BY ORDER OF THE COMMANDER OF THE OSAN AIR BASE

OSAN AIR BASE INSTRUCTION 15-101

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Weather

WEATHER SUPPORT

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Weather Operations*, and outlines policy and procedural guidance for the functions of weather support provided by the 51st Operations Support Squadron Weather Flight (51 OSS/OSW). General information for weather services, including weather observations and forecasts; weather warnings, watches, and advisories; space weather supported services; dissemination of information; and reciprocal support. This guidance is applicable to the 51st Operations Support Squadron Weather Flight (51 OSS/OSW), Airfield Operations Flight (51 OSS/OSA), 51 Fighter Wing/Command Post Osan Command Post (51 FW/CP), 51st Civil Engineering Squadron, Heavy Repair (51 CES/CEOHP), 51st Communications Squadron Network Control Center (51 CS/SCOO), 51st Aerospace Medicine Squadron, Bioenvironmental Engineering (51 AMDS/SGPB), Wing Scheduling (51 OSS/OSOS), 621st Air Control Squadron (621 ACS), Supervisor of Flying (SOF), 25th Fighter Squadron (25 FS), 36th Fighter Squadron (36 FS), 5th Reconnaissance Squadron (5 RS), 731st Air Mobility Squadron (731 AMS), and all other flying units operating from Osan Air Base (AB). This instruction applies to all personnel assigned to, attached to, or supported by the 51 FW. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the OPR using the DAF Form 847, *Recommendation for Change of Publication* ; route DAF Forms 847 from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include duty priorities, planning weather product, mission execution forecasts, terminal aerodrome forecast (TAF), 5 RS support, etc.

Chapter 1

WEATHER FLIGHT (WF) GENERAL INFORMATION

1.1. *Introduction.* The mission of 51 OSS/OSW Weather Flight (WF) is to provide precise, timely, and tailored weather support to the 51st Fighter Wing (51 FW) and its mission partners, ensuring readiness to defend, execute, and sustain the force by exploiting weather to their advantage.

1.2. *Terms.* Terms and abbreviations in this document can be found in **Attachment 1**.

1.3. Duty Priorities. Duty priorities are documented here IAW DAFMAN 15-129, *Air and Space Weather Operations,* and AFI 90-802, *Risk Management.*

Table 1.1. Duty Priorities.

1	Wartime defense of Osan AB
2	Perform Emergency War Order Tasks
3	Execute Emergency Evacuation / Continuity of Operations Plan
4	Issue/Disseminate Imminent Hazardous Weather Warnings
5	Respond to in-flight/ground aircraft emergencies
6	Issue/Disseminate Imminent Weather Advisories/Watches
7	Respond to PMSV/phone patch contacts
8	Provide weather updates to support the SOF/ flying squadron leadership
9	Disseminate weather observations
10	Disseminate Urgent PIREPS (UUAs)
11	Disseminate Mission Weather Products
12	Disseminate Terminal Aerodrome Forecasts
13	Collaborate WPs with Supported Units
14	METWATCH/Amend Weather Products
15	Respond to Support Assistance Request (SAR) or Request for Information
16	Provide Staff Briefings / Non-Standard Weather Products
17	Accomplish Weather Functional Training
18	Accomplish Administrative Tasks

1.4. *Duty Hours.* An Airfield Services element (ASE) forecaster will provide support 24/7. Mission Weather Element (MWE) forecasters are integrated into each 51 FW flying squadron (not inclusive of tenant units or Theater Support Packages) during 51 FW flying as weather flight manning allows.

1.5. Contact Information.

Table 1.2. Contact Information.

Airfield Services/Alternate Operating Location (AOL)	DSN: 784-9370
25th Fighter Squadron Forecaster	DSN: 784-2288
36th Fighter Squadron Forecaster	DSN: 783-3637
Wing Operations Center (WOC)/Emergency Operations Center (EOC)	DSN: 784-0875
Back Up Emergency Operations Center (EOC)	
Flight Chief/Staff Services	DSN: 784-5474/9370
Flight Commander/Staff Services	DSN: 784-6332/8340
Organizational Email	51OSS.OSW@us.af.mil
17th Operational Weather Squadron (OWS) Senior Duty Officer (SDO)	DSN: 315-449-8335
17th OWS Lead Briefer	DSN: 315-449-7950

1.6. *Dissemination of Weather Information***.** Joint Environmental Toolkit (JET) (**https://owsjet17.us.af.mil/portal/private/GuestOsanAB/Sensor**) is the primary weather data portal for dissemination of weather information and can be accessed by any Osan computer. Additional weather resources can be accessed on SharePoint: **https://usaf.dps.mil/sites/osan/51FW/51%20OG/51OSS/SitePages/Osan%20Weather.aspx**

1.7. *Release of Weather Information***.** The WF will not provide support or information to non-Department of Defense (DOD) organizations or to the general public except as authorized by AFI, 7AF/CC or the 51 FW/CC (or designated representative). The 51 FW Public Affairs Office is the authorizing official to release weather data to outside agencies.

Chapter 2

WEATHER FLIGHT OPERATIONS—FORECAST SERVICES

2.1. *Terminal Aerodrome Forecast (TAF).* The Osan AB TAF with International Civil Aviation Organization (ICAO) identifier "RKSO" is issued and maintained by the Osan AB Weather Flight IAW DAFMAN 15-129, *Air and Space Weather Operations*, and the Installation Data Page (IDP) located on the 17 OWS website (**https://17ows.us.af.mil**). TAF will be produced on 51 FW flying days at 06L (21Z), 14L (05Z), and 22L (13Z).

2.2. *Mission Weather Product (MWP).* The WF produces decision-grade MWPs tailored to specific weather thresholds and sensitivities of 51 FW assigned aircraft.

2.2.1. In accordance with the 5th Reconnaissance Squadron support agreement FB5294-19273 valid until 2028, the 51 OSS/OSW will:

2.2.1.1. Provide or arrange for special weather services and facilities according to governing regulations.

2.2.1.2. Provide timely notification of planned changes in base operations that would affect weather support requirements.

2.2.1.3. Routine observing services 24 hours 7 days.

2.2.1.4. Provide forecast services, at agreed upon times.

2.2.1.5. Climatology, toxic corridor, electro-optical products upon request.

2.2.1.6. Local dissemination of weather information via the JET portal.

2.2.2. Approval. The format, content, timing, and delivery of MWPs and mission critical thresholds are reviewed and approved by the Director of Operations from the 51 OSS, 25 FS and 36 FS.

2.2.3. Dissemination. MWPs will be mass/step briefed and posted to the 51 OSS/OSW SharePoint site.

2.2.4. Amendment/Mission-Scale Meteorological Watch (MISSIONWATCH). The WF will MISSIONWATCH all missions briefed and will amend MWPs when observed or forecast conditions cross mission critical thresholds and/or anytime a pertinent Watch, Warning, Advisory (WWA) is issued. Additionally, any significant changes to observed or forecast conditions will be passed verbally to the Top 3/SOF/5 RS Ops Desk. The Fighter Squadron (FS) forecaster will notify the Top 3 while the ASE forecaster will notify the SOF and 5 RS Ops Desk. Constant communication will occur between the FS and ASE forecasters to ensure accurate and timely notifications are disseminated.

2.3. *5-Day Forecast. A 5-Day forecast will be produced on wing flying days and uploaded to the 51 OSS/OSW SharePoint. This product is for planning purposes only.*

2.4. *Supervisor of Flying (SOF) Support. Ensure airfield take-off, transit, target/operating area, and return weather are included in step briefs. Establish and reiterate two-way communication with forecaster to ensure weather updates are passed to pilots and Top-3. Weather updates should be relayed as conditions warrant.*

2.4.1. The ASE forecaster supports the SOF as follows:

2.4.1.1. Provides structured weather briefing similar to fighter squadron mass briefings.

2.4.1.2. Relays pertinent weather information in military operating areas, training areas, ranges, or any other operating location.

2.4.1.3. Notifies SOF when actual or forecast conditions deteriorate or improve through pilot weather categories defined in AFMAN 11-202V3, *Flight Operations*, at Osan AB, SOF designated alternates, military operating areas, and enroute flight paths.

2.4.1.4. Notifies SOF of overwater sea states > 10 feet (significant wave height), sustained surface winds > 35 knots over land or > 25 knots over water for intended route of flight, and Osan AB Equivalent Chill Temperature (ECT) ≤ -25ºF.

2.4.1.5. Notifies SOF of any WWA issuance/cancelation, significant pilot report (PIREP) received, thunderstorms enter/exit a 10 Nautical Mile (NM) radius of Osan AB, and any other phenomenon pertinent to flight safety.

2.5. *Briefing Services.* The DD Form 175-1, *Flight Weather Briefing* and verbal briefs. The WF will provide or arrange for transient flight weather briefing support in accordance with established duty priorities outlined in section 1.3. Osan duty forecasters will defer to the transient units lead weather support as the preferred option. If support cannot be obtained, the Osan WF will supply briefing support. Under no circumstances will briefing support be denied to a transient aircrew. Crews may submit briefing requests in person, by phone, or via the "WX Brief" link on the JET portal **https://owsjet17.us.af.mil/**.

2.6. *Pilot-to-Metro-Service (PMSV).* U.S. aircraft in radio range of Osan AB may contact 'Osan Metro' on 346.5 MHz to request weather information. For back-up PMSV services, the 607th Combat Weather Squadron (607 CWS), US Army Garrison (USAG) Humphreys PMSV is available on UHF 346.5.

2.7. *Support to Deployed/Expeditionary Units.* Weather support for deployed or expeditionary units operating from Osan AB will be supplied by their attached/home WF or support will be arranged by the expeditionary unit IAW AFMAN 15-129, Lead Weather Unit (LWU) procedures.

2.8. *Space Weather Support.* Requested through 2 WS Space WOC: **https://weather.af.mil/confluence/display/AFWWEBSTBT/Space+Weather+Main+Page**

2.9. Chemical Downwind Messages (CDM). The WF will provide CDMs within the first hour after the stand-up of the EOC Chemical, Biological, Radiological and Nuclear (CBRN) Control Center. CDMs will, at a minimum, be updated every six hours.

2.10. Forecasting Limitations.

2.10.1. Interruption of the normal receipt of alphanumeric and graphic data via various interconnected weather data systems, Non-classified Internet Protocol Router Network (NIPRNET) or Secure Internet Protocol Router Network (SIPRNET) degrades forecast capabilities.

2.10.2. Weather data is sparse over unpopulated and maritime regions, limiting forecast capabilities. Pilot Reports (PIREPS) are extremely useful over data sparse areas. **Chapter 7**, reciprocal support requests PIREPS to bolster

2.10.3. The WF has limited access to international weather reports and forecasts, and the language barrier further challenges the WF's ability to provide precise, timely weather data for non-U.S. airfields. When the language barrier is preventing the access or dissemination of critical weather information, the ASE forecaster will contact the SOF (or a fighter squadron Operations Supervisor) to request or disseminate weather information via the Republic of Korea Air Force (ROKAF) Senior Operations Duty Officer (SODO).

2.11. *Backup Operations and the Alternate Operating Location (AOL)**.***

2.11.1. The WF maintains the capability and Standard Operating Procedures (SOP) to support 51 FW missions in a degraded/backup mode from the AOL in building 671 (Fire Station) in the main hallway area. Evacuations of building 870 will be conducted IAW Duty Priorities, SOPs, and `AFMAN15-129.

2.11.2. Limitations at the AOL include lack of PMSV radio and SIPRNET connections.

2.11.3. In the event of an Osan AB service outage, backup TAF, and flight weather briefing services are provided by the 17 OWS IAW a standing IDP agreement.

Chapter 3

WEATHER FLIGHT OPERATIONS — OBSERVING SERVICES

3.1. *Observation Equipment.*

3.1.1. The FMQ-23 Fixed Base Weather Observing System (FBWOS) is the primary equipment used to collect the full suite of weather data at Osan AB.

3.1.1.1. Collection sensors include Wind Speed and Direction, Temperature and Relative Humidity, Altimeter Barometer, Precipitation Accumulation, Precipitation ID/Visibility/Ambient Light, Cloud Height, Lightning, Ice Accretion, and Runway Heading and Light Intensity Monitor/Runway Visual Range (RVR).

3.1.1.2. System Limitations.

3.1.1.2.1. Cloud Height Sensor. The FMQ-23 includes two laser ceilometers located at the primary and discontinuity sensor groups which emit vertical laser beams. The ceilometers only sense obscurations directly overhead and utilize a 30-minute trend algorithm to compute sky condition.

3.1.1.2.2. Visibility Sensor. The FMQ-23 includes two visibility sensors located at the primary and discontinuity sensor groups which detect visibility obscurations in the immediate vicinity of the sensor (i.e. basketball-sized volume) and utilize a 10-minute trend algorithm to compute visibility. The visibility sensor is not able to identify lithometers (dust, pollen, smoke) causing inaccuracies during hazy days.

3.1.1.2.3. Precipitation Accumulation Sensor. The FMQ-23 is equipped with one rain gauge on the primary sensor group. This gauge produces the official rainfall report for Osan AB, and actual rainfall on other areas of the base may vary.

3.1.2. AN/TMQ-53 Tactical Meteorological Observing System (TMOS).

3.1.2.1. The TMOS is a lightweight, flexible, rapidly deployable weather observing system and is the primary backup to fixed observing equipment for extended outages.

3.1.2.2. Data Collection. The TMOS measures wind direction, wind speed, temperature, relative humidity, dewpoint, pressure, and rainfall accumulation in basic configuration. This configuration relies only upon a solar panel.

3.1.2.3. System Limitations. The Enhanced Configuration is required for the TMOS to report cloud height, visibility, present weather and lightning detection. An external power source (i.e., commercial or generator power) is necessary for sustained operation of the enhanced configuration. Winds taken with this equipment will be considered estimated.

3.1.3. Kestrel® Environmental Weather Meter.

3.1.3.1. The Kestrel is a handheld weather device used as a backup to all other fielded/tactical equipment. Winds and pressure taken with this equipment will be considered estimated.

3.1.4. Micro Weather Sensor (MWS)

3.1.4.1. The MWS is an ultra-portable weather sensor that can operate autonomously without the need for dedicated power and communication support. Due to limitations of the sensor, the information is not to be used for official aviation weather reporting unless needed for emergency operations and the risk is properly calculated.

3.2. Observation Practices. Weather observing is conducted IAW AFMAN 15-111, *Surface Weather Observations*, except as detailed herein due to unique 51 FW mission requirements.

Table 3.1. SPECI Observation Criteria.

CEILING	
100 ft	900 ft
200 ft	1000 ft
300 ft	1500 ft
500 ft	2000 ft
600 ft	3000 ft
700 ft	
800 ft	

VISIBILITY	
1/4 SM (400m)	1 7/8 SM (3000m)
1/2 SM (800m)	2 SM (3200m)
3/4 SM (1200m)	2 1/2 SM (4000m)
1 SM (1600m)	3 SM (4800m)
1 1/4 SM (2000m)	
1 1/2 SM (2400m)	
1 5/8 SM (2600m)	
1 3/4 (2800m)	

3.2.1. Primary/Alternate Observation Site. The official observing point is the grate located 125 feet north of building 870. The AOL observing site is 120 feet northwest of building 671 and is located 20 feet from the left grass area between the restricted access line and is labeled as a yellow north arrow. Visibility from each site is obscured by buildings and hills from southeast through southwest.

3.2.2. Augmentation. Augmentation is the process of having position qualified weather personnel edit or add additional data to an observation generated by an FBWOS. There are two augmentation processes: supplement and back-up.

3.2.2.1. Supplementation of FBWOS. Supplementing is the process of manually adding observed weather conditions beyond the capabilities of the FBWOS to detect and/or report an observation. Augmentations of observations produced by the FBWOS will occur when mandatory supplemental criteria include tornadoes, waterspouts, funnel clouds, freezing precipitation, ice pellets, hail, sand or dust storms, volcanic ash, are occurring over Osan Air Base. Observations will also be augmented when Air Traffic Control relays visibility that differs from the surface prevailing visibility by a reportable value.

3.2.2.2. Backup of FBWOS. Back-up is the process of manually editing/adding data or dissemination capability when the primary method is not operational, unavailable or suspected to be providing erroneous data (e.g. sensor/comm. failure, dew point higher than temperature).

3.2.2.3. Unrepresentative data from any equipment, regardless of method used, will not be included in observations and will be considered missing if they cannot be determined through other methods. Forecasters will maintain continual situational awareness and augment for all unrepresentative weather conditions specific to category changes in accordance with duty priorities to ensure product integrity. Special attention will be paid when conditions deteriorate below 5,000-foot ceilings or 5 statute miles of prevailing visibility during wing flying hours.

3.2.3. Dissemination. JET is the primary dissemination tool for observations.

3.2.4. Backup Procedures.

3.2.4.1. FMQ-23. A combination of TMQ-53, Kestrel®, and a human observer are utilized to backup FMQ-23 instruments, as applicable. Due to specific citing requirements, altimeter and winds may be reported as estimated and coded "estimated (ESTMD)". Additionally, RVR sensor outages are coded "RVR Information Not Available (RVRNO)".

3.2.4.2. JET. Technicians transmit observations manually, first to Air Traffic Control (ATC) agencies then continue with local dissemination. Observations are then transmitted longline through Air Force Weather Web Services (AFW-WEBS) or via another weather unit (e.g., 17 OWS, 8 OSS/OSW, etc.). Refer to **Attachment 2** for a back-up dissemination tree.

Chapter 4

WEATHER WATCHES, WARNINGS, AND ADVISORIES (WWA)

4.1. *General Information.* WWAs are issued for the Osan AB aerodrome to protect 51st FW resources and personnel from weather hazards and to alert supported agencies to mission limiting weather factors. WF personnel are responsible for ensuring WWAs are disseminated in a timely manner based on customer driven Desired Lead Time (DLT).

4.2. Dissemination.

4.2.1. Primary. JET is the primary dissemination system for all WWAs, and affected units may elect to receive automated phone calls and/or email notifications. JET automated direct ifications are sent to the agencies listed in **Attachment 2**. all weather watches and warnings will be confirmed via JET dissemination monitor.

4.2.2. Backup. During JET outages, the WF will disseminate weather information by phone to all listed agencies in **Attachment 2** in a pyramid notification pattern.

4.2.3. It is incumbent upon all units to ensure widest dissemination through timely and proper notifications.

4.3. WWA Criteria. WWA criteria are detailed in **Attachment 2**.

Chapter 5

WEATHER FLIGHT OPERATIONS – SEVERE WEATHER, TROPICAL CYCLONES, AND SNOW SERVICES

5.1. Hazardous Weather Outlook (HWO) Notices. HWOs are emailed daily to key leadership at least 72 hours prior to the occurrence a significant weather event. These notices are followed by WWAs, as required. See **Attachment 5** for an example HWO message.

5.1.1. Events that drive the issuance of an HWO include: tropical storms & typhoons, severe thunderstorms, two inches or more of rainfall (or snowfall) in 12 hours (or less), freezing or frozen precipitation, damaging winds, etc. These notices also cover volcanic eruptions, tsunamis, and space weather disruptions.

5.1.2. 51 FW key leadership in the distro: 51 FW/CC, 51 FW/CV, 51 FW/PA, 51 FW/CCC, 51 OG/CC, 51 OG/CD, 51 OG/CCC, 51 MXG/CC, 51 MXG/CD, 51MXG/CCC, 51 MSG/CC, 51 MSG/CD, 51 MSG/DD, 51 MSG/CCC 51 MDG/CC, 51 MDG/CD, 51 OSS/CC, 51 OSS/DO, 51 OSS/ADOs, 25 FS/CC, 25 FS/DO, 36 FS/CC, 36 FS/DO, 5 RS/CC, 5 RS/DO, 51 CES/CC, 51 CES/CD, 51 CES/CEO, 51 CES/CEOH, 51 MOS/MXOOM, 51 FW SQUARDON COMMAND TEAMS, 51 FW/Command Post, 607 AOC/CODW, 731 AMS/CC, 7AF/A3O, 731 AMS/DO, PACAF/A3TX Weather Org, and 35 ADA BDE (USA)

5.1.2.1. This distribution list will be updated or verified annually.

5.2. *Severe Weather Action Plan (SWAP). The WF maintains a SWAP to assess potentially hazardous weather events and actively focus efforts toward resource protection via enhanced* Meteorological Watch (*METWATCH), recalling personnel, etc.*

5.2.1. SWAP will be initiated when WWAs are issued for tornadic activity, hail $\geq$ ¾", damaging winds $\geq$ 50kts, Tropical Cyclone Condition of Readiness (TCCOR) 2, Freezing Precipitation or any other hazardous situation. Forecasters will move with consideration of personal safety and approval of Flight leadership.

5.2.2. Routine weather services during periods of severe weather will be limited to mission-essential only to ensure critical weather information is relayed in a timely manner to those controlling flying, providing base resource protection, and base leadership IAW duty priorities.

5.2.3. SWAP members will act as severe weather liaisons to 51 FW leadership.

5.3. *Tropical Cyclones (TC).*

5.3.1. Tropical Cyclone Conditions of Readiness (TCCOR). TCCOR are set for the Korean Theater of Operations (KTO) by the United States Forces Korea (USFK)/J3 Director of Operations IAW USFKI 3820.01, *USFK Tropical Cyclone Condition of Readingess Program*, upon recommendation by the 607 CWS/CC. TCCOR criteria is located in **Attachment 6**.

5.3.2. Official Forecast. The Joint Typhoon Warning Center (JTWC) issues the official TC track and intensity forecast.

5.3.3. HWO Notifications. The WF will disseminate HWOs to 51 FW leadership once daily for storms west of 165°E and north of 10°N which are expected to impact the Republic of Korea (ROK) or U.S. assets in Japan when no TCCOR has been declared and 4 times daily once Osan AB is under TCCOR. There is an example of a Typhoon update email in **Attachment 5**.

5.3.4. Zone 5 TCCOR. Osan AB falls under Zone 5 and extends in a 3-km circle around the boundary of Osan AB IAW with USFKI 3820.01.

5.4. *Snow Support. The snow control group will collaborate ahead of snow season to outline expectations and procedures in line with determinations relating to road conditions, school conditions, and advise the 51 FW/CC for any delayed reporting actions. On the day of projected snowfall, CE will initiate the Snow Control Conference to include a WF forecaster to brief intensity and amount of snowfall projected over the next 24 hours. 51 SFS would use the information for the determination on roads conditions and CE would funnel up the determination for delayed reporting to the 51 FW/CC. 72 Hours ahead of the projected snow event, the WF will send out Hazardous Weather Outlooks in line with* **attachment 5** *and section 5.1 giving the snow control group ample notice.*

Chapter 6

STAFF WEATHER SERVICES

6.1. Briefings.

6.1.1. Instrument Refresher Course (IRC). The WF will provide an in-person weather briefing at each IRC, as duty priorities and manpower allow.

6.1.2. Wing Stand-up Briefs. The WF will provide an in-person weather briefing covering the week's weather impacts to flying and base operations at Wing Stand-up meetings, as duty priorities and manpower allow.

6.1.3. Upon request by 51 Fighter Wing Safety (51 FW/SE) or 51 Operations Group Stan/Eval (51 OG/OGV), weather briefings will be presented at the Quarterly Safety and SOF meetings addressing either seasonal weather patterns or other weather topics.

6.1.4. Upon notification by the Installation Deployment Officer (IDO), the WF will provide the weather portion of the deployment concept briefing.

6.2. Investigation Boards. WF personnel will serve as the weather member of investigation boards upon appointment by Pacific Air Forces (PACAF) or 51 FW/CC and will provide weather data for inclusion in aircraft accident reports upon request by 51 FW/SE.

6.3. Climatological Services. The WF will provide climatological summaries monthly or as requested for mission and planning needs.

6.4. Exercise, Emergency Operations Center (EOC), and Crisis Action Team (CAT) Response: Staff weather personnel will respond in the event of a CAT/EOC activation and provide support to leadership or the 51 FW Mission Director, as appropriate.

6.5. Flight Information Publication Updates. The WF will validate the accuracy of the information each time the Flight Information Publication (FLIP) is published and take immediate steps to correct erroneous data.

6.6. Cooperative Weather Watch. The WF will sign off on AF Form 3622, *Air Traffic Control/Weather Certification and Rating Record*, after confirmation of the completion of ATC Weather Training IAW AFMAN 13-204V3, *Air Traffic Control*, *Airfield Operations Procedures and Programs,* to certify Tower controllers for limited weather observations. The WF will also provide a brief course highlighting weather impacts. The WF will provide/certify day/night visibility charts for primary/alternate tower sites.

Chapter 7

RECIPROCAL SUPPORT

7.1. Osan Command Post (51 FW/CP) will:

7.1.1. Promptly disseminate WWAs IAW applicable 51 FW/CP Quick Reaction Checklists.

7.2. 25 FS and 36 FS will:

7.2.1. Provide daily flight schedule including mission types, locations, mass/step brief times, etc., and promptly notify the WF of any changes.

7.2.2. Provide a work center (computer, phone line, desk space) at the operations desk to provide support to the FS Top 3.

7.2.3. Relay PIREPs IAW AFI DAFMAN 11-202V3, via PMSV (346.5), phone patch, ATC, RAPCON, or the SOF anytime hazardous weather conditions jeopardize flight safety or differ substantially from mission brief provided. Mandatory elements include Time, Aircraft Type, Location, Flight Level, and Weather encountered. IAW AFMAN 15-129, 2.23.7. PIREPs must be relayed to weather technician no later than 5 minutes after receipt by ATC, RAPCON, and/or SOF.

7.2.4. Coordinate any unique support requirements with the WF.

7.2.5. Each FS will provide bed down support for 2 weather forecasters during exercise and contingency operations. Note the forecasters will be on opposite shifts so would only utilize one bed.

7.2.6. Make every effort to allocate funds and space for weather personnel on exercises and TDYs requiring weather support and/or relay weather requirements so that reachback support can be provided.

7.2.6.1. It is recommended to prioritize TDY of forecasters embedded in the Fighter Squadrons versus using reachback support, since during wartime missions reachback would not be what is executed and recommend that it is better to practice how you fight.

7.2.6.2. The weather flight often has funds to better support 36 FS and the 25 FS exercises or TDYs, Collaboration from planners involved with the planning and execution of TDYs and exercises with the Missions NCOIC allow the WF to better support the needs of the 36 FS and the 25 FS.

7.3. 5 RS will:

7.3.1. Provide at least a 24 hour notification for TAF support outside of 51st FW Flying days.

7.3.2. Provide flying schedule when requested by WF.

7.4. 731 AMS will:

7.4.1. Notify WF of any missions or operations that require backup weather support.

7.5. Supervisor of Flying (SOF) will:

7.5.1. Notify the WF of the following:

7.5.1.1. Anytime the official airfield observation differs from conditions as observed in the Tower (i.e. ceiling/visibility, lightning/thunder, start/stop of precipitation, etc.).

7.5.1.2. Promptly solicit/pass PIREPs from ranges and MOA.

7.5.1.3. When alternate airfield is designated.

7.5.1.4. Anytime 51 FW aircraft divert to another airfield.

7.5.1.5. When 51 FW flying is complete for the day.

7.6. 51 CS will:

7.6.1. Provide administration of the network connectivity of the FMQ-23 and JET servers located in building 949.

7.6.2. Provide access to building 949 and server room during duty hours and off duty hours for emergency support.

7.7. 51 CES/CEOHP will: Coordinate with the WF during forecast periods of heavy rain or snow to assess flooding/snow removal.

7.8. 51st OSS Mission Planning Cell (MPC) will: Provide WF information regarding upcoming missions that require weather-planning data.

7.9. 51 OSS/OSAA (Airfield Management) will:

7.9.1. Provide the WF with the most current FLIP.

7.9.2. Provide Notices to Airmen (NOTAM) that document changes to local airfield minima.

7.9.3. Notify WF of any in-flight emergency, ground emergency, or aircraft mishap via the secondary crash phone.

7.9.4. Disseminate WWAs IAW OSANABI 15-101, *Weather Support for Osan Air Base*, **Attachment 2, Figure A2.1**, during JET outages.

7.9.5. Provide Runway Surface Condition (RSC) or Runway Condition Readings (RCR) in order to include on 175-1 Flight Weather Brief IAW DAFMAN 15-129.

7.9.6. Provide periodic mission orientation briefings to incoming weather personnel.

7.10. 51 OSS/OSAR (Radar Approach Control (RAPCON)) will:

7.10.1. Promptly relay any PIREPs received.

7.10.2. Notify duty forecaster anytime Air Force Automated System (AFAS) is malfunctioning.

7.10.3. Provide periodic mission orientation briefings to incoming weather personnel.

7.11. 51 OSS/OSAM (Radar Airfield Weather Systems (RAWS)) will:

7.11.1. Maintain or arrange for maintenance of WF meteorological equipment and weather support communications that have been properly approved, procured, and installed IAW the annually reviewed RAWS Restoral Letter.

7.11.2. Notify the duty forecaster when maintenance is to be performed.

7.11.3. Respond to outages within one hour after weather personnel log an outage of equipment deemed mission critical (listed below in priority order). The on-site response may be waived by the WF Commander if the mission or weather conditions allow.

7.11.3.1. Fixed Base Weather Observing System (FMQ-23).

7.11.3.2. Weather Surveillance Radar 88 Doppler (WSR-88D), also commonly referred NEXRAD.

7.11.3.3. Perform barometer calibrations on TMQ-53 TMOS.

7.12. 51 OSS/OSAT (Tower) will:

7.12.1. Promptly relay any PIREPs received.

7.12.2. Conduct a Cooperative Weather Watch (CWW) IAW AFMAN 13-204V3, AFMAN 15-111, and local procedure.

7.12.3. Notify duty forecaster anytime AFAS is not working properly.

7.12.4. Provide periodic mission orientation briefings to incoming weather personnel.

7.13. 51 OSS/OSOS (Wing Scheduling) will:

7.13.1. Provide a copy of the daily flying schedule to the WF, if not able to access via Windows Patriot Excalibur (WINPEX) or Electronic Patriot Excalibur (EPEX).

7.13.2. Ensure the 7 AF Training Calendar is updated with upcoming deployments and exercises.

7.14. 51 AMDS/SGPB will:

7.14.1. Conduct Wet Bulb Globe Temperature (WBGT) monitoring in accordance with DAFI 48-151, *Thermal Stress Program*.

7.14.2. Monitor for Air Quality Index (AQI) and Particulate Matter less than 2.5 microns (PM2.5) that exist around Osan AB using data from Kyonggido-Pyeongtaek-Sotanmyon air quality monitoring station.

7.14.3. Relay Air Quality Notices to Osan Command Post (51 FW/CP) for publication via AtHoc messages.

7.14.3.1. Provide air quality condition updates to the following agencies: Child Development Center (CDC) Manager, Youth Center, Middle School Nurse, Elementary School Nurse, School Age Programs manager, and Command Post.

7.14.3.2. Updates will only occur when checked first thing in the morning and only after conditions change during the day.

7.14.4. Air Quality data from the following sources may be referenced if there is no access to the Kyonggido AQI data.

7.14.4.1. Pyeongtaek-si website: **http://aqicn.org/city/korea/gyeonggi/pyeongtaek-si/**

7.14.4.2. Osan-si website: **http://aqicn.org/city/korea/gyeonggi/osan-si/**

7.15. Transient Units. All transient units/aircrews operating out of Osan AB are responsible for coordinating appropriate weather support IAW **paragraph 2.5**.

7.16. 17 OWS. Assumes critical functions in a backup capacity at times when the WF is unavailable IAW DAFMAN 15-129 and IDP agreement.

7.17. 607 Air Operations Center, Weather Specialty Team (AOC/CODW) will:

7.17.1. Provide all weather support including peninsula altimeter setting updates to 621 ACS during duty hours IAW 7 AFI 15-101, *Weather Support for Seventh Air Force*.

7.17.2. Notify WF when Cobra requires backup briefing support.

7.18. 6-52 Air Defense Artillery.

7.18.1. The 6-52 ADA will provide contact information for the JET dissemination tool in order to receive relevant watches, warnings, and advisory information that could potentially impact operations.

7.19. 51FW/PA will:

7.19.1. On a case-by-case basis as determined by the PAO, disseminate pertinent weather updates that impact the installation, its operations, and/or its members. Communication channel and dissemination will be dependent upon the target audience and weather severity.

WILLIAM H. MCKIBBAN, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 33-322, *Records Management and Information Governance Program,* 23 March 2020

DAFMAN 15-129, *Air and Space Weather Operations,* 7 September 2023

7 AFI 15-101, *Weather Support for Seventh Air Force*, 23 October 2019

AFMAN 11-202V3, *Flight Operations,* 10 January 2022

AFMAN 13-204V3, *Airfield Traffic Control*, 22 July 2020

DAFI 48-151, *Thermal Stress Program,* 2 May 2022

AFI 90-802, *Risk Management*, 1 April 2019

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

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

USFKI 3820.01, *USFK Tropical Cyclone Condition of Readingess Program* 20 July 2020

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

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

DD Form 175-1, *Flight Weather Briefing*

Abbreviations and Acronyms

25 FS—25th Fighter Squadron

36 FS—36th Fighter Squadron

5 RS—5th Reconnaissance Squadron

51 FW—51st Fighter Wing

51 OSS/OSW—51st Operations Support Squadron Weather Flight

51 OSS/OSA—51st Operations Support Squadron Airfield Operations Flight

51 FW/CP—51st Fighter Wing/Command Post, Osan Command Post

51 CES/CEOHP—51st Civil Engineering Squadron, Heavy Repair

51 CS/SCOO—51st Communications Squadron Network Control Center

51 AMDS/SGPB—51st Aerospace Medicine Squadron, Bioenvironmental Engineering

607 AOC/CODW—607 Air Operations Center, Weather Specialty Team

607 CWS—607th Combat Weather Squadron

621 ACS—621st Air Control Squadron

731 AMS—731st Air Mobility Squadron

51 OSS/OSOS—51st Operational Support Squadron Wing Scheduling

8 OSS/OSW—8th Operational Support Squadron Weather Flight

51 FW/SE—51st FW Safety Office

51 OG/OGV—51st Operations Group Standards and Evaluations

7 AF—7th Air Force

51 FW/PA—51st Fighter Wing Public Affairs

6—52 ADA – 6-52 Air Defense Artillery

51 MUNS—51st Munitions Squadron

51 SFS—51st Security Forces Squadron

51 AMS—51st Air Mobility Squadron

5 RS—5th Reconnaissance Squadron

614 AOC—614th Air Operations Center

WR//, LSR//, SLR//, or IR—Wet Runway // Loose Snow on Runway // Slush on Runway // Ice on Runway

Army COE—Army Corps of Engineers

AOR—Area of Responsibility

ATOC—Air Terminal Operations Center

AB—Air Base

AFAS—Air Force Automated System

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFW-WEBS—Air Force Weather Web Services

AMS—Air Mobility Squadron

AOL—Alternate Operating Location

AQI—Air Quality Index

ASE—Airfield Services Element

ATC—Air Traffic Control

BDOC—Base Defense Operations Center

CAT—Crisis Action Team

CBRN—Chemical, Biological, Radiological, and Nuclear

CDC—Child Development Center

CDM—Chemical Downwind Message

CWW—Cooperative Weather Watch

DLT—Desired Lead Time

DOD—Department of Defense

ECM—Electronic Countermeasure

ECT—Equivalent Chill Temperature

EOC—Emergency Operations Center

EPEX—electronic Patriot Excalibur

ESTMD—estimated

FBWOS—Fixed Base Weather Observing System

FITS—Fighter Index of Thermal Stress

FLIP—Flight Information Publication

FOD—Foreign Object Damage

FS—Fighter Squadron

GOV—Government Owned Vehicle

HWO—Hazardous Weather Outlook

IAW—In Accordance With

ICAO—International Civil Aviation Organization

IDO—Installation Deployment Officer

IDP—Installation Data Page

IRC—Instrument Refresher Course

JET—Joint Environmental Toolkit

JTWC—Joint Typhoon Warning Center

KTO—Korean Theater of Operations

LWU—Lead Weather Unit

METWATCH—Meteorological Watch

MISSIONWATCH—Mission Meteorological Watch

MOA—Military Operating Areas

MOC—Maintenance Operations Center

MPC—Mission Planning Cell

MWE—Mission Weather Element

MWP—Mission Weather Product

MWS—Micro Weather Sensor

NCOIC—Non-Commisioned Officer In Charge

NEXRAD—Next Generation Weather Radar

NIPRNET—Non-classified Internet Protocol Router Network

NM—Nautical Mile

NOTAM—Notice to Airmen

OPR—Office of Primary Responsibility

OWS—Operational Weather Squadron

PA—Public Affairs

PACAF—Pacific Air Forces

PAO—Public Affairs Officer

POL—Petroleum, Oil and Lubricants Flight

PIREP—Pilot Report

PM2.5—Particulate Matter less than 2.5 microns

PMSV—Pilot to Metro Service

RAPCON—Radar Approach Control

RAWS—Radar Airfield Weather Systems

RCR—Runway Condition Reading

ROK—Republic of Korea

ROKAF—Republic of Korea Air Force

RS—Reconnaissance Squadron

RSC—Runway Surface Condition

RVR—Runway Visual Range

RVRNO—Runway Visual Range Information Not Available

SAR—Support Assistance Request

SDO—Senior Duty Officer

SF—Security Forces

SIPRNET—Secure Internet Protocol Router Network

SODO—Senior Operations Duty Officer

SOF—Supervisor of Flying

SOP—Standard Operating Procedures

SWAP—Severe Weather Action Plan

TAF—Terminal Aerodrome Forecast

TC—Tropical Cyclones

TCCOR—Tropical Cyclone Condition of Readiness

TDY—Temporary Duty Location

TMOS—Tactical Meteorological Observing System

USAG—United States Army Garrison

USFK—United States Forces Korea

WBGT—Wet Bulb Globe Temperature

WF—Weather Flight

WINPEX—Windows Patriot Excalibur

WOC—Wing Operations Center

WSR-88D—Weather Surveillance Radar 88 Doppler

WWA—Watch, Warning, Advisory

Terms

Airfield Services Element (ASE)—The ASE, located in Bldg 870, is the focal point for airfield observations, forecast collaboration, installation resource protection (i.e. 'eyes forward'), and SOF support.

Desired Lead Time (DLT)—The amount of advance notice an agency requires prior to the onset of a particular weather phenomenon in order to take protective actions.

Eyes Forward—WF forecasters are the "eyes forward" for the forecasters in the 17 OWS and integrate weather radar data, meteorological satellite imagery, lightning detection readouts, etc., to create an integrated weather picture and near-term trend forecasts for the OWS. "Eyes forward" yields meaningful meteorological information not contained in coded observations to the servicing OWS and is an integral part of the METWATCH for an installation or contingency operating location.

Installation Data Page (IDP)—Agreement between 17 OWS and WF enumerating responsibilities, WWA criteria, contact numbers and other pertinent data related to support between the two organizations. The IDP is posted on the 17 OWS webpage.

Mission Weather Product (MWP)—A MWP is a customized weather product providing terrestrial and space weather data and forecasts for a specific mission, or set of missions. It fully integrates aerospace weather with the customer's tactics, weapon systems, environmental sensitivities of equipment, and other operational requirements.

MISSIONWATCH (Mission Meteorological Watch)—The monitoring of aerospace weather for a specific mission (i.e., ground, air or space) and informing supported agencies when unforecast mission-limiting phenomena could affect operations.

Mission Weather Element (MWE)—Weather personnel who provide MWPs for the operational decision cycle of their host or parent unit function as a MWE. This element also provides MWPs for sortie planning, generation, and execution.

Operational Weather Squadron (OWS)—An organization responsible for providing regional, operational-level weather forecast products and services to customers within their AOR. The 17 OWS serves the Korean Theater of Operations.

Severe Thunderstorm—A thunderstorm that produces hail greater than or equal to ¾ inch diameter and/or surface wind greater than or equal to 50 knots.

Severe Weather—Any weather condition that poses a hazard to property or life.

Terminal Aerodrome Forecast (TAF)—A structured, 30-hour weather forecast for the 5 NM aerodrome surrounding an airfield. Each TAF specifies the time of occurrence to the nearest hour, duration and intensity (if applicable) of weather conditions expected to occur.

Weather Flight (WF)—An umbrella term covering any military weather organization providing direct operational support at the tactical level.

Weather Watch—A special notice provided to supported customers that alerts them of a potential for weather conditions of such intensity as to pose a hazard to life or property for which the customer must take protective action.

Attachment 2

WEATHER WATCH, WARNING, ADVISORY (WWA) DISSEMINATION

Figure A2.1. The following agencies are notified via the JET notification system.

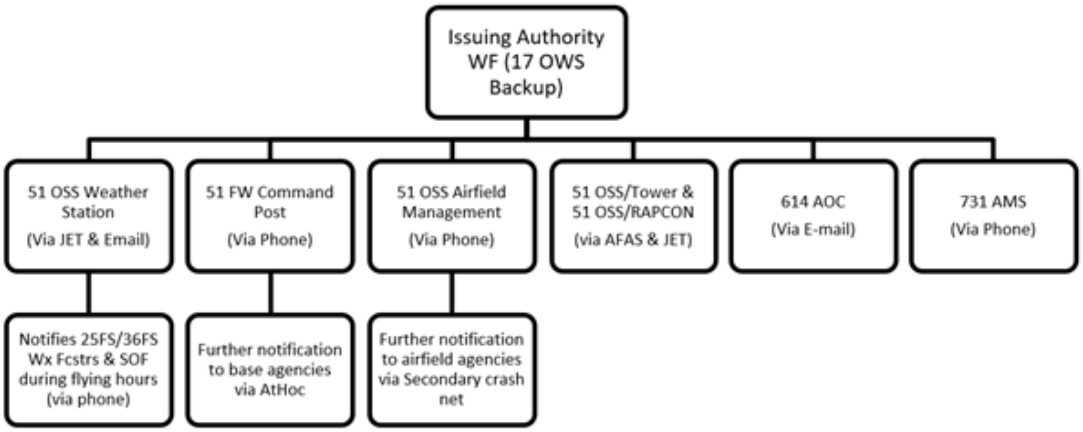


Table A2.1. Osan AB Watches.

PHENOMENA	DLT (in minutes)	ISSUED BY
Lightning within 5 NM	30	WF
Tornado	As potential warrants	WF
Severe Thunderstorm (Damaging Hail ≥ 3/4" and/or Damaging Winds ≥ 50knots)	240	WF
Moderate Thunderstorm (Strong Winds ≥ 35kts but < 50kts and/or Large Hail < 3/4"	As potential Warrants	WF
Damaging Winds ≥ 50 knots	240	WF
Strong Winds ≥ 35 knots but < 50 knots	As potential warrants	WF
Freezing Precipitation	As potential warrants	WF
Heavy Rainfall ≥ 2" but < 5" rain in 12 hours	As potential warrants	WF
Heavy Rainfall ≥ 5" rain in 12 hours	As potential warrants	WF
Heavy Snow Accumulation ≥ 2" snow depth in 12 hours	As potential warrants	WF
Blizzard (See Note 3 in Table A2.2)	As potential warrants	WF

Table A2.2. Osan AB Warnings.

Phenomena	DLT (in minutes)	ISSUED BY
Lightning within 5 NM	Observed	WF
Tornado	**30**	WF
Severe Thunderstorm (Damaging Hail ≥ 3/4" and/or Damaging Winds ≥ 50knots)	**120**	WF
Moderate Thunderstorm (Large Hail < 3/4" and/or Strong Winds ≥ 35 knots but < 50 knots)	**90**	WF
Damaging Winds ≥ 50 knots	**120**	WF
Strong Winds ≥ 35 knots but < 50 knots	**90**	WF
Crosswinds ≥ 25 knots	**90**	WF
Freezing Precipitation	**120**	WF
Heavy Rainfall ≥ 2" but < 5" rain in 12 hours	**90**	WF
Heavy Rainfall ≥ 5" rain in 12 hours	**240**	WF
Heavy Snow Accumulation ≥ 2" snow depth in 12 hours	**120**	WF
Blizzard (See Note 3)	**90**	WF

Note 1. Bold items indicate different criteria and/or lead times from AFMAN 15-129, and are based on valid local, customer needs.

Note 2. All forecast warnings for Osan AB will be issued by the WF unless the 17 OWS determines the threat is imminent and poses a threat to life or property. In this case, the 17 OWS will issue the forecast warning and back brief the WF as soon as possible.

Note 3. Blizzard Condition (per DAFMAN 15-129, Table 6.2.) is defined as: duration of ≥ 3 hours, sustained winds or gusts ≥ 30 knots, considerable falling and/or blowing snow, with surface visibility frequently ≤ 1/4 statute mile/0400 meters (all criteria must be met).

Table A2.3. Osan AB Advisories.

PHENOMENA	DLT (in minutes)	ISSUED BY
Surface Winds ≥ 25 knots but < 35 knots	30	WF
Lightning within 10NM	Observed	WF
Crosswind ≥ 21 knots	Observed (Note 3)	WF
Crosswind ≥ 15 knots**	Observed (Note 3)	WF
Crosswind ≥ 11 knots	Observed (Note 3)	WF
Ice FOD Potential (See Note 1)	Observed (Note 3)	WF
Snow Accumulation > Trace but < 2’’	60	WF
Wind Chill < 30F*	Observed (Note 3)	WF
Wind Chill < -15F*	Observed (Note 3)	WF
Wind Chill ≤ -25F*	Observed (Note 3)	WF
Temperature ≤ 32F*	Observed (Note 3)	WF
Visibility ≤ 400 Meters (1/4 mile)*	Observed (Note 3)	WF
Visibility ≤ 100 Meters (1/16 mile)*	Observed (Note 3)	WF
Fighter Index of Thermal Stress Caution Conditions	Observed (Note 3)	WF
Fighter Index of Thermal Stress Danger Conditions	Observed (Note 3)	WF

Note 1. Ice Foreign Object Damage (FOD) potential is defined when any of the three conditions below exist:
ambient temperature is below 45F (7C) with standing water or a mixture of water with ice or snow in the immediate proximity of the engine inlet (i.e. WR//, LSR//, SLR//, or IR//), dew-point temperature is within 9F (5C) of the ambient air temperature between 45F (7C) and 25F (-4C), or ambient temperature is between 45F (7C) and 20F (-7C) with rain, ice pellets, snow, or fog (visibility < 5/8 mile) occurring.
*Not Intended for ATIS

Note 2. **When 15 knot crosswinds occur or are expected to occur, the WF will contact the 5 RS to inform them of the current and expected conditions.

Note 3. With the exception of lighting, observed advisories are only issued during 51 FW flying hours.

Attachment 3

WEATHER IMPACTS ON CUSTOMERS

A3.1. General: The following tables identify impacts to and actions to be taken by 51 FW and Osan AB agencies when Observed Weather Advisories, Forecast Weather Advisories, Weather Watches, and Weather Warnings are issued. Impacts to the flying customers are updated and reviewed annually with each squadron, are located in WF local procedures.

Table A3.1. 51FW Observed Weather Advisories Impacts.

THRESHOLD	DLT	IMPACT	CUSTOMER ACTION
ICE FOD Potential	Observed	Possible F-16 engine damage	Precautionary measures taken
WIND CHILL INDEX < –10°F	Observed	Sustained exposure hazardous to health	Maintenance Operations Center (MOC) and Base Defense Operations Center (BDOC) notify flightline and SF personnel
CROSSWINDS 11 kts or greater	Observed	Possible danger to U-2 flight operations	5 RS Ops Desk is alerted and relays information to mission pilot
CROSSWINDS 15 kts or greater	Observed	Exceeds U-2 crosswind limit	5 RS Ops Desk considers declaring an alternate airfield
CROSSWINDS 21 kts or greater	Observed	F-16 crosswind limit: 20 kts wet runway	SOF declares alternate airfield
VISIBILITY ≤ 1/4 statute mile	Observed	SF personnel decrease distance between patrol men	BDOC notifies SF personnel
VISIBILITY ≤ 1/16 statute mile	Observed	Flightline work dangerous; Road travel hazardous	Flightline operations terminated; road condition change to RED (limit travel, no bicycles)
Fighter Index of Thermal Stress (FITS) Caution	Observed	Sustained exposure hazardous to health	Refer to DAFI 48-151
FITS Danger	Observed	Sustained exposure hazardous to health	Refer to DAFI 48-151
Lightning within 10NM	Observed	Unintended detonation from static on any munitions being repaired or moved	51 MUNS work stoppage

Table A3.2. 51FW Forecast Weather Advisories Impacts.

THRESHOLD	DLT	IMPACT	RECOMMENDED CUSTOMER
WINDS greater than or equal to 25 kts but less than 35 kts	30 min	If crosswind exceeds F-16 limits	Flight operations cease
		Danger to refueling operations	POL prepares to stop refueling; moves operations inside (30 kts observed)
		Danger to communication antennas, roofing, scaffolding, and similar construction	CE and CS personnel secure loose equipment
SNOW ACCUMULATION greater than a trace, but less than 2 inches total depth	60 min	Affects roads and RCR	
		Possible roof damage	Personnel on standby to clear roofs
		Possible interruption of communication and power	Communication personnel take protective action

Table A3.3. 51FW Weather Watch Impacts.

THRESHOLD	DLT	IMPACT	RECOMMENDED CUSTOMER ACTION
TORNADO	Potential warrants	Potential danger to personnel and resources	Personnel take protective action
CROSSWINDS 25 kts or greater	Potential warrants	Exceeds F-16 crosswind limits	SOF considers declaring alternate airfield
WINDS 50 kts or Greater	240 Min	Possible damage to aircraft and buildings	Consider moving aircraft into a hangar and limiting outside activity
WINDS ≥ 35 kts but less than 50 kts	Potential warrants	Possible damage to communication antennas	Consider safeguarding antennas through appropriate procedures
HEAVY RAINFALL 2 inches or more in 12 hours	Potential warrants	Possible flooding base wide	Emplace sandbags at work centers
			Consider sandbagging wheels of hangared aircraft/raising ECM pods
HEAVY RAINFALL 5 inches or more in 12 hours	Potential warrants	Possible flooding base wide and damage to base resources	Consider sandbagging A-10 wheels and lift F-16 ECM pods
			Base considers EOC recall
HEAVY SNOW ACCUMULATION 2 inches depth or more in 12 hours	Potential warrants	Affects roads and RCR	
		Possible comm/power interruption	51 CS/51 CES personnel take protective action
		Possible roof damage	Personnel on standby to clear roofs
FREEZING PRECIPITATION	Potential warrants	Affects roads and RCR	51 CES Horizontal teams begin de-icing operations spin up
		A-10/F-16 do not operate in severe icing conditions	SOF considers declaring alternate
MODERATE THUNDERSTORM	Potential warrants	Potential for damage	Precautionary measures taken
SEVERE THUNDERSTORM	240 Min	Possible structural damage to aircraft	Hangar aircraft
			SOF considers declaring alternate
LIGHTNING WITHIN 5 NM	30 Min	Potential damage to base facilities, computer data, injury to personnel	Supply begins protective measures
			MOC, 1CP and 731 AMS ATOC notify flightline personnel
BLIZZARD	Potential Warrants	Affects roads and RCR	
		Possible roof damage	51 CES on standby to clear roofs

Table A3.4. 51FW Weather Warning Impacts.

THRESHOLD	DLT	IMPACT	RECOMMENDED CUSTOMER
LIGHTNING WITHIN 5 NM	Observed	Potential damage to base facilities, computer stored data, and injury to personnel	Refueling ceases
			MOC notifies flightline personnel
			SOF considers declaring alternate
TORNADO	30 min	Danger to personnel and resources	Operations cease and personnel take protective action
WINDS 50 kts or greater	120 min	Possible damage to aircraft and buildings	Aircraft hangared and outside activity limited
WINDS greater than or equal to 35 kts but less than 50 kts	90 min	Aircraft subject to damage, blowing objects	Aircraft hangared
		Possible interruption of comm/power. Damage to antennas and comm cables	Protective action taken where possible by Communication personnel
		Possible damage to base facilities from blowing objects	51 CES and 51 SFS personnel spot check base locations
CROSSWINDS ≥ 25kts	90 min	Exceeds F-16 crosswind limits	SOF considers declaring alternate
FREEZING PRECIP	120 min	Flight operations adversely affected by icing	Flight operations cease
		Damage to comm/power nets	CS personnel take protective action
		Icy roads/taxiways	Units place personnel on standby
MODERATE THUNDERSTORM	90 min	Potential for damage	Precautionary measures taken
SEVERE THUNDERSTORM	120 min	Structural damage to aircraft	Aircraft hangared
		Damage to engineering projects	Army COE notifies contractors
		Interruption of comm/power	CS personnel take protective action
		Damage to Government Owned Vehicles (GOVs)	Units shelter vehicles
HEAVY RAINFALL 2 inches or more in 12 hours	90 min	Affects flight operations	Sandbag A-10/lift F-16 ECM pods
		Adversely affects CE	Army COE notifies contractors
		Possible interruption to comm/power	Communication personnel take protective action
HEAVY RAINFALL ≥ 5 inches in 12 hrs	240 min	Affects flight operations	Sandbag A-10 wheels and lift F-16 ECM pods
		Possible damage to base	Possible EOC Recall

HEAVY SNOW ACCUMULATION ≥ 2 inch in 12 hours	120 min	Affects roads and RCR	
		Interruption of comm/power	CS personnel take protective action
		Possible roof damage	Personnel on standby to clear roofs
BLIZZARD	90 min	Structural damage to aircraft	Hangar Aircraft
		Personnel travel risk	Key/Essential personnel only

Attachment 4

EXAMPLE 5-DAY FORECAST

A4.1. General. A 5-Day forecast is created and posted daily to the sharepoint page. This forecast is a very general forecast that is used for planning purposes for the general base populace and local flying area over the next few days.

Figure A4.1. Example Forecast.

OSAN AB 5-DAY FORECAST

Monday 8		Tuesday 9		Wednesday 10		Thursday 11		Friday 12	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Sunrise: 6:52	Sunset: 18:33	Sunrise: 6:51	Sunset: 18:34	Sunrise: 6:49	Sunset: 18:35	Sunrise: 6:48	Sunset: 18:36	Sunrise: 6:46	Sunset: 18:37
									
FOG	PARTLY CLOUDY	MIST	MOSTLY CLOUDY	MIST	PARTLY CLOUDY	PARTLY CLOUDY	PARTLY CLOUDY	CLOUDY	CLOUDY
1/4SM FG	6SM HAZE	3SM	6SM HAZE	1SM	6SM HAZE	6SM HAZE	6SM HAZE	7SM	7SM
W	SW	NW	NW	NW	NW	S	S	N	N
5-10mph	5-10mph	5-10mph	10-15mph	5-10mph	5-10mph	5-10mph	5-10mph	5-10mph	5-10mph
30°F	48°F	31°F	52°F	32°F	57°F	29°F	55°F	41°F	60°F
WIND CHILL		WIND CHILL		WIND CHILL		WIND CHILL		WIND CHILL	
27°F	N/A	28°F	N/A	28°F	N/A	27°F	N/A	34°F	N/A
Snow/Ice accumulation amount: N/A		Snow/Ice accumulation amount: N/A		Snow/Ice accumulation amount: N/A		Snow/Ice accumulation amount: N/A		Snow/Ice accumulation amount: N/A	

LUNAR DATA		March 2021			MONTHLY HISTORICAL DATA AVERAGE TEMPERATURES MAX: 52°F MIN: 31°F		
Moonrise:	4:29	Monthly Average	Rain	2.00"	Current Monthly Total	Rain	0.00"
Moonset:	13:08	Monthly Average	Snow	0.80"	Current Monthly Total	Snow	0.00"
Illumination:	29%						

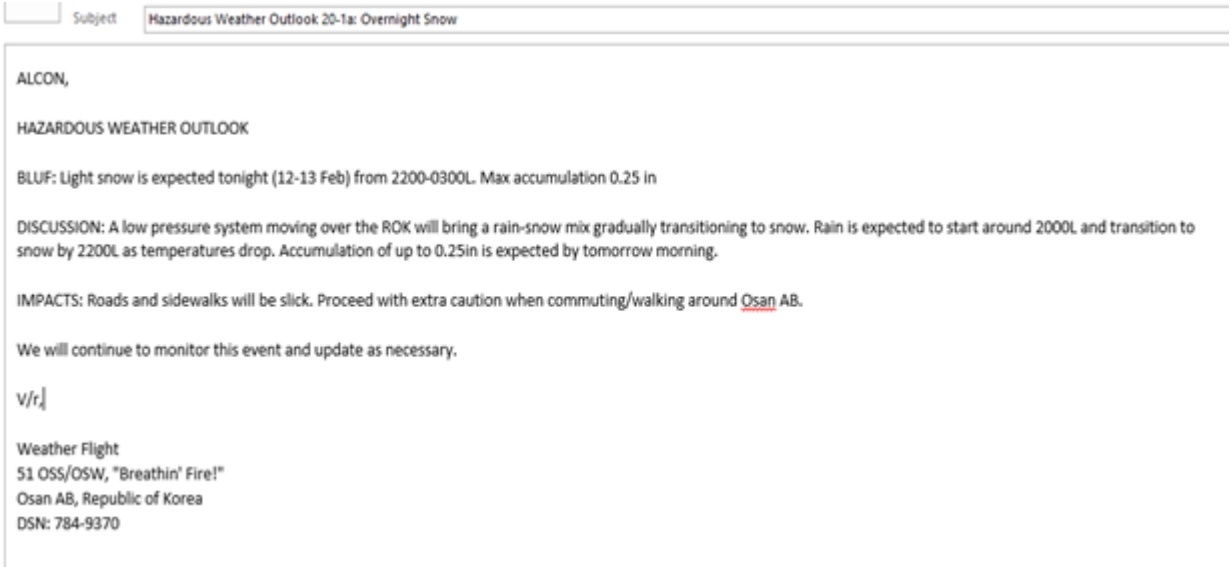
Feel the Thunder!

Attachment 5

EXAMPLE HAZARDOUS WEATHER OUTLOOK

A5.1. General. When the WF expects (or observes) certain hazardous weather or environmental conditions, the duty forecaster will send out a special email notification called a Hazardous weather outlook.

Figure A5.1. An example HWO is below:



Subject: Hazardous Weather Outlook 20-1a: Overnight Snow

ALCON,

HAZARDOUS WEATHER OUTLOOK

BLUF: Light snow is expected tonight (12-13 Feb) from 2200-0300L. Max accumulation 0.25 in

DISCUSSION: A low pressure system moving over the ROK will bring a rain-snow mix gradually transitioning to snow. Rain is expected to start around 2000L and transition to snow by 2200L as temperatures drop. Accumulation of up to 0.25in is expected by tomorrow morning.

IMPACTS: Roads and sidewalks will be slick. Proceed with extra caution when commuting/walking around Osan AB.

We will continue to monitor this event and update as necessary.

V/r,

Weather Flight
51 OSS/OSW, "Breathin' Fire!"
Osan AB, Republic of Korea
DSN: 784-9370

Attachment 6

TROPICAL CYCLONE CONDITIONS OF READINESS (TCCOR)

A6.1. General. TCCOR is determined by the Director of Operations, US Forces Korea (USFK/J3). TCCOR will be issued when winds greater than 50 knots (including gusts) are forecast to occur anytime during the next 72 hours in a specific region. TCCORs are based on the latest JTWC tropical cyclone bulletin, input from the 607 CWS and input from OWS forecasters. TCCOR criteria are as follows:

A6.1.1. TCCOR FIVE. Destructive winds greater than or equal to 50 knot gusts are *possible* within 96 hours. TCCOR FIVE will be announced annually for the duration of typhoon season from 1 June – 30 November.

A6.1.2. TCCOR FOUR. Destructive winds greater than or equal to 50 knot gusts are *possible* within 72 hours.

A6.1.3. TCCOR THREE. Destructive winds greater than or equal to 50 knot gusts are *possible* within 48 hours.

A6.1.4. TCCOR TWO. Destructive winds greater than or equal to 50 knot gusts are *anticipated* within 24 hours.

A6.1.5. TCCOR ONE. Destructive winds greater than or equal to 50 knot gusts are *anticipated* within 12 hours.

A6.1.6. TCCOR CAUTION (C). Winds gusting between 35-49 knots are *occurring.*

A6.1.7. **TCCOR ONE EMERGENCY (1-E).** Destructive winds greater than or equal to 50 knot gusts are occurring.

A6.1.8. TCCOR RECOVERY. Destructive winds have subsided and are no longer forecast to occur. Survey and work crews can be sent out to determine the extent of damage and establish safe zones around hazards.

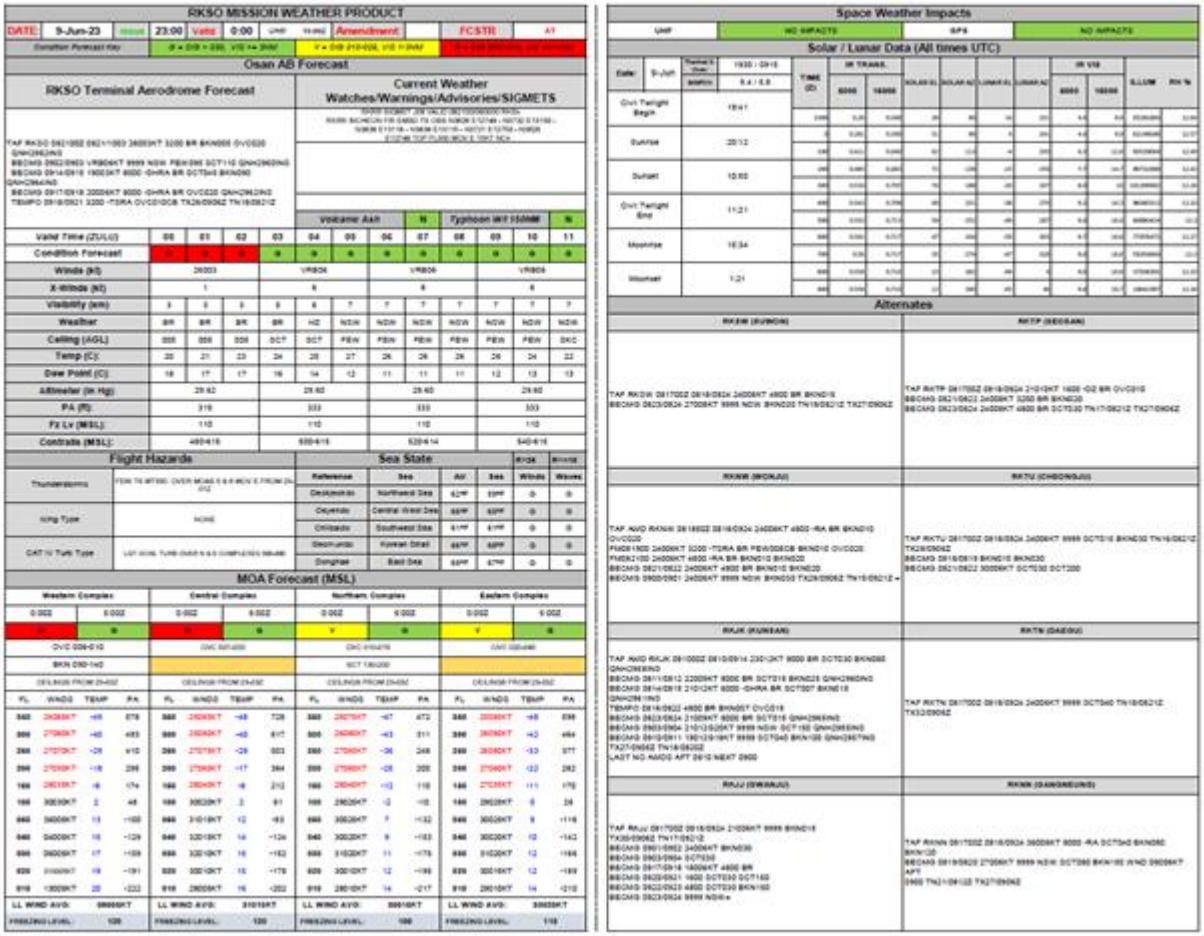
A6.1.9. TCCOR ALL CLEAR. Destructive winds have passed and are no longer forecast to occur and recovery efforts are considered complete.

Attachment 7

EXAMPLE MISSION WEATHER PRODUCT (MWP)

A7.1. General. This is an example of a MWP provided to the 25FS & 36FS prior to each sortie, this is also briefed at mass briefings. This product is coordinated with the flying squadron leadership to ensure the product contains decision grade material applicable to their missions.

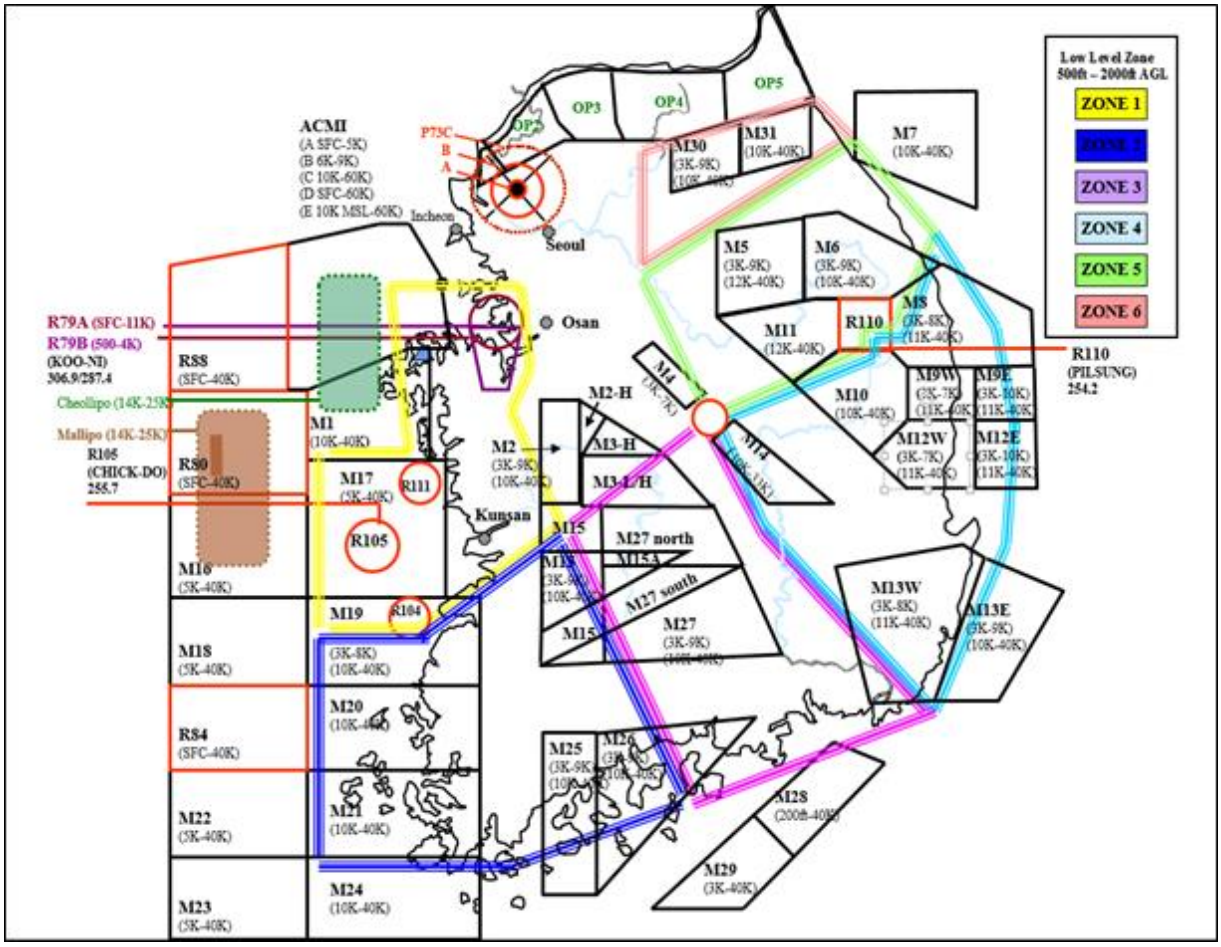
Figure A7.1. Sample MWP.



Attachment 8

MAP OF MILITARY OPERATING AREAS

Figure A8.1. A map of the MOAs utilized by the 51 FW.



Attachment 9

ALTERNATE OPERATING LOCATION

Figure A9.1. A map of the alternate operating location at the fire station.