BY ORDER OF THE COMMANDER 621ST CONTINGENCY RESPONSE WING (AMC)

621ST CONTINGENCY RESPONSE WING INSTRUCTION

15-101

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WEATHER SUPPORT INSTRUCTION

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Air Force Weather Operations*, Air Force Instruction (AFI) 10-206, *Operational Reporting*, AFI 10-229, *Responding to Severe Weather Events*, AFI 15-114, *Functional Resource and Weather Technical Performance Evaluation*, AFI 15-128, *Air and Space Weather Operations – Roles and Responsibilities*, AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, Air Force Manual (AFMAN) 15-111, *Surface Weather Observations*, AFMAN 15-124, *Meteorological Codes*, AFMAN 15-129V1 *Air and Space Weather Operations – Characterization,* and AFMAN 15-129V2 *Air and Space Weather Operations – Exploitation*. It establishes responsibilities and weather support procedures pertaining to the 621 Contingency Response Wing (621 CRW). It also provides general information for weather services, including weather observations and Terminal Aerodrome Forecasts (TAF), weather warnings, watches, and advisories, space weather data, information dissemination, and reciprocal support. This instruction applies to all Unit Type Codes (UTCs) assigned to the 621 CRW at Joint Base McGuire-Dix-Lakehurst and Travis Air Force Base. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records,* and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rds/rds_series.cfm.** Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command.

Chapter 1

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

1.1. General

1.1.1. The 621st Contingency Response Wing (CRW) consists of the 621st Contingency Response Group (621 CRG), the 821st Contingency Response Group (821 CRG), and the 621st Air Mobility Advisory Group (621 AMAG). The 621 CRG and 821 CRG Weather (CRG Weather) is responsible for providing or arranging weather support to incoming and outgoing aircraft at deployed locations. This instruction establishes weather support requirements and procedures as outlined in Air Force directives and has been coordinated at the local level to meet the mission needs of contingency response operations. This instruction will be reviewed at least once every four years, and it will be revised as necessary.

1.1.2. 621 AMAG has one weather personnel assigned to 571st Mission Support Advisory Squadron (571 MSAS). The MSAS mission is to conduct operational engagements to assess, train, advise, assist, and, when properly approved, equip Partner Nations (PNs) in the development, enhancement, and sustainment of an Air Mobility Squadron (AMS) as directed by Department of State (DoS) or Geographic Combatant Command (GCC) in support of GCC requirements. MSAS forces provide the capability to operate worldwide where little or no mobility operations support exists. Air Mobility Command (AMC) General Purpose Force (GPF) forces are expected to operate in a low-threat, permissive environment during peacetime. 571 MSAS Weather duties include: Briefing all outgoing missions on climatology of the region for the duration of the mission, deploying to various countries in the United States Southern Command (USSOUTCOM) area of responsibility (AOR) in support of Building Partner Relations and Capacity, and maintaining language capability by completing a minimum of 80 hours of instructor-led and 40 hours of self-study each year.

1.1.3. CRG Weather consists of four total personnel assigned to their own individual squadrons within the two CRGs. CRG Weather is the focal point for all weather-related issues. When CRGs deploy, an Operational Weather Squadron (OWS) will provide weather characterizations for the deployed theater. The OWS is considered the characterization unit. Characterization encompasses the “collect, analyze, and predict” weather core competencies. Characterization depends on Air Force Weather’s ability to collect accurate data, correctly analyze that data, and use the results to produce a coherent picture of the present and future state of the air and space environment.

1.1.4. CRG Weather performs exploitation functions while at deployed locations. Exploitation is the ability to minimize the impact of environmental threats to friendly forces while simultaneously capitalizing on environmental conditions that maximize the operational advantage over enemy forces. Exploitation units tailor the characterization provided by the characterization unit. Tailoring is the extraction of data that is pertinent to a specific mission profile from the overall characterization of the air and space environment. Tailoring does not mean changing the characterization. To the greatest extent possible, exploitation units will use the characterized data provided to them.

1.1.5. For the purpose of this instruction, all duties are assumed to be while deployed unless otherwise stated.

1.2. Concept of Operations

1.2.1. The responsible OWS provides regional and operational-level weather products and information to Air Force and Army units.

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

1.3. Responsibilities

1.3.1. General responsibilities of the OWS & CRG Weather are outlined in AFI 15-128, *Air Force Weather Roles and Responsibilities*.

1.3.1.1. The OWS issues the deployed location's Terminal Aerodrome Forecasts (TAFs), and forecast weather warnings and watches. The OWS will issue observed warnings and advisories when CRG Weather personnel are not available.

1.3.1.2. CRG Weather issues all observed advisories and warnings when possible.

1.3.2. Eyes Forward & Collaboration. This process/procedure is CRG Weather's role in allowing for the integration of weather radar data, meteorological satellite imagery, lightning detection readouts, and non-standard weather data systems to create an integrated weather picture and near-term forecast for the OWS.

1.3.3. CRG Weather provides meaningful meteorological information not contained in the coded observations to the servicing OWS and is an integral part of the METWATCH process (phone calls, emails, etc.). Additionally, CRG Weather personnel integrate the current state of the atmosphere into an understanding of future impacts on forecast conditions and communicate the impacts/information to the servicing OWS, as needed.

1.4. Duty Priorities

1.4.1. CRG Weather has created the following duty priorities (**Table 1.1.**) based on CRG mission requirements while deployed.

1.5. Hours of Operation & Contact Information

1.5.1. Operational hours will be determined at deployed location and based on mission requirements and inclement weather. All supported units should coordinate with CRG Weather personnel to request special or additional support not addressed in this instruction.

Table 1.1. CRG/Weather Deployed Duty Priority Listing

Order Of Priority	Deployed Duties
1	Perform CRW Emergency War Order (EWO) Taskings/Emergency Force Protection
2	Respond to Aircraft/Ground Emergencies. (These include aircraft emergencies and mishaps, accidental release of toxic chemicals, or any operation involving the safety of aircraft, materiel, or personnel.)
3	Respond to Pilot-to-Metro-Service (PMSV) or radio phone patch
4	Issue Observed Weather Warnings or Advisories
5	Take, Record, and Disseminate Surface Weather Observations/ Provide "Eyes Forward" Support to supporting OWS, 618 AOC, and AO (Area of Operations)
6	Perform Coordinated METWATCH Support
7	Perform Severe Weather Action Plan (SWAP) Procedures
8	Collaborate with OWS on Forecast Weather Warnings, Advisories, and Watches. Disseminate if necessary.
9	Relay Urgent Pilot Reports (PIREP) to supporting OWS
10	Disseminate PIREPs
11	Provide Other Briefings as Required
12	Collaborate with the supporting OWS on deployed location TAF
13	Conduct Equipment Weather Function Training/Preventative Maintenance
14	Accomplish Administrative and Other Duties

1.5.2. OWS and 618 AOC/XOW (TACC – Tanker Airlift Control Center). Hours of operation are 24/7, 365 days a year.

Figure 1.1. Contact Information.

618 AOC/XOW: (618) 229-0353 / DSN 779-0353

15 OWS NE CONUS: (618) 256-9699 / DSN 576-9699

17 OWS PACOM: (808) 449-8335 / DSN (315) 449-8335

21 OWS USEUCOM: 0631-536-2136 / DSN (314) 489-2136

25 OWS WCONUS: (520) 228-7655 / DSN 228-7655

26 OWS SE CONUS: (318) 529-2600 / DSN 331-2600

28 OWS AFCENT: (803) 895-0489 / DSN 965-0489

612 AFSOUTH: (520) 228-1977 / DSN 228-1977

23 WS AFSOC: (850) 884-3824 / DSN 579-4348

AFFOR A3A/WSSC-SWA: DSN (318) 437-2324 / DSN (318) 455-5096

1.6. Continuity of Operations Plan (COOP). Continuity of support to the wing is susceptible to communication outages at the OWS, 618 AOC, and CRG.

1.6.1. CRG COOP and CRG Alternate Operating Location (AOL). In the event of an evacuation, CRG Weather personnel will move to an AOL. CRG members will follow duty-specific standard operating procedures (SOPs) and evacuation checklists and resume services at the AOL as soon as possible. CRG Weather will continue operational support and resume eyes forward responsibilities for the OWS. Most CRG services/support will be provided but will require a case-by-case assessment depending on communication line status, equipment status, etc. Expect most services to be somewhat degraded (weather products, pilot briefings, etc.) due to limited facilities and loss of dedicated data services. 24/7 observing capability could be lost if unable to utilize the TMQ-53 Automated Weather Sensor. This is due to communication outages as this provides the automated capability when CRG Weather personnel are off-duty/resting.

1.6.2. OWS COOP

1.6.2.1. For short-term outages (defined as up to 72 hours), CRG Weather will assume local TAF and weather watch, warning, and advisory responsibility.

1.6.2.2. For long-term outages (defined as greater than 72 hours), the OWS plan is to resume all support from an alternate location or transfer support to another OWS, which will be determined at that time.

1.6.3. 618 AOC COOP

1.6.3.1. If 618 AOC/XOW loses the capability to provide flight weather briefing services, the OWSs will support briefing services until 618 AOC/XOW is able to resume capabilities.

Chapter 2

AIRFIELD SERVICES

2.1. General

2.1.1. Airfield services include those actions that affect the designated aerodrome (defined as within 5 miles of the airfield) or the base as a whole and are performed in accordance with duty priorities.

2.2. Observations

2.2.1. Observations are taken, recorded, and disseminated IAW AFMAN 15-111 *Surface Weather Observations*, utilizing the TMQ-53 or Kestrel. Prior to longline dissemination, the wind direction will be converted from magnetic to true while adding WND DATA ESTMD in the remarks. Also, all pressure readings derived from the Kestrel will append an ALSTG ESTMD (Altimeter Estimated) remark as well. The following observations are created and disseminated:

2.2.2. Aviation Routine Weather Report (METAR). METARs are disseminated both locally and longline between 55 and 59 minutes after the hour.

2.2.3. Aviation Selected Special Weather Report (SPECI). SPECI is an unscheduled observation completed and transmitted when any of the deployed location special criteria have been observed. AFMAN 15-111, **Attachment 2**, lists AFW-required SPECI criteria. Additional criteria may also be derived from published airfield landing minima as listed in DOD Flight Information Publications (FLIPS), appropriate Air Force, Army, higher headquarters, or MAJCOM instructions, and publications for the deployed location's airfield. These observations are disseminated both locally and longline. SPECI will contain all data elements found in a METAR, plus additional remarks that elaborate on data in the body of the report. All SPECI reports will be prepared and transmitted as soon as possible after the relevant criteria are observed.

2.2.4. Aviation Selected Local Weather Report (LOCAL). CRG Weather personnel will not take single element LOCAL observations for altimeter setting changes during flying operations. However, upon the arrival of inbound aircraft and upon a significant change, a verbal update will be provided to the ATC/LZSO. The update will be provided when the altimeter changes more than 0.01 inch HG (0.3 hPA) or more since the last observation.

2.2.5. Official Observing Points. This is the physical location from which the weather technician determines sky condition, present weather, and prevailing visibility. CRG Weather personnel will determine the Official Observing Site upon arrival at the airfield. To the maximum extent possible, this area will be free of obstructions (i.e., trees, buildings, etc.). The area should not be in a recessed valley and should be at least 10 times the distance of the height of the nearest obstruction. It should not be too far from the encampment due to security concerns. Additionally, the site must not contain heavy lighting, should not be affected by flight-line activity (i.e., jet blasts), and must be free of vehicle traffic.

2.2.6. Location of TMQ-53. CRG Weather personnel will coordinate with the on-site commander and airfield management to determine the best location. The ideal placement will need to be determined once on the ground and after the area has been assessed. CRG

personnel, in coordination with other airfield elements, will determine the best location depending on many factors, such as reliable, accurate airfield conditions, airfield/runway safety, equipment security and accountability, power source requirements, and transmission/receiving of the data to the TMOS laptop.

2.3. TAF Support

2.3.1. TAFs will be produced and disseminated by the servicing OWS IAW AFI 15-128, AFMAN 15-124, AFMAN 15-129V1, and Support Assistance Requests (SAR). TAFs are valid for 30 hours, apply to the area within the 5 nautical mile (NM) area of the airfield complex, and will be issued every 8 hours based on Zulu time.

2.4. Resource Protection (RP) Support & Warnings, Watches, and Advisories (WWA)

2.4.1. The servicing OWS conducts a continuous meteorological watch to identify and assess emerging and imminent threats to the deployed location. Watches, Warnings, and Advisories are special notices provided by the servicing OWS resulting from both the forecast and METWATCH processes to assist military decision makers with resource and RP decisions. Watches and warnings provide notice of weather events posing a hazard to life or property. Advisories provide specific notice to an operational agency of environmental phenomena with the potential to impact operations.

2.4.2. SWS. SWSs are special notices issued by the servicing OWS to assist military decision makers with RP decisions.

2.4.3. Weather Watches. A weather watch is a special notice to customers of a **potential** for environmental conditions of such intensity as to pose a hazard to life or property. They are used by customers to make force protection and risk management decisions. Watches are issued for a 5NM radius from the center point of the runway complex and are defined in **Table 2.1.**

2.4.4. Weather Warnings. A special notice to notify 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**. Weather warnings provide concise information outlining environmental threats and are used by commanders and personnel to make RP decisions and take protective action. Warnings are issued for a 5NM radius from the center point of the runway and are defined in **Table 2.2.**

Table 2.1. Weather Watches

Watch Type	Criteria	Desired Lead Time
Tornado	within 5NM	As potential warrants
Severe Thunderstorms Damaging Hail Damaging Wind	≥ 3/4 inch ≥ 50 knots	As potential warrants
Damaging Wind	≥ 50 knots	As potential warrants
High Wind	≥ 35 but < 50 kts	As potential warrants
Freezing Precipitation	Any Intensity	As potential warrants
Heavy Snow	≥ 2 inch accumulation in ≤ 6 hours	As potential warrants
Heavy Rain	≥ 2 inches within 12 hrs	As potential warrants
Low Visibility	Visibility < ½ mi	As potential warrants
Lightning	within 5NM	30 Minutes

Table 2.2. Weather Warnings

Warning Type	Criteria	Desired Lead Time
Tornado	expected within 5NM	15 minutes
Severe Thunderstorms Damaging Hail Damaging Winds	≥ 3/4 inch ≥ 50 knots	1 hour
Moderate Thunderstorms Large Hail High Winds	≥ 1/4 inch but < 3/4 inch ≥ 35 knots but < 50 knots	1 hour
Damaging Winds	≥ 50 knots	1 hour
Strong Winds	≥ 35 knots but < 50 knots	1 hour
Freezing Precipitation	Any Intensity	1 hour
Heavy Snow	≥ 2 inch accumulation in ≤ 6 hours	1hour
Lightning	within 5NM	Observed

2.4.5. Observed Weather Warnings. They extend 5 NM in all directions from the airfield. Lightning warnings are not issued until lightning is observed, either visually, through TMQ-53 lightning readout, or via Air Force Weather Web Services (AFW-WEBS) Global Lightning Detection Network. Location-specific commercial internet sites can be used as verification but not for sole reliability. The lightning warning will remain valid until lightning is no longer observed within 5NM for at least 15 minutes. **Exception:** A lightning warning will not be cancelled if a thunderstorm is within 5NM (as indicated on radar).

2.4.6. Observed Weather Advisories. An observed weather ADVISORY is a special product notifying an end user when an established environmental condition affecting operations is occurring or is expected to occur at the deployed location and will be defined upon arrival. Weather Advisories will be determined upon arrival and based on airfield, supported airframes, and CRG leadership direction.

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. For example, the message "Weather Warning 02-005" means the month is February (02), and this is the fifth (005) warning issued in the month. The message "Weather Advisory 12-013" means the month is December (12), and this is the thirteenth (013) advisory issued in the month. Examples of different messages are contained in **Attachment 5**.

2.4.8. WWA Upgrades/Downgrades. WWAs will be upgraded (i.e., winds increase from 35 knots to 50 knots) or downgraded as required. Upgrades should meet the desired lead times specified in **Tables 2.1** and **2.2**. Only one warning will be in effect at a given time (and will include multiple warning criteria as required) except for forecast tornado warnings and/or observed lightning warnings. Tornado and lightning will be separate warnings. With the exception of tornado and lightning warnings, if a warning is issued for one criteria and it becomes necessary to warn for another criteria, a new warning and new number will be issued, to include all criteria expected. A separate valid time may be specified for each criteria if necessary.

2.4.9. WWA Amendments. When WWAs no longer adequately describe the phenomenon's expected occurrence, a completely new WWA with a new number will be issued. The amendment will clearly state how the amendment or extension affects any previously issued notices.

2.4.10. WWA Extensions. WWAs may be extended, provided the extension is issued prior to the expiration of the original notice.

2.4.11. WWA Cancellation. Warnings and watches are canceled when the weather phenomena are no longer occurring or expected to occur. Warnings not extended or canceled will automatically expire at the end of the valid period. Observed advisories will be canceled when the criteria is no longer occurring and has not occurred in the last 30 minutes. See **para 2.4.4** for cancellation of observed lightning warnings.

2.5. Dissemination Process

2.5.1. Observations. The primary process is to establish a network connection with Small Package Initial Communications Element (SPICE) to automatically transmit observations longline in the 557th Weather Wing server. As a backup transmission procedure, observations will be taken and disseminated longline through AFW-WEBs. If all longline transmission resources are out of service, call via iridium telephone (voice relay) to supporting OWS for longline transmission. Locally, observations will be relayed by CRG Weather to C2 and ATC, as needed.

2.5.2. Weather Watches, Warnings, and Advisories. Weather watches, warnings, and advisories will be disseminated by the OWS via Joint Environmental Toolkit (JET). CRG

Weather will contact C2, ATC, and the OWS forecaster when observed warnings are issued. Additionally, CRG Weather will ensure warnings are transmitted through the ground radios to those on/around the flight-line.

2.5.3. Lightning Warnings. All lightning warnings are disseminated to the populace via C2 by the Giant Voice, allowing all members on the airfield to be prepared for inclement weather. Lightning warnings are also disseminated via radio. CRG Weather personnel may disseminate the WWAs through ground radio communication if coordinated through C2.

2.6. Cooperative Weather Watch (CWW)

2.6.1. The CWW is a process for Air Traffic Control (ATC), flying unit personnel, Security Forces, Aerial Porters, and Aircraft Maintenance personnel to report changes in weather conditions to the on-duty weather forecaster. If deemed representative of the actual weather conditions on the runway complex, CRG Weather personnel may use the CWW-reported information for the next surface observation or use the information as a basis for manually generating a new observation. Due to the expeditionary nature of the CRG mission, CWW procedures will be initiated in accordance with duty priorities and may be verbally dictated due to [potential] limited resources available. In a bare-base opening, a written CWW will be implemented.

2.6.2. CWW inherently requires close contact among CRG Weather personnel, CRG members, and especially tower personnel. In the event that CRG Weather personnel are sleeping or resting between aircraft arrival/departures, CRG members will notify weather personnel when any of the following are seen:

2.6.2.1. Rapid decrease of visibility that lowers any sector visibility to below four miles.

2.6.2.2. Precipitation begins or ends.

2.6.2.3. Thunderstorms and/or lightning are initially observed.

2.6.2.4. Any other meteorological condition that could have significant impact on the airfield or aircraft operations (i.e., hail, wind damage, etc.). **Note:** Upon receipt of this information, weather personnel will evaluate weather conditions and may either take and disseminate a new observation, or include reports of differing conditions in an official weather observation.

2.6.3. ATC Limited Observation Training. ATC Limited Observation Training, as well as Instrument Refresher Course (IRC) briefing, is provided by the In Garrison OSS/OSW. ATC personnel seeking training will call the weather flight and schedule an appointment to receive training. After ATC personnel complete the training, they will take a short test on the information and receive a familiarization tour of the weather station. IRC briefings are required in accordance with AFMAN 11-210, *Instrument Refresher Program (IRP)*, and AFMAN 15-129 v2.

2.7. PMSV Support

2.7.1. Services can be provided when contacted over HF radio or via phone patch. The Pilot-To-Metro-Service Radio allows CRG Weather to communicate with aircrews, both on the ground and in-flight, as well as tower personnel. If the PMSV capability is out of service or if C2 is using the radio, aircrews can contact 618 AOC or the regional OWS via phone patch (where possible) to get weather data.

2.8. Emergency Action(s) Response

2.8.1. Aircraft Mishap. CRG Weather personnel have a role when the airfield is advised of an emergency or mishap. The 557th Weather Wing and the responsible OWS are also involved. When an aircraft or ground mishap occurs (weather related or not) requiring Operational Report (OPREP)-3 reporting, CRG personnel will follow the aircraft mishap procedures outlined in **Chapter 3** of AFMAN 15-129v2. CRG Weather will ensure all locally-generated data used in the development of any weather information, product, service, or support provided to a customer (to include forms, tactical decision aids, space weather products, mission impact slides, observations, etc.) is saved. The OWSs have robust data save capabilities and will save all perishable data (satellite imagery, radar imagery, weather model charts, hazard charts, JET server data, etc.) when requested to do a data save by the CRG. The CRG and OWS will save enough data before and after the mishap to fully reconstruct the environmental conditions that may have contributed to the mishap. The CRG will coordinate with all applicable OWSs to initiate data saves if products used to support the missions were crossing areas of responsibility. CRG Weather will also coordinate with 618 AOC if provided products, services, and information related to the mishap to coordinate data saves. CRG Weather will coordinate with the 557th Weather Wing Operations Center at DSN (312) 271-2586 to save any applicable data not saved by other sources.

2.8.1.1. Operational Report (OPREP)-3 Reporting. CRG Weather will contact Airfield Operations/Management within 15 minutes of observing severe weather within a 5NM radius of the airfield complex. For purposes of this document, severe criteria is hail ¾" or greater, wind speeds 50 knots or greater, and/or a tornado observed or reported within 5NM of the airfield. In accordance with AFMAN 15-129v2, **Chapter 2**, CRG Weather will provide the appropriate information to the deployed agencies (i.e., command post, airfield operations/management, etc). The Airfield Operations Manager will forward an OPREP-3 report to higher headquarters in accordance with AFI 10-229. CRG Weather personnel will ensure AMC A2AW/weather functional and supported MAJCOM are aware of the reported weather event as soon as practical.

2.8.2. Severe Weather Action Procedures (SWAP). Due to CRG Weather having a "one-deep" position, when the airfield is closed or weather observations are not being taken, the servicing OWS will contact CRG weather personnel in preparation for SWAP criteria to be met. For the purpose of these procedures, severe weather will be defined as the criteria listed in AFMAN 15-111, **Paragraph 2.8.1.1.** However, based on operational support, this criteria may be tailored while at a deployed location. In this instance, CRG Weather will notify the servicing OWS of their request for new severe criteria. It is imperative that timely and accurate weather watches, warnings, and advisories are disseminated to all CRG agencies to ensure personnel and resource protection. These procedures document a two-tier system with the CRG and servicing OWS sharing responsibilities for SWAP and resource protection.

Chapter 3

MISSION SERVICES

3.1. General

3.1.1. CRG Weather, OWS(s), and 618 AOC/XOW support the 621 CRW flying and non-flying missions. This chapter identifies the flying and non-flying missions and the weather support provided at deployed locations.

3.2. Flying Missions

3.2.1. CRG Weather and the 618 AOC/XOW provide weather support to the airframes listed in **Attachment 6.** The majority of 621 CRW flying operations are supported by 618 AOC/XOW.

3.3. MISSIONWATCH

3.3.1. This is a deliberate process for monitoring terrestrial weather and/or the space environment for specific mission-limiting environmental factors.

3.3.2. 621 CRG Weather Briefed Sorties. It is through MISSIONWATCH that Mission Weather Product (MWP) amendments/updates are accomplished. During rapidly changing weather, CRG Weather will inform the OWS when weather products issued by the OWS do not accurately reflect observed conditions and impact flight safety. CRG Weather will amend/update the MWP as necessary. In addition, when previously un-forecasted weather conditions develop that place a mission at risk, CRG Weather will contact the CP with updates. The CP will pass this information to the aircrew. MISSIONWATCH will be conducted and logged.

3.3.3. 618 AOC/XOW Briefed Sorties. The 618 AOC/XOW will MISSIONWATCH for all sorties they support. If significant changes to weather occur, the 618 AOC/XOW will update the Weather Threat Assessment (WTA). IAW AMCI 15-101, the 621 CRW/CP subscribes to WTAs to receive MISSIONWATCH alerts. The CP will pass WTA information to the aircrew. The following link can be used to subscribe to alerts or view WTA information (supervisor approval is required to gain access and is not immediate): **https://tacc.scott.af.mil/?action=WTAMain**.

3.4. Transient Aircrew Support

3.4.1. CRG Weather will provide or arrange for weather support for transient aircrews IAW the duty priorities list **Table 1.1.** CRG Weather may provide flight weather briefings (175-1s) and/or updates to aircrews. CRG Weather may arrange for weather support from the theater-appropriate OWS briefing cell when greater duty priorities take precedence. The OWS briefing cell contact information is listed in section 1.5.3.

3.5. Space Weather Impacts

3.5.1. 621 CRW missions have a wide variety of parameters affected by various space weather conditions (High Frequency and Ultra High Frequency communication, radar, Global Positioning System communications, etc.). CRG Weather and 618 AOC/XOW provide space impacts on their MWPs. More detailed products are available at

https://weather.af.mil/static_products/images/SPWXSUM.GIF. An example of the daily discussion is provided in **Attachment 6.**

Chapter 4

STAFF SERVICES

4.1. General

4.1.1. Staff services are those briefings provided by CRG Weather. Examples include, but are not limited to, weekly staff meetings, pre-departure briefings, deployed locations briefings to include climatology, and battle staff briefings.

4.2. Climatology Briefings

4.2.1. Climatology information will be provided as requested.

4.3. Pre-deployment Planning Briefings (Concept Briefing)/Execution Briefings

4.3.1. CRG Weather personnel will provide pre-deployment weather briefings when requested for deploying units. The non-deploying CRG weather personnel will perform the pre-deployment briefings so the deploying member can execute pre-deployment tasks. The content of the briefing will include 5-day outlooks and climatological data for the in-garrison base and deployed location.

Chapter 5

WEATHER EQUIPMENT

5.1. General

5.1.1. This chapter provides a brief description of the meteorological and communications equipment used by CRG Weather.

5.2. Meteorological Equipment

5.2.1. CRG Weather personnel use tactical equipment to determine the current state of the atmosphere. These portable systems are used continuously to provide customers the most timely, accurate and relevant weather intelligence possible.

5.2.2. TMQ-53. Self-contained, deployable unit that provides measurements of wind speed, wind direction, gusts, temperature, relative humidity, pressure, cloud ceiling heights, visibility, present weather, precipitation accumulation, and lightning detection.

5.2.3. Kestrel. A tactical weather sensor which provides most meteorological readings needed to produce a weather observation (e.g., wind direction and speed, temperature, pressure).

5.2.4. Laser Range Finder. The laser range finder is a compact device capable of determining distances of nearby landmarks/objects. The distances are used to obtain visibility measurements for weather conditions when combined with a tactical visibility chart.

5.2.5. Flex Fuel 2kW Generator. Multi-fuel generator used to sustain the TMQ-53 where no power supply is available.

5.3. Communications Equipment

5.3.1. Just as vital as meteorological equipment, communications equipment allows CRG Weather to get the right information to the right customer. The following systems are the backbone of the CRG Weather communications network.

5.3.1.1. PMSV Radio. PMSV services are not typical with CRG missions as we don't typically have an air-to-ground radio available due to limited supply. Typically, weather information is relayed to aircraft from CRG Weather personnel via ATC/LZSO personnel through a ground radio. Services can be provided when contacted via phone patch if a DSN line is established for CRG Weather personnel.

5.3.1.2. Iridium (Satellite) Phone. Satellite phones primarily serve as backup systems as well as for passing along critical, time-sensitive information rapidly.

5.3.1.3. Local Area Network (LAN). CRG Weather relies heavily on the tactical LAN (SPICE) to improve the timeliness and accuracy of weather intelligence to the supported customers.

CHARLES R. HENDERSON, Col, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 15-1, Weather Operations, 12 November 2015

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Adopted Forms

DD Form 175-1, *Flight Weather Briefing*

Abbreviations and Acronyms

AIREP—Air Report

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFB—Air Force Base

AFPD—Air Force Policy Directive

AFFSA—Air Force Flight Standards Agency

AGL—Above Ground Level

AOL—Alternate Operating Location

AMC—Air Mobility Command

AMOS—-Automated Observing System

AMW—Air Mobility Wing

AOR—Area of Responsibility

ARW—Air Refueling Wing

AS—Airlift Squadron

ATC—Air Traffic Control

AW—Airlift Wing

BWW—Basic Weather Watch

CAT—-Crisis Action Team

CB—Cumulonimbus

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

CC—Commander

CES—Civil Engineering Squadron

CONS—Contracting Squadron

CONUS—Continental United States

COOP—Continuity of Operations Plan

CP—Command Post

CS—Communications Squadron

CWW—Cooperative Weather Watch

DA—Density Altitude

DSNT—Distant

ESTMD—Estimated

EWO—Emergency War Orders

FLIP—Flight Information Publication

FTU—Formal Training Unit

GPS—Global Positioning System

GSU—Geographically Separated Unit

HF—High Frequency

IAW—In Accordance With

ICAO—International Civil Aviation Organization

ICC—Installation Control Center

IRC—Instrument Refresher Course

IWWC—Integrated Weather Warnings Capability

FRQ—Frequent

JAAWIN—Joint Air Force and Army Weather Information Network

JET—Joint Environmental Toolkit

KT—Knots

LAN—Local Area Network

LTG—Lightning

LWR—Lower

METAR—Meteorological Terminal Aviation Routine Report

METCON—Meteorological Conference

METSAT—Meteorological Satellite

METWATCH—Meteorological Watch

MOV—Moving

MOVD—Moved

MWP—Mission Weather Product

NWS—National Weather Service

OG—Operations Group

OHD—Overhead

OL-D—Operating Location-D

OPR—Office of Primary Responsibility

OSAA—Airfield Management

OSAB—Tower

OSS—Operations Support Squadron

OWS—Operational Weather Squadron

PA—Public Affairs

PA—Pressure Altitude

PIREP—Pilot Report

PK WND—Peak Wind

PMSV—Pilot-to-Metro Service

POC—Point of Contact

RDS—Records Disposition Schedule

RVR—Runway Visual Range

RWY—Runway

SE—Safety Office

SFS—Security Forces Squadron

SM—Statute Mile

SOF—Supervisor of Flying

SOP—Standard Operating Procedure

SPECI—Special

SWAP—Severe Weather Action Plan

TACC—Tanker Airlift Control Center

TAF—Terminal Aerodrome Forecast

TCU—Towering Cumulus

TWR—Tower

UFN—Until Further Notice

UHF—Ultra High Frequency

UNKN—Unknown

VFR—Visual Flight Rules

VHF—Very High Frequency

VIS—Visibility

WF—Weather Flight

WSHFT—Wind Shift

WSR-88D—Weather Surveillance Radar, 1988 Doppler

Attachment 2

SAMPLE FORECAST SPECIFICATION AND AMENDMENT CRITERIA

A2.1. Specification Criteria. The TAF will specify the time of occurrence, duration, and the intensity (if applicable) of expected weather conditions. The following weather criteria will be specified in TAFs if expected to occur during the forecast period:

A2.1.1. Ceiling and/or visibility is forecast to decrease less than or, if below, increases to equal or exceed any of the following levels:

Table A2.1. Ceiling/Visibility Forecast levels.

Ceiling	Visibility	Category
≥ 2,000 FT	≥ 3 SM (4,800 M)	E
≥ 1,000 FT	≥ 2 SM (3,200 M)	D
≥ 700 FT	≥ 2 SM (3,200 M)	C
≥ 200 FT	≥ 1/2 SM (800 M)	B
< 200 FT	< 1/2 SM (800 M)	A

A2.1.2. Wind:

A2.1.2.1. A change in wind speed of 10 knots or more

A2.1.2.2. An onset, duration, and intensity of wind gusts by 10 knots or more.

A2.1.2.3. A change in prevailing wind direction of more than 30 degrees when the predominant wind speed or gusts are expected to be more than 15 knots.

A2.1.3. Icing, not associated with thunderstorms, from the surface to 10,000 feet Above Ground Level (AGL).

A2.1.4. Turbulence (for Cat II aircraft), not associated with thunderstorms, from the surface to 10,000 feet AGL.

A2.1.5. Non-convective low-level wind shear.

A2.1.6. Any weather warning criteria (that can be specified in the TAF), including non-convective low-level wind shear that occurs, or is expected to occur, during the forecast period.

A2.1.7. Altimeter Setting. The onset of altimeter settings meeting or exceeding 31.00 INS or altimeter settings 28.00 INS or less. If less than the threshold, specify when altimeter settings equal or exceed the thresholds. If greater than the threshold, specify when altimeter settings will decrease to equal or less than the thresholds.

A2.1.8. Forecast Weather Advisory Criteria (issued for TAF amendable criteria), including non-convective low-level wind shear that occurs, or is expected to occur, during the forecast period.

A2.1.9. Precipitation.

A2.1.10. Thunderstorms.

A2.1.11. TAF Amendments. Forecasters will ensure the TAF is representative of expected or actual conditions. Forecasters will amend the TAF as follows:

A2.1.11.1. Temporary Conditions:

A2.1.11.1.1. Amend if temporary conditions become predominant.

A2.1.11.1.2. Amend if temporary conditions do not occur as forecast.

A2.1.11.1.3. Amend if temporary conditions are no longer expected to occur.

A2.1.11.2. Changes to Predominant Conditions. Amend if forecasted conditions occur before the specified period of change, do not occur, or are no longer expected to occur.

A2.1.12. Representative Conditions. Amend if forecast conditions are not considered representative of the characterized state of the atmosphere and an amendment improves safety, flight planning, operational efficiency, or assists in-flight aircraft.

A2.2. Amendment Criteria.

A2.2.1. TAF Amendments. Forecasters will ensure the TAF is representative of expected or actual conditions. Forecasters will amend the TAF as follows:

A2.2.1.1. Temporary Conditions:

A2.1.1.1.1. Amend if temporary conditions become predominant.

A2.1.1.1.2. Amend if temporary conditions do not occur as forecast.

A2.1.1.1.3. Amend if temporary conditions are no longer expected to occur.

A2.1.1.2. Changes to Predominant Conditions. Amend if forecasted conditions occur before the specified period of change, do not occur, or are no longer expected to occur.

A2.2.1. Representative Conditions.

A2.2.2. Amend if forecast conditions are not considered representative of the characterized state of the atmosphere and an amendment improves safety, flight planning, operational efficiency, or assists in-flight aircraft.

A2.2.2.1. When the ceiling and/or visibility is observed, or later forecast, to increase to, or exceed, or decrease to less than any of the levels listed in **Table A3.1** and was not specified in the TAF.

A2.2.2.2. Winds:

A2.2.2.2.1. If the difference between the predominant wind speed (or gust) and the forecast wind speed (or gust) is 10 knots or more.

A2.2.2.2.2. If wind gust speed is in error by 10 knots or more.

A2.2.2.2.3. If prevailing wind speed is in error by more than 30 degrees AND winds are more than15 knots.

A2.2.2.3. Icing, if beginning or ending of icing meets, exceeds, or decreases to less than moderate (or greater) intensity and was improperly specified in the forecast.

A2.2.2.4. Turbulence, if the beginning or ending of turbulence meets, exceeds, or decreases to less than moderate (or greater) intensity and was improperly specified in the forecast.

A2.2.2.5. Non-convective, low-level wind shear, if the non-convective, low-level wind shear is occurring, expected to occur, or no longer expected to occur during the forecast period.

A2.2.2.6. Weather Warning Criteria:

A2.2.2.6.1. If weather warning criteria occurs, or is expected to occur, during the forecast period, but was not specified in the forecast.

A2.2.2.6.2. Was specified in the forecast, but is no longer occurring or expected to occur during the forecast period.

A2.2.2.7. Altimeter Setting. If the altimeter setting meets, or is expected to meet, the threshold and was not specified in forecast.

A2.2.2.8. Forecast Weather Advisory Criteria. If the forecast weather advisory criteria is improperly specified, occurs and was not forecast, or is no longer expected to occur.

A2.2.2.9. Precipitation:

A2.2.2.9.1. If unforecasted freezing precipitation begins or ends.

A2.2.2.9.2. If the beginning or ending of precipitation causes local weather warnings or advisories specified in the TAF to be issued, canceled, or amended.

A2.2.2.9.3. If the occurrence or nonoccurrence is considered operationally significant.

A2.2.2.10. Thunderstorms. If the start or end time of the thunderstorm is incorrectly specified.

A2.2.2.11. Temporary Conditions:

A2.2.2.11.1. If temporary conditions become predominant.

A2.2.2.11.2. If temporary conditions do not occur as forecast.

A2.2.2.11.3. If temporary conditions are no longer expected to occur.

A2.2.2.12. Changes to Predominant Conditions. If forecasted conditions occur before the specified period of change, do not occur, or are no longer expected to occur.

A2.2.2.13. Representative Conditions. If forecast conditions are not considered representative of the characterized state of the atmosphere and an amendment improves safety, flight planning, operational efficiency, or assists in-flight aircraft.

Attachment 3

SAMPLE WEATHER PRODUCT DISSEMINATION FORMAT/INTERPRETATION OBSERVATION/TAF/WWAS

Table A3.1. Sample Weather Observations.

1 2 **3** 4 **5** 6 **7** 8 **9** 10		
SPECI KBLV **1506Z** AUTO **17013G22KT** 2 1/2 **RVRNO** TSRA **BKN015CB OVC030** 76/75		
ALSTG 29.99 RMK AO2 TS OHD MOV NE		
11 12		
Body of Report - Consists of 11 Groups		
Group	Reference	Brief Description
Type of Report	A3.1.	Indicates type of report.
Station Identifier	A3.2.	A four-character group used to identify the observing location.
Date and Time of Report	A3.3.	Date and time of the report.
Report Modifier	A3.4.	A report modifier (COR) identifying report as a correction, or AUTO indicating the weather observation is a fully automated report with no human intervention. Gusts are appended if available.
Wind	A3.5.	Indicates wind direction and speed.
Visibility	A3.6.	Provides prevailing visibility from the designated point of observation in statute miles or meters.
Runway Visual Range	A3.7.	10-minute RVR or varying RVR in hundreds of feet or meters.
Present Weather	A3.8.	Any weather occurring at the observing location, obscurations to vision, or other phenomena.
Sky Condition	A3.9.	State of the sky in terms of sky cover, layers and heights, ceilings and obscurations.
Temperature and Dew Point	A3.10.	Measure of hotness/coldness of ambient air. Dew point measures saturation point temperature.
Altimeter	A3.11.	Indicates altitude above MSL of an aircraft on the ground.

Remarks	A3.12.	Remarks generally elaborate on parameters reported in the body of the report, and will be included in all METAR and SPECI observations.

A3.1. Type of Report. METAR or SPECI.

A3.2. Station identifier, also called the ICAO. This code identifies the location of the observation (in this case Scott AFB).

A3.3. Date and Time of Report. This is in Zulu (GMT) of the last element of the observation.

A3.4. Report Modifier. The report modifier can be either of the following two elements:

A3.4.1. COR is entered into the report modifier group when a corrected METAR or SPECI is transmitted.

A3.4.2. AUTO identifies the report as a fully automated report with no human intervention.

A3.4.2.1. AUTO is automatically included in reports when the weather technician signs off the AMOS indicating the observations are no longer being augmented.

A3.4.2.2. AUTO and COR will not be seen in the same observation. If the term COR is used, the observation cannot be reported as AUTO, since a weather technician is manually correcting the observation.

A3.5. Wind. The true direction the wind is blowing from is encoded in tens of degrees using three figures. Directions less than 100 degrees are preceded with a "0." The wind speed is entered as a two or three-digit group immediately following the wind direction.

A3.5.1. Gust. The wind gust is encoded in two or three digits immediately following the wind speed. The wind gust is encoded in whole knots using the units and tens digits and, if required, the hundreds digit.

A3.5.2. Variable Wind Direction (speeds 6 knots or less). Variable wind direction with wind speed 6 knots or less may be encoded as VRB in place of the direction.

A3.5.3. Variable Wind Direction (speeds greater than 6 knots). Wind direction varying 60 degrees or more with wind speed greater than 6 knots will be encoded. The variable wind direction group will immediately follow the wind group. The directional variability will be encoded in a clockwise direction. For example, if the wind is variable from 180 degrees to 240 degrees at 10 knots, it would be encoded 21010KT 180V240.

A3.5.4. Calm Wind. Calm wind is encoded as 00000KT.

A3.6. Visibility. The furthest predominant distance (at least 50% of the aerodrome) seen from the airfield reported in statute miles. The most common visibility reported is 7 miles.

A3.7. Runway Visual Range.

A3.8. Present weather. Any weather phenomenon occurring on the airfield. This is mandatory anytime the visibility is less than 7 miles. **Table A3.2.** lists the present weather codes:

Table A3.2. Weather Phenomena Codes.

Qualifier	**Weather Phenomena**			
Intensity Or Proximity	Descriptor	Precipitation	Obscuration	Other
- Light	MI (Shallow)	DZ (Drizzle)	BR (Mist)	PO (Developed Dust/Sand Whirls)
Moderate	PR (Partial)	RA (Rain)	FG (Fog)	SQ (Squall)
+ Heavy	BC (Patches)	SN (Snow)	FU (Smoke)	FC (Funnel Cloud, Tornado, or Water Spout)
VC (Vicinity)	DR (Low Drifting)	SG (Snow Grains)	VA (Volcanic Ash)	SS (Sandstorm)
	BL (Blowing)	IC (Ice Crystals)	DU (Dust)	DS (Dust Storm)
	SH (Showers)	PL (Ice Pellets)	SA (Sand)	
	TS (Thunderstorms)	GR (Hail)	HZ (Haze)	
	FZ (Freezing)	GS (Small Hail or Snow Pellets)	PY (Spray)	
		UP (Unknown Precip)		

A3.9. Sky Condition and Cloud Height. Describes the amount of clouds present at the airfield and the base of each cloud deck. They fall into the following categories:

A3.9.1. SKC – Sky Clear.

A3.9.2. FEW – 1/8 to 2/8 coverage.

A3.9.3. SCT – Scattered; 3/8 to 4/8 coverage.

A3.9.4. BKN – Broken; 5/8 to 7/8 coverage.

A3.9.5. OVC – Overcast; 8/8 coverage.

A3.9.6. VV – Vertical visibility; normally used during heavy fog, indicates how far up into the fog can be seen.

A3.9.7. FEW000 – Surface-based obscuration.

A3.9.8. Cloud Height. Three-digit number provides the height of the base of the cloud in hundreds of feet (e.g., 015 equals 1,500 feet). The CB and TCU descriptors may be appended to the cloud height to indicate the cloud is a cumulonimbus or towering cumulus.

A3.10. Temperature and Dew Point. Listed in degrees, either Fahrenheit or Celsius.

A3.11. Altimeter Setting. The current value aircraft altimeters must be set at to read an elevation of zero. The altimeter is measured in inches (INS) of mercury.

A3.12. Remarks. Table A3.3. contains some of the most commonly seen remarks in observations:

Table A3.3. Remarks Listing

AO2—Automated sensor indicator
CB—Cumulonimbus
DSNT—Distant
ESTMD—Estimated
FROPA—Frontal Passage
LTG—Lightening
LWR—Lower
MOV—Moving
MOVD—Moved
OHD—Overhead
PK WND—Peak Wind
PRESFR—Pressure Falling Rapidly
PRESRR—Pressure Rapidly Rising
RWY—Runway
TCU—Towering Cumulus
TWR—Tower
UNKN—Unknown
VIS—Visibility
WSHFT—Wind Shift
PA—Pressure Altitude
DA—Density Altitude

A3.13. TAF.

A3.13.1. The forecast follows the same general format as the observation with the following exceptions noted:

Table A3.4. Sample TAF.

KBLV 0108-0214 31005KT 7 SCT015 SCT250 ALSTG30.15INS
BECMG 17-18 12010KT 4 SHRA SCT010 BKN025 OVC080 ALSTG30.05INS
TEMPO 19-22 VRB10G20KT 1/2 TSRA SCT008 BKN015CB OVC030 T24/20Z T10/10Z

A3.13.1.1. Valid Date/Time. Forecasts are valid for a 30-hour period. In **Table A3.4**, the forecast is valid from the first at 0800Z until the second at 1400Z.

A3.13.1.2. BECMG – This is a code to indicate the predominant conditions will change to (or become) the conditions listed in the line of the forecast. The conditions will change during the time period follows the BECMG code (1700 to 1800Z in the **Table A3.4**).

A3.13.1.3. TEMPO – This code means the conditions listed on the line may occur for periods of an hour or less (1 hour and 15 minutes or less for thunderstorms) anytime between the time frame following the TEMPO code (1900Z to 2200Z in **Table A3.4**).

A3.13.1.4. Max Temp/Min Temp. T24 indicates a maximum temperature in Celsius to occur at 20Z. T10 indicates a minimum temperature of 10 Celsius to occur at 10Z (**Note:** M indicates a minus sign in front of the number: M05 = -5 C).

A3.14. Weather Warnings, Watches, and Advisories.

Table A3.5. Observed Weather Warning.

SCOTT AFB WEATHER WARNING 05-001
VALID 17/1921Z (17/1321L) TO UFN LIGHTNING IS OBSERVED WITHIN 5NM
08/RS
1. FORECAST WEATHER WARNING.
SCOTT AFB WEATHER WARNING 11-051
VALID 10/1500Z(10/0900L) TO 10/2200Z(10/1600L)
WINDS ASSOCIATED WITH MODERATE THUNDERSTORMS ARE FORECAST TO BE 35-49 KNOTS AT SCOTT AFB. MAXIMUM GUST EXPECTED: 41 KNOTS 18/THB
2. WEATHER WATCH.
SCOTT AFB WEATHER WATCH 05-215
VALID 15/1858Z (15/1358L) TO 15/2100Z (15/1600L)
A LIGHTNING WATCH IS NOW IN EFFECT FOR SCOTT AFB UNTIL 1600L.
A WARNING WILL BE ISSUED LATER IF REQUIRED.
58/GO
3. OBSERVED WEATHER ADVISORY.
SCOTT AFB WEATHER ADVISORY 09-134
VALID 08/1408Z (080908L) TO UFN
CROSSWINDS OBSERVED TO BE EQUAL TO OR GREATER THAN 25KTS
44/ST

Attachment 4

CUSTOMER RESPONSE MATRIX

Table A4.1. Customer Response Matrix

Weather Phenomena	Lead Time	Impact	Customer Action
Tornado	15 min	Personal injury/death Equipment damage	Seek shelter
Hail (3/4" or more)	60 min	Personal injury/death Equipment damage	Seek shelter; hangar or divert aircraft
Freezing Precipitation	60 min	Delay or cease operations	Cease flying; hangar or protect aircraft
Surface winds $\geq$ 50 knots	60 min	Flight hazard Equipment damage	Cease unnecessary flying; secure or hangar aircraft; secure light objects outside
Surface winds 35-49 knots	60 min	Flight hazard Equipment damage	Cease unnecessary flying; secure or hangar aircraft
Lightning w/in 5 NM of Airfield	Observed	Personal injury/death Delay operations	Cease flight-line work; clear pool/golf course
Crosswinds $\geq$ 25 knots	Observed	Flight hazard	Cease/delay take-off for some aircraft
Crosswinds $\geq$ 15 knots but < 25 knots	Observed	Flight hazard	Cease take-off/landings for small private aircraft; no touch and goes
Low Level Wind Shear	Observed	Delay or cease operations	Delay or cease take-off/landing evaluate shear conditions
Snow accumulation GTE 2" in 6 hours	60 min	Delay operations	Activate snow removal plan Hangar aircraft
Equivalent Wind Chill Temp –20 to –29F	Observed	Personal injury Slow/delay outside work	Work 45 minutes; Rest 15 minutes in heated area
Equivalent Wind Chill Temp –30 to –39F	Observed	Personal injury/death Slow/delay outside work	Work 30 minutes; Rest 30 minutes in heated area
Equivalent Wind Chill Temp –40 to –49F	Observed	Personal injury/death Slow/delay outside work	Work 15 minutes; Rest 45 minutes in heated area
Equivalent Wind Chill Temp –50F or colder	Observed	Personal injury/death Stop outside work	Stay indoors
Ice Pellets	Observed	Reduces de-icing effectiveness	Evaluate de-icing effectiveness

Attachment 5

AIRFRAMES SUPPORTED

Table A5.1. This is a list of the most common airframes supported and does not include all potential airframes.

Airframe	Mission	MWP Provider
C-5	Provides operational support for airlift and aeromedical evacuation during war, peacetime, and contingency operations.	618 AOC/XOW
C-17	Provides operational support for airlift and aeromedical evacuation during war, peacetime, and contingency operations.	618 AOC/XOW
C-130	Provides operational support for airlift and aeromedical evacuation during war, peacetime, and contingency operations.	618 AOC/XOW
KC-10	Provides air-refueling services for war, peacetime, and contingency operations.	618 AOC/XOW
KC-135	Provides air-refueling services for war, peacetime, and contingency operations.	618 AOC/XOW

Attachment 6

SPACE WEATHER IMPACTS

Figure A6.1. Space Weather Impacts