating hours and/or if tornadic activity is occurring or forecast to occur. WF personnel use manual observing procedures when performing back-up operations.

2.3. Terminal Aerodrome Forecasts (TAFs). McConnell AFB WF produces and disseminates TAFs IAW AFI 15-128, AFMAN 15-124, AFMAN 15-129, and the McConnell AFB Installation Data Page. TAFs are valid for 30 hours, apply to the area within 5NM of the McConnell AFB airfield complex, and are issued at 0200, 1000, and 1800 Zulu time. **Attachment 3** lists locally specified forecast specification and amendment criteria. Air Force standard specification and amendment criteria are referenced in AFMAN 15-129, Table 7.3.

2.4. Resource Protection (RP) Products. Special Weather Statements (SWS), significant weather alert emails and weather Watches, Warnings, and Advisories (WWA) are notices to inform decision makers that hazardous weather is occurring or that there is a potential for hazardous weather to occur within the area of operations. Customer identified actions to WWAs are listed in **Attachment 4**.

2.4.1. SWS. A notice issued by 26 OWS to assist with RP decisions. SWS advise of the potential for widespread hazardous weather conditions in a specified geographical region that have the potential to negatively impact McConnell AFB or the local flying area.

2.4.2. Significant Weather Alert, Email Updates: WF leadership, as able, provides a weather summary, timeline, and expected impacts/anticipated WWAs for the following criteria which may threaten McConnell AFB:

2.4.2.1. Tornadic Activity.

2.4.2.2. Significant Winter Storms (significant snowfall, freezing precipitation, or blizzard conditions).

2.4.2.3. Significant Convective Storms (hail > 3/4 inch, winds > 50 knots, flooding potential).

2.4.2.4. Non-convective damaging winds (non-thunderstorm winds > 50 knots)

2.4.3. Weather Watch**.** A special notice to notify installation personnel and supported units of a potential for environmental conditions of such intensity as to pose a hazard to life or property. Watches are issued for the criteria defined in **Table 2.1**.

Table 2.1. McConnell AFB Weather Watches.

Criteria	**Desired Lead Time**	
Tornado	As potential warrants.	
Damaging winds >50 kts	As potential warrants.	
Large Hail > ¾ inches	As potential warrants.	
Heavy Rain > 2 inches within 12 hrs	As potential warrants.	
Heavy Snow > 2 inches within 12 hrs	As potential warrants.	
Freezing Precipitation (Any Intensity)	As potential warrants.	
Blizzard Conditions	As potential warrants.	
Lightning within 10NM	30 minutes prior to start of thunderstorm	*
Red Flag Fire	As issued by National Weather Service	&
Flash Flood	As issued by National Weather Service	&
***** Denotes deviation from standard criteria as defined in AFMAN15-129. & Denotes watch issued to Emergency Management personnel only in response to issue of National Weather Service watch		

2.4.4. **Weather Warning.** A special notice to inform installation personnel when an established weather condition of such intensity as to pose a hazard to life or property **is occurring or is expected to occur**. Warnings are issued for criteria defined in **Table 2.2**.

Table 2.2. McConnell AFB Weather Warnings.

Criteria	Desired Lead-Time	
Tornado	**15 minutes** prior to occurrence	
Damaging winds > 50 kts	**1 hour** prior to occurrence.	
High Winds > 35 but < 50 kts	**30 minutes** prior to occurrence.	*
Large Hail > ¾ inches	**1 hour** prior to occurrence.	
Heavy Rain > 2 inches within 12 hrs	**1 hour** prior to occurrence.	
Heavy Snow > 2 inches within 12 hrs	**1 hour** prior to occurrence.	
Freezing Precipitation (Any Intensity)	**1 hour** prior to occurrence.	
Blizzard Conditions	**1 hour** prior to occurrence.	
Lightning within 10 NM	Observed	*
Lightning within 5NM	Observed	
Red Flag Fire	As issued by National Weather Service	&
Flash Flood	As issued by National Weather Service	&
***** Denotes deviation from standard criteria as defined in AFMAN15-129. & Denotes warning issued to Emergency Management personnel only in response to issue of National Weather Service watch		

2.4.5. Observed Weather Warning. A lightning warning is the only observed warning issued for McConnell AFB. Lightning warnings are issued when lightning is observed within 5 nautical miles (NM) or 10 NM, either visually or via the National Lightning Detection Network. Lightning warnings are cancelled when lightning has not been observed within 5 or 10 NM within the past 15 minutes and radar indicates thunderstorms are no longer occurring within the specified range.

2.4.6. Weather Advisories. A notice to inform end users when established environmental conditions affecting operations are occurring or are expected to occur at McConnell AFB. Advisories will only be issued during hours in which the weather station is manned. Weather advisory criteria are defined in **Table 2.3**.

Table 2.3. McConnell AFB Weather Advisories.

Criteria	Desired Lead-Time
Induction Icing (Temperature < 50F with visibility < 1 SM, visible moisture present, or dew point depression < 4C)	Observed
Crosswinds > 15 Knots	Observed
Crosswinds > 25 Knots	Observed
Surface Winds > 25 Knots	Observed
Wind Chill < -20F (-29C) [DANGER]	Observed
Observed Surface Visibility < ¼ SM	Observed

2.4.7. WWA Numbering Scheme. Advisories, watches, and warnings are numbered consecutively by identifying the type of weather message (watch, warning, or advisory) followed by a five-digit number. The first two numbers indicate the current month while the second three numbers indicate the sequence number.

2.4.8. WWA Upgrades/Downgrades. An upgrade is used to add additional WWA phenomenon or increase phenomenon intensity that crosses to a higher threshold (e.g., winds increase from 35 knots to 50 knots). A downgrade is used to remove WWA phenomenon or decrease phenomenon intensity that crosses to a lower threshold (e.g., forecast wind speed decreases from 55 knots to 40 knots).

2.4.9. WWA Amendments. Amendments are issued when an active WWA no longer adequately describes a phenomenon's expected occurrence.

2.4.10. WWA Extensions**.** Extensions are issued when a phenomenon's occurrence is expected to last longer than originally forecast.

2.4.11. WWA Cancellation. WWAs are cancelled when the weather phenomena is no longer occurring or expected to occur. WWAs not extended or cancelled will automatically expire at the end of the valid period. Observed warnings and advisories are canceled when the criteria has not occurred in the last 30 minutes.

2.5. Dissemination Process.

2.5.1. Observations. Observations taken by either the FMQ-19 or the weather technician are disseminated via JET. When JET is not operational, WF relays observations locally to the following organizations in order of priority listed in **Table 2.4** prior to transmitting longline.

Table 2.4. Local Notification Priority.

1. Tower (Hotline or x-6046; commercial (316) 759-2106
2. 22 ARW/CP (Hotline or x-3251; commercial (316) 759-3251
3. AMOPS (Hand Carried or x-3701; commercial (316) 759-3701
4. Maintenance Operation Center (MOC) x4000; commercial (316) 759-4000
5. Emergency Management (22 CEX/CES); commercial (316) 759-3136 (fire/flood WWAs only)

2.5.2. TAFs. 22 OSS WF disseminates TAFs via JET**.** If JET is not operational, WF disseminates the information locally via standard telephone lines or email to the command post and tower, and then longline via Air Force Weather Webs Services (AFW-WEBS).

2.5.3. Significant Weather Alerts: WF transmits Significant Weather Alerts and updates via email (as able) to (at a minimum) the contacts in the following paragraphs.

2.5.3.1. Significant Weather Alert Distribution groups: 22 ARW CCs and Chiefs, 22 ARW CCFs, 22 OG Squadron DOs, 931 ARW Commanders and Senior ART, and 931 ARW Chiefs.

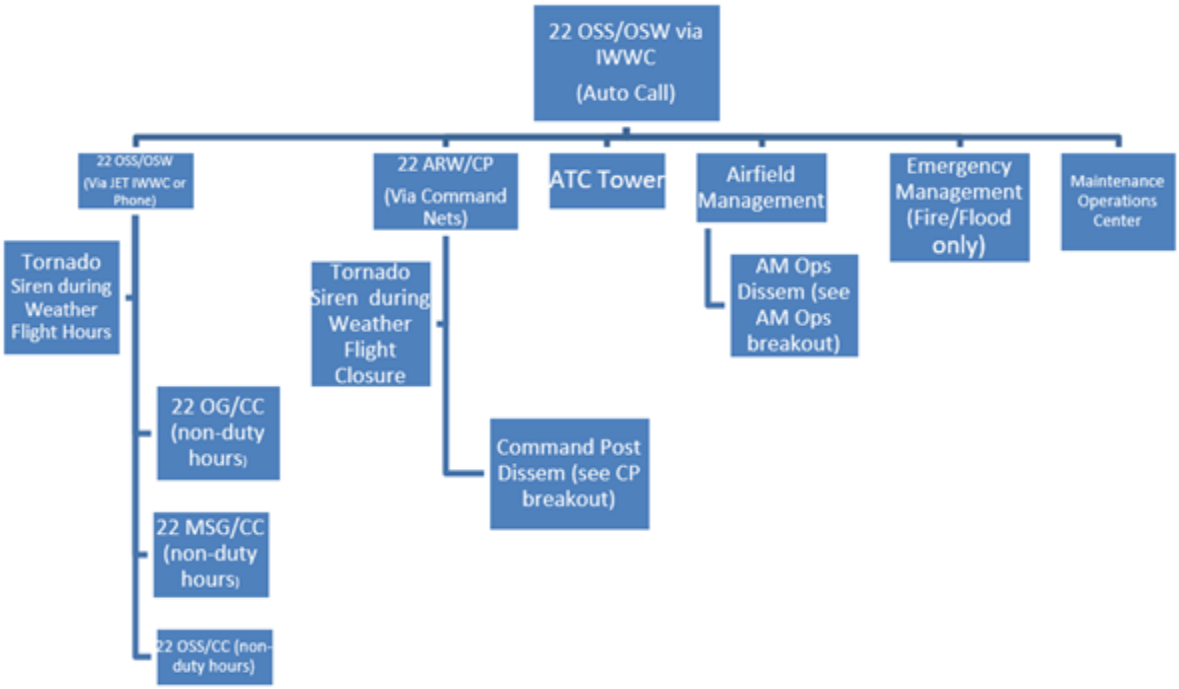
2.5.3.2. Significant Weather Alert Organizational inboxes: 22 ARW/CP, 22 ARW/PA, 22 ARW/SE, 22 CES/CEX, USAF KS 184 IW Mailbox 184 IW SE Wing Safety, and USAF KS 184 IW Mailbox CC Wing Commander. The email is also Cc'd to 26 OWS Weather Correspondence, 22 OSS/OSW, 618 TACC/XOW-Exec, and 618 TACC/XOW Weather Organizational inboxes (to maintain continuity and consistency).

2.5.3.3. Additional contacts can be added as necessary, though effort will be made to maximize the use of in-place distribution lists and organizational boxes.

2.5.4. WWAs. WF will enter WWAs into JET, which will then disseminate the information to Tower, 22 ARW/CP, AM Ops, the Maintenance Operation Center, and TACC weather. If JET is inoperable, WF will call each agency in **Figure 2.1** to pass information. Tower disseminates all weather watches, warnings and advisories to airborne and taxiing aircraft. Command Post and AM Ops will further disseminate all WWAs using the pyramid notification scheme shown in **Figure 2.1**.

2.5.4.1. Tornado Warnings/Siren. WF has the primary responsibility for alerting the base population in the event of a tornado warning. The siren will be tested each Friday at 1200L (1 March-30 November) as long as the weather conditions and mission permits it. If WF is closed or the siren malfunctions, 22 ARW/CP assumes responsibility for the tornado siren (or notification via the Giant Voice System).

Figure 2.1. Weather Pyramid Alerting.



2.6. Cooperative Weather Watch (CWW). WF and ATC have established a CWW IAW AFMAN 15-111. WF technicians and ATC personnel should thoroughly understand and be able to execute the CWW agreement. Specific criteria on CWW can be found in **AFMAN 15-111 4.9.**.

2.7. PMSV Support. Weather information is available via PMSV during duty hours on frequency 374.2 MHz. For aircraft outside the range of our PMSV system, McConnell WF or 26 OWS can provide PMSV support through a phone patch to 22 ARW/CP at DSN 743-1850/Commercial (316) 759-1850.

2.8. Emergency Action(s) Response.

2.8.1. Aircraft Mishap. In the event of an aircraft mishap, WF will provide the following products:

2.8.1.1. Provide a local observation if in augmentation or manual observing mode

2.8.1.2. Satellite, radar, hazard charts and all applicable and available terrestrial and space weather products used to produce the brief.

2.8.1.3. Request 26 OWS do a data-save to cover data applicable to the event. Also perform a local data-save using JET. Time will be the same as above.

2.8.1.4. The TAF, MWP, PMSV log, warnings, watches, and advisories that were valid during the aircraft accident.

2.8.1.5. Detailed statement concerning weather information briefed to the aircrew.

2.8.1.6. WF will consolidate the above products, once complete, and either burn the information to a disk or copy it to a password protected folder to preserve mishap investigation evidence.

2.9. Severe Weather Action Plan (SWAP). The SWAP is in place to ensure sufficient personnel are available during potential/actual severe weather events or during meteorological or operational events critical to mission success. For the purpose of these procedures, severe weather is defined as any of the criteria listed in **Table 2.5**.

Table 2.5. Conditions Requiring SWAP Activation.

SWAP Activation Criteria
1. One of the following is issued by 22 OSS/OSW:
Tornado Watch/Warning
Severe Thunderstorm (wind > 50 kts and/or Hail > 3/4 inch) Watch/Warning
Winds > 50 kts (not associated w/Thunderstorms) Warning
Heavy Snow Warning
Freezing Precipitation Warning

2.9.1. The Severe Weather Action Team (SWAT) will usually consist of a team leader and additional team members consisting of the WF Leadership, depending on availability and mission requirements. WF Leadership will respond ASAP and will assume SWAT leader duties upon arrival.

2.9.2. Activation. When a WWA threat exists that meets one or more of the SWAP criteria, the stand-by forecaster will contact Flight leadership prior to issuing the WWA for situational awareness. If deemed necessary, the SWAT member will report to the weather station as soon as possible after notification by the duty/stand-by forecaster. Once the SWAT member has arrived, they will assist in evaluating the situation, determine the need and availability to recall additional personnel, and execute the SWAP duties and responsibilities.

2.10. Chemical Biological, Radiological, Nuclear (CBRN). AF weather forces will serve as the weather SME to CBRN operations in accordance with AFI 15-128, AFI 10-2501, and AFMAN 10-2503.

2.10.1. Upon request, the WF will obtain and provide chemical downwind messages/effective downwind messages to installation emergency management or other disaster response/management personnel.

Chapter 3

MISSION SERVICES

3.1. General. Mission services are those actions directly related to complete each customer's daily mission requirements (e.g. GDSS, DD Form 175-1, etc.). The Mission Weather Product will be produced twice a day Monday thru Friday. These MWPs will be upload to GDSS and tailored to the mission. Other tools include the DD Form 175-1 and verbal briefs.

3.2. Operational Hours. Mission services are available 24/7 based upon the 22 ARW and 931 ARW flying schedule and/or higher headquarter taskings.

3.3. Mission Weather Product (MWP). MWPs fuse theater scale products with local mission requirements enabling the direct inject of weather impacts into warfighter planning and/or execution. MWPs should be horizontally consistent with (but not necessarily mirror) products issued by any OWS and 557 WW.

3.4. Supported Organizations/Missions/Requirements. WF provides weather support to 22 ARW, 931 ARW, and 184th IW (and their associated units).

3.4.1. 22 ARW currently operates/maintains KC-135 Stratotankers and KC-46 Pegasus aircraft supporting worldwide aerial refueling and airlift operations and USSTRATCOM OPLANs. The 931 ARW is the mission-ready reservist arm of the Global Reach mission.

3.4.2. 184 IW executes a broad spectrum of missions including intelligence, surveillance and reconnaissance, network and information operations, and command and control, providing actionable intelligence and information dominance for combat forces around the globe.

3.5. Flying Missions. WF and TACC/XOW provide mission-tailored weather support to 22 ARW and 931 ARW flying units.

3.5.1. Geographic Area of Responsibility**.** Mission-tailored weather support is provided for flying areas used by McConnell AFB's assigned and attached units.

3.5.2. Training Missions, Operating Areas, and Weather Sensitivities. Due to the size of the training areas, there are very few instances when weather will make an operating area completely unusable. Pilot discretion is used to determine mission go/no-go status regardless of the weather phenomena listed in the MWP.

3.5.3. Flight Planning MWP. WF produces an AR Planning product to provide aviators with a first look at anticipated weather and impacts (see **attachment 6**). The AR Planning MWP will be issued once a day NLT 0900L Monday–Friday. The Planning MWP does not take the place of an official flight forecast and is not updated or amended after initial posting.

3.5.3.1. Location: It is available through Mattermost Channel 07. Weather page.

3.5.3.2. Format. The CONUS loop provides information such as major pressure systems for each scheduled AR track. The impacts to airfield operations display indicates marginal and unfavorable conditions and timeframes at commonly used airfields.

3.5.4. Dissemination of Weather Briefs. GDSS is the primary command and control (C2) system used to request and receive Flight Weather Briefings (FWB) to AMC owned/gained flying units. Updates to non-IFM weather briefs are obtained by contacting WF. IFM weather brief updates are provided by TACC/XOW. The weather flight can also produce electronic briefs outside of GDSS or on paper as requested or required.

3.5.4.1. For SNAP 85/86 missions and OPLAN missions, WF personnel will provide a FWB to aircrews via email, in person at the weather flight, or in person at the alert facility prior to launch.

3.5.5. Operations Plan (OPLAN) support. Assumption of Alert, Daily Alert, and Aircraft Repositioning briefs will be anticipated during exercise and real-world OPLAN support. 22 ARW Plans and Programs (XP) and 22 OG Group Control Center are responsible for ensuring weather flight personnel are aware of briefing times and locations

3.5.5.1. Unless otherwise specifically coordinated, printed weather information for OPLAN support will be unclassified, with supplemental information provided via secure slides and in-person secure briefings.

3.6. MISSIONWATCH. A deliberate process for monitoring terrestrial and space weather for mission-limiting factors to identify previously unidentified environmental threats and alert operational or airborne decision-makers. This enables dynamic changes to mission profiles that may mitigate the threat and optimize the chance of mission success.

3.6.1. WF Briefed Sorties. WF uses a continuous MISSIONWATCH process to validate that MWPs accurately reflect conditions. When previously unforecast weather conditions expose a mission to potential risk, WF directly updates 22 ARW/CP. 22 ARW/CP will relay updated weather information to the aircrew. Additionally, when MWPs differ from observed conditions with the potential to impact operations, WF will amend weather products with amendment criterion is met or at any time deemed necessary to ensure flight safety.

3.6.2. TACC/XOW Briefed Sorties. TACC/XOW performs MISSIONWATCH and weather risk assessment for all TACC briefed sorties. TACC uses the Weather Threat Assessment (WTA) to relay information on missions considered “at risk” based on AMC-established Operational Risk Management Thresholds. Users can access the WTA at **https://tacc.scott.af.mil/?action=WTAMain**.

3.6.2.1. 22 ARW/CP automatically receives WTA notifications for wing-specific missions through a subscription service. Upon receipt of weather threat notification, ARW/CP notifies appropriate aircrews and/or controlling agency(ies) to pass along weather threats and instruct the aircrew to contact TACC/XOW to mitigate the threat.

3.6.2.2. WF performs MISSIONWATCH on all non-IFM McConnell AFB sorties. Additionally, WF monitors GDSS for situational awareness on IFM missions involving local ARW assets. WF coordinates with TACC/XOW whenever observed weather conditions deviate significantly from the published WTA.

3.7. Post-Mission Analysis/Feedback. Aircrews should contact WF or TACC/XOW with post-mission information and/or follow-up support. Customer feedback is used to improve internal processes and enhance training, forecast proficiency, and product accuracy. Feedback methods include: completion of a TACC/XOW feedback email, phone call or an e-mail to WF or TACC/XOW, and/or face-to-face feedback after briefing and/or mission completion.

3.8. Transient Aircrew Support.

3.8.1. Transient aircrews may submit a request for flight weather briefings (175-1s) in person or via phone**.** If WF is unable to support transient crew requests, WF may direct aircrews to contact 26 OWS briefing cell. 26 OWS briefing cell can be reached at DSN 332-2651/2652/2653, commercial (318) 529-2651/2652/2653.

3.9. Non-Flying Missions. WF supports various non-flying missions (e.g., ceremonies, Morale Welfare and Recreation events, etc.) with tailored forecast support and RP products (WWAs). Specialized weather information can be provided to support any non-flying mission upon request.

3.10. Space Weather Impacts. McConnell AFB has a wide-variety of operations affected by various space-weather parameters. WF and TACC/XOW provide space impacts on their MWPs. More detailed space environmental situational awareness products are available at **https://26ows.us.af.mil/product/space_weather/**.

Chapter 4

STAFF SERVICES

4.1. General. Staff services are those briefings provided primarily by WF leadership. These briefings are a specialized type of MWP focused on a particular event/audience. Examples include, but are not limited to, staff meetings, daily stand-up briefs, Operational Readiness Exercises, Crisis Action Team (CAT), and Instrument Refresher Course (IRC) briefings.

4.2. Operational Hours. The staff integration function is primarily available Monday through Friday from 0730L to 1630L. Contingency, emergency, and exercise briefings are provided as required.

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

4.3.1. 22 ARW Staff Briefings. Staff weather briefings for 22 ARW (Wing stand up) are provided as required. Standard information includes a 5-day McConnell AFB weather outlook with a focus on ORM and any affected Wing events.

4.3.2. Crisis Action Team (CAT) Briefings. WF will provide weather briefings as required/requested for CAT meetings. Each briefing will be tailored to provide the appropriate weather intelligence required.

4.3.3. Instrument Refresher Course (IRC) Briefings. IAW AFMAN 11-210, *Instrument Refresher Course (IRC) Program*, unit level instructors determine what to address in IRC briefs. When informed of IRC briefs, WF leadership will offer information/a briefer to discuss more detailed local weather effects and impacts.

4.3.4. Pre-deployment Planning Briefings. WF provides pre-deployment weather briefings as requested. Briefing content is tailored to meet customer requirements.

4.3.5. Climatology Services. The WF can provide a wide variety of climatology products upon request. Example products include but are not limited to historical surface observations, long-range outlooks, global cloud cover, and upper level wind climatology.

4.3.6. Snow Working Group (SWG) Briefings. Whenever snow or freezing precipitation is forecast at McConnell AFB, WF Staff will notify 22 OSS/CC and DO, who will decide whether to convene the McConnell AFB SWG. When SWG meets in person, a forecaster will provide expected precipitation, duration/timeline, max and min temperatures and wind velocities (either in person or via text product).

4.3.7. Flight Information Publication (FLIP) Weather Updates. WF is responsible for ensuring updates will be requested through the Airfield Management FLIP Manager, 22 OSS/OSAA. The FLIP Manager will process the information to Air Force Flight Standards Agency (AFFSA/OL-D). Updates will fall in one of three categories: revisions, changes, or corrections.

4.4. Staff Integration Functions. Staff integration members also function as a direct interface with the supported unit commanders and staff, and provide direct support to command, control and planning functions. Specific procedures/functions for integration with base agencies are outlined below.

4.4.1. 22 ARW Inspector General (IG). WF assists in periodic exercises tailored to upcoming seasonal weather or other environmental concerns and educates base agencies on the purpose and applicability of WWAs. WF will also support planning of operational readiness exercises.

4.4.2. 22 ARW CP. WF notifies CP whenever the WF primary facility is evacuated and/or the AOL is activated.

4.4.3. 22 ARW Public Affairs. WF provides tours of the WF facility for community groups and others when coordinated by Public Affairs. WF will also work closely with Public Affairs to inform the base populace of inclement weather.

4.4.4. 22 Airfield Operations/Airfield Management (OSS/OSAA). WF provides notification of all WWAs via IWWC, telephone, or in-person during airfield hours of operations.

4.4.4.1. WF notifies the OSAA whenever the WF primary facility is evacuated and/or the AOL is activated.

4.4.4.2. WF leadership participates as a member of the Airfield Operations Board (AOB) as directed in AFMAN13-204V1, .

4.4.5. 22 Airfield Operations Air Traffic Control (OSS/OSAB).

4.4.5.1. WF provides notification of WWAs via IWWC/telephone.

4.4.5.2. WF notifies OSAB whenever the WF primary facility is evacuated and/or the AOL is activated.

4.4.5.3. WF notifies OSAB of all outages prior to contacting any maintenance agency.

4.4.5.4. ATC Limited Observation Training/Familiarization. WF will provide ATC Limited Observing Training and station familiarization. The ATC trainer or watch supervisor will call the weather flight and schedule an appointment with either the Weather Flight Chief (x-3845) or NCOIC (x-3706) to receive training.

4.4.6. 22 ARW/SE (Safety). WF will provide meteorological data and/or personnel to assist in the investigation of ground or aircraft mishaps, as required.

4.4.7. 22 CS (Communications Sq).

4.4.7.1. The weather flight will maintain and administer JET software/hardware IAW guidance provided by the JET Program Manager, Air Force Director of Weather. Additionally, IAW AFI 17-201, *Command of Control (C2) for Cyberspace Operations*, 2.5.5.1., the weather flight's Functional System Administrator (FSA) must comply with all Cyber C2 and Time Compliance Network Orders (TCNOs) issued by the 22 CS, as TCNOs are considered orders of the SECAF.

4.4.7.2. While the weather flight will maintain operational and TCTO updates on the JET system, the server is housed within the Installation Processing Node (IPN) at building 515. When the weather flight's FSA is not able to manage the JET server remotely, they must request physical access from Network Operations technicians to work on the server(s) within the IPN. When the FSA experiences problematic server hardware/software issues, 22 CS server administrators may assist them, as long as it does not interfere with higher priority mission tasks.

4.4.8. 22 OG/SOAR (Special Operations Air Refueling)

4.4.8.1. When notified of a Special Operations Contingency Response (SOCR) posture, WF will notify 22 ARW/CP of significant weather that may affect the launch of a SOCR aircraft. Conditions include:

4.4.8.1.1. Ceilings and visibility less than 300 feet and/or 1 statute mile.

4.4.8.1.2. Winds greater than 50 knots, or crosswinds great than 25 knots.

4.4.8.1.3. Thunderstorms on station.

4.4.8.1.4. Moderate or greater turbulence or icing.

4.4.8.1.5. Any other severe weather.

4.4.8.2. Weather notifications to SOAR will include the nature of weather expected, duration of the weather conditions and the time of the next projected update.

4.4.9. 22 CONS (Contracting Sq). WF will provide climate data upon request.

4.4.10. 22 CES. WF will provide climate data upon request.

4.4.10.1. 22 CES/CEXR (Readiness). WF will provide chemical downwind messages (CDM) and/or effective downwind messages (EDM) upon request.

4.4.10.2. 22 CES/CEF (Fire Dept). WF will provide wind data to Senior Fire Officer to determine accurate toxic corridor information and/or other current weather data as requested.

4.4.11. 22 SFS (Security Forces). WF will provide temperature, wind, and equivalent wind chill advisories as specified in this document.

4.4.12. 22 FSS (Fitness Assessment Cell). WF will provide temperature, wind, heat index, equivalent wind chill, and lightning data as requested.

4.4.13. Maintenance Operations Center (MOC). WF will provide MOC with weather alerts via IWWC.

4.4.14. All Supported Flying Units. WF provides services as outlined throughout this publication.

4.5. Reciprocal Support.

4.5.1. 22 ARW CP.

4.5.1.1. Will notify wing leadership and various base agencies of severe weather when notified by WF.

4.5.1.1.1. Disseminate weather warnings, watches, and advisories according to established procedures.

4.5.1.1.2. Use Giant Voice to disseminate any weather watches, warnings, or advisories deemed necessary by base leadership (with the exception of being the alternate executor of the tornado siren).

4.5.1.2. Notify WF when any other agency reports a funnel cloud, tornado, or any other significant weather event.

4.5.1.3. Assume responsibility for the tornado siren (or provide notification via the Giant Voice System), if WF is closed or WF notifies command post that their ability to sound the siren malfunctions.

4.5.1.4. Notify WF of any significant weather related event (material damage, injuries, etc.).

4.5.1.5. Include WF on their dissemination/notification list for any weather related OPREP-3s or incidents.

4.5.1.6. Subscribe to and monitor the Weather Threat Assessment (WTA) notifications for 22 ARW.

4.5.1.7. In case of WF closure, immediately contact the stand-by Weather Forecaster when notified by TACC Weather that GDSS is inoperable.

4.5.2. 22 ARW/Public Affairs. Coordinate requests for weather information from non-DoD agencies and tours of WF facilities with WF leadership.

4.5.3. 22 OSS/OSAA.

4.5.3.1. Notify WF personnel of in-flight, ground emergencies, or mishaps and termination via the secondary crash network.

4.5.3.2. Disseminate weather watches, warnings and advisories as outlined in **Chapter 2** of this instruction.

4.5.3.3. Notify WF leadership of all changes to published approach minimums at McConnell AFB (FLIP).

4.5.3.4. The FLIP Manager will submit FLIP revision, changes or corrections provided by WF to Air Force Flight Standards Agency.

4.5.3.5. Provide Runway Condition Readings/Runway Surface Condition (RCR/RSC) and changes to WF mission services personnel for local briefings.

4.5.4. 22 OSS/OSAB.

4.5.4.1. Participate in and follow the procedures outlined in CWW program.

4.5.4.2. Notify WF of all changes in active runway and light setting changes on the high-intensity runway lights.

4.5.4.3. Provide control tower orientation training for weather personnel.

4.5.5. Radar Airfield and Weather Systems (22 OSS/OSAM).

4.5.5.1. Provide, coordinate, or arrange for the installation, maintenance, and repair of weather communication and sensing equipment except for equipment maintained by contract.

4.5.5.2. Purchase equipment and fund for sustainment/repair of the PMSV radio capability.

4.5.5.3. Coordinate with WF prior to performing maintenance on weather systems. De-conflict routine maintenance with periods of inclement weather when possible.

4.5.5.4. Use the restoration priorities for weather equipment outlined in this document and ensure weather data circuits are assigned repair priorities.

4.5.5.5. Notify the responsible service agents for weather equipment outages.

4.5.5.6. Perform AN/TMQ-53 Tactical Meteorological Observing System pressure sensor calibrations annually.

4.5.5.7. Perform quarterly inspections in accordance with the technical order.

4.5.6. 22 ARW/SE. Request a McConnell AFB WF briefer for seasonal weather briefings and provide 2 weeks advance notice when possible.

4.5.7. 22 CS.

4.5.7.1. Coordinate with off-base agencies to repair infrastructure and network service degradations/outages and perform follow-up actions as required until services are restored.

4.5.7.2. Follow base communications restoral priority listing for network service degradations/outages.

4.5.7.3. 22 CS 24 hour point of contact is the Communications Focal Point 316-759-2666 for reporting all communications issues.

4.5.8. 22 SFS. Promptly inform WF of any hazardous weather reported by Security Forces personnel (e.g., tornado, hail, etc.).

4.5.9. 22 OSS/OSO. Notify WF of current and planned weather alternates and any special considerations affecting duration of tour (i.e., weather categories, exercise/deployment considerations, etc.).

4.5.9.1. Notify the WF of additional support requiring special weather products or accommodations as soon as it becomes known.

4.5.9.2. Provide timely notification of changes to scheduled operations affecting weather support requirements as soon as the change is identified.

4.5.9.3. Notify WF of GDSS outages/discrepancies as soon as identified.

4.5.10. 22 OG/SOAR (Special Operations Air Refueling)

4.5.10.1. Notify WF upon Higher Headquarters notification of Special Operations Contingency Response requirements.

4.5.10.2. Coordinate with WF regarding all special briefing requirements and locations (to include classification levels) not in GDSS to allow adequate preparation time.

4.5.11. All Supported Flying Units

4.5.11.1. Notify WF of additional support requiring special weather products or accommodations as soon as it becomes known.

4.5.11.2. Provide PIREPS either directly to the WF or through the PMSV, or tower.

4.5.11.3. Provide feedback on weather briefings via email or survey to the WF or TACC/XOW.

4.5.11.4. Provide WF a minimum of 2 weeks advanced notification of any requirement for training conducted by WF or any changes to previously scheduled weather training.

4.5.12. 22 OMRS/SGPB (Bioenvironmental Flight). Provide the base populace with the Wet Bulb Globe Temperature (WBGT) as required. The Bioenvironmental Flight can be reached at 316-759-5104.

4.5.13. All Weather Support Recipients. Notify the WF when new weather support requirements are identified or when changes to current weather support is deemed necessary.

Chapter 5

WEATHER EQUIPMENT

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

5.2. Meteorological Sensing. WF uses the FMQ-19 and WSR-88D weather radar to determine the current state of the atmosphere. Note: TMQ-53 is a tactical automated observing system that is used by WF during contingency and exercise operations, or as a back-up to long-term FMQ-19 outages. The TMQ-53 provides a capability that is very similar to the FMQ-19.

5.2.1. FMQ-19. The FMQ-19 samples, measures, and reports: temperature, wind speed and direction, visibility, cloud base height and amount of coverage, pressure, liquid equivalent precipitation accumulation, and ice accretion during freezing precipitation. These measurements are processed to create properly formatted, fully automated observations that comply with applicable military and civilian reporting standards and protocols.

5.2.2. Gibson Ridge Software (GR). WF uses the GR applications to access WSR-88D, Weather Surveillance Radar (i.e., NEXRAD) data. This software allows technicians to observe a large variety of both meteorological and non-meteorological phenomena.

5.2.3. Mark IV-B Satellite. WF uses Mark IV-B satellite to monitor real-time high-resolution visible, infrared, and water vapor displays and data enhancements. This software allows forecasters to evaluate and interpolate worldwide surface and upper air weather conditions.

5.3. Communications Equipment. The following systems are the backbone of the WF communications network:

5.3.1. JET. As discussed in section 2.5. of this instruction, JET is the primary system for disseminating forecast, observations, and WWAs. Telephones are used as a backup for key aircraft controlling agencies.

5.3.2. PMSV Radio. The PMSV Radio allows WF to communicate time sensitive weather information with aircrews, both on the ground and in the air. Refer to **paragraph 2.7** for information on PMSV support.

5.3.3. Phones/Hotlines. Phones and hotlines serve primarily for rapidly passing along critical, time-sensitive information, as well as to serve for backup services.

5.3.4. Local Area Network (LAN). The WF relies heavily on the LAN to improve the timeliness and accuracy of weather intelligence to our customers.

5.4. Maintenance.

5.4.1. Organizations providing preventive maintenance and repair of weather and communications equipment are listed in **Table 5.1**.

Table 5.1. Equipment Maintenance List..

Organization	Equipment
22 OSS/OSAM (RAWS)	FMQ-19
22 OSS/OSAM (RAWS)	TMQ-53
22 OSS/OSAM (RAWS)	PMSV
22 OSS/OSW	JET Server Software Upgrades/Modifications
JET Help Desk	JET/JET Server (Software & Remote Functions)
Comm Focal Point	JET Server (Physical Restart ONLY if unable to remotely access)
Comm Focal Point	Phones/Hotlines
Comm Focal Point	LAN/Internet Connectivity

5.4.2. Restoral Priorities. Priorities for restoring critical systems exist in the event of natural disasters or any other anomaly, simultaneously impacting systems base-wide. **Significant** indicates a situation where the equipment is completely inoperative, while **minimal** means the equipment is in limited operation. Response times for weather equipment are listed in **Table 5.2** below (priorities may be adjusted based on forecasted weather).

Table 5.2. Equipment Restoral Priorities.

Equipment	Organization	Response Times
PMSV Radio	22 OSS/OSAM	Significant – Immediate / Minimal - 24 hours
FMQ-19	22 OSS/OSAM	Significant – Immediate / Minimal - 24 hours
JET Software	JET Help Desk	Significant – Immediate / Minimal - 24 hours
LAN/Internet Connectivity/Phones/Hotlines/JET Server - Physical Restart ONLY	Comm Focal Point	Significant – Immediate / Minimal - 12 hours

5.5. Building Power. Bldg. 1112 is equipped with a back-up generator. The generator should start up automatically when power is cut-off to Bldg. 1112. CE performs quarterly tests to ensure the generator is working properly.

GEORGE N. VOGEL, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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

AFH 15-101, *Meteorological Techniques,* 04 November 2019

AFI 10-206, *Operational Reporting (OPREP)*, 18 June 2018

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

AFI 15-127, *Weather Training*, 20 January 2016, *IC 1* 30 September 2016

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

AFMAN 15-124, *Meteorological Codes*, 16 January 2019

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AMCI 15-101, *Weather Operations and Support*, 22 January 2020

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AIREP—Air Report

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFB—Air Force Base

AFPD—Air Force Policy Directive

AFW-WEBS—Air Force Weather – Web Services

AGL—Above Ground Level

AOL—Alternate Operating Location

AMC—Air Mobility Command

ARW—Air Refueling Wing

ATC—Air Traffic Control

CAT—-Crisis Action Team

CBRNE—-Chemical, Biological, Radiological, Nuclear, and High-yield Explosive

CC—Commander

CES—Civil Engineering Squadron

CONS—Contracting Squadron

CONUS—Continental United States

CP—Command Post

CS—Communications Squadron

CWW—Cooperative Weather Watch

DA—Density Altitude

EM—Emergency Management

FBWOS—Fixed Base Weather Observing System

FLIP—Flight Information Publication

IAW—In Accordance With

IFM—Integrated Flight Management

IRC—Instrument Refresher Course

IWWC—Integrated Weather Warnings Capability

JET—Joint Environmental Toolkit

KT—Knots

LAN—Local Area Network

METAR—Meteorological Terminal Aviation Routine Report

METWATCH—Meteorological Watch

MWP—Mission Weather Product

NOTAM—Notice to Airmen

OG—Operations Group

OPR—Office of Primary Responsibility

OSAA—Airfield Management

OSAB—Tower

OSAM—Radar, Airfield, & Weather Systems

OPLAN—Operations Plan

OSS—Operations Support Squadron

OWS—Operational Weather Squadron

PA—Pressure Altitude

PIREP—Pilot Report

PMSV—Pilot-to-Metro Service

RDS—Records Disposition Schedule

RP—Resource Protection

RVR—Runway Visual Range

SE—Safety Office

SFS—Security Forces Squadron

SM—Statute Mile

SOAR—Special Operations Air Refueling

SOCR—Special Operations Contingency Response

SPECI—Special

SWAP—Severe Weather Action Plan

SWS—Special Weather Statement

TACC—Tanker Airlift Control Center

TAF—Terminal Aerodrome Forecast

UHF—Ultra High Frequency

VIS—Visibility

WF—Weather Flight

WSR-88D—Weather Surveillance Radar, 1988 Doppler

Attachment 2

SPECIAL WEATHER OBSERVATION CRITERIA

A2.1. In addition to AFMAN 15-111, Table A2.1. specified criteria, the following thresholds require that Special weather observation be taken and disseminated:

A2.1.1. **Ceiling/Visibility/RVR.** Take, disseminate and record a special observation whenever the following threshold decreases to less than, or if below, increases to equal or exceed:

Table A2.1. Ceiling/Visibility/RVR Thresholds.

Ceiling (ft AGL)	**Visibility (SM)**	**RVR (Reported when Prevailing Visibility is first observed < 1SM and again when Prevailing Visibility goes above 1SM)**
3000 (AFMAN)	3 (AFMAN)	6000 (AFMAN/FLIP)
2000 (AFMAN)	2 (AFMAN/FLIP)	5500 (FLIP)
1500 (AFMAN)	1 1/2 (AFMAN)	5000 (AFMAN)
1100 (FLIP)	1 3/8 (FLIP)	4500 (FLIP)
1000 (AFMAN)	1 1/4 (FLIP)	4000 (AFMAN/FLIP)
800 (AFMAN)	1 1/8 (FLIP)	3500 (FLIP)
700 (AFMAN)	1 (AFMAN/FLIP)	2400 (AFMAN/FLIP)
600 (FLIP)	7/8 (FLIP)	2000 (AFMAN)
500 (AFMAN/FLIP)	3/4 (AFMAN/FLIP)	1600 (AFMAN)
400 (FLIP)	5/8 (FLIP)	1200 (AFMAN)
300 (AFMAN)	1/2 (AFMAN/FLIP)	1000 (AFMAN)
200 (AFMAN/FLIP)	1/4 (AFMAN)	0600 (AFMAN)
100 (AFMAN)		
		- All published RVR minima applicable to the runway in use. - During augmentation, RVRNO will be appended to observations if prevailing visibility requires an RVR report (the WF does not have the capability to determine RVR).

Attachment 3

FORECAST SPECIFICATION AND AMENDMENT CRITERIA

A3.1. TAFs specify the onset, duration, and intensity for the criteria listed below. TAFs are amended when forecast/observed conditions do not match conditions specified in the TAF IAW the criteria in AFMAN 15-129, Table 3.10. and the following local thresholds.

A3.1.1. **Ceiling and/or Visibility.** Forecast to decrease to less than; or if below, is forecast to increase to equal or exceed the thresholds listed in **table A3.1**.

Table A3.1. Ceiling and Visibility Specification and Amendment Criteria.

Ceiling	Visibility
2,000 FT	3 SM (4,800 M)
1,000 FT	2 SM (3,200 M)
700 FT	2 SM (3,200 M)
200 FT	1/2 SM (800 M)

Attachment 4

CUSTOMER RESPONSE MATRIX

Table A4.1. Customer Response Matrix.

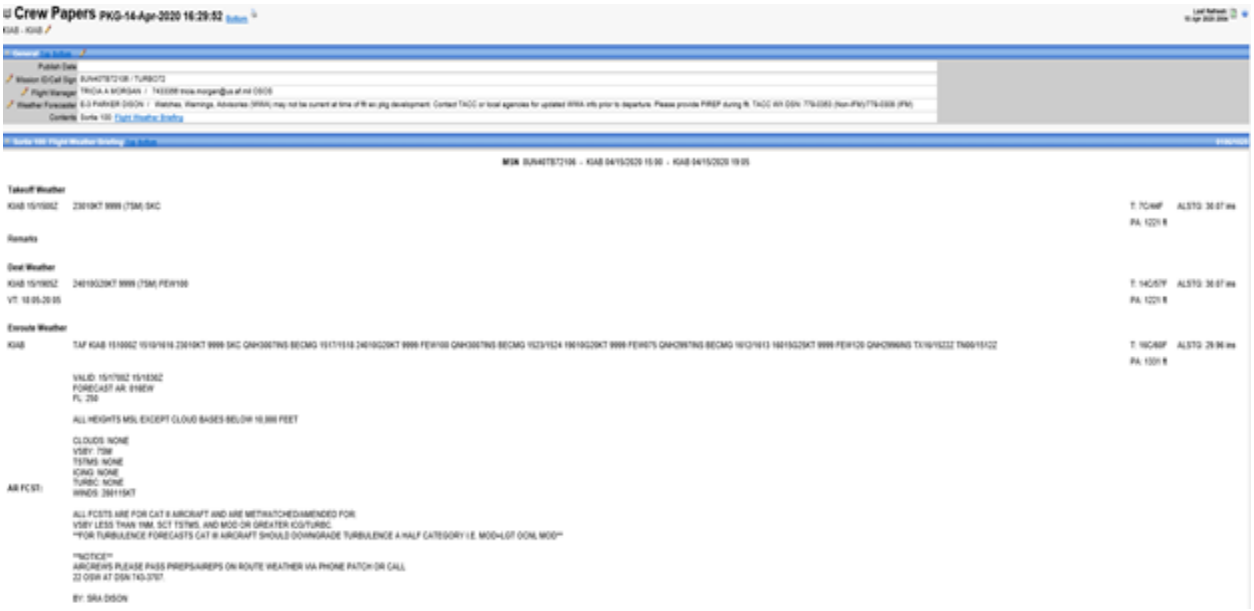
Weather Phenomena	Lead Time	Impact	Customer Action
Tornado	15 min	Severe damage to aircraft, structures and personnel.	Cease flying and seek immediate shelter; hangar or divert aircraft.
Surface winds > 50 knots	60 min	Personal injury, structure and equipment damage. Flight hazard.	Cease flying; point aircraft into wind direction, secure or hangar aircraft if possible. Remove/secure lose objects and shelter personnel.
Hail (3/4” or more)	60 min	Personal injury, structure and equipment damage.	Cease flying and seek shelter; hangar or divert aircraft.
Freezing Precipitation	60 min	Flight and vehicle operations hazard. Personnel slipping hazard.	Cease flying; hangar or protect aircraft if possible. Consider delayed reporting, early release, and/or implementing de-icing procedures.
Heavy Rain/Snow (> 2 Inches in & lt; 12 Hours)	60 minutes prior to start of accumulating precipitation	Aircraft takeoff and landing hazard. Base roads and walkways affected.	Prepare for flood abatement or consider implementing base snow removal plan and/or de-icing procedures.
Blizzard (wind & gt; 30 knots and visibility & lt; 1/4 NM and lasting more than 3 hours).	60 min	Severely effects flight operations, vehicular and pedestrian traffic.	Consider delayed reporting and/or early release. Consider implementing base snow removal plan and/or de-icing procedures.
Surface winds & gt; 35-49 knots	30 min	Personal injury, structure and equipment damage. Flight hazard.	Cease unnecessary flying; point light, transient aircraft into wind direction or tie-down as possible. Remove/secure loose objects.
Surface wind & gt; 25 but & lt; 35 knots	Observed	Personnel hazard.	Cease wing walking on large aircraft.

Crosswinds & gt; 25 knots	Observed	Affects aircraft performance (especially when runway is not dry). Adjust/plan flights accordingly.	Cease flying without OG approval.
Crosswinds & gt; 15 knots but & lt; 25 knots	Observed	Affects aircraft performance (especially when runway is not dry). Adjust/plan flights accordingly.	Cease touch and go landings. Cease simulated engine out training.
Thunderstorms within 10nm of McConnell AFB	Observed	Flight and personnel hazard.	Increase situational awareness for potential to cease flight line Operations and outdoor activities. Potentially modify takeoff/landing due to lightning proximity. Cease KC-46 ramp refueling ops.
Lightning w/in 5 NM of McConnell AFB	Observed	Flight and personnel hazard.	Cease flight line work and outdoor activities.
Induction Icing	Observed	Occurs in high humidity environments when ice develops on air intakes, which can break free and damage internal engine components.	Consider implementing ice shedding procedures.
Wind Chill Temp & lt; -20F (-29C)	Observed	Affects all outdoor activity. Outside personnel must use protective clothing to cover exposed portions of body.	Consider delayed reporting and/or early release. Modify work outdoor work cycles.
Observed Surface Visibility & lt; ¼ SM	Observed	Affects ground safety/security.	Implement low visibility OI's/procedures. Consider adding additional security forces personnel to maintain protection level posture.

Attachment 5

MISSION EXECUTION FORECAST EXAMPLE

Table A5.1. GDSS Crew Papers Display.



Crew Papers PKG-14-Apr-2020 16:29:52

MSN: SUN40TB72106 - KIAB 04/15/2020 15:00 - KIAB 04/15/2020 19:05

Takeoff Weather

KIAB 15/1005Z 23010KT 9999 (TSM) SKC

Remarks

Dest Weather

KIAB 15/1905Z 24010G20KT 9999 (TSM) FEW100

VT: 18:05-20:05

Enroute Weather

KIAB

AIR FCST:

VALID: 15/1700Z 15/1830Z
FORECAST AR: 616EW
FL: 250

ALL HEIGHTS MSL EXCEPT CLOUD BASES BELOW 18,000 FEET

CLOUDS: NONE
VSBY: 7SM
TSTMS: NONE
ICING: NONE
TURBC: NONE
WINDS: 28011KT

ALL FCSTS ARE FOR CAT II AIRCRAFT AND ARE WITHATCHED/AMENDED FOR:
VSBY LESS THAN 1NM, SCT TSTMS, AND MOD OR GREATER ICG/TURBC.
FOR TURBULENCE FORECASTS CAT III AIRCRAFT SHOULD DOWNGRADE TURBULENCE A HALF CATEGORY I.E. MOD=LGT OCNL MOD

NOTICE
AIRCREWS PLEASE PASS PIREPS/AIREPS ON ROUTE WEATHER VIA PHONE PATCH OR CALL
22 OSW AT DSN 743-3707.

BY: SRA DISON

Attachment 6

PLANNING MISSION WEATHER PRODUCT (MWP) EXAMPLES

A6.1. AR Planning MWP.

A6.1.1. The AR Planning MWP will be issued once a day NLT 0900L Monday–Friday. The Planning MWP does not take the place of an official flight forecast and is not updated or amended after initial posting. The CONUS loop provides information such as major pressure systems for each scheduled AR track. The impacts to airfield operations display indicates marginal and unfavorable conditions and timeframes at commonly used airfields.

Figure A6.1. AR Planning MWP – CONUS.

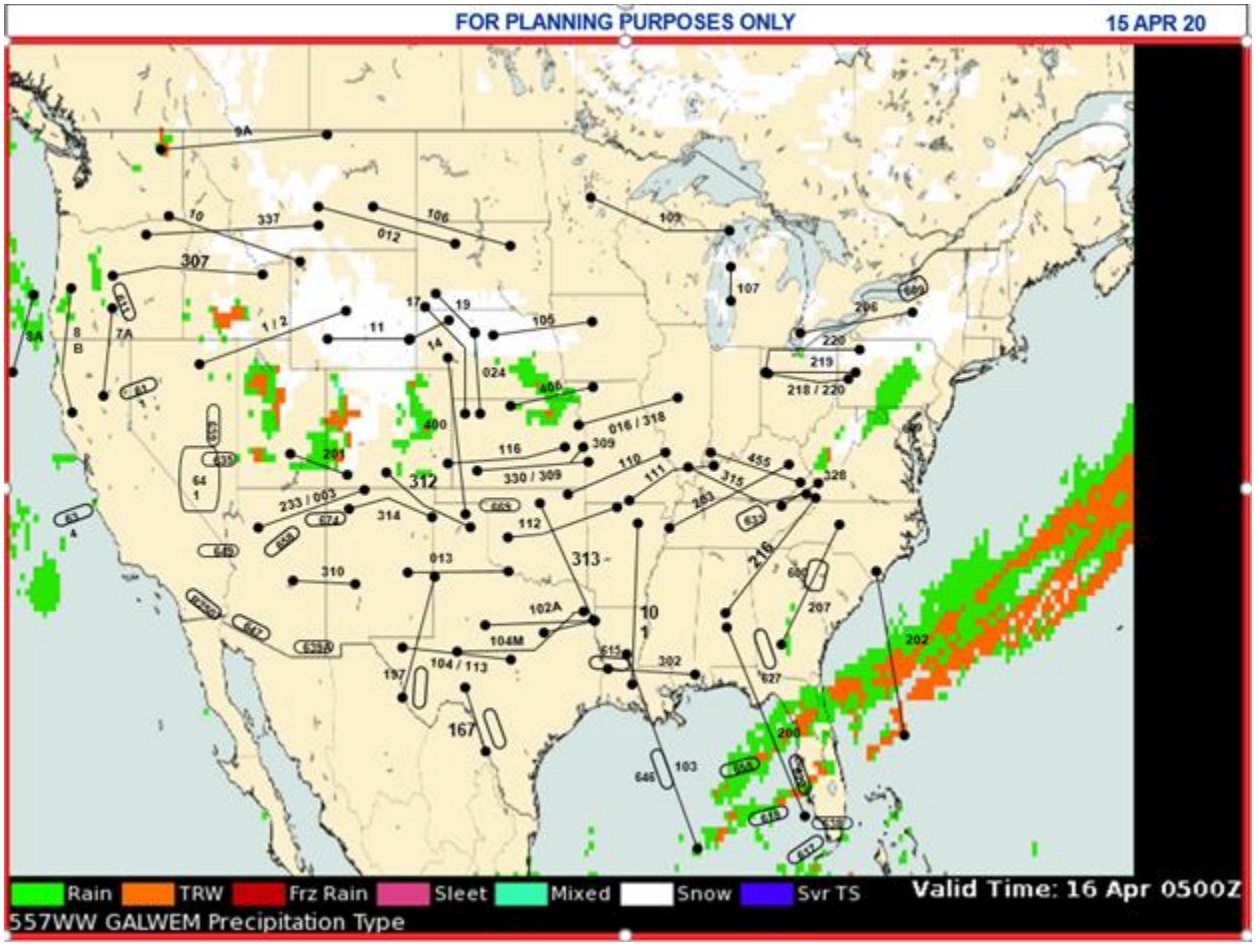
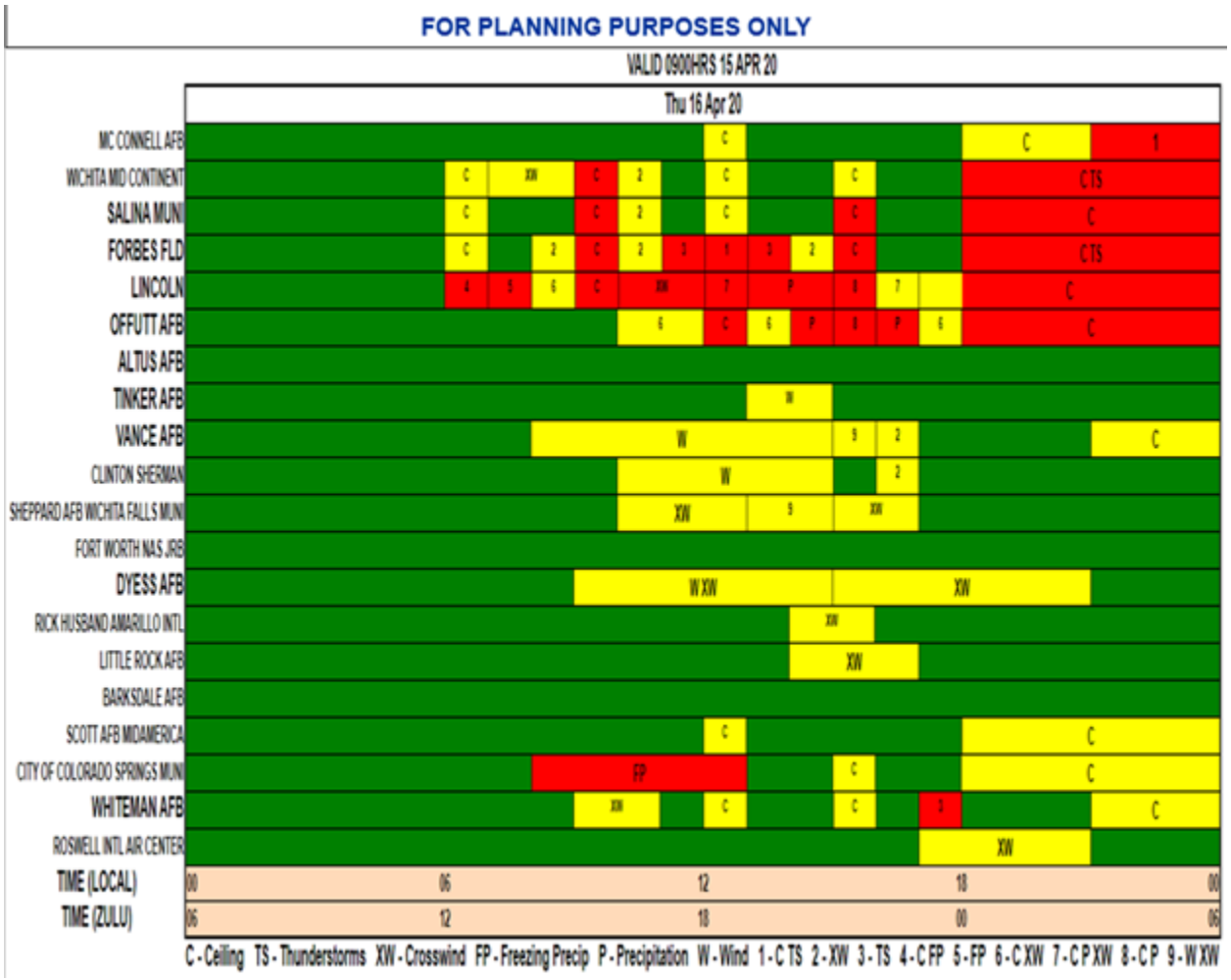


Figure A6.2. AR Planning MWP - Alternates & Diverts.



A6.2. 5-Day Planning MWP.

A6.2.1. The 5-Day forecast provides worst case conditions and distinguishes between AM (0000L-1200L) and PM (1201L-2359L) for cloud cover and associated weather. In the event wind direction (from) and/or speed (including gusts) is expected to change during the day, the data will be divided and an annotation to identify when it will occur (i.e., AM, PM, Storms) will be included. Ceiling and visibility data are the forecast worst case condition for the 24-hour period. ORM is based on worst case conditions for the specified three hour period. It is tailored to operations, maintenance and Airmen based on the ORM criteria listed in **Figure A6.3**.

Figure A6.3. 5 Day Planning MWP.

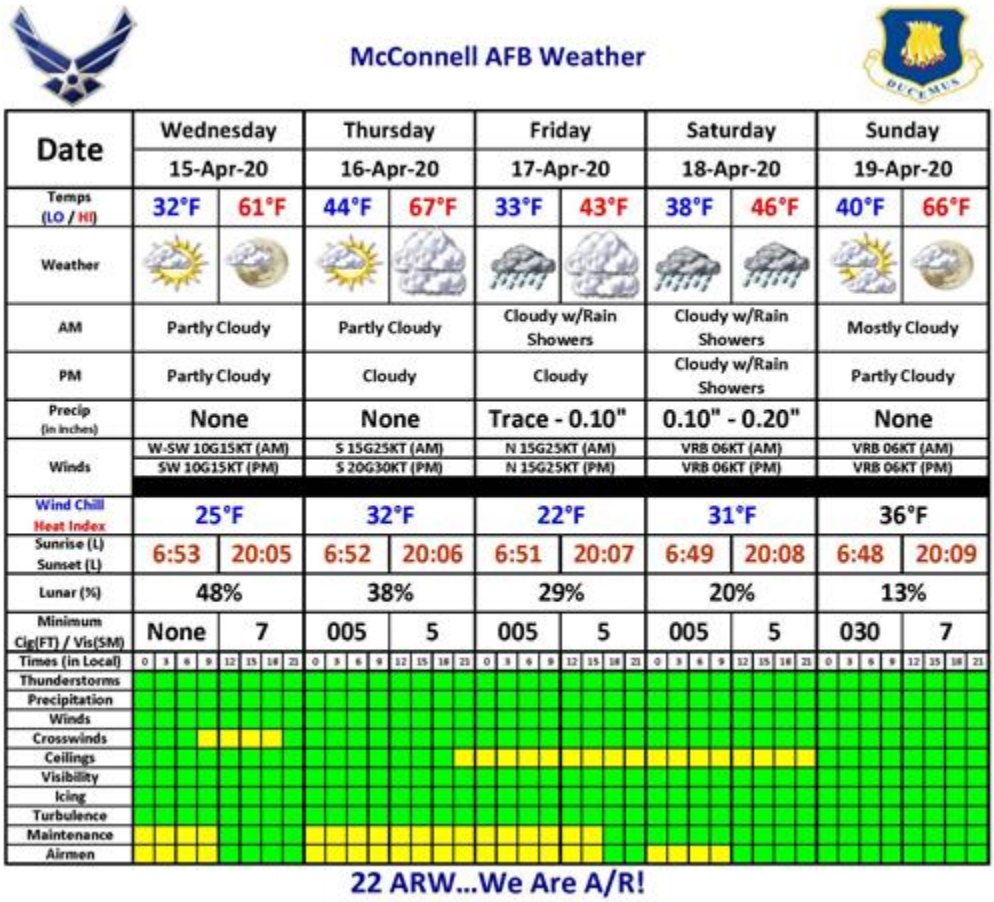


Figure A6.4. Operational Risk Management (ORM).

ORM LEGEND	RED	YELLOW
FLYING OPERATIONS	SURFACE WINDS ≥ 50 KTS CROSSWIND ≥ 25 KT LIGHTNING WITHIN 5NM CLOUD CEILING ≤ 200 FT SURFACE VISIBILITY < ¼ MILE SEVERE ICING SEVERE TURBULENCE HEAVY SNOW FREEZING RAIN / DRIZZLE	SURFACE WINDS ≥ 35 KT < 50 KTS CROSSWIND ≥ 15 KT LIGHTNING WITHIN 10NM CLOUD CEILING ≤ 2,000 FT SURFACE VISIBILITY < 3 MILES MODERATE ICING MODERATE TURBULENCE MODERATE SNOW BLOWING OR DRIFTING SNOW
MAINTENANCE	SURFACE WIND ≥ 35 KT LIGHTNING WITHIN 5 NM WIND CHILL ≤ -20°F	SURFACE WIND ≥ 25 BUT < 35 KT TS OR LTG POTENTIAL TEMP ≤ 32°F WIND CHILL ≤ 10°F
PERSONNEL	SURFACE WIND ≥ 35 KT TS OR LTG WITHIN 5 NM HEAVY PRECIP FREEZING PRECIP WIND CHILL ≤ 10°F HEAT INDEX ≥ 100°F	SURFACE WIND ≥ 25 BUT < 35 KT TS OR LTG POTENTIAL MODERATE PRECIP WIND CHILL ≤ 32°F HEAT INDEX ≥ 90°F

Table A6.1. AMC/TACC Weather Briefing Mission-Limiting (NO-GO) Thresholds.

Departure ICAO	Arrival ICAO	Enroute Events
Cig/Vis < 200/0.5 or Field Mins	Cig/Vis < 200/0.5 or Field Mins	Tropical Storm impacting route
Low Level Wind Shear	Low Level Wind Shear	Volcanic Ash impacting route
Thunderstorms	Thunderstorms	Thunderstorms enroute (≥ SCT)
Freezing Precipitation	Freezing Precipitation	Severe Turbulence
Turbulence ≥ Severe	Turbulence ≥ Severe	Moderate Mountain Wave Turbulence
Severe Icing	Severe Icing	Moderate Turbulence in AR
Crosswinds sustained ≥ 20kts	Crosswinds sustained ≥ 20kts	Moderate Icing in the AR
Temperatures > 90 °F for C5		Visibility < 1nm in AR
High Risk/High Visibility Missions		