

**BY ORDER OF THE COMMANDER  
AVIANO AIR BASE (USAFE)**

**AVIANO AIR BASE INSTRUCTION 15-101**

**26 DECEMBER 2012**

**Weather**

**WEATHER SUPPORT**



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This instruction implements Air Force Policy Directives (AFPD) 15-1, *Air Force Weather Operations*. It outlines the support provided to organizations on Aviano AB by the 31 OSS/OSW and support to units' operations plans. It also describes the essential information, equipment and/or services Aviano units must provide 31 OSS/OSW in order to provide weather support. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afirms/afirms/>. Contact supporting records managers as required. 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*; route AF Form 847s from the field through the appropriate functional chain of command.

**SUMMARY OF CHANGES**

**This document has been substantially revised and must be completely reviewed. Major changes include:**

Replaces references of N-TFS (New Tactical Forecast System) with JET (Joint Environmental Toolkit). Updates 31 OSS/OSW backup support procedures in the event of a 21 Operational Weather Squadron (OWS) outage. Allows mission forecasters to depart the Fighter Squadrons when all briefings are complete instead of waiting until last land, if cleared through the Top 3 or

brief via intranet and phone if manning falls to critical levels. Removes the requirement for a stand-by forecaster to report when a lightning watch/warning is issued by the 21 OWS outside of airfield operating hours. Outlines that weather products are no longer available on the Aviano Intranet Page. Removes the requirement to annotate a nuclear accident in the weather observation IAW AFMAN 15-111, *Surface Weather Observations*. Removes references of “AUTOMATED SENSOR Meteorological Watch (METWATCH)” IAW AFMAN 15-124, *Meteorological Codes*. The responsibility of issuing observed weather advisories/warnings during airfield operating hours is put on the 31 OSS/OSW instead of the 21 OWS IAW AFMAN 15-129 V2, *Air and Space Weather Operations-Exploitation*. Changes to Terminal Aerodrome Forecast (TAF) amendment criteria according to newly published AFMAN 15-129 V1, *Air and Space Weather Operations-Characterization* and AFMAN 15-129 V2. Updates Meteorological Equipment to include AN/TMS-2 Portable Doppler Radar.

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**1. General.**

1.1. The 31 OSS/OSW provides/arranges weather services to support the peacetime and wartime mission of the 31 FW and other associate units at Aviano AB. 31 OSS/OSW is the lead weather unit (LWU) for all weather services and issues at Aviano AB. This instruction establishes requirements and outlines duties and responsibilities of 31 OSS/OSW and establishes reciprocal support requirements with other base agencies.

1.2. Implementation. This instruction covers daily operations including exercise and contingency operations. Unless superseded by Emergency War Orders, this instruction is followed during wartime operations.

1.3. Concept of Operations. IAW AFI 15-128 and AFMAN 15-129V1/V2, as the single point of contact for USAF weather information at Aviano AB, 31 OSS/OSW, as the Exploitation Unit (EU), tailors operational and strategic level weather products for the operational user and provides decision-grade information on weather and environmental impacts to military operations. 31 OSS/OSW leverages support from the Characterization Unit (CU), 21st OWS at Kapaun AS, Germany for 24-hour forecasting services, meteorological watch, and resource protection services. Changes to this instruction affecting 21 OWS provided services are coordinated with 21 OWS and 31 OSS/OSW. The installation data page located at [https://ows.sembach.af.mil/Tailored\\_Met/index.cfm?fuseaction=showunit&UID=&BW=H&UF=M&AOR=1&unit=126](https://ows.sembach.af.mil/Tailored_Met/index.cfm?fuseaction=showunit&UID=&BW=H&UF=M&AOR=1&unit=126) under “21 OWS Uploaded Documents/Datasheet” details the agreement between the EU and CU with regards to responsibilities.

1.4. Duty Priorities. The duty priorities of 31 OSS/OSW and the 21 OWS are outlined in **Table 1 and Table 2** Expeditionary Duty priorities are listed in **Table 7** The duty priority tables exist to match and balance limited manning and mission critical tasks. Duty priorities focus efforts during peak work periods prone to task saturation and priority conflicts. These duty priorities were developed IAW AFMAN 15-129 V2. Weather operators use good judgment in complying with these duty priorities, especially where there is imminent danger to life and/or property.

**Table 1. 31 OSS/OSW Duty Priorities.**

Priority	Duties
1	Perform Emergency War Order taskings
2	Execute 31 OSS/OSW evacuation if evacuation conditions exist
3	Respond to aircraft and ground emergencies
4	Provide weather information to Emergency Operations Center (EOC)/WOC mission

	director during real-world operations
5	Provide weather briefings to contingency operations
6	Respond to Pilot-to-Metro Service (PMSV) contacts
7	Provide weather information for the Supervisor of Flying (SOF)
8	Supplement/back up and disseminate surface observations
9	Provide “Eyes Forward” / collaborate with OWS
10	Severe Weather Action Procedures (SWAP) operation
11	Provide Mission Execution Forecasts
12	Immediately relay Urgent pilot reports (PIREPs) locally & long-line
13	Disseminate all other PIREPs locally
14	Transmit PIREPs long-line
15	Provide weather information to EOC/WOC mission director in exercise operations
16	Perform Mission Weather Watch (MISSIONWATCH) activities
17	Provide other briefings
18	Weather training
19	Accomplish administrative tasks

**Table 2. 21 OWS Duty Priorities.**

<b>Priority</b>	<b>Duties</b>
1	Perform OWS Emergency War Order taskings
2	Respond to aircraft and ground emergencies
3	Execute OWS evacuation
4	Provide products and services in support of combat, contingency, and Military Operations Other Than War
5	Provide airborne aircrew support
6	Provide resource protection products (forecast and observed weather watches, warnings, advisories, etc.) as such: <ol style="list-style-type: none"> <li>1. 31 OSS/OSW notification</li> <li>2. JET Dissemination</li> <li>3. Back-up phone calls</li> </ol>
7	Prepare and disseminate peacetime/exercise regional and operational-level graphics and alphanumeric products
8	Prepare and disseminate TAF
9	Provide scheduled flight weather Mission Execution Forecasts (MEF) and tactical-level, non-contingency MEFs

10	Provide other aerospace weather products, information and weather briefings (5-day forecasts, etc.)
11	Accomplish other routine weather requirements (synoptic/regional charts, discussion bulletins, AFN support, etc.)
12	Accomplish recurring training
13	Accomplish administrative tasks

1.5. Assumption of Duties. IAW AFMAN 15-129 V1, in the event that the 21 OWS is unable to fulfill its primary duties (issue TAF, watches, warnings, advisories, etc.) for Aviano AB due to evacuation or equipment failure, 31 OSS/OSW assumes 21 OWS resource protection duties for Aviano AB until the 21 OWS is able to resume duties. If the 21 OWS is non-operational for more than 72 hours, the 21 OWS deploys forecasters to the 31 OSS/OSW to assist in the assumption of their duties and extended hours of operations. Similarly, if 31 OSS/OSW is unable to perform primary duties, the 21 OWS assumes 31 OSS/OSW duties as ability and distance permit, until 31 OSS/OSW is ready to resume duties. The agency surrendering duties is responsible for contacting the other agency and the Aviano Command Post (31 FW/CP).

1.6. Emergency Evacuation to Alternate Operating Location. In the event of an evacuation of the primary operating facility, bldg. 904, 31 OSS/OSW moves operations to the Alternate Operating Location (AOL), located at bldg 1133. Once established at the AOL, 31 OSS/OSW continues to provide limited observing and resource protection services. Other services may be degraded as noted below.

1.6.1. The limitations of support are highly dependent upon the operational status of 31 OSS/OSW's primary sensor suite, the FMQ-19, and the primary means of dissemination, the JET located in building 1442.

1.6.2. If JET/FMQ-19 are operational, all support is provided as in normal operations with the exception of the following limitations:

1.6.2.1. MEFs are provided as normal to local customers only. All transient aircrews must contact 21 OWS for weather briefing services.

1.6.2.2. Limited radar capabilities available via the Internet.

1.6.2.3. No PMSV. PMSV will be monitored by ATC.

1.6.3. If JET/FMQ-19 are not operational, all of the above limitations are incurred with the addition of the following:

1.6.3.1. Surface observations contain all standard parameters with pressure and wind values marked as estimated.

1.6.3.2. Local dissemination of forecasts, observations, warnings, watches, and advisories are limited to voice dissemination to agencies listed in **Table 3**

1.7. Operating Assumptions. The 31 OSS/OSW assumes adequate resources, communications, personnel and facilities are available to execute all base weather support. Additionally, 31 OSS/OSW assumes all communication equipment functions continuously.

1.8. Release of Weather Data to Non-DoD Agencies and Individuals. No data is released to non-DoD agencies or personnel without the express approval of 31 FW Public Affairs (31 FW/PA) and 31 FW Staff Judge Advocate (31 FW/JA) Legal offices.

1.9. Coordination between 31OSS/OSW and ITAF. Responsibility and interaction between ITAF WX flight and 31 OSS/OSW is in accordance with the LOA between Comandante Aeroporto Pagliano E Gori and the 31<sup>st</sup> Fighter Wing Commander dated 13 November 2001 as well as the LOA for USAF Runway Visual Range (RVR) and Wind Sensor Use and Procedures dated 31 May 2011.

1.10. Additional Weather Support. All requests for additional weather support must be directed to 31 OSS/OSW Flight CC or Wing Weather Officer (WVO). If the Flight CC and Wing Weather Officer are unavailable, additional weather support can be coordinated with the Flight Chief. The 31 OSS/OSW Flight CC and Wing Weather Officer arrange or direct services IAW AFMAN 15-129 V2, USAFE and Air Force instructions, manuals, and directives.

## **2. Weather Team Operations**

2.1. 31 OSS/OSW Responsibilities. The 31 OSS/OSW Flight CC, WVO and/or Flight Chief directs or arranges for all weather support and services to the USAF at Aviano AB.

2.2. Hours of Operation.

2.2.1. 31 OSS/OSW operating hours are dictated by 31 FW flying hours and support for 24/7 contingency operations.

2.2.1.1. The Airfield Services Element (ASE) is open one hour prior to local flying until the termination of local flying. Outside of local flying hours the ASE opens upon request of the 31 OG/CC or designated representative. The ASE provides support to the SOF, flight weather briefings services, meteorological watch, staff weather services, climate data, and PMSV. The ASE supplements/backups automated observations and augments 21 OWS as its “eyes forward” in performing TAF and resource protection duties. ASE is in place 24/7 in support of contingency operations when directed by 31 FW/CC.

2.2.1.2. The Mission Services Element (MSE) arrives at a minimum of 1 hour before first brief time at their squadron and stays until feedback has been collected from the last go (EXCEPTION: If manning is limited, MSE forecasters may depart after briefings are completed and feedback is collected the next day or by ASE). When departing, MSE forecasters checks with the Top 3 and coordinates METWATCH responsibilities with the ASE (If manning is critical, briefs are saved on wing drive and verbally given over the phone to the Top3 or face to face at building 904 weather counter.) The MSE provides MEFs, flight weather briefing services, mission watch, staff weather services, and climate data to their squadrons. In the circumstance that a fighter squadron does not have adequate room and equipment to support a weather forecaster, the MSE forecaster is located in building 904 and briefs are saved on wing drive and verbally given over the phone to the Top3 or face to face at building 904 weather counter.

2.2.2. During hours of 31 OSS/OSW closure, 21 OWS provides METWATCH and resource protection services for Aviano AB. 31 OSS/OSW maintains a standby forecaster at all times to be recalled for duty under circumstances outlined in **Paragraph 2.3**. Upon closure, the closing forecaster notifies the 31 FW/CP and 21 OWS to inform those agencies of a transfer of responsibility. Upon opening, the forecaster calls the above agencies to reclaim responsibility.

2.2.3. In the event that weather criteria listed in 2.3.2.1, and 2.3.2.2 is valid at the scheduled time of office closure, 31 OSS/OSW remains open until the weather threat has passed.

### 2.3. Standby Forecaster Recall.

2.3.1. During office closure, 31 OSS/OSW maintains a standby forecaster at all times. Upon recall, the standby forecaster reports to bldg 904. The forecaster immediately notifies the 21 OWS and the 31 FW/CP upon arrival and begins weather duties.

2.3.2. The 21 OWS recalls the standby forecaster when the following criteria occur:

2.3.2.1. 21 OWS issues a weather watch or warning as defined in **Table 9** or **Table 10** (EXCEPTION: The standby forecaster is not required to return for a heavy rain watch/warning unless the automated rain gauge is broken or for a lightning watch/warning outside airfield operating hours) and the phenomena is expected to occur within the next two hours.

2.3.2.2. When ATC is open and the automated observing system is inoperable.

### 2.4. Transient Aircrew Services.

2.4.1. During normal operating hours, transient aircrews may receive flight weather briefings from 31 OSS/OSW according to the standard duty priorities outlined in **Paragraph 1.4** and **Table 1**. Aircrews filed with the Tanker-Airlift Control Center (TACC) for weather support are required to contact TACC for weather updates. 31 OSS/OSW can provide updated take off data for TACC flights. In all cases 2 hours advance notice is desired.

2.4.2. During 31 OSS/OSW closure, transient aircrews should contact 21 OWS for flight weather briefing support at DSN 489-2133.

2.4.3. Computer/web-based flight weather briefings are available from the 21st OWS at [https://ows.sembach.af.mil/wx\\_brief/index.cfm?fuseaction=fwb\\_email&UID=&BW=H&UF=O&AOR=1](https://ows.sembach.af.mil/wx_brief/index.cfm?fuseaction=fwb_email&UID=&BW=H&UF=O&AOR=1). Instructions are provided at the top of the web page and customers are encouraged to call DSN 489-2133 (Alt 489-6145) COM 0631-536-2133 (Alt 06302-67-6145) for clarification and follow-up.

2.4.4. Aircrews assigned to 31 FW and in transient status are encouraged to call back to 31 OSS/OSW for weather support.

### 2.5. Meteorological Equipment.

2.5.1. FMQ-19 Automated Weather Sensing Equipment. This suite of equipment contains sensors that measure the following weather parameters: wind, cloud height, temperature, relative humidity, atmospheric pressure, visibility, runway visual range (RVR), and accumulated rainfall totals. It also detects cloud-cloud and cloud-ground

lightning in the vicinity of Aviano. The instruments are located at the primary touchdown points of both runway (RWY) 05 and 23 and are centered between the RWY and taxiway Bravo. RWY 05 contains a complete set of all instruments, while RWY 23 has sensors for wind, cloud heights, visibility, and RVR only. Displays for the equipment are located at 31 OSS/OSW and at the ITAF weather office. 31 CS is responsible for routine maintenance and repair of the FMQ-19.

2.5.2. AN/TMS-2 Portable Doppler Radar (PDR). This is the primary weather radar at Aviano AB. The antenna dish is located near bldg 7250, while the display is located in bldg 904. The PDR shows precipitation and thunderstorm reflectivity/velocity signatures in the vicinity of Aviano AB. Due to the antenna's close proximity to the mountains, the PDR cannot see echoes greater than 10 nm away from the W to the NE. 31 CS is responsible for routine maintenance and repair of the PDR.

## 2.6. Communications Equipment.

2.6.1. JET. JET is Air Force Weather's primary communications system. It uses a centralized server and desktop computers to transmit data to and receive data from weather agencies worldwide via the internet and dedicated communications link. 31 OSS/OSW and 21 OWS use JET locally to disseminate observations, forecasts, advisories, watches, and warnings to Aviano AB via the Aviano and 21 OWS LAN.

2.6.1.1. If JET malfunctions in any office on base, that office should immediately inform 31 OSS/OSW to check for troubleshooting instructions. Any repairs that cannot be performed by 31 OSS/OSW are referred to the AFWA or JET Help Desk and tracked by 31 OSS/OSW. JET is maintained through the JET Project Management Office with the contract monitored by AFWA. A Military Operating Area (MOA) dated 26 October 2009 between 24th Air Force and the Air Force Weather Agency outlines the roles and responsibilities for maintaining the JET system at Aviano.

2.6.1.2. In the event of a JET outage, 31 OSS/OSW disseminates watches, warnings, and advisories by phone notification to only the agencies shown in **Table 3**. In addition all weather observations are uploaded via [https://weather.af.mil/AFW WEBs](https://weather.af.mil/AFW_WEBs) for long line availability.

**Table 3. Voice Observation Dissemination.**

Order of Dissemination	Phone
Tower	Hotline / 632-2216 / 7854 / 7861
Command Post	Hotline / 632-3100
Airfield Management	In person / 632-7634 / 7222

2.6.2. PMSV. 31 OSS/OSW is assigned frequency 257.75 MHz for PMSV. See **Paragraph 4.5** for more information on PMSV.

2.6.3. Local Area Network (LAN). The Aviano LAN is vital for 31 OSS/OSW operations because data relayed to and from other weather centers is passed via the LAN. Real-time information available over the Internet and Intranet is used in briefing and

forecasting. In the event of LAN failure, all services are significantly degraded. Since JET depends on the LAN for dissemination of local advisories/watches/warnings, resource protection is degraded during a LAN failure.

2.6.4. Telephone. 31 OSS/OSW has 2 multi-line VOIP phones and 1 single line non-VOIP landline phone in the operations area which are used to relay information. After advisories, watches, and warnings are issued, 31 OSS/OSW courtesy calls the critical agencies listed in **Table 4** to ensure the messages have been received.

**Table 4. Agencies Notified via Courtesy Call.**

Air Traffic Control (ATC)	Hotline / 632-7854 / 7861
Command Post	Hotline / 632-3100
Airfield Management	In-person / 632-7634 / 7222
21 OWS	DSN 489-2136 / 2109
OSS EOC	DSN 632-9129/1099, alt 632-1164
Maintenance Operations Center (MOC)	DSN 632-7687

2.6.5. **Table 5** lists the primary phone numbers for 31 OSS/OSW. DSN prefix is 632. Commercial prefix is 0434-30. Last four digits remain the same. During 31 FW EOC activation, all watches, warnings, and advisories that were passed to the Command Post, are passed to the Command Post thru the OSS EOC representative. The EOC representative briefs the 31 FW/CC and 31 OG/CC or designated representatives on the pending watch, warning, and advisory and the impact this could have to emergency operations. The EOC representative then notifies Command Post for base wide dissemination according to **Figure A4.1**

**Table 5. 31 OSS/OSW Duty Phone Numbers.**

Operations Floor	7628 / 7629 / (Non-VOIP: 4151)
Flight CC	4149
Wing Weather Officer	4160
Flight Chief	7207
FAX	7072

2.7. 31 OSS/OSW Tailored Web Page. 31 OSS/OSW maintains an operational tailored web page on the 21 OWS Web Page. OWS 5-Day Forecasts for Aviano are published on the 21 OWS Tailored Web Page daily. In addition, real-time airfield weather sensor information can be seen. Other products are posted and maintained as applicable-

2.8. Bldg 904 Power. 31st Civil Engineer Squadron (31 CES) is the point of contact for power issues in bldg 904. Critical weather systems used operationally for resource protection are backed-up via generator, frequency converter and UPS in the event of main power

failure. User is responsible for the operation and maintenance of UPS and frequency converter.

#### 2.9. 31 OSS/OSW Limitations.

2.9.1. The official point of observation, located in the grassy area next to Hangar 1, does not allow a clear, unobstructed 360 degree view of the airfield. The observer's view is obstructed from west to the northwest by Hangar 1 and from the northwest to the northeast by nearby buildings. The view is further obstructed from the east to the south by nearby buildings. Mountains from the west to the northeast of the airfield prevent the observer from seeing phenomena greater than 10nm from Aviano AB in that direction.

2.9.1.1. 31 OSS/OSW has coordinated a cooperative weather watch (CWW) with 31 OSS/OSAT in the Aviano tower and is reliant on visibility data passed from the tower to construct representative weather services. (See [Paragraph 5.6](#) for details on CWW.)

2.9.1.2. High intensity security lights located on nearby buildings hinder the technician's ability to determine sky condition and visibility at night.

2.9.1.3. Instantaneous observations from the weather station are not possible because the observer must walk approximately 100 meters to view the airfield complex.

2.9.2. Equipment or sensors for measuring clouds, wind, temperature, RVR, visibility and dew point are located near the approach end of RWY 05. Cloud, wind sensors, visibility and RVR are the only instruments for RWY 23.

2.9.3. Optimum forecast and observing support is dependent on fully operational communication and meteorological sensing equipment.

2.9.4. Distance of lightning is determined using a combination of visual observations, flash-to-bang technique, lightning detection system and radar observations.

2.9.5. Certain services, such as instrument refresher course (IRC) briefings, verification briefings, wing quarterly safety briefings and CWW training may not be available without prior coordination depending on manning levels or duty priorities. One week minimum prior notice is desired.

2.9.6. Some services are degraded during and after relocation to the AOL (see [Paragraph 1.6](#))

### 3. Mission Information

3.1. General. The 31 OSS/OSW supports the 31st Fighter Wing and two flying units: the 555th Fighter Squadron and 510th Fighter Squadron as well as tenant units and NATO/Coalition contingency forces.

3.2. Area of Responsibility. 31 FW conducts the majority of its training within Aviano AB and the surrounding MOAs. Within these MOAs, assigned aircraft fly a variety of training missions. These include flying low-level and hi-level routes and various air to air and air to ground tactics throughout Italy. The diagram in [Attachment 6](#) shows the most frequently used MOAs, low-level routes and air refueling areas/tracks. 31 OSS/OSW prepares tailored products to meet the differing needs of all supported agencies.

3.3. Ground Operations and Weather Sensitivities. Refer to **Attachment 5** for guidance on weather sensitivities for the various operations conducted at Aviano AB.

3.4. Weapons Systems and Weather Sensitivities. The following tables provide guidance on weather sensitivities for the various weapon systems and related programs.

3.4.1. F-16 (510<sup>th</sup> and 555<sup>th</sup> FS') IAW AFI 11-2F-16 V3- *F-16--Operations Procedures*, and AFI 11-214- *Air Operations Rules And Procedures*, the F-16 operates at Aviano AB under the following weather restrictions:

**Table 6. F-16 Weather Sensitivities.**

<b>TAKEOFF</b>			
<b>TYPE</b>	<b>WEATHER ELEMENT</b>	<b>REQUIRED MINIMUMS</b>	<b>IMPACT (IF NOT MET)</b>
		PILOT CAT E	≥ 1500 / 5000
		PILOT CAT D	≥ 700 / 3200
		PILOT CAT C	≥ 500 / 2400
		PILOT CAT B	≥ 300 / 1600
		PILOT CAT A	≥ compatible published mins
FORMATION	CIG / VIS	≥ 300 / 1600 or most restrictive pilot weather category, whichever is higher	<b>NO GO</b>
FORMATION	CROSSWIND	< 15 KTS	<b>NO GO</b>
SINGLE SHIP.	CROSSWIND	<15KT –Ice/Snow RWY, <20KT –Wet RWY, <25KT –Dry RWY	<b>NO GO</b>
ALL	SFC WIND	< 35 KTS (steady state)	<b>NO GO</b>
ALL	FREEZING PRECIPITATION	ANY OCCURRENCE AT AIRFIELD	<b>NO GO</b>
ALL	HEAVY RAIN SHOWERS	5 NM SEPARATION	<b>NO GO</b>
		NO LIGHTNING / THUNDER WITHIN 5NM OF AIRFIELD	
		NO HAIL ON AIRFIELD	
		NO MODERATE OR GREATER INTENSITY RAIN	
<b>LANDING</b>			
<b>TYPE</b>	<b>WEATHER ELEMENT</b>	<b>REQUIRED MINIMUMS</b>	<b>IMPACT (IF NOT MET)</b>
		PILOT CAT E	≥ 1500 / 5000
		PILOT CAT D	≥ 700 / 3200
		PILOT CAT C	≥ 500 / 2400
		PILOT CAT B	≥ 300 / 1600
		PILOT CAT A	≥ compatible published mins
FORMATION	CIG / VIS	≥ 500 / 2400 or most restrictive pilot weather category, whichever is higher	<b>DIVERT HOLD OR</b>
FORMATION	CROSSWIND	< 15 KTS	<b>DIVERT HOLD OR</b>
SINGLE SHIP.	CROSSWIND	<15KT –Ice/Snow RWY, <20KT –Wet RWY, <25KT –Dry RWY	<b>DIVERT HOLD OR</b>
ALL	TAILWIND	> 10 Knots	<b>SWITCH RUNWAY</b>

ALL	WIND	< 35 KTS (steady state)	<b>DIVERT HOLD</b>	<b>OR</b>
ALL	FREEZING PRECIPITATION	ANY OCCURRENCE AT AIRFIELD	<b>DIVERT HOLD</b>	<b>OR</b>
ALL	HEAVY RAIN SHOWERS	5 NM SEPARATION	<b>DIVERT HOLD</b>	<b>OR</b>
		NO LIGHTNING / THUNDER WITHIN 5NM OF AIRFIELD		
		NO HAIL ON AIRFIELD		
		NO MODERATE OR GREATER INTENSITY RAIN		
<b><u>GENERAL FLIGHT</u></b>				
<b>WEATHER ELEMENT</b>		<b>ACTIONS</b>		
ICING	≥ LGT	ASCEND OR DESCEND TO MINIMIZE DURATION OF CONDITIONS		
TURBULENCE	≥ MDT	DO NOT FLY INTO FORECAST OR REPORTED		
	FL > 230	AVOID BY 20 NM OR 2000 FT ABOVE		
	FL < 230	AVOID BY 10NM OR 2000 FT ABOVE		
<b><u>MISSIONS</u></b>				
MISSION	DESCRIPTION	FLIGHT LEVEL	OPTIMUM WEATHER	
D/ACT DCA INCPT OCA/RED OCF/FCF	Dissimilar/Air Combat Trng Defensive Counter Air Air Intercept Offensive Counter Air/Enemy Operational/Func Check Flt	060 – 280	≥ 6K OF CLEAR AIR SPACE ABOVE 060	
ACM/BFM/TI/AHC	Air Combat Maneuvers/Basic Flt Maneuvers/Tactical Intcpt/Air Handling Capability	060 – 280	≥ 6K OF CLEAR AIR SPACE ABOVE 060	
INCTV LAO	Incentive Ride Local Area Orientation	010 – 280	≥ 6K OF CLEAR AIR SPACE ABOVE 060	
BSA/CAS/FAC	Basic Surface Attack/Close Air Support/Fwd Air Control	010 – 280	CEILING ≥ 5K FT ABOVE AIRSPACE FLOOR SFC VIS 5000	
CSAR	Combat Search & Rescue	020 – 280	CEILING ≥ 5K FT ABOVE AIRSPACE FLOOR SFC VIS 5000	
SAT/LFE	Surface Attack Tactics	SFC – 280	CEILING ≥ 5K FT ABOVE AIRSPACE FLOOR SFC VIS 5000	
ATO/LGB/JG	Air Tasking Order/Laser Guided Bomb/Joint Guardian	SFC – 280	CEILING ≥ 5K FT ABOVE AIRSPACE FLOOR SFC VIS 5000	
LL FLIGHT	Low Level Flight	SFC-050	CIG ≥ 1500; VIS ≥ 8000	
OCF/FCF XCO/R	Instrument Check Cross County Out/Return	010 – 280	≥ 10K OF CLR AIR SPC ABOVE 060 175-1	
NVG	Night Vision Goggles	050 – 280	MILLI LUX ≥ 2.2	
A/R	Air to Air Refuel	240 – 270	FL VIS ≥ 0400 (W/O RADAR 1600), <MDT TURBC,	

<b>OTHER POSSIBLE MISSION IMPACTS</b>	
CIG < 8,000, VIS < 8000m	NO SIMULATED FLAME-OUT (SFO) APPROACHES
SEA STATE > 4 meters (13 ft) Sea Surface steady state winds ≥ 25kts - Sea surface Temp ≤ 60F	NO CSAR CAPABILITY (FOR OVER WATER MISSIONS ONLY)— <b>MISSION NO GO</b> - Cold Water Survival Suit Required (may be waived w/air temp > 70°F and water temp >50°F)
TEMP ≤ 7°C AND ≥ -7°C WITH DPD ≥ DPD ≤ 5°C OR WR//, PRECIP, OR FOG	POSSIBLE INDUCTION ICE FOREIGN OBJECT DAMAGE (ICE FOD)

3.5. Expeditionary Operations. The following table lists duty priorities if the EU, as a whole, was tasked to deploy with their supported unit(s).

**Table 7. Duty Priorities for Deployed/Expeditionary EU**

1. Wartime defense of the duty site/location, including CBRNE defense measures.
2. Wartime support of the principal staff elements.
3. Aircraft/ground emergencies.
4. PMSV calls.
5. Prepare and disseminate Weather Watches/Warnings/Advisories.
6. Augment AMOS/Take and record manual surface weather observations.
7. Maintain/restore primary communications.
8. Prepare/issue Mission Weather Products.
9. Other briefings and staff functions.
<b>Note:</b> Based on the judgment of the OIC, NCOIC, or the EU technician on duty, these priorities may be changed, especially if there is danger to life or property.

**4. Mission Services**

4.1. General. Mission services are actions taken by 31 OSS/OSW directly relating to the mission of the customer. The MEF is the primary tool used to accomplish these tasks, and is tailored to individual customer requirements. 31 OSS/OSW provides all local mission services during wing flying operations. Transient mission services are handled as detailed in [Paragraph 2.4](#)

4.2. A MEF is developed using the MEF Process outlined in AFMAN 15-129 V2 Table 2.1 and 2.2. During this process, 31 OSS/OSW personnel create the MEF by fusing and tailoring products created by strategic and regional weather centers, as well as information supplied by local units and agencies. The end result is a product designed to provide timely, accurate and relevant weather information to customers. MEFs must be horizontally consistent with (but not necessarily mirror) products issued by 21 OWS and AFWA unless coordinated with 21 OWS. During rapidly changing conditions, 31 OSS/OSW amends the MEF to reflect accurate conditions and brief the customer, and then back-briefs 21 OWS as time permits.

4.2.1. General. The MEF is tailored to fit the daily mission needs of the 510 FS and 555 FS and any contingency units as required. At a minimum, this product includes the

forecast weather conditions at Aviano AB (takeoff and recovery); forecasted weather at all scheduled MOA to include winds, hazards, space weather data, and cloud/visibility forecasts. Additional information such as target acquisition data, illumination data for night vision goggles, low-level route forecasts, aerial refueling track forecasts, sea state, and sea temperatures are provided as mission requirements dictate. The MEF is considered a legal flight weather briefing for local flying. The format of the MEF is flexible and changes as necessary to meet the needs of each customer. An example of a MEF is found in Attachment 8.

4.2.2. MEF Publishing. 31 OSS/OSW briefs the MEF during mass/over-the-shoulder briefings at the 510 and 555 FS facilities, respectively. If no mass brief is scheduled, then 31 OSS/OSW forecasters brief face-to-face at the weather desk located in the corresponding fighter squadron. Under low-manned conditions or by request of FS under the conditions of not having enough space and equipment for an embedded forecaster, MEF is saved on wing network drive and briefed to Top3 over the phone with any/all questions being answered.

4.2.2.1. The MEF is posted no later than 30 minutes before the initial briefing. The MEF is posted in a location requested by the Top 3 on the Wing Network drive. The MEF is not produced on days when no local flying is scheduled.

4.2.2.2. In the event of network failure, 31 OSS/OSW e-mails MEFs to each customer's duty desks if requested. If e-mail is unavailable, fax or hand delivery is used.

#### 4.3. Aviano 5-Day Outlook.

4.3.1. General. The 5-Day is a forecast product geared for non-aviation support and is produced by the 21 OWS. It is tailored to fit the daily needs of the 31 FW's flight line support, other ground based activities and the local Aviano community. The 5-Day is provided as a planning tool and should not be used to make operational decisions without first consulting 31 OSS/OSW.

4.3.2. 5-Day Publishing. The 21 OWS publishes the 5-Day daily NLT 0600L.

4.3.2.1. All customers may access the 5-Day via the 31 OSS/OSW tailored webpage on the 21 OWS webpage (see [Paragraph 2.7](#)).

4.3.2.2. In the event of web page failure, 31 OSS/OSW emails the 5-Day to each customer as requested if they are able to access it via email.

4.3.3. 5-Day Amendments. The 21 OWS amends the 5-Day as time and mission priorities allow if it is unrepresentative of the current or forecasted conditions at Aviano AB.

4.4. Flight Weather Briefings. 31 OSS/OSW provides Flight Weather Briefings to all Aviano AB crews as duty priorities permit. Transient aircrews receive flight weather briefings only during hours of operation (See [Paragraph 2.4](#) for more detail). If leaving the local area, aircrew should request briefings at least two hours in advance to give weather personnel time to fully analyze weather data and make accurate forecasts. Flight weather briefings can be placed on request by calling the weather flight at 632-7628, or 632-7629, or

commercial 0434-30-7628/7629. In the event the 31 OSS/OSW is not on duty, instructions on contacting the 21 OWS to obtain a weather brief are posted next to the weather counter.

4.5. PMSV. 31 OSS/OSW provides weather observations and forecasts to all aircrew that contact Aviano AB, regardless of that aircraft's home station. Aviano's assigned PMSV frequency is 257.75 MHz. 31 OSS/OSW also solicits PIREPs during each PMSV contact with aircrew. PIREPs help 31 OSS/OSW better serve pilots and enhance flight safety. Long term outages are annotated via NOTAM until repaired.

4.6. MISSIONWATCH. MISSIONWATCH is the process by which 31 OSS/OSW monitors the weather for all local missions. Combined with METWATCH (see [Paragraph 5.7](#)), MISSIONWATCH allows 31 OSS/OSW to monitor operations at and around Aviano AB and issue changes/amendments to any MEF. During rapidly changing conditions or if the MEF is inaccurate, 31 OSS/OSW amends the MEF (if prior to aircrew step) to ensure the forecast accurately reflects current/expected conditions and contacts the SOF or Top 3 to pass on mission impacts.

4.7. Space Weather. 31 OSS/OSW briefs space weather events during the MEF, focusing on impacts to communications.

4.8. Post-Flight Feedback. The MSE remains in the FS for the duration of the flying window, if manning and space allows. The MSE solicit feedback from pilots upon their return or requests that the Top3 contacts 31 OSS/OSW at building 904 (via x7628/7629) if they cannot be present upon return. Under low-manned conditions, MSE contacts the Top 3 or pilots via phone for feedback after each mission if feedback was not already provided.

## 5. Airfield Services

5.1. General. Airfield services are weather actions affecting the Aviano AB aerodrome or base as a whole. Examples include weather observations, PMSV and resource protection.

5.2. Observations. Observations are taken, recorded, and disseminated IAW AFMAN 15-111. All the observations are reported using the automated sensor that is augmented through either supplementing or back-up. Supplementing is a method of manually adding meteorological information to an automated observation that is beyond the capabilities of the AMOS to detect and/or report. Back-up is the method of manually providing meteorological data and/or dissemination to an AMOS observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure. There are two types of observations: METAR (Routine Meteorological Observation Report) and SPECI (Special Observation). Typical information found in observations includes: date/time, winds, visibility, RVR, present weather, cloud cover, temperature, dew-point, and altimeter setting. The official observing point is located in the grassy area near taxiway alpha, near Hangar 1. There are some limitations to this site, see [Paragraph 2.9](#) for further explanation. 31 OSS/OSW disseminates observations locally and long-line using JET. In the event of JET malfunction, 31 OSS/OSW disseminates the observation locally as described in [Paragraph 2.6.1.2](#)

5.2.1. Aviano AB has two weather observations. One observation is disseminated by the ITAF weather office under the International Civil Aviation Organization (ICAO) identifier LIPA. The other observation is disseminated by 31 OSS/OSW under the ICAO identifier LIYW.

5.2.1.1. The ITAF weather observation, LIPA, is the official weather observation for Aviano AB. It is used to determine airfield open/closure status and Instrument Flight Rules/Visual Flight Rules (IFR/VFR) pattern status, and is broadcasted by ATC. The LIPA observation is available during all airfield open hours.

5.2.1.2. The USAF Weather observation, LIYW, is used as supplemental information to the LIPA observation. This information is used to determine 31 FW divert status, VFR pattern usability, mission execution, emergency conditions, and is utilized during rapid weather changes. The LIYW observation is available 24 hours.

5.2.2. Types of Observations

5.2.2.1. METAR observations are taken and disseminated every hour between 55 and 59 minutes after the hour. METAR observations can include SPECI criteria (see **Attachment 2** for SPECI criteria). METAR observations are disseminated both locally and long-line.

5.2.2.2. SPECI observations are taken when certain criteria as show in **Attachment 2**, are met at Aviano AB. SPECI observations can be sent at any time and are disseminated locally and long-line.

5.2.3. Observation code and format

5.2.3.1. **\_CCCC\_YYGGggZ\_COR or AUTO\_dddff(f)Gfmfm (fm)KT\_dndndnVdxdxdx\_VVVVSM or VVVV\_RDRDR/VRVRVRVFT, RDRDR/VNVNVNVNVVXVXVXVFT, or RDRDR/VRVRVRVR, RDRDR/VNVNVNVNVVXVXVXVX\_w'w'\_NsNsNshshshs or VVhshshs or CLR\_T'T'/T'dT'd\_APHPHPHH\_RMK\_(Automated, Manual, Plain Language)\_(Additive Data and Automated Maintenance Indicators)**

5.2.3.2. See Table 8. below for details on format.

**Table 8. Observation Format**

<b>Body of Report</b>
(1) Type of Report – METAR or SPECI
(2) Station Identifier – CCCC
(3) Date and Time of Report – YYGGggZ
(4) Report Modifier – COR or AUTO
(5) Wind – dddff(f)Gf <sub>m</sub> f <sub>m</sub> (f <sub>m</sub> )KT_d <sub>n</sub> d <sub>n</sub> d <sub>n</sub> Vd <sub>x</sub> d <sub>x</sub> d <sub>x</sub>
(6) Visibility – VVVV
(7) Runway Visual range – RD <sub>R</sub> D <sub>R</sub> /V <sub>R</sub> V <sub>R</sub> V <sub>R</sub> V <sub>R</sub> FT (or meters)

### 5.3. TAF.

5.3.1. Aviano AB TAFs are produced and disseminated by 21 OWS. For TAF format and amendment criteria, see [Attachment 3](#). The TAF is issued at 0300Z, 1100Z, and 1900Z, when required by wing flying.

5.3.2. The 21 OWS disseminates the TAF locally and long-line using JET. In the event of loss of connectivity between the 21 OWS and Aviano AB, the 21 OWS contacts 31 OSS/OSW, who in turn disseminates the TAF. In the event of a complete JET failure, 31 OSS/OSW contacts 21 OWS, obtains the TAF and emails, faxes, or calls the agencies in [Table 3](#)

5.3.3. 21 OWS amends the TAF as described in [Attachment 3](#), and for all watch/warning conditions.

5.3.4. During periods when 31 OSS/OSW is closed, 21 OWS does not issue or amend the TAF. This is noted with the remark "LAST NO AMDS AFT DDHH NEXT DDHH."

5.4. Watches, Warnings, and Advisories. 21 OWS and 31 OSS/OSW perform resource protection for Aviano AB. Resource protection is detailed in [Chapter 7](#).

5.5. Basic Weather Watch (BWW.) 31 OSS/OSW conducts a BWW during duty hours as required. A BWW is a process to monitor changing weather conditions. Outside of taking METAR and SPECI observations, weather personnel monitor weather conditions and recheck the weather at least every 20 minutes. During BWW, if only one forecaster is working ASE, he/she takes a cell phone with them during the observation. This phone number is provided to the SOF/TOP3s.

5.6. Cooperative Weather Watch (CWW.) 31 OSS/OSW maintains a CWW program with ATC. The 31 OSS/OSW flight provides and documents limited observer training for ATC personnel. As ATC personnel provide weather input, 31 OSS/OSW re-evaluates the weather for observation changes.

5.6.1. ATC and SOF personnel notify the weather flight within five minutes via hotline when any of the following are seen or occur on Aviano AB:

5.6.1.1. Significant visibility changes that reduce below or rise above 6000 meters.

5.6.1.2. Precipitation begins or ends.

5.6.1.3. Thunderstorms or lightning.

5.6.1.4. Hail of any size begins/ends or changes size/intensity.

5.6.1.5. Tornado or funnel cloud.

5.6.1.6. Any other significant meteorological condition.

5.6.2. ATC and SOF personnel also pass to 31 OSS/OSW any PIREPs received within five minutes.

5.7. METWATCH. A METWATCH is used to provide an organized approach for weather personnel to maintain situational awareness of both current and future meteorological situations. 21 OWS performs a continuous METWATCH for Aviano AB, with 31

OSS/OSW providing “eyes forward” support. Changes in the status of weather elements result in notification from 31 OSS/OSW or 21 OWS to base agencies.

5.7.1. The METWATCH process encompasses:

5.7.1.1. Weather watch and warning criteria (**Tables 7.1** and **7.2**)

5.7.1.2. Weather advisory criteria (**Tables 7.3** and **7.4**)

5.7.1.3. SPECI observation criteria (see **Attachment 2**)

5.7.1.4. Defined air and ground mission-limiting parameters (**Table 3.1**)

5.8. Bioenvironmental Information. The only bioenvironmental information 31 OSS/OSW provides is the Fighter Index of Thermal Stress (FITS) condition IAW AFI 11-418, *Operations Supervision* and AFPAM 48-151, *Thermal Injury*. The FITS condition is passed to the SOF and TOP 3.

## 6. Staff Weather Support

6.1. General. The 31 OSS/OSW WWO (or Flight CC when a WWO is not appointed) directly handles staff support. Staff weather support includes, but is not limited to, staff weather briefings, IRC briefings, mass deployment briefings, assisting in the planning and execution of exercises, and participation in the EOC/ Mission Planning Cell (MPC). The WWO may delegate duties to any qualified personnel within the flight. Staff weather services are built to be flexible and are tailored to meet the needs of the customer.

6.2. 31 FW Staff Weather Support. 31 OSS/OSW provides weather information to 31 FW senior staff as requested. 31 OSS/OSW tailors each briefing to the needs of the audience.

6.3. 31 FW EOC. 31 OSS/OSW is a member of 31 FW EOC. While present, 31 OSS/OSW provides the EOC Mission Director and 31 FW Senior Leadership current and forecast weather data for Aviano and other pertinent locations. During EOC activation, all watches, warnings, and advisories are passed to the CP thru the EOC representative. The EOC representative briefs the 31 OG/CC or designated representative of the pending watch, warning or advisory and the impacts to the emergency operations. The EOC representative then notifies the CP for base wide dissemination according to **Figure A4.1**

6.4. Tropical Weather Updates. 31 OSS/OSW provides briefings to the 31 FW/CC and the wing staff when a tropical system is expected to impact operations in the 31 FW mission areas or impact a 31 FW operation in another region. The Weather Flight leadership uses the chain of command to pass this information to the 31 FW/CC. 31 OSS/OSW works with the 21 OWS who performs the METWATCH and serves as the primary liaison between the tropical centers and 31 OSS/OSW. 31 OSS/OSW uses the tropical cyclone forecast issued by the designated tropical cyclone centers (National Hurricane Center or Joint Typhoon Warning Center). 31 OSS/OSW does not deviate from the official forecast position, track, movement, maximum wind speed, or intensity trend and does not deviate from the CU forecast. The MSE tailors the official tropical cyclone forecast into a specific mission forecast product. 31 OSS/OSW ensures that the commander understands that the 48-hour and 72-hour outlooks contain a high degree of uncertainty, are for planning purposes only, and are subject to change. 31 OSS/OSW includes the forecast error probability statements included in the discussion bulletins or on the forecast product. Release of tropical cyclone

forecasts to the general public follows the guidance in this document (1.8 Release of Weather Data to Non-DoD Agencies and Individuals).

6.5. Mass Deployment/Concept Briefings. 31 OSS/OSW provides a mass weather briefing in the event of any mass deployment of personnel or aircraft from Aviano AB. Briefing format depends upon the mission. Three hours advance notice is requested for mass briefings to be prepared properly.

6.6. Instrument Refresher Course (IRC) - Verification Briefings. 31 OSS/OSW briefs the weather portion of all local IRC/Verification briefings. The IRC briefing covers 31 OSS/OSW services, seasonal climatology, flight hazards, and relations/differences between USAF and ITAF weather operations. Verification briefings are tailored to the specific mission scenario. 31 OSS/OSW requests 1 week advance notification to prepare a proper briefing.

6.7. Exercise Planning and Input. 31 OSS/OSW is part of the Aviano Exercise and Evaluation Team (EET) and participates in planning exercises and evaluating weather support provided. 31 OSS/OSW provides real and/or exercise weather data for exercise scenarios. The 31 OSS/OSW coordinates exercise support with the 21 OWS as required.

6.8. Climatology Support. 31 OSS/OSW tracks climate statistics at Aviano AB and passes climatology data to base agencies as requested. Data not maintained by 31 OSS/OSW, is retrieved from the 14<sup>th</sup> Weather Squadron by 31 OSS/OSW. 31 OSS/OSW requests 2 week advance notification for climatology briefings.

## 7. Resource Protection

7.1. General. This section details actions undertaken by 31 OSS/OSW to provide resource protection to Aviano AB. Resource protection is accomplished jointly by 31 OSS/OSW and 21 OWS through the use of weather advisories, weather watches, and weather warnings. All watches, warnings and advisories are valid for a 5nm radius from Aviano AB (except thunderstorms within 10nm). The center point for these is defined as the center of Area F.

7.2. Delineation of Duties. 21 OWS is responsible for issuing forecast advisories, watches and warnings, while the 31 OSS/OSW acts as the “eyes forward” for the 21 OWS. In the event of imminent threat to life and/or property requiring an urgent dissemination, 31 OSS/OSW issues warnings normally issued by 21 OWS. In these cases, 31 OSS/OSW informs 21 OWS as time permits.

7.3. Unit Requirements. Each unit at Aviano AB is responsible for coordinating additional watch/warning/advisory support or special notification for existing watches/warnings/advisories with 31 OSS/OSW. Also, each customer requesting support must validate the requirement by providing 31 OSS/OSW with a list of protective actions taken each time the special notification is given or unique watch/warning/advisory is made. These are listed in [Attachment 5](#). If the request falls within the operational capabilities of 31 OSS/OSW or 21 OWS, then weather personnel monitors, advises, watches and warns of such significant weather formations.

7.4. Weather Watches. A weather watch alerts Aviano AB units to the potential of weather conditions that may threaten life and/or property. When a weather watch is issued, all units on Aviano AB should prepare to take protective actions, in the event the weather watch is upgraded to warning status. See [Attachment 4](#) for a sample watch format. [Table 9](#) contains weather watches and desired lead times for Aviano AB:

**Table 9. Weather Watch Criteria for Aviano AB.**

<b><u>CRITERIA</u></b>	<b><u>Desired Lead Time (DLT)</u></b>
<b>Tornadic Activity</b>	As Potential Warrants
<b>Winds <math>\geq</math> 45kts</b> (Maximum gust is specified in watch)	4 hours
<b>Hail <math>\geq</math> ½ inch diameter</b> (Maximum size is specified in watch)	4 hours
<b>Heavy Rain</b> ( $\geq$ 2 inches of rain within 12 hours)	As Potential Warrants
<b>Heavy Snow</b> ( $\geq$ 2 inches of snow within 12 hours) **	As Potential Warrants
<b>Freezing Precipitation</b> **	As Potential Warrants
<b>Lightning</b> (within 5 nm of Aviano AB)	30 minutes
<b>NOTE:</b> ** 31 OSS/OSW notifies CE when these conditions are forecasted or significant changes to the forecast occur.	

7.5. Forecast Weather Warnings. A weather warning alerts Aviano AB units to an imminent or in-progress weather event that could pose a hazard to life and/or property. When a weather warning (WW) is issued, all units on Aviano AB should take protective actions immediately. **Table 10** contains weather warnings and desired lead times for Aviano AB. See **Attachment 4** for sample warning format.

7.6. Observed Weather Warnings. An observed weather warning is issued for lightning within 5 nm of Aviano AB. Observed warnings are issued by 31 OSS/OSW when the condition is first observed and are annotated with a valid time of until further notice. Observed warnings are cancelled 15 minutes after last observed occurrence. See **Attachment 4** for sample warning format.

**Table 10. Forecast Weather Warning Criteria for Aviano AB.**

<b><u>CRITERIA</u></b>	<b><u>DLT</u></b>
<b>Tornadic Activity</b>	15 Minutes
<b>Winds <math>\geq</math> 45kts</b> (Maximum gust is specified in warning)	2 hours
<b>Winds <math>\geq</math> 35kts</b> (Maximum gust is specified in warning)	90 minutes
<b>Hail <math>\geq</math> ½ inch diameter</b> (Maximum size is specified in warning)	2 hours
<b>Heavy Rain</b> ( $\geq$ 2 inches of rain within 12 hours)	90 minutes
<b>Heavy Snow</b> ( $\geq$ 2 inches of snow within 12 hours) **	90 minutes
<b>Freezing Precipitation</b> **	90 minutes
<b>Lightning</b> (within 5 nm of Aviano AB)	Observed
<b>NOTE:</b> **31 OSS/OSW notifies CE when these conditions are forecasted or significant changes to the forecast occur.	

7.7. Weather Advisories.

7.7.1. Observed Advisories. Weather advisories are weather information bulletins to alert base units to specific mission-impacting criteria not defined as watch or warning criteria. 21 OWS issues observed advisories as shown in **Table 11** 31 OSS/OSW issues observed weather advisories. 31 OSS/OSW leverages observations, PIREPs, radar, and all other resources to determine if any criteria meeting an observed advisory are occurring. Upon initial occurrence, the 31 OSS/OSW forecaster issues the advisory with a valid time of until further notice. Once issued, observed advisories are canceled when the forecaster can reasonably determine that atmospheric conditions no longer support reoccurrence. Sample advisory format is found in **Attachment 4**.

**Table 11. Observed Weather Advisories Criteria for Aviano AB.**

<u>CRITERIA</u>	<u>VALID</u>
<b>Low Level Wind Shear: non-convective (Requires subjective verification)</b>	Until Further Notice
<b>Thunderstorms within 10 nm (of Aviano AB)</b>	Until Further Notice
<b>Crosswind ≥15 KTS</b>	Until Further Notice
<b>Crosswind ≥20 KTS</b>	Until Further Notice
<b>Crosswind ≥25 KTS</b>	Until Further Notice
<b>Induction Icing Conditions</b>	Until Further Notice
<b>Visibility &lt; 400m</b>	Until Further Notice

7.7.2. Forecast Advisories. 21 OWS issues forecast advisories for Aviano AB when the following criteria in **Table 12** are expected to occur:

**Table 12. Forecast Weather Advisory Criteria for Aviano AB.**

<u>CRITERIA</u>	<u>DLT</u>
<b>Winds ≥ 25kts but &lt; 35kts (Maximum gust is specified in warning)</b>	1 Hour
<b>Snow Accumulation &gt; Trace Snow but &lt;2 inches in 12 hrs**</b>	2 Hours
NOTE: ** 31 OSS/OSW notifies CE when these conditions are forecasted or significant changes to the forecast occur.	

7.8. Base Dissemination. Dissemination of watches, warnings, extensions, and cancellations is done via the JET system (See **Paragraph 2.6.1**) 31 OSS/OSW confirms receipt through a phone call to ATC, 31 FW/CP, MOC and Airfield Management. (See **Table 4**) See **Attachment 4** for more information on dissemination.

7.9. Operational Reports (OPREP). IAW AFI 10-206, *Operational Reporting*, and AFI 10-229, *Responding to Severe Weather Events*, 31 OSS/OSW provides the 31 FW/CP with weather information needed to report impacts of severe weather to higher headquarters. If damage occurs the Command Post determines the requirement to initiate an OPREP-3 Report. 31 OSS/OSW must contact the 31 FW/CP if any of the following criteria are met.

7.9.1. Tornado

7.9.2. Winds  $\geq$  50kts (to include gusts)

7.9.3. Hail  $\geq$   $\frac{3}{4}$  inch

7.9.4. Lightning strike with damage

7.9.5. Snowstorm (2 inches of snow accumulation within 12 hrs)

7.9.6. At conclusion of the severe weather, 31 OSS/OSW reviews and summarizes the severe weather, then forwards information to the 31 FW/CP, 21 OWS, and USAFE/A3W. Within 24 hours of the severe weather occurrence, 31 OSS/OSW leadership provides or arranges delivery of hard copies of relevant forecasts, observations, watches, warnings, and equipment status to the 31 FW/CP, to be included in an OPREP-3.

7.10. Chemical / Effective Downwind Message and Basic Wind Message. 31 OSS/OSW produces and provides Chemical Downwind Messages, Basic Wind Messages, and Effective Wind Messages as requested to 31 CES/CEX and other base agencies. If possible, requesting agencies should submit request 30 minutes prior to the desired receipt time.

7.11. SWAP.

7.11.1. The purpose of SWAP is to provide a means for 31 OSS/OSW personnel to manage the additional strain and decision making processes that accompany severe weather. SWAP is a cooperative effort between the 21 OWS and 31 OSS/OSW in which each agency has specific roles and responsibilities as defined in AFMAN 15-129V1/V2.

7.11.2. The primary approach used by 31 OSS/OSW to accomplish SWAP is the activation of the Severe Weather Team (SWT). Once activated, the SWT provides 31 FW leadership with clear and timely notification of severe weather threatening Aviano AB. This team, at a minimum, consists of a SWT Leader and the duty forecaster. The SWT Leader normally is the 31 OSS/OSW Flight CC, WWO or Flight Chief. The SWT leader recalls additional members as needed to collectively manage the threat, operate the radar, record and disseminate observations and provide mission and airfield services.

7.11.3. The SWT is implemented at any time when the following watches or warnings are issued by the 21 OWS for Aviano AB:

7.11.3.1. Tornado

7.11.3.2. Winds  $\geq$ 45kts (either convective or non-convective)

7.11.3.3. Hail  $\geq$ 1/2"

7.11.3.4. Severe weather has been observed at Aviano AB. (General thunderstorms with no significant winds or hail associated are not considered "severe.")

7.11.3.5. The 31 OSS/OSW Flight CC, WWO, Flight Chief or duty forecaster determines the potential for severe weather is strong enough to warrant SWT activation.

7.11.4. The SWT Leader may implement SWAP but delay actual formation of the team anytime the potential or expected onset time of severe weather is more than two hours beyond notification time.

7.11.5. At a minimum, 31 OSS/OSW and 21 OWS conduct and document a semi-annual exercise of coordinated SWAP. An actual severe weather event meets the intent of an exercise.

7.11.6. During hours of airfield closure, 21 OWS passes all watches and warnings to the 31 FW/CP and the standby forecaster, who then notifies the Flight CC, WWO or Flight Chief. The leadership of 31 OSS/OSW assesses the situation and determines the need to implement SWAP.

7.12. Actions by Base Agencies. IAW 31 FW Plan 10-2, *Emergency Management (EM)*, base agencies have specific actions required when notified of imminent severe weather conditions. Base agencies should review and perform these actions upon receiving notification of a severe weather watch or warning issued by either 31 OSS/OSW or 21 OWS.

## 8. Reciprocal Support

8.1. General. 31 OSS/OSW requires daily support in order to best accomplish its mission. This chapter outlines the support required by other agencies at Aviano AB. Per AFMAN 15-129V2, support to 31 OSS/OSW by other local agencies that are mandated by USAF or other local directives are not included in this chapter.

8.2. 31st Communications Squadron (31 CS).

8.2.1. 31 CS provides and arranges for the installation and repair of all-weather communication and meteorological sensing equipment, other than contract maintained hardware. Weather owned servers or small computer equipment will be looked over by 31 OSS Functional Support Administrators/Client Support Administrators before turning to 31 CS for support.

8.2.2. 31 CS serves as the single point of contact for repair and maintenance of meteorological sensing equipment. 31 CS notifies the responsible service agents for outages and performs necessary follow-up actions as required until full service is restored.

8.2.3. 31 CS utilizes restoration priorities to restore weather communications and meteorological sensing equipment following outages IAW Aviano Instruction 21-108.

8.2.4. 31 CS ensures a 24-hour point of contact for reporting outages is available.

8.2.5. 31 CS pre-coordinates with 31 OSS/OSW before performing routine maintenance on any weather communications or meteorological sensing equipment.

8.2.6. 31 CS maintains and updates all technical orders and advises operators of any significant changes. Based upon weather conditions and mission requirements, restoration priority may be altered by the duty forecaster as required.

8.3. 31 OSS/OSAT.

8.3.1. Pass all PIREPs received to 31 OSS/OSW within five minutes.

8.3.2. Conduct Cooperative Weather Watch (see [Paragraph 5.6](#))

8.3.3. Notify 31 OSS/OSW of imminent changes to active runway.

8.3.4. Notify 31 OSS/OSW of changes in the high intensity runway light setting.

- 8.3.5. Provide ATC Tower indoctrination training for all newly assigned weather personnel.
  - 8.3.6. In the event of JET outage, relay all observations, weather watches, warnings, and advisories to RAPCON.
  - 8.3.7. Conduct PMSV radio checks daily or when requested by 31 OSS/OSW.
  - 8.3.8. Monitor PMSV frequency, time and manpower permitting, when PMSV at 31 OSS/OSW is inoperative.
  - 8.3.9. Notify 31 OSS/OSW of all JET outages.
  - 8.3.10. Notify 31 OSS/OSW when evacuating tower.
- 8.4. 31 OSS/OSAB.
- 8.4.1. Notify 31 OSS/OSW of any aircraft mishaps, in-flight or ground emergencies and runway conditions.
  - 8.4.2. Forward 31 OSS/OSW initiated changes of flight information publications and chart orders to the appropriate agencies for action.
  - 8.4.3. Notify weather flight personnel in writing of all impending changes to any flight information publications affecting Aviano AB observing and or forecasting requirements.
  - 8.4.4. Notify 31 OSS/OSW of all aircraft diverted because of weather as duty priorities permit.
  - 8.4.5. Relay weather warnings/watches/advisories as specified in [Attachment 4](#).
- 8.5. 31st Fighter Wing Command Post (31 FW/CP).
- 8.5.1. 31 FW/CP disseminates weather warnings, watches, and advisories (initial, updates, and cancellations) over the telephone, Giant Voice broadcast speaker system, and/or AtHoc Emergency Notification System as applicable.
  - 8.5.2. 31 FW/CP notifies 31 OSS/OSW of any reported weather damage on Aviano AB, or any weather event deemed significant enough by the 31 FW/CC to require an investigation.
  - 8.5.3. Relay all PIREPs and mission reports received to 31 OSS/OSW.
  - 8.5.4. Transmit OPREP reports when required as a result of severe weather occurrences (See [Paragraph 7.9](#))
- 8.6. 555 FS / 510 FS.
- 8.6.1. Ensure current flying schedule is available to 31 OSS/OSW.
  - 8.6.2. Encourage aircrews to pass PIREPs to 31 OSS/OSW or to ATC/SOF after each mission flown. PIREPs that include cloud amounts, bases and tops, as well as, turbulence and icing encountered are particularly valuable.
  - 8.6.3. Coordinate weather support for all exercises and deployments with 31 OSS/OSW Flight CC, WWO or Flight Chief as soon as possible.
  - 8.6.4. Ensure the forecaster is incorporated into the planning phase of flying operations.

- 8.6.5. Pass on all PIREPs received by Top 3 to the 31 OSS/OSW forecaster.
- 8.6.6. Ensure weather personnel are granted continued access to squadron operation areas and the alert facilities while flying operations are ongoing. This includes access to the building, on those occasions when the weather briefer is required to be on duty prior to the normal time the building opens. In order for a forecaster to be embedded into the squadron for weather support, a workstation with a phone and computer access within speaking distance of the Top3 is required for adequate support.
- 8.6.7. Report to 31 OSS/OSW any known space weather impacts to operations (for example, HF radio not functioning during period of solar activity).
- 8.6.8. Provide feedback/mission debrief to 31 OSS/OSW.
- 8.6.9. Coordinate Verification Brief support, CORONET Mission support, IRC briefings with 31 OSS/OSW Flight CC, WWO or Flight Chief at least one week in advance.
- 8.6.10. Coordinate all additional requirements with 31 OSS/OSW Flight CC, WWO or Flight Chief.
- 8.7. 31st Security Forces Squadron (31 SFS). If 31 SFS sees inclement weather or receives after-hours inclement weather information such as tornadic activity, hail, freezing precipitation or flash flooding on or in the vicinity of Aviano AB, 31 SFS informs the 31 OSS/OSW on duty forecaster or standby forecaster during airfield closure.
- 8.8. 31st Civil Engineer Squadron (31 CES).
- 8.8.1. Provide or arrange for maintenance of real property in support of meteorological equipment.
- 8.8.2. Provide advance notification of programmed power changes/interruptions to include testing of the emergency power generator for bldg 904.
- 8.8.3. 31 CES/CEX coordinates with 31 OSS/OSW the need for “canned weather” during local exercises involving predetermined plume locations. 31 OSS/OSW works with 31 CES/CEX to ensure exercise winds direct the plumes as desired through prefabricated CDMs. This coordination occurs through EET personnel from 31 OSS/OSW and 31 CES/CEX.
- 8.8.4. 31 CES/CEX informs the WWO of any new CDM software so that he/she can determine any changes to required weather support.
- 8.8.5. 31 OSS/OSW integrates with 31 CES/CEX and serves as the weather Subject Matter Expert to CBRNE operations.
- 8.8.6. 31 CES/CEX informs the WWO of all Emergency Management working group meetings.
- 8.9. 31st Logistics Readiness Squadron (31 LRS). 31 LRS ensures support requirements are coordinated with 31 OSS/OSW prior to TDY unit deployments to Aviano.
- 8.10. DET 8 AFNEWS.
- 8.10.1. Broadcast the following weather warnings on radio and television using the verbiage below with appropriate dates, times and other underlined terms:

## 8.10.1.1. Tornado

“31 OSS WEATHER FLIGHT HAS ISSUED A WEATHER WARNING FOR A TORNADO TO INCLUDE AVIANO AB FROM XX XXX XXXXL UNTIL XX XXX XXXXL. A TORNADO HAS BEEN OBSERVED ON RADAR/VISUALLY. TAKE PROTECTIVE COVER IN A BASEMENT OR INNER ROOM IMMEDIATELY.”

8.10.1.2. Winds  $\geq$  45 knots and/or hail  $\geq$  ½ inch

“21ST OPERATIONAL WEATHER SQUADRON HAS ISSUED A SEVERE THUNDERSTORM WARNING TO INCLUDE AVIANO AB FROM XX XXX XXXXL UNTIL XX XXX XXXXL. SEVERE THUNDERSTORMS INCLUDING SURFACE WINDS GUSTING TO 45 KNOTS/½ INCH HAIL IS FORECAST.”

## 8.10.1.3. Freezing Precipitation

“21ST OPERATIONAL WEATHER SQUADRON HAS ISSUED A WEATHER WARNING FOR FREEZING PRECIPITATION TO INCLUDE AVIANO AB FROM XX XXX XXXXL UNTIL XX XXX XXXXL.”

## 8.10.1.4. Accumulation of rain or snow

“21ST OPERATIONAL WEATHER SQUADRON HAS ISSUED A WEATHER WARNING FOR HEAVY SNOW/RAIN TO INCLUDE AVIANO AB. 2 INCHES OF ACCUMULATION IS EXPECTED FROM XX XXX XXXXL UNTIL XX XXX XXXXL.”

## 8.10.1.5. Visibility below 400 meters

“21ST OPERATIONAL WEATHER SQUADRON HAS ISSUED A WEATHER ADVISORY FOR LIMITED VISIBILITY DUE TO HEAVY FOG UNTIL FURTHER NOTICE. WHILE OUT DRIVING EXPECT VISIBILITY TO BE LIMITED TO A QUARTER OF A MILE OR LESS.”

8.10.2. After being notified by 31 FW/CP of the stated weather warnings, Det 8 AFNEWS calls the weather station to gather any inputs, updates or amendments before broadcasting the severe weather message on radio and television. After duty hours, Det 8 AFNEWS reports to the AFN studios and call the weather station to gather any inputs, updates of amendments prior to issuing any severe weather messages on radio and television.

8.10.3. AFN broadcasts cancellations of all severe warnings. After being notified by 31 FW/CP of the cancellation of the stated weather warnings, Det 8 AFNEWS calls the weather station to gather any inputs and verify the cancellation before broadcasting the cancellation message over the radio and television.

8.10.4. AFN broadcasts the 21 OWS current 5-day product over the radio throughout the day. They can take this information directly from our tailored web page. They look for updates at 0900L Mon-Fri to ensure an accurate and current 5-day product is being disseminated. The 5-day is a product created by the 21 OWS, not 31 OSS/OSW.

8.11. 31st Fighter Wing / Wing Plans 31 FW/XP informs 31 OSS/OSW of, and provide access to, plans and programs which require weather planning and inputs.

8.12. All Weather Support Recipients.

8.12.1. All recipients of weather support notify 31 OSS/OSW of problems with JET software or equipment and automated dissemination of Warnings/Watches/Advisories. Users should close and reopen their internet browser once and attempt to reestablish connection before contacting 31 OSS/OSW.

8.12.2. All recipients of weather support notify 31 OSS/OSW through the formal chain of command when new weather support requirements are identified.

8.12.3. All recipients must coordinate changes or additions to this weather support document as soon as such changes are anticipated.

SCOTT J. ZOBRIST, Brigadier General, USAF  
Commander

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 10-206, *Operational Reporting*, 06 September 2011  
AFI 10-229, *Responding to Severe Weather Events*, 15 October 2003  
AFI 11-418, *Operations Supervision*, 15 September 2011  
AFI 15-128, *Air Force Weather Roles and Responsibilities*, 07 February 2011  
AFI 23-201, *Fuels Management*, 23 January 2012  
AFMAN 15-111, *Surface Weather Observations*, 10 March 2009  
AFMAN 15-124, *Meteorological Codes*, 28 October 2009  
AFMAN 15-129 V1, *Air and Space Weather Operations-Characterization*, 06 December 2011  
AFMAN 15-129 V2, *Air and Space Weather Operations-Exploitation*, 07 December 2011  
AFMAN 91-201, *Explosives Safety Standards*, 12 January 2011  
AFOSH Standard 91-100, *Aircraft Flight Line – Ground Operations and Activities*, 15 September 2003

***Prescribed Forms***

None

***Adopted Forms***

AF 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**AOL**—Alternate Operating Location  
**ASE**—Airfield Services Element  
**ATC**—Air Traffic Control  
**BWW**—Basic Weather Watch  
**CP**—Command Post  
**CU**—Characterization Unit  
**CWW**—Cooperative Weather Watch  
**DLT**—Desired Lead Time  
**EET**—Exercise and Evaluation Team  
**EM**—Emergency Management  
**EOC**—Emergency Operations Center  
**EU**—Exploitation Unit

**FITS**—Fighter Index of Thermal Stress  
**FLIP**—Flight Information Publication  
**ICAO**—International Civil Aviation Organization  
**IRC**—Instrument Refresher Course  
**IFR**—Instrument Flight Rules  
**IWWC**—Integrated Weather Warning Capability  
**JET**—Joint Environmental Toolkit  
**LWU**—Lead Weather Unit  
**MEF**—Mission Execution Forecast  
**METAR**—Meteorological Terminal Aerodrome Report  
**METWATCH**—Meteorological Watch  
**MOA**—Military Operating Area  
**MOC**—Maintenance Operations Center  
**MPC**—Mission Planning Cell  
**MSE**—Mission Services Element  
**OWS**—Operational Weather Squadron  
**PDR**—Portable Doppler Radar  
**PIREP**—Pilot Report  
**PMSV**—Pilot to Metro Service  
**RWY**—Runway  
**RVR**—Runway Visual Range  
**SOF**—Supervisor of Flying  
**SPECI**—Special Observation  
**SWAP**—Severe Weather Action Procedures  
**SWT**—Severe Weather Team  
**TACC**—Tactical Airlift Control Center  
**TAF**—Terminal Aerodrome Forecast  
**TWR**—Tactical Weather Radar  
**VFR**—Visual Flight Rules  
**WWO**—Wing Weather Officer

*Terms*

**Advisory**—A formal notice of a weather condition that will or is impacting flight operations at AAB.

**Air Force Weather Agency**—A facility at Offutt AFB that provides centralized weather guidance, support, and data for Air Force Weather units.

**Alternate Operating Location**—The location to which 31 OSS/OSW will move in the event that bldg 904 is evacuated.

**ASE**—Airfield Services Element— The element within the 31 OSS/OSW Weather Flight that covers observation and TAF support.

**Basic Weather Watch**—A method of observing, recording, and disseminating significant changes in weather conditions to essential customers.

**CU**—Characterization Unit—A term corresponding to the lead Operational Weather Squadron associated with the local unit.

**Cooperative Weather Watch**—A method of collective observing shared by the weather observer, ATC, and SOFs.

**DLT**— Desired Lead Time—Requested amount of time for notification.

**EOC**—Emergency Operations Center—Command and control unit for the wing under emergency response situations.

**EU**—Exploitation Unit—Term associated with Weather Flight, taking the place of Combat Weather Team.

**FITS**—Fighter Index of Thermal Stress—A measure of the thermal stress experienced by aircrew in fast jet aircraft with canopies and environmental control systems, engaged in combat sorties at low level altitude

**FLIP**—Flight Information Publication—Publication listing airfield information including approaches, requirements and services provided.

**ICAO**—International Civil Aviation Organization—Four letter code designating an airport.

**Instrument Refresher Course**—Continuation training for aircrews.

**Joint Environmental Toolkit**—Primary means of disseminating weather information.

**LIPA**—4-letter ITAF ICAO identifier for Aviano AB

**LIYW**—4-letter USAF ICAO identifier for Aviano AB.

**Mission Execution Forecast**—Primary weather briefing for the 555 FS and 510FS. Contains all weather related information necessary to cover takeoff, route, mission execution, and recovery. It can also take the form of a verbal briefing, a 175-1 briefing, or other forms.

**METAR**—A regular observation, taken and disseminated locally and long-line.

**Meteorological Watch**—A method of observing and forecasting which monitors conditions for any hazards that might create an impediment to flying operations or pose a threat to life or assets.

**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.

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

**MPC**—Mission Planning Cell—Group designated for planning future aviation missions.

**MSE**—Mission Services Element— The element within the 31 OSS/OSW Weather Flight that is responsible for mission execution forecasts and face-to face weather support to the fighter squadrons.

**Operational Weather Squadron**—A regional forecast center. Aviano's servicing OWS is the 21 OWS located at Kapaun AS, Germany

**Pilot Report**—A report with weather data passed from aircrew to the weather flight.

**PMSV**—Pilot to Metro Service—UHF radio that allows pilots to contact the weather flight.

**Special Observations**—Observation taken to report the occurrence of special weather criteria.

**SWAP**—Severe Weather Action Procedures—Procedures taken by the weather flight during severe weather that causes a threat to life, limb and property.

**Warning**—A notification of a weather condition imminent or in progress that is a threat to human life and property.

**Watch**—A notification that conditions are right for the formation of weather conditions that pose a threat to human life and property.

## Attachment 2

## SPECIAL OBSERVATION CRITERIA

**A2.1.** During 31 FW flying hours, 31 OSS/OSW takes and disseminates SPECI observations both locally and long-line. Special criteria are IAW AFMAN 15-111, 21 Supplements, and DoD Flight Information Publications (FLIP). A SPECI observation is taken if:

**A2.2. Ceiling.** The ceiling forms or dissipates below, decreases below, or if below, increases to equal or exceed:

**Table A2.1. SPECI Ceiling Criteria.**

<u>CRITERIA</u>	<u>IAW</u>	<u>CRITERIA cont...</u>	<u>IAW</u>
3,000 feet	AFMAN 15-111	700 feet	AFMAN 15-111
2,000 feet	AFI 11-202 V3	600 feet	FLIP
1,500 feet	AFMAN 15-111	500 feet	AFMAN 15-111
1,100 feet	FLIP	300 feet	FLIP
1,000 feet	AFMAN 15-111	200 feet	FLIP
900 feet	FLIP		
800 feet	FLIP		

**A2.3. Sky Condition.** A layer of clouds of obscuring phenomena aloft appears below 1100 feet, and no layer aloft was reported below 1100 feet in the preceding observation.

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

**Table A2.2. SPECI Visibility Criteria.**

<u>CRITERIA</u>	<u>IAW</u>	<u>CRITERIA cont...</u>	<u>IAW</u>
5000 m	AFMAN 15-111	1600 m	AFMAN 15-111
3600 m	FLIP	1200 m	FLIP
3200 m	AFMAN 15-111 & FLIP	800 m	FLIP, POP ATC 01
2400m	AFI 11-2F-16 V3	Less than 400 m	POP ATC 01
2000 m	FLIP		

**A2.5. Tornado or Funnel Cloud.** Tornado or funnel cloud appears or disappears from sight.

**A2.6. Thunderstorm.** Thunderstorm begins or ends (15 minutes after thunder is last heard).

**A2.7. Squalls.** Any 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.

**A2.8. Precipitation.**

A2.8.1. Hail begins or ends.

A2.8.2. Freezing precipitation begins, ends, or changes intensity.

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

A2.8.4. Any other type of precipitation begins or ends. Except for freezing precipitation of any type, hail, and ice pellets, a SPECI is not required for changes in type (e.g. drizzle changes to snow grains) or the beginning,

**A2.9. Wind Shift.**

A2.9.1. Wind direction changes by 45 degrees or more in less than 15 minutes with sustained winds  $\geq$  10kts throughout the wind shift.

A2.9.2. The maximum wind speed increases by 10 knots or more since the last METAR or SPECI, and the predominant wind speed or gusts exceed 25 knots.

**A2.10. Runway Condition Reports.** Upon receipt from airfield management (except for dry runway), runway condition reports is used in situational awareness for mission purposes.

**A2.11. RVR.** RVR is reported in the Automated Observation, and it is required by local agencies since the LIPA observation controls the airfield status and uses the USAF FMQ-19 RVR according to the RVR LOA between Comandante Aeroporto Pagliano E Gori and the 31<sup>st</sup> Fighter Wing Commander dated 31 May 2011. When prevailing visibility is first observed  $\leq$  1600m, or any time the following criteria are observed, a SPECI is taken.

**Table A2.3. SPECI RVR Criteria.**

<u>CRITERIA</u>	<u>IAW</u>
P1500 m	AFMAN 15-111
1500 m	AFMAN 15-111
750 m	AFMAN 15-111
600 m	AFMAN 15-111

**A2.12. Volcanic Ash.** Volcanic ash is first observed.

## Attachment 3

## TAF CRITERIA

**A3.1. General.** TAF are issued by 21 OWS for Aviano AB. This attachment specifies amendment criteria and required action if amendment criteria are met.

**A3.2. TAF Amendment Criteria.** The 30-hour forecast specifies the time of occurrence, the duration, and the intensity of the weather elements listed below. The weather elements listed in **Table A3.1** must be considered when issuing the TAF for LIYW and if expected to occur is included in the forecast text. If at any time the conditions listed in this section occur but are not correctly forecast or are forecast to occur and do not occur by the specified predominant change group ending time, the TAF must be amended.

**Table A3.1. TAF Amendment Criteria.**

<u>FORECAST ELEMENT</u>	<u>TAF AMENDMENT CRITERIA</u>
Ceiling observed or later expected to decrease to less than, or if below, increase to equal or exceed:	Cat E - 2000ft (AFMAN 15-129 V1, AFI 11-202 Vol 3.) Cat D - 1000ft (AFMAN 15-129 V1, AFI 11-202 Vol 3.) Cat C - 700ft (AFMAN 15-129 V1, FLIP minimum +500ft) Cat B - 200ft (AFMAN 15-129 V1, FLIP minimum) Cat A - <200ft (AFMAN 15-129 V1, FLIP minimum)
Prevailing Visibility observed or later expected to decrease to less than, or if below, increase to equal or exceed:	Cat E - 4800m (AFMAN 15-129 V1, AFI 11-202 Vol. 3) Cat D - 3200m (AFMAN 15-129 V1, AFI 11-202 Vol 3.)  Cat B - 800m (AFMAN 15-129 V1, FLIP minimum) Cat A - <800m (AFMAN 15-129 V1, FLIP minimum)
Surface Wind	The difference between the observed predominant wind speed (or gust) and the forecast wind speed (or gust) is 10 knots or more. Direction change greater than 30 degrees when the predominant wind speed or gusts are expected to be over 15 knots.
Precipitation	Unforecast freezing precipitation begins or ends.  Start or end of precipitation causing a local weather warning or advisory that can be specified in the TAF to be issued, canceled, or amended.  Weather operator considers the occurrence or nonoccurrence of precipitation to be operationally significant.
Icing, not associated with thunderstorms, from the surface to 10,000 ft MSL	The beginning or ending of icing first meets, exceeds, or decreases below moderate or greater thresholds and was not specified in the forecast.
Turbulence (for Cat II aircraft), not associated with thunderstorms, from the surface to 10,000 ft MSL	The beginning or ending of turbulence first meets, exceeds, or decreases below moderate or greater thresholds (for CAT II aircraft) and was not specified in the forecast.
Non-convective low level wind shear	Is occurring and is expected to continue, or is expected to begin, but is not specified in the forecast.  Is forecast in the TAF, but is no longer expected to occur during the forecast period.
Forecast weather warning criteria and/or	Is occurring and is expected to continue, or is expected to begin, but is

weather advisory criteria that can be specified in the TAF	not specified in the forecast.  Is forecast in the TAF, but is no longer expected to occur during the forecast period.
Thunderstorms	Incorrect by forecasted start time or end time.
Other Amendment Situations	Any time a forecaster considers it advisable to amend the TAF in the interest of safety, efficiency of aircraft operations, flight planning, operational control, or in-flight assistance to aircraft to ensure the forecast is representative of actual or forecast conditions.

**A3.3. TAF Amendment Actions.** 21 OWS is primarily responsible for TAF amendment. In the event that 21 OWS is unable to amend, 31 OSS/OSW amends the TAF during duty hours. TAF Amendments are accomplished with the following guidelines:

A3.3.1. Anytime an unforecast change meeting the TAF amendment criteria is expected to occur and is expected to last more than 30 minutes and is not correctly forecast by the next whole hour.

A3.3.2. Anytime an unforecast change meeting the TAF amendment criteria occurs, is expected to last at least 30 minutes and is not forecast by the next whole hour from the time of occurrence.

A3.3.3. Anytime a forecast condition meeting the TAF amendment criteria does not occur by the specified hour and is not expected to occur within the next 30 minutes.

A3.3.4. Anytime a forecast condition within a temporary (TEMPO) group becomes predominant or is not expected to occur.

**A3.4. LAST NO AMDS.** When the 31 OSS/OSW is closed, 21 OWS appends the last line of the TAF with the words “LAST NO AMDS”. During these times the forecast is only amended for warning criteria defined in [Table 10](#)

**A3.5. TAF Specification Criteria.** In addition to the criteria listed in [Table A3.1](#), the 21 OWS forecaster must consider additional weather criteria as deemed operationally significant by local customers. These non-amendable criteria are required to be specified when issuing the initial and any subsequent TAFs. 31 OSS/OSW forecasters have the leverage to adjust their local products and briefings to meet the specified needs of the local customers provided the adjusted forecast does not cross amendment thresholds without prior coordination between the 21 OWS and 31 OSS/OSW forecasters.

A3.5.1. Ceiling less than or equal to 8,000, 1,100, 900, 800, 700 and 600.

A3.5.2. Visibility less than or equal to 3600m, 1200m, and less than 400m.

A3.5.3. Onset time, duration, type and intensity of precipitation, icing, turbulence and non-convective low-level wind shear.

## Attachment 4

### WATCH / WARNING / ADVISORY FORMAT

**A4.1. General.** This attachment explains formats and notification procedures for Aviano AB's weather watches, warnings and advisory (WWA). Each WWA contains the following elements in order of transmission:

- A4.1.1. Aviano AB header, watch, and warning number
- A4.1.2. Valid time in UTC and local time
- A4.1.3. Body of warning / watch

#### **A4.2. Weather Watch Example.**

- A4.2.1. AVIANO AB WEATHER WATCH 09-002  
VALID 05/1100Z (05/0600L) TO 05/1500Z (05/1000L)  
THE POTENTIAL EXISTS FOR SEVERE THUNDERSTORMS WITH WINDS  
45KTS OR GREATER AND/OR HAIL ½ INCH OR GREATER.  
A WARNING WILL BE ISSUED IF AND WHEN CONDITIONS ARE  
EXPECTED TO OCCUR.

#### **A4.3. Weather Warning Examples.**

- A4.3.1. AVIANO AB WEATHER WARNING 09-001  
VALID 05/1300Z (05/0800L) TO 05/1400Z (05/0900L)  
SURFACE WINDS (INCLUDING GUSTS) OF 45 KNOTS ARE FORECAST  
AT AVIANO AB DURING THE TIMES INDICATED ABOVE.
- A4.3.2. AVIANO AB WEATHER WARNING 10-004  
VALID 19/1921Z (19/1421L) TO UFN (UFN)  
LIGHTNING OBSERVED WITHIN 5 NAUTICAL MILES OF AVIANO AB  
(AREA ½ ONLY). THE LIGHTNING WATCH REMAINS IN EFFECT.

#### **A4.4. Weather Advisory Example.**

- A4.4.1. AVIANO AB WEATHER ADVISORY 09-024  
VALID 18/1714Z (18/1214L) TO 18/2300Z (18/1700L)  
SURFACE WINDS (INCLUDING GUSTS) OF 30 KNOTS ARE FORECAST  
AT AVIANO AB DURING THE TIMES INDICATED ABOVE.
- A4.4.2. AVIANO AB WEATHER ADVISORY 10-003  
VALID 18/1714Z (18/1214L) TO UFN  
OBSERVED INDUCTION ICING AT AVIANO AB.

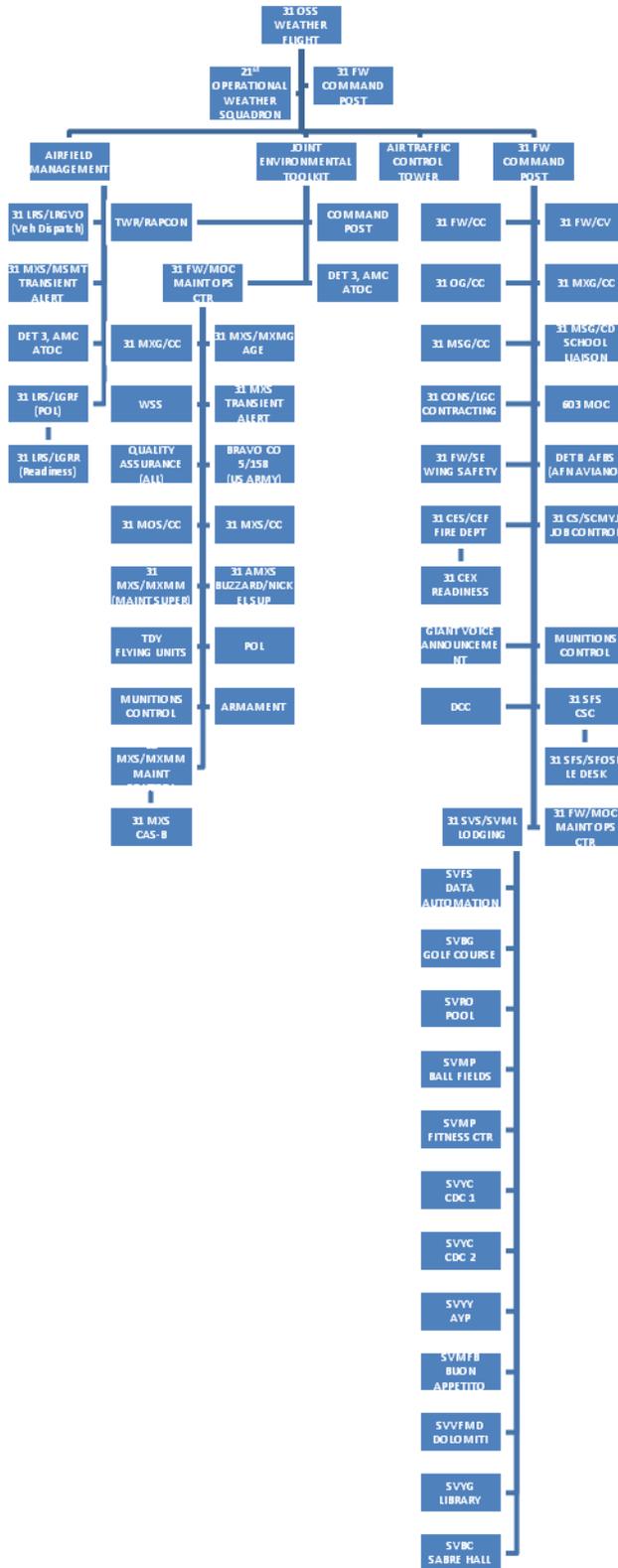
**A4.5. Dissemination.** The 21 OWS uses the Integrated Weather Warning Capability (IWWC) to disseminate weather watches, warning, and advisories. IWWC is an automated telephonic system which notifies agencies of WWA. If the IWWC system fails or is non-operational, the 31 OSS/OSW leverages a pyramid notification system to promptly disseminate weather watches, warnings, and advisories. 21 OWS initiates the process by disseminating, canceling, or extending an advisory, watch, or warning over IWWC. Upon receiving watches, warnings, or advisories via telephone, the 31 FW/CP and 31 OSS/OSAB disseminates the alert to other agencies on Aviano AB via telephone notification. Each organization is responsible for internal

dissemination and forwarding the message onto other agencies further down the chain. When IWWC is inoperable, 31 OSS/OSW and 21 OWS use telephone notification as the primary means to transmit watches and warnings. **Figure A5.1** Illustrates the dissemination pyramid.

**A4.6. Backup Calls.** To verify receipt of issues, extensions, or cancellations of watches and warnings, 31 OSS/OSW calls critical agencies. 31 OSS/OSW verifies for all watches and warnings whether or not issued by 21 OWS. 21 OWS also calls the 31 FW/CP to verify receipt.

**Figure A4.1. Weather Watch/ Warning/ Advisory Notification Pyramid.**

(Specific information on which weather watches/warnings/advisories are disseminated to which organization is in the QRC 60 located in the Command Post. Changes to this notification process will need to be coordinated with the Command Post and the 31 OSS)



## Attachment 5

## CRITICAL WEATHER ELEMENTS TO SUPPORTED AGENCIES

This attachment describes the various weather elements, their effects, and the actions various base agencies take to protect property and personnel. This tab is in no way directive, only informational and based on requirements established by each customer. References that direct you to take action should be listed here. If your references are not listed, please notify the 31 OSS/OSW Flight CC or Deputy Flight CC to update, change or delete items.

Table A5.1. Weather Watch/ Warning/ Advisory Base Actions.

<u>ELEMENT</u>	<u>ORGANIZATIO N</u>	<u>ACTION TAKEN</u>	<u>RESPONSE TIME</u>	<u>REFERENCE</u>
<b>TORNADO</b>	All	Protect resources, terminate ops protect personnel	5 – 25 min	AFI 23-201 (7.6) AFMAN 15-125 (2.4.3)
<b>Winds <math>\geq</math> 100 knots</b>				
	603 ACS	Take down OE-354 QRA antenna	45 – 60 min	TO 31R2-2TRC170-11-1
<b>Winds <math>\geq</math> 75 knots</b>				
	Tower	Evacuate tower to alternate facility	15 – 25 min	AABR 55-1
	603 ACS	Take down GRC-239 TSSR antenna	30 – 45 min	TO 31R2-2GRC239-1
<b>Winds <math>\geq</math> 60 knots</b>				
	603 ACS	Take down OE-361 20' QRSAG antenna	45 – 60 min	TO 31R2-2G-321
<b>Winds <math>\geq</math> 45 knots</b>				
	603 ACS	Take down GMT antenna	30 min	TO 31R2-2TSC179-1
	31 CS	Freewheel ASR antenna	none	TO 31P5-2GPN20-2
	31 LRS	Restrict driving of high-profile vehicles	30 min	AFI 23-201 (7.6)
	31 LRS (POL)	Re-evaluate continued refueling operations	none	T.O. 00-25-172, 4-16
	31 LRS Supply Warehouse	Tie down equipment in outside storage areas move personnel indoors, limit driving	none	AFMAN 23-210, 3.44
<b>Winds <math>\geq</math> 35 knots</b>				
	Airfield Management	Perform airfield inspection	< 5 min	
	31 LRS Supply	Same as Winds $\geq$ 45 knots	none	AFMAN 23-210, 3.44
<b>Winds <math>\geq</math> 25 knots</b>				
	31 MXS	tie down or hangar aircraft, notify base fuels		TO 1-1-3
	31 AMXS	Tie down or hangar aircraft		TO 1-1-3
	31 LRS Supply	Same as Winds $\geq$ 45 knots	none	AFMAN 23-210, 3.44

	603 ACS	Power radar down, fold radar antenna	45-60 min	TO 31P3-2TPS75-2-1
	Security Forces	Increase patrols-- noise detection wind filters unreliable or unavailable	30 min	
	31 CS/603 ACS	Cease climbing	< 5 min	AFI 23-201 (7.6)
<b>Freezing Precipitation</b>				
	31 AMXS	Shelter aircraft and equipment	10 - 120 min	1F-16CG-2-GV00-1
	31 MXS	Limit driving, Shelter aircraft and equipment	10 - 120 min	1F-16CG-2-GV00-1
	31 LRS Supply Warehouse	Limit driving, move personnel indoors	30 - 60 min	AFMAN 23-210, 3.44
	31 LRS (POL)	Limit driving, move personnel indoors	none	AFOSHS 91-38 C2
	Security Forces	Patrol drives sample route to assess the road conditions. Advise Command Post of the road conditions	none	
	Base CE	Sand base roads	4 hours	
	31 CS	Cease climbing	none	
	603 ACS	Shut down radar & GMT antenna with 1/2" ice accumulation	2 - 5 min	
	31 LRS/31 CS	Restrict driving to mission essential only	30 min	AFI 23-201 (7.6) AFJMAN 24-306, 11-3
<b>Hail <math>\geq</math> 1/2 inch</b>				
	31 AMXS	Same as freezing precipitation	10 - 120 min	1F-16CG-2-GV00-1
	31 MXS	Same as freezing precipitation- cease outside activity	10 - 120 min	1F-16CG-2-GV00-1
	31LRS (POL)	Same as freezing precipitation	30 - 60 min	AFOSHS 91-38 C2 AFJMAN 24-306, 11-3
	Security Forces	Foot/bike patrols and vehicles take cover	30 min	
	Base CE	Outside personnel take cover	none	
	31 CS	Cease outdoor activity	none	
	31 LRS	Terminate driving	30 min	AFI 23-201 (7.6)
<b>Snow <math>\geq</math> 2 inch accumulation in 12 hours and Snow Accumulation &gt; Trace but &lt; 2 inches in 12 hrs</b>				
	31 LRS/31 CS	Restrict driving to mission	30 min	AFJMAN 24-306, 11-3

		essential only		
	31 MXS	Default to FSTR checklist	none	
	31 AMXS	Hangar aircraft		
	31 LRS (POL)	Same as freezing precipitation	30 - 60 min	AFOSHS 91-38 C2 AFJMAN 24-306, 11-3
	Security Forces	Patrol drives sample route to assess the road conditions. Advise Command Post of the road conditions	none	
	Base CE	Prepare to plow base roads	4 hours	
<b>Thunderstorms within 10 NM</b>				
	31 MXS	Prepare to cease outside operations	none	
	31 AMXS	Prepare to cease outside operations	none	
	31 MUNS	Continue ops in progress, but do not start new ops	none	
	Fuel Systems	Secure acft panels on all acft parked outside	15 min	AFOSH 91-100
	31 LRS All flights	Notify outside workers of hazard	30 min	
	603 ACS/31 LRS	Limit outdoor activities	none	
	Security Forces	Prepare to go to generator power	none	
	Base CE	Notify outside workers of hazard	none	
	Services	Notify personnel at golf course ball fields, CDC, fitness center and swimming pool to terminate outside activity	10 - 45 min	
	Comptroller	Shut down computers	20 min	
	Contracting	Prepare to shut down computers	30 min	
	31 CS	Shut down computers, cease electrical work, cease aerial work	30 min	
	Intel	Prepare to shut down computers	30 min	
<b>Lightning within 5NM</b>				
	31 AMXS	Cease outside operations on the flightline	none	1F-16CG-2-GV00-1
	31 MXS	Cease outside operations on the flightline/close hanger doors. Cease all explosive maintenance actions	none	1F-16CG-2-GV00-1 AFMAN 91-201

	Munitions	Cease all explosive operations	none	AFMAN 91-201
	603 ACS	Notify personnel of hazard, switch to generator power if required by operations	30 min	
	31LRS All flights	Move personnel indoors, shut down computers	none	
	Security Forces	Shut down computers	none	
	EOD	Cease all explosive operations	none	AFMAN 91-201
	Base CE	Notify personnel of hazard, shut down computers	none	
	Airfield Management	Cease routine airfield checks; respond to aircraft/airfield emergencies only	none	
	Services, 31 FSS	Shut down computers, notify personnel at golf course, ball fields, CDC, fitness center, Outdoor Rec, AYA, and swimming pool to terminate outside activity	none	
	Comptrollers	Shut down computers	15 min	
	31 CS	Cease all outdoor activities, shut down computers	30 min	
	31 LRS (POL)	Cease all POL operations	none	T.O. 00-25-172, 4-16
	Fuel Systems	Cease all fuel system maintenance	none	AFOSH Standard 91-100
	AMC Terminal	Remove inbound pax from acft cease outside ops	none	
<b>Induction Icing</b>				
	31 AMXS	Limit ground engine runs	none	1F-16-CG-270-JG00-1
	31 MXS	Limit ground engine runs	none	1F-16-CG-270-JG00-1
<b>LLWS</b>				
	Tower	Warn all arriving/departing aircraft	none	AFI 11-206
<b>Crosswind ≥15 knots but &lt;20 knots</b>				
	Tower	Advise all aircraft, arriving or departing. F-16s diverts to alternate airfield if runway is icy or has standing water	none	1F-16CG-2-GV00-1
<b>Crosswind ≥20 knots but &lt;25 knots</b>				
	Tower	Advise all aircraft, arriving or departing. F-16s diverts	none	1F-16CG-2-GV00-1

		to alternate airfield if runway is wet		
<b>Crosswind <math>\geq 25</math> knots</b>				
	Tower	Advise all aircraft, arriving or departing	none	1F-16CG-2-GV00-1
	510 FS, 555 FS	Approaching F-16s divert to alternate	none	
<b>Rain <math>\geq 2</math> inch in 12 hours</b>				
	31 LRS/31 CS	Restrict driving to mission essential only	30 min	AFI 23-201 (7.6) AFJMAN 24-306, 11-3
	Security Forces	Patrol drives sample route to assess the road conditions. Advise Command Post of the road conditions	none	

Attachment 6

FREQUENTLY USED AIRSPACE

Figure A6.1. MOA Reference Chart

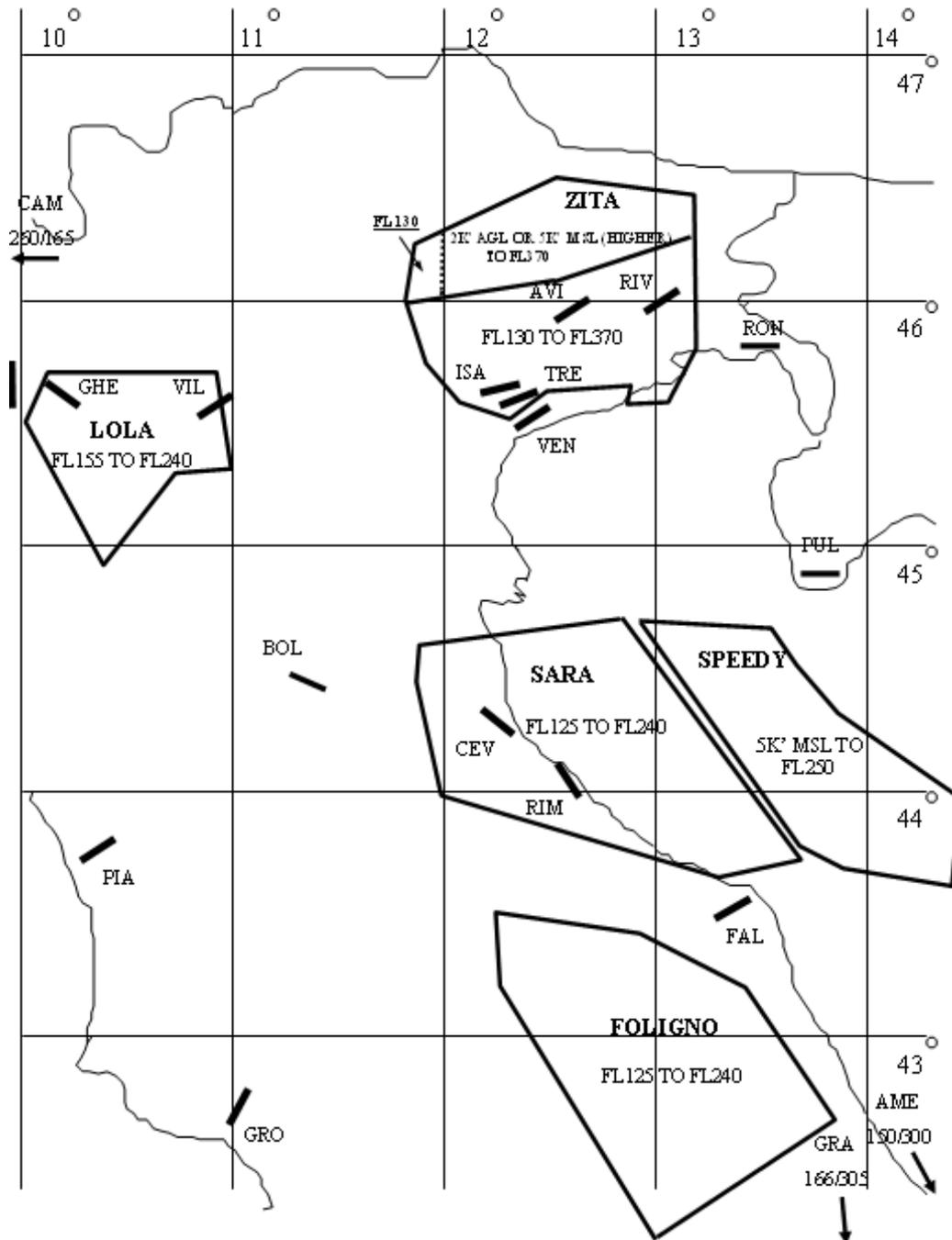
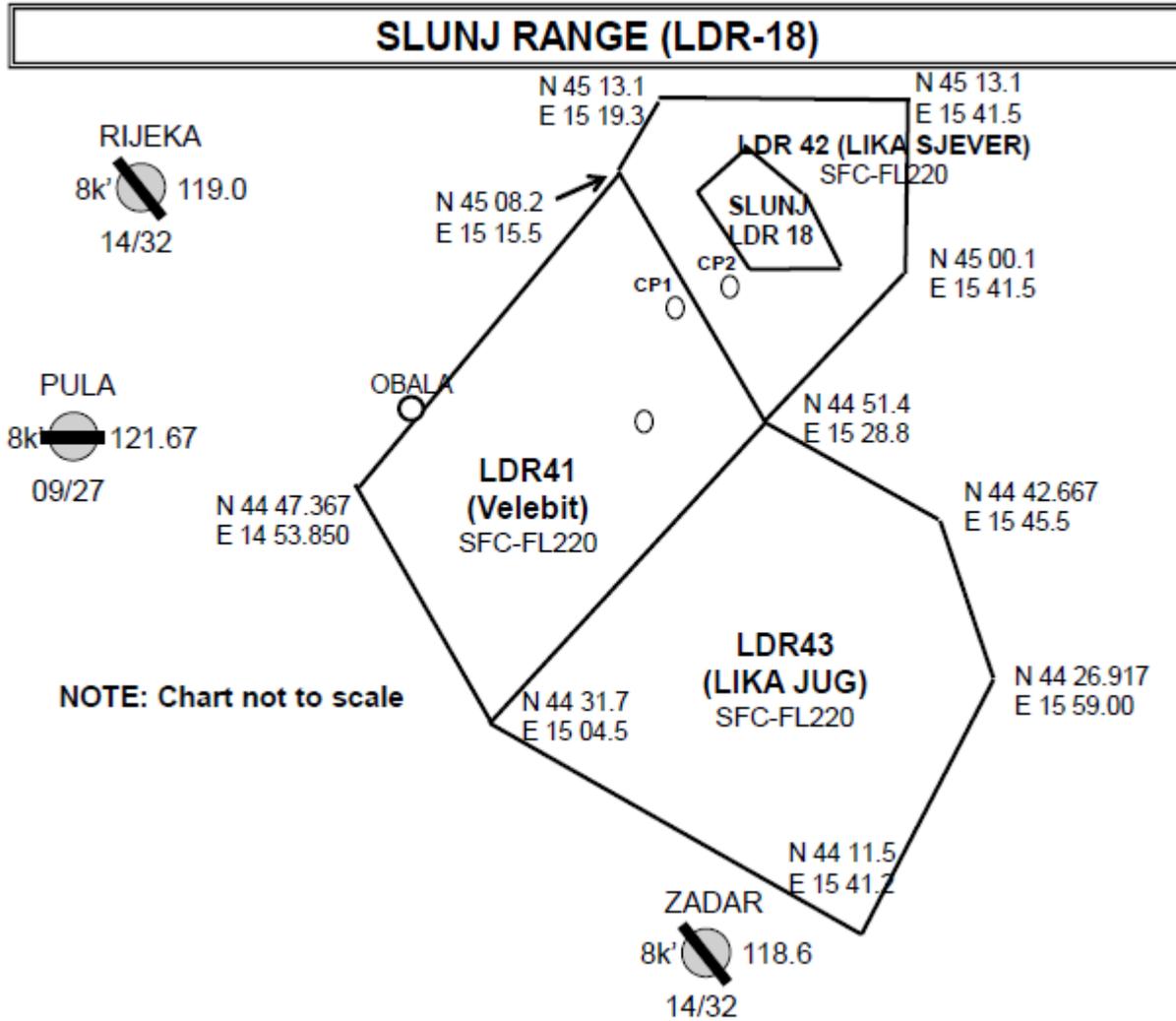


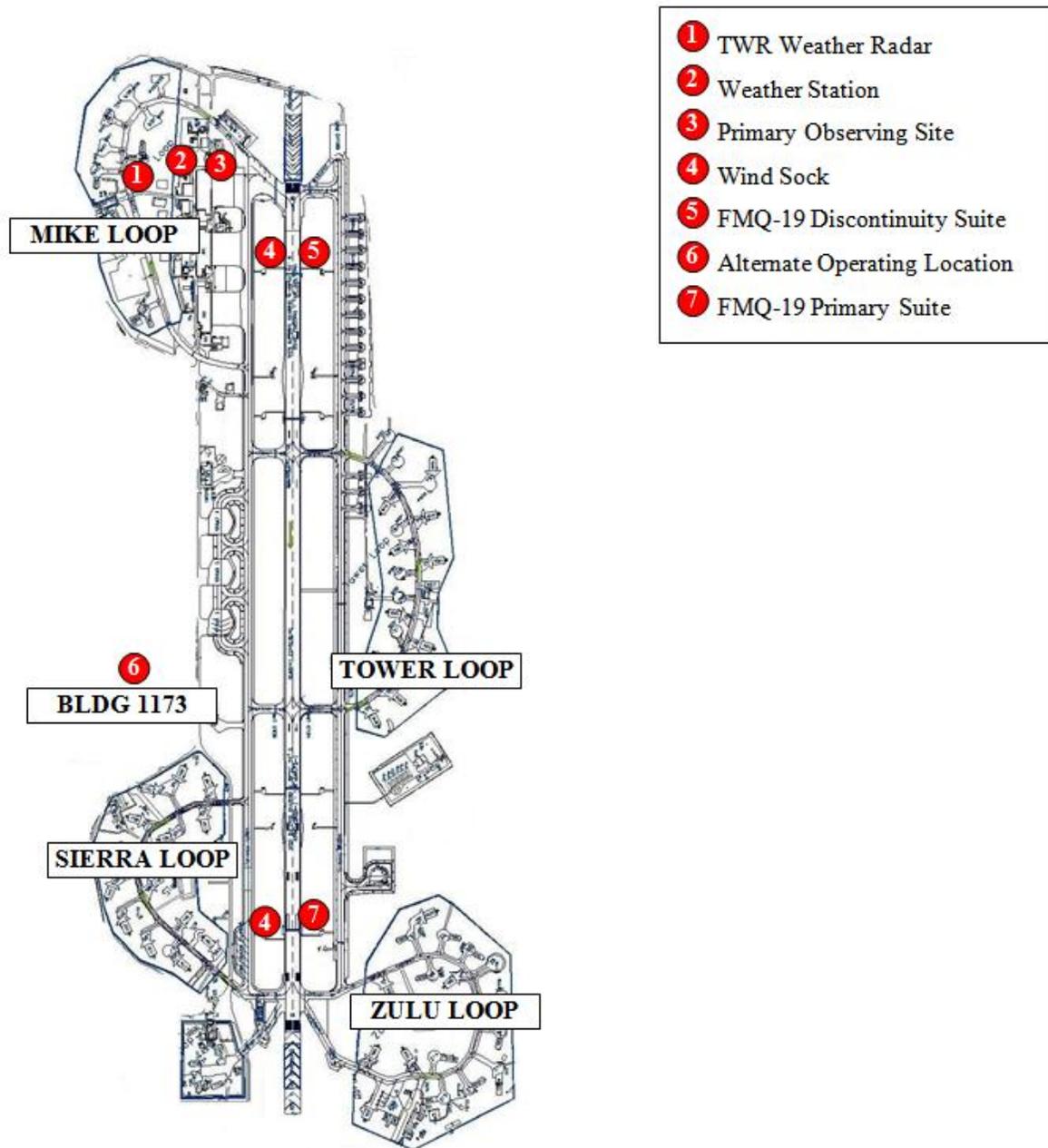
Figure A6.2. Slunj Range (LDR-18)



## Attachment 7

## METEOROLOGICAL SENSING EQUIPMENT

Figure A7.1. 31 OSS/OSW SENSOR LOCATIONS



Attachment 8  
EXAMPLE MEF

Figure A8.1. 31 OSS/OSW MEF Example PPT Slide 1

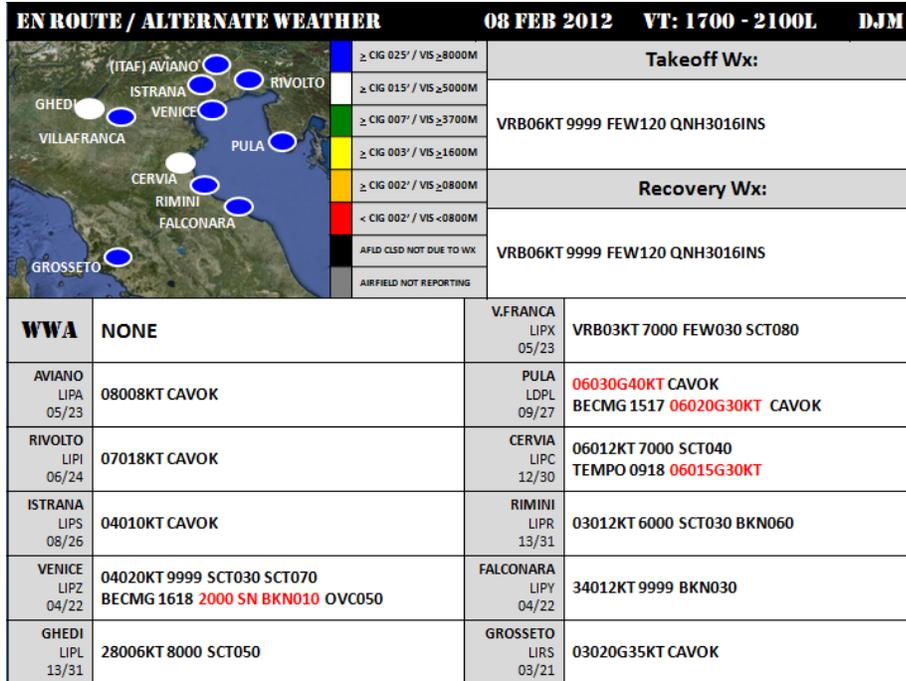


Figure A8.2. 31 OSS/OSW MEF Example PPT Slide 2

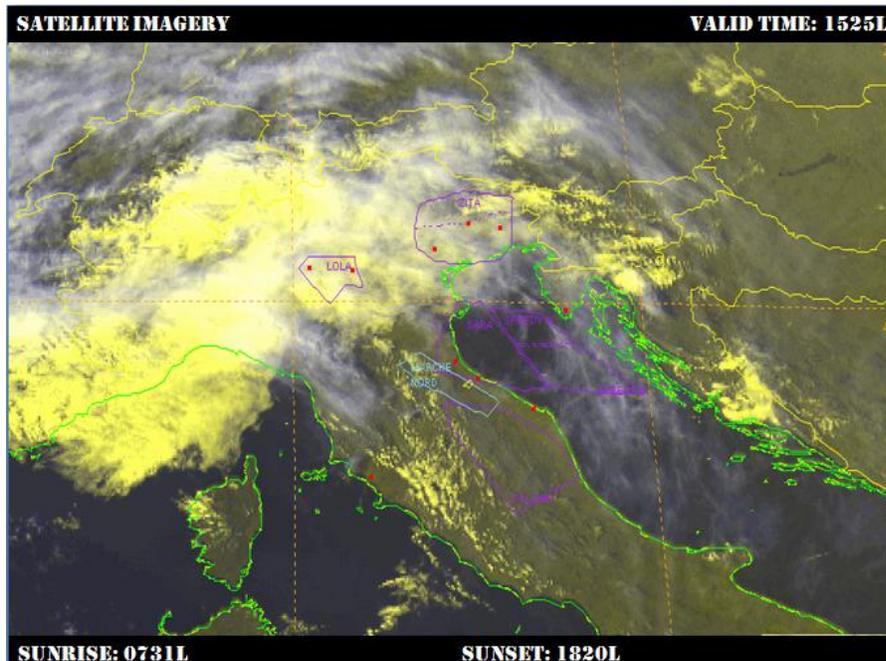


Figure A8.3. 31 OSS/OSW MEF Example PPT Slide 3

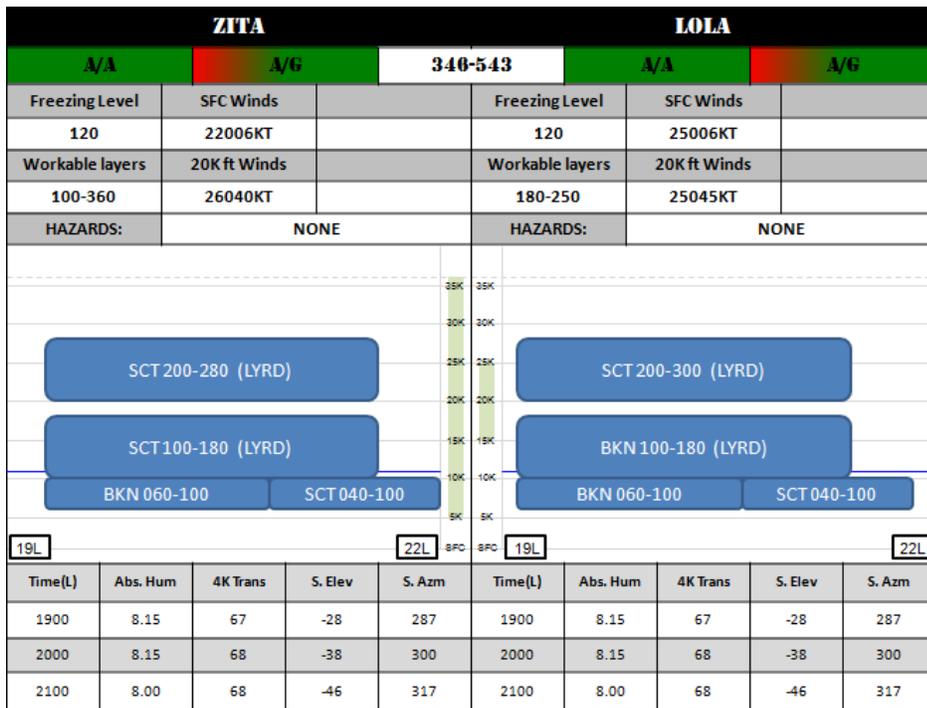


Figure A8.4. 31 OSS/OSW MEF Example PPT Slide 4

