BY ORDER OF THE SEYMOUR JOHNSON AIR FORCE BASE COMMANDER

SEYMOUR JOHNSON AIR FORCE BASE INSTRUCTION 15-101

11 JULY 2023

WEATHER

WEATHER SUPPORT PROCEDURES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Weather Operations*, Air Force Doctrine Document (AFDD) 2-9.1, *Weather Operations*, Air Force Instruction (AFI) 10-2501, *Emergency Management Program*, Air Force Manual (AFMAN) 15-111, *Surface Weather Observations*, AFMAN 15-124, *Meteorological Codes*, AFI 15-128, *Weather Force Structure* - Chapter 2, AFMAN 15-129, *Air and Space Weather Operations* – Para. 7.2., and DAFMAN 91-203, *Air Force Occupational Safety Fire and Health Standards*. This instruction provides guidance and establishes the responsibilities and procedures for providing and using weather services at Seymour Johnson AFB, North Carolina. It provides general information for weather services including weather observations and forecasts; weather warnings, watches, and advisories; spaces weather supported services and dissemination of information and reciprocal support. This publication applies to the Regular Air Force, Air Force Reserve, Air National Guard (ANG), and civilian employees of the U.S. Air Force. 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 Major Command (MAJCOM) publications/forms managers. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed of in accordance with the Air Force Records Disposition Schedule (RDS), which is located in the Air Force Records Information Management System (AFRIMS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. The use

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SUMMARY OF CHANGES

This publication has been substantially revised and must be completely reviewed. Major changes include critical Weather Watches, Warning, and Advisory edits; operational impacts of adverse weather; product responsibility, to include the Terminal Aerodrome Forecast; contingency contact information; operational products; and any other changes made by the release of updated Air Force regulations to this date.

Chapter 1

GENERAL INFORMATION

1.1. General. The 4th Operations Support Squadron (OSS/OSW) Weather Flight (WF) provides and/or arranges weather services to the 4th Fighter Wing and other units assigned to Seymour Johnson AFB, North Carolina. Basic concepts and procedures are outlined in Air Force and Air Combat Command directives. This document establishes requirements and procedures for areas of weather support that must be coordinated at the local level to meet mission needs. It consolidates weather support requirements and procedures for operations and eliminates the need for written agreements between the weather unit and supported organizations.

1.2. The 4 OSS/OSW Location and Hours of Operation

1.2.1. The 4 OSS/OSW, is open 24/7 with the exception of ACC family holidays and federal holidays. During closure hours, the WF will have personnel on stand-by. If weather support is required, contact the command post. If the standby forecaster cannot be reached, contact the Flight/CC or Flight Chief of the 4 OSS/OSW. The Weather Flight (WF) is collocated with Airfield Operations, Building 4607.

Table 1.1. 4 OSS/OSW Contacts and Links.

4 OSS Contacts and Links	
Weather Flight Commander	DSN 315-722-4535
Weather Flight Chief	DSN 315-722-4538
Airfield Services Forecaster (24/7)	DSN 315-722-4089
Mission Forecaster	DSN 315-722-4087
Alternate Operating Location	DSN 315-722-7588
SharePoint	https://usaf.dps.mil/sites/SeymourJohnson/4th_fw/Operations/OSS/OSW/SitePages/Home.aspx
Note: For commercial calls, dial area code 919 followed by the last 7 digits of the number.	

1.3. Roles and Responsibilities.

1.3.1. The 4 OSS/OSW implements their responsibilities under three main elements:

1.3.1.1. Staff Integration Function provides direct interface to the 4 FW Commander (4 FW/CC) and staff. 4 OSS/OSW assists in the development of weather support plans and processes for the 4 FW and associated units. The WF will support Seymour Johnson AFB in provided products and/or weather related information required by regulations or as directed by the 4 FW/CC.

1.3.1.2. Airfield Support Function provides resource protection and meteorological watch (METWATCH). The WF has the role of issuing, amending, and cancelling forecast and observed warnings and advisories. The WF will create and disseminate the Terminal Aerodrome Forecast (TAF) for the installation.

1.3.1.3. Mission Integration Function provides support to the 4 FW through Mission Weather Products (MWP), which is commonly known as the Mission Execution Forecast (MEF), or similar means. The WF is responsible for mission/event planning briefs for the 4 FW mission. Non-routine mission briefings can be requested through this function.

1.4. Duty Priorities. In order to ensure high priority duties are accomplished during periods of increased operations tempo, the WF duty priorities are listed in **Table 1.2**.

Table 1.2. Duty Priority List

Priority	Duties
1	Perform Emergency War Order (EWO) Taskings
2	Execute (OSS/OSW) Evacuation / Continuity of Operations Plan
3	Issue / Disseminate Imminent Hazardous Weather Warnings
4	Respond to Aircraft / Ground Emergencies
5	Respond to Pilot to Metro Service (PMSV) Contacts
6	Provide Hazardous Weather Information to Supervisor of Flying (SOF), 4 FW and 916 ARW Leadership
7	Issue / Disseminate Weather Watches, Warnings, and Advisories
8	Disseminate Terminal Aerodrome Forecast (TAF)
9	Augment AMOS Observations for Mandatory Elements
10	Mission Execution Forecast Process -- Produce and Disseminate Forecasts (4 FW MWP and 916 ARW 175-1s)
11	Disseminate PIREPs
12	Collaborate Weather Products with Supported Units
13	Perform METWATCH / MISSIONWATCH Activities (4 FW and 916 ARW)
14	Provide Staff Briefings/ Non-standard Weather Products
15	Weather Functional Training
16	Accomplish Administrative Tasks

1.5. Assumptions, Shortfalls, and Limitations.

1.5.1. WF Assumptions

1.5.1.1. Weather support can only be provided if appropriate facilities, funding, communications, personnel, and indigenous support (power, water, etc.) are available.

1.5.2. WF Shortfalls

1.5.2.1. Some services may not always be available (out-of-station briefings) due to WF manning, station evacuation, or other higher priority missions. 4 OSS/OSW will do all it can to provide the most support within these constraints

1.5.3. WF Limitations

1.5.3.1. Short-notice requests for routine weather services must be minimized. Pre-coordination for weather services is a major factor in allowing WF leadership to de-conflict and prioritize requests based on available resources and duty priorities. Requests for weather support outside of the WF's operational chain of command will be routed through OSS leadership.

1.5.3.2. Due to the unpredictability of weather events, forecasts beyond 30 hours will be used for planning purposes only.

1.6. Weather Equipment and Technical Assistance. The WF relies heavily on various forms of equipment in order to provide weather support. Most noteworthy are the Fixed Meteorological

Equipment (FMQ)-19, FMQ-22, Tactical Meteorological Equipment (TMQ)-53, Joint Environmental Toolkit (JET), Kestrel, phones, and PMSV.

Table 1.3. Equipment Maintenance.

Meteorological Equipment	Maintaining Organization	Mission Impact
FMQ-19	4 OSS/OSAM	USAF automated weather observing system in use at SJAFB. Any outage removes instantaneous METWATCH of airfield conditions.
FMQ-22	4 OSS/OSOR	Sole automated weather observing system in use at Dare County Range. Any outage removes all weather observing capabilities from the range, limiting low-level use of the facilities.
TMQ-53	4 OSS/OSW and/or 557 WW FSSC	Deployable weather observing system. Any outage critically impacts unit's deployable capabilities.
Kestrel 5500	4 OSS/OSW	Deployable wind measuring tool. Used in back-up roles. Outages marginally affect deployable observing capabilities.
JET	557 WW FSSC	Primary means to disseminate weather watches, warnings, and advisories, weather sensor data, and weather pilot reports for SJAFB. Any outage is critical to 4 FW emergency response and recovery mission.
LAN	4 CS/CFP	Primary means to disseminate tailored weather forecasts, observations, watches, warnings, and advisories for SJAFB. Any outage is critical to 4 FW operations.
Phones/Hotlines	4 CS/SCOIP	Primary means to disseminate updates to the SOF and key leadership. Any outage is critical to 4 FW operations.
UHF Radio (PMSV)	4 OSS/OSAM	Primary means to contacting and relaying time-critical weather information to DoD airborne aircraft. Any outage is critical to 4 FW and 916 ARW operations.
Note: The above equipment will be maintained and repaired according to the maintaining organization's prescribed priorities and scheduled response times.		

1.6.1. 557th Weather Wing (WW) Fielded Systems Support Center (FSSC) Equipment Technical assistance. The FSSC and 4 OSS/OSAM are the points of contact for 4 OSS/OSW when it requires technical assistance with the FMQ-19, FMQ-22, TMQ-53, or JET. Service is provided 24 hours a day, 7 days a week to handle trouble calls. The FSSC will maintain detailed information on all outages and will track these outages until successful resolution. The 4 OSS/OSW will not contact the contractors directly unless otherwise directed.

1.6.1.1. 4 OSS/OSW will conduct basic troubleshooting to determine the nature of the equipment outage using system manuals, local troubleshooting guides, or available instructions before contacting the FSSC. With assistance from the FSSC, 4 OSS/OSW personnel will generally be able to resolve most problems. If the problem cannot be resolved, the FSSC will contact the appropriate maintenance agency. In some cases, the FSSC may direct the unit to contact the 4th Communications Squadron (CS).

1.7. Weather Flight Backup Support. There are many different scenarios that could cause an interruption of service from either the OWS or the WF.

1.7.1. Weather Flight. For standard evacuations, support will resume operations from the Alternate Operating Location (AOL). For longer interruptions, the WF will coordinate required support with other organizations. The flight will continue to operate as normal as possible at the alternate facility. Most services will still be available, but dependent upon on communication and equipment status, some services will be limited. For real-world mission requirements, the WF will not evacuate during exercises.

1.8. Release of Weather Information . Refer any requests for weather information by non-Department of Defense (DoD) agencies to the 4 FW Public Affairs, who determines if providing information is in the best interest of the installation.

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

1.9.1. Formal/informal feedback methods include:

1.9.1.1. Completing a feedback form located on the WF's SharePoint site and emailing it to the WF's org box (**4oss.osswadmin@us.af.mil**).

1.9.1.2. Calling the forecaster counter.

1.9.1.3. Email and/or phone calls to the Flight/CC or Flight Chief.

1.9.1.4. Face to face feedback after any briefing.

1.9.1.5. Calling on PMSV at 323.925 MHz.

1.10. Aircraft Mishap Procedures. SJAFB WF and the 26th Operational Weather Squadron (OWS) have a role when the airfield is advised of an emergency or mishap. The WF will ensure applicable data is used in the development of a weather product and/or service provided is saved for an investigation. The WF and OWS will save enough data from before through after the mishap to fully reconstruct the meteorological environment.

Chapter 2

AIRFIELD WEATHER SERVICES

2.1. General.

2.1.1. Airfield weather services forecaster provides weather information to personnel operating on the Seymour Johnson Airfield, Wing leadership, and other personnel by request.

2.1.2. The Airfield forecaster produces the TAF, provides weather observing, meteorological watch, and resource protection for the area within 5 miles of Seymour Johnson AFB.

2.2. Observations. Observations are available 24/7 via the FMQ-19 Automated Observing System (AOS) and are disseminated through the JET via **https://owsjet26.us.af.mil/portal/public/Guest/AORSensorData**. During published hours, these observations may be augmented by certified weather technicians.

2.2.1. Observing Site. The official point of observation is the FMQ-19 located at both ends of the runway. For augmentation and back up purposes, the point of observation is the end of the sidewalk located behind the weather station, building 4507. Please see **Figure 2.1** for locations of the FMQ-19 sensors.

2.2.2. Observation Site Limitations. From the back-up observation point, the runway complex visibility markers are obstructed to the south through southwest due to the aircraft shelters. The observer is also unable to see the runway approach on each end of the runway. From the southwest, clockwise to the east, surrounding buildings and trees significantly obstruct the observer's ability to accurately determine visibility, cloud coverage, and heights. Also, the stadium lights installed on the runway complex significantly deteriorate the observer's ability to take accurate nighttime observations. In addition, the flat terrain surrounding the base provides only a limited number of visual markers to determine the prevailing visibility.

2.3. Types of Observations.

2.3.1. Record Observations (METAR): These observations are transmitted between 55 and 59 minutes past each hour.

2.3.2. Special Observation (SPECI): These observations are transmitted when weather thresholds in **Table 2.1** are crossed.

Table 2.1. SPECI Criteria.

CEILING (FT)		VISIBILITY (SM)		RVR (FT)	
100	800	1/4	1 1/2	600	5000
200	1000	1/2	1 3/4	1000	6000
300	1500	5/8	2	1200	
400	2000	3/4	2 1/4	1600	
500	2300	7/8	3	2000	
600	3000	1		2400	
700		1 1/4		4000	
PRESENT WEATHER					
Precipitation beings, ends, or changes intensity (any type)		Thunderstorm begins or ends		Tornado, funnel cloud, water spout	
OTHER					
Winds GTE 10KT shift 45 degrees or more in LT 15 minutes		Volcanic eruptions with ash cloud visible from runway		Upon Resumption of official observing	
Squall		Aircraft Mishap			

2.3.3. Local Observations: An unscheduled observation, reported to the nearest minute, not meeting SPECI criteria but significant to current operations.

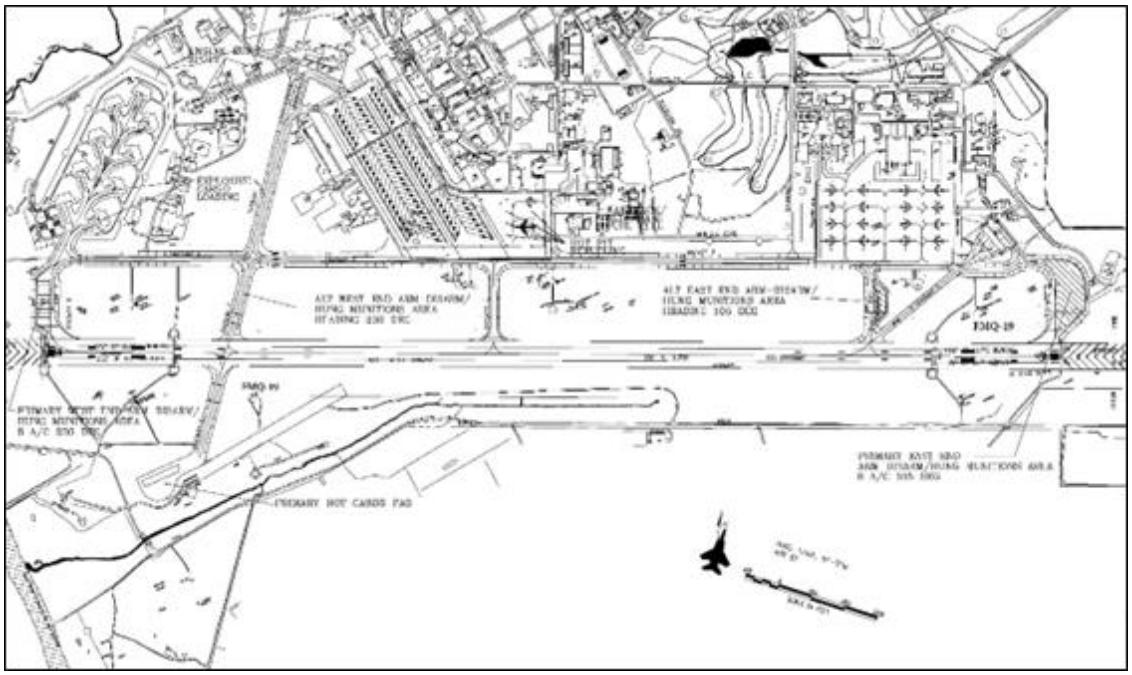
2.3.3.1. Only take single element LOCALs for altimeter setting changes. All LOCAL altimeter setting reports will be prepared and disseminated as soon as possible after the relevant altimeter setting change is observed. Only take a single element LOCAL during back-up operations of the AMOS pressure sensor. For LOCALs taken in support of aircraft operations, the code form will be METAR. A METAR or SPECI taken within the established time interval will meet this requirement.

2.3.3.2. Altimeter Setting **(**ALSTG): LOCAL altimeter setting observations are taken at an interval not to exceed 35 minutes when there has been a change of 0.01 in/Hg or more since the last ALSTG value.

2.4. Cooperative Weather Watch (CWW). To ensure accuracy in automated observations, a CWW has been established between the WF and Air Traffic Control (ATC) personnel. This is designed to aid weather technicians in augmenting/backing up AN/FMQ-19 observations. While performing the Cooperative Weather Watch, ATC personnel will immediately contact 4 OSS/OSW weather technicians:

2.4.1. When tower visibility is less than or greater than 4 statute miles (6000 meters) and different from the surface prevailing visibility.

Figure 2.1. Airfield Diagram.



2.5. Alternate Operating Location (AOL). The 4 OSS/OSW will relocate to the Fire Station, Bldg 4601, in the event of a building evacuation. The alternate observing site is the SW corner of the parking area behind the building.

2.6. PMSV Support. Weather information is available during Seymour Johnson airfield operating hours on frequency 323.925. The duty weather forecaster will monitor PMSV traffic during normal operations for all aircraft contacts.

2.6.1. Pilot Weather Reports (PIREPs) provide forecasters with crucial weather information required to ensure accurate forecast products and safety of flight. All supported flying squadron commanders will maintain an active PIREP program and pass pertinent information to weather personnel as soon as possible via the PMSV, SOF, Top 3, or integrated Mission Function forecaster. Aircrew will relay any weather encountered which may jeopardize flight safety.

2.6.2. Weather personnel will disseminate PIREPs to the SOF and Top 3 following local procedures. All PIREPs will be disseminated longline.

2.6.3. PMSV Outages. When the PMSV is logged out/not usable, the WF will coordinate with local units to inform them of the outage. If the outage is (or expected to be) longer than 6 hours, the forecaster will coordinate with Airfield Management to ensure a NOTAM is issued for the outage. There is no PMSV support from the AOL.

2.6.4. A daily radio check is executed to ensure proper PMSV functionality.

2.7. Terminal Aerodrome Forecast (TAF). The Seymour Johnson AFB TAF will be produced and disseminated by the WF. The TAF is valid for 30 hours and will be issued at 05Z, 13Z, and 21Z (04Z, 12Z, 18Z during daylight savings time). The WF will create, correct, and amend the TAF IAW **Table 2.2**.

Table 2.2. TAF Criteria.

CEILING	VISIBILITY	CATEGORY
Ceiling/Visibility observed or expected to decrease to less than, or below, increase to equal or exceed:		
< 200	< 1/2	A
< 300	< 1	B
< 500	< 1	C
< 700	< 1 1/2	D
< 1000	< 2	E
< 1500	< 3	F
< 2000	< 3	G
>= 2000	>= 3	H

2.8. Climatological Services. The WF has the capability to provide monthly climatology summary for Seymour Johnson AFB units. The summary includes at a minimum:

2.8.1. Monthly maximum, mean, and minimum ambient air temperatures

2.8.2. Daily, monthly, annual rainfall and snowfall totals

2.8.3. Daily ambient air temperatures

2.8.4. Daily peak wind and direction

2.8.5. Monthly maximum 24-hour rainfall and snowfall total

2.9. Resource Protection. Resource protection encompasses details on weather watches, warnings, and advisories (WWAs). The WF is responsible for all weather warnings, watches, and advisories for Seymour Johnson AFB, with the exception of the tropical WWAs. The OWS is responsible for all WWAs for Dare County Range and Fort Fisher Recreation Area (Tables **2.4** and **2.5**.).

2.9.1. A weather watch is a special notice sent to customers indicating that conditions are favorable (potential) for the development of a particular type of weather phenomena.

2.9.2. Weather warnings are special notices sent out to customers alerting them that a predicted weather event, which will pose a threat to life or property, is expected to occur.

2.9.3. A weather advisory is a special notice sent to customers alerting them that a predefined weather phenomenon, which may impact operations, is forecast to occur or has been observed at Seymour Johnson AFB.

Table 2.3. Seymour Johnson AFB WWAs.

Weather Watches		
ISSUER	**PHENOMENA**	**DLT**
4 OSS/OSW	Tornado within 5 NM	As Potential Warrants
	Lightning within 5 NM	30 min
	Damaging Winds GTE 50 kts	As Potential Warrants
	Strong Winds GTE 30 kts but LT 49 kts	As Potential Warrants
	Moderate Thunderstorm (Winds GTE 30 kts and/or hail GTE 1/4 inch but LT 3/4 inch)	As Potential Warrants
	Severe Thunderstorm (Winds GTE 50 kts and/or hail GTE 3/4 inch)	As Potential Warrants
	Heavy Snow GTE 2 inches in 12 hrs	As Potential Warrants
	Freezing Precipitation (any intensity)	As Potential Warrants
	Neuse River Flood Conditions GTE 19 ft at Arrington Bridge	6 hrs
26 OWS	Tropical Storm Effects (winds GTE 34 kts but LT 64 kts, rain GTE 2 inches, and conditions for tornadoes)	72 hrs/3 days
	Hurricane Effects (winds GTE 64 kts, rain GTE 2 inches, and conditions for tornadoes)	72 hrs/3 days
	Pre-Tropical (winds GTE 34 kts but LT 64 kts and rain GTE 2 inches prior to tropical conditions)	As Potential Warrants
Weather Warnings		
ISSUER	**PHENOMENA**	**DLT**
4 OSS/OSW	Tornado within 5 NM	15 min
	Lightning within 5 NM	Observed
	Lightning within 10 NM	Observed
	Damaging Winds GTE 50 kts	60 min
	Strong Winds GTE 30 kts but LT 49 kts	30 min
	Moderate Thunderstorm (Winds GTE 30 kts and/or hail GTE 1/4 inch but LT 3/4 inch)	60 min
	Severe Thunderstorm (Winds GTE 50 kts and/or hail GTE 3/4 inch)	60 min
	Heavy Snow GTE 2 inches in 12 hrs	60 min
	Freezing Precipitation (any intensity)	60 min
26 OWS	Tropical Storm Effects (winds GTE 34 kts but LT 64 kts, rain GTE 2 inches, and conditions for tornadoes)	12 hrs
	Hurricane Effects (winds GTE 64 kts, rain GTE 2 inches, and conditions for tornadoes)	12 hrs
	Pre-Tropical Storm (winds GTE 35 kts but LT 64 kts and rain GTE 2 inches prior to tropical conditions)	2 hrs
	Post-Tropical Storm (winds GTE 35 kts after tropical conditions)	2 hrs
Weather Advisories		
ISSUER	**PHENOMENA**	**DLT**
4 OSS	Lightning within 10 NM	30 min

	Winds GTE 20 kts	Observed
	Neuse River Flood Conditions GTE 19 ft at Arrington Bridge	Observed
	Ice Fod Conditions exist	Observed
	Temperature LTE 40F	Observed
	Snow Accumulation GT 1/2 inch but LT 2 inches	60 min
	AOL Activation/WF Evacuation	Observed

Table 2.4. Dare County WWAs.

Weather Watches		
ISSUER	**PHENOMENA**	**DLT**
26 OWS	Tornado within 25 NM	As Potential Warrants
	Lightning within 10 NM	30 min
	Damaging Winds GTE 50 kts	As Potential Warrants
	Moderate Winds GTE 35 kts but LT 49 kts	As Potential Warrants
	Moderate Thunderstorm (Winds GTE 35 kts and/or hail GTE 1/4 inch but LT 3/4 inch)	As Potential Warrants
	Severe Thunderstorm (Winds GTE 50 kts and/or hail GTE 3/4 inch)	As Potential Warrants
	Tropical Storm Effects (winds GTE 34 kts but LT 64 kts, rain GTE 2 inches, and conditions for tornadoes)	72 hrs/3 days
	Hurricane Effects (winds GTE 64 kts, rain GTE 2 inches, and conditions for tornadoes)	72 hrs/3 days
	Pre-Tropical (winds GTE 34 kts but LT 64 kts and rain GTE 2 inches prior to tropical conditions)	As Potential Warrants
Weather Warnings		
ISSUER	**PHENOMENA**	**DLT**
26 OWS	Tornado within 25 NM	15 min
	Lightning within 10 NM	Observed
	Damaging Winds GTE 50 kts	90 min
	Moderate Winds GTE 35 kts but LT 49 kts	90 min
	Moderate Thunderstorm (Winds GTE 35 kts and/or hail GTE 1/4 inch but LT 3/4 inch)	60 min
	Severe Thunderstorm (Winds GTE 50 kts and/or hail GTE 3/4 inch)	2 hrs
	Tropical Storm Effects (winds GTE 34 kts but LT 64 kts, rain GTE 2 inches, and conditions for tornadoes)	12 hrs
	Hurricane Effects (winds GTE 64 kts, rain GTE 2 inches, and conditions for tornadoes)	12 hrs
	Pre-Tropical Storm (winds GTE 35 kts but LT 64 kts and rain GTE 2 inches prior to tropical conditions)	2 hrs
	Post-Tropical Storm (winds GTE 35 kts after tropical conditions)	2 hrs
Notes: - WWAs will be issued for Dare County Range Monday – Friday (0000L-2400L)		

- Weekend support requires prior coordination

Table 2.5. Fort Fisher Recreation Area WWAs.

Weather Watches		
ISSUER	**PHENOMENA**	**DLT**
26 OWS	Tornado within 10 NM	As Potential Warrants
	Damaging Winds GTE 50 kts	As Potential Warrants
	Severe Thunderstorm (Winds GTE 50 kts and/or hail GTE 3/4 inch)	As Potential Warrants
	Tropical Storm Effects (winds GTE 34 kts but LT 64 kts, rain GTE 2 inches, and conditions for tornadoes)	72 hrs/3 days
	Hurricane Effects (winds GTE 64 kts, rain GTE 2 inches, and conditions for tornadoes)	72 hrs/3 days
	Pre-Tropical (winds GTE 34 kts but LT 64 kts and rain GTE 2 inches prior to tropical conditions)	As Potential Warrants
Weather Warnings		
ISSUER	**PHENOMENA**	**DLT**
26 OWS	Tornado within 10 NM	15 min
	Damaging Winds GTE 50 kts	60 min
	Severe Thunderstorm (Winds GTE 50 kts and/or hail GTE 3/4 inch)	60 min
	Tropical Storm Effects (winds GTE 34 kts but LT 64 kts, rain GTE 2 inches, and conditions for tornadoes)	12 hrs
	Hurricane Effects (winds GTE 64 kts, rain GTE 2 inches, and conditions for tornadoes)	12 hrs
	Pre-Tropical Storm (winds GTE 35 kts but LT 64 kts and rain GTE 2 inches prior to tropical conditions)	2 hrs
	Post-Tropical Storm (winds GTE 35 kts after tropical conditions)	2 hrs

Chapter 3

MISSION INTEGRATION

3.1. General. Mission services are those actions directly related to complete each customer's daily mission requirements. The MWPs (i.e. Mission Execution Forecasts, DD Form 175-1, etc.) are the primary tools used to accomplish these tasks. MWPs are tailored to the individual supported unit's requirements.

3.2. Operational Hours. Mission services are available during WF operational hours with standby support through the weekend, federal holidays, and 4 FW down days. Mission Integration hours will be adjusted based upon the 4 FW flying schedule and/or higher headquarters taskings.

3.3. Mission Weather Products.

3.3.1. Mission Execution Forecast (MEF). MEFs are a mission specific MWP that is developed using a two part (Administrative and Operational), four-step process and may be provided by a number of methods (web-based, verbally, share drive, etc.). During this process, the WF will fuse and tailor products created by strategic and theater weather centers, as well as information supplied by local units (e.g. flying schedule) and agencies. The result is a product and information designed to provide timely, accurate, and relevant weather intelligence to the Operations Group (OG) Commander, SOF, and Top 3 by whatever means proves most effective.

3.3.1.1. The MEF will be completed and posted on the OSW SharePoint and the SJAFB Mobile APP at 0300L and 1100L (Monday through Friday) and will cover the flying window.

3.3.1.2. The format of the MEF is subject to change in accordance with requirements and will be made in coordination with the OSS/Director of Operations (DO) and the Fighter Squadron DOs.

3.3.2. DD Form 175-1 Weather Briefings. 175-1 briefings are provided to aircrews upon request. For a complete breakdown of the 175-1 elements refer to AFMAN 15-129.

3.4. Step Briefs.

3.4.1. When manning allows, WF forecasters will provide in-person step briefs at the Fighter Squadrons 70 minutes prior to take-off. Step brief will be tailored to the mission set and will include at a minimum satellite, radar, takeoff/landing conditions for Seymour Johnson AFB, operating area conditions, and aviation hazards.

3.5. MISSIONWATCH. Used to describe the process of how the WF monitors the weather for all missions. All on-site meteorological and commercial data sources may be used to accomplish this task and is the primary responsibility of the duty forecaster. It is through this method that MEF amendments or updates are accomplished. During rapidly changing weather, the WF will amend/update MEFs anytime amendment criterion is met, or at any time deemed necessary to ensure flight safety. WF will contact the SOF and Top 3 to pass on critical changes to applicable aircrews.

3.6. Product Dissemination.

3.6.1. Joint Environmental Toolkit (JET). JET is used to produce and send DD Form 175-1s.

3.6.2. Weather SharePoint Page. The WF maintains all mission and staff related weather products on SharePoint, refer to **Table 1.1** for the link.

3.6.3. Web-based distribution. In an effort to facilitate easy communication and assist in mission planning, the WF will disseminate approved, unclassified weather products on OSW web-based communications platforms. Contact the WF for access and additional details.

3.7. Mission Information. Seymour Johnson AFB has robust training and operational missions, specific weapons systems, and multiple organizations to support. All of these are limited by weather parameters. Attachment **2** and **3** identifies these factors associated with the type of weather that effects the mission, weapons system, and organization for the 4 FW and 916 ARW. **Figure 3.1**. Shows the common training and refueling areas.

Figure 3.1. Common Training Areas and Refueling Areas.

Common Military Operating Areas (MOAs)

Common Low Level Tracks

Burner Air Refueling Track

3.8. Electro-Optical Weather Support. The WF maintains the capability to provide electro-optical weather support for TV, infrared (IR), laser weapons systems as well as night vision goggles (NVGs). The calculations are made using Target Acquisition Weather Software (TAWS). Tactical Decisions Aids (TDA) computations and meteorological inputs are time consuming and manpower intensive.

3.8.1. TAWS Concept of Operations. TDA data will be provided as required. The TDA data may consist of the following, depending upon the specific output requested, and the program used (i.e., TAWS):

3.8.1.1. Solar and Lunar Data

3.8.1.2. TAWS can be used to generate IR detection range, day/night IR visibility, inherent temperature contrast, 4km transmissivity (transmissivity values will be considered representative for the mean low level route transmissivity values), and absolute humidity for both narrow field of view and wide field of view. TAWS can be used to generate values for nighttime IR/NVG detection range, weather-impacted ground illumination. TAWS can also be used to generate values/percentages for Cloud-Free Line-Of-Sight (CFLOS).

3.8.1.3. Forecast for the Target Area

3.8.2. TDA Requests

3.8.2.1. When specialized TDA support is required, aircrew will call or email the WF using the TDA request form to provide the information required by the forecaster at least 2 hours prior to when it is needed. The time is needed in order for the forecaster to run input the necessary data and run the program.

3.8.2.2. Specialized TDA support for off-station assets is available as WF operations permit.

Chapter 4

STAFF INTEGRATION FUNCTION

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

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

4.3. 4 FW Leadership Meetings. Staff weather briefings for the 4 FW are completed Monday through Friday with the exception of holidays and will be posted to the SharePoint and SJAFB Mobile App by 0830L.

4.3.1. WF leadership or a designated representative will provide an in-person briefing every week, or whenever hazardous weather conditions are expected to impact the 4 FW mission or resources.

4.3.2. The brief will include a seven day forecast and any extra pertinent weather information, like hurricanes and river flooding.

4.4. Instrument Refresher Course (IRC) Briefings. IRC training for the 4 FW are conducted once a month per the schedule disseminated by the IRC lead. The IRC briefs will be tailored to the season and focus on local weather effects.

4.5. Safety Briefs. WF will provide safety briefings as requested at the quarterly flight safety brief. The safety topics will be tailored to focus on local effects such as cold air damming.

4.6. Flight Information Publication (FLIP) Weather Updates. The WF is responsible for ensuring updates will be requested through the Airfield Management Operations FLIP Manager, 4 OSS/OSAA. The FLIP Manager will process the information to Air Force Flight Standards Agency (AFFSA/OL-D). Updates will fall in one of three categories: revisions, changes, or corrections.

4.7. Pre-Deployment Planning Briefings. The WF will provide pre-deployment weather briefings when requested for permanently assigned deploying units. The content of the briefing will vary depending on the customer's requirements. Coordination in advance with WF Leadership is required.

4.8. Tropical. The WF Leadership will brief Wing leadership anytime tropical systems enter Seymour Johnson AFB's area of concern (AOC) during hurricane season which is from 1 June to 30 Nov.

4.8.1. Our AOC is between 27° and 44° north latitude and between 68º and 88° west longitude. The WF may begin 24/7 operations when the Hurricane Condition of Readiness (HURCON) Authority, the FW/CC, initiates HURCON 2. Due to the complex nature of hurricanes, WF Leadership will determine the best course of action to address weather support and advise 4 FW Leadership in coordination with the 4 OSS/DO. The WF Leadership will also stress the accuracy of hurricane forecasts beyond 72 hours is subject to a wide margin of error.

Table 4.1. HURRICANE CONDITIONS OF READINESS

HURCON	Criteria
5	Destructive winds are possible within 96 hours (1).
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.
1C	Caution: Winds of 40-57 mph/35-49 knots sustained are occurring.
1E	Emergency: Winds of 58 mph/50 knots sustained and/or gusts of 69 mph/60 knots or greater are occurring.
1R	Recovery: Destructive winds 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
(1). Commanders may direct an installation to stay in HURCON/TCCOR 5 for an entire Tropical Cyclone or Hurricane season if desired. This is discouraged due to the potential of the base/installation population becoming complacent in a prolonged	

Chapter 5

SEVERE WEATHER ACTION PLAN

5.1. General . The Severe Weather Action Plan (SWAP) outlines procedures to help mitigate the threat of severe/mission limiting weather.

5.2. The 4 OSS/OSW Responsibilities. 4 OSS/OSW performs SWAP responsibilities as defined in AFMAN15-129, WF/26 OWS Installation Data Page (IDP), and local weather procedures.

5.2.1. The duty forecaster implements SWAP by notifying the Severe Weather Action Team (SWAT) member on duty whenever one or more conditions in **Table 5.1** are met. If deemed necessary, the WF leadership will arrange for additional manpower to support.

Table 5.1. SWAP Criteria.

SWAP CRITERIA	
Tornado Watch/Warning	Damaging Winds Watch/Warning
Severe Thunderstorm Watch/Warning	Freezing Precipitation Watch/Warning

5.2.2. If there are active missions, the forecaster will enhance MISSIONWATCH and keep the SOF updated on changes IAW duty priorities.

5.2.3. The forecaster will supplement observations for mandatory elements IAW AFMAN 15-111 and **Chapter 2** of this document.

5.2.4. Post Severe Event Procedures. If damage due to severe weather occurs, the 4 OSS/OSW leadership will follow OPREP-3 BEELINE reporting procedures to create a report for senior leadership.

Chapter 6

SPECIAL MISSION REQUIREMENTS

6.1. General. This chapter contains all of the specific local requirements of various organizations throughout Seymour Johnson AFB and verified by WF leadership. The requirements will be reviewed annually by the requesting unit and updated as required. If any unit requirement shall change, it is their responsibility to contact the WF leadership to request a change.

6.1.1. In general, the WF will identify inclement weather and will disseminate via the Integrated Weather Warning Capability (IWWC). Command Post will then notify all other predetermined agencies not mentioned below.

6.1.2. Weather limitations and sensitivities are provided in **Attachment 2** and **Attachment 3**.

6.2. Wing Safety (4 FW/SE). The WF will provide a primary and alternate representative as requested to the Interim Safety Board, Safety Investigation Board, and/or Accident Investigation Board. Weather personnel will provide weather data for inclusion in aircraft safety reports upon request and provide weather safety briefings in conjunction with flight safety meetings.

6.3. Seymour Johnson AFB Command Post (4 FW/CP).

6.3.1. WF provides notification of all weather WWAs via IWWC or by telephone when IWWC is not operational.

6.3.2. WF notifies 4 FW/CP when the AOL procedures are activated.

6.3.3. When requested, the WF will provide data for the CP-driven OPREP-3 report after a significant weather event.

6.4. Supervisor of Flying (SOF).

6.4.1. Upon request, the WF will provide SOF orientation training.

6.4.2. In addition to support detailed in the duty priorities list, the WF will:

6.4.2.1. Provide the SOF a face-to-face brief prior to the start of local flying and give updates regarding Seymour Johnson and alternate location weather conditions via phone and the MWP.

6.4.2.2. Notify the SOF during flying hours when local weather will deteriorate or improve and will impact the F-15E Pilot Categories listed in **Attachment 3**.

6.4.2.3. Notify the SOF during flying hours when the designated alternate is forecast to drop below a 1,000 foot ceiling or 2 statute mile visibility. The forecaster will be prepared to offer a viable alternative based upon the TAF.

6.4.2.4. Notify the SOF when issuing or canceling a WWA.

6.5. Civil Engineer Squadron (4 CES).

6.5.1. Upon request, provide meteorological data for the formation of a Chemical Downwind Message (CDM).

6.5.2. Relay WWAs to the 4 FW/CP and Airfield Management Operations (4 OSS/OSAA) for dissemination to 4 CES.

6.5.3. Provide weather forecasts or climatology to 4 CES as required.

6.5.4. Coordinate with 4 CES Emergency Management concerning weather conditions that could impact the base population (ie. Flash flooding, heavy snow, tornadoes).

6.6. Security Forces Squadron (4 SFS).

6.6.1. The WF will provide forecasts as requested for conditions that may adversely affect traffic flow of base roads (e.g. ice, snow, etc) or that may impact security forces personnel. When the WF is closed, forecasts will be available on the WF SharePoint Page at this link:

https://usaf.dps.mil/sites/SeymourJohnson/4th_fw/Operations/OSS/OSW/SitePages/Home.aspx

6.7. 4th Operations Support Squadron (4 OSS).

6.7.1. Disseminate all weather observations, forecasts, warnings, advisories, and watches to 4 OSS/OSAT, RAPCON (4 OSS/OSAR) and 4 OSS/OSAA via IWWC or telephone calls to ensure notification of all WWAs.

6.7.2. Maintain a program to provide weather orientation training for ATC personnel and certify tower controllers for limited weather observations to include Cooperative Weather Watch (CWW), METAR Code, TAF code and visibility determination. Document this training on the controller's AF Form 3622, Air Traffic Control/Weather Certification and Rating Record. Training will be conducted Monday-Friday, upon coordination with WF leadership.

6.7.3. Upon request, provide the Mission Planning Cell (4 OSS/OSK) with weather information concerning Razor Talon exercises, Wing exercises, or contingencies.

6.7.4. Provide 4 OSS/OSAA information on changes or updates to the DoD FLIP. Updates include, but are not limited to operating hours, PMSV frequencies, 26 OWS contact information, airfield ceiling and visibility thresholds, and pertinent observing information, such as use of automated equipment and limitations hindering unobstructed visibility observations. The WF will validate the accuracy of the information each time the FLIP is published and notify the FLIP manager (4 OSS/OSAA) within 5 duty days to change incorrect data.

6.8. 333d, 334th, 335th, and 336th Fighter Squadrons.

6.8.1. Maintain a qualified forecaster on station during scheduled flying hours.

6.8.2. When manning permits, provide a face-to-face step-briefing at the supported flying 70 minutes prior to take-off. Forecasters will also arrive prior to the step-briefing (coordinating with rally time) to support mission planning when manning allows.

6.8.3. Provide a MWP daily during 4 FW flying.

6.8.4. Provide other weather support as needed.

6.8.5. Provide weather forecasters as requested to support off-station exercise operations. These requests need to be coordinated with the 4 OSS/DO as well as WF leadership.

6.9. 916th Air Refueling Wing (ARW).

6.9.1. Maintain a qualified forecaster on station during scheduled flying hours.

6.9.2. Provide 175-1s in accordance with 916th ARW flying schedule.

6.9.3. When requested, provide staff briefings to the Wing leadership for exercises or real-world requirements. These briefings need to be coordinated in advance with WF leadership.

6.10. 4th Medical Group (4 MDG).

6.10.1. The WF will provide weather inputs such as wind, temperature, and dew point for inclusion into heat stress, fighter index of thermal stress, wind chill, and other calculations as requested.

6.11. 4th Logistics Readiness Squadron (4 LRS).

6.11.1. The WF will provide a weather update at the mobility concept brief consisting of a seven day forecast for SJAFB and 24-hour forecast for other locations as requested.

6.11.2. The WF will provide weather watches, warnings, and advisories to the Fuel Service Center via IWWC.

Chapter 7

RECIPROCAL SUPPORT

7.1. General. This chapter contains all of the specific support 4 OSS/OSW requires of other organizations throughout Seymour Johnson AFB. The requirements will be reviewed annually and updated as required. The responsible unit is accountable for contacting the WF should their capabilities change, impacting their ability to provide reciprocal support.

7.2. Command Post (4 FW/CP).

7.2.1. Notify critical agencies within 15 minutes after receiving a WWA.

7.2.2. Notify all other agencies not directly supported by the WF of the WWA. CP contacts 24-hour and emergency response agencies via telephone. All other agencies will be contacted via email.

7.2.3. Initiate Giant Voice for lightning watch/warning within 5 NM and other significant weather events during flying/airfield operations or any events that would impact base safety.

7.3. Supervisor of Flying (SOF.)

7.3.1. Notify weather personnel if any of the following occur:

7.3.1.1. Significant changes in ceiling/visibility.

7.3.1.2. Lightning or thunder observed.

7.3.1.3. PIREPs for local area, ranges, and MOAs and pass any PIREPs to the forecaster within 10 minutes of receipt.

7.3.1.4. Missions have diverted or if 4 FW flying hours have changed.

7.4. 4th Aerospace Medicine Squadron/Bioenvironmental Engineering (4 AMS/BE).

7.4.1. Act as the OPR for all issues regarding heat index and wind chill. They will take wet bulb global temperature (WBGT) measurements (as required) and calculate the heat index.

7.5. Airfield Operations Flight (4 OSS/OSA).

7.5.1. Notify the WF of any aircraft mishap via the secondary crash phone.

7.5.2. Disseminate WWAs received via the secondary crash phone.

7.5.3. Notify the WF of any changes to runway heading or status.

7.5.4. Invite the WF to the quarterly Airfield Operations Board (AOB).

7.5.5. Maintain or arrange for maintenance of all meteorological equipment and weather support communications that have been properly approved, procured, and installed. The WF understands in the event of conflicting maintenance priorities, maintenance technicians will follow the established restoral priority list.

7.6. Wing Scheduling (4 OSS/OSO)

7.6.1. Provide the WF the capability to access the daily flying schedule through Patriot Excalibur (PEX).

7.7. F-15E Flying Squadrons (333, 334, 335, 336 FS)

7.7.1. Provide feedback (as soon as practical) to weather forecasters of weather conditions over operating areas.

7.7.2. Immediately alert the WF to any short-notice changes to the scheduled brief time that would affect when the step brief will occur.

7.7.3. Notify WF leadership, no later than 1 week in advance, of special briefings or missions, and assign a POC to coordinate support.

7.7.4. Ensure PEX is up to date. This is critical to ensure the WF can adequately schedule and provide required support.

7.7.5. Notify the WF of all upcoming deployments and exercises that require organic weather support no later than 1 week in advance of when products are required.

Lucas J. Teel, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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

AFDD 2-9.1, 10-229, *Weather Operations, 3 May 2006*

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

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

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

AFMAN 15-129, *Air and Space Weather Operations, 9 July 2020*

DAFMAN 91-203, *Air Force Occupational Safety Fire and Health Standards, 25 March 2022*

AFI 33-322, *Records Management and Information Governance Programs, 28 July 2021*

AFH 11-203, *Weather for Aircrews, Volume 1, 12 January 2012*

AFH 11-203, *Weather for Aircrews, Volume 2 – Products and Services, 13 August 2015*

Prescribed Forms

N/A

Adopted Forms

AF FORM 847, *Recommendation for Change of Publication*

AF FORM 3622, *Air Traffic Control/Weather Certification and Rating Record*

DD 175-1, *Flight Weather Briefing*

Abbreviations and Acronyms

A/A—Air-to-Air

AAR—Air-to-Air Refueling

ACC—Air Combat Command

AFB—Air Force Base

AFDD—Air Force Doctrine Document

AFFSA/OL-D—Air Force Flight Standards Agency

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRIMS—Air Force Records Information Management System

ALSTG—Altimeter Setting

AMOS—Automated Meteorological Observing System

AOB—Airfield Operations Board

AOC—Area of Concern

AOL—Alternate Operating Location

ARW—Air Refueling Wing

ATC—Air Traffic Control

ATO—Air Tasking Order

BFM—Basic Flight Maneuvers

CAS—Close Air Support

CAT—Crisis Action Team

CC—Commander

CDM—Chemical Downwind Message

CFLOS—Cloud-Free-Line-Of-Sight

CP—Command Post

CS—Communications Squadron

CWW—Cooperative Weather Watch

DACT—Dissimilar Air Combat Training

DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

DoD—Department of Defense

DO—Director of Operations

DT—Dynamic Targeting

EWO—Emergency War Order

FLIP—Flight Information Publication

FMQ—Fixed Meteorological Equipment

FSSC—Fielded Systems Support Center

4 FW—4th Fighter Wing

HURCON—Hurricane Condition of Readiness

IAW—In Accordance With

IDP—Installation Data Page

INC—Incentive Flight

INST—Instrument Check

INT—Intercept Training

IRC—Instrument Refresher Course

IR—Infrared

IWWC—Integrated Weather Warning Capability

JET—Joint Environmental Toolkit

KT—Knot

LANT—Local Area Network

4 LRS—4th Logistics Readiness Squadron

MAJCOM—Major Command

4 MDG—4th Medical Group

MEF—Mission Execution Forecast

METAR—Aviation Routine Weather Report

METWATCH—Meteorological Watch

MOA—Memorandum of Agreement/Military Operating Area

MWP—Mission Weather Product

NVG—Night Vision Goggles

4 OG—4th Operations Group

OPR—Office of Primary Responsibility

OSO—Operations Support Squadron Current Operations

4 OSS—4th Operations Support Squadron

OSW—Operations Support Squadron Weather

OWS—Operational Weather Squadron

PEX—Patriot Excalibur

PIREP—Pilot Weather Report

PMSV—Pilot-to-Metro Service

RAPCON—Radar Approach Control

RDS—Records Disposition Schedule

4 SFS—4th Security Forces Squadron

SJAFB—Seymour Johnson Air Force Base

SJAFBI—Seymour Johnson Air Force Base Instruction

SOF—Supervisor of Flying

SPECI—Aviation Selected Special Weather Report

SWAP—Severe Weather Action Procedures

TAF—Terminal Aerodrome Forecast

TAWS—Target Acquisition Weather Software

TDA—Tactical Decision Aid

TMQ—Tactical Meteorological Equipment

WBGT—Wet Bulb Global Temperature

WF—Weather Flight

WWA—Watch, Warning, Advisory

WW—Weather Wing

VFR—Visual Flight Rules

XC—Cross Country Sortie

Attachment 2

WEATHER IMPACTS TO UNIT OPERATIONS

Figure A2.1. Weather Impacts to Operations

CUSTOMER	MISSION IMPACT	PROTECTIVE MEASURE
Tornado Warning		
All	Danger to life and property	Take shelter immediately
Damaging winds are forecasted within 5 NM. of Seymour Johnson AFB (50 knots)		
4 FW, 916 ARW	Cancels flight ops	Reschedule flight ops
4 MXG	Potential damage to aircraft	1. Hangar as many acft as possible 2. Close canopies 3. Tie down aircraft not able to hangar 4. Secure loose items 5. Evacuate personnel from the flight line before hail starts
4 OSS/OSAA (Tower)	Threat to personnel	Evacuate control tower when winds reach or forecast for 85KTS
4 CES	Increased unscheduled maintenance, damage to trees, buildings	1. Reschedule routine work 2. Remove fallen trees, repair buildings
4 SFS	Loose objects may cause damage	1. Advise personnel to secure all objects
Strong Surface Winds are forecasted within 5 NM. of Seymour Johnson AFB (30-49 knots)		
4 FW, 916 ARW	Cancels flight ops	All rescheduled
4 MXG	Potential damage to aircraft	1. Hangar as many acft as possible 2. Close canopies 3. Tie down aircraft not able to hangar 4. Secure loose items 5. Evacuate personnel from the flight line before hail starts
Hurricane force winds greater than 63 knots, heavy rain in excess of 2 inches, and the conditions for lightning and tornadoes are forecast to occur (64 knots)		
4 FW, 916 ARW	Cancels flight ops	Reschedule flight ops
4 MXG	Potential damage to aircraft	1. Secure open canopies (winds >60KTs) 2. Hangar aircraft 3. Tie down aircraft not able to hangar 4. Secure loose items
4 OSS/OSAA (Tower)	Threat to personnel	Evacuate control tower when winds reach or forecast for 85KTS
4 CES	Increased unscheduled maintenance, damage to trees, buildings	1. Reschedule routine work 2. Remove fallen trees, repair buildings

4 SFS	Loose objects may cause damage	1. Advise personnel to secure all objects
Tropical Storm force winds greater than 34 knots but less than 64 knots, heavy rain in excess of 2 inches, and the conditions for lightning and tornadoes are forecast to occur (35-63 knots)		
4 FW, 916 ARW	1. Delays maintenance ops and cancels normal training missions 2. Requires OG/CC waiver approval	All rescheduled
4 MXG	1. Aircraft may fall from jacks 2. Aircraft/equipment may be damaged 3. Loose objects may cause damage 4. Personnel are at risk of injury in winds >40KTs 5. Affects MXG ops	1. Aircraft with significant weight removed must be sheltered or removed from jacks 2. Move loose equipment to storage 3. Secure loose objects and check area for security 4. Suspend/postpone outdoor mx except actions required to safeguard aircraft (only when winds are sustained or gusting >40KTs) 5. Limits MXG ability to accomplish the mission.
Lightning W/In 5 Nm Warning (Observed)		
4 FW, 916 ARW	Delays flying, and delays/cancels maintenance and refueling	Suspend flying, maintenance, and refueling
4 MXG	Threat to personnel	1. Discontinue all fueling ops 2. Stop all munitions ops 3. Evacuate flight line 4. Stop LOX servicing & return vehicles containing explosives 5. Halt all other MX other than shutting down/safeing running aircraft
Freezing Precipitation Warning		
4 FW, 916 ARW	1. Icing on aircraft 2. Runway condition changes	1. De-ice aircraft 2. Check Base Ops for RCR 3. Possibly divert if RCR <12
4 MXG	1. Light: Icing on aircraft 2. Any icing: Runway and taxiways hazardous	De-ice or hangar/shelter aircraft (extremely limited deicing capes)
4 CES	1. Roadways dangerous 2. Electrical distribution systems may sustain damage causing loss of power and alarms may go off.	1. Plan alternate response routes 2. Prioritize responses to alarms 3. Decrease response speeds 4. Sand roads 5. Put sodium formate or sodium acetate on runway in extremely mission critical situations.
Heavy Snow Warning		
4 FW, 916 ARW	1. Ice/snow on aircraft 2. Runway condition changes	1. De-ice aircraft 2. Check Base Ops for RCR

		3. May require aircraft diverts with RCR <12
4 MXG	1. Safety problems 2. Runway condition changes	1. May require divert to alternate bases without adequate maintenance support 2. De-icing of aircraft scheduled to fly
4 SFS	1. May affect access to controlled and restricted areas 2. Abandoned/illegally parked vehicles may disrupt parking and traffic flow	1. Coordinate entry/exit procedures with the snow control center for snow removal. Ensure ropes and doughnuts are removed and replaced as needed 2. Remove vehicles and control parking as conditions dictate
4 CES	1. Any Amount: Hazardous road/runway conditions	1. Establish snow and ice control center 2. Plan alternate response routes 3. Decrease response speeds 4. Reschedule personnel for snow removal; prepare snow removal equipment
Snow Accumulation Advisory		
4 FW, 916 ARW	1. Ice/snow on aircraft 2. Runway condition changes	1. De-ice aircraft 2. Check Base Ops for RCR
4 MXG	1. Safety problems 1. Runway condition changes	1. May require diverts with RCR <12 2. May require divert to alternate bases without adequate maintenance support 3. De-icing of aircraft scheduled to fly
4 CES	1. Any amount: hazardous road/runway conditions 2. =2" in 12 hours: roadways dangerous	1. Establish snow and ice control center 2. Plan alternate response routes 3. Decrease response speeds 4. Reschedule personnel for snow removal; prepare snow removal equipment
Temperature 40° F or Less Advisory		
4 FW, **916 ARW**	Ground equipment and facility protection	1. Bring ground equipment indoors 2. Wrap external pipes
4 SFS	Notify base housing	Wrap external pipes and protect foliage
Lightning Within 10 Nm Advisory (Observed)		
4 FW, **916 ARW**	Delay flying	Make decision to launch aircraft scheduled over next 30 min
4 MXG	Threat to personnel and equipment	Preparations begin for shutting down operations and protecting equipment, some explosives mx will stop
4 SFS	Threat to personnel and equipment	Alert basing areas and guards on gate to take protective action
4 CES	Threat to personnel and equipment	Bring in personnel and equipment working outside
Ice Fod Advisory (Observed)		

4 MXG	Running engines have a greatly increased potential for ice accumulation on inlet which could result in FOD.	Engine runs are prohibited from using anti-personnel screen and an observer must be used to watch for ice build-up
Neuse River Flood Stage (= 19 Ft) Advisory (Observed)		
4 FW, **916 ARW**	Floods end of runway; cancels or reschedules flying	Cancel or re-schedule flying
4 MXG	Floods maintenance facilities	1. Sandbag at-risk facilities 2. Relocate at risk equipment (engines, aircraft, etc) 3. Possible evacuation
4 SFS	Floods munitions area	Close back gate and re-route all truck deliveries
4 CES	Floods end of runway	Evaluate the need for removal of sequence flashers on 08-end (west) if flood stage increases to greater than 23.5 feet.
4 MUNS	Floods bomb dump	Possible need to clear area.
Winds Greater than 20kt Advisory (Observed)		
4 MXG	Potential damage to aircraft	1. Close/secure acft panels/radome 2. Down jack acft 3. Remove to sub-pool all five gallon cans, carts, dollies 4. Lock brakes on all AGE including fuel bowsers and stands

Attachment 3

4 FW/916 ARW WEATHER SENSITIVITIES

A3.1. Mission-Limiting Weather Thresholds: The following tables provide weather impacts for the F-15E and KC-46 and other typical missions conducted by the 4 FW and 916 ARW at Seymour Johnson AFB. The exact thresholds will depend on mission type, munitions used, and pilot flying experience. Therefore it is ultimately the mission commander who declares the weather thresholds for a certain mission.

A3.2. FLIGHT MISSION WEATHER MINIMUMS

F15E Pilot Weather Categories		**F15E Crosswind Limits**	
Cat 1	Plate Minimums.	Dry Runway	30kt
Cat 2	300/1	Wet Runway	25kt
Cat 3	500/1.5	Formation T/O	15kt
Cat 4	700/2		
Cat 5	1500/3		
KC-46 Crosswind Limits			
Dry Runway	29kt	Touch-and-go	25kt
Wet Runway	29kt	Max T/O and landing tail wind	10kt

A3.3. Weather Thresholds for F-15E Missions

Minimum Ceiling and Visibility/Weather Limits	
Single Ship Take-off	- Aircrew WX Category
Single Ship Landing	- Aircrew WX Category
Overhead Pattern	- 3,000/3
Night VFR	- 3,000/5
Restricted VFR Pattern (FTU Ops Only OR Checkrides IAW SJAFBI 11-250)	- 2,300/3
VFR Rejoin	- 1,500/3
Night Rejoin	- 3,000/5
Visual Routes	- 3,000/5
Day Range	- 1,500/3
Night Range	- 1,500/5
Take-off with live ordinance	- Tailwind 15kt
Air-to-Air Refueling (**AAR**)	- Flight Visibility 1nm - Moderate Turbulence
Air-to-Air (**A/A**)	- 2,000’ vertical/1nm horizontal cloud clearance - 5nm flight level visibility - Clearly discernible horizon
Air-to-Air (**A/A**) (Farmville MOA)	- 4,500/5
Basic Flight Maneuvers (**BFM**)	- 10,000 deep cloud-free layer

Close Air Support (**CAS**)	- 10,000 foot or greater ceiling
Instrument Check (**INST**)	- Aircrew Wx Category - Day VMC for Emergency Patterns
Cross Country Sortie (**XC**)	- Aircrew WX Category
Dissimilar Air Combat Training (**DACT**)	- 10,000 deep cloud-free layer
Night Intercept (**NINT**)	- Two 5,000 deep cloud-free layer
LANTRIN Mission (**LANT**)	- 5,000 deep cloud-free layer - 5nm flight level visibility
Incentive Flight (**INC**)	- 1,500/3
Dynamic Targeting (**DT**)	- 10,000 foot or greater ceiling
Intercept Training (**INT**)	- 5,000 deep cloud-free layer - 5nm flight level visibility
Air Combat Maneuvering (**ACM**)	- 10,000 deep cloud-free layer
UHF	- Marginal or above
GPS	- Mission Dependent

A3.4. Weather Thresholds for KC-46 Missions

Minimum Ceiling and Visibility/Weather Limits	
Take-off	- RVR 1600 needed for take-off - Departure alternate required if weather is below the lowest landing minimums for a suitable approach (ceiling or vis)
Landing	- Landing Alternate (Landing alternate required if primary <2000/3)
Touch-and-go	- 300 ceiling and ¾ vis (4000 RVR) - No slush on runway - Dry or wet, need an RCR of 12 or greater
Air Refueling (**AAR**)	- Flight Visibility >1nm - Moderate Turbulence
Rectangular Pattern	- 1,800/3
Mountain Wave Turbulence	- Light or None
Turbulence/Icing	- Moderate (Reported) or less
HF/UHF	- Marginal or above
GPS	- Mission Dependent