BY ORDER OF THE COMMANDER
12TH FLYING TRAINING WING

12TH FLYING TRAINING WING
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Weather

WEATHER SUPPORT

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This instruction implements Department of the Air Force Policy Directive (DAFPD) 15-1, *Weather Operations*, AFMAN 10-206; *Operational Reporting;* DAFI 10-2501, *Emergency Management Program;* AFMAN 15-111, *Surface Weather Observations*; AFMAN 15-124, *Meteorological Codes;* DAFMAN 15-129, *Air and Space Weather Operations*. It establishes responsibilities and weather support procedures, general information including weather services to include weather observations and forecasts, weather watches, warnings, and advisories (WWAs), space weather, supported services, dissemination of information, and mutual support. See **Attachment 1** for a Glossary of Reference & Supporting Information. This instruction applies to Joint Base San Antonio-Randolph (JBSA-Randolph)-based 12th Flying Training Wing (FTW) and subordinate units, in addition to mission partners co-located at JBSA-Randolph. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed**.**

Major changes include removal of references to T-1A Jayhawk operations since the aircraft has been retired and the Air Force is preparing to shift its training program to the advanced simulation technologies and the sixth generations trainer, T-7A Red Hawk. Other revisions include Randolph Weather Flight (WF hereafter) duties and responsibilities changes, eliminating Eyes Forward support to 26th Operational Weather Squadron (26 OWS and replacing the WF's Joint Environmental Toolkit (JET) system with Bridging Environmental Intelligence for Responsive Operational Support Portal (BIFROST).

Chapter 1

ROLES & RESPONSIBILITIES

1.1. General. The 12th Operations Support Squadron Weather Flight (12 OSS/OSW), or Weather Flight (WF) is the primary agency that will provide or arrange weather services and support to the 12th Flying Training Wing and other associate units assigned to Joint Base San Antonio (JBSA-Randolph). Weather services and support across the broader JBSA area (to exclude JBSA-Randolph) are provided by the 502nd Operations Support Squadron Weather Flight (502 OSS/OSW) or Lackland Weather. This instruction establishes the requirements and procedures pertaining to the 12 OSS/OSW's weather support and will be reviewed no less than biennially.

1.2. Concept of Operations. The geographically aligned OWSs will retain responsibility for WWAs issued for geographically-separated locations (e.g., Randolph Auxiliary Airfield (Seguin)). The 26 OWS is the authoritative source for weather analysis while the WF integrates that analysis into JBSA-Randolph's planning process. Both units work in conjunction to provide the best weather service supporting mission needs.

1.2.1. The 26 OWS is located at Barksdale AFB, Louisiana and provides regional and operational-level weather products and information to units within the Southeastern Continental United States (SECONUS). The 26 OWS also continuously monitors Southeast CONUS's terrestrial and space weather environment called Meteorological Watch (METWATCH). METWATCH is crucial to JBSA-Randolph receiving resource protection notifications, forecasts, updates, and pertinent data.

1.2.2. The WF is the focal point for all weather support to JBSA-Randolph. The WF alerts decision makers on mission-limiting environmental factors potentially impacting mission execution. This process is called MISSIONWATCH.

1.3. The WF duty priorities are noted within Table 1.3. The WF personnel follow these duty priorities to save and preserve life and property when the environment poses an imminent threat.

Table 1.1. The 12 OSS/OSW (WF) Duty Priorities.

Priority	Duty Priority
1	Perform Emergency War Order (EWO) Tasks.
2	Execute WF Evacuation/Continuity of Operations Plan.
3	Perform Severe Weather Actions Procedures (SWAP).
4	Issue Imminent Hazardous Weather (to include Issuing Severe Weather Warnings and/or Supplementing FMQ-19 Observations, as required).
5	Respond to Aircraft/Ground Emergencies or Mishaps (to include Emergency Support to Supervisors of Flying (SOFs)).
6	Issue/Disseminate Imminent Weather Advisories.
7	Respond to Pilot-to-Metro Service (PMSV) Contacts.
8	Provide Routine Support to SOFs.
9	Disseminate Urgent (UUA) Pilot Reports (PIREPs) and/or Special AIREPs Locally and to 26 OWS.

10	Disseminate Non-Imminent Weather Warnings, Watches and/or Forecast Advisories.
10	Disseminate Observed Weather Advisories.
11	Perform METWATCH/MISSIONWATCH Support.
12	Prepare and Disseminate Mission Execution Forecasts (MWPs).
13	Provide Scheduled Flight Weather Briefings.
14	Provide Non-Scheduled Flight Weather Briefings.
15	Disseminate Routine PIREPs Locally and to 26 OWS.
16	Transmit Surface Observations and PIREPs/AIREPs Externally.
17	Respond to Support Assistance Request (SAR) or Request for Information.
18	Provide Other Weather Products, Information and/or Briefings.
19	Accomplish Other Routine Weather Tasks (e.g., Training).
20	Accomplish Other Routine Tasks.

Chapter 2

WEATHER FLIGHT OPERATIONS.

2.1. General. The WF's daily operations provide a set schedule, contact information, and alternate methods of ensuring mission success. WF operations can be broken down into three functions: Airfield Services, Mission Integration, and Staff Integration. These functions can be found in greater detail in their respective chapters (Chapters **4, 5, & 6**).

2.2. Flight Location, Hours of Operation & Contact Information. The WF's primary operating location is 10670 5th Street East; 1st Floor, Building 8 (Base Operations). Physical address is 10670 5th Street East, JBSA-Randolph TX 78150-6345. The WF is a limited duty station with operating hours primarily dictated by the 12 OG flying schedule.

2.2.1. The WF's primary phone numbers are listed in **Table 2.1**.; DSN prefix is 487.

Table 2.1. WF (12 OSS/OSW) Duty Phone Numbers.

Functional Area	Phone Number
Airfield Services	Comm (210) 652-3040/3538 (Fax -2686)
Mission Integration	Comm (210) 652-3040/3538 (Fax -2686)
Staff Integration (Flight Chief / Supervisor)	Comm (210) 652-5329/3040 (Fax -2686)

2.2.2. Organizational Email Address: **12oss.weather@us.af.mil**.

2.2.3. Operating Hours:

2.2.3.1. The WF aligns duty/operating hours IAW airfield operating hours. **Table 2.2** depicts standard airfield and corresponding WF operating hours. There may be short-notice changes to WF hours IAW changes to airfield hours.

Table 2.2. WF (12 OSS/OSW) Duty Hours.

Day	Airfield Open	WF (12 OSS/OSW) Open
Mon-Fri	0700 - 1900L	0000 – 1900L
Sun	1500 – 1700L (as required)	1200 – 1700L (as required)
Holidays/Sat	Closed	Closed

2.2.3.2. During off-duty hours, WF on-call personnel will provide weather support.

2.2.3.3. On-call weather technicians are contacted during Severe Weather Action Plan (SWAP) procedures through the 502 Air Base Wing Command Post (CP) at: DSN: 471-9363, commercial: (210) 221-9363.

2.2.3.4. A WF technician will be present at least 2 hours prior to the airfield opening until airfield closure.

2.2.3.5. Staff integration services are available on normal duty days from 0730-1700L and can be extended, as required.

2.3. Continuity of Operations (COOP). The WF is prepared to continue mission-essential functions without significant interruption during a national security emergency or other disruptive conditions, such as major equipment or communications outages or evacuations. To ensure

continuity of operations during these situations, the WF has developed processes and procedures to use alternate equipment/systems, operate from an alternate location(s), or arrange transfer of critical functions to other organizations, to include reach back to 26 OWS. Both the WF and 26 OWS provide and practice COOP procedures to ensure continuity. COOPs pertaining to alternate observing sites are outlined in **Chapter 7**.

2.4. Post-Mission Analysis & Feedback. IAW DAFMAN 15-129, units that regularly utilize weather support from the WF are encouraged to provide feedback. This information ensures proper quality assurance, provides a metrics database of forecast accuracy, and gauges forecasting strengths and weaknesses. Formal/informal feedback methods include:

2.4.1. Posting through Weather SharePoint site or email to the organizational address: **12oss.weather@us.af.mil**.

2.4.2. PIREPs transmitted via PMSV.

2.4.3. SOF and Operations Supervisor End of Day reports.

2.4.4. Face-to-face feedback after any briefing.

2.4.5. Phone to WF.

2.5. Release of Information to Non-DoD Agencies or Individuals. Weather information will not be released to non-DoD agencies, individuals or the public without approval from 502 ABW/PA (Public Affairs) and 502 SFLSG/JA (Legal). Any related issues should be coordinated through the Chief, Weather Flight Operations or WF Lead.

2.6. BIFROST. BIFROST is expected to replace JET as the primary resource used for issuing WWAs, preparing and disseminating Flight Weather Briefs, and analyzing up-to-the-minute weather sensors on the Luke airfield and all other Air Force Weather-operated sensors. A memorandum will be prepared and disseminated for the WF's supported units to reflect this expected transition.

Chapter 3

WEATHER AND COMMUNICATIONS EQUIPMENT

3.1. General. This chapter provides a brief description of the wide range of equipment to determine the current state of the atmosphere and formulate forecasts. Additionally, this chapter includes information on backup systems, maintenance, and restoral priorities.

3.2. Meteorological (Weather). The WF uses a wide range of equipment to determine the current state of the atmosphere. These critical systems are used continuously to provide customers with the most timely, accurate and relevant weather intelligence possible.

3.2.1. FMQ-19. FMQ-19, Automatic Meteorological Station (AMS). The FMQ-19 is an automated, integrated system of weather sensors, processors, and communications and data automation components that continually measure weather conditions to provide reliable, real-time weather data in support of flying and other operations and resource protection. The FMQ-19 measures or detects wind speed and direction, temperature and dew point, pressure, prevailing visibility, present weather, cloud amounts and heights, precipitation, freezing rain and lightning strikes. JBSA-Randolph has an FMQ-19 Automated Observing System (AOS) comprised of 1 primary weather sensor unit (located near runway 15L) and 3 discontinuity sensor suites (located near runways 33R, 15R and 33L). The following section outlines the individual sensors that are used to produce automated weather observations for JBSA-Randolph, their general function, and significant limitations that personnel should be aware of. More detail on automated weather observations is provided in **Chapter 4**.

3.2.1.1. Wind. Wind sensors and anemometers are located at each approach end and report wind speeds to the nearest knot (reliable up to 113 knots) and wind direction to the nearest 10° magnetic. The reported wind speed and direction is a 2-minute average for sustained winds and a 10-minute max for gusts.

3.2.1.2. Temperature and Humidity. There is only one temperature and humidity sensor and it is located with the primary sensor suite at the approach end for runway 15L. Dew points are calculated using data from both the temperature and humidity sensors. Temperatures are accurate to within 0.1°C with relative humidity accurate to within 1%.

3.2.1.3. Visibility. Visibility sensors are located at each approach end and report visibility values in statute miles (SM) (reliably up to 10 SM). Reported visibility values will be a 2-minute average of observed visibility on the active runway sensor.

3.2.1.3.1. Note that weather phenomena must pass through the sensor field in order to be detected, resulting in potentially skewed visibility values during isolated events such as localized heavy rain showers or patchy fog.

3.2.1.4. Runway Visual Range (RVR). RVR sensors are located at each approach end and report the 10-minute average RVR in feet. No backup capability exists for RVR if there is a sensor outage.

3.2.1.5. Present Weather and Obstructions to Visibility. Present weather and obstructions to visibility are derived from several different systems and algorithms working together, most of which are located at the approach end to runway 15L. The combination of sensors can detect various phenomena including rain, snow, thunderstorms, haze, fog, and mist.

The FMQ-19 cannot detect hail, ice pellets, tornadic activity, volcanic ash, or dust, and these phenomena require supplementation by weather personnel in order to be reported in weather observations.

3.2.1.5.1. As with other sensors, weather phenomena must pass through the sensor field to be reported. The weather phenomena being reported may not fully represent that which may be occurring in areas outside the detection range of the fixed weather sensors.

3.2.1.6. Sky Condition. Ceilometer sensors are located at the approach ends of runways 15L, 33R, and 15R and report cloud values in feet (accurate to within 20 feet) from the "surface" to 25,000 feet above ground level. The data reported by the respective cloud sensors include heights and coverage (i.e. Few, Scattered, Broken, Overcast) and is a 30-minute average with an algorithm that computes the most recent 10 minutes weighted double. Cloud groups are reported for the active runway sensor and clouds higher than 25,000 feet are often not detected even though the sky may be overcast.

3.2.1.6.1. Note that clouds must pass over the sensor in order to be detected, resulting in potentially skewed cloud coverage during isolated events such as localized heavy rain showers.

3.2.1.7. Lightning. The FMQ-19 lightning sensor detects lightning strikes (not thunder) up to 30 nautical miles from the airfield and is located in the Runway 15L primary sensor group (and reported regardless of the active runway). The lightning algorithms require a visual confirmation of a lightning strike before it is reported, therefore, the system can only detect lightning if it is from cloud-to-cloud or from cloud-to-ground.

3.2.1.7.1. Note that the FMQ-19 determines only general direction and distance (not precise location) for cloud-to-ground strikes and no direction or distance is available for cloud-to-cloud strikes.

3.2.1.8. Pressure. The pressure sensors are located on the Runway 15L approach end and record station pressure to the nearest 0.001 inches of mercury converted to JBSA-Randolph field elevation of 762 feet. All pressure values, regardless of the active runway, are derived from the Runway 15 pressure group.

3.2.1.9. Rain Gauge. The rain gauge is located at the Runway 15L approach end and records liquid precipitation to the nearest 0.01 inch. High wind situations (such as those associated with severe thunderstorms, hurricanes, etc.,) may cause the precipitation measurements to be unreliable.

3.2.1.10. The Primary Sensor Group (near runway 15L) consists of wind, visibility, ambient light, freezing rain, precipitation (type and amount), temperature, dewpoint, pressure, cloud and lightning detection sensors. Discontinuity Sensor Group 1 (near Runway 33R) is equipped with wind, visibility and cloud sensors. Discontinuity Sensor Group 2 (near Runway 15R), is equipped with wind, visibility and cloud sensors, and Discontinuity Sensor Group 3 (near Runway 33L) is equipped with wind and visibility sensors. (see **Attachment 16**).

3.2.2. Kestrel. The Kestrel is a hand-held, commercial off-the-shelf (COTS) weather instrument that provides measurements of 10 different environmental conditions: wind speed,

temperature, wind chill, humidity, heat index, dewpoint, wet bulb, barometric pressure, pressure altitude and density altitude. It serves as the primary backup for most of the FMQ-19 sensors.

3.2.3. Radar and Lightning Detection Systems. Lightning data is received by the FMQ-19 and other sources:

3.2.3.1. Air Force Weather Webpage (AFW-WEBS). This is a java web application that provides weather products for Air Force use only. While there are many products available, AFW-WEBS can also track lightning strikes. The system is also tied into the National Lightning Data Network (NLDN) but is dependent on local area network (LAN) access.

3.2.3.2. WeatherTap. A subscription weather service that provides near real-time radar, high-resolution satellite imagery, lightning strike data.

3.2.3.3. Gibson Ridge Radar Software. The WF utilizes two software programs to interpret NEXRAD radar data: (1) GR2Analyst and (2) GRLevel3. Weather technicians use this software to analyze complex radar signatures, obtain detailed information on storm intensity, movement, outflow boundaries, internal circulation, and wind flow. Weather technicians routinely incorporate the signatures into daily operations and resource protection. Radar products are used extensively during severe weather events monitoring the airfield, low-level routes, and military operating areas (MOAs). Backup radar imagery is available via numerous military and commercial websites.

3.2.4. Vaisala Digital Barometer. The Vaisala Barometer is a fully compensated, COTS digital barometer designed to cover a wide range of environmental pressures and temperatures. It serves as a backup for the FMQ-19 barometers.

3.2.5. Weather Equipment at Randolph Auxiliary Airfield (Seguin). The following equipment is in use at Seguin:

3.2.5.1. FMQ-13V2, Digital Wind Sensor. 12 OSS/OSM maintains one FMQ-13V2 wind sensor at Randolph's Auxiliary Field (Seguin). The FMQ-13 is located near the touchdown end of Runway 31. The digital readout displays are in the northwest and southeast runway control structures (RCS).

3.2.5.2. FMQ-23, Automatic Meteorological Station (AMS). The FMQ-23 is a complete system equipped for measuring weather-related conditions to support flight operations and safety. The outdoor equipment unit (located near Runway 13) includes sensor groups (precipitation, visibility, cloud height, temperature and relative humidity, pressure and lightning detection), towers and support structures, Data Collection Platforms (DCP), communication equipment, and uninterruptible AC power. Indoor communications equipment is located at the Fire Station in Building 415.

3.2.6. Limitations of Airfield Weather Sensors.

3.2.6.1. FMQ-19 and FMQ-23 (Seguin). The FMQ-19 and FMQ-23 cannot observe hail (size), tornado activity, volcanic ash or visibility less than 1/4 SM. In the event any of these phenomena occur within a reportable distance, the WF technician will supplement the Randolph observation only, with the appropriate details. In addition, the FMQ-19 and

FMQ-23 are most accurate when the weather is stable. In rapidly changing conditions of sky cover and visibility, observations may lag slightly behind actual weather.

3.2.6.2. FMQ-13V2 (Seguin). The wind data readout is only available at the RCS, limiting access to the information to times when the RSU is manned and can contact RCS SOF.

3.3. Communications Equipment.

3.3.1. Joint Environmental Toolkit (JET). JET is the standard AF weather automated dissemination system (ADS) and consists of a physical server residing in 26 OWS at Barksdale, AFB, LA, Sensor Collection Application (SCA), as well as a web-based interface that is available to local operators on request. The FMQ-19 interfaces directly with JET to disseminate observations automatically to local and external agencies without assistance from weather technicians. In addition, weather technicians use JET to disseminate Terminal Aerodrome Forecasts (TAFs), Weather Watches, Warnings, and Advisories (WWAs) to pre-coordinated agencies automatically.

3.3.1.1. JET runs on the LAN and consists of a dedicated SCA device located at the 502 Communications Squadron (502 CS), Building 990, along with hardware that allows for a connection to the JBSA-Randolph Airfield Automation System (AFAS) or IDS-5 server located in the East Tower. These servers, integrated through the LAN, provide weather information to both the 502 ABW/CP, JBSA-Randolph towers, SOFs, MOC, and FTS duty desks. Additionally, the 26 OWS has the capability to access the JET system in the absence of WF personnel.

3.3.1.2. JET Portal. The JET Portal is a web-based interface that is available to operators to monitor weather conditions reported by the FMQ-19 in real-time. The data available via the JET Portal includes the current observation, forecast, winds, ceilings, visibility, lightning, temperature, dew point, altimeter settings, pressure altitude, and active weather alerts. The data refreshes every 60 seconds.

3.3.2. Airfield Automation System (AFAS). AFAS automatically pulls data from JET to populate weather information on the air traffic control provided display. This system is not owned nor managed by 12 OSS/OSW and all AFAS outages not tied to an existing JET outage or a Non-Secure Internet Protocol Router Network (NIPRNet) outage should be directed to the AFAS Program Management Office (PMO). 3.3.3. JET Backup. During primary JET outage, access to the JET backup may be reached using the latest available backup website provided by the WF. If access problems still persist, immediately contact the WF for troubleshooting. Any troubleshooting actions that are beyond the scope of WF to resolve will be referred to JET Help Desk and tracked by the WF. In the event of an ADS outage, the WF will telephonically pass watches, warnings and advisories to the 502 ABW/CP and applicable agencies by phone or fax IAW **Table 3.1**.

Table 3.1. Primary ADS (e.g., JET, BIFROST) Users and Contact Numbers.

Primary	Phone
502 ABW/CP	DSN 471-9363/ Commercial (210) 221-9363
MOC	Hotline / 652-6481

East Tower (and SOF)	Hotline / 652-7251
West Tower (and SOF)	Hotline / 652-7270

3.3.3. Pilot-to-Metro Service (PMSV) Radio. The WF PMSV is assigned frequency 239.8 MHz. WF personnel can speak directly to aircrews to pass and receive weather information, (e.g., PIREPs). Aircrews can also contact the WF via phone patch through the 502 ABW/CP (DSN 471-9393; Commercial (210) 221-9363). During PMSV outages, the 502 OSS/OSW at Lackland (DSN 945-5709; Commercial (210) 925-5709) will monitor the [shared] PMSV frequency and respond to "Randolph METRO" PMSV calls. (For Lackland outages, the Randolph WF will monitor and answer PMSV calls.).

3.3.4. Local Area Network (LAN). The LAN is an essential tool for receiving, transmitting and disseminating critical weather information. During LAN outages, WF services will be degraded. As needed, the 26 OWS will provide the WF needed products and support by alternate means (phone, fax). See **paragraph 4.5** for specific backup procedures for services provided.

3.3.5. Telephone. The WF has multi-line phones used to receive and relay weather information. After advisories, watches and warnings are issued, modified and/or canceled, the WF makes courtesy calls to critical agencies to ensure receipt (refer to **Table 3.2**.).

3.3.6. Hotlines. Hotlines are installed between the WF and key agencies to rapidly disseminate and exchange weather data. Normal phone lines will be used in the event of hotline outage(s). Hotlines are installed between the WF and the following agencies.

Table 3.2. Weather Flight Hotlines.

Agency	Phone	Agency	Phone
East SOF	652-5739	12 FTW/CC	652-1201
West SOF	652-2395	12 OG/CC	652-1203
East Tower	652-7251	99 FTS Ops	652-6746
West Tower	652-7270	435 FTS Ops	565-7101
MOC	652-6481	559 FTS Ops	652-5661
575 AMXS	652-1813	560 FTS Ops	652-3518

3.4. The 12 OSS/OSW Weather Webpage. Online WF products may be obtained through the 12 OSS/OSW SharePoint website. Access to this SharePoint website will be made available upon request. Products include, but are not limited to, JBSA-Randolph Climatology, 5-Day Forecasts, and MWPs.

3.5. Equipment Maintenance. All equipment requires maintenance. The following organizations provide preventive maintenance and repair services for weather and communications equipment:

Table 3.3. Weather Equipment Maintenance.

Equipment:	Maintenance Organization:

FMQ-19, Automatic Meteorological System	12 OSS/OSM (Airfield Systems Flight)
Pilot-to-Metro Service (PMSV) Radio	12 OSS/OSM (Airfield Systems Flight)
Automated Dissemination System (e.g., JET, etc.,)	JET Help Desk
Telephones / Hotlines	502 CS (Telephone Maintenance)

3.6. Restoral Priorities. 12 OSS/OSA has established priorities for restoring critical systems airfield systems in the event natural disasters or other anomalies simultaneously impact systems base-wide. The priorities for weather equipment are listed in **Table 3.4**.: These priorities may be adjusted based on the weather threat.

Table 3.4. Radar Airfield and Weather Systems (RAWS) Weather Equipment Restoral Priorities.

Equipment:	Maintenance by:	Priority:
FMQ-19 Server and Primary Sensor Suite	12 OSS/OSM	#13
FMQ-19 Discontinuity Sensor Suites 1, 2 & 3	12 OSS/OSM	#14
FMQ-23 Automated Meteorological Set (Seguin)	12 OSS/OSM	#43
FMQ-13 Wind Measuring Set – Inactive (Seguin RCS)	12 OSS/OSM	#44
Pilot-to-Metro Service Radio (PMSV)	12 OSS/OSM	#48

3.7. Building Power. Building 8 is equipped with a backup generator located in adjacent Building 10. The WF maintains an uninterrupted power supply capable of powering all critical systems for a 30-minute period. Once the generator startup is complete, or if generator problems are encountered, the WF will contact the Randolph Customer Service unit at (210) 652-5555 during duty hours and after duty hours (210) 466-5555 which will contact EMCS Emergency Management Customer Support (EMCS).

Chapter 4

AIRFIELD SUPPORT FUNCTION

4.1. General. Airfield support functions include those actions and areas that affect the JBSA-Randolph aerodrome or base as a whole. The airfield weather services function consists of weather observing, Terminal Aerodrome Forecast (TAF) generation, meteorological watch, and resource protection (detailed in **Chapter 6**).

4.2. Airfield Support Function (ASF). The ASF is comprised of the Airfield Support Provider (ASP) and any WF members conducting airfield services. ASF responsibilities and tasks pertain to the following areas: (1) airfield observations, (2) weather watch, (3) backup dissemination of weather products, (4) terminal aerodrome forecasts, (6) cooperative weather watch, and (7) meteorological watch.

4.3. Airfield Weather Observations. The WF takes, records and disseminates observations IAW AFMAN 15-111. The FMQ-19, Automatic Meteorological Station (AMS), is the AF standard system and the primary means of taking observations, with WF technicians providing backup to and augmenting the system (only) when required. In the automated mode, the system continually senses and reports the following weather elements: wind, visibility, precipitation/obstructions to visibility, cloud amounts and heights, temperature, dewpoint, altimeter and lightning. (Key notes: Automated systems, including the FMQ-19, report weather elements over a more limited area, typically take-off/touch-down end of the active runway, vice the entire celestial dome (horizon to horizon). These systems, which can generate observations every minute, also use time-weighted averaging of elements for more consistent observations.).

4.3.1. Types of Observations. The WF provides three basic types of weather observations: aviation routine weather report (METAR), special (SPECI) and local (LOCAL) observations. All observations are taken from the official observing points (**paragraph 4.3.2**.).

4.3.1.1. METAR (Aviation Routine Weather Report). A METAR is a regularly scheduled observation taken and disseminated every hour at 55-59 minutes after the hour. A METAR observation may also indicate any special criteria met during the given observing period. METAR observations are disseminated locally and externally.

4.3.1.2. SPECI (Aviation Selected Special Weather Report). A SPECI is an unscheduled observation taken and disseminated when any special criteria IAW AFMAN 15-111, local flying requirements and specified criteria in Flight Information Publications (FLIPs) (see **Attachment 2**) is sensed or observed. SPECI reports will be prepared and transmitted as soon as possible after the given criteria is observed. SPECI observations are disseminated locally and externally.

4.3.1.3. LOCAL (Aviation Selected Local Weather Report). A LOCAL is an unscheduled observation, taken and reported to the nearest minute, for elements not meeting SPECI criteria. For JBSA-Randolph, the only LOCAL taken is for altimeter and only when the airfield and WF are open and backing up the FMQ-19 pressure sensor. (The FMQ-19 is not designed to take local observations.).

4.3.2. Official Points of Observation. The official points of observation for JBSA-Randolph are at the FMQ-19's Primary Sensor Group instrumentation site (by Runway 15L) and Discontinuity Sensor Groups' instrumentation sites (by Runways 33R, 15R and 33L);

Attachment 16 depicts sensor sites. When FMQ-19 augmentation is required, WF technicians will use the red brick area on the flightline side of Bldg 8, or, for alternate location operations, the parking lot adjacent to the East Tower, as the official observing point.

4.3.2.1. Backup Observation Site Limitations. The view from both observation points is restricted by flightline facilities, shelters and trees from south to northwest and parked aircraft. High intensity security lights severely limit the ability to determine nighttime visibility and cloud amounts or heights. The west runway is not visible from either observation point.

4.3.3. FMQ-19 Operations. IAW AFMAN 15-111, the WF will operate the FMQ-19 in full automated mode to provide the official METAR and SPECI observations for JBSA-Randolph, except when augmentation is required.

4.3.3.1. Augmentation. Augmentation is the process of having qualified WF technicians manually add or edit data to observations generated by the FMQ-19. The two principal augmentation processes involved are supplementing and backup.

4.3.3.1.1. Supplementing is manually adding to the automated observation of weather data beyond the capability of the FMQ-19 to detect or report. WF technicians will supplement observations whenever the WF is open and the following conditions are observed:

4.3.3.1.1.1. Tornado or Funnel Cloud (+FC) (see **Note**).

4.3.3.1.1.2. Freezing Precipitation (FZDZ/FZRA)

4.3.3.1.1.3. Hail **(**GS and GR**)** (any size).

4.3.3.1.1.4. Volcanic Ash **(**VA**).**

4.3.3.1.1.5. Sandstorm **(**SS) or Duststorm (DS).

4.3.3.1.1.6. Ice Pellets (PL).

4.3.3.1.1.7. Tower Visibility Remark (TWR VIS) (Only during controlled airfield hours).

4.3.3.1.1.8. Snow Depth (only reported during airfield operating hours when heavy snow warning has been issued and snowfall is occurring.).

4.3.3.1.1.9. Visibility < 1/4 mile (local requirement for visibility $\geq$ 300 and 100 feet).

4.3.3.1.1.10. Immediate reporting of a tornado, funnel cloud or waterspout takes precedence over any other phenomena.

4.3.3.1.2. Backup is manually providing weather data and/or disseminating an FMQ-19 generated observation when the primary automated method is not operational or unavailable due to individual sensor(s), system or communications failure.

4.3.3.1.2.1. When an FMQ-19 sensor is no longer working properly, the WF (typically ASP) will report the outage and, until fixed, perform backup, inputting the corrected or missing element in the METAR/SPECI observation.

4.3.3.1.2.2. If the technician is backing up the wind sensor, all wind data will be

estimated and WND DATA ESTMD will be added in the remarks of the observation.

4.3.3.1.2.3. If the technician is backing up any pressure sensor, all pressures will be estimated and SLP/ALSTG ESTMD will be added in thew remarks of the observation.

4.3.3.1.2.4. Altimeter Updates: When ATC does not have access to real-time altimeter settings an altimeter setting observation will be disseminated at an interval not to exceed 35 minutes when there has been a change of 0.01 inches of mercury or more since the last disseminated altimeter setting value. A METAR or SPECI taken within the established time interval fulfills this requirement.

4.3.3.2. The WF will maintain situational awareness of local weather conditions and FMQ-19 observations during airfield and WF hours. WF technicians will also monitor area observation and forecast products to keep abreast of changes expected to affect the JBSA-Randolph AOR.

4.3.3.3. Backup for Operationally Significant Weather: WF technicians will perform a basic weather watch (BWW) and be prepared to backup observations for the following conditions:

4.3.3.3.1. Any ceiling layer reported below 3,500 AGL over airfield.

4.3.3.3.2. Visibility at or below 5 SM.

4.3.3.3.3. Any present weather to include thunderstorms, any precipitation or obscurations.

4.3.3.3.4. Thunderstorms/lightning observed within 10 NM (of JBSA-Randolph).

4.3.3.3.5. Any other meteorological condition deemed critical by WF technician.

4.3.3.3.6. If, in the WF technician's judgment, the FMQ-19 observation is deemed unrepresentative of current conditions **and** pose a potential threat to flight/ground safety (i.e., dynamic changes in cloud coverage or visibility not being reported by the FMQ-19 due to the delay in the sensor processing software, etc.,) the WF technician will:

4.3.3.3.6.1. Immediately contact the Supervisors of Flying (SOFs).

4.3.3.3.6.2. Intervene by immediately augmenting (backing up) the FMQ-19 observation to modify (i.e., add, change, etc.,) the necessary meteorological data.

4.4. Weather Watch. The (automated) FMQ-19 system performs a continuous weather watch. When the FMQ-19 requires augmentation, WF personnel will conduct a BWW.

4.4.1. Basic Weather Watch (BWW). In a BWW, WF personnel will monitor and visually check weather conditions every 20 minutes (min) and be ready to supplement observations if conditions in **paragraph 4.3.3.1.1** are forecasted within 2 hours. WF personnel will also log on to and be prepared to supplement the FMQ-19 whenever a watch or warning is issued for tornadoes or hail.

4.5. Backup Dissemination Procedures. In the event of ADS or other communications outages, the WF will disseminate weather observations/resource protection products locally to agencies in **Table 4.1** (in prioritized order), and record dissemination on a Local Dissemination Log.

Table 4.1. WF Backup Dissemination Listing.

Dissemination Agencies (in Priority Order)	Phone
East SOF	Hotline / 652-5739
West SOF	Hotline / 652-2395
East (Randolph)Tower	Hotline / 652-7251
West (Hangover) Tower	Hotline / 652-7270
26 OWS	DSN 331-2625
502 ABW Command Post (Resource Protection only)	DSN 471-9363
Maintenance Operations Center (MOC)	652-6481
12OSS/CC	DSN 652-1200
12OSS/DO	DSN 652-3189
12OG/CC (for any Severe weather IAW table XXXX)	DSN 652-1203

4.6. Terminal Aerodrome Forecast (TAF).

4.6.1. TAFs for JBSA-Randolph are routinely produced and disseminated by the WF for JBSA-Randolph based on 12 FTW operational requirements. Forecasts are valid for a 30-hour period and issued at a frequency not to exceed every 8 hours while the airfield is open. TAF specification, amendment criteria and formats are outlined in **Attachment 4**.

4.6.2. The WF will amend the TAF as outlined (in **Attachment 4**) for all watch/warning conditions, and any other conditions described in DAFMAN 15-129, Table 5.5.

4.6.3. During local airfield/flying hours, the WF produced mission weather product (MWP) derived from and expanding on the TAF, will be considered the official forecast for JBSA-Randolph. The TAF will serve as the official forecast at all other times.

4.6.4. TAF issue times. The TAF is issued two (2) hours prior to airfield opening, normally at:

4.6.4.1. 0500L Central Daylight Time (CDT) 1000 Zulu (Z) / 0500L Central Standard Time (CST) 1100Z, Mon-Fri.

4.6.4.2. 1100L CDT 1600Z / 1100L CST 1700Z, Mon-Fri. In the event the airfield hours are extended beyond normal 1900L closure time, a new TAF will be issued no later than 1900L.

4.6.5. The TAF is disseminated locally and globally using BIFROST. During BIFROST or communications outages, the WF will notify the applicable agencies in **Table 4.1** via phone.

4.7. Cooperative Weather Watch. IAW this instruction and 12FTWI 13-204, the WF maintains a cooperative weather watch (CWW) with 12 OSS/OSA and the SOFs, as outlined below:

4.7.1. 12 OSS/OSA air traffic control (ATC) personnel should notify the WF when any of the following unreported conditions are observed to occur at JBSA-Randolph:

4.7.1.1. Tornado or funnel cloud.

4.7.1.2. Thunderstorms or lightning.

4.7.1.3. Visibility changes of one or more reportable values, when the prevailing visibility at the tower or the surface is less than 4 statute miles (SM).

4.7.1.4. Precipitation (any type) beginning or ending.

4.7.1.5. Any other significant meteorological condition that are critical to the safety or efficiency of local operations.

4.7.1.6. Notify the weather flight of and pass along any PIREPs as soon as practical, within ATC established priorities.

4.7.2. Both 12 OSS/OSA tower personnel and SOFs, as applicable, should also:

4.7.2.1. Notify the WF of any ADS outages or other weather equipment problems noted.

4.7.2.2. Provide operational checks (daily at minimum) of the Pilot-to-Metro Service (PMSV) radio.

4.7.2.3. Provide ATC tower and SOF orientation for all newly-assigned weather technicians.

4.7.2.4. Ensure newly assigned ATC personnel receive local weather phenomena and prevailing visibility training, and newly appointed SOFs receive a local weather orientation.

4.7.3. 12 OSS/OSAA (Airfield Management) will:

4.7.3.1. Notify the WF of any changes in runway conditions (e.g., RCR, RSC), aircraft mishaps and aircraft in-flight or ground emergencies.

4.7.3.2. Forward the WF changes initiated to flight information publications (FLIPs) and chart orders to the appropriate agencies for action.

4.7.3.3. Disseminate weather warnings received for JBSA-Randolph over Secondary Crash Net.

4.7.4. 12 OSS/OSW (WF) will:

4.7.4.1. Reevaluate weather conditions and ensure airfield weather equipment (FMQ-19) is working properly when a reliable source (e.g., ATC, SOF, aircrew) reports conditions differing from those in the last reported observation (e.g., different cloud ceiling, visibility, weather).

4.7.4.2. Accomplish the following if FMQ-19 augmentation (supplementation or backup) is required, based on reevaluation of the differing weather conditions reported and local policy:

4.7.4.2.1. As soon as possible, notify the East and West Towers whenever prevailing visibility at the official weather observation point decreases to less than, increases to or exceeds 4 SM.

4.7.4.2.2. As soon as practical, reevaluate prevailing surface visibility, on receipt of a differing tower reported value, or on receipt of reportable changes from the tower level.

4.7.4.2.3. Use tower reported prevailing visibility values as a guide in determining surface visibility when portions of the horizon are obstructed from view (by buildings, aircraft, etc.,).

4.7.4.2.4. Include a tower visibility remark in the next METAR or SPECI when either the surface prevailing visibility or the control tower visibility is less than 4 statute miles and the control tower visibility differs from the surface prevailing visibility by a reportable value.

4.7.4.2.5. Generate a SPECI or LOCAL observation when/if the differing conditions warrant immediate dissemination. (**Note:** Unless stated otherwise, LOCALs are generated only for altimeter setting during airfield hours and backup of FMQ-19 pressure sensors).

4.7.4.3. Provide limited weather observer training for newly-assigned ATC personnel (to include documenting AF Form 3622, Air Traffic Control/Weather Certification and Rating Record in their training record) and weather orientation for newly-appointed SOFs.

4.8. Meteorological Watch (METWATCH). METWATCH is a deliberate approach for weather personnel to monitor the meteorological situation at JBSA-Randolph and all assigned operating and training areas. The purpose of 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. This watch is crucial to the protection of local assets, flight/ground operations. Through the METWATCH process, changes in related weather elements drive notification from the WF or 26 OWS to supported agencies.

Chapter 5

MISSION INTEGRATION FUNCTION

5.1. General. Mission integration function consists of those actions directly related to completing the customers' daily missions (e.g., MWPs, SOF briefings, flight weather briefings). The MWP and weather liaison are the primary tools used to accomplish these tasks.

5.2. Mission Weather Products (MWPs). MWPs fuse theater scale products with local mission requirements enabling the direct inject of weather impacts into timely, accurate, and relevant environmental information for planning and execution. MWPs include the MWP, mission briefings, and the DD Form 175-1, *Flight Weather Briefing*. See **Attachment 12** for sample products, formats, and decoding information. These products must be horizontally consistent with products issued by any OWS and the 557 WW.

5.2.1. The WF creates MWPs for all MOAs, ranges, air refueling tracks and cross-country trips utilized by the 12 FTW by following the MWP process and utilizing flying schedules, mission profile, and pilot limitations. See **Attachment 13** for an example. MWPs are available for all agencies via 12 OSS/OSW SharePoint site and are designed to provide critical go/no-go weather information.

5.3. Mission Support Function (MSF). The MSF consists of the Mission Support Provider (MSP), Flight Weather Briefer and any WF members conducting mission services. The MSP is the MSF focal point. The MSP performs MISSIONWATCH, focused primarily on off-station missions, including any military operating areas (MOAs), low-level routes or alternate airfields in the AOR. The MSF should have a full understanding of the mission limiting parameters for each flying unit's aircraft and missions. The MSF will work closely with the ASF to ensure all wing/base customers receive the required support. MSF responsibilities and tasks include:

5.3.1. Liaison Support.

5.3.1.1. Subject to manning availability and IAW WF duty priorities (**Table 1.1**), a WF liaison may provide telephonic or in-person briefs to the Operations Supervisors at the flying squadrons' duty desks. The liaison/briefer may also solicit feedback on current and past weather products.

5.3.1.2. A WF liaison/briefer may also be available for mass briefs and any situation requiring weather support at the squadron level (e.g., flying safety or continuation training). On request, the liaison can also provide direct input to wing scheduling for future mission planning.

5.4. Area of Responsibility (AOR). 12 FTW aircraft assigned to JBSA-Randolph conduct local pattern flight training and fly/operate in several MOAs and low-level routes across Texas. The WF prepares tailored MWP products for operations in these areas. Figures **A15.1** and **A15.2**. in **Attachment 15** depict common MOAs and low-level routes.

5.5. Weather Impacts on Supported Customers. The following tables, derived from AFI 11-2 series (aircraft type) publications and AETC and JBSA-Randolph Sups, provide guidance on weather sensitivities for locally assigned aircraft and related programs. (Note: These Tables do not include all-inclusive lists of the weather sensitivities for each aircraft. For complete lists, see respective AFIs and Technical Orders (TO) for each aircraft).

5.5.1. Pilot Weather Categories (PWC). PWCs are designed to reduce the exposure of pilots with limited experience to risks inherent during periods of low ceiling and visibility.

5.5.2. T-6 Weather Sensitivities. Per AFI 11-2T-6 V3, *T-6 Operations Procedures*, the T-6 operates at JBSA-Randolph under the following weather restrictions:

Table 5.1. T-6 Weather Sensitivities.

Action	**Ceiling (AGL) / Visibility Minimums**
Unrestricted Pattern (See **Note**)	2000ft / 3SM
Restricted Pattern (See **Note**)	1500ft / 3SM
VFR	1500ft / 3SM
Interval Takeoffs/Drag Maneuvers	1500ft / 3SM
Low Level Routes	1500ft / 3SM
PWC 2 (away from KRND)	Suitable Published Minimums or 300ft/1SM (RVR 5000ft), whichever is higher
PWC 1 pilots fly	Approach Minimums
Formation Takeoff	500ft / 1 1/2SM or Circling Minimums (whichever is higher)
Formation Approach / Landing	500ft / 1 1/2SM
Crosswinds	
Initial takeoff/Full-stop Landing on dry runway	25kts
Touch-and-go landings	20kts
Formation wing take offs and landings/Solo students	15kts
Wet runway/Standing water due to patchy standing water (ponding) as determined by the AM OPS	10kts
Ice on runway/Standing water	5kts
Other	
Steady State SFC Winds >35kts	No Ops
Freezing Rain/Drizzle at KRND	No Ops
Notes: 1. Pattern restriction for the West runway. 2. Unrestricted for SEQ requires 2800ft/3SM due to MVA requirements and de-confliction with departing traffic.5.5.2.1. T-6 aircraft do not possess anti-icing equipment. Sustained operations in icing conditions are prohibited. The T-6 has been approved only for transit through a 5000ft band of light rime ice.	

5.5.2.1. T-6s will not operate in any areas of forecast or actual turbulence.

5.5.3. T-38 Weather Sensitivities. Per AFI 11-2T-38 V3, *T-38 Operations Procedures,* and AETC Sup 1, the T-38 operates at JBSA-Randolph under the following weather restrictions:

Table 5.2. T-38 Weather Sensitivities.

Action	**Ceiling (AGL) / Visibility Minimums**
Unrestricted Pattern (See **Note**)	2800ft / 3SM
Restricted - Overhead Open (See **Note**)	2300ft / 3SM

VFR/Restricted - Straight-In Only	1500ft / 3SM
10 second Interval Takeoffs	1500ft / 3SM
Low Level Routes	VFR - 3000ft / 5SM; IFR - 1500ft / 3SM
PWC 1	Suitable approach mins
PWC 2 (away from KRND)	300ft / 1SM
Formation Approach	500ft / 1 1/2SM
Formation Takeoff	Suitable approach mins
Crosswinds	
Touch and Go	25kts (dry)
Formation Takeoff/Landing	15kts
Other	
Steady State SFC Winds >35kts	No Ops
Ice on runway	No formation takeoffs/landings
Wet runway	No formation landings
Freezing Rain/Drizzle at KRND	No Ops
Note: Pattern restriction for east runway.	

5.5.3.1. T-38 aircraft do not possess anti-icing equipment. T-38s will not fly in known or reported icing conditions. T-38 aircrews should request complete icing condition forecasts, to include trace icing for the entire route of flight when receiving a preflight weather briefing via any source. Climbs or descents through icing conditions more severe than forecast light rime are prohibited.

5.5.3.2. T-38 aircraft do not possess weather radar and, therefore, should maintain at least 10NM distance when below FL230, and 20NM distance when at or above FL230, from all verified or suspected thunderstorms.

5.6. Mission Weather Product (MWP). The WF develops the MWP using the administrative and operational processes outlined in DAFMAN 15-129, integrating and tailoring products from strategic and regional weather centers, as well as information from local units and agencies. The final result is a product designed to provide timely, accurate and relevant weather information to local customers. MWPs should be horizontally consistent with (but not necessarily mirror) corresponding products issued by the OWS and/or 557 WW. During rapidly changing conditions, the WF can amend the MWP to better reflect expected conditions, brief the customer, then back-brief the OWS.

5.6.1. MWP Flimsy. The MWP flimsy is a tailored area forecast for JBSA-Randolph airfields, MOAs, ranges and low-level routes flown by JBSA-Randolph aircraft. It also contains flight level winds, flight hazard charts and links to space and alternate airfield weather information. The MWP is considered a legal flight weather briefing for local sorties (take-off and land at KRND), out-and-back sorties (take-off KRND, land at one of locations on MWP and return KRND). The MWP is flexible and amended, as necessary, to meet the mission needs of 12 FTW and JBSA-Randolph units. The MWP can also be viewed via the JBSA-Randolph Unit Tailored Pages on the 26 OWS web site.

5.6.1.1. MWP Issue. The WF normally issues and publishes the MWP by 0515L and 1115L, Mon-Fri. The MWP is valid through the end of the flying day, and is amended as

conditions warrant. The WF does not normally issue a MWP beyond regular airfield hours, on declared down or no-fly days or on weekends, unless local flying is scheduled.

5.6.1.2. Weekend/No-fly Day MWP Support. The WF requests minimum 24 hours advance notice if MWP is required.

5.7. MWP Amendments. When weather conditions cross known mission limiting criteria, the WF amends the MWP to ensure horizontally consistency. The WF will amend the MWP as required, then contact the SOF and Flying Squadrons. During periods of significant and/or rapidly changing weather conditions, higher priority tasks may take precedence over MWP amendment actions.

5.7.1. MWP Amendment Criteria. The MWP is amendable from initial issuance through last landing of 12 FTW aircraft conducting that day's local area fling missions. The WF will check with 12 OSS/OSAA (Airfield Management) to verify last landing times for each day's local flying. The WF will amend the MWP for the following forecast or observed conditions at JBSA-Randolph, the MOAs, low-level routes or other areas for which a MWP forecast is issued. (**Note:** The following will also be MWP specification criteria).

5.7.1.1. Ceiling. If the ceiling descends below, or if less than, rises to or above:

Table 5.3. Randolph MWP Ceiling Amendment/Specification Criteria.

JBSA-Randolph Forecast	Low-Levels	MOAs
3000ft	3000ft (VRs)	See **Note** Below
1500ft	1500ft (IRs/SRs)	
1000ft		
300ft		
200ft		
Note: For the MOAs, amend anytime BKN/OVC (SCT/CLR) conditions are forecast between 6,000 and 35,000 ft. and SCT/CLR (BKN/OVC) conditions are occurring		

5.7.1.2. Visibility. If the visibility goes below, or if less than, rises above or equal to:

Table 5.4. Randolph MWP Visibility Amendment/Specification Criteria.

JBSA-Randolph Forecast	Low-Levels
3SM	5SM (VRs)
2SM	3SM (IRs/SRs)
1SM	
3/4 SM	
1/2 SM	

5.7.1.3. Turbulence. An amendment is required for turbulence of any intensity being reported but not forecasted and/or reported not to exist (negative) where forecasted (unless the forecast is still deemed representative).

5.7.1.4. Icing. An amendment is required for icing of any intensity being reported but not forecasted and/or reported not to exist (negative) where forecasted (unless the forecast is still deemed representative).

5.7.1.5. Thunderstorms. An amendment is required for thunderstorms being reported but not forecasted and/or reported not to exist (negative) where forecasted (unless the forecast is still deemed representative).

5.7.1.6. Freezing precipitation. An amendment is required for freezing precipitation of any intensity being reported but not forecasted and/or reported not to exist (negative) where forecasted (unless the forecast is still deemed representative).

5.7.1.7. Wind Speed/Direction. If the difference between the predominant and forecast wind speed is 10 knots or greater and/or the difference between observed gusts is 10 knots or greater than forecast. The MWP will be amended for wind direction when the predominant forecast direction changes 30 degrees or more and sustained wind speeds or gusts are expected to exceed 15 knots.

5.7.1.8. Representativeness. The MWP will be amended any other time the WF deems it unrepresentative of current or forecast conditions at JBSA-Randolph or any other MWP location.

5.7.2. MWP Dissemination. The WF will normally disseminate the MWP via SharePoint by 0515L Mon-Fri. The MWP will also be posted on SharePoint and Air Force Portal accessible at 26 OWS website. If the LAN is down, the WF will verbally brief both SOFs and print/fax copies to each FTS duty desk (**Table 5.5**.). The MWP may also be hand-carried to the squadrons on request (e.g., if fax is not legible).

Table 5.5. Fax Numbers for Local Agencies.

Organization	Fax Number
East SOF	652-7256
99 FTS	652-7371
559 FTS	652-4437
560 FTS	652-7525
435 FTS	565-7140
415 FLTF	652-8530

5.8. Mission Watch (MISSIONWATCH). MISSIONWATCH is the monitoring of weather for local flying missions at, and cross-country or transient missions briefed out of, JBSA-Randolph by the WF. Combined with METWATCH (paragraph **4.8**.), MISSIONWATCH compels the WF to monitor missions and weather and, as required, issue changes or amendments to respective MWPs issued. As conditions dictate, the WF will amend the MWP, and contact the SOFs and Operations Supervisors to pass on impacts to missions. The WF will MISSIONWATCH transient

flights briefed by the WF, and 26 OWS will MISSIONWATCH transient flights [from JBSA-Randolph] briefed by the OWS.

5.9. MWP Verification. The WF and 26 OWS conduct post-mission analysis of their forecasts to verify operational effectiveness. This aids in identifying areas of needed improvement and the baseline for the metrics program.

5.10. Off-station Support for 12 FTW Aircraft. IAW DAFMAN 15-129, the WF is the primary source for tailored weather information for 12 FTW units. When mission activities occur away from the main operating location, WF leadership will determine the most effective means of ensuring JBSA-Randolph-based units receive mission execution weather information.

5.10.1. The WF will provide MWPs to JBSA-Randolph units/assets transiting or conducting flying missions at other locations via reach back, or by arranging support through other weather units or the OWS servicing the off-station location.

5.11. Flight Weather Briefings. The WF will provide traditional (DD 175-1) or verbal flight weather briefings to aircrews, as requested, IAW WF duty priorities (**Table 1.3**.). Briefings will be available at the WF (Bldg 8) and via the network, fax and/or phone. Aircrews should provide the WF (652-3040/3538) as much lead-time as possible (1-hr min) to complete the request. 26 OWS also stands ready to provide briefings to 12 FTW or transient crews flying out of JBSA-Randolph during the WF's non-duty hours. In the flight planning room (Bldg 8) are instructions on contacting the OWS for a briefing, and on browsing the OWS webpage for information. Briefings can be requested from the 26 OWS Flight Weather Briefing Cell DSN 331-2651, Comm (318) 529-2651; fax -2609). For equipment or communications outages, the OWS will back up the WF for DD 175-1 briefings.

5.11.1. Mass Weather Briefings. The WF will provide mass briefings for larger or special missions, on request (24 hrs notice desired) and subject to available manning.

5.11.2. Transient Aircrew Services. The WF will provide traditional DD 175-1 or verbal flight weather briefings to aircrews, as requested, and IAW WF duty priorities (**Table 1.1**.). If the WF is unable to provide a briefing or update in a timely manner, a transient aircrew may be directed to the aircrew briefing terminal in the flight planning room (Bldg 8) provided and maintained by the WF (IAW DAFMAN 15-129). This terminal also allows aircrews to self-brief or secure a flight weather briefing from the 26 OWS, especially during WF non-duty hours. The WF will provide transient crews with sufficient information and supplies to help complete their briefings.

5.12. Pilot-to-Metro Service (PMSV). Randolph's assigned PMSV frequency is 239.8 MHz. The WF will provide weather information to all aircrews who contact Randolph, regardless of their home station. The WF will also solicit PIREPs during PMSV contacts; PIREPs are a tool to help enhance forecast accuracy and flying safety. During local PMSV outages, 502 OSS/OSW (Lackland/Kelly) will monitor and respond to Randolph PMSV contacts; the Randolph WF will likewise monitor and respond to JBSA-Lackland PMSV calls during local outages. Phone patches (direct or via the 502 ABW/CP) can be directed to the WF at DSN 487-3040/3538, Commercial (210) 652-3040/3538, or to the 26 OWS Flight Weather Briefing Cell, DSN 331-2651, Commercial (318) 529-2651or toll free 866-223-9328.

5.13. Distinguished Visitor (DV) Support. 12 OSS/OSAA will notify the WF of any scheduled DV aircraft arrivals/departures, which may drive changes to published airfield open hours. The

WF, in turn, will adjust WF operating hours to support scheduled DV missions. If unscheduled missions should occur when the airfield is closed, the 502 ABW/CP will notify the Weather On-Call Supervisor, who will recall the On-Call Forecaster. The On-Call Forecaster will report to and open the WF as soon as possible and remain open until the airfield is closed or the DV mission is complete.

5.14. Space Weather. The WF will monitor and brief space weather events and impacts, focusing mainly on communications.

Chapter 6

STAFF INTEGRATION FUNCTION

6.1. General. The WF also provides staff weather support to the 12 FTW with the Flight Chief serving as staff weather officer (SWO). Support includes, but is not limited to, staff weather, SOF, mass deployment and other briefings; and assisting the planning and execution of exercises and serving as member/advisor to the 12 FTW Commander's senior staff and 502nd Air Base Wing Severe Weather Working Group (SWWG). The Flight Chief may delegate SWO duties to qualified personnel, as required. Staff services are designed to be flexible and tailored to meet customers' needs. Staff weather services are available on normal duty days/hours (**paragraph 2.1**), but can be extended, as required.

6.2. 12 FTW/MX Daily Standup/Staff Briefing. The WF will brief weather and related impacts (see Figures **A14.1-4**. In **Attachment 14**) at the 12 FTW/CC staff meeting ('standup'), held weekly or more frequently at the discretion of the 12 FTW/CC. The weather briefing is flexible but should include (at a minimum) forecasts for the current and next day and outlook for the week, highlighting related impacts to Wing missions at Randolph and 12 FTW geographically-separated units (GSUs) and threats to base and off-station locations where 12 FTW aircraft are positioned. Other items, e.g., tropical storms posing threats, should also be briefed.

6.3. 12 FTW/MX Ops Flimsy. The WF will produce and post a 12 FTW/MX Ops flimsy **(**see Figures **A13.1** and **A13.2**. in **Attachment 13**) to the JBSA-Randolph Weather Flight Unit Tailored on 26 OWS website and/or e-mail it to the maintenance schedulers, by 0630L Mon-Fri. The daily flimsy is used to plan (only) aircraft and ground maintenance activities. It is not amended.

6.4. JBSA-Randolph MX Planning Weather Brief. The WF will produce a weekly JBSA-Randolph MX Planning Weather Brief **(**see Figures A14.1. thru A14.3 in **Attachment 14**) used to plan (only) aircraft and ground maintenance activities for the following week. This probability forecast product is not amended.

6.5. Mass Deployment Briefings. The WF will provide mass weather briefings, as required, for mass aircraft deployments, such as hurricane evacuations (HUREVAC) (see **paragraph 3.9.1**.). The briefing format will depend on the mission. The WF requests advance (24-hrs) notice of such briefings.

6.6. Instrument Refresher Course (IRC) Weather Briefings. The WF will brief weather to/at IRCs, as requested. The IRC lead will provide the WF a schedule of upcoming IRCs and coordinate (especially) any higher-level IRC briefings required for flag officers. IRC weather briefings will be tailored to seasonal and common flying weather threats and may include overviews of WF services, capabilities, procedural changes and other items of interest.

6.7. Air Traffic Controller (ATC) Observer Training/Orientation. The WF provides limited observer training to ATC controllers assigned to Randolph. Upon completion of training, ATC personnel will be given a short test and an orientation tour of the WF. The WF will maintain the ATC training program and related records.

6.8. Supervisor of Flying (SOF) Briefings. IAW AFI 11-418, AETC Sup 1, the WF will present upcoming seasonal weather and weather challenges at quarterly SOF meetings. This will also be the venue to solicit feedback and address SOF and other weather support issues.

6.9. SOF Orientation Briefings. The WF will provide orientation briefings to new SOFs, to include CWW responsibilities and WF duties, hours, capabilities, limitations and equipment.

6.10. Pre-Deployment Concept Briefings. On request, the WF will provide pre-deployment weather briefings. These briefings will typically include local, point of embarkation and debarkation and deployed location weather data. The WF requests advance (24 hrs) notice for such requests.

6.11. Climatology Support. The WF tracks climate statistics for the base and leverages the support of the 14th Weather Squadron (the Air Force's climatology center: (**https://www.climate.af.mil/**) for climate statistics worldwide. On request from an authorized agency, the WF will provide climatology data for JBSA-Randolph or other locations. Requests may be made by phone, e-mail, letter or in person.

6.12. Flight Information Publications (FLIPs) Updates. The WF is responsible for ensuring all weather information in the FLIP, such as WF operating hours and equipment limitations, is current and accurate. The WF will review new FLIPs within 10 days of receipt for weather information and changes to airfield take-off, landing, radar instrument approach minima, NOTAMs and other key items that may drive weather support changes. As applicable, the Flight Supervisor or designee will route any weather updates to the Airfield Manager (12 OSS/OSAA) for processing. Updates can include revisions, changes or corrections. The WF will implement any required changes to WF guidance and/or procedures as soon as possible.

6.13. Wing Inspection Team (WIT). WIT members are designated throughout the wing to ensure Commander's Inspection Program compliance is obtained and maintained. The WF is required to designate a primary and alternate representative to support inspections, evaluations, and provide staff support during local exercises. Required support will be coordinated by 12 FTW/IGI.

6.14. Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) Coordination. The WF will provide weather subject matter expertise (SME) to CBRNE control center operations IAW JBSA IEMP 10-2. The WF representative will document weather support in existing parent/host unit plans and directives. The WF no longer produces toxic corridor plotting itself but may be called upon by the Readiness Flight, 902 Civil Engineering Squadron (902 CES/CEX) to produce weather data for reference.

6.15. Weather METRICs. The MWP Verification (MWPVER/METRIC) program provides flight personnel with feedback on the effectiveness of weather information and the overall unit accuracy of weather products provided to the customers. The METRICS program is a tool to aid and improve overall operational processes by providing flight management a tool to gauge the flight forecast accuracy within the most used operational flying area and is tailored to customer defined thresholds and points of critical mission failure.

6.16. Installation Data Pages (IDP). The IDP is an agreement between the 26 OWS and the WF as to what weather support will be provided. WF leadership will review the IDP within 90 days of initial assignment and annually to ensure consistency with supported unit requirements. If updates are needed to the JBSA-Randolph and Seguin (Randolph Auxiliary Airfield) IDPs, WF leadership will inform the 26 OWS.

6.17. Unit Radar Committee (URC). The WF is a principal member of the URC for the WSR-88D Doppler Weather Radar located, owned, and maintained by the National Weather Service office in New Braunfels, Texas.

6.18. Emergency Planning and Preparedness Team (EP2T). The WF will attend EP2T meetings in person or virtually, acting as the official point of contact for weather information and climatological data.

6.19. Airfield Operations Board (AOB). The WF will participate as a member of the AOB as requested IAW AFMAN 13-204V1, *Management of Airfield Operations*.

Chapter 7

EMERGENCY ACTIONS

7.1. Alternate Operating Location (AOL). In the event of building evacuation, the WF will relocate operations to the AOL, in the East Tower, Building 28 (2nd floor, Room 200 (12OSS/OSAT Training Room). The contact information is: DSN 487-8490 or commercial (210) 652-8490, fax 652-7256). Once established at the AOL, the WF will resume weather operations and services. The WF will call and advise the agencies in **Table 7.1** on relocation to the AOL (or other location) and on return to the primary operating location (Bldg 8).

Table 7.1. Agencies/Personnel Notified of Changes in Operating Location.

Agency	Phone
East Tower (and SOF)	652-7251
26 OWS	DSN 331-2625 Comm (318) 529-2625
502 ABW Command Post	DSN 471-9363 Comm (210) 221-9363
West Tower (and SOF)	652-7270
Maintenance Ops Center (MOC)	652-6481
Randolph Airfield Management	652-2943 (Alternate location number: (210) 652-8002)
502 OSS/OSW Duty Forecaster*	DSN 945-5709/5808 Comm (210) 925-5709/5808
12 OSS/OSW Supervisor	See Recall Roster
12 OSS /OSW Chief	See Recall Roster

7.1.1. Weather technicians resume services by following duty-specific standard operating procedures (SOPs) and an evacuation checklist. If the primary weather sensor is inoperable, manual observations are taken through backup equipment. When backup equipment is used, wind speed, wind direction, and pressure measurements are estimated.

7.1.2. WF technicians will provide the following services for Randolph from the AOL:

7.1.2.1. Perform a BWW and be prepared to augment FMQ-19 observations, as required.

7.1.2.2. Continue to issue and update MWPs and the MWP webpage, if possible. If the webpage is inaccessible, the WF will fax or email the MWP to the flying training squadrons.

7.1.2.3. Continue METWATCH. If ADS is unavailable, weather warnings, watches and advisories will be disseminated by phone, fax or email.

7.1.2.4. Provide aircrew briefings by phone or fax and continue MISSIONWATCH.

7.1.2.5. Pilot-to-Metro Service (PMSV) radio set is not available at the AOL. During AOL operations, the Lackland/Kelly WF (502 OSS/OSW) will monitor and respond to Randolph PMSV calls. Likewise, PMSV capability is not available during Lackland/Kelly AOL operations, so the Randolph WF will monitor and respond to Lackland/Kelly PMSV calls.).

7.1.3. AOL Limitations. The view from the AOL observation point is limited by flightline facilities, covers and trees southeast through northwest, and parked aircraft. Communications limitations prevent full capability to monitor automated sensors on the East and West runways.

7.2. Aircraft Emergencies.

7.2.1. In-flight emergency (IFE) or ground emergency (GE). When notified of an IFE or GE involving aircraft, WF technicians will maintain a heightened weather situational awareness until advised the emergency has been terminated. In the event an IFE or GE results in an accident or incident, the WF will immediately initiate the actions for an aircraft mishap (as specified below).

7.2.2. Aircraft Mishap. When notified of an aircraft mishap, the WF will:

7.2.2.1. Regardless of operating mode, encode and disseminate a full element SPECI observation.

7.2.2.2. Ensure all data and products used in developing any weather information, product or service provided to a customer (to include MWPs, forms, wind/hazard charts, etc.,) are saved.

7.2.2.3. Save enough data before, during and after the mishap to fully reconstruct the weather conditions at the time of the mishap. Activate the FMQ-19 aircraft accident investigation (AAI) function as an added fail-safe measure.

7.2.2.4. Coordinate with other units (OWS, 557 WW, and other WFs) to save any required data.

7.2.2.5. Collect and save the following products, as applicable, until requested, or send them to the unit requesting the data save:

7.2.2.5.1. Meteorological Satellite (METSAT) imagery (visible, infrared and water vapor, etc.).

7.2.2.5.2. Radar products (reflectivity, VAD winds, echo tops, base velocity, etc.).

7.2.2.5.3. Local area work charts (LAWCs).

7.2.2.5.4. Upper air package and upper air soundings en route and nearest mishap site.

7.2.2.5.5. Hazard charts (thunderstorms, turbulence, icing and any other appropriate charts).

7.2.2.5.6. PIREPs, SIGMETs, AIRMETs.

7.2.2.5.7. TAFs and observations for departure point, destination and any alternate(s).

7.2.2.5.8. Weather warnings, watches and advisories.

7.2.2.5.9. Briefing material provided mishap aircrew (DD Form 175-1, MWP, flimsy, etc.).

7.2.2.6. Coordinate with the 557 WW Consolidated Support Cell (DSN 271-2586) to save any applicable data and products that cannot be saved locally, providing AFWA a specific list of data to be saved.

7.2.2.7. Coordinate with 26 OWS to initiate a data save for any OWS provided products used in preparing the flight weather MWP. If other OWS products crossing OWS AORs were used, the WF will coordinate data saves with all applicable OWSs. If an OWS provides the flight weather briefing, they will coordinate the data save with other units involved.

7.3. Severe Weather Action Plan/Procedures (SWAP). The SWAP ensures weather flight leadership and/or the Severe Weather Action Team (SWAT), consisting of senior, experienced WF members, are notified and respond to potential and actual severe weather events in JBSA-Randolph's AOR. The 26 OWS routinely schedules adequate resources to respond to severe weather situations within the AOR. The 26 OWS, in close coordination with the WF, will assess and respond to any potential severe weather threat. Based on the assessment, a severe weather watch or warning may be issued. (**Note:** During severe weather events, the WF may have to limit other support and services, IAW duty priorities (**Table 1.1**), due to increased workload and limited resources. WF limitations may include: answering only hotlines, shortening/canceling weather briefings, extending telephone hold periods and/or delaying updates to various products and services (e.g., MWPs).

7.3.1. SWAP Initiation. The SWAP will be initiated if any of the following occur or are expected in Randolph's AOR:

7.3.1.1. Tornadic activity, hail $\geq$ 3/4 inch, winds $\geq$ 50 knots, heavy precipitation (rain or snow) or freezing precipitation. (If the event poses imminent threat to life and/or property, the WF will ensure the appropriate warning is issued prior to calling the SWAT leader or OWS.).

7.3.1.2. A severe weather event is observed at or in the vicinity of JBSA-Randolph.

7.3.1.3. The WF determines the potential for severe weather exists at JBSA-Randolph.

7.3.1.4. The National Weather Service (NWS) Storm Prediction Center (SPC) includes the San Antonio area in a severe weather watch or warning area.

7.3.2. SWAP and SWAT Activation. At a minimum, the SWAT will consist of the Flight Chief and/or Duty Forecaster, as available. The SWAT leader will determine if additional WF personnel are required. SWAP continue until the threat subsides and/or related severe weather watches/warnings have ended.

7.3.3. Augmenting Automated Observations During SWAP. The WF will supplement automated FMQ-19 observations for conditions prescribed in AFMAN 15-111 and this document (**paragraph 4.3.3.1.1**.). The WF will also backup automated FMQ-19 sensors as conditions warrant. Flight safety and resource protection are paramount to ensure all severe weather aspects are fully identified, reported and recorded.

7.3.4. Post-Event Procedures and SWAT Deactivation. Once the WF determines the severe threat has ended, the SWAT leader will release the team and the WF will resume normal operations. Post-event procedures will include, as applicable, OPREP or other required reporting.

7.3.5. SWAT Exercises. IAW DAFMAN 15-129, the WF will conduct an annual severe weather response exercise. Real world severe weather events can serve as suitable substitutes for this requirement.

7.4. Operational Reporting (OPREP). The WF will initiate reporting of severe weather occurring at and impacting Randolph by contacting the 502 ABW/CP after the occurrence the following:

7.4.1. Tornado.

7.4.2. Winds ≥ 50kts (to include gusts).

7.4.3. Hail ≥ 3/4 inch.

7.4.4. Anytime base resources suffer damage caused by weather.

7.4.5. Upon conclusion of the severe weather event, the WF will provide an timely memorandum for record (MFR) containing pertinent information, to the 502 ABW/CP, 26 OWS and 19AF AETC/A3W. If email and fax are unavailable, the summary may be passed by phone. Within 24 hours of the event, the WF will ensure relevant weather information is provided to the 502 ABW/CP for OPREP-3 reporting.

7.5. Recalling On-Call Personnel.

7.5.1. The WF will provide the 502 ABW/CP a WF On-Call Supervisor schedule and contact numbers and provide updates as necessary. As required, the SWAT leader and other SWAT members will also be recalled.

7.5.2. The SWAT will be activated and recalled if the WF issues a watch or warning for any severe weather conditions (see **paragraph 7.3.2**.). When recalled, SWAT members will report to the WF as soon as possible and initiate contact with and advise 12 FTW leadership of the threat.

7.5.3. WF members will be prepared to augment FMQ-19 observations, as required, and continue to do so until the severe weather threat has ended.

7.5.4. Recalled WF personnel must remain on duty as long as any of the following conditions are occurring or expected, unless released by the WF On-Call Supervisor or SWAT Leader:

7.5.4.1. Watch/warning for severe weather (**paragraph 5.3.3**) or hail (any).

7.5.4.2. Airfield is required to open/remain open for MEDEVAC or DV mission support.

7.5.4.3. Airfield is required to open/remain open for any other reason.

Chapter 8

RESOURCE PROTECTION

8.1. General. This section outlines actions taken to provide resource protection to JBSA-Randolph. Resource protection is accomplished by the WF through the use of weather watches, warnings and advisories, complemented by local observation and forecast products.

8.2. Delineation of Duties. IAW DAFMAN 15-129 and JBSA-Randolph Installation Data Page (IDP the WF is responsible for issuing forecast and observed weather warnings, forecast lightning watches, as well as forecast and observed weather advisories.

8.3. Unit Requirements. JBSA-Randolph units are responsible for coordinating with the WF on any added watch, warning or advisory support or associated special notifications, not identified in this instruction or IDPs. Units requesting such support should also validate the requirement by providing a list of customer impacts and protective actions taken for each watch, warning or advisory. The WF will determine if the requested support or criteria falls within the capabilities of the WF or 26 OWS and adjust procedures, accordingly.

8.4. Watches, Warnings, & Advisories (WWAs). WWAs are crucial to the protection of resources and personnel from weather. The sections below describe & define each WWA.

8.4.1. WWA Format & Specifics. Each WWA contains a five-digit ID number, the period the WWA is valid, and any specific conditions expected. The first two digits of the ID number represent the month and the last three represent the order of the watch, warning, or advisory (i.e., the tenth warning issued in April would be represented as Warning #04-010).

8.4.1.1. WWAs can be upgraded, downgraded, or extended:

8.4.1.1.1. Upgrades are needed when the weather is more severe than anticipated.

8.4.1.1.2. Downgrades are needed when the weather is less severe than previously anticipated.

8.4.1.1.3. Extensions are needed when the valid period of an issued WWA needs to be longer.

8.4.1.2. WWAs that are upgraded, downgraded, or extended will not be given a different ID number. An explanation will be given explaining why there was a change to the original WWA.

8.4.1.3. When weather phenomena meeting WWA criteria are no longer expected during the valid time, they are canceled with an explanation.

8.5. Weather Watches. A weather watch alerts units to potential weather conditions that could threaten life and/or property. Watches are issued for a 5 NM radius from the perimeter of JBSA-Randolph. When a watch is issued, units should take, or prepare to take, protective actions. **Attachment 5** depicts watch formats, and **Table 8.1** outline watch criteria and lead times:

Table 8.1. Weather Watches for JBSA-Randolph.

Weather Threat	Threshold	Impact	Desired Lead-time

Tornado	Tornado / Funnel cloud (detected by radar or visually observed) AND threatening JBSA-Randolph	Potential threat of catastrophic damage to personnel and property	60 minutes prior to warning issuance
Severe Thunderstorm	Damaging Wind Surface wind ≥ 50 knots associated with thunderstorms -AND/OR- Damaging Hail Hail ≥ 3/4 inch diameter	Potential threat to exposed personnel Potential of damage to facilities and exposed aircraft and equipment	60 minutes prior to warning issuance
Moderate Thunderstorm	Strong Wind Surface wind 35-49 knots associated with thunderstorms -AND/OR- Large Hail Hail ≥ 1/4 inch but < 3/4 inch	Potential risk to exposed personnel Potential risk of damage to unsecured property Potential risk to flightline activities and damage to exposed aircraft or vehicles	60 minutes prior to warning issuance
Damaging Winds	Damaging Wind Surface wind ≥ 50 knots not associated with thunderstorms	Potential threat to exposed personnel Potential risk of damage to facilities and equipment	60 minutes prior to warning issuance
Strong Wind	Strong Wind Surface wind 35-49 knots not associated with thunderstorms	Potential risk to exposed personnel Potential risk of damage to unsecured property Potential risk to flightline activities and damage to	60 minutes prior to warning issuance

		exposed aircraft or vehicles	
Freezing Precipitation	Liquid precipitation of any type and intensity falls and produces glaze ice on exposed surfaces	Potential range of impacts dependent on precipitation type and intensity For Example: Light freezing drizzle increases risk of unsafe driving conditions and disrupts flightline or maneuver activities Moderate or greater intensity freezing rain (ice storm) poses significant risk of damage to facilities and rapidly creates hazardous conditions for personnel and vehicle movement that cannot easily be mitigated	60 minutes prior to warning issuance
Heavy Rain	Heavy rain $\geq$ 2 inches in 12 hours	Potential threat of flash flooding or systemic flooding posing credible threat to unprotected resources and personnel Disrupts flightline and maneuver activities Imposes potential increased risk on personnel movement	60 minutes prior to warning issuance
Heavy Snowfall	New snowfall $\geq$ 1/4 inch accumulation in 12 hours	Potentially disrupts personnel movement or flight line activities	60 minutes prior to warning issuance

Blizzard	All of the following conditions must occur: a) Surface visibility less than or equal to 1/4 mile b) Considerable falling and/or blowing snow c) Sustained wind speeds or gusts ≥30 knots d) Duration ≥ 3 hours	Imposes potential significant risk to personnel movement Potential significant risk to maneuver or flight line activities	60 minutes prior to warning issuance
Dust/Sandstorm	Winds carrying sand particles from the surface with prevailing visibility LT 5/8 statute miles	Potentially disrupts personnel movement and aviation operations	60 minutes prior to warning issuance
Lightning	Lightning within 5 statute miles	Potential of immediate threat to exposed personnel	30 minutes prior to observed warning issuance

8.6. Weather Warnings. A warning notifies personnel when an established weather condition of such intensity as to pose a hazard to life or property is observed or forecasted to occur.

8.6.1. Forecast Weather Warnings. Forecast warnings are issued for weather events observed or forecasted to occur within 5 statute miles (SM) of the JBSA-Randolph runway complex.

8.6.2. Observed Weather Warnings for JBSA-Randolph. The WF will issue an observed weather warning (only) for lightning associated with thunderstorms within 5 NM of the airfield. **Attachment 5** depicts warning formats, and **Tables 8.2** outlines forecast and observed weather warning criteria and DLTs:

Table 8.2. Weather Warnings for JBSA-Randolph.

Weather Threat	Threshold	Impact	Desired Lead-time
Tornado	Tornado / Funnel cloud (detected by radar or visually observed) AND threatening JBSA-Randolph	Immediate threat of catastrophic damage to personnel and property	15 minutes advance notice before occurrence
Severe Thunderstorm	Damaging Wind Surface wind ≥ 50 knots associated with thunderstorms	Immediate threat to exposed personnel High risk of damage to facilities and	60 minutes advance notice before occurrence

	-AND/OR- Damaging Hail Hail ≥ 3/4 inch diameter	exposed aircraft and equipment	
Moderate Thunderstorm	Strong Wind Surface wind 35-49 knots associated with thunderstorms -AND/OR- Large Hail Hail ≥ 1/4 inch but < 3/4 inch	Increased risk to exposed personnel Increased risk of damage to unsecured property Increased risk to flightline activities and damage to exposed aircraft or vehicles	60 minutes advance notice before occurrence
Damaging Winds	Damaging Wind Surface wind ≥ 50 knots not associated with thunderstorms	Immediate threat to exposed personnel Increased risk of damage to facilities and equipment	60 minutes advance notice before occurrence
Strong Wind	Strong Wind Surface wind 35-49 knots not associated with thunderstorms	Increased risk to exposed personnel Increased risk of damage to unsecured property Increased risk to flightline activities and damage to exposed aircraft or vehicles	60 minutes advance notice before occurrence
Freezing Precipitation	Liquid precipitation of any type and intensity falls and produces glaze ice on exposed surfaces	Range of impacts dependent on precipitation type and intensity For Example: Light freezing drizzle increases risk of unsafe driving	60 minutes advance notice before occurrence

		conditions and disrupts flightline or maneuver activities Moderate or greater intensity freezing rain (ice storm) poses significant risk of damage to facilities and rapidly creates hazardous conditions for personnel and vehicle movement that cannot easily be mitigated	
Heavy Rain	Heavy rain $\geq$ 2 inches in 12 hours	Increased threat of flash flooding or systemic flooding posing credible threat to unprotected resources and personnel Disrupts flightline and maneuver activities Imposes increased risk on personnel movement	60 minutes advance notice of the period meeting heavy rain threshold
Heavy Snowfall	New snowfall $\geq$ 1/4 inch accumulation in 12 hours	Disrupts personnel movement or flight line activities	60 minutes advance notice of the period meeting measureable snowfall accumulation
Blizzard	All of the following conditions must occur: a) Surface visibility less than or equal to 1/4 mile b) Considerable falling and/or blowing snow	Imposes significant risk to personnel movement Significant risk to maneuver or flight line activities	60 minutes advance notice of the period meeting or exceeding blizzard threshold

	c) Sustained wind speeds or gusts >30 knots d) Duration > 3 hours		
Dust/Sandstorm	Winds carrying sand particles from the surface with prevailing visibility LT 5/8 statute miles	Disrupts personnel movement and aviation operations	60 minutes advance notice of the period meeting or exceeding sand/duststorm threshold
Lightning *	Lightning within 5 statute miles	Immediate threat to exposed personnel	As observed

8.7. Weather Advisories. An advisory notifies JBSA-Randolph when an established environmental condition affecting operations is occurring or is expected to occur.

8.7.1. Observed Advisories. Weather advisories alert units to mission impacting weather criteria not covered by watches or warnings. The WF will typically issue observed advisories only during local flying hours, and advisories will end or be canceled when local flying is complete. The WF will use observations, PIREPs, radar, satellite and other resources to determine if conditions warrant issuing or canceling an observed advisory. **Attachment 5** depicts advisory formats, and **Table 8.3** outlines advisory criteria.

8.7.2. Forecast Weather Advisories for JBSA-Randolph. Forecast advisories are issued when advance notice is needed to take protective actions from specific weather conditions.

Table 8.3. Forecast and Observed Weather Advisories for JBSA-Randolph.

Forecasted Criteria	**Desired Lead Time**
Winds $\geq$ 25 knots to < 35 knots	30 min (During flying hours)
Temperature $\leq$ 32° F	120 min
Observed Criteria	**Desired Lead Time**
Winds $\geq$ 25 knots to < 35 knots	N/A (During non-flying hours)
Icing, any intensity, within 100 NM	N/A
Moderate or Greater Turbulence, within 100 NM	N/A
Low-Level Wind Shear (LLWS), within 50 NM	N/A
Thunderstorms, within 100 NM	N/A
Index of Thermal Stress (ITS) Condition (CAUTION and DANGER)	N/A
Frostbite Risk Level (Low WC < 36F, High WC < -18F, Severe WC < -32F, Extreme WC < -48F)	N/A
Surface Visibility < 1/16 SM	N/A

8.8. Dissemination Procedures. Dissemination of weather watches, warnings and advisories, to include their issuance, extension, upgrade/downgrade and/or cancellation, is accomplished via ADS, with appropriate backup phone calls to ensure receipt by critical agencies (**Table 7.1**.).

8.9. Base Siren Activation. During tornadic activity, the base siren system serves as the primary notification system for JBSA-Randolph. On receipt of a tornado warning from the 26 OWS or

WF identification of a tornado threat (visual or radar), the WF will immediately notify the 502 ABW/CP and who in turn will activate the siren. The siren will sound until the warning is canceled or "ALL CLEAR" received.

8.10. Tropical Weather Activity. The WF, in close coordination with the 502 OSS/OSW, JBSA-Lackland Weather Flight will maintain awareness of tropical systems that may threaten the Greater San Antonio Area and NAS Pensacola. Both units will routinely monitor National Hurricane Center (NHC) forecasts and advisories (**http://www.nhc.noaa.gov**) for Atlantic, Caribbean or Gulf of Mexico tropical activity. Additionally, both units will also monitor the 26 OWS Tropical website for related products (e.g., Tropical Cyclone Threat Assessment Product (TC-TAP)). NHC updates are issued every 6-hours (03, 09, 15 and 21Z) and followed, in turn, by 26 OWS product updates.

8.10.1. Tropical Cyclone Bulletins. Flight and base leadership will be notified anytime a tropical depression, storm, or hurricane develops, moves within, or is forecast to move within 400nm of the Greater San Antonio Area and or NAS Pensacola, within a 96-hour period. 502 OSS/OSW forecasters will use the NHC Tropical Cyclone Bulletins and 26 OWS TC-TAP products (as applicable) as well as coordinate with the 26 OWS to develop JBSA Tropical Cyclone Bulletin **(see Attachment 8)**. The bulletins are designed to alert base and JBSA leadership, personnel and agencies of the storm's forecast track, intensity and associated impacts, focusing on the potential for winds ≥ 50 knots within 96, 72, 48, 24 and 12 hours of the Greater San Antonio Area and NAS Pensacola. (**Note:** Tropical cyclone outlooks, especially beyond 48-hours, contain a high degree of uncertainty and are subject to change).

8.10.2. IAW DAFMAN 15-129, the WF will not deviate from the official NHC forecast: position, track, movement, and maximum wind speed or intensity trend. The WF will use the MWP to tailor the official tropical cyclone forecast into a local mission forecast product.

8.10.3. The WF will also provide weather briefings, including the latest tropical cyclone forecasts and related impacts for the Greater San Antonio Area and NAS Pensacola, to the 12 FTW/CC, 12 OG/CC and Hurricane Evacuation Staff (HES), as conditions warrant.

8.10.4. Hurricane Conditions (HURCON) and Tropical Cyclone Condition of Readiness (TCCOR): IAW AFMAN 10-206, *Operational Reporting*, HURCONs and TCCORs warning codes are used to serve as incremental warnings of approaching tropical cyclones and related threats, assessed and focused on forecast arrival of damaging (≥ 50 knots sustained or gust) winds. (**Note:** Other related weather hazards may arrive earlier).

Table 8.4. Hurricane Conditions and Tropical Cyclone Conditions of Readiness.

HURCON TCCOR	Criteria
5	General Hurricane Season, 1 June to 30 November
4	Indicates surface winds in excess of 50 knots (58 mph) could arrive within 72 hours.
3	Indicates surface winds in excess of 50 knots could arrive within 48 hours.
2	Indicates surface winds in excess of 50 knots could arrive within 24 hours.
1	Indicates surface winds in excess of 50 knots could arrive within 12 hours.

1C	**(Caution)** Indicates surface winds in 35-49 knots sustained are occurring and other dangerous condition associated with the storm are present. Movement within the base should be kept to a minimum (e.g., "essential vehicles only".)
1E	**(Emergency)** Indicates surface winds in excess of 49 knots sustained and/or gusts of 60 knots or greater are occurring and other dangerous condition associated with the storm are present. All outside activity is strictly prohibited.
1R	**(Recovery)** Indicates life-threatening storm hazards have subsided and are no longer forecast to occur; survey and work crews are permitted to determine the extent of the damage and to establish safe zones around hazards (e.g., downed power lines, unstable structures). Non-essential personnel are asked to remain. indoors.

8.10.5. The WF will notify 26 OWS of HURCON/TCCOR changes, and, at HURCON/TCCOR 4, consider 24-hr WF operations.

8.10.6. In the event of aircraft hurricane evacuation (HUREVAC), the WF will provide mass, multi-ship and individual flight weather briefings IAW WF duty priorities (**Table 1.1**.). The WF requests advance notice (24 hrs) of requested briefings and times to help ensure timely support.

8.11. Flood Warnings. The WF and 26 OWS do not issue flood warnings however, the National Weather service Forecast Office (NWSFO) Austin/San Antonio (located in New Braunfels) does issue flood warnings, when conditions warrant, for areas to include JBSA-Randolph. The WF will relay issued warnings to the 26 OWS and 502 ABW/CP, as necessary.

8.12. Actions by Base Agencies. IAW JBSA 10-2, *Installation Emergency Management Plan (IEMP)*, and 12 FTW Plan 32-4001, *Aircraft Hurricane Evacuation,* base agencies have specific actions when notified of weather threats. Base agencies should review and perform respective protective actions on notification of weather watches and/or warnings from the WF or 26 OWS. **Attachment 11** outlines principal weather threats and protective actions.

8.13. Notification of 12OG Leadership. IAW **Table 8.5**, the 12 OG/CC, 12 OG/CD, 12 OSS/CC and 12 OSS/DO will be notified of the possibility of any forecast severe weather events beyond 48 hours. If after duty hours, the 12 OSS/CC or 12OSS/DO will be contacted via cell phone.

Table 8.5. Extended Forecast Weather requiring notification of 12 OG/OSS Leadership.

Weather Threat	Threshold	Impact	Threshold
Tornado	Tornado / Funnel cloud (detected by radar or visually observed) AND threatening JBSA-Randolph	Immediate threat of catastrophic damage to personnel and property	> 20% chance of impacting Randolph

Severe Thunderstorm	Damaging Wind Surface wind > 50 knots associated with thunderstorms -AND/OR- Damaging Hail Hail > 3/4 inch diameter	High risk of damage to facilities and exposed aircraft and equipment	> 30% chance of impacting Randolph AFB
Moderate Thunderstorm	Strong Wind Surface wind 35-49 knots associated with thunderstorms -AND/OR- Large Hail Hail ≥ 1/4 inch but< 3/4 inch	Increased risk to flightline activities and damage to exposed aircraft or vehicles	>40% chance of impacting Randolph AFB
Damaging Winds	Damaging Wind Surface wind ≥ 50 knots not associated with thunderstorms	Increased risk of damage to facilities and equipment	>30% chance of impacting Randolph AFB
Any other weather phenomena which could cause damage to aircraft	Winter Weather, Flood, Dust storm, etc.	Increased risk of damage to facilities and equipment	>30% chance of impacting Randolph AFB

Chapter 9

RECIPROCAL SUPPORT

9.1. General. The WF requires mutual support to accomplish its mission. This chapter outlines some of the necessary support of other agencies on- and off- Randolph. (IAW DAFMAN 15-129, support provided to the WF dictated by AF or other local directives is not included in this chapter).

9.2. The 502 ABW/CP (Command Post) will:

9.2.1. Disseminate weather warnings and watches received for Randolph over the Emergency Notification System (ENS), Secondary Crash Net (SCN), and/or Giant Voice broadcast system, as applicable.

9.2.2. Notify the WF On-Call Supervisor (or, as backup, Flight Chief or Supervisor) during hours of airfield closure of:

9.2.2.1. Any report of a known or suspected tornado or funnel cloud or any other significant weather event at Randolph.

9.2.2.2. Any significant weather-related event (i.e. material damage, injuries, etc.).

9.2.2.3. Any MEDEVAC, DV travel or other action that requires the airfield to open.

9.2.3. Include the WF on dissemination/notification of any weather-related incidents or OPREPs.

9.3. The 502 CS will:

9.3.1. Provide or arrange for the installation, maintenance and repair of AF standard/approved processing and communications paths both copper and fiber optic and its supporting equipment (except contract-maintained hardware) and circuits.

9.3.2. Restore failed communications paths when necessary for inoperative processing and communications equipment and circuits IAW established restoral priorities (IAW CS OPLAN 400-1).

9.3.3. Coordinate with the WF before performing repairs or routine maintenance on processing and communications equipment and circuits.

9.4. The 502 SFS will: Report the sighting of any tornado, funnel cloud, hail, or freezing precipitation to the WF directly or via the 502 ABW/CP.

9.5. The 502 CES will:

9.5.1. Ensure periodic maintenance of Bldg 8's backup generator (in Bldg 10) is accomplished.

9.5.2. Provide annual generator training to WF personnel.

9.6. The 502 OSS/OSW will:

9.6.1. Respond to Randolph PMSV requests when the WF evacuates to an AOL or the PMSV is not operational.

9.6.2. Collaborate on expected weather effects across Joint Base San Antonio (JBSA), prior to disseminating JBSA Tropical Bulletins.

9.7. The 559 AMDS will:

9.7.1. Consult with the WF to review historical climate information as well as predictive analyses.

9.7.2. Coordinate on processes and operating procedures for disseminating thermal injury weather advisories (e.g., ITS and Frost Bite Risk Temperature Conditions) as well as other pertinent current weather information.

9.8. The 99th, 435th, 559th, 560th FTS and 415 FLTF will:

9.8.1. Encourage aircrews to pass PIREPs to the WF, ATC or SOF.

9.8.2. Coordinate any additional mission or support requirements with WF leadership.

9.8.3. Report any known or suspected space weather impacts to operations (e.g., degraded radio communications) to the WF.

9.8.4. Encourage aircrews to provide mission feedback to the WF, especially if actual weather is significantly different than forecast or briefed.

9.8.5. Ensure the current flying schedule is available to the WF.

9.8.6. Support the weather liaison program.

9.9. The 12OSS/OSM will:

9.9.1. Serve as the single POC for the maintenance and repair of approved fielded weather sensing equipment and its peripheral necessary associated attached communications devices.

9.9.2. Coordinate with the WF before performing repairs or routine maintenance on weather sensing, processing and communications equipment and circuits.

9.9.3. Serve as system administrator for JET.

9.10. The 12 OSS/OSA will: Provide support identified in CWW MOU (paragraph **4.7.**) and a location for the WF's AOL (paragraph **7.1.**).

9.11. All Weather Support Recipients will:

9.11.1. Notify the WF of ADS software application problems (only) after performing troubleshooting measures.

9.11.2. Notify the WF when new or revised weather support requirements are identified.

9.11.3. Coordinate required changes or additions to this document as soon as possible.

9.11.4. Provide the WF advance notice (24-hrs) for requests requiring out-of-station support.

PETER J.S. LEE, Colonel, USAF
Commander, 12th Flying Training Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFH 11-203V1, *Weather for Aircrews,* 11 January 2012

AFH 11-203V2, *Weather for Aircrews-Products and Services,* 13 August 2015 13 December 2022

AFMAN 10-206 AETCSUP, *Operational Reporting*, 10 May 2021

DAFI 10-2501, *Emergency Management Program*, 16 October 2023

AFMAN-11-2T-6V3, *T-6 Operations Procedures,* 15 December 2020

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AFI 11-418, *Operations Supervision, 21 December 2021*

AFI 11-418, AETC Supplement, *Operations Supervision*, 18 June 2020

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DAFMAN 13-204V3, *Air Traffic Control*, 26 April 2024

DAFMAN 13-204V4, *Radar, Airfield, and Weather Systems*, 13 May 2024

AFMAN 10-206, *Operational Reporting* OPREP), 31 August 2020

DAFI 10-2503, *Chemical, Biological, Radiological, Nuclear, (CRBN) Defense Program,* 6 October 2023

DAFPD 15-1, *Weather Operations,* 28 May 2024

AFMAN 15-111, *Surface Weather Observations*, Incorporating Change 1, 26 January 2024

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

DAFMAN 15-129, *Air and Space Weather Operations*, 6 September 2023

AETCI 11-204_12FTWSUP, *Runway Supervisory Unit (RSU) Operations,* 31 August 2022

DAFI 48-151, *Thermal Stress Program*, 1 May 2022

502 ABW, *Joint Base San Antonio Severe Weather Plan*, June 2020

12 FTW Instruction 13-204, *Air Traffic Control and Airfield Operations*, 5 October 2021

JBSA Plan 10-2, *Installation Emergency Management*

12 FTW Plan 32-4001, *Aircraft Hurricane Evacuation (HUREVAC) Plan*, 23 August 2021

502 ABW, *Severe Weather Plan,* June 2022

Joint Base San Antonio – *Randolph Installation Data Sheet*, 29 November 2023

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

DD Form 175-1, *Flight Weather Briefing*

Abbreviations and Acronyms,

AFW-WEBS—Air Force Weather Web Services

ADS—Automated Dissemination System (e.g., JET, IWWC)

BIFROST—Bridging Environmental Intelligence for Responsive Operational Support Portal

BWW—Basic Weather Watch.

CWW—Cooperative Weather Watch.

HURCON—Hurricane Condition.

ICAO—International Civil Aviation Organization identifier

KRND—4-ICAO identifier for JBSA—Randolph.

IDP—Installation Data Page

JET—Joint Environmental Toolkit.

MEFP—Mission Execution Forecast Process

METAR—Aviation Routine Weather Report.

METWATCH—Meteorological Watch.

MOA—Military Operating Area.

MWP—Mission Weather Product

OWS—Operational Weather Squadron.

PIREP—Pilot Report.

RAWS—Radar, Airfield and Weather Systems

SOF—Supervisor of Flying.

SPECI—Special Weather Observation

TAF—Terminal Aerodrome Forecast

UTP—Unit Tailored Page

TCCOR—Tropical Cyclone Condition of Readiness

WF——Weather Flight.

Office Symbols

12 FTW—12thFlying Training Wing

12 FTW/CC—12th Flying Training Wing Commander

12 FTW/IGI—12th Flying Training Wing Inspector General

12 FTW/MX—12th Flying Training Wing Maintenance

12 MXG—12th Maintenance Group

12 OSS/CC—12th Operations Support Squadron Commander

12 OSS/DO—12th Operations Support Squadron Director of Operations

12 OSS/OSA—12th Operations Support Squadron Airfield Operations Flight

12 OSS/OSAA—12th Operations Support Squadron Airfield Management

12 OSS/OSAT—12th Operations Training Squadron Air Traffic Control

12 OSS/OSM—12th Operations Support Squadron Radar and Weather Systems Flight

12 OSS/OSW—12th Operations Support Squadron Weather Operations Flight

12 OG/CC—12th Operations Group Commander

12 OG/CD—12th Operations Group Deputy Commander

12 TRS/OST—12th Training Squadron Ground Flight Training

19 AF AETC/A3W—19th Air Force Air Education and Training Weather Operations Team

26 OWS—26th Operational Weather Squadron

99 FTS—99th Flying Training Squadron

415 FLTF—415th Flight Test Flight

435 FTS—435th Flying Training Squadron

502 ABW/PA—502nd Air Base Wing Public Affairs

502 ABW/CP—502nd Air Base Wing Command Post

502 CES—502nd Civil Engineering Squadron

502 CES/CEX—502nd Civil Engineering Squadron Readiness Flight

502 CONS—502nd Contracting Squadron

502 CS—502nd Communications Squadron

502 FSS—502nd Force Support Squadron

502 LRS—502nd Logistics Readiness Squadron

502 OSS/OSW—502nd Operations Support Squadron Weather Operations Flight

502 SFLSG/JA—502nd Security Forces and Logistics Support Group Legal Assistance

502 SFS—502nd Security Forces Squadron

557 WW—557th Weather Wing

558 FTS—558th Flying Training Squadron

559 AMDS—559th Aerospace Medicine Squadron

559 FTS—559th Flying Training Squadron

560 FTS—560th Flying Training Squadron

575 AMXS—575th Aircraft Maintenance Squadron

902 CES—902nd Civil Engineering Squadron

Terms

557th Weather Wing (557 WW)—A strategic weather center at Offutt AFB NE, (formerly HQ Air Force Weather Agency (AFWA)) providing atmospheric data and analysis/forecast products required by the regional OWSs and the WFs worldwide. The 557 WW provides the centralized repository for global observations and forecasts that are data based at 557 WW and, in turn, disseminated to DOD weather data users worldwide. In addition to global observations and forecasts collected from worldwide sources, the 557 WW collects meteorological satellite data from multiple sources. Based on global analysis of available data, 557 WW creates global analysis and forecast products to meet the forecast requirements of its supported users.

Alternate Operating Location (AOL)—A secondary location in which the WF will move to in the event that the main operating location, building 8 is evacuated.

Basic Weather Watch—Method of manually observing, recording, and disseminating significant changes in weather conditions to principal customers.

Cooperative Weather Watch-—Method of collective weather observing by WF, ATC and SOF agencies, to enhance the BWW mission.

Desired Lead Time—The total amount of time required to disseminate a forecast WWA to all affected end-users plus the amount of advance notice a supported organization requires to complete mandatory protective actions before the onset of a particular weather phenomenon.

Hurricane Condition—The condition outlining threat of tropical storm or hurricane.

Joint Environmental Toolkit (JET)—The AF standard weather communications and computer software.

LOCAL—Weather observation of limited scope, meeting local requirements; disseminated locally.

METAR—Aviation Routine Weather Report. Routine, full hourly weather observation; taken and disseminated locally and externally.

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

Mission Weather Product (MWP)—Any weather product or group of weather products generated by the WF that is integrated into the military decision-making process. MWPs may be planning or execution products and are not limited to aviation missions.

MISSIONWATCH—Method of continuously monitoring and updating weather conditions, focused on impacts to previously briefed and/or ongoing missions.

MOA (Military Operating Area)—area used for military training or Memorandum of Agreement.

Operational Weather Squadron—Regional AF weather center, commonly referred to as "Hub." JBSA-Randolph's servicing OWS is the 26 OWS located in Barksdale, Louisiana.

Pilot Report—. Report containing weather data collected by and passed from aircrew.

Severe Thunderstorm—A thunderstorm presenting a threat to lives or property that requires agencies to enhance resource protection measures. Generally, thunderstorms producing hail greater than or equal to 3/4-inch diameter and/or surface wind greater than or equal to 50 knots.

SPECI—Weather observation taken to address special criteria; disseminated locally and longline.

Terminal Aerodrome Forecast—A coded weather bulletin providing forecast information for an aerodrome complex to facilitate flight planning and command and control. TAFs are formatted IAW AFMAN 15-124, *Meteorological Codes*, and amended IAW DAFMAN 15-129, *Air and Space Weather Operations.*

Weather Advisory—Notification of weather condition impacting or expected to impact flight operations.

Weather Warning—Notification of weather condition occurring or imminent posing threat to life/property.

Weather Watch—Notification of potential for weather condition posing threat to life/property.

Attachment 2

SPECIAL AND LOCAL OBSERVATION CRITERIA

A2.1. The FMQ-19 will take and disseminate special observations (SPECI), which are disseminated locally and externally. Special criteria are established IAW AFMAN 15-111 and applicable Flight Information Publications (FLIP). Special criteria for Randolph follow; a SPECI will be taken if:

A2.2. Ceiling. A cloud ceiling forms or dissipates below, decreases below or, if below, increases to or above:

Table A2.1. SPECI Ceiling Criteria.

3500 ft	Local Requirement	800 ft	AFMAN 15-111
3000 ft	AFMAN 15-111	700 ft	AFMAN 15-111
2800 ft	Local Requirement	600 ft	ILS, Circling, Straight-in, LNAV
2300 ft	Local Requirement	500 ft	AFMAN 15-111, LOC/DME, Circling
2000 ft	Local Requirement	400 ft	LOC/DME, Straight-in, LNAV
1500 ft	AFMAN 15-111	300 ft	AFMAN 15-111, LOC/DME, Straight-in
1100 ft	Circling	200 ft	AFMAN 15-111, ILS
1000 ft	AFMAN 15-111		

A2.3. Sky Condition. A layer of clouds or obscuring phenomena aloft is observed below 800 feet, and no layer aloft was reported below 800 feet in the preceding observation.

A2.4. Visibility. The visibility decreases to less than, or if below, increases to or above:

Table A2.2. SPECI Visibility Criteria.

5 SM	Local Requirement, 12 FTWI 13-204	1 1/4 SM	LOC/DME, Straight-in, LNAV
3 SM	AFMAN 15-111, Circling	1 1/8 SM	LOC/DME 15L
2 1/2 SM	LNAV MDA , RNAV GPS RWY 15R	1 SM	AFMAN 15-111, LOC/DME, Circling, Straight-in, LNAV
2 SM	AFMAN 15-111, Circling, Straight-in, LNAV	7/8 SM	LNAV, RNAV (GPS) RWY 33R
1 7/8 SM	S-LOC 15R	3/4 SM	AFMAN 15-111, ILS, LOC/DME, Straight-in, LNAV
1 3/4 SM	Straight-in, Circling, LNAV	5/8 SM	LOC/DME 33R, RNAV (GPS) RWY 32 R
1 5/8 SM	S-LOC RWY 15R	1/2 SM	AFMAN 15-111, ILS, LOC/DME
1 1/2 SM	AFMAN 15-111, LOC/DME, Circling, Straight- in, LNAV	1/4 SM	AFMAN 15-111
1 3/8 SM	LNAV, RNAV (GPS) RWY 14 R	1/16 SM	Local Requirement (Ground Operations)

A2.5. Wind Shift. Wind direction changes by 45 degrees or more in less than 15 minutes and the wind speed is 10 knots or more throughout the wind shift.

A2.6. Squalls. Whenever squalls occur. A squall is a sudden onset of strong winds with speeds increasing to at least 16 knots and sustained at 22 or more knots for at least one minute.

A2.7. Thunderstorms. A thunderstorm begins or ends.

A2.8. Precipitation.

A2.8.1. Any hail begins or ends.

A2.8.2. Any freezing precipitation begins, ends or changes intensity.

A2.8.3. Ice pellets begin, end, or change intensity.

A2.8.4. Snow begins, ends, or changes intensity.

A2.8.5. Any other type of precipitation begins or ends.

A2.9. Tornado, Funnel Cloud or Waterspout.

A2.9.1. Is observed.

A2.9.2. Disappears from sight or ends.

A2.10. Runway Visual Range (RVR).

A2.10.1. The prevailing visibility is first observed $\leq$ 1 SM/1600 M, and (again) when the prevailing visibility goes above 1 SM/1600 M.

A2.10.2. The RVR decreases below, or if below, increases to or above:

Table A2.3. SPECI RVR Criteria.

6000 ft	AFMAN 15-111
5900 ft	FLIP
5500 ft	FLIP
5000 ft	AFMAN 15-111
4500 ft	FLIP
4000 ft	AFMAN 15-111, Local Requirement
3700 ft	FLIP
3000 ft	FLIP
2400 ft	AFMAN 15-111, Local Requirement
2000 ft	AFMAN 15-111
1600 ft	AFMAN 15-111, Local Requirement

A2.10.3. The RVR is first deemed unavailable (RVRNO) for the runway in use, and when it is first determined the RVRNO report is not applicable, provided RVR reporting capability exists.

A2.11. Volcanic Eruption. Eruption or volcanic ash cloud is first observed.

A2.12. Resumption of Observing Services. After the weather technician returns to duty after a break in observing coverage or augmentation, unless a record observation is filed during the period.

A2.13. Aircraft Mishap. An aircraft mishap SPECI will be taken immediately following the notification or sighting of an aircraft mishap, at or near the observing location, unless there has been an intervening observation.

A2.14. Tower Visibility. A SPECI will be taken when notified by control tower that tower visibility has decreased to less than or, if below, increased to equal or exceed 1, 2, or 3 statute miles and the control tower visibility differs from the prevailing visibility.

A2.15. Sandstorm (SS) or Dust Storm (DS). Only augmented when a local warning is issued.

A2.16. Local Observation Criteria. The WF will take and disseminate Local (LOCAL) observations during airfield hours, as required. LOCALs are not disseminated longline. LOCAL criteria are established IAW AFMAN 15-111 and local requirements. The LOCAL criteria for JBSA-Randolph:

A2.16.1. Altimeter Setting LOCALs During Complete FMQ-19 Pressure Sensor Outage. Altimeter setting LOCALs will be taken at an interval not to exceed 35 minutes when there has been a change of 0.01-inch Hg (0.3 hPa) or more since the last reported value.

A2.16.2. Significant Pressure Changes. When the pressure is observed to rise or fall at a rate of 0.06-inch Hg per hour or more, totaling a change of 0.02-inch Hg or more at the time of observation, a LOCAL observation will be taken to include the remark PRESRR (pressure rising rapidly) or PRESFR (pressure falling rapidly).

Attachment 3

WEATHER OBSERVATION AND PIREP FORMATS

A3.1. General. Formats and samples of METAR, SPECI and LOCAL weather observations, and PIREPs follow. AFMAN 15-124, *Meteorological Codes*, provides more detailed information.

A3.2. METAR Format. Sample METAR observation with basic elements as transmitted externally:

Table A3.1. METAR Format.

KRND (1)	**201855Z** (2)	**15010G18KT** (3)	**5SM** (4)	**BR** (5)	**SCT025 BKN100** (6)	**29/18** (7)	**A29.84** (8)
RMK PA+837 (9)							
(1) Location: (4-letter) International Civil Aviation Organization (ICAO) identifier (2) Date/Time Group: (2-digit) day of month and (4-digit) time Zulu/UTC (3) Winds: (3-digit) direction, in degrees, and (2-digit) speed, with any gust (G), in knots (KT) (4) Visibility: in statute miles (SM) (5) Current Weather and/or Obstruction to Visibility: as applicable, (2-letter) code/abbreviation (6) Sky Condition: (3-letter) cloud amount(s) and (3-digit) base(s) in hundreds of feet (AGL) (7) Temperature/Dewpoint: in degrees Celsius (C) (8) Altimeter Setting: in inches of mercury (Hg) (9) Remarks: as applicable							
Not all encoded remarks are transmitted externally—the example below reflects the same observation, as transmitted locally:							
KRND METAR 1855Z 15010G18KT 5 BR SCT025 BKN100 29/18 ALTSG 29.84 RMK PA +837 T: 84F DP: 65F 55/JT [Note: Adds temperature (T) and dewpoint (DP) in degrees F.]							

A3.3. SPECI Format. Sample SPECI observation, as transmitted externally and locally (resp):

Table A3.2. SPECI Format.

KRND 202118Z 15012G21KT 2 1/2SM -RA SCT005 BKN020 OVC035 27/20 A29.91
KRND SPECI 2118Z 14012G21KT 2 1/2 -RA SCT005 BKN20 OVC035 27/20 ALTSG 29.91 T:80F DP:68F

A3.4. PIREP Format. Sample PIREP with basic elements, as transmitted externally and locally:

Table A3.3. PIREP Format.

KRND (1)	UUA (2)	/OV KAUS220010 (3)	/TM 2110 (4)	/FL050 (5)	/TP T38 (6)	/SK OVC100- UNKN (7)
/WX TS (8)	/TA M02 (9)	/WV 28025KT (10)	/TB LGT-MOD (11)	/IC MOD RIME (12)		
/RM ONCL LTGICCCCG (13)						

(1) Transmitting Station (2) Type, Routine (UA) or Urgent (UUA) (3) Location of Aircraft (4) Time of Report (Zulu) (5) Flight Level, hundreds of feet AGL (6) Aircraft Type (7) Sky Condition (8) Current Weather (9) Outside Air Temperature (deg C) (10) Winds, direction and speed, at FL (11) Turbulence, as applicable (12) Icing, as applicable (13) Remarks, as applicable

Attachment 4

TAF SPECIFICATION / AMENDMENT CRITERIA AND FORMATS

A4.1. General. Terminal aerodrome forecasts (TAFs) are issued by WF for JBSA-Randolph. The standard TAF format, a sample TAF and TAF specification and amendment criteria follow:

A4.2. TAF Format. Sample TAF with basic forecast elements, as transmitted:

Table A4.1. TAF Format.

KRND 2309/2417 02009KT 8000 -RA BKN045 OVC060 QNH3000INS (1) (2) (3) (4) (5) (6) (7)
TEMPO 2315/2318 VRB15G25KT 3200 -TSRA BKN012 OVC025 (8)
BECMG 2323/2324 03012KT 9999 SCT120 BKN250 QNH2997INS TX31/2321Z TN19/2412Z (9)
(1) Location: (4-letter) International Civil Aviation Organization (ICAO) identifier (2) Forecast Valid Time: (2-digit) day of month and (2-digit) time (Z) From/and To (3) Winds: (3-digit) direction, in degrees, and (2-digit) speed, with any gust (G), in knots (KT) (4) Visibility: in meters (M) (Note: Code "9999" infers unrestricted visibility) (5) Weather and/or Obstruction to Visibility: as applicable, using (2-letter) code/abbreviation (6) Sky Condition: (3-letter) cloud amount(s) and (3-digit) base(s) in hundreds of feet (AGL) (7) Minimum Altimeter Setting: in inches of mercury (Hg), for a given period (8) New Forecast Valid Time Period (From/To): with applicable BECMG or TEMPO qualifier (9) Temperatures (T): high and low (deg C) for 36-hr TAF period, with expected days/times (Z)

A4.3. TAF Criteria. The TAF will specify the time of occurrence (to nearest hour), duration and intensity (as applicable) when the following weather elements, at minimum, are forecast:

A4.3.1. Cloud Ceiling and/or visibility to decrease below, or if below, to increase to or above any of the values in **Table A4.2** (IAW DAFMAN 15-129):

Table A4.2. TAF Ceiling/Visibility Categories.

Ceiling (Feet)	Visibility (SM)	Reference
< 200	< 1/2	DAFMAN 15-129
////	< 3/4	12 FTW
< 700	< 2	DAFMAN 15-129
< 1000	< 3	DAFMAN 15-129
< 1500	≥ 3	12 FTW
< 2000	////	DAFMAN 15-129
< 3000	////	12 FTW

≥ 3000	////	12 FTW

A4.3.2. Predominant wind or gust speed to change 10 knots or more, or wind direction to change greater than 30 degrees, for/with predominant wind or gust speeds greater than 15 knots.

A4.3.3. Icing or turbulence, moderate or greater, not associated with thunderstorms, from the surface to 10,000 feet AGL.

A4.3.4. Any weather meeting advisory/warning criteria, or non-convective low-level wind shear.

A4.3.5. Any thunderstorm.

A4.4. TAF Amendment. When conditions listed (in **paragraph A4.3**) occur that are not forecast, or are forecast, and/but do not occur, the TAF must be amended. The TAF will be amended when:

A4.4.1. Cloud ceiling is observed to decrease below, or if below, to increase to or above the values listed (in **Table A4.2**), and such condition is not properly forecast in the TAF.

A4.4.2. The difference between observed and forecast wind speed (including gust) is 10 knots or more, or difference in direction is more than 30 degrees, for wind or gust speeds 15kts or greater.

A4.4.3. Any weather condition (esp precipitation) begins or ends that causes a weather warning or advisory to be issued or canceled (i.e., the TAF must be consistent with the watch or warning).

A4.4.4. Icing, moderate or greater, below 10,000 feet AGL, not associated with a thunderstorm, begins or ends, and was not so specified in the forecast.

A4.4.5. Turbulence, moderate or greater, below 10,000 feet AGL, not associated with a thunderstorm begins or ends, and was not so specified in the forecast.

A4.4.6. Non-convective LLWS occurs and/or is expected but not specified in the forecast, or is forecast to occur but no longer expected.

A4.5. TAF Amendment Actions. WF is primarily responsible for TAF amendments during duty hours. Amendment guidelines:

A4.5.1. Anytime an unforecasted change meeting TAF amendment criteria is expected to occur and to last more than 30 minutes but is not correctly forecast by the next whole hour.

A4.5.2. Anytime an unforecasted change meeting TAF amendment criteria occurs and is expected to last at least 30 minutes but is not forecast by the next whole hour from the time of occurrence.

A4.5.3. Anytime a forecast condition meeting TAF amendment criteria does not occur by the specified hour and is not expected to occur within the next 30 minutes.

A4.5.4. Anytime a forecast condition within a temporary (TEMPO) group becomes predominant or is not expected to occur.

Attachment 5

WEATHER WATCH, WARNING AND ADVISORY (WWA) FORMATS

A5.1. WWA Format & Specifics. Each WWA contains a five-digit ID number, the period the WWA is valid, and any specific conditions expected. The first two digits of the ID number represent the month and the last three represent the order of the watch, warning, or advisory (i.e., the tenth warning issued in April would be represented as Warning #04-010).

A5.1.1. WWAs can be upgraded, downgraded, or extended:

A5.1.1.1. Upgrades are needed when the weather is more severe than previously anticipated.

A5.1.1.2. Downgrades are needed when the weather is less severe than previously anticipated.

A5.1.1.3. Extensions are needed when the valid period of an issued WWA needs to be longer.

A5.1.1.4. WWAs that are upgraded, downgraded, or extended will not be given a different ID number. An explanation will be given explaining why there was a change to the original WWA.

A5.1.1.5. When weather phenomena meeting WWA criteria are no longer expected during the valid time, they are canceled with an explanation.

A5.2. JBSA-Randolph header for watch, warning or advisory format. Each watch, warning and advisory will contain the following elements in order of transmission:

A5.2.1. Header. The Header will include location, type (watch/warning/advisory) and number.

A5.2.1.1. Watches, warnings and advisories will have a separate numbering system and will be formatted as MM-NNN. The first two digits (MM) will signify the month, and the last 3 digits (NNN) will signify the watch, warning or advisory number. Example: The second advisory for the month of November would be 11-002.

A5.2.1.2. It is possible to have a watch, warning or advisory out at the same time with the same number. The key in determining the difference is the header. See the headers in **A5.2.2.1**, **A5.2.3.1**, **A5.2.3.2** and **A5.2.4.1** for examples.

A5.2.2. Valid time in UTC and local time.

A5.2.3. Body of warning/watch.

A5.2.4. Weather Watch Example. Here is an example of a weather watch:

A5.2.4.1. JBSA-RANDOLPH WEATHER WATCH 09-002 VALID 05/1100Z (05/0600L) TO 05/1500Z (05/1000L). THE POTENTIAL EXISTS FOR SEVERE THUNDERSTORMS AT JBSA-RANDOLPH. SEVERE STORMS CAN PRODUCE WINDS $\geq$ 50KTS AND HAIL $\geq$ 3/4 INCH DIAMETER. A WARNING WILL BE ISSUED IF CONDITIONS WARRANT.

A5.2.5. Weather Warning Example. Here are examples of a forecast weather warning and an observed weather warning, respectively:

A5.2.5.1. JBSA-RANDOLPH WEATHER WARNING 09-003 VALID 05/1300Z (05/0800L) TO 05/1400Z (05/0900L). SEVERE THUNDERSTORMS WITH WINDS ≥ 50 KNOTS AND HAIL ≥ ¾ INCH AT JBSA-RANDOLPH. THIS WEATHER WARNING SUPERCEDES WEATHER WARNING #09-002. WEATHER WARNING #09-001 AND WEATHER WATCHES #09-002 AND #09-004 REMAIN IN EFFECT. A TORNADO WARNING WILL BE ISSUED IF CONDITIONS WARRANT.

A5.2.5.2. JBSA-RANDOLPH WEATHER WARNING 10-004 VALID 19/1921Z (19/1421L) TO UFN (UFN) LIGHTNING OBSERVED WITHIN 5NM OF JBSA-RANDOLPH.

A5.2.6. Weather Advisory Example. Here is an example of a weather advisory:

A5.2.6.1. JBSA-RANDOLPH WEATHER ADVISORY 09-024 VALID 18/1714Z (18/1215L) TO UFN (UFN) ITS CONDITION CAUTION IN EFFECT.

A5.3. Dissemination. The WF leverages a pyramid notification system to promptly disseminate weather advisories, watches and warnings. The WF initiates the process by issuing, disseminating, canceling, or extending an advisory, watch, or warning over ADS. Upon receiving the advisory, watch, or warning via ADS, the 502 ABW/CP will disseminate the warning via the Emergency Notification System (ENS) to other agencies on JBSA-Randolph. Each organization is responsible for internal dissemination. When ADS is inoperable, the WF will use a telephone line to transmit advisories, watches and warnings. See **Table A5.1** for backup voice dissemination list. See Attachments **9** and **10** for the dissemination pyramids.

Table A5.1. Advisory, Watch and Warning Voice Dissemination.

Agency	Phone
26 OWS	DSN 331-2625
502 ABW/CP (Command Post)	DSN 471-9363 / Commercial (210) 221-9363
MOC	Hotline / 652-6481
East Tower (and SOF)	Hotline / 652-7251
West Tower (and SOF)	Hotline / 652-7270
Airfield Management	Hotline / 652-2943

A5.4. Backup Calls. To verify receipt of issues, extensions, or cancellations of watches, warnings and advisories, the WF will courtesy call critical agencies for all advisories, watches and warnings issued by the WF. Agencies called for verification of receipt are noted in **Table A5.1**.

Attachment 6

INDEX OF THERMAL STRESS (ITS) CHART

Figure A6.1. Index of Thermal Stress (ITS) Reference Value Chart.

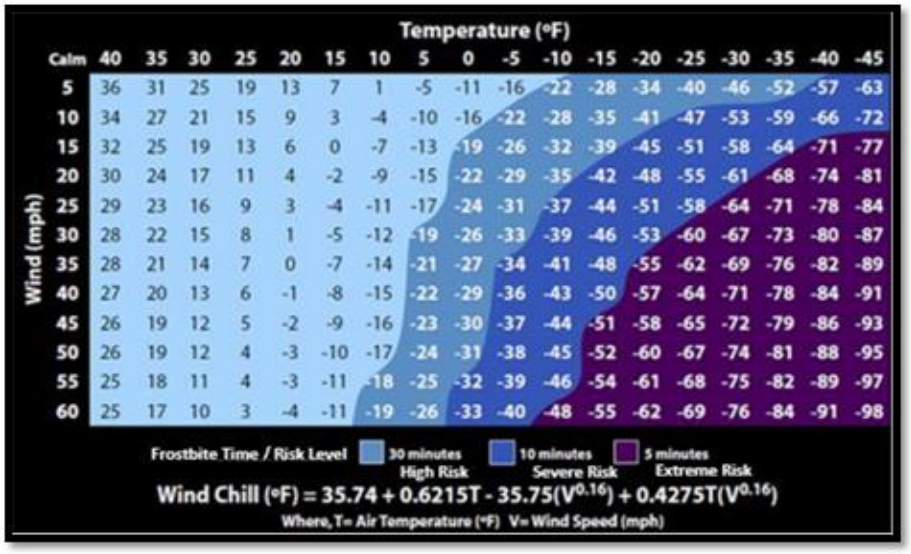
Dewpoint (°F) \ Dry Bulb Temperature (°F)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116
10	N/A	N/A	N/A	N/A	N/A	82	83	84	86	87	88	90	91	92	94	95	96	98	99
12	N/A	N/A	N/A	N/A	N/A	82	83	85	86	87	89	90	91	93	94	95	96	98	99
14	N/A	N/A	N/A	N/A	N/A	82	83	85	86	87	89	90	91	93	94	95	97	98	99
16	N/A	N/A	N/A	N/A	N/A	82	84	85	86	88	89	90	92	93	94	96	97	98	99
18	N/A	N/A	N/A	N/A	N/A	83	84	85	87	88	89	91	92	93	95	96	97	98	100
20	N/A	N/A	N/A	N/A	N/A	83	84	85	87	88	90	91	92	93	95	96	97	99	100
22	76	77	79	80	82	83	84	86	87	88	90	91	92	94	95	96	98	99	100
24	76	78	79	81	82	83	85	86	87	88	90	91	93	94	95	97	98	99	100
26	77	78	80	81	82	84	85	86	87	88	90	92	93	94	96	97	98	99	101
28	77	79	80	81	83	84	85	87	88	89	91	92	93	95	96	97	98	99	101
30	77	79	80	81	83	84	85	87	88	89	91	92	94	95	96	97	98	99	101
32	78	79	80	81	83	84	85	87	88	89	91	92	94	95	96	97	98	99	101
34	79	80	81	82	83	85	86	87	88	90	91	93	94	95	96	98	99	100	102
36	79	80	82	82	84	86	87	87	89	90	92	93	95	96	97	98	99	100	102
38	80	81	82	83	84	86	87	88	89	91	92	94	95	96	97	99	100	101	103
40	81	82	83	83	85	87	88	89	90	92	93	94	95	97	98	99	100	101	103
42	81	82	83	84	85	87	88	89	91	92	93	95	96	97	98	100	101	102	104
44	82	83	84	85	86	88	89	90	91	93	94	95	96	98	99	100	101	103	104
46	82	84	84	85	87	88	90	91	92	93	95	96	97	98	99	100	102	103	104
48	83	84	85	86	87	89	90	91	93	94	95	96	97	99	100	101	102	104	105
50	84	84	85	87	88	90	91	92	93	94	96	97	98	99	100	101	103	104	105
52	84	85	87	88	90	91	92	93	94	95	96	98	99	100	101	102	103	105	106
54	84	86	88	89	90	91	92	93	95	96	97	98	99	101	102	102	104	106	107
56	85	87	89	90	91	92	93	94	95	96	97	99	100	101	102	103	104	106	107
58	86	88	90	90	91	92	93	94	96	97	98	100	101	102	103	104	105	107	108
60	87	89	90	91	92	93	94	95	97	98	99	101	102	103	104	105	106	107	108
62	88	89	91	92	93	94	95	96	97	99	100	101	102	103	104	105	106	108	109
64	89	90	91	93	94	95	96	97	98	100	101	102	103	104	105	106	107	108	109
66	90	91	93	94	95	96	97	98	99	100	101	103	104	105	106	107	108	109	110
68	91	92	94	95	96	97	98	99	100	101	102	103	104	106	107	108	109	110	111
70	92	93	95	96	97	98	99	100	101	102	103	104	105	106	108	109	109	110	112
72	93	94	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	113
74	94	95	97	98	99	100	101	102	103	104	105	106	107	109	110	111	112	112	114
76	95	96	98	99	100	102	102	103	104	105	106	108	109	110	111	112	113	114	115
78	97	98	99	100	101	103	104	105	106	107	108	109	110	111	112	113	114	115	116
80	98	100	100	101	102	104	105	106	107	108	109	110	111	112	113	114	115	116	117
82	99	100	101	102	103	105	106	107	108	109	110	111	112	113	114	115	116	117	118
84	101	102	101	103	104	106	107	108	109	110	111	112	113	114	115	116	117	118	119
86	102	103	104	104	106	108	108	109	110	111	112	113	114	115	116	117	118	119	120
88	103	104	105	106	107	109	109	110	111	112	113	114	115	116	117	118	120	121	121
90	105	106	107	108	109	110	110	111	112	113	113	114	115	117	118	119	120	122	123

A6.1. Instructions/Procedures. Find where **Dry Bulb Temperature (ºF)** and **Dewpoint (ºF)** values intersect on ITS Reference Value Chart to determine ITS Condition. If fractional part of temperature is equal to one-half, round up to next whole number.

Attachment 7

FROST BITE RISK TEMPERATURE CHART

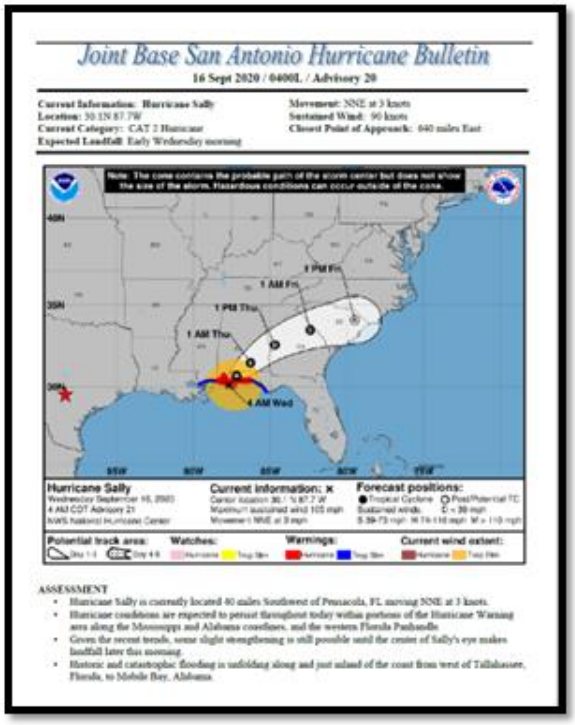
Figure A7.1. Frost Bite Risk Level Temperature Chart (Excerpt from DAFI 48-151).



Attachment 8

TROPICAL STORM / HURRICANE BULLETIN

Figure A8.1. Example Joint Base San Antonio Hurricane Bulletin – Page 1.



Joint Base San Antonio Hurricane Bulletin

16 Sept 2020 / 0400L / Advisory 20

Current Information: Hurricane Sally
Location: 30.1N 87.7W
Current Category: CAT 2 Hurricane
Expected Landfall: Early Wednesday morning

Movement: NNE at 3 knots
Sustained Wind: 90 knots
Closest Point of Approach: 040 miles East

Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

Hurricane Sally | Current information: X | Forecast positions:

Potential track area: | Watches: | Warnings: | Current wind extent:

ASSESSMENT

- Hurricane Sally is currently located 40 miles Southwest of Pensacola, FL moving NNE at 3 knots.
- Hurricane conditions are expected to persist throughout today within portions of the Hurricane Warning area along the Mississippi and Alabama coastlines, and the western Florida Panhandle.
- Given the recent trends, some slight strengthening is still possible until the center of Sally's eye makes landfall later this morning.
- Historic and catastrophic flooding is unfolding along and just inland of the coast from west of Tallahassee, Florida, to Mobile Bay, Alabama.

Figure A8.2. Example Joint Base San Antonio Hurricane Bulletin – Page 2.

RAINFALL

- JBSA – None
- NAS Pensacola – Potential 10-16 inches, possible 24 inches

WINDS

- JBSA – None
- NAS Pensacola – Tropical storm winds (40-60knots) possible through Wednesday evening

TORNADOES

- JBSA – None
- NAS Pensacola – A few tornadoes possible

Warnings/Watches for JBSA: None

OTHER USEFUL INFORMATION: 1 knot = 1.15 statute miles per hour...1 nautical mile = 1.15 statute miles
HURCON (Hurricane Conditions):
5 = Destructive winds are possible within 96 hours
4 = Destructive winds are possible within 72 hours
3 = Destructive winds are possible within 48 hours
2 = Destructive winds anticipated within 24 hours
1 = Destructive winds anticipated within 12 hours
Hurricane Categories:
1 = sustained winds of 64-82 knots (74-95 mph)
2 = sustained winds of 83-95 knots (96-110 mph)
3 = sustained winds of 96-112 knots (111-129 mph)
4 = sustained winds of 113-136 knots (130-156 mph)
5 = sustained winds 137 knots (157 mph) or greater
HC = Caution: Winds of 40-57 mph/35-49 kts sustained are occurring
HE = Emergency: Winds of 58 mph/50 kts sustained and/or gusts of 69 mph/60 kts or greater are occurring
HR = Recovery: Storm has passed emergency responders released

Created By: JBSA Weather Flight For Operational Needs Call: DSN945-5709 Issued by: RM
Forecast track and intensity beyond 48 hours have a high degree of uncertainty and are for planning purposes only.

Next update will be @ 16/1000 CDT.

Attachment 9

12 FTW HURRICANE EVACUATION DECISION AID BRIEF

Figure A9.1. The 12 FTW HUREVAC Decision Aid Brief – Projected Path/Outlook Page.

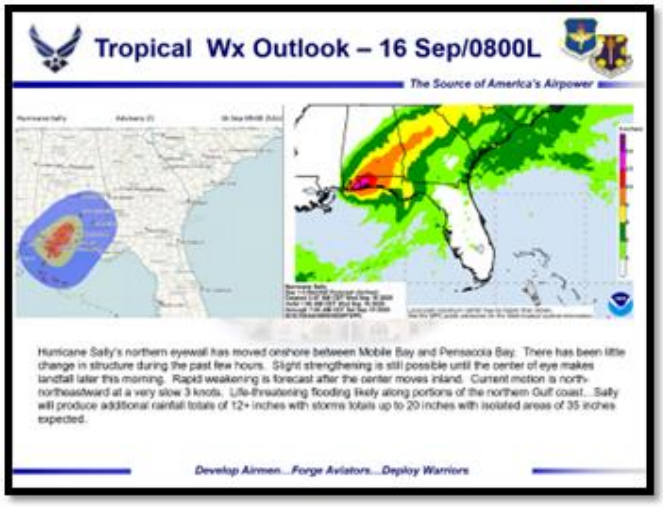


Figure A9.2. The 12 FTW HUREVAC Decision Aid Brief – Weather Effects Forecast.

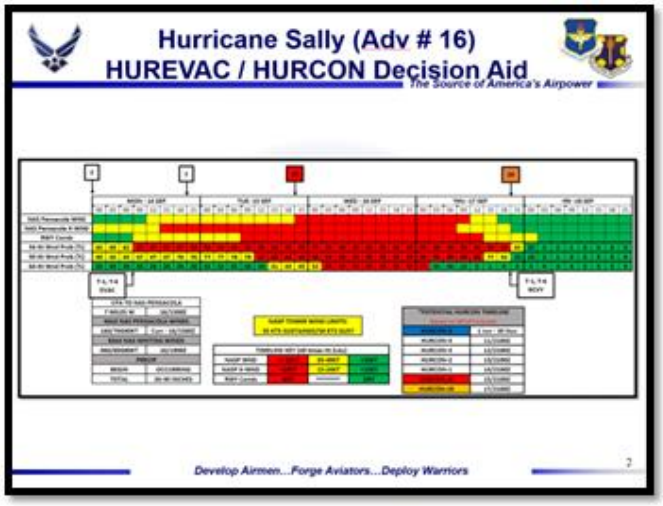
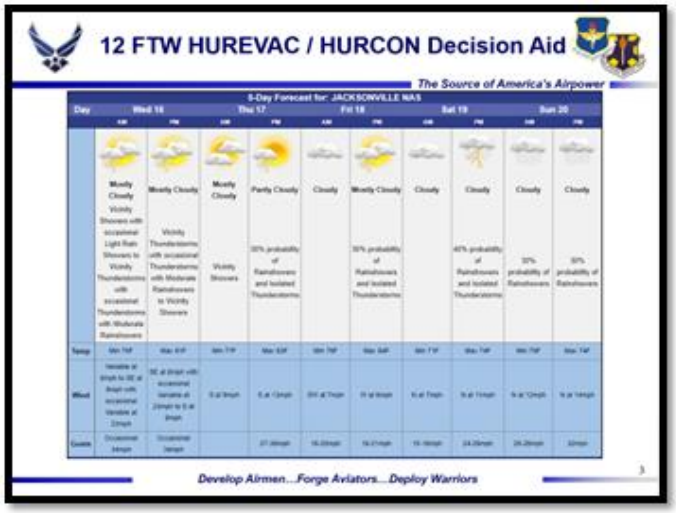


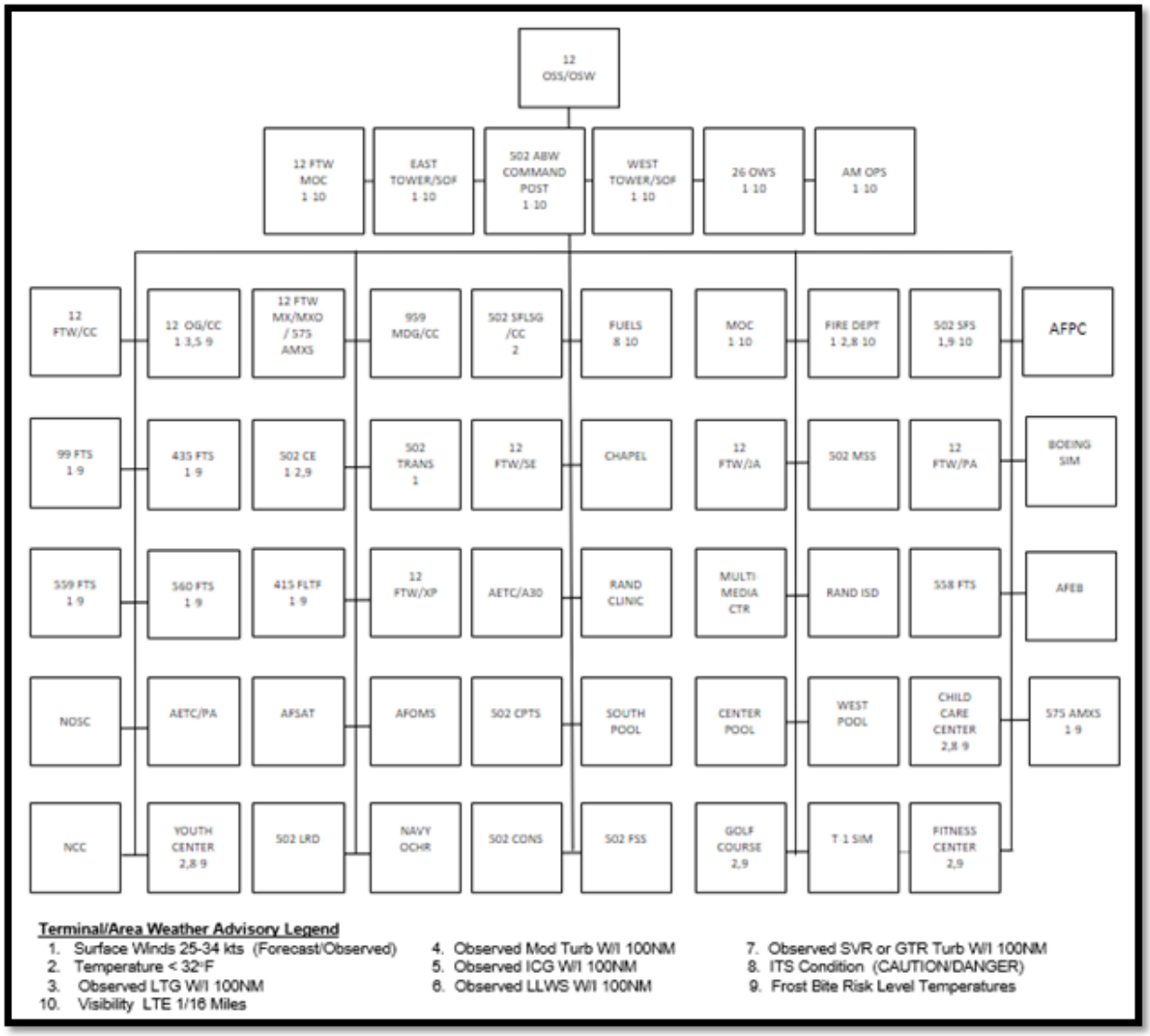
Figure A9.3. The 12 FTW HUREVAC Decision Aid Brief – Evacuation Location 5-Day Forecast.



Attachment 10

TERMINAL/AREA WEATHER ADVISORY NOTIFICATION DIAGRAM

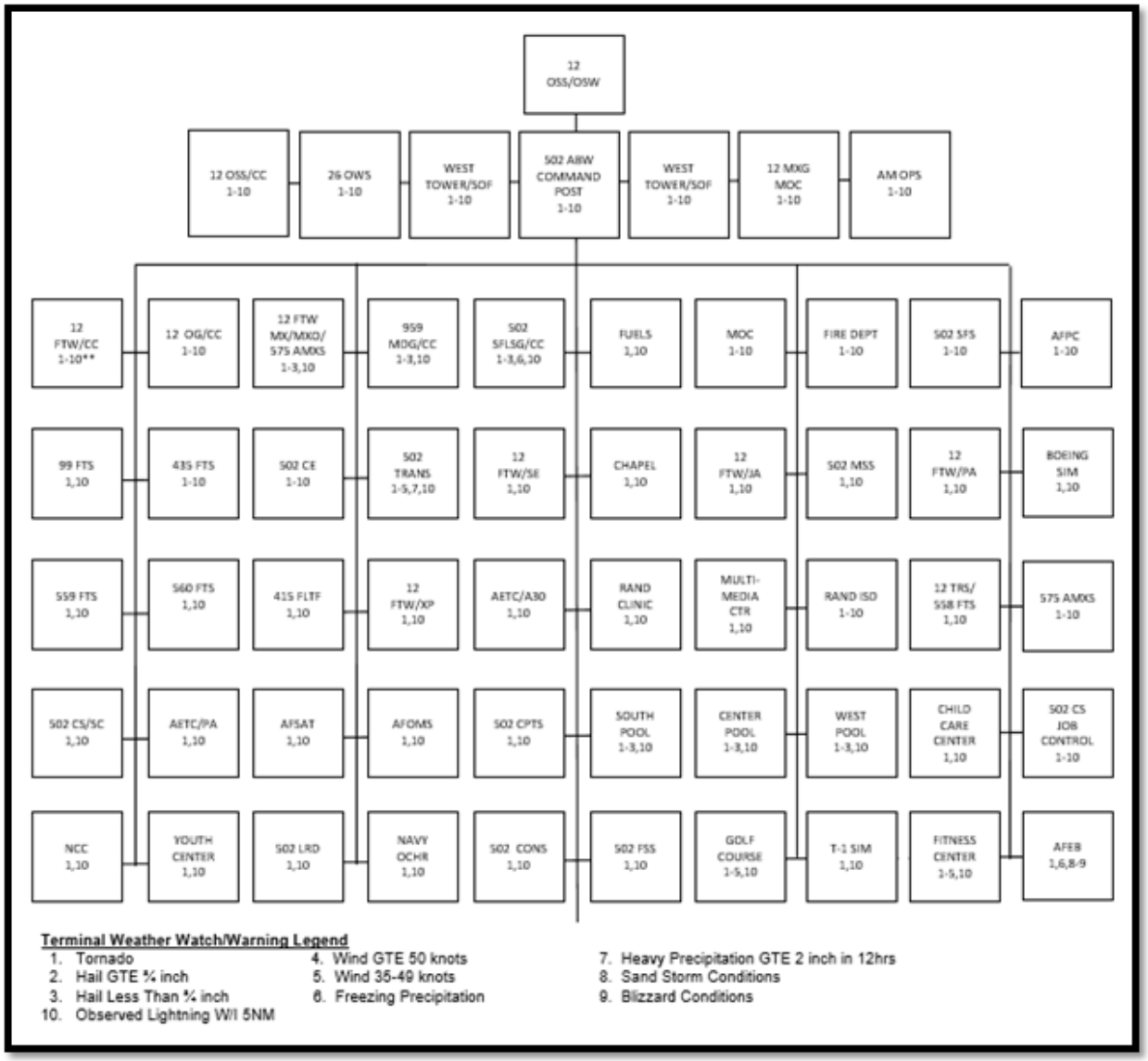
Figure A10.1. Weather Advisory Notification Diagram.



Attachment 11

TERMINAL WEATHER WATCH/WARNING NOTIFICATION DIAGRAM

Figure A11.1. Weather Watch/Warning Notification Diagram.



Attachment 12

WEATHER IMPACTS ON AND PROTECTIVE ACTIONS BY UNITS

A12.1. General. This attachment outlines principal potential weather threats and corresponding impacts to and protective actions taken by affected customers at Randolph. The WF, in coordination with wing/base agencies, will disseminate appropriate watches, warnings and advisories, alerting wing/base customers to these weather threats and the need to prepare to or to take protective actions.

A12.2. 12 Flying Training Wing (FTW).

Table A12.1. The 12 FTW Command Section, Judge Advocate, Public Affairs, Safety.

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all routine/normal activities Personnel take shelter
Lightning within 5 NM	Danger to life and property	Cease/limit non-essential computer operations
Hail ≥ 3/4 inch (12 FTW/SE only)	Potential for damage to avian radar	Shelter avian radar
Winds > 35 kts (12 FTW/SE only)	Potential for damage to avian radar	Stow avian radar if winds are forecast above 47 kts
Winds ≥ 50 kts (12 FTW/SE only)	Potential for damage to avian radar	Stow avian radar if winds are forecast above 47 kts

Table A12.2. The 502 CES (Civil Engineering Squadron).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all outdoor activities Personnel take shelter
Wind Direction Changes	Active runway changes	Raise barriers on new active runway Lower barriers on inactive runway
Winds ≥ 25 kts	Curtails outside jobs Stops higher-altitude work	Cease/cancel work using bucket trucks, on roof tops, climbing poles
Winds ≥ 35 kts	Damages to facilities/trees Increased unscheduled maintenance demands	Remove fallen trees and debris Repair damaged facilities Reschedule routine work/jobs
Hail ≥ 1/2 inch	Curtails outside jobs	Cease outdoor work; take shelter
Lightning within 5 NM	Curtails outside jobs	Cease outdoor work; take shelter
Rain > 1/2 inch	Potential non-compliance with environmental regs	Inspect construction sites
Snow (any amount)	Hazardous roads/runways	Establish snow & ice control center

Heavy Snow (≥ 2 inches in 12 hrs)	Hazardous roads/runways	Plan alternate response routes; reduce response speeds
Freezing Precipitation	Hazardous roads/runways Potential power loss (downed wires/transformers) Increased alarms	Plan alternate response routes; reduce response speeds Sand roads; Prioritize responses to alarms
Temp ≤ 32º F	Freezing water/water-foam	Implement Freeze Protection Plan

Table A12.3. The 902 CES/CEF (Fire Department).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease non-essential activities Personnel take shelter
Winds ≥ 35 kts	Danger to property	Park all vehicles Secure loose equipment
Lightning within 5 NM	Danger to life and property Increased alarms	Personnel take shelter Respond one officer to trouble alarms
Heavy Rain or Snow (≥ 2 inches in 12 hrs)	Slower response time	None
Freezing Precipitation	Slower response time	None
Temperature ≤ 32º F	Slower response time	Use cold weather gear
Visibility < 1/16 SM	Increased accident potential	Flightline operations restricted to emergency response vehicles only

Table A12.4. The 502 CS (Telephone Maintenance).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Damage to/destruction of communications capabilities, networks and/or facilities	In total loss of telecommunications capability, request for Mobility Communications Unit/assistance
Lightning within 5 NM	Technicians unable to respond to outages and/or work orders	Cease all maintenance activities due close contact to electronic wiring and/or equipment

Table A12.5. The 502 CONS (Contracting).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Personnel take shelter
Lightning within 5 NM	Danger to life and property	Cease computer operations

Table A12.6. The 502 LGR (Division) (Fuels).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all outdoor activities

		Personnel take shelter
Lightning within 5 NM	Danger to life and property	Cease flightline operations, fueling of aircraft/vehicles, computer operations
Visibility < 1/16 SM	Increased accident potential	Flightline operations restricted to emergency response vehicles only

Table A12.7. The 502 LRS (Supply).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all routine/normal activities Personnel take shelter
Lightning within 5NM	Danger to life and property	Restrict outdoor operations Shutdown non-essential computers

Table A12.8. The 502 LRS (Transportation).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all non-mission essential activities
Lightning within 5 NM	Danger to life and property	Cease outdoor activities
Visibility < 1/16 SM	Increased accident potential	Flightline operations restricted to emergency response vehicles only

Table A12.9. The 502 SFS (Security Forces).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Warn patrols to proceed with caution and/or take shelter as necessary
Winds ≥ 25 kts	Loose items blown around	Secure/tie down unsecure equipment
Winds ≥ 35 kts	Loose items blown around	Advise all personnel to secure all objects; notify housing areas
Hail ≥ 1/2 inch	Danger to life and property	Warn patrols to proceed with caution and/or take shelter as necessary
Lightning within 5 NM	Danger to life and property	Warn patrols to proceed with caution and/or take shelter as necessary
Heavy Rain (≥ 2 inches in 2 hours)	Localized street flooding	May require extra patrols to put up barricades near flooded areas
Heavy Snow (≥ 2 inches in 12 hours)	Increased accident potential	May require extra patrols to respond to accidents
Freezing Precipitation	Increased accident potential	May require extra patrols to respond to accidents
Visibility < 1500 ft	Dictates increased security	Increase patrols for base security

Visibility < 1/16 SM	Increased accident potential	Flightline operations restricted to emergency response vehicles only

Table A12.10. The 502 FSS (Division) (Fitness Center).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all indoor & outdoor activities Staff/customers take shelter
Winds ≥ 35 kts	Stop outdoor events; secure or store equipment items inside	Customers/staff discontinue outdoor sporting and fitness activities
Hail ≥ 1/2 inch	Stop all outdoor activities	Customers/staff discontinue outdoor sporting and fitness activities
Freezing Temperatures (≤ 32°F for ≥ 2 hours)	Stop outdoor sporting events	Customers/staff discontinue outdoor sporting and fitness activities

Table A12.11. The 502 FSS (Golf Course).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Staff/customers take shelter
Lightning within 5 NM	Danger to life and property	Cease all outdoor activities

Table A12.12. The 502 FSS (Base Swimming Pools).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Staff/customers take shelter
Lightning within 5 NM	Danger to life and property	Cease all pool and outdoor activities

Table A12.13. The 502 FSS (Child Development and Youth Centers).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property Interrupts all normal activities and routines in classrooms Stops all outdoor activities	Implement emergency procedures Shelter children/staff in hallways of CDC, away from windows/possible flying objects, until “All Clear”
Temperatures, including heat index, ≤ 89F	Outdoor activities unchanged	None
Temperatures, including heat index, 90-99F	Outdoor activities limited	Limit outdoor periods to 30 mins
Temperatures, including heat index, ≥ 100F	Outside activities suspended	Children/staff to remain indoors
Temperatures, including wind chill, 33-50F	Outdoor precautions taken	Jackets/sweaters should be worn

Temperature, including wind chill, ≤ 32F	Outdoor activities suspended	Children/staff to remain indoors
Lightning within 5 NM	Danger to life and property	Cease outdoor activities; take shelter

Table A12.14. The 12 Maintenance Group (12 MXG).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all airfield ops; take shelter
Lightning within 5 NM	Danger to life and property	Cease all airfield ops; take shelter
Surface Winds ≥ 25 kts	May cause damage to: open canopies, loose panels or radomes; Aerospace Ground Equipment (AGE); Normally Installed Equipment (INST); external fuel tanks Limits jacking operations	Close canopies not in work; ensure/secure struts on those open Cease aircraft jacking; secure/tie down aircraft that can't be lowered Limit removal of large panels/heavy equipment from cockpit/avionic bays Ensure AGE brakes set; remove and secure AGE/munitions trailers not in use, plus any AME/INST Secure all tanks in tank farm Consider fueling aircraft to max Secure/tie-down all T-6 aircraft
Surface Winds ≥ 35 kts	Aircraft may fall from jacks	Remove all aircraft from jacks Secure/do not open T-38 canopies
Surface Winds > 40 kts		Secure/do not open T-6 canopies
Surface Winds ≥ 50 kts	Potential damage to aircraft	Secure all T-38 & hangar max aircraft Ensure aircraft duct plugs/shields installed, and raise flaps to full-up Fuel aircraft to max capacity Secure/close all doors and hatches
Surface Winds > 80 kts	Potential damage to aircraft	Hangar or evacuate all T-6 and T-38 aircraft
Hail ≥ 3/4 inch	Damage to aircraft	Hangar aircraft; install wing covers Shelter personnel before hail starts
Snow ≥ 2 inches in 12 hrs	Snow/ice accumulation on aircraft	Stop missions until ice/snow melts (no deicing equipment/capability available)
Freezing Precipitation Icing ≥ Light	Potential ice accumulation on aircraft to settle aft on the ventral fin resulting in aircraft damage.	Stop missions until ice/snow melts (no deicing equipment/capability available)
Visibility < 1/16 SM	Increased accident potential	Flightline operations restricted to

		emergency response vehicles only
Temp < 41º F	Ice may form on the compressor blades and guide vanes when visible moisture is present.	Engine run will be limited to not more than 10 minutes
Temp ≤ 32º F	Freezing water/water-foam. Use of the parking brake in freezing temperatures, with moisture present, may cause the brake pads to freeze to the brake rotors.	Shelter vehicles and powered flight line equipment in available hangar spaces. Turn all heat on and close doors and windows in facilities.
Temp < 5º F	Damage to battery or electrical system may result if battery starts are attempted.	External power unit start is required
Temp < 1 ºF	Potential for large battery discharge.	Use ground power unit (GPU) for start

Table A12.15. The 12 Operations Group (OG) (99, 435, 559, 560 FTS and 415 FLTF).

Weather Conditions	Impacts	Customer Actions
Ceiling (ft)/Visibility(SM): < 2000/3	Stops VFR flying jet aircraft pattern; impacts ATC training	Reschedule traffic pattern work; change to IFR training
< 1500/3	Stops all VFR operations	All aircraft require IFR sequencing
≥ 200/1/2 to < 1000/3, or RVR < 2400M	Field IFR	File IFR flight plan only
< 700/2	Stops Cat IV flights	Cat IV pilots wx canceled/diverted
< 500/1 1/2	Stops Cat III flights	Cat III pilots wx canceled/diverted
≥ 200/1/2 to < 300/1	Stops Cat II flights; requires Wg/CC approval Cat I flights; cancels normal training missions	Cat II pilots wx canceled/diverted; all rescheduled; Wg/CC approval to fly Cat I pilots
< 200/ 3/4 (field mins except for 33R which is still 200/ 1/2)	Stops all flights	Reschedule missions

Crosswinds ≥ 30 kts	Cancels local flight operations	All rescheduled Reschedule flights
Surface winds ≥ 25kts	Potential aircraft damage	Close canopies; remove jacks
Surface winds ≥ 35kts to < 50 kts	Cancels normal training msns; delays maintenance ops	Reschedule missions/maintenance ops
Surface winds ≥ 50 kts (≥ 50 kts sustained for control tower evacuation)	Cancels aircraft operations; SOFs evacuate control towers	Reschedule missions
Thunderstorms in working area/ranges	Restricts flying in area/ranges	Reschedule or adjust area for daily flying
Lightning within 5 NM	Delayed sortie take-offs and/or recoveries	Cease all air operations Suspend take-offs, landings, maintenance and refueling operations
Tornadic activity	Danger to life and aircraft	Cease all operations; take shelter
Hail ≥ ½ inch	Damage to aircraft	Hangar aircraft; install wing covers Shelter personnel before hail starts
Heavy Snowfall (≥ 2 inches in 12 hrs)	Ice/snow on aircraft Runway condition changes	Deice (or allow to melt) Check w/Airfield Mgmt for RSC
Freezing Precipitation or Icing ≥ Light	Icing on aircraft	Deice (or allow to melt) Check w/Airfield Mgmt for RSC
Icing, Moderate	Degrades aircraft performance	Only climb/descend thru icing area
Icing, Severe	Degrades aircraft performance	Cancel missions
Turbulence, < Moderate	Bumpy ride	Only climb/descend thru turbulence area
Turbulence, ≥ Moderate	Aircraft control difficult	Restrict flights
Frost	Changes lift/drag for airfoils	Deice aircraft (or allow to melt)
ITS Caution/Danger	Limits pilot time on flightline	Delay or cancel missions

Table A12.16. 558th FTS.

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property Interrupts all normal activities and routines in classrooms	Cease all normal activities Notify and shelter personnel
Lightning within 5 NM	Danger to life and property	Stop/limit non-essential computer operations

Table A12.17. The 12 OSS/OSAT (East/West Towers).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property Loss of ATC services	Evacuate air traffic control towers Personnel take shelter
Surface winds ≥ 50 knots (sustained)	Danger to life and property Loss of ATC services	Evacuate air traffic control towers Personnel take shelter

Table A12.18. The 12 OSS/OSM (Airfield Systems).

Weather Conditions	Impacts	Customer Actions
Tornado	Stop all outside activity & maintenance	Personnel take shelter
Winds ≥ 50 kts	Stop all outside activity & maintenance	Personnel take shelter
Winds ≥ 35 to < 50 kts	Stop most outside activity & maintenance	Personnel take shelter; use ORM to assess justified activities/maintenance
Hail ≥ 1/2 inch	Stop all outside activity & maintenance	Personnel take shelter
Heavy Rain or Snow (≥ 2 Inches in 12 Hours)	Curtail certain outside activity & maintenance	Personnel take shelter; use ORM to assess justified activities/maintenance
Freezing Precipitation	Curtail certain outside activity & maintenance	Personnel take shelter; use ORM to assess justified activities/maintenance
Lightning within 5NM	Stop all outside activity & maintenance	Personnel take shelter

Table A12.19. The 12 TRS/OST (Simulators) (Boeing, T-6, T-25, Navy Sim).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Stop all routine/normal activities Personnel take shelter
Lightning within 5NM	Danger to life and property	all other simulators powered down

Table A12.20. Headquarters, Air Education and Training Command (HQ AETC) (A2/3EA, A3XC, CSS, NOSC, PA).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all normal activities Notify and shelter personnel
Lightning within 5NM	Danger to life and property	Stop/limit non-essential computer operations

Table A12.21. Air Force Occupational Measurement Squadron (AFOMS) (AFOMS/CCE).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all normal activities

		Notify and shelter personnel
Lightning within 5NM	Danger to life and property	Stop/limit non-essential computer operations

Table A12.22. Headquarters, Air Force Personnel Center (AFPC) Command Post.

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all normal activities Notify and shelter personnel
Lightning within 5NM	Danger to life and property	Stop/limit non-essential computer operations

Table A12.23. Air Force Security Assistance Training Squadron (AFSAT).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all normal activities Notify and shelter personnel
Lightning within 5NM	Danger to life and property	Stop/limit non-essential computer operations

Table A12.24. Defense Commissary Agency (DECA) (Commissary).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Stop all normal activities Notify staff/customers; take shelter

Table A12.25. Department of Navy Office of Civilian Human Resources – San Antonio Site (HROC-SA).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all normal activities Notify and shelter personnel
Lightning within 5NM	Danger to life and property	Stop/limit non-essential computer operations

Table A12.26. Randolph Field Independent School District (ISD).

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property Interrupts all normal activities and routines in classrooms Stops all outdoor activities.	Implement emergency procedures Shelter staff/students in hallways, away from windows and possible flying objects, until “All Clear”
Lightning within 5 NM	Danger to life and property	Notify entire school; take shelter indoors; shut down computers

Table A12.27. The 575 (P) AMXS.

Weather Conditions	Impacts	Customer Actions
Tornadic Activity	Danger to life and property	Cease all airfield ops; take shelter
Lightning within 5 NM	Danger to life and property	Cease all airfield ops; take shelter
Surface Winds ≥ 25 kts	May cause damage to: open canopies, loose panels or radomes; Aerospace Ground Equipment (AGE); Normally Installed Equipment (INST); external fuel tanks Limits jacking operations	Close canopies not in work; ensure/secure struts on those open Cease aircraft jacking; secure/tie down aircraft that can't be lowered Limit removal of large panels/heavy equipment from cockpit/avionic bays Ensure AGE brakes set; remove and secure AGE/munitions trailers not in use, plus any AME/INST Secure all tanks in tank farm Consider fueling aircraft to max Secure/tie-down all aircraft
Surface Winds ≥ 35 kts	Aircraft may fall from jacks	Remove all aircraft from jacks Secure/do not open T-38 canopies
Surface Winds > 40 kts		Secure/do not open canopies
Surface Winds ≥ 50 kts	Potential damage to aircraft	Secure all aircraft & hangar max aircraft Ensure aircraft duct plugs/shields installed, and raise flaps to full-up Fuel aircraft to max capacity Secure/close all doors and hatches
Surface Winds > 80 kts	Potential damage to aircraft	Hangar or evacuate all aircraft
Hail ≥ 3/4 inch	Damage to aircraft	Hangar aircraft; install wing covers Shelter personnel before hail starts
Snow ≥ 2 inches in 12 hrs	Snow/ice accumulation on aircraft	Stop missions until ice/snow melts (no deicing equipment/capability available)
Freezing Precipitation Icing ≥ Light	Potential ice accumulation on aircraft	Stop missions until ice/snow melts (no deicing equipment/capability available)
Visibility < 1/16 SM	Increased accident potential	Flight line operations restricted to emergency response vehicles only
Temp ≤ 32° F	Freezing water/water-foam	Shelter vehicles and powered flight line equipment in available hangar spaces. Turn all heat on and close doors and windows in facilities.

Attachment 13

MISSION WEATHER PRODUCT (MWP) FLIMSY

Figure A13.1. Example MWP – Page 1.

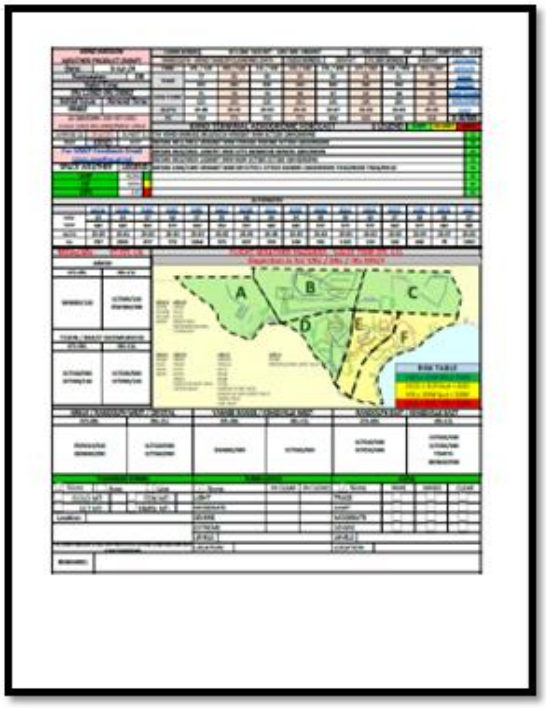
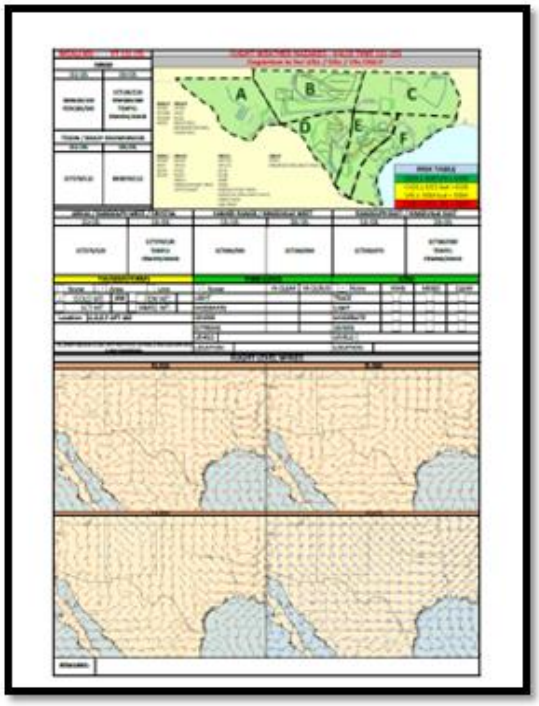


Figure A13.2. Example MWP – Page 2.

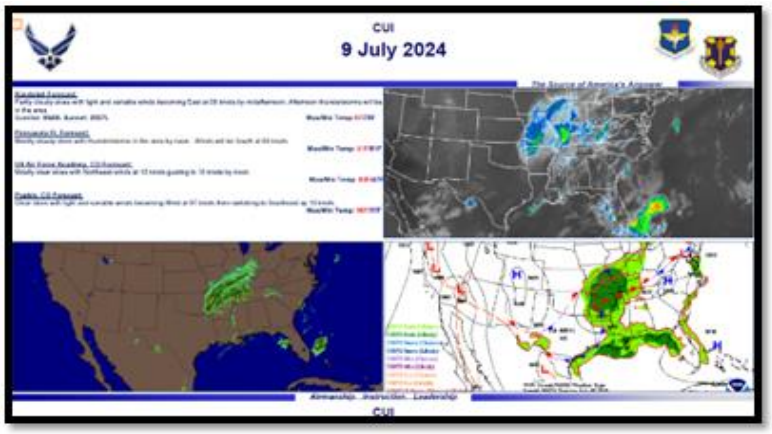


Attachment 14

DAILY OPERATIONS AND MAINTENANCE FLIMSY

Figure A14.1. MX Daily Ops Flimsy Cover Page.

Figure A14.2. MX Daily Ops Flimsy Weather Page.



Attachment 15

12TH FLYING TRAINING WING OPERATIONS WEATHER BRIEF

Figure A15.1. The 12 FTW Ops Weather Brief – Today's Forecast.

Figure A15.2. FTW Ops Weather Brief – Extended Outlook Slide.

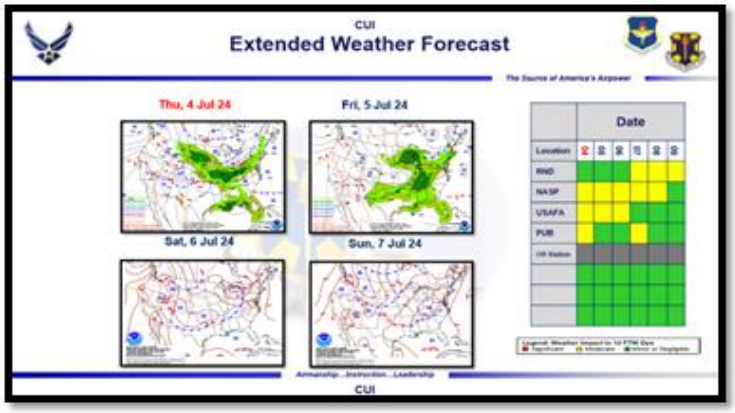


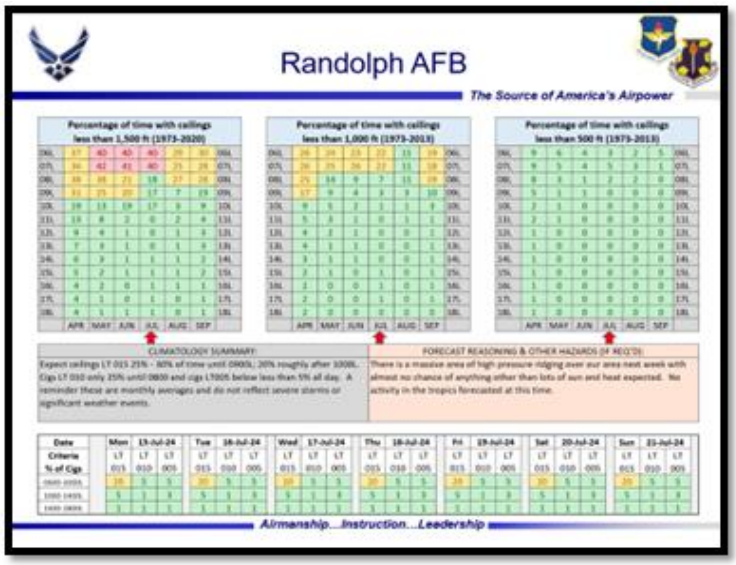
Figure A15.3. The 12 FTW Ops Weather Brief – Tropical Outlook Slide (As needed).

Attachment 16

JBSA-RANDOLPH MX PLANNING WEATHER BRIEF

Figure A16.1. JBSA-Randolph MX Planning Weather Brief – Cover Page.

Figure A16.2. JBSA-Randolph MX Planning Weather Brief – Climatology Page.



Attachment 17

12 FTW MILITARY OPERATING AREAS (MOAS) / LOW-LEVEL ROUTES

Figure A17.1. The 12 FTW Military Operating Areas (MOAs).

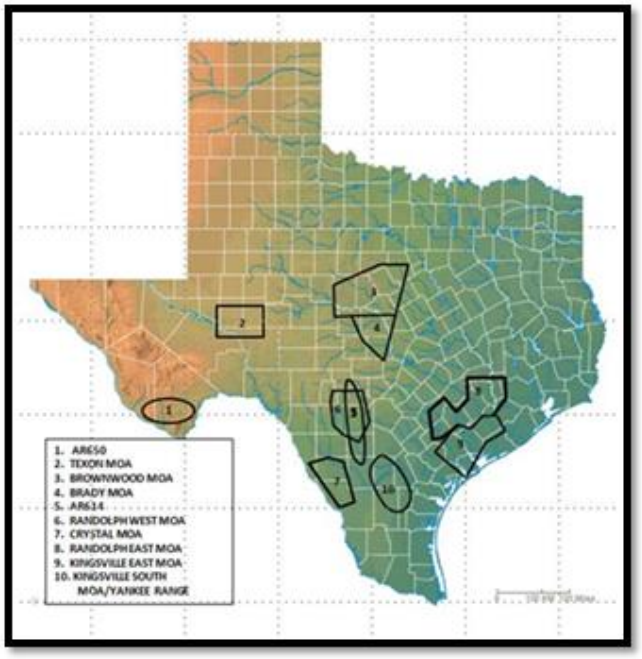
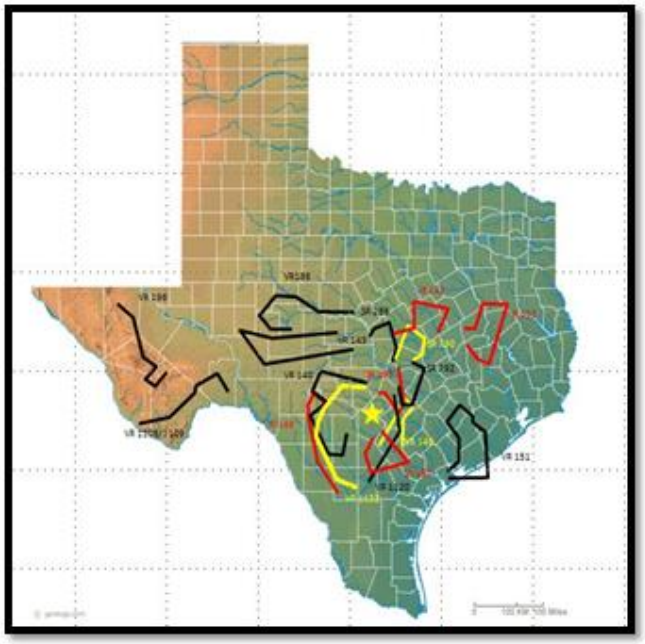


Figure A17.2. The 12 FTW Low-Level Routes.



Attachment 18

AIRFIELD AUTOMATED WEATHER SENSOR LOCATIONS

Figure A18.1. JBSA-Randolph Airfield Diagram/FMQ-19 Sensor Location.