BY ORDER OF THE COMMANDER
14TH FLYING TRAINING WING
(AETC)

COLUMBUS AIR FORCE BASE
INSTRUCTION 15-101

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Weather

WEATHER SUPPORT

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This instruction implements Air Force Policy Directives (AFPD) 15-1, *Air Force Weather Operations*, Air Force Instruction (AFI) 10-206, *Operational Reporting*, AFI 15-128, *Air Force Weather Roles and Responsibilities*, and Air Force Manual (AFMAN) 15-129, *Air and Space Weather Operations.* It establishes responsibilities and weather support guidance in support of 14th Flying Training Wing (14 FTW) operations and applies to all assigned, subordinate, attached, or supported units. It outlines weather support functions and operations to include data dissemination, resource protection, weather reporting, and reciprocal support between the 14th Operations Support Squadron (14 OSS), Weather Flight and all other units and agencies. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication.* This publication will be reviewed and updated as required due to equipment, mission, operational, or overarching guidance changes and republished at least biennially. Ensure that all records created due to processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

SUMMARY OF CHANGES

Updated PMSV and PIREPS Information, Updated LAN Information; Updated 26th Operational Weather Squadron Support Role; Updated Wing Staff Briefing Requirements; Updated SWAP Criteria; Updated Severe Weather Outlook Statement Criteria; Updated Unit Radar Committee

Role; Updated MEF Criteria; Updated Briefing and Cross-Country Brief Support; Added TMQ-53 to Meteorological Equipment; Updated Airfield Weather Observations; Added LOCAL Observation Criteria; Updated References for Visibility, Ceilings, and RVR; Updated Backup Dissemination Procedures; Updated Watch, Warning, and Advisory Criteria; Updated Base Dissemination Criteria; Updated Cooperative Weather Watch Criteria; Updated Reciprocal Support Requirements; Updated Quarterly and Annual Review Criteria

Chapter 1

GENERAL INFORMATION AND OPERATIONS

1.1. General. This document serves as formal documentation of operational weather support requirements and the 14th Operations Support Squadron Weather Flight's (referred to throughout this instruction as the WF) capability to meet those requirements. It also documents reciprocal support requirements between any units or agencies providing support to, or receiving support from, the WF eliminating the need for separate letters of agreement. WF functions include the Staff Integration function, Mission Integration function and the Airfield Support function. The WF provides weather support at the direction of the 14 OSS/CC. The WF is the primary point of contact for weather information at Columbus Air Force Base (CAFB) and is charged with providing or arranging for all strategic, operational, and tactical-level weather support for CAFB units.

1.1.1. **Assumptions.** Manning, equipment, and communications will be available to carry out the provisions of this instruction.

1.1.2. **Mission** . The mission of the WF is to deliver timely, mission-focused weather data in support of the 14 FTW and its mission.

1.1.3. **WF Operating Hours.** The WF is open Monday through Friday, 24 hours a day until the airfield closes on Friday, and Sunday, 2 hours prior to airfield opening until airfield closure, unless otherwise coordinated. The on-duty forecaster will notify the Command Post (14 FTW/CP) upon opening and closing the weather station. The WF is open during airfield open hours to ensure high-quality, full-spectrum weather support to all CAFB agencies and community partners around the clock, IAW AFMAN 15-129. On no-fly Saturdays, Sundays with no cross-country flight returns, Federal holidays, and any other days when the airfield is closed, the WF will also be closed.

1.1.4. **WF Closure Hours.** During WF closure hours, WF personnel will have a standby forecaster on call IAW AFMAN 15-129. The standby person will maintain situational awareness on the weather and will be available at all times when the airfield is closed. A Severe Weather Action Team (SWAT) leader will also be on standby for any severe event. WF hours will be updated in the DoD Flight Information Publication (FLIP) and Installation Data Page (IDP) that is maintained with the 26th Operational Weather Squadron (26 OWS).

1.1.5. **Local Area Network (LAN) and SharePoint.** The LAN and SharePoint are primary data and product ingest and dissemination tools for WF products and services. In the event of LAN failure, WF mission support capabilities are degraded but the WF has backup internet capabilities in both the primary and alternate operating locations (AOL).

1.1.6. **Concept of Operations: The WF will:**

1.1.6.1. Train, certify, and re-certify all members of the WF on all duty positions.

1.1.6.2. Conduct operations consistent with AFIs and federal guidance.

1.1.6.3. Source and develop required weather information and provide services to supported units IAW this instruction.

1.1.6.4. Perform quality assurance checks and operationally verify all products.

1.1.6.5. Maintain the capability to deploy to main and forward area operating locations, as well as maintain deployment-ready personnel to support mobility commitments.

1.1.7. **Location/Contact Information.** The WF is located in the Base Operations building (BLDG #847). Weather personnel contact information is listed in **Table 1.1** below.

Table 1.1. WF Contact Information.

Forecaster Desk	DSN 742-2969/2970/2992	Comm 662-434-2969/2970/2992
Flight Commander	DSN 742-2971	Comm 662-434-2971
Flight Chief	DSN 742-3224	Comm 662-434-3224
Noncommissioned Officer-In-Charge (NCOIC)	DSN 742-3178	Comm 662-434-3178
Lead Meteorological Technician	DSN 742-2973	Comm 662-434-2973
Alternate Operating Location	DSN 742-2186	Comm 662-434-2186
Standby Forecaster		Comm 662-364-2975
Organizational Email Address	14oss.osw.users@us.af.mil	

1.2. Duty Priorities. The duty priorities of the WF outlined below in **Table 1.2** exist to match and balance limited manning and mission critical tasks according to mission support priority. Duty priorities focus efforts during peak work periods prone to task saturation and prioritize any conflicts. WF forecasters will use good judgment in complying with these duty priorities, especially where there is imminent danger to life and property. Duty priorities were developed IAW AFMAN 15-129.

Table 1.2. WF Duty Priorities.

Priority	Duties
1	Perform WF Emergency War Order (EWO) Taskings
2	Execute WF Evacuation/Continuity of Operations
3	Respond to Aircraft/Ground Emergencies
4	Respond to Pilot-to-Metro-Service (PMSV) Contacts
5	Provide Weather Information for Supervisor of Flying (SOF)
6	Issue Warnings
7	Severe Weather Action Plan (SWAP) Operations
8	Augment Aerodrome Meteorological Observing System (AMOS) Observations
9	Disseminate Urgent Pilot Reports (PIREPs)
10	Issue Watches and Advisories
11	Produce and Disseminate Terminal Aerodrome Forecast (TAF)
12	Mission Execution Forecast Process: Produce and Disseminate Forecasts
13	Complete Flight Weather Briefings (175-1s and Verbals)

14	Disseminate PIREPs
15	Perform MISSIONWATCH and METWATCH
16	Provide Staff and Cross-Country Briefings, Respond to Support Requests
17	Weather Function Training
18	Accomplish Administrative Tasks

1.3. OWS Support. The Air Force Weather Career Field operates using a tiered support system consisting of Weather Flights which are weather organizations aligned beneath their respective squadrons (Operations Support Squadron, OWS, Army Support Squadrons, etc.) and include detachments, operating locations, Operations Support Squadron WFs, etc. Under this construct, the OWS primarily provides graphical and tropical weather support, and, if needed due to extreme circumstances only, mission weather backup support capabilities in the event the WF loses any or all its capability. The 26 OWS at Barksdale AFB, LA is responsible for providing this support for the southeastern U.S. including CAFB.

1.4. OWS Continuity of Operations (COOP). The duty priorities of the WF and the OWS reflect their complementary roles in collecting, analyzing, predicting, tailoring, and disseminating weather information. In the event the OWS or WF is unable to fulfill their primary duties for CAFB due to evacuation or equipment failure, the other respective entity may be asked to temporarily fulfill those responsibilities, if the capability exists, until such time it is able to resume normal operations. These situations should be limited to emergency/COOP procedures.

1.5. WF-OWS Installation Data Page (IDP). The IDP is the AF Weather standard format for capturing the agreed upon support between the OWS and the WF. It serves as formal documentation of all installation specific support requirements and is updated as required and re-validated at least annually. At a minimum, it should include Aviation Selected Special Weather Reports (SPECIs) and amendment criteria, weather Watches, Warnings and Advisories (WWAs) criteria, required lead times, and notification requirements. The 26 OWS and 14 OSS/OSW IDP can be found on the 26 OWS website under Technical Resources.

1.6. WF SharePoint Site. The WF maintains a SharePoint site to be a one-stop shop for weather information. The site, located under 14 FTW > OG > OSS > WEATHER, contains Mission Execution Forecast (MEF) products, the 5-Day Forecast, links to the Joint Environmental Toolkit (JET) portal and 26 OWS page, observation and TAF data, radar, PIREPs, threat trackers, a briefing request form, and other links. The SharePoint site can be found at the following link: **https://usaf.dps.mil/sites/13817/14FTW/14og/14oss/weather/14WgWx/SitePages/Home.aspx**
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Chapter 2

STAFF INTEGRATION FUNCTION

2.1. General. The Staff Integration Function (SIF) primarily consists of and refers to the WF Leadership, Lead Meteorological Technician (LMT) and NCOIC. In addition to leadership and management of WF activities, these members will function as a direct interface with the 14 FTW and associate units to provide direct support to command, control, and planning functions. It is the duty of SIF members to understand their supported unit's mission and tactics. SIF functions include, but are not limited to, wing staff weather briefings, squadron staff meetings, Instrument Refresher Course (IRC) briefings, SOF briefings, deployment briefings, planning/execution/support of exercises, and Crisis Action Team (CAT)/Emergency Operations Center (EOC) response and support as well as tropical and severe weather support. WF leadership may delegate these duties to qualified personnel within the flight. The SIF is available Monday-Friday 0800-1600L but remains flexible and tailored to meet the staff weather support needs of the wing as arranged for in advance by squadron/group/wing leadership, and on a standby recall basis.

2.2. Squadron Staff Meeting. The WF Leadership will attend squadron staff meetings as directed by the 14 OSS/CC. These meetings usually take place on the 2nd and 4th Thursday of each month (following Wednesday wing staff meetings) but are subject to change. At a minimum, mission impacting challenges, personnel/manning updates, budget issues (if applicable), IMR/PT status and upcoming TDYs will be reported. The WF will coordinate with required personnel (OSS/CCE, OSS/DO) on any other reporting requirements as needed.

2.3. Crisis Action Team/Emergency Operations Center (CAT/EOC) Support. The WF is a standby member of CAT/EOC and will report as directed or recalled. Upon notification, designated WF personnel will report to the CAT/EOC prepared to brief applicable weather conditions and impacts based on the situation or as directed by wing leadership using the appropriate format. The CAT member will coordinate further weather support.

2.4. Deployment/Concept Briefings. The WF will provide a mass weather briefing in the event of any mass deployment of personnel or aircraft from or through CAFB. Briefing format will be tailored to the mission and include forecast and climatological weather information for the duration of the mission/deployment as applicable. The WF will need as much applicable information as possible to create the briefing and will need to be given as much advance notice as possible.

2.5. Wing Staff Briefings. The WF will provide staff briefing slides as required for Wing meetings, to include staff meetings and stand-up meetings. Slides will be created each duty day, but only briefed to base leadership during requested staff and stand-up meetings. Generally, this will be every Wednesday and Friday as well as additional briefings when anticipated severe, tropical, or winter weather poses a threat to operations. Briefings will contain expected weather impacts to operations, tailored to the 14 FTW mission and any upcoming events or operations of interest to the FTW staff. It will typically consist of a Weather Prediction Center (WPC) surface chart and a 5-Day outlook for CAFB and will be tailored to the weather situation and may include additional slides as needed or directed. A slide containing an up-to-date National Hurricane Center (NHC) tropical outlook will be added during the Atlantic Hurricane Season from June 1st – November 30th.

2.6. Instrument Refresher Course (IRC) Weather Briefings. The WF will provide briefing support for all monthly IRC briefings. This briefing focuses on seasonal climatology, flight hazards, weather codes, local phenomena and any current weather-related matters to include methods of retrieving weather data on and off station.

2.7. Supervisor of Flying (SOF) Briefings. The WF will provide weather briefings at semi-annual SOF meetings as coordinated by 14th Operations Group Standardization and Evaluation team. In addition to any requested information, the briefing will cover climatology for the upcoming months, seasonal weather patterns and challenges, associated flight hazards, and operational issues pertaining to the SOF-WF interaction in support of the 14 FTW mission.

2.8. Exercise Planning and Input. The WF will maintain a Wing Inspection Team (WIT) member and will participate in exercise planning and evaluation as directed by the 14 FTW/IG. The WF will also provide real and/or "canned" exercise weather information for exercise scenarios as directed. The WF should encourage commanders to include weather forces in operational exercises IAW AFMAN 15-129.

2.8.1. The WF will participate in a CBRNE (Chemical, Biological, Radiological, Nuclear, and high yield Explosives) Exercise annually with 14 CEX Emergency Management. The WF will also attend Emergency Management Working Groups (EMWG) each quarter. At each EMWG, the WF will solicit feedback directly from Fire, Bioenvironmental, and EM.

2.8.2. The WF will participate in an annual severe weather exercise by providing the Wing with a realistic weather scenario and weather support for the exercise. The purpose of these exercises is to evaluate the timeliness of notification of personnel and response capability to severe weather events for both on and off-base agencies to ensure validity of plans to respond to severe weather. Real world severe weather events meet this requirement if properly evaluated and documented, to include lessons learned.

2.9. Severe Weather Action Procedures (SWAP). SWAP provides a means for WF personnel to systematically and collectively manage the additional strain and decision-making processes that accompany severe weather. The on-duty or standby (during closure hours) forecaster will initiate SWAP any time conditions in **Table 2.1** have the potential to occur.

2.9.1. Upon notification or identification of pending severe weather, SWAP is initiated and the Severe Weather Action Team (SWAT) is activated. The SWAT Lead will report to work and recall additional WF members as needed to collectively manage the threat, operate the radar, augment the automated observing system, and/or continue the mission integration and airfield support functions as the situation warrants.

2.9.2. WF personnel will supplement the automated observation system for tornadoes and hail, as well as any other representative weather, as applicable. If there is a system outage, the WF will back-up (observe, record, and disseminate) observations using manual methods.

2.9.3. SWAP will remain in effect until the expiration or cancellation of all severe watches and/or warnings or until determined necessary by the SWAT lead. The SWAT Lead will keep 14 OSS leadership informed via text as needed.

2.9.4. During WF closure hours, the standby forecaster will maintain situational awareness on weather conditions and will report for duty to issue and monitor all WWAs, as necessary. The standby forecaster is required to be on duty one hour prior to watch valid times and they must

notify the SWAT Lead of any issued severe weather watches so SWAT Leads can report to work if needed. SWAT Leads are required to be on duty one hour prior to warning valid times.

Table 2.1. WF SWAP Criteria.

Criteria	Requirement
Tornado	Watch and Warning
Severe Thunderstorms: Damaging Winds ≥ 50 knots and/or Damaging Hail ≥ ¾ inch	Watch and Warning

2.10. Operational Reports (OPREPs). As soon as possible after the conclusion of a significant weather event or a significant emergency, the WF will complete an OPREP-3 worksheet summarizing the event and conditions experienced and forward the worksheet via email, or telephone to the 14 FTW/CP, 26 OWS, and AETC/A3OW. WF leadership will provide or arrange for delivery of hard copies of relevant forecasts, observations, watches, warnings, and any other pertinent data to the 14 FTW/CP, to be included in an OPREP-3 as required. OPREPs will be conducted IAW AFMAN 10-206.

2.10.1. The WF will submit a report containing weather information to 14 FTW/CP for inclusion in an OPREP-3 when a tornado is observed on base, lightning strikes base, a flood occurs, or any other natural phenomenon occurs that results in Class A/B damage, base closure, or mission degradation.

2.11. Tropical Cyclone Weather Support. Unless otherwise directed, the WF SIF will brief 14 FTW leadership as required on any tropical depression, tropical storm, or hurricane that is within a region of interest determined by 14 FTW leadership. 14 FTW leadership will then determine Hurricane Conditions (HURCON) and necessary protective actions such as evacuations. WF leadership will continue to provide support as requested.

2.11.1. Briefings will be in the established tropical statement slide format and a tropical slide will be added to the wing staff meeting slides (IAW **para 2.5**.). Flight leadership will establish a battle rhythm to provide updates to senior leadership. If the effects of the tropical system place CAFB in a marginal or greater risk for severe, that information must also be briefed.

2.11.2. CAFB tropical forecasts must not deviate from tropical cyclone information provided by the National Hurricane Center (NHC) and the 26 OWS Tropical Cyclone Threat Assessment Product (TC-TAP). WF leadership will use this information to tailor local forecast products such as the TAF and MEF. Tailoring may include local effects of vegetation, terrain, position relative to storm, etc.

2.11.3. The WF will not normally release weather data or products to non-DoD agencies or personnel without the approval of the Public Affairs (14 FTW/PA) and/or the 14 FTW Judge Advocate (14 FTW/JA).

2.12. Flight Information Publication (FLIP) Weather Updates. The WF is responsible for ensuring all CAFB weather information in the FLIP is accurate. The WF will ensure that any changes in airfield weather minima are incorporated into WF processes and procedures. Any weather data changes/updates will be requested through Airfield Management. Weather forecasters will review each new publication to ensure data accuracy and incorporate any changes into local forecast products.

2.12.1. Data in the FLIP should include, but is not limited to, operating hours, PMSV frequency, 26 OWS contact information, automated equipment, and limitations hindering unobstructed visibility observations. FLIP will also contain a brief description of the Cooperative Weather Watch (CWW) procedures with Air Traffic Control (ATC) personnel.

2.13. Chemical/Effective Downwind Message(s). Upon request from Emergency Management, the WF will obtain and provide Chemical Downwind Messages (CDMs) and Effective Downwind Messages (EDMs) from the 26 OWS or Air Force Weather Web Services (AFW-WEBS) IAW local guidance. In the event of an OWS outage, the WF retains the ability to manually calculate and construct CDM/EDMs and will provide a wind forecast using the 26 OWS website.

2.14. Severe Weather Outlook Statements. Severe weather statements will be generated when the Storm Prediction Center (SPC) and 26 OWS outlines the CAFB area in a marginal or greater risk for severe potential (on any outlook day) or when flight leadership deems necessary. Statements will follow established briefing slide outlines and will include: a general statement about the risk level, what impacts CAFB is expecting on-station, timing for events, as well as a graphical outline of percentages for each severe criteria expected and when. These statements will first be distributed to the 14 OG severe weather statement email distro then to the 14 FTW severe weather statement distro. On weekends, holidays, or other off-duty times, updates can also be texted to the 14 OSS/CC via the SWAT lead. All severe statements will be posted on the Emergency Actions icon on the 14 FTW App and kept up to date. During active severe events, current local information will be included with these slides and updated as needed.

2.15. Winter Weather Outlook Statements. Winter Weather Statements will be generated when any kind of winter precipitation is outlined for CAFB including snow (any accumulation), freezing precipitation, sleet, etc. Statements will follow established briefing slide outlines and will include expected impacts, expected timing, and any images/forecasts pertinent to the outlook. These will be disseminated in the same fashion as Severe Weather Statements. The SWAT Lead is the Point of Contact (POC) for these.

2.16. Climatology Support. The WF SIF will provide specialized climatology data upon request from on-base agencies for operational or research purposes. Most requests can be filled within three duty days, but processing time will vary on the complexity and output format of the data required. Climatology requests for off-base agencies will not be released without approval of 14 FTW/PA and/or 14 FTW/JA.

2.17. Unit Radar Committee (URC). The Air Force owns and maintains the Radar Data Acquisition (RDA) site located at Greenwood Springs, MS, approximately 18 miles north of CAFB. The National Weather Service (NWS) in Jackson, MS controls the radar's operating modes and chairs semi-annual URC meetings. Since the Radar, Airfield, and Weather Systems (RAWS) section maintains the RDA, a representative from the WF and RAWS will attend URC meetings to address requirements and operational concerns.

Chapter 3

MISSION INTEGRATION FUNCTION

3.1. General. The Mission Integration Function (MIF) of the WF provides direct support to all 14 FTW agencies, five flying units, and special periodic support to transient aircrew as requested. The WF is integrated, but not collocated with, each of the 14 FTW Flying/Fighter Training Squadrons (FTS): 37 FTS, 41 FTS, 49 FTS, 50 FTS, and 48 FTS. MIF forecasters will use the Mission Execution Forecast Process (MEFP) to tailor weather products and provide decision-quality environmental information for mission planning and execution of 14 FTW operations.

3.2. Area of Responsibility (AOR). The 14 FTW conducts most flying training within a 300-mile radius of CAFB. This includes all Military Operating Areas (MOAs), Gunshy Range, the local pattern, and a variety of low-level and hi-level routes throughout Louisiana, Mississippi, Alabama, Tennessee, Georgia, and Arkansas. When operating within this AOR, the MEF will be used. Otherwise, a DD Form 175-1, Flight Weather Briefing should be requested.

3.3. CAFB Mission Execution Forecast (MEF). The CAFB MEF is a mission-tailored forecast product developed by the WF using an 8-step process known as the MEFP. This process uses a systematic approach of determining thresholds, ingesting and tailoring weather information from approved sources, then creating and injecting a customer-focused product into all phases of the operational process. Determining aircraft and mission-limiting thresholds is part of the MEFP. These thresholds are tracked in the CAFB Weather Thresholds and Sensitivities Standard Operating Procedure (SOP) and reviewed annually. Along with the TAF (or a direct weather update via the forecaster to the SOF), the MEF will be used as the official forecast for flying operations within the CAFB local airspace and for all commonly used MOAs, Auxiliary Airfields, Air Refueling Tracks, Instrument Routes, Visual Routes, and Slow Routes.

3.3.1. The MEF will be published to the 14 FTW Weather SharePoint and the 14 FTW App. If both methods are unavailable, the MEF will be delivered via email or hand-delivered to the FTS duty desks.

3.3.2. The MEF will be used for all flying operations occurring within the 300-mile AOR. Flight Weather Briefs (FWBs) will be requested for operations outside of the AOR and for cross-country flights that do not return on the same day, regardless of distance from CAFB.

3.3.3. The MEF will be horizontally consistent with products issued by the WF, OWS, and 557th Weather Wing, except when tailoring the information to meet local mission thresholds OR when deviations are imminently necessary to protect life and property. During rapidly changing weather conditions, the WF will notify customers, amend the TAF, and then amend the MEF to reflect accurate conditions.

3.3.4. At a minimum, the MEF will contain forecast takeoff conditions (winds, visibility, weather, clouds, temperature, dewpoint, altimeter), climb winds, current Watches, Warnings, Advisories, solar/lunar data, FL010 winds, and current and forecast hazards for the airfield and AOR (thunderstorms, icing, turbulence). It will also contain cloud and wind forecasts for MOAs, routes, and AR tracks and TAFs for frequented airfields within the AOR. The local forecast section covers common mission-limiting weather conditions within the CAFB 5NM five nautical mile area surrounding CAFB. It is updated when conditions meet amendment criteria, but it may not reflect minute-by-minute real-time observations. Alternate TAFs should

be used in conjunction with the official TAF at the applicable airfield as this section is not amendable. Hazards are forecasted for the entire AOR and are gathered from 26 OWS-created products.

3.3.5. The MEF will be issued every four hours during airfield open hours. Amendments will be made when changing conditions meet amendment criteria listed in **Table 3.1**. The WF will update/notify the SOF of any weather impacts that may affect missions or training areas. The WF will provide the SOF with as much weather specific information as possible.

Table 3.1. MEF Amendment Criteria.

Criteria	Source
Any Airmen's Meteorological Information (AIRMET), Significant Meteorological Information (SIGMET),or PIREPs not forecasted	AFMAN 15-129
Any criteria warranting a TAF amendment	IDP & AFMAN 15-129
Any criteria specific to 14 FTW minimums	FLIP
Any representative conditions	Forecaster

3.4. Flight Weather Briefs (FWBs). FWBs are provided for specific missions and are documented on a DD Form 175-1 or a verbal briefing log. FWBs should be requested for any flights departing from locations other than CAFB or flights going beyond the CAFB AOR.

3.4.1. FWB requests can be placed in advance by calling the WF Forecaster Desk, requesting in person, using the electronic briefing request form on the 14 FTW Weather SharePoint, or through JET Mission Management.

3.4.2. Requests should be submitted as soon as the flight route has been planned and at least two hours prior to the requested brief time to allow for accurate forecast creation. Verbal briefings may be substituted for the DD Form 175-1 when the two-hour notice is not provided.

3.5. Cross-Country Briefs. Weather briefs will be provided for cross-country flights when requested. Cross-country briefing requests should be submitted at least 24 hours ahead of requested briefing time to allow for briefing creation and for manning adjustments to be made if necessary. A certified forecaster will provide an in-person brief following an established format.

3.5.1. Official cross-county briefs will be briefed no sooner than 8 hours prior to departure. Cross-country briefs will be considered "For Planning Purposes Only" if briefed more than 8 hours prior to take-off and require an official briefing within 8 hours. Cross-country return briefs will be provided via email as requested.

3.5.2. Aircrews must provide specific information to include as a minimum: aircraft call sign/type, estimated time of departure, flight level(s), destinations (and alternates, if required), en-route stops (low levels, visual routes, etc.), arrival times, briefing request time/date/location, and name, email, and phone number of person requesting the briefing.

3.6. Transient Aircrew Services. Transient aircrews will receive FWBs from the WF IAW the duty priorities outlined in **Table 1.2**. Aircrews should provide at a least two-hour notice for FWB support from the WF. 14 FTW aircrew in transient status should reach back to the WF for weather support or contact the standby forecaster if the airfield is closed.

3.7. Mission Weather Watch (MISSIONWATCH). MISSIONWATCH is a deliberate and systematic process used to maintain awareness and focus on the defined mission-limiting weather thresholds of 14 FTW operations to include all WWA criteria. The WF conducts MISSIONWATCH by monitoring satellite, radar, lightning detection, PIREPs, forecasts, observations, and hazard charts in the vicinity of CAFB and the CAFB AOR with appropriate emphasis and focus areas where mission impacting weather conditions are occurring or forecast to occur. The WF will notify the applicable SOF of any significant changes to previously briefed weather conditions in the AOR. The WF does not have the capability to MISSIONWATCH individual sorties and deviations are not tracked by the WF. Thus, the entire AOR is watched.

3.8. Space Weather. Communications and navigations systems use radio waves in High Frequency (HF), Very High Frequency (VHF), Ultra High Frequency (UHF), and Global Positioning Systems (GPS) which can be impacted by electro-magnetic radiation from the sun. The WF will monitor space weather impact analysis and forecast products produced by the 557th Weather Wing with a focus on UHF and GPS impacts. This information will be included on the MEF. Links can also be found on the 14FTW Weather SharePoint and the 26 OWS web page. The WF will notify the Communications Squadron (14 MSG/CS) on base to update if impacts are expected.

3.9. Non-Flying Missions. The WF also supports various non-flying missions (i.e., Wing functions, ceremonies, Morale, Welfare, and Recreation (MWR) events). Specialized weather information can be provided to support any non-flying missions upon request. The MIF POC will compile information and provide in-person briefings as necessary.

Chapter 4

AIRFIELD WEATHER SERVICES

4.1. General. Airfield weather services includes all weather-related functions directly supporting the airfield. These functions primarily include management and dissemination of the official weather observation, the Terminal Aerodrome Forecast (TAF), and all weather WWAs for CAFB.

4.2. Meteorological Watch (METWATCH). The term METWATCH is used to provide an organized approach for weather personnel to maintain situational awareness of both current and future meteorological situations with the primary focus on un-forecasted changes in the weather. The WF performs continuous METWATCH for CAFB. The OWS role is to provide regional Long-Range Forecasts and/or Special Weather Statements to notify WF decision makers of upcoming events. Changes in the status of weather elements results in notifications disseminated from the WF to applicable base agencies/personnel.

4.2.1. The METWATCH process encompasses:

4.2.1.1. Issuing WWAs.

4.2.1.2. Monitoring for SPECI observation criteria.

4.2.1.3. Monitoring weather conditions with the potential to impact CAFB operations.

4.2.1.4. Monitoring TAF for amendable criteria.

4.2.2. WF personnel will perform continuous METWATCH when conditions requiring supplementation are forecast to occur within 1 hour. These conditions are tornado, funnel cloud, waterspout, hail, volcanic ash, sandstorm, dust storm, ice pellets, freezing precipitation, or tower visibility (when visibility is less than 4 statute miles (SM) and differs from the prevailing visibility by at least one reportable value).

4.2.3. **Meteorological Equipment.** WF personnel use a variety of meteorological equipment to observe and forecast weather conditions for CAFB.

4.2.3.1. **AN/FMQ-19 Automated Meteorological Observing Station.** The AN/FMQ-19 is an integrated suite of multiple weather sensors and data automation components that continually measure environmental conditions to provide responsive, reliable, accurate, and real-time weather data. It measures airfield weather conditions to include, but not limited to, wind direction and speed, present weather, runway visual range, visibility, cloud height and coverage, temperature, dew point, atmospheric pressure, and lightning detection. There are two certified and properly sited weather sensor suites, one located on each approach end of the center runway. The primary end is 13C and the alternate end is 31C. The system is designed to autonomously detect and derive the official weather observation for the airfield and feed it into the JET system for automatic dissemination across CAFB and externally into the world-wide database. Due to potential limitations, WF personnel are required to verify the transmission of representative weather conditions prior to dissemination on the JET system. These observations will be published in an Aviation Routine Weather Report (METAR) and/or a SPECI but may not appear in the real-time live sensor display (see below).

4.2.3.2. **AN/TMQ-53 Tactical Meteorological Observing System.** The AN/TMQ-53, also referred to as, is a deployable system of modular, scalable sensors, which measures the same environmental conditions as the AN/FMQ-19. The WF maintains and trains forecasters on the setup and use of this system and is also used as a backup to the AN/FMQ-19 during outages or erroneous reporting.

4.2.3.3. **Joint Environmental Toolkit (JET).** JET is a web-based weather display and dissemination system and is the primary means of weather data relay for the WF. Real-time weather sensor data, current observations, forecasts, and WWAs are disseminated and displayed using this software. It is available to all users on the ".mil" network. The display for CAFB can be accessed at: **http://owsjet26.us.af.mil/portal/private/GuestColumbusAFBSensor**.

4.2.3.4. **Gibson Ridge Levels 2 & 3 (GR2 & GR3) Software.** This software is the WF's primary means of ingesting, displaying, and interrogating Doppler Next-Generation Radar (NEXRAD) data. This software gives the WF the ability to monitor the atmosphere from the KCBM RDA Site and all other NEXRAD sites on the network. Thunderstorm characteristics, atmospheric motion (vertical and horizontal), and radar reflectivity products assist the WF during their METWATCH for CAFB and the surrounding area and are part of a nation-wide radar coverage map. While some of this data is available via other means for use by non-weather personnel, this AF approved software is primarily used by and available to WF personnel.

4.2.3.5. **Mark IV-B.** The Mark IV-B is a meteorological satellite terminal designed to support tactical operations as part of the Defense Meteorological Satellite Program (DMSP). The new Mark IV-B terminals are capable of simultaneously ingesting high resolution electro-optical and microwave data from both polar and geostationary satellites. While some of this data is available via other means for use by non-weather personnel, this AF approved software is primarily used by and available to WF personnel.

4.2.3.6. **Kestrel 5500NV.** The Kestrel 5500NV is part of the WF manual observing kit and is utilized as backup to the AN/FMQ-19 in the event that the equipment becomes inoperable or needs to be supplemented.

4.3. Airfield Weather Observations. The AN/FMQ-19 is the AF standard system for taking and disseminating observations, with WF forecasters augmenting the automated system when required. In the automated mode, the system continually senses, calculates, and reports the weather elements. When required, the AN/FMQ-19 will be augmented and quality-checked to ensure proper, error-free weather observations when weather forecasters are on shift IAW AFMAN 15-111 and FAA Order JO 7900.5C Appendix D, and quality checks on all observations will be performed again before daily submission to the 14th Weather Squadron.

4.3.1. **Types of Observations.** The WF provides three types of observations: METAR, SPECI, and Aviation Selected Local Weather Report (LOCAL). All observations are taken by the AN/FMQ-19 corresponding to the approach end of the active runway. When forecasters are manually augmenting the observation, the outdoor elements will be observed from the official observing point.

4.3.1.1. **METAR.** METAR is a routine scheduled observation as well as the primary observation code used world-wide to satisfy requirements for reporting surface

meteorological data. These are taken hourly at 55-59 minutes past the hour. METARs contain a complete report of wind, visibility, runway visual range, present weather and obscurations, sky conditions, temperature, dew point, and altimeter setting collectively referred to as "the body of the report." In addition, encoded and/or plain language information that elaborates on data in the body of the report may be appended to the METAR as remarks.

4.3.1.2. **SPECI.** SPECI is an unscheduled observation completed and transmitted when any of the special criteria for the airfield have been observed between the hourly METARs. SPECI observations will contain all data elements found in a METAR plus additional remarks that elaborate on data in the body of the report. All SPECI reports will be prepared and transmitted as soon as possible after the relevant, following criteria are observed.

4.3.1.2.1. **Aircraft Mishap.** The WF will encode and disseminate a SPECI observation when notified of an aircraft mishap to capture the conditions occurring at the time of mishap/notification when the sensor is in manual, supplement, or backup mode.

4.3.1.2.2. **Visibility.** The surface visibility decreases to less than, or if below, increases to equal or exceed the following distances:

Table 4.1. CAFB SPECI Criteria for Visibility.

Threshold (statute miles)	Reference
5	CAFBI 13-1
3	AFMAN 15-111, FLIP, CAFBI 13-1
2	AFMAN 15-111, FLIP
1 7/8	FLIP
1 3/4	FLIP
1 5/8	FLIP, CAFBI 13-1
1 1/2	AFMAN 15-111, FLIP
1 3/8	FLIP, CAFBI 13-1
1 1/4	FLIP, CAFBI 13-1
1	AFMAN 15-111, FLIP, CAFBI 13-1
7/8	FLIP
3/4	AFMAN 15-111, FLIP
1/2	AFMAN 15-111, FLIP
1/4	AFMAN 15-111

4.3.1.2.3. **Ceiling.** The ceiling forms or dissipates below, decreases to less than, or if below, increases to equal or exceed the following altitudes measured in feet above ground level (AGL):

Table 4.2. CAFB SPECI Criteria for Ceiling.

Threshold (feet AGL)	Reference
5000	CAFBI 13-1
3300	CAFBI 13-1
3000	AFMAN 15-111
2800	CAFBI 13-1
2500	CAFBI 13-1
2100	CAFBI 13-1
2000	AFMAN 15-111, CAFBI 13-1
1600	CAFBI 13-1
1500	AFMAN 15-111, CAFBI 13-1
1100	FLIP, CAFBI 13-1
1000	AFMAN 15-111
800	AFMAN 15-111, CAFBI 13-1
700	AFMAN 15-111, FLIP, CAFBI 13-1
600	FLIP, CAFBI 13-1
500	AFMAN 15-111, FLIP
400	FLIP, CAFBI 13-1
300	AFMAN 15-111, CAFBI 13-1
200	AFMAN 15-111, FLIP, CAFBI 13-1
100	AFMAN 15-111

4.3.1.2.4. **Sky Condition.** A layer of clouds or obscuring phenomena aloft appears below 700 feet AGL and was not reported in the preceding observation.

4.3.1.2.5. **Wind Shift.** Wind direction changes by 45 degrees or more in less than 15 minutes when the wind speed is 10 knots or more throughout the wind shift.

4.3.1.2.6. **Squall.** A sudden onset in which the wind speed increases at least 16 knots and is sustained at 22 knots or more for at least 1 minute.

4.3.1.2.7. **Volcanic Eruption.** Eruption or volcanic ash cloud is first observed.

4.3.1.2.8. **Thunderstorm.** Begins or ends. A thunderstorm is considered to have ended 15 minutes after last occurrence of criteria for a thunderstorm.

4.3.1.2.9. **Precipitation.** Hail begins or ends. Freezing precipitation begins, ends, or changes intensity. Ice pellets begin, end, or change in intensity. Any other type of precipitation begins or ends.

4.3.1.2.10. **Tornado or Funnel Cloud.** Appears or disappears from sight.

4.3.1.2.11. **Runway Visual Range (RVR).** When prevailing visibility is first observed less than 1 SM and again when it goes above 1 SM. When RVR becomes

unavailable or again becomes available and conditions for reporting RVR exist. The value from the designated RVR runway decreases to less than, or if below, increases to equal or exceed the following feet:

Table 4.3. CAFB SPECI Criteria for RVR.

Threshold (feet)	Reference
6000	AFMAN 15-111, FLIP
5500	FLIP
5000	AFMAN 15-111, FLIP
4500	FLIP
4000	AFMAN 15-111, FLIP
3500	FLIP
2400	AFMAN 15-111, FLIP
2000	AFMAN 15-111
1600	AFMAN 15-111
1200	AFMAN 15-111
1000	AFMAN 15-111
600	AFMAN 15-111

4.3.1.2.12. **Resumption or Termination of Observing Services.** If the airfield is closed and observations are not automatic or being augmented, then a SPECI will be taken within 15 minutes of resuming coverage.

4.3.1.2.13. **Other.** Any other event occurs that, in the opinion of the forecaster on duty, justifies a SPECI observation, such as an in-flight emergency (IFE).

4.3.1.3. **LOCAL.** LOCAL is an unscheduled observation, reported to the nearest minute, not meeting SPECI criteria. LOCALs are only taken when unit leadership determines there is a requirement in support of local operations. LOCALs taken in support of aircraft operations are encoded in METAR format.

4.3.1.4. **Observation Formats.** Observations are automatically formatted by JET into two transmission types: local and longline. As a result, users viewing the observation locally through JET will see a slightly different version than those viewing the data externally.

4.3.2. **Official Points of Observation.** The official observing point is the AN/FMQ-19 position at the approach end of the active runway. If necessary, due to backup, WF personnel collect data manually on the observing point at the end of the sidewalk on the flight line side of the Base Operations building (BLDG 847). Visibility markers are reviewed and updated annually.

4.3.2.1. **WF Observing Locations and Limitations.**

4.3.2.1.1. The primary backup point of observation is on the compass rose painted on the pavement at the end of the sidewalk located on the flight line side of BLDG 847.

Limitations of this observation point include an obstructed view and an inadequate number of visibility markers beyond 2 miles. This site does not allow a clear, unobstructed 360-degree view of the runway complex. The WF's view from the northwest through the southeast is partially obstructed by trees, buildings, and hangars. The obstructions interfere with accurate visibility measurements and may obscure features moving in from stated directions.

4.3.2.1.2. The alternate point of observation is on the compass rose painted on the concrete pad behind the Radar Approach Control (RAPCON) building (BLDG 1805). Limitations of this site include visibility restrictions from the northwest through the west-southwest.

4.3.2.1.3. WF observers will make every effort to encode representative weather conditions using the primary observing point and by using various unofficial locations for a clearer view of the celestial dome .

4.3.3. **AN/FMQ-19 Operations.** The CAFB WF has two fully automated weather observing systems of the airfield. However, due to the wide range of weather criteria affecting CAFB operations and the array of weather features that cannot be accurately determined by the automated weather observing system, the AN/FMQ-19 will be placed in "augmented" mode and will be augmented IAW AFMAN 15-111 whenever CAFB weather personnel are on shift to ensure proper, realistic, quality-checked weather observations are disseminated and stored for climatology purposes.

4.3.3.1. **Augmentation.** Augmentation is the process of having a position-qualified WF forecaster manually add or edit data to observations generated by the AN/FMQ-19. The two augmentation processes are supplementation and backup.

4.3.3.1.1. **Supplementation.** A term used to describe manually adding to the automated observation weather data beyond the capability of the AN/FMQ-19 to detect and/or report. WF forecasters will supplement observations whenever the WF is open and the following conditions are observed, in addition to incorrect or non-observed phenomena of all types:

Table 4.4. CAFB Supplementation Criteria.

Criteria	Encoded As	Notes
Tornado	+FC	1, 2
Waterspout	+FC	1, 2
Funnel Cloud	FC	1, 2
Freezing Precipitation	FZDZ / FZRA	
Ice Pellets	PL	
Hail	GR	
Sandstorm / Dust Storm	SS / DS	3
Volcanic Ash	VA	
Tower Visibility Remark		

Note 1: The immediate reporting of tornadic activity takes precedence over all other phenomena.
Note 2: Be prepared to supplement whenever a tornado watch is valid or warning has been issued, regardless of airfield closure status.
Note 3: Based on local weather warning criteria; if no warning criteria exists, this is not required.
Note 4: Only required during controlled airfield hours.

4.3.3.1.2. **Backup.** A term used to describe manually providing weather data and/or disseminating an AN/FMQ-19 generated observation when automated equipment is not operational or unavailable due to individual sensor(s), system, or communications failure.

4.3.3.2. **Backup Dissemination Procedures.** When an AN/FMQ-19 sensor is no longer working properly, the WF will report the outage to Radar and Weather Systems (RAWS) Flight and perform backup, inputting the corrected or missing data in the METAR/SPECI until the equipment is operational again. During JET or communications outages, the WF will disseminate weather observations locally to ATC and flying units, as appropriate, and record dissemination on the local dissemination log.

4.4. Terminal Aerodrome Forecast (TAF). TAFs are 30-hour coded aviation weather forecasts that specify expected conditions for an airfield. The CAFB TAF is produced and disseminated by the WF and will be posted prior to the airfield open time. The WF disseminates the TAF locally and longline using JET. In the event of a JET outage, the WF will disseminate the TAF utilizing the weather.af.mil portal. In the event of a communications outage, the 26 OWS will disseminate the TAF utilizing JET or the weather.af.mil portal.

4.4.1. **TAF Specification/Amendment Criteria.** TAFs (scheduled or amended) will specify the time of occurrence to the nearest hour (and/or minute as appropriate), the duration, and intensity of the minimum criteria outlined in AFMAN 15-129 Table 7.1 as well as ceiling and visibility criteria listed in the IDP. Amendments should follow the rules listed below:

4.4.1.1. A non-forecast condition requiring an amendment that occurs or is expected to occur, by the specified hour and is expected to occur within the next 30 minutes.

4.4.1.2. A forecast condition requiring an amendment that does not occur by the specified hour and is not expected to occur within the next 30 minutes.

4.4.1.3. Anytime the change conditions occur before the beginning of the specified period of change and are expected to persist.

4.4.1.4. Anytime forecast change conditions are no longer expected to occur.

4.4.2. **TAF Amendment Actions.** The WF is primarily responsible for the TAF amendment. If the WF is unable to amend due to communications outage or emergency situations, the 26 OWS will amend the TAF during normal hours of operations. Encoding TAF amendments will be accomplished IAW AFMAN 15-124.

4.4.3. **Limited-Duty Remark.** During periods when flying operations are suspended for the day, unless otherwise specified, the WF will append the last line of the TAF with the words

"LAST NO AMDS AFT YYGG NEXT YYGG" where YY is the day of the month and GG is the time to the nearest whole hour after which the TAF will not be amended. During these times the forecast will not be amended.

4.5. Pilot-to-Metro Service (PMSV). While flying training operations are occurring at CAFB, the WF monitors the PMSV radio frequency of 354.6 MHz. The WF will provide weather observations, forecasts and updates to all crew that contact CAFB. The WF will also solicit PIREPs during each PMSV contact. PMSV contacts will be logged.

4.5.1. For short-term PMSV outages less than 48 hours, the WF will notify the SOF and ATC. For long term outages over 48 hours, Airfield Management should be notified to include the outage information on the local Airfield Status board and in a NOTAM (Notice to Airmen). CAFB does not have an alternate frequency.

4.5.2. In the event of a building evacuation forcing the WF to relocate to the AOL, ATC will provide PMSV support to pilots.

4.6. Pilot Reports (PIREPs). PIREPs will be solicited and recorded by WF personnel. PIREPs are useful in assisting the WF with forecast verification, maintaining situational awareness and enhancing flight safety by ensuring timely, relevant, and accurate information is relayed to other aircrew in the area.

4.6.1. PIREPs will be evaluated for inclusion into the MEF, FWBs and updates to aircrews. PIREPs will be disseminated IAW AFMAN 15-129 and WF duty priorities through JET or the AFW-WEBS interface by WF personnel.

4.7. Alternate Operating Location (AOL). In the event of evacuation of the primary operating facility (BLDG 847), the WF will move operations to the AOL located in the RAPCON building (BLDG 1805). Once established at the AOL, the WF will continue to provide observing and resource protection services. In the event of an evacuation, the limitations of support will be highly dependent upon the operational status of the WF's primary means of dissemination on JET.

4.7.1. If JET is operational, all support will be provided as in normal operations except for the following limitations:

4.7.1.1. Flight weather briefings and the MEF will be provided as normal to local customers only.

4.7.1.2. Full observation services with the limited view from the northwest through west-southwest.

4.7.1.3. No PMSV. For short term AOL operations, the ATC tower will monitor the WF's PMSV frequency. If AOL usage will be long term or ATC cannot monitor weather's frequency, aircraft with phone patch capabilities can contact the OWS for assistance and current weather. A NOTAM will be submitted for long term outages.

4.7.2. If JET is not operational, all of the above limitations will be incurred with the addition of the following.

4.7.2.1. Surface observations will contain all standard parameters with pressure and wind values estimated.

4.7.2.2. Local dissemination of forecasts, observations, and WWAs will be accomplished by phone call and will be limited to agencies listed in this instruction.

4.7.3. If an extreme situation arises where weather support cannot be provided locally by the WF, the OWS will perform METWATCH and MISSIONWATCH and issue all terminal and flying area WWAs as well as complete flight weather briefings upon request.

4.8. Weather Watches, Warnings, and Advisories (WWAs). Unless otherwise specified, WWAs will be valid for a 5NM radius around the center of the CAFB runway.

4.8.1. **Weather Watches.** A weather watch is issued by the WF to notify personnel that there is potential for weather conditions to develop that would pose a threat to life or property. When forecasters issue a watch, base personnel should begin to make plans and prepare to take appropriate actions based on the threat. Additional preparation information can be found within the 14 FTW App under Emergency Actions. No two watches will be in effect at the same time for the same criteria. Watches will be amended as required to add or remove weather phenomena. The TAF is not required to be amended to include watch criteria, except for the lightning watch. The only watch requiring lead time is the lightning watch and will be issued 30 minutes prior to forecasted occurrence. All other watches will be issued as potential warrants. Watches may be issued for a longer timeframe than the corresponding warning, if operationally necessary.

Table 4.5. CAFB Watch Criteria.

Watch Criteria	**Desired Lead Time**
Tornado	As potential warrants
Severe Thunderstorms: damaging winds ≥ 50 kts and/or damaging hail > ¾ inch	As potential warrants
Moderate Thunderstorms: large hail ≥ ¼ inch, but < ¾ inch	As potential warrants
Damaging Winds: surface winds not associated with thunderstorms ≥ 50 kts	As potential warrants
≥ 2 inches of rainfall in 12 hours	As potential warrants
Snow accumulation (any)	As potential warrants
Blizzard conditions*	As potential warrants
Freezing precipitation	As potential warrants
Sand/Dust storm**	As potential warrants
Lightning within 5 NM***	30 minutes
*Duration of 3 hours or more, sustained winds ≥ 30 kts, considerable falling and/or blowing snow, with prevailing visibility ≤ ¼ mile. All conditions must be met.	
**Potential for winds carrying sand/dust particles from the surface to no more than 50 feet above the surface, prevailing visibility < 5/8 SM to 5/16 SM (1000 meters to 500 meters). For prevailing visibility < 5/16 SM, the storm is considered a heavy sand/dust storm.	
***Lighting watches will be canceled only when the potential for lighting within the next 30 minutes is no longer forecasted.	

4.8.2. **Weather Warnings.** Forecast weather warnings are issued by the WF provide notification for CAFB units that weather conditions posing a threat to life or property are occurring or imminent. When a warning is issued, base personnel should take immediate actions to protect lives and resources. Preparation should have been completed during the

watch phase. Additional preparation information can be found within the 14 FTW App under Emergency Actions. Observed weather warnings are issued upon first occurrence of the phenomena and are cancelled when the condition requiring the warning are no longer occurring. The TAF for the airfield will be consistent with any warning issued and contain the specified criteria or be amended to include the criteria if not already specified.

Table 4.6. CAFB Warning Criteria.

Warning Criteria	**Desired Lead Time**
Tornado *	0:15 minutes
Severe Thunderstorms: damaging winds ≥ 50 kts and/or damaging hail > ¾ inch	1:00 hour
Moderate Thunderstorms: high wind ≥ 35 kts but < 50 kts and/or large hail ≥ ¼ inch, but < ¾ inch	1:00 hour
Damaging Winds: surface winds not associated with thunderstorms ≥ 50 kts	1:00 hour
Strong Winds: surface winds not associated with thunderstorms ≥ 35 kts but < 50 kts	1:00 hour
≥ 2 inches of rainfall in 12 hours	1:00 hour
Snow accumulation (any)	1:00 hour
Blizzard conditions	1:00 hour
Freezing precipitation	1:00 hour
Sand/Dust storm	1:00 hour
Lightning within 5 NM	Observed
*Upon receipt of a tornado warning, Command Post sounds the base siren in a 3-5 minute steady tone.	

4.8.3. **Weather Advisories.** Weather advisories provide notification of specific, locally determined observed weather criteria that have the potential to impact local operations. Advisories are issued by the WF.

Table 4.7. CAFB Advisory Criteria.

Advisory Criteria	**Type**	**Desired Lead Time**
Observed crosswinds ≥ 5 kts with ice or wet (standing water > 1/10 inch) full length runway	Terminal	Observed
Observed crosswinds ≥ 10 kts with ice or wet runway	Terminal	Observed
Observed crosswinds ≥ 15 kts	Terminal	Observed
Observed crosswinds ≥ 20 kts	Terminal	Observed
Observed crosswinds ≥ 25 kts	Terminal	Observed
Observed crosswinds ≥ 30 kts	Terminal	Observed
Observed Wind Chill Index (WCI) Caution or Danger exists	Terminal	Observed

Observed Index of Thermal Stress (ITS) Caution, Danger, or Danger Plus exists	Terminal	Observed
Observed Lightning within 10 NM	Area	Observed
Observed Lightning within 25 NM	Area	Observed
Observed icing of any intensity within the area of operations for CAFB	Terminal or Area	Observed by any aircraft
Observed turbulence severe or greater below 10,000 ft MSL	Terminal or Area	Observed by any aircraft
Observed Low Level Wind Shear (LLWS) below 2,000 ft (not associated with thunderstorms)	Terminal	Observed by CAFB aircraft

4.8.4. **Desired Lead Time (DLT).** DLT is the amount of prior notice required for WWAs as outlined in Table 6.2 of AFMAN 15-129. CAFB personnel will make every effort to provide as much advance notice as possible. Severe weather statements and other such products do not count towards lead time. DLT refers to the amount of time from when the watch or warning is actually pushed until the weather phenomena is observed.

4.8.5. **Actions by Base Agencies.** Base agencies that have specific actions required when notified of imminent severe weather conditions have identified these actions within this instruction and CAFB Weather Thresholds and Sensitivities SOP. Base agencies should review and perform these actions upon receiving notification of the applicable WWA.

4.8.6. **WWA Delineation of Duties.** The WF is responsible for issuing all WWAs, including during WF closure hours.

4.8.7. **WWA Amendments and Upgrades.** WWAs may be amended, upgraded, downgraded, or extended as deemed necessary by the on-duty forecaster.

4.8.8. **Gunshy Procedures.** The WF is responsible for MISSIONWATCH for Gunshy Auxiliary Airfield and Golden Triangle Regional Airport (GTR) when Air Force assets are located there. The 26 OWS issues Gunshy WWAs and notifies affected agencies.

4.8.9. **Wet Bulb Globe Temperature (WBGT)/Temperature Advisories.** 14 MDG Biomedical Engineering disseminates WBGT for CAFB. The WF disseminates weather advisories for the Index of Thermal Stress and Wind Chill in support of flying operations. These advisories are based off DAFI 48-151, Section 2.15.

4.9. Base Dissemination. The WF uses the Integrated Weather Warning Capability (IWWC) within JET to promptly disseminate WWAs for CAFB. JET allows for an automated display notification and IWWC provides an automated telephone and email notification. The 14 FTW/CP and other organizations follow internal notification procedures to inform subordinate units as required. If JET is down, backup notifications will be made by phone calls from the on-duty forecaster to those on the JET dissemination list, to include Command Post. Based on RM principles, certain agencies may be made aware of weather conditions before or as the WWAs are disseminated (i.e., leadership, Command Post, and the SOF). Command Post utilizes the AtHoc notification system to give situational awareness to personnel. If AtHoc is not working, CP will follow their internal checklist to ensure all agencies are notified.

4.10. Customer Response Matrix. The Customer Response Matrix outlines the actions that customers normally take when a WWA is issued by the WF and the impact to operations. These

actions are outlined in the internal CAFB Weather Thresholds and Sensitivities SOP which is updated biennially. Each unit at CAFB is responsible for coordinating additional WWA support or special notification for existing WWAs with the WF. During this review, the WF will also reach out to other encompassed agencies such as the Base Exchange, base pool, etc.

4.11. Cooperative Weather Watch (CWW). The CWW encompasses the report of tower visibility, local PIREPs, and any occurrence of previously unreported conditions from ATC that are critical to the safety or efficiency of local operations and resources. The primary concern is the occurrence of previously unreported weather conditions that could affect flight safety or could be critical to the safety or efficiency of other local operations and resources. Weather forecasters will re-evaluate weather conditions whenever a reliable source reports weather conditions different from the last disseminated observation and take appropriate action (generate a SPECI observation or issue a WWA if the different conditions warrant immediate dissemination).

4.11.1. ATC personnel will pass PIREPS received from aircrews to the WF as soon as possible and will relay the following conditions to the WF when observed:

4.11.1.1. Significant prevailing and sector visibility changes that reduce visibility below, or if below, raises above 4 statute miles (6000 m) or when prevailing tower visibility is below 4 miles and differs from the visibility in the current observation.

4.11.1.2. Precipitation begins or ends.

4.11.1.3. Thunderstorms or lightning are observed.

4.11.1.4. Tornado or funnel cloud is sighted.

4.11.1.5. Low level wind shear is reported.

4.11.1.6. Any other significant meteorological condition not previously reported.

4.12. ATC Limited Observer Training. The WF administers limited weather observation training for all ATC controllers assigned to the 14 FTW. ATC personnel will receive an orientation of local weather flight operations, complete a web-based training module, and complete a test developed by the WF in order to receive certification. The test will be developed IAW ATC guidelines to evaluate competency. At a minimum, training will include weather phenomena, weather equipment familiarization, control tower visibility requirements and reporting procedures. The WF training manager will also appropriately document the training in individual training records IAW ATC guidance.

4.13. National Weather Service (NWS) WWAs, Outlooks, Statements, and Other Forecasts. The NWS issues weather alerts and forecasts for the local area encompassing CAFB. While CAFB's authoritative weather source is Air Force Weather via the CAFB WF, the CAFB WF will track NWS alerts in the local area.

Chapter 5

RECIPROCAL SUPPORT REQUIREMENTS

5.1. General. This section outlines the support that the WF will provide and the support that is required from other units in order to provide support to the 14 FTW mission.

Table 5.1. Reciprocal Support Requirements.

14 FTW/CC	
Will	**Will be provided**
Ensure the installation is prepared to manage severe threats	Severe, tropical, and winter weather preparedness briefings and pertinent live updates
	5-day weather outlooks briefed at Wing Staff Meetings
14 OG/CC	
Will	**Will be provided**
Coordinate additional requirements with the WF/CC or NCOIC via the 14 OSS/CC.	Severe, tropical, and winter weather preparedness briefings and pertinent live updates
14 OG/OGV	
Will	**Will be provided**
Coordinate all SOF, IRC and seasonal awareness briefings with at least 3 day's notice	SOF, IRC and seasonal awareness briefings in person
Coordinate the Aircraft Weather Thresholds and Sensitivities document updated biennially	
Provide updated charts and figures of training areas, low level routes, air refueling tracks, etc.	
14 OG SOFs (program owned by 14 OG/OGV)	
Will	**Will be provided**
Encourage aircrews to pass PIREPs to ATC and the WF	Weather briefings via phone call about expected impacts for the day when a new SOF takes position
Ensure newly assigned SOFs receive a WF briefing	Quarterly SOF briefings
Provide feedback often	Weather capabilities briefings for new SOFs
Provide information to the WF IAW CWW procedures outlined in para. 4.11	Forecasts, observations, and WWAs
	Notification of changing weather elements prior to TAF and MEF changes being made
14 OSS/CC & DO	

Will	Will be provided
Provide a location for suitable WF AOL with 24/7 access	Severe, tropical, and winter weather preparedness briefings and pertinent live updates
Provide coordination for any WF changes or requests	
14 OSS/OSO	
Will	**Will be provided**
Provide current flying schedule and ensure any changes are made available to the WF	WWAs via notification from CP
14 OSS/OSM	
Will	**Will be provided**
Maintain AN/FMQ-19, WSR-88D NEXRAD, and PMSV	Notification of all outages, including details
Ensure a 24-hour POC is available for reporting outages	WWAs via notification from CP
Utilize restoration priorities to restore weather communications and meteorological sensing equipment following outages	
Notify the responsible service agents for outages and perform necessary follow-up actions as required until full service is restored	
Pre-coordinate with the WF before performing routine maintenance on weather communications or equipment	
Notify 557th Weather Wing Fielded Systems Service Center (FSSC) when repairing or replacing parts on the AN/FMQ-19	
14 OSS/OSA (including ATC and RAPCON)	
Will	**Will be provided**
Relay received PIREPs to the WF within 5 minutes of receipt, mission permitting	A representative for the quarterly Air Operations Board (AOB) meetings
Provide information to the WF IAW CWW procedures outlined in para. 4.11	Weather operations orientation, CWW training and weather certification tests
Notify the WF of any changes in active runway	Forecasts, observations and WWAs via the Airfield Automation System (AFAS) and JET
Initiate a daily performance check of PMSV radio and weather/tower hotline	Assistance on annual re-certification of tower visibility charts

Notify WF of changes in the high intensity runway light setting when prevailing visibility is 1 mile or less, or RVR is 6000ft or less	Notification of any system updates or outages that will affect ATC
Monitor Backup support to the WF during short and long-term PMSV outages	
Notify on-duty forecaster of any aircraft mishap	
Provide orientation tours of Tower for newly assigned weather personnel	
Provide WWA notifications to airborne crews	
Provide access to the RAPCON conference room during a WF evacuation. The manual observation point will be maintained by the WF outside RAPCON.	
14 OSS/OSAM	
Will provide	**Will be provided**
Upon notification from weather personnel, flight services personnel will annotate outage information and transmit PMSV outages over 48 hours via NOTAM	Complete reviews of the FLIP
Notification to changes in runway conditions, aircraft mishaps, and in-flight or ground emergencies	Notifications of all WWAs
Notification of FLIP changes and Airfield Advisories	
Submitted NOTAMs for any long-term deviations from the published FLIP for any support related to the WF	
Weather information to transient aircrews that poses a flight hazard	
Dissemination of WWAs IAW established procedures	
Information via the secondary crash net on in-flight and ground emergencies	
Notification when the Approach Lighting System becomes non-operational and when it becomes operational again. This will affect visibility and RVR minimums	
14 MSG/CS	

Will provide	Will be provided
All directed Time Compliance Network Order patches to the JET server and provide initial troubleshooting and/or server resets as required	WWAs via notification from CP
Maintenance and repair of communication lines IAW established restoration priorities	Space weather updates for communication outages or degradation
14 FTW/CP	
Will provide	**Will be provided**
WWA disseminations (initial, updates, cancellations) over the Emergency Notification System (ENS) and Giant Voice broadcast speaker system, as applicable. If ENS is down, CP will use backup procedures to relay WWAs.	Notification of all WWAs via JET for dissemination. Telephone notification will be made during duty hours
Base siren activation, ENS, and Giant Voice notifications upon recommendation of the WF for a tornado warning. Once the all-clear determination has been recommended by the WF, CP will disseminate	Data required to complete an OPREP-3 after significant weather events, natural disasters, or as requested
Notification to recall standby forecaster when requested/necessary	
Notification of any report of a known or suspected tornado	
Notification of any damage on CAFB or to any 14 FTW assigned or attached assets if weather is suspected as a factor	
Coordination with WF leadership on all weather-related operational event/incident reports (OPREP-3) to higher headquarters	
14 MSG/CES	
Will	**Will be provided**
Ensure emergency electrical power is available to all WF meteorological equipment. If a power outage is expected, pre-coordinate with the facility manager	WWAs via notification from CP
Ensure emergency backup electrical power provides automatic start capability with manual override	Notification when 2 inches or more of snow is expected

Ensure proper personnel are available 24/7 to maintain the emergency power generator that serves BLDG 847	Notification to the fire department upon the passage of a tornado or other significant severe weather event
Aid starting and stopping the emergency generator as required	
Prevent damage to, and allow uninterrupted operation of environmentally sensitive computer and communication equipment by continuously maintaining weather station temperature and humidity within the following limits: Temperature: 15-32C (59-90F) Humidity: 20-80%, non-condensing	
14 MX/MOC	
Will provide	**Will be provided**
Upon notification, dissemination of WWAs to all personnel in the maintenance complex	WWAs via JET and CP notification
	Atmospheric pressure readings upon request
	Notification of lightning within 25nm, 10nm, and 5nm
14 FTW/PA	
Will	**Will be provided**
Vet any weather data requested for public releasability to a non-governmental agency	Briefing support upon request
Post information upon request to the 14 FTW App relating to weather education or preparedness	Narratives for any requested posts or publications
Create Facebook posts for severe weather events or upon request	
14 FTW/JA	
Will provide	**Will be provided**
Legal review or analysis on legal requirements pertaining to the releasability of investigatory materials or weather data work products to federal agencies, state, or local governments, and/or private individuals or the media pursuant to applicable law and policy	
14 MSG/LRS	
Will provide	**Will be provided**
	WWAs via JET and CP notification

14 MSG/FSS	
Will provide	**Will be provided**
	WWAs via notification from CP
	Weather updates for the Fitness Assessment Cell, MWR events, or any other special event upon request
14 MSG/CONS	
Will provide	**Will be provided**
	Climatological data upon request
14 MDG/SGOJ	
Will provide	**Will be provided**
	Wind chill updates upon request
14 FTW Flying Training Squadrons	
Will	**Will be provided**
Encourage aircrews, ATC and SOF to pass PIREPs to the WF	Forecasts, observations, and WWAs via AFAS, JET and the SOF
	MEF via the 26 OWS website, SharePoint, and the Base App
	Briefing support upon request
	PMSV support
26 OWS	
Will provide	**Will be provided**
Support as outlined in the current IDP	Coordination during weather events requiring building evacuation or emergency COOP support
Special Weather Statements	Annual IDP and biennial FRM reviews
TC-TAP products	
Backup support capabilities	

5.2. Support Requests/Changes to Support.

5.2.1. Request support through WF leadership with the approval of the 14 OSS/CC.

5.2.2. Coordinate changes in support as soon as such changes are anticipated in order to mitigate any mission impact .

JUSTIN T. GRIEVE, Colonel, USAF
Commander, 14th Flying Training Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 10-2501, *Air Force Emergency Management Program*, 10 March 2020

AFMAN 10-206, *Operational Reporting*, 1 September 2020

AFI 10-206, AETC Supplement, *Operational Reporting*, 11 May 2021

AFI 11-2T-6, Vol 3, *T-6 Operations Procedures*, 16 December 2020

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AFI 11-2T-38, Vol 3, AETC Supplement, *T-38 Operations Procedures*, 23 August 2022

AFI 11-201, *Flight Information Publication*, 30 November 2018

AFI 11-202, Vol 3, *General Flight Rules*, 10 January 2022

AFI 11-202, Vol 3, AETC Supplement, *General Flight Rules*, 22 September 2022

AFI 11-418, AETC Supplement, *Operations Supervision*, 19 June 2020

AFI 15-128, *Air Force Structure*, 21 June 2019

AFI 48-151, *Thermal Injury Prevention Program*, 2 May 2022

AFMAN 11-210, *Instrument Refresher Program*, 21 December 2021

AETCMAN 11-251, *T-38C Flying Fundamentals*, 4 November 2022

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

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

AFI 15-127, *Weather Training*, 27 January 2021

AFI 15-128, *Weather Force Structure*, 21 June 2019

AFMAN 15-129, *Air and Space Weather Operations*, 16 June 2021

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

CAFB Plan 555, *Hurricane Evacuation*, 01 June 2020

COLUMBUSAFBI 10-2, *Columbus AFB Protective Actions*, 02 December 2017

COLUMBUSAFBI 13-1, *Airfield Operations and Local Flying Procedures*, 1 March 2017

FAA Order JO 7900.5C, *Surface Weather Observing*, 21 December 2012

Adopted Forms

AF Form 3803, Surface Weather Observations (METAR/SPECI)

AF Form 3807, Watch/Warning Notification and Verification

DD Form 175-1, Flight Weather Briefing

Abbreviations and Acronyms

14 FTW—Flying Training Wing

14 FTW/CES—Civil Engineering Squadron

14 FTW/CONS—Contracting Squadron

14 FTW/CP—Command Post

14 FTW/CS—Communications Squadron

14 FTW/FSS—Force Support Squadron

14 FTW/FTS—Flying Training Squadron

14 FTW/LRS—Logistics Readiness Squadron

14 FTW/PA—Public Affairs

14 FTW/SE—Safety Office

14 FTW/JA—Judge Advocate

14 FTW/SFS—Security Forces Squadron

14 MX/MOC—Maintenance Operations Center

14 OG—Operations Group

14 OSS—Operations Support Squadron

14 OSS/OSA—Airfield Operations

14 OSS/OSAB—Airfield Management/Base Ops

14 OSS/OSO—Current Operations

14 OSS/OSW—Weather Flight

26 OWS—26th Operational Weather Squadron

AETC—Air Education and Training Command

AFAS—Airfield Automation System

AFPD—Air Force Policy Directive

AFW-WEBS—Air Force Weather Web Services

AGL—Above Ground Level

AOB—Air Operations Board

AOL—Alternate Operating Location

AOR—Area of Responsibility

ATC—Air Traffic Control

BLDG—Building

CAFB—Columbus AFB

CAT—Crisis Action Team

CBRNE—Chemical, Biological, Radiological, Nuclear, and Explosive

CDM—Chemical Downwind Message

COOP—Continuity of Operations

CWW—Cooperative Weather Watch

DLT—Desired Lead Time

DMSP—Defense Meteorological Satellite Program

DoD—Department of Defense

DSN—Defense Switched Network

EOC—Emergency Operations Center

EDM—Effective Downwind Message

ENS—Emergency Notification System

EMWG—Emergency Management Working Group

EWO—Emergency War Order

FITS—Fighter Index of Thermal Stress

FLIP—Flight Information Publication

FRM—Forecast Reference Material

FWB—Flight Weather Brief

GPS—Global Positioning System

HF—High Frequency

HURCON—Hurricane Condition

IAW—In Accordance With

IDP—Installation Data Page

IFE—In-Flight Emergency

IG—Inspector General

IRC—Instrument Refresher Course

IMR—Individual Medical Readiness

ITS—Index of Thermal Stress

JET—Joint Environmental Toolkit

LAN—Local Area Network

LLWS—Low Level Wind Shear

LMT—Lead Meteorological Technician

LOCAL—Local Observation

MEF—Mission Execution Forecast

MEFP—Mission Execution Forecast Process

METAR—Aviation Routine Weather Report

METWATCH—Meteorological Watch

MIF—Mission Integration Function

MISSIONWATCH—Mission Weather Watch

MOA—Memorandum of Agreement

MOA—Military Operating Area

MWP—Mission Weather Product

MWR—Morale, Welfare and Recreation

NCOIC—Noncommissioned Officer In Charge

NEXRAD—Next Generation Radar

NHC—National Hurricane Center

NM—Nautical Mile

NOTAM—Notice to Airmen

NWS—National Weather Service

OPR—Office of Primary Responsibility

OPREP—Operational Reports

PIREP—Pilot Report

PMSV—Pilot-to-Metro Service

POC—Point of Contact

RAWS—Radar and Weather Systems

RDA—Radar Data Acquisition

RP—Resource Protection

RVR—Runway Visual Range

SFS—Security Forces Squadron

SIF—Staff Integration Function

SM—Statute Mile

SOF—Supervisor of Flying

SOP—Standard Operating Procedure

SPC—Storm Prediction Center

SPECI—Aviation Selected Special Weather Report

SWAP—Severe Weather Action Procedures

SWAT—Severe Weather Action Team

TAF—Terminal Aerodrome Forecast

TC-TAP—Tropical Cyclone Threat Assessment Product

TEMPO—Temporary

UHF—Ultra High Frequency

VHF—Very High Frequency

WBGT—Wet Bulb Globe Temperature

WF—Weather Flight

WIT—Wing Inspection Team

WPC—Weather Prediction Center

WWA—Weather Watch/Warning/Advisory

Terms

Alternate Operating Location—The location to which WF will move in the event that BLDG 847 is evacuated.

Cooperative Weather Watch—A method of collective observing shared by the weather observer, tower personnel, and SOF, to enhance the mission of BWW. The weather observer collates information from other sources and disseminates as needed.

Flight Information Publication—Booklet containing aircraft approach, landing, and takeoff guidance, to include weather restrictions, at various airfields, including CAFB.

Hurricane Condition—A condition outlining the threat of a tropical storm or hurricane to CAFB.

Instrument Refresher Course—Annual continuation training for aircrews. The WF provides a briefer and materials for the weather segment of the course.

Joint Environmental Toolkit (JET)—The installation's primary means of disseminating alphanumeric weather information.

LOCAL—A coded weather observation taken to meet locally determined requirements that is only disseminated to entities on the installation.

METAR—A regularly scheduled coded weather observation taken and disseminated both across the installation and world-wide.

METWATCH—Meteorological Watch. A method of monitoring weather conditions for any hazards that might create an impediment to flying operations or pose a threat to life or assets.

Military Operating Area—An area used for local flying training.

Mission Execution Forecast—A mission weather product produced by the WF used to directly support a flying or non-flying operation.

MISSIONWATCH—A method of observing and forecasting which monitors conditions along routes of flight and in the MOAs for any hazards that might create an impediment to flying operations.

Operational Weather Squadron—An Air Force Weather regional forecast center. Commonly referred to as a "hub." CAFB's servicing OWS is the 26th OWS located at Barksdale AFB, LA.

Pilot Report (PIREP)—A report containing weather data passed from aircrew to the weather support entities to enhance the weather forecast process and flight safety.

SPECI—A coded weather observation taken to report the occurrence of predetermined special criteria as determined by AF flying guidance and the local airfield weather criteria. These observations are taken and disseminated across the installation and world-wide.

Terminal Aerodrome Forecast—The world-wide standardized coded aviation weather forecast used for planning purposes for the area within a five-mile radius of the airfield.

Weather Watch—A weather alert notification issued when the potential exists for a weather condition that poses a threat to human life and/or damage to property.

Weather Warning—A weather alert notification issued when a weather condition that poses a threat to human life and/or damage to property is imminent or occurring.

Weather Advisory—A weather alert notification of a locally determined weather condition that hinders flight operations.

Attachment 2

PRODUCT SAMPLES

Figure A2.1. MEF.

COLUMBUS AFB MISSION EXECUTION FORECAST	DATE:	11-May-23		
	VALID TIME:	1130Z-END OF FLYING		
THIS PRODUCT IS THE LEGAL CAFB OPERATIONAL FORECAST	FORECASTER:	SrA Sharpe		
CALL 14OSS/OSW AT DSN 742-2992/2970/2969 COMM (662) 434-2992/2970/2969 / PMSV 354.6	MEF #	1	Amend	1

SCHEDULED UPDATES AT 0400L, 0800L, 1200L, 1600L, AND 2000L (NIGHT FLY ONLY) PLUS AMENDMENTS

COLUMBUS AFB LOCAL FORECAST

TIME		WIND DATA			CROSS WINDS	VIS	WX	CLOUD LEVELS	TEMP (°C)	DEWPT (°C)	ALSTG	PA (FT)	TEMPO/ REMARKS	SOLAR ELEV/AZ	
LCL	ZULU	DIR	SPEED	GUST											
0600	1100	VRB	6		0	3SM	BR	SCT035 SCT100	20	18	29.95	188		0	68
0700	1200	110	6		2	7SM		SCT035 BKN100	21	19	29.96	178		11	76
0800	1300	110	6		2	7SM		SCT035 BKN100	22	19	29.97	168		23	83
0900	1400	130	15	20	0	7SM		FEW020 SCT045 BKN100	22	20	29.97	168		36	91
1000	1500	130	15	20	0	7SM		FEW020 SCT045 BKN100	23	20	29.98	158	5SM -SHRA BKN025	48	101
1100	1600	130	15	20	0	7SM		FEW020 SCT045 BKN100	25	20	29.98	158	5SM -SHRA BKN025	60	115
1200	1700	130	15	20	0	7SM		FEW020 SCT045 BKN100	27	20	29.98	158	5SM -SHRA BKN025	70	141
1300	1800	170	10	20	13	7SM		BKN100	28	19	29.97	168		74	187
1400	1900	170	10	20	13	7SM		BKN100	29	19	29.95	188		68	228
1500	2000	170	10	20	13	7SM		BKN100	29	18	29.94	198		57	249
1600	2100	170	10	20	13	7SM		BKN100	28	18	29.93	208		45	261
1700	2200	170	9		6	7SM		SCT050 BKN100	28	18	29.93	208		32	270
1800	2300	170	9		6	7SM		SCT050 BKN100	27	18	29.93	208		20	278
1900	0000	170	9		6	7SM		SCT050 BKN100	26	19	29.92	218		8	286
	0100				0	7SM									
	0200				0	7SM									
	0300				0	7SM									
	0400				0	7SM									

WEATHER LEGEND	TEMP				
	WC	ITS	CEILING > 3,000 FT VISIBILITY > 3 MILES XWNDS < 5KTS	CEILING > 1,500 FT BUT ≤ 3,000 FT VISIBILITY > 1 MILE BUT ≤ 3 MILES XWINDS > 10KTS	CIG ≤ 1,500 FT VIS ≤ 1 MILE TSTM ON STN XWINDS > 15KTS

ITS/WCI	ITS-WCI NORMAL
WATCHES, WARNINGS, AND ADVISORIES	NONE IN EFFECT
	NONE IN EFFECT
	NONE IN EFFECT
	NONE IN EFFECT
	NONE IN EFFECT
	NONE IN EFFECT
	NONE IN EFFECT

KCBM AFB SOLAR/LUNAR DATA (LOCAL TIME)					
BMNT	0456	SS	1945	MOONRISE	0115
BMCT	0529	EECT	2012	MOONSET	1120
SR	0556	EENT	2045	ILLUM (%)	65%
TEMPERATURES		SPACE WEATHER			
0C	12,900FT	UHF - NO IMPACTS			
-20C	23,000FT	HF - MARGINAL IMPACTS			
-50C	36,000FT	GPS - NO IMPACTS			

CLIMB WINDS	
FL	DIR / KTS
010	14020KT
020	15024KT
030	15025KT
050	17027KT
100	19022KT
150	19021KT
200	17021KT

KCBM ICG W/I 5NM: 17Z-20Z		
Low level ICG	140-180	LGT RIME
High level ICG	N/A	NONE
TURB W/IN 5NM (CAT 3 ACFT) : 11Z-20Z		
Low level TURBC	SFC-060	OCNL LGT
High level TURBC	N/A	NONE
TSTMS W/IN 5NM : hhZ-hhZ		
TSTMS	NONE	
Max Tops --->	N/A	

MEF AVAILABLE ON 14 FTW WX SHAREPOINT PAGE AND BASE APP

Figure A2.2. FITS.

FITS Calculation Chart (Derived From AFI 48-151 Table 6.1.)																								
	Dry Bulb Temperature (°C)																							
Dew Point (°C)	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
-12	X	X	X	X	X	X	X	X	28	28	29	29	30	31	31	32	33	33	34	35	36	36	37	37
-11	X	X	X	X	X	X	X	X	28	28	29	29	30	31	32	32	33	34	34	35	36	36	37	37
-10	X	X	X	X	X	X	X	X	28	28	29	29	30	31	32	32	33	34	34	35	36	36	37	37
-9	X	X	X	X	X	X	X	X	28	29	29	29	30	31	32	32	33	34	34	36	36	36	37	37
-8	X	X	X	X	X	X	X	X	28	29	29	30	31	31	32	33	33	34	35	36	36	36	37	38
-7	X	X	X	X	X	X	X	X	28	29	29	30	31	31	32	33	33	34	35	36	36	37	37	38
-6	22	23	23	24	25	26	27	28	28	29	30	30	31	31	32	33	33	34	35	36	37	37	37	38
-5	22	23	23	24	25	26	27	28	28	29	30	30	31	31	32	33	33	34	35	36	37	37	37	38
-4	22	23	24	24	26	26	27	28	28	29	30	30	31	31	32	33	34	34	35	36	37	37	37	38
-3	23	23	24	25	26	27	27	28	29	29	30	30	31	31	32	33	34	34	36	36	37	37	37	38
-2	23	24	24	25	26	27	27	28	29	29	31	31	31	32	33	33	34	35	36	36	37	37	37	38
-1	23	24	24	25	26	27	27	28	29	29	31	31	31	32	33	33	34	35	36	36	37	37	37	38
0	23	24	25	26	26	27	27	28	29	29	31	31	31	32	33	33	34	35	36	36	37	37	37	38
1	24	24	25	26	27	27	28	28	29	30	31	31	31	32	33	34	34	35	36	37	37	37	38	39
2	24	25	26	26	27	28	28	29	30	31	31	31	32	32	33	34	35	36	36	37	37	37	38	39
3	25	26	26	27	27	28	28	29	30	31	31	31	32	33	33	34	35	36	36	37	38	38	38	39
4	26	26	27	27	28	28	28	29	31	31	32	32	32	33	34	34	35	36	37	37	38	38	38	39
5	26	26	27	27	28	28	28	29	31	31	32	32	32	33	34	34	35	36	37	37	38	38	38	39
6	26	26	27	27	28	28	29	29	31	31	32	32	33	33	34	35	36	36	37	38	38	38	39	40
7	26	27	27	28	28	29	29	30	31	32	32	32	33	34	34	35	36	37	37	38	38	39	39	40
8	26	27	27	28	29	29	29	31	31	32	33	33	33	34	35	36	36	37	37	38	39	39	39	40
9	27	27	28	28	29	29	30	31	32	32	33	33	34	34	35	36	36	37	38	38	39	39	40	41
10	27	28	28	29	29	29	31	31	32	33	33	33	34	34	36	36	37	37	38	38	39	39	40	41
11	27	28	28	29	29	30	31	32	33	33	34	34	34	35	36	37	37	38	38	39	39	40	41	41
12	27	28	28	29	30	31	32	32	33	33	34	34	35	36	36	37	37	38	39	39	40	41	41	42
13	28	28	29	29	31	32	32	33	33	34	34	34	35	36	36	37	38	38	39	39	40	41	41	42
14	28	29	29	30	31	32	32	33	33	34	34	35	36	36	37	38	38	39	39	40	41	41	42	42
16	29	29	30	31	32	32	33	33	34	34	35	36	36	37	37	38	38	39	40	41	41	41	42	42
17	29	30	31	31	32	33	33	34	34	35	36	36	36	37	38	38	39	39	40	41	41	42	42	43
18	30	31	31	32	33	33	34	34	35	36	36	36	37	38	38	39	39	40	41	41	42	42	42	43
19	31	31	32	32	33	34	34	35	36	36	37	37	37	38	38	39	39	41	41	42	42	42	43	43
20	31	32	32	33	34	34	35	36	36	37	37	37	38	38	39	39	40	41	42	42	43	43	43	44
21	32	32	33	33	34	35	36	36	37	37	38	39	38	39	39	40	41	41	42	43	43	43	43	44
22	32	33	33	34	35	36	36	37	37	38	38	39	39	39	40	41	41	42	42	43	43	43	44	45
23	33	33	34	34	36	36	37	37	38	38	39	39	39	40	41	41	42	43	43	44	44	44	44	46
24	33	34	34	35	37	37	37	38	39	39	39	39	40	41	41	42	43	43	44	44	45	45	46	46
25	X	34	35	36	37	37	37	38	39	39	40	40	41	41	42	42	43	43	44	44	45	45	46	46
26	X	X	36	36	37	37	38	38	39	40	41	41	41	42	42	43	43	44	44	45	46	46	46	47
27	X	X	X	37	38	38	38	39	40	41	41	41	42	42	43	43	44	44	45	46	46	46	47	47
28	X	X	X	X	39	38	39	39	41	41	42	42	42	43	43	43	44	45	46	46	47	47	47	48
29	X	X	X	X	X	38	39	40	41	42	42	42	43	43	44	44	45	46	46	47	47	47	48	48
30	X	X	X	X	X	X	40	41	42	42	43	43	43	44	44	45	46	46	47	47	48	48	48	49
31	X	X	X	X	X	X	X	42	43	43	43	43	44	44	45	46	46	47	47	48	49	49	49	49
32	X	X	X	X	X	X	X	X	43	43	44	44	44	45	45	46	46	47	48	48	49	49	50	51

CAO: 21Apr23

IMPOSSIBLE	X
FITS NORMAL	<= 32°C
FITS CAUTION	33-37°C
FITS DANGER	37-41°C
FITS DANGER+	>= 42°C

Wet Bulb = Dry Bulb - (DPD/3)	
FAHRENHEIT	FITS=0.83Tpwb+0.35Tdb+9.14°F
CELCIUS	FITS=0.83Tpwb+0.35Tdb+5.08°C

Figure A2.3. WCI.

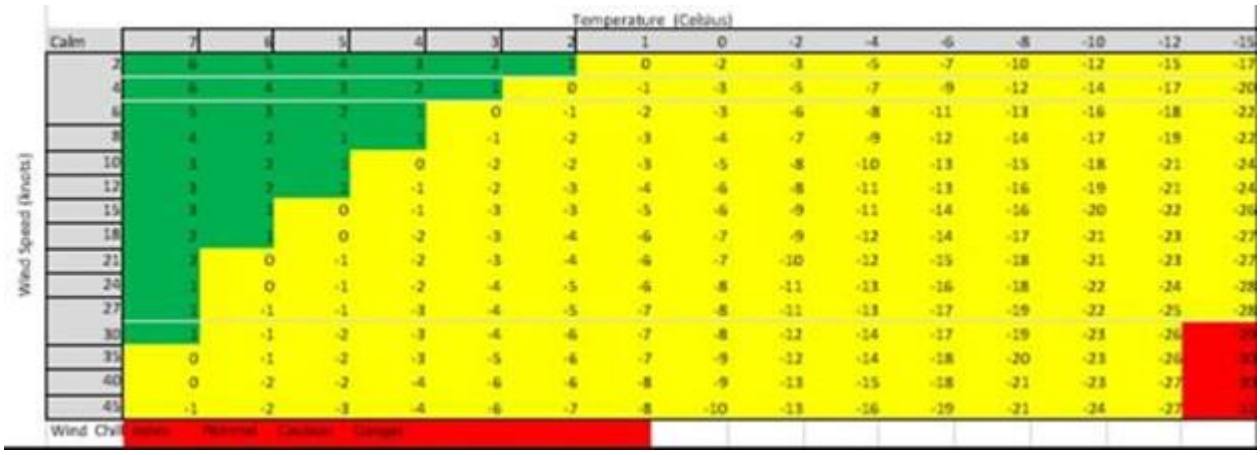


Figure A2.4. 5-day Forecast.

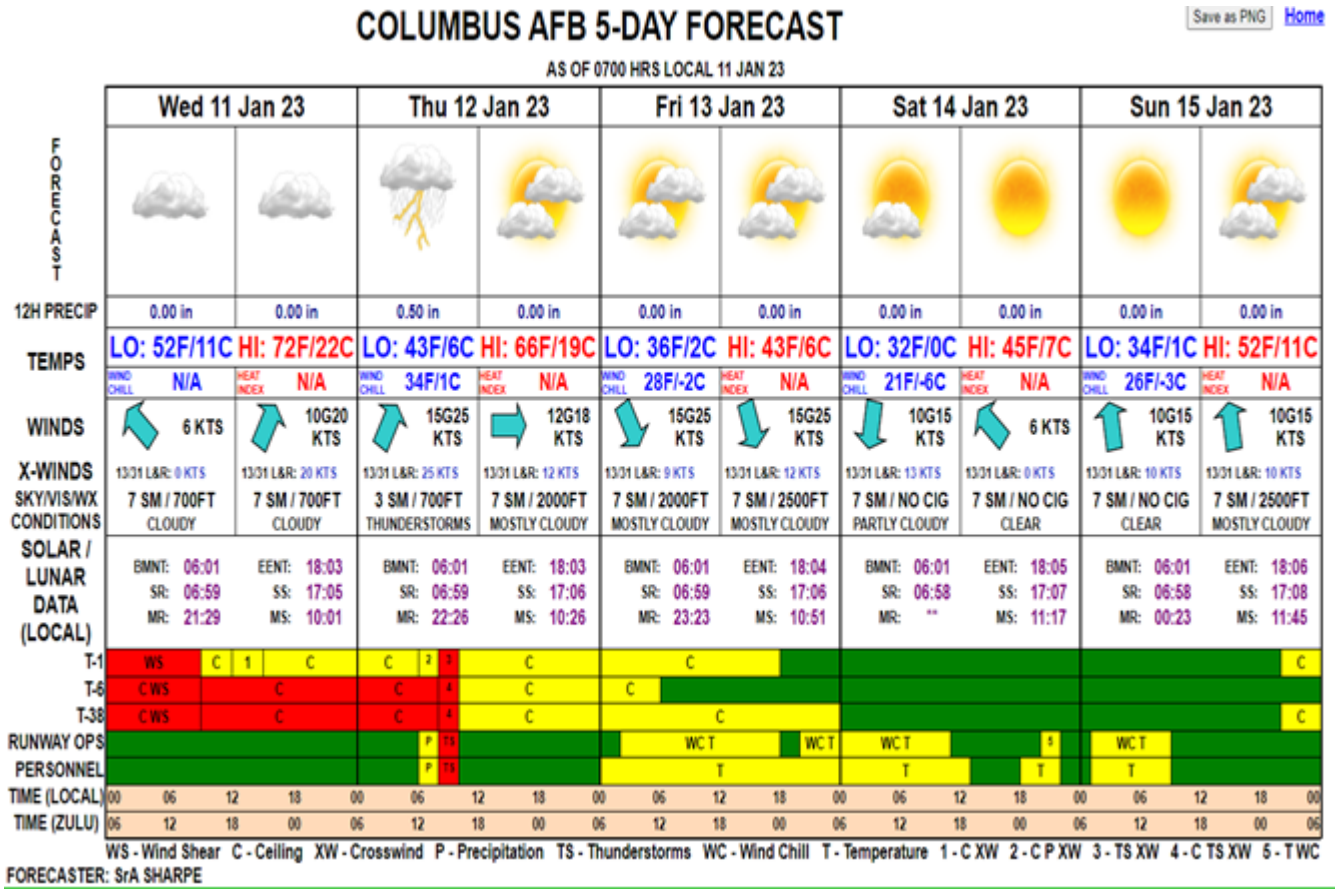


Figure A2.5. Severe Weather Outlook.

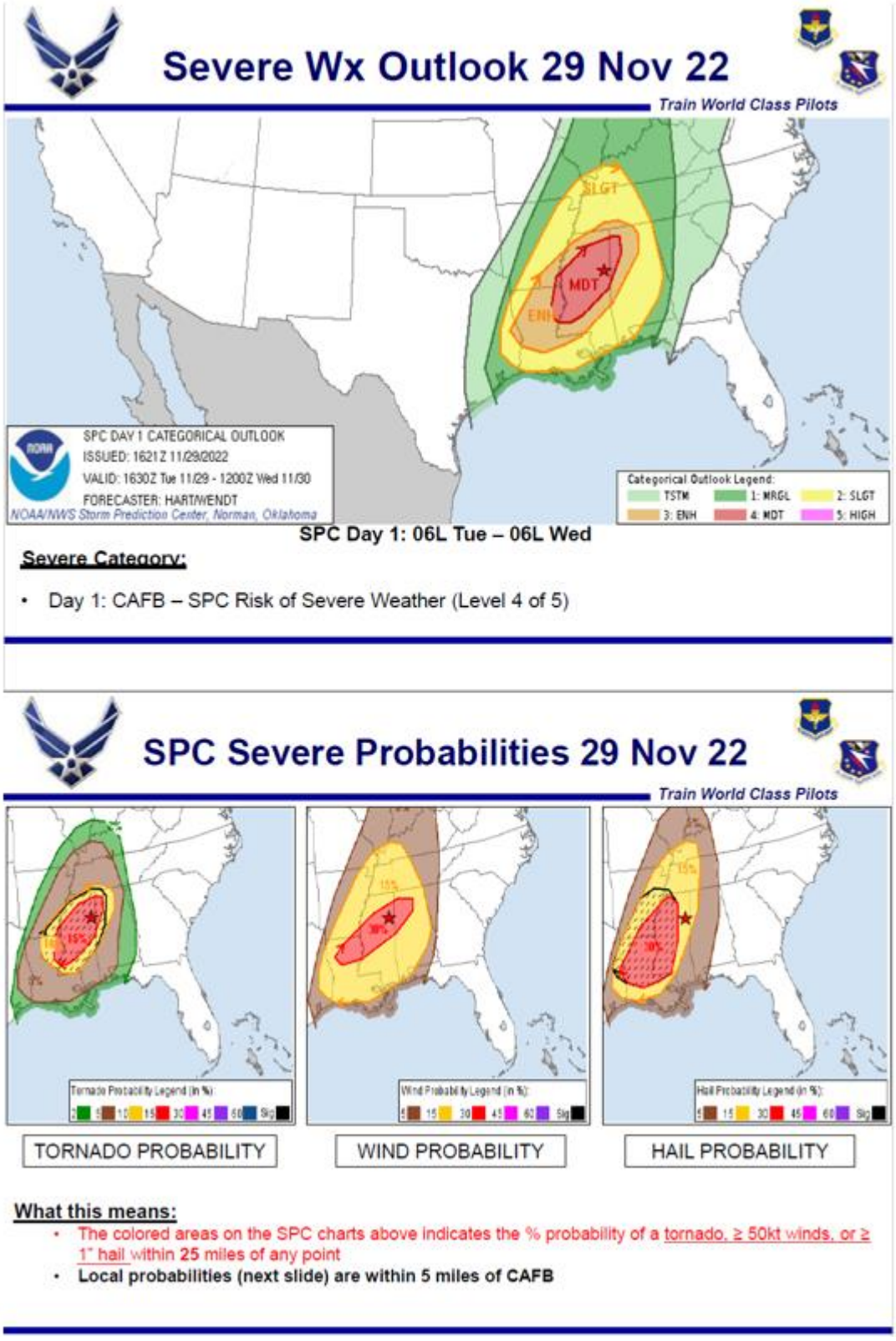
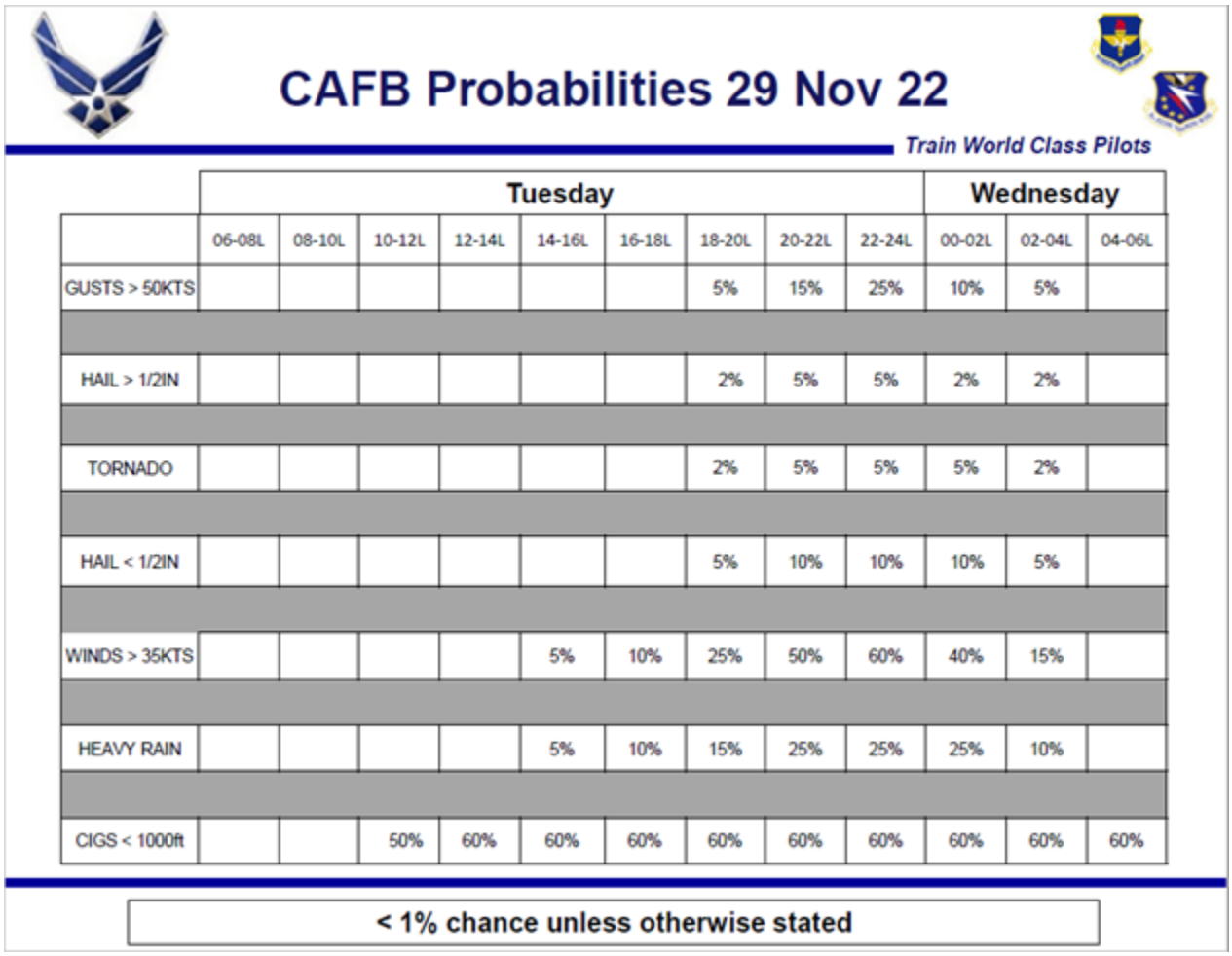


Figure A2.6. Severe Weather Probabilities.



CAFB Probabilities 29 Nov 22

Train World Class Pilots

	Tuesday									Wednesday		
	06-08L	08-10L	10-12L	12-14L	14-16L	16-18L	18-20L	20-22L	22-24L	00-02L	02-04L	04-06L
GUSTS > 50KTS							5%	15%	25%	10%	5%	
HAIL > 1/2IN							2%	5%	5%	2%	2%	
TORNADO							2%	5%	5%	5%	2%	
HAIL < 1/2IN							5%	10%	10%	10%	5%	
WINDS > 35KTS					5%	10%	25%	50%	60%	40%	15%	
HEAVY RAIN					5%	10%	15%	25%	25%	25%	10%	
CIGS < 1000ft			50%	60%	60%	60%	60%	60%	60%	60%	60%	60%

< 1% chance unless otherwise stated

Figure A2.7. Tropical Weather Outlook.

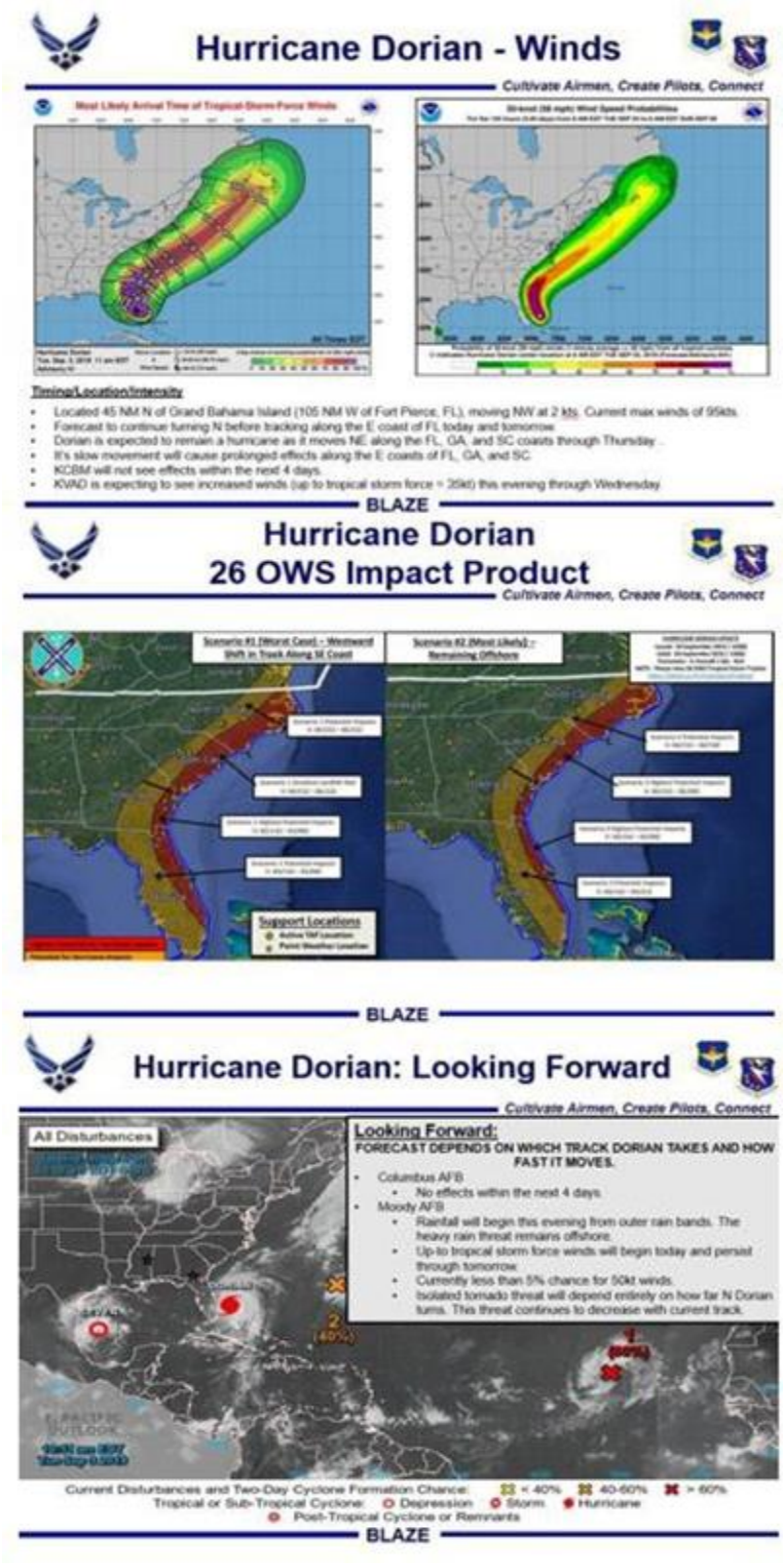


Figure A2.8. Map of AOR.