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SPANGDAHLEM AIR BASE (USAFE)

SPANGDAHLEM AIR BASE
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Weather

WEATHER SUPPORT

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This publication implements Air Force Policy Directive (AFPD) 15-1, *Weather Operations*; AFI 15- 127, *Weather Training*; AFI 15-128, *Weather Force Structure*; Air Force Manual (AFMAN) 15-111, *Surface Weather Observations*; AFMAN 15-124, *Meteorological Codes*; AFMAN 15-129, *Air and Space Weather Operations*; and Federal Meteorological Handbook 1 (FCM-H1), *Surface Weather Observations and Reports* located at **https://www.icams-portal.gov/publications/fmh/FMH1/fmh1_2019.pdf**. Refer recommended changes and questions about this publication to the OPR listed above using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication;* route DAF Forms 847 from the field through the appropriate chain of command. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3) number following the compliance statement. See Department of the Air Force Instruction (DAFI) 90-160, *Publications and Forms Management* , for a description of the authorities associate with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately to the Publication OPR for non-tiered compliance items. Ensure that all records created because of processes prescribed in this publication are maintained in accordance with Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

This instruction, in conjunction with Air Force Weather publications and appropriate supplements, establishes requirements and responsibilities for organizations providing weather support to 52d Fighter Wing (52 FW) organizations. It provides policy and procedural guidance for the functions of weather support provided by the 52d Operations Support Squadron Weather Flight (52 OSS/OSW) and establishes responsibilities for other 52 FW organizations. It provides general information for weather services, including weather observations and forecasts, watches, warnings, and advisories, space weather supported services, dissemination of information, and reciprocal support. It provides guidance for weather support while in garrison and deployed locations. It applies to all personnel assigned or attached to 52 FW, serves as a guide for its supported/supporting units, and outlines how the 52 OSS/OSW will interact with the 21st Operational Weather Squadron (21 OWS).

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include AFI 15-114 being rescinded in June 2021, AFI 15-127 being rewritten in January 2021, and AFMAN 15-129v1 and AFMAN 15-129v2 being consolidated and rewritten as AFMAN 15-129 in July 2020. Most changes were internal to weather operations as a career field and less so in regard to supporting the 52d Fighter Wing. A lot of procedures were changed as it relates to the relationship between Operational Weather Squadrons and Weather Flights. This document was rewritten to incorporate said changes and to organize our agreement with the 52d Fighter Wing in a clear and concise presentation. The result removed redundant information that is unchanged from higher guidance, as well as many templates that were negligible in value added given the need to remain flexible with updated support products.

Chapter 1

GENERAL INFORMATION

1.1. Purpose. The 52 OSS/OSW tailors and integrates weather information in support of 52 FW operations. 52 OSS/OSW may provide and/or assist in arranging weather support services for tenant units within 52 FW areas of responsibility.

1.2. Implementation. This instruction establishes the responsibilities and procedures for areas of weather support that must be coordinated at the local level to meet mission needs. It consolidates weather support requirements and procedures for peacetime operations. Unless superseded by Emergency War Orders (EWO), this instruction is followed during wartime operations. Coordination on this instruction constitutes acceptance in lieu of a Memorandum or Letter of Agreement (MOA/LOA) unless one is required by AFI or AFMAN.

1.3. Concept of Operations. The 52 OSS/OSW works in partnership with the 21 OWS, Kapaun AS, Germany, IAW AFI 15-128 and AFMAN 15-129, to tailor operational and strategic level weather products for the operational user and integrate decision-grade information on weather and environmental impacts to military operations. Full aspects of support are documented in the Installation Data Plan (IDP) between the 21 OWS and the 52 OSS/OSW and are reviewed annually at a minimum. Changes to this instruction affecting 21 OWS provided services will be coordinated between the two agencies.

1.4. Duty Priorities. The duty priorities for 52 OSS/OSW and the 21 OWS are documented in the IDP. The Duty Priorities table exists to match and balance manning and mission critical tasks. Duty priorities focus efforts during peak work periods prone to task saturation and prioritize conflicts. These duty priorities were developed IAW AFMAN 15-129. Weather personnel will use good judgment in complying with these duty priorities, especially where there is imminent danger to life and/or property.

1.5. Weather Systems.

1.5.1. Primary Systems.

1.5.1.1. AN/FMQ-19. The AN/FMQ-19 is the fixed based weather observing system (FBWOS) for Spangdahlem AB. It is an integrated system of multiple weather sensors and data automation components across the airfield that continually measure environmental conditions. These sensors and components provide responsive, reliable, accurate, real-time weather information in support of flight operations. The FBWOS samples, measures, and reports: temperature, wind speed and direction, visibility, runway visual range (RVR), cloud base height and amount of coverage, pressure, liquid equivalent precipitation accumulation, and ice accretion during freezing precipitation.

1.5.1.1.1. Locations. **Table 1.1** lists the FBWOS sensors and locations in association with the Spangdahlem AB runway. The Terminal Data Acquisition Unit (TDAU) and Moxa Ethernet switch are in Building 195.

Table 1.1. FBWOS Sensors and Locations.

Primary Sensors (23 end of runway)	Secondary Sensors (05 end of runway)	Mid-Field Sensor (Midway of runway)	Valley Sensor (23 end off-base)
Wind SpeedLightning Rain GaugeRelative Temperature/Humidity Freezing Rain Barometers Ambient Light Visibility Precipitation Identification Ceilometer	Wind Speed Ceilometer Visibility	Visibility	Ceilometer

1.5.1.2. Joint Environmental Toolkit (JET). JET is the primary communication system used by USAF weather units. It uses centralized servers and desktop computers to transmit data to and receive data from weather agencies worldwide via the internet and dedicated communication links. JET is the Automate Dissemination System (ADS) used to disseminate observations, forecasts, watches, warnings and advisories.

1.5.1.3. Air Force Weather Web Service (AFW-WEBS). AFW-WEBS is an online portal maintained by the 557 Weather Wing that provides access to various weather products and tools (e.g., model data, satellite data, alphanumeric products, etc.). AFW-WEBS can be used as a back-up dissemination system in the event of a JET outage. Access is dependent on LAN availability.

1.5.1.4. Mark IVB. Mark IVB provides global, real-time meteorological satellite imagery that can be interrogated, enhanced, and customized. It provides range, MOA, and airfield overlays and greatly increases situational awareness. Mark IVB is dependent on LAN availability.

1.5.1.5. Weather RADAR. Spangdahlem AB has no indigenous weather RADAR capability. Reference **paragraph 1.6.2** for additional information.

1.5.1.6. Target Acquisition Weather System (TAWS). TAWS is used to generate tactical decision aides and provide solar and lunar information for electro-optical sensor systems.

1.5.2. Deployable and Back-up systems.

1.5.2.1. AN/TMQ-53. The AN/TMQ-53 is a tactical/deployable weather system with capabilities like the FMQ-19. It can be used as a back-up system in the event of an FBWOS outage. UTC-postured (deployable) AN/TMQ-53s only back-up permanent observing systems at controlled airfields and are not used as, or replace, the permanent airfield observing system.

1.5.2.2. Advanced Micro Weather Sensor. The Advanced Micro Weather Sensor (AMWS) is a remote, unattended, fully operational weather sensor capable of rapid deployment. It lacks the level of calibration and accuracy of the AN/TMQ-53 but is much more compact and lightweight. It is ideal for short-notice and small footprint deployments as a back-up to pre-existing sensor infrastructure, or as a short-term primary in austere environments.

1.5.2.3. Laser Range Finder. Laser range finders are used to build visibility charts for in-garrison and deployed operations. It can also be used as a back-up method to estimate cloud base heights.

1.5.2.4. Kestrel 4500/5500. The Kestrel is a hand-held weather sensor that can be used to measure various weather parameters in the event of an FBWOS outage.

1.5.2.5. Other MAJCOM-approved devices.

1.6. Limitations.

1.6.1. Data flow. Interruption of the normal receipt of alphanumeric and graphic data via Joint Environmental Toolkit (JET), Non-classified Internet Protocol Router Network (NIPRNET) or Secret Internet Protocol Router Network (SIPRNET) can degrade forecasting capabilities.

1.6.2. Radar. 52 OSS/OSW relies on host nation weather radar infrastructure viewable via public domains and AFW-WEBS composite radar products. The nearest radar to Spangdahlem AB is operated by the Deutscher Wetterdienst near the village of Neuheilenbach, roughly 18 KM north-northwest of the installation.

1.6.3. Runway Sensors. RWY 23 approach has a roughly 300 FT deep valley that tends to lower cloud bases compared to the rest of the runway. An additional sensor was installed to better measure this effect, and is viewable in JET as RWY 24, although true height must be calculated manually due to the difference in height between the valley and the RWY surface. Chapter 2.3 of the Forecast Reference Material (FRM) contains a diagram and description of this effect.

1.6.4. Additional Challenges. Additional limitations and challenges forecasting for Spangdahlem AB are described in the FRM. A copy of the latest FRM may be requested from the 52 OSS/OSW.

1.7. Release of Weather Information to Non-DoD Agencies and Individuals. 52 OSS/OSW does not provide weather support or information to non-DoD organizations or to the public except as authorized by AFI, Joint Ethics Regulation (5500.7-R) or the 52 FW/CC (or designated representative). In addition, 52 OSS/OSW personnel will not release weather data to outside agencies unless coordinated through 52 FW Public Affairs (PA) and 52 FW Staff Judge Advocate (JA) legal offices, 52 OG/CC, and the 52 OSS/CC.

1.8. Contact Information. 52 OSS/OSW can be reached during and after airfield hours at DSN: 314-452-6749 (Comm: +49-6565-61-6749), or by email (**52oss.wx@us.af.mil**). You may also visit our SharePoint (**https://usaf.dps.mil/sites/52og/OSS/OSW/SitePages/Home.aspx**) for basic weather information and feedback forms.

Chapter 2

STAFF INTEGRATION FUNCTION

2.1. Roles and Responsibilities.

2.1.1. The 52 OSS/OSW Flight Commander (Flt/CC) ensures overall operational capability of the flight by providing intent, direction, and resources in alignment with 52 FW priorities. The Flt/CC is responsible for the conduct and direction of the 52 OSS/OSW.

2.1.2. The 52 OSS/OSW Wing Weather Officer (WWO) exploits and makes weather a force multiplier by providing liaison and briefing services to all 52 FW agencies.

2.1.3. The 52 OSS/OSW Flight Chief provides technical leadership and oversees daily weather operations in support of base and flying operations. The Flight Chief adapts resources to mission requirements and manages weather services and equipment. Lastly, this individual is responsible for all training and readiness activities and the technical health of the flight.

2.2. Standby Forecaster. Outside of controlled airfield hours, 52 OSS/OSW continues to provide resource protection services for Spangdahlem AB. A standby forecaster can be recalled to base under circumstances outlined in Standard Operating Procedure (SOP) AWSF 09-Standby Procedures.

2.2.1. The standby forecaster will respond to all Spangdahlem AB weather related calls received when on standby status. When called, the forecaster on standby will determine the appropriate response to the request, as required. The following circumstances will be used as general guidance for reasons to recall the standby forecaster outside of controlled airfield hours:

2.2.1.1. Support is required for an exercise, alert, in-flight emergency, or any other contingency.

2.2.1.2. When a toxic corridor is required for HAZMAT response. The standby forecaster will remain on-duty until notified by the 52 Command Post (52 CP) or 52 Civil Engineering Squadron Emergency Management (52 CES/CEX) that the threat is over.

2.2.1.3. Any operation 52 OG/CC determines to require weather support.

2.2.1.4. Any time criteria in **Table 2.1** have occurred or is forecasted to occur.

2.2.2. When notified, standby forecasters should make every effort to arrive within 1 hour of notification, or as soon as safely possible to assess local conditions or to augment the FBWOS IAW AFMAN 15-111 and local procedures.

2.3. Severe Weather Action Plan (SWAP). The SWAP ensures sufficient personnel are available during potential or actual severe weather events. The 52 OSS/OSW is responsible for conducting annual exercises to test the SWAP.

2.3.1. Upon the first indication of the following criteria, the 52 OSS/OSW member on shift or standby will contact the Severe Weather Action Team (SWAT) member to alert them to the possibility of needing assistance:

2.3.1.1. A weather watch or warning for any criteria in the SWAT column **Table 2.1** is issued, if the criteria is occurring, or if the criteria has occurred.

2.3.1.2. Upstream station(s) within 100 NM are reporting severe weather.

2.3.2. If the SWAT forecaster determines it is necessary, SWAP will be implemented, and SWAT personnel will immediately report to the weather station. A 52 OSS/OSW recall will be directed for more personnel as the situation warrants.

2.3.3. See **Chapter 5**, Weather Watches, Warnings, and Advisories for more information about weather warnings.

Table 2.1. SWAT Matrix.

CRITERIA	SWAT
Tornadoes	X
Severe Thunderstorms Hail ≥ ¾ inch & Winds >50kts (including gusts)	X
Non-convective Winds ≥ 50kts (including gusts)	X

2.4. Operational Reports. IAW AFMAN 10-206 and AFMAN 10-206 USAFE-AFAFRICASUP, Operational Reporting, 52 OSS/OSW will provide the 52 CP with weather information needed to report impacts of weather to higher headquarters.

2.4.1. 52 OSS/OSW will contact the 52 CP immediately if any of the criteria in **Table 2.2** are met:

Table 2.2. Severe Weather Reporting Criteria.

Tornado
Severe Thunderstorms (hail ≥ ¾ inch & winds ≥ 50 knots (to include gusts)
Non-convective winds ≥ 50 knots (to include gusts)
Any damage or injury caused by weather phenomena

2.4.2. At the conclusion of the severe weather event, 52 OSS/OSW will review and summarize the severe weather, then forward information to the 52 OSS/CC and 52 CP within 24 hours of the occurrence. 52 OSS/OSW leadership will provide or arrange delivery of hard copies of relevant forecasts, observations, watches, warnings, and equipment status to the 52 CP to be included in an OPREP-3. If an OPREP-3 is generated, the information will also be provided to USAFE A3/A3CW.

2.5. Emergency Management. Any emergency may be of varying duration and onset time, so the level of weather support required for each situation will be dictated by appropriate 52 FW and Emergency Management (EM) leadership. The following section outlines specific duties and responsibilities related to 52 OSS/OSW EM support. The 52 OSS/OSW supports the 52 FW with the following crisis response actions:

2.5.1. Coordinates with 21 OWS to support EM operations requirements.

2.5.2. Assists the Installation Commander and EM personnel in educating installation agencies on the purpose, applicability, and operating procedures of the watch and warning system and types of severe weather threats to the local area.

2.5.3. Provides severe weather guidance for developing the Installation Emergency Management Plan.

2.5.4. Provides weather data upon request to the Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Control Center and to on-scene emergency personnel responding to a major accident. The 52 OSS/OSW will provide any and all-weather information requested for EM such as current wind speed and direction, temperature, relative humidity etc.

2.5.5. Develops Effective Downwind Messages and Chemical Downwind Messages (EDM/CDM). These are normally requested during FPCON Charlie or greater.

2.5.6. Performs formal reviews of severe weather events.

2.5.7. Provides weather observations and forecasts to support response operations.

2.5.8. Advises 52 FW/CC or representative on severe weather response actions and participates in annual preparedness meetings and exercises.

2.6. Aircraft Mishap. In the event of an aircraft mishap, the 52 OSS/OSW will:

2.6.1. Provide an immediate update to the Supervisor of Flying (SOF) and TOP 3.

2.6.2. Complete a local data save from 12 hours prior through 6 hours after the event. Reference AFMAN 15-129, paragraph 5.5 for specific information required.

2.6.3. Initiate a data save through the 21 OWS for the same times as 2.6.2 and for any information noted in the aforementioned paragraph of AFMAN 15-129 that cannot be obtained through local instruments.

2.6.4. All data will be safeguarded locally and disseminated as required to needed agencies by weather flight leadership in coordination with 52d Operations Support Squadron leadership and IAW DAFI 91-204, AFI 10-206, and local policies.

2.7. Air Traffic Control (ATC) Limited Observation Training. The 52 OSS/OSW maintains and instructs ATC personnel in a Limited Observation Training program. Weather personnel task-certify ATC personnel to evaluate prevailing visibility values from the control tower. If required, weather personnel will also ensure ATC personnel can operate the applicable weather equipment in ATC facilities. Log ATC task certification on ATC provided AF Form 3622, Air Traffic Control/Weather Certification and Rating Record. This training is designed to enable the Cooperative Weather Watch program and provide better “eyes forward” capability, as well as comply with AFI 13-204v2. See section 8.5.3.6.2. for more information.

2.8. Flight Information Publications (FLIPs) Updates. The 52 OSS/OSW is responsible for ensuring all weather information in the FLIPs (e.g., operating hours and equipment limitations) is current and accurate. The 52 OSS/OSW will review new FLIPs as soon as possible for changes to weather information, airfield take-off, landing, radar instrument approach minima, NOTAMs, and other key items which may drive changes to weather support. The 52 OSS/OSW will incorporate any changes to the FLIPs into procedures as soon as possible. As applicable, the weather flight chief or designee will route any updates regarding weather support to Airfield Management (52 OSS/OSAM) for processing. Additional guidance pertaining to FLIPs can be found in AFI 11-215, *Flight Manuals Program*.

2.9. Additional Staff Weather Support. The 52 OSS/OSW staff will also provide the following weather support upon request:

2.9.1. Instrument Refresher Course (IRC). 52 OSS/OSW will provide a forecaster to present the weather portion of the IRC. The 52 OSS/OSW will provide refresher training for assigned pilots on METAR code, TAF code, MEF products, space weather, and other topics as arranged by the 52 OSS/OSW and 52 Operations Group Standardization and Evaluation (52 OG/OGV) office.

2.9.2. Mobility Concept Briefing. The 52 OSS/OSW will provide pre-deployment planning weather information at Mobility Concept Briefings. If required, this briefing may be presented as a weather annex to a TASKORD or OPORD IAW JP 3-59. The briefing will include forecasted departure conditions, en- route weather, forecast conditions for destination arrival time, deployed area climatological conditions, and other topics briefed as required.

2.9.3. Quarterly safety meetings and SOF Meetings. 52 OSS/OSW will provide seasonal weather briefings at quarterly safety and SOF meetings when requested by the 52 FW Safety Office (52 FW/SE) or 52 OG/OGV.

2.9.4. Extended Weather Outlook. The 52 OSS/OSW creates an Extended Weather Outlook for Spangdahlem AB. The Spangdahlem AB Extended Outlook is produced daily Monday through Friday. This product is distributed via Outlook no later than 0830L and contains text and graphics for a plain language weather forecast for general population consumption. See **Attachment 4**.

2.9.5. Staff Briefings and Studies. 52 OSS/OSW provides climatology briefings, weather studies, or weather reviews when requested through the chain of command.

2.9.6. 52 OSS/OSW Flight Commander, Flight Chief, or other representative will attend all Airfield Operations Board Meetings.

2.9.7. Solar/Lunar Data. 52 OSS/OSW can provide detailed solar and lunar data. Data includes sunrise, sunset, moonrise, moonset, civil twilight, nautical twilight, lunar illumination, moon phases, solar and lunar angles, and millilux (measurement of illumination) for any location world-wide.

2.9.8. Space Weather. 52 OSS/OSW can provide space weather updates when impacts are forecast to degrade communications and operations as required.

2.9.9. Tropical Weather Updates. 52 OSS/OSW will provide briefings to wing leadership when a tropical system is expected to impact any 52 FW operation world-wide. The 52 OSS/OSW will work with the 21 OWS, which serves as the primary liaison between the tropical cyclone forecast centers and 52 OSS/OSW. 52 OSS/OSW will use the Tropical Cyclone Tropical Assessment Product (TC-TAP) produced by the 21 OWS or tropical cyclone forecasts issued by other designated tropical cyclone centers outside of the 21 OWS AOR (National Hurricane Center, Central Pacific Hurricane Center, or Joint Typhoon Warning Center). 52 OSS/OSW should not deviate from the official forecast position, track, movement, maximum wind speed, or intensity trend.

2.9.10. Volcanic Events. 52 OSS/OSW will provide briefings to wing leadership when volcanic ash could affect operations.

Chapter 3

AIRFIELD WEATHER SUPPORT FUNCTION (AWSF)

3.1. General. The AWSF provides support to the SOF, ATC, 21 OWS forecast and resource protection mission, staff weather services, and PMSV contacts. AWSF will also supplement and/or back-up automated observations from the FBWOS that could adversely impact flight/ground operations, based on documented supported unit requirements.

3.2. Meteorological Watch. METWATCH is used to provide an organized approach for weather personnel to maintain situational awareness of both current and future meteorological situations. Changes in the status of weather elements result in notification from 52 OSS/OSW or 557 Weather Wing to base agencies.

3.3. Cooperative Weather Watch. Cooperative Weather Watch (CWW) is the process whereby ATC personnel, flying units, and Security Forces personnel report observed weather conditions to the 52 OSS/OSW. The 52 OSS/OSW will reevaluate weather conditions when information reported from a reliable source differs from the last disseminated observation. The 52 OSS/OSW may include the conditions in the next observation or as a new observation. See **Chapter 8**, Reciprocal Support, for more information.

3.4. Official Observation Points/Sites.

3.4.1. While disseminating automated observations, the official point of observation is the sensor suite at the end of the active runway.

3.4.2. When augmenting observations, the official point of observation is the fourth-floor rooftop of Building 47 (accessible from room 401).

3.4.3. While at the Alternate Operating Location (AOL), the active airfield sensor suite remains the official point of observation if the FBWOS & TDAU are operational and automated observations are being disseminated. If the airfield sensors are inoperative while personnel are operating at the AOL, the official point of observation is on the southeast edge of the parking lot next to Building 73.

3.5. Types of Observations.

3.5.1. The 52 OSS/OSW provides observing services 24-hours a day using the FBWOS. The FBWOS, in conjunction with JET, will disseminate all observations automatically.

3.5.2. Types of Observation, “Refer to AFMAN 15-124 *Meteorological Codes* for help decoding weather observation and forecast products.”

3.5.3. A SPECI is an unscheduled observation completed and transmitted when any of the special criteria listed below for automated (including when augmenting) and manual weather flights have been observed or sensed. SPECI will contain all data elements found in a METAR plus additional remarks that elaborates on data in the body of the report. All SPECI reports will be prepared and transmitted as soon as possible after the relevant criteria are observed. Special criteria will be recorded and disseminated IAW AFMAN 15-111. All SPECI criteria are can be found in the IDP.

3.6. Augmentation. Augmentation is the process of having position-qualified weather technicians manually add to or edit data in an observation generated by a properly sited FBWOS. The two augmentation processes used are supplementing and back-up.

3.6.1. Supplementing. Supplementing is a method of manually adding meteorological information to an automated observation that is beyond the capabilities of the FBWOS to detect and/or report. Weather personnel are required to have a view of the airfield complex when supplementing an FBWOS. Weather personnel will be prepared to supplement observations during controlled airfield hours when the weather conditions in **Table 3.1** are observed and/or forecast to occur within 1 hour. Weather personnel are required to be prepared to supplement observations whenever a tornado watch is valid, or warning has been issued for tornadic activity. Weather personnel are not required to supplement observations outside controlled airfield hours for **Table 3.2** criteria.

Table 3.1. Mandatory Supplementary Weather Conditions.

Tornado (+FC)
Funnel Cloud (FC)
Waterspout (+FC)
Hail (GR)
Volcanic Ash (VA)
Ice Pellets (PL)
Visibility (VIS) < ¼ mile (400 meters)
Snow Depth
Tower VIS (When surface prevailing VIS or tower VIS is < 4 miles (6000 meters) and the tower VIS differs from surface VIS by a reportable value)

Table 3.2. Mandatory Supplementary Weather Conditions During Wing Flying.

Ceilings form below 2000 feet.
Visibility decreases to less than 3 miles (5000 meters).
Thunderstorms (occurring and not reported or reported and not occurring)
Precipitation (type occurring is different than reported, precipitation is occurring and not reported, or precipitation is reported but not occurring) ***
***Forecasters will augment precipitation type during Wing Flying hours.

3.6.1.1. Augmentation Responsibilities. To perform augmentation duties, the weather technician must maintain situational awareness of current weather conditions and FBWOS observations. The 52 OSS/OSW has developed RM based augmentation procedures based on Tables **4.1 and 4.2** which are documented in flight SOPs with clearly defined duty priorities that are available on the IDP.

3.6.2. Back-up of an FBWOS. Back-up is the method of manually providing meteorological data to an FBWOS observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure. Except for some automated remarks, back-up provides the same reporting capability provided by a fully functioning FBWOS.

3.6.2.1. Wind and pressure values from any piece of back-up equipment (e.g., AN/TMQ-53, hand-held devices, or other MAJCOM-approved deployable meteorological equipment).

3.7. Local Criteria. A LOCAL is an unscheduled observation reported to the nearest minute, not meeting SPECI criteria. 52 OSS/OSW will only take single element LOCALs for altimeter setting change of 0.01-inch Hg or more during back-up of the FBWOS pressure sensor at an interval not to exceed 35 minutes since last observation.

3.8. Pilot-to-Metro-Service (PMSV) and PIREPs. 52 OSS/OSW provides pertinent weather data to all aircraft operating within Spangdahlem AB airspace. The 52 OSS/OSW's callsign is "Spangdahlem Metro" and the assigned UHF frequency is 284.425 MHz.

3.8.1. The 52 OSS/OSW will solicit Pilot Reports (PIREPs) during each PMSV contact with aircrew. PIREPs enhance forecasting services and flight safety throughout the region for pilots or other flight operations.

3.8.2. Long term outages of 6 hours or more will be annotated via NOTAM until repaired.

3.8.3. Phone patch is available through the 52 CP at 258.7 MHz.

3.8.4. Ramstein AB provides back-up PMSV support during their duty hours published in the FLIP supplement for Europe utilizing the same frequency as Spangdahlem (284.425 MHz) and the callsign "Ramstein Metro."

3.8.5. Aircraft requiring PMSV support during non-duty hours can phone patch the 21 OWS or TACC Weather via 1-800-AIRMOBL (1-800-247-6625).

3.8.6. 52 OSS/OSW is the primary agency for disseminating PIREPS at Spangdahlem AB. For additional information regarding PIREPs or PIREP codes, refer to AFMAN 15-124, *Meteorological Codes*.

3.9. Space Weather. AWSF forecasters forward received suspected space weather impacts to the 2d Weather Squadron for analysis and to other agencies which may be affected by the event.

Chapter 4

MISSION WEATHER INTEGRATION

4.1. General. This chapter identifies local weapons systems, the most common missions and operating areas, and weather sensitivities associated with the organization, weapons systems, missions, and aircrews. Also, the MWI provides Mission Execution Forecasts (MEFs), flight weather briefs (FWB), MISSIONWATCH, MEF verification, and planning data for the 52 FW flying units.

4.2. Supported Unit/Missions/Requirements. The MWI provides direct weather support and FWBs to 52 FW units. All MWI certified forecasters will review AFMAN 11-202v3 and AFMAN 11-202v3 USAFESUP SPANGDAHLEMABSUP to become familiar with weather impacts to flight operations. The MWI will tailor operating hours to accommodate 52 FW flying windows. In general, the MWI forecaster arrives two hours prior to the first briefing time and is available until the termination of wing flying.

4.2.1. Location. When manning allows, an MWI briefer will be located at the 480 FS, Room 1, Building 360. The MWI forecaster may also perform duties from Room 401, Building 47, once all 480 FS pilots have “stepped”.

4.2.2. Contact Information. While embedded with the 480 FS, the MWI briefer can be reached at DSN 314-452-2132. Reference paragraph 1.8. for contact information when the briefer is not with the 480 FS.

4.2.3. Flight Weather Brief Documentation and Retention. All FWBs will be documented, maintained, and retained IAW the AF Records Disposition Schedule and AFMAN 33-322. FWB minimum required information, regardless of format, is directed in AFMAN 15-129, paragraph 4.4

4.3. Geographic Area of Responsibility. The 52 OSS/OSW provides mission-tailored weather support for flying training areas used by units assigned or attached, i.e. Theater Support Packages (TSPs), to the 52 FW. The most up to date maps of these areas can be found in locally in several locations (i.e. – WF 4th floor map, 480 FS Scheduling Office map, and close view of TRA 205/305 at the Top 3 Desk).

4.4. 52 FW Flying Mission Weather Limitations. The 52 OSS/OSW will coordinate weather limitations to flying missions with the 480 FS/DO at least once per year. The current list is in the IDP. These limitations will then be used to create mission execution forecasts (MEFs) for local flyers. General weather limitations are listed below.

4.4.1. USAF General Weather Limitations. The following tables provide general, non-airframe dependent weather limitations.

Table 4.1. USAF General Weather Limitations.

Weather Condition	Impact	Customer Action
Ceiling < 2,000ft and/or Visibility < 3sm	IFR Alternate required	Add fuel to allow divert

4.4.2. Pilot Weather Categories (PWC). PWCs are designed to reduce the exposure of pilots with limited experience to the risks inherent during periods of low ceiling and visibility. Most current PWC can be located in the Spangdahlem IDP.

Table 4.2. Event Weather Limitations.

Event	Minimum
Formation Takeoff	Standing water, ice, slush or snow is on the runway. The crosswind or gust component exceeds 15 knots
Formation landing	The crosswind or gust component exceeds 15 knots.The runway is wet or reported wet. Ice, slush, or snow on the runway. 500 FT / 1.5 SM (or a flight member's weather category, whichever ishigher)
VFR Rejoin	Day – 1,500 FT / 2 SM (cig/vis) Night – 3,000 FT / 5 SM (cig/vis)

4.5. Spangdahlem AB Non-Flying Mission Weather Limitations. 52 OSS/OSW is staffed primarily for flying operations, airfield support, and Wing staff integration. However, other organizations on base have missions that directly support the aforementioned functions and may require weather support at various times. 52 OSS/OSW has documented support agreements in the IDP for resource protection supporting non-flying operations. Additionally, SABI's with actions that directly relate to weather (namely environmental Emergency Management) contain documented support provided to other organizations involved, mostly within Mission Support Group. Any additional requests for weather support can be submitted as a Support Assistance Request or Memorandum of Agreement, which will be weighed against the priorities mentioned prior.

4.6. MEFs. The MEF is the primary tool used to accomplish day-to-day weather support for 52 FW flying operations. MEFs are tailored to individual customer requirements and are developed using a 2-phase process outlined in AFMAN 15-129 and local procedures. During this process, the 52 OSS/OSW will tailor and integrate products created by strategic and theater weather centers, as well as information supplied by local units (e.g., flying schedule) and agencies. The end result is a product designed to provide timely, accurate, and relevant weather support to customers. The MEF should be consistent with all 21 OWS and 557th Weather Wing issued products. However, during rapidly changing conditions, emergencies, or when conditions threaten resource protection, the 52 OSS/OSW will verbally update the Top 3, as well as amend the MEF to accurately reflect conditions. MEFP can be in the standard operating procedures within the 52 OSS/OSW drives.

4.7. MISSIONWATCH. MISSIONWATCH is the process by which 52 OSS/OSW monitors the weather for all local missions. Combined with METWATCH, MISSIONWATCH allows 52 OSS/OSW to monitor operations around Spangdahlem AB, including regional flying areas and routes, to issue amendments to any MEF.

4.7.1. During rapidly changing conditions, or if the MEF is inaccurate, 52 OSS/OSW will amend the MEF to ensure the forecast accurately reflects current or expected conditions and contact the SOF and Top 3 to pass mission impacts. MISSIONWATCH will include determining how weather will affect defined air and ground mission-limiting parameters as listed in the IDP.

4.7.2. Any and all SIGMETS reported over Spangdahlem AB or over any of the working operating areas should be treated as reported for all category aircraft (unlike hazard charts produced by the 21 OWS which are reported for Cat II aircraft). The German Deutscher Wetterdienst (DWD) has authority over all SIGMETs issued in Germany.

4.8. Forecast Amendments. An amendment to the MEF flying package is required whenever one or more of the criteria listed in **Table 4.3** occurs for a designated forecast valid period.

Table 4.3. MEF Amendment Criteria.

Amendment Criteria			
Ceiling (FT)	2000	700	300
Visibility (M)	5000	3200	1600
Icing	Unforecast, change of intensity or no longer occurring		
Turbulence	Unforecast or no longer occurring (MDT or greater)		
TSTMs	Unforecast or no longer occurring		
Mission Wx	Anytime observed or forecast Go/No Go conditions change from a Go to a No Go (or No Go to a Go) for that mission type (i.e., CAS, CSAR etc…)		
Space Wx	Unforecast severe impacts to GPS or UHF		
Alternate Wx	Unforecast change that crosses 1000ft/3200m		
Note: Cig and Vis changes are for going above or below the listed criteria. Amendments will also be made to the take-off/landing data section of the MEF when the ETAD TAF is amended for crossing a TAF threshold.			

4.9. Off-station Support. The 52 OSS/OSW is the primary source for tailored weather information for off-station support for 52 FW aircraft. When mission activities occur away from the main operating location, 52 OSS/OSW leadership will determine the most effective means of ensuring Spangdahlem based units receive mission execution weather information.

4.9.1. The 52 OSS/OSW will provide MEFs to Spangdahlem units/assets, i.e., 480 FS or TSPs, transiting or conducting flying missions at other locations by deploying a forecaster with the unit, via reach-back, or by arranging support through other weather units or the OWS servicing the off-station location.

4.10. Additional Aircrew Briefing Support.

4.10.1. Transient & AMC Aircrew Services. During controlled airfield hours, transient aircrews may receive flight weather briefings from 52 OSS/OSW with proper coordination according to the standard duty priorities outlined in the latest rendition of the Spangdahlem IDP. AMC aircrews filed with the Tanker- Airlift Control Center (TACC) for weather support will be required to contact TACC for weather updates.

4.10.2. During 52 OSS/OSW closure, transient aircrews should contact 21 OWS for flight weather briefing support at DSN: 489-2133.

4.10.3. 175-1 Briefings. The 21 OWS and 52 OSS/OSW prepare DD Form 175-1, Flight Weather Briefing, in compliance with AFMAN 15-129, paragraph 4.4. The 52 OSS/OSW and 21 OWS request 24-hr notification for 175-1s.

4.10.4. Mass Briefings. MWI forecasters may provide in-person mass weather briefs to the 52 FW assigned units, i.e., 480 FS and TSPs, upon request if available.

4.10.5. Coronet Briefings. 52 OSS/OSW supports host Coronet aircraft movements departing from Spangdahlem AB with planning and mission weather briefings.

4.10.6. Tactical Decision Aids (TDAs). The 52 OSS/OSW requires a description of the target scenario and 2 hours advance notice to produce Electro Optic (EO) TDAs. The accuracy of the product relies on the detail of the operational input the user supplies. The 52 OSS/OSW uses Target Acquisition Weapons Software (TAWS) to produce tailored target aids. TDA data may be provided by the 52 OSS/OSW in mass briefings and tailored to the day’s given missions, upon request.

Chapter 5

WEATHER WATCHES, WARNINGS, AND ADVISORIES (WWAS)

5.1. General.

5.1.1. 52 OSS/OSW will issue WWAs when any of the specific criteria listed in the Spangdahlem IDP is occurring or expected to occur, as appropriate, within a 5 NM radius (unless otherwise specified) from the Spangdahlem AB runway. **Attachment 2** in this publication's details supported agencies and commanders that receive weather WWA notifications from 52 CP.

5.1.2. WWAs will specify the magnitude of the weather event as applicable. For example, the operational threshold for a damaging wind event is > 50 knots; the forecaster will issue a weather warning and specify the peak wind speed, such as peak gust 65 knots. The forecaster will also specify maximum hail size and rain/snow accumulations meeting or exceeding the WWA threshold.

5.1.3. WWA Numbering System. WWAs will automatically be assigned a number sequentially based on the month and the number of previous. For example, Weather Warning 06-003 is the third warning issued in the month of June, regardless of the warning's stated weather phenomena or method of dissemination.

5.2. WWA Definitions.

5.2.1. Weather Watch. A weather watch is a special notice issued by the weather flight to alert agencies to the potential for weather conditions of such intensity to pose a hazard to life or property. The weather watch can be thought of as a "heads up," at which time agencies need to consider implementing required protective actions should a subsequent weather warning be issued.

5.2.1.1. Upon receipt of a weather watch, operations may continue. However, personnel in high-risk areas should be prepared to implement corresponding required protective actions without delay if and when a subsequent weather warning is issued.

5.2.1.2. Watch Termination. Each watch is issued with a beginning and ending time. Once issued, the forecaster monitors weather conditions and either upgrades the watch to a warning, extends the watch, cancels the watch, or allows it to expire if evaluation shows the phenomena will not occur.

5.2.2. Weather Warning. A weather warning is a special notice issued to agencies to provide advance notification (sufficient time for protective actions) of expected weather conditions of such intensity to pose a hazard to life or property. It is important to remember that Watches alert to potential, while Warning's alert to what is expected to happen in the near future based on observed satellite, radar, and weather sensor data.

5.2.2.1. Upon receipt of a weather warning, required protective actions corresponding to the weather event will be immediately implemented to safeguard personnel and equipment.

5.2.2.2. Warning Initiation. Each warning is issued by the 52 OSS/OSW forecaster with a beginning and ending time. Once issued, the forecaster monitors weather conditions and ensures the warning adequately describes the timing and intensity of the weather threat.

5.2.2.3. Lightning warnings are observed, so they will be issued without an end time (indicated by UFN "Until Further Notice") when observed by the 52 OSS/OSW within 5 NM of the base.

5.2.2.4. Warning Termination. The OSW forecaster cancels the warning (or allows it to expire) if evaluation shows the conditions have ceased and will not occur again or will not occur at all.

5.2.3. Weather Advisory. A weather advisory is a special weather product to alert an organization to the occurrence of, or imminent occurrence of, weather conditions impacting operations. An advisory is a notification of weather criteria that is less intense than watch or warning criteria, but still has a specific impact to a specified organization or mission.

5.2.3.1. Upon receipt of a weather advisory, the responsible agencies will implement required procedures. All weather advisories are based on specific observed criteria and are initiated by the 52 OSS/OSW to notify agencies of currently occurring weather conditions hazardous to operations.

5.2.3.2. Weather advisories are terminated when the condition is no longer observed or when PIREPs indicate the condition no longer exists.

Chapter 6

DISSEMINATION OF WEATHER INFORMATION

6.1. General. The 52 OSS/OSW disseminates observations, TAFs, WWAs to ATC facilities and 52 CP via JET.

6.2. Primary Issuance. The 52 OSS/OSW will issue forecasted WWAs via the Integrated Weather Warning Coordination (IWWC) system within JET. IWWC is an automated phone system that will relay the conditions of each WWA using a recorded voice. The IWWC system tracks Spangdahlem AB agency receipt acknowledgement for each WWA message.

6.3. Access. Agencies can view this data using the 52 OSS/OSW Spangdahlem AB's JET guest portal website at: **https://owsjet21.us.af.mil/portal/private/guestspangdahlem/Sensor** . CAC-enabled computers are required to view the JET Portal.

6.4. External Products. MEF and other mission weather briefings are disseminated via the base shared drive located at S:\52oss\external\Weather\Sharepoint Files.

6.5. AOL Weather Dissemination. If the 52 OSS/OSW must evacuate to the AOL (Building 160), the technicians will notify agencies in **Table 6.1** Standard products will continue to be received through JET and the base shared drive as long as the systems remain operational. The on-shift forecaster will continue to perform all shift responsibilities from the AOL.

6.6. Back-up. In the event of a JET or IWWC outage, observations and WWAs will be disseminated locally using AF Form 3806 to ATC and 52 CP facilities via phone, e-mail, radio, or any means available. Back-up contact numbers can be found in **Table 6.1** These products will be disseminated long-line via internet by requesting a theater weather flight or the 21 OWS to disseminate via their JET system.

Table 6.1. Phone Dissemination.

Order of Dissemination	Phone
Tower	452-7218
GCA	452-6805
SOF	452-6233
480 FS Top-3	452-6033
CCP	452-6141
Airfield Management	452-6633/6048
21 OWS	489-2134/2135

Chapter 7

BACK-UP SUPPORT

7.1. General. There are numerous scenarios that could cause an interruption of service from either the 52 OSS/OSW or the 21 OWS. This section briefly describes how weather services will be provided should any such events occur. The 52 OSS/OSW and 21 OWS outline specific responsibilities and actions in their Installation Data Plan.

7.2. 21 OWS. When weather and JET operations at the 21 OWS are interrupted (e.g., power outage, natural disaster, etc.), responsibility may be transferred to another 1st Weather Group OWS until the 21 OWS is postured to resume operations. The 52 OSS/OSW will be informed which OWS will provide back-up support and will inform supported agencies as needed.

7.3. 52 OSS/OSW. For standard station evacuations, support will resume from the AOL. Documented coordination between theater weather flights and the 21 OWS will be maintained to ensure continuity of operations (COOP) through any interim period. For longer interruptions, 52 OSS/OSW will coordinate required support with other organizations, namely USAFE/A3AW and the 557th Weather Wing.

Chapter 8

RECIPROCAL SUPPORT

8.1. 52 FW Command Post (CP).

8.1.1. Disseminates weather WWAs notifications as listed in **Attachment 2** so that agencies may take the necessary actions to minimize damage.

8.1.2. Transmits OPREP reports when required as a result of severe weather occurrences.

8.2. 52 FW Safety (SE).

8.2.1. Notifies the 52 OSS/OSW of the following:

8.2.1.1. Investigations of aircraft mishaps of assigned or other military aircraft the 52 FW investigates.

8.2.1.2. Investigations of ground accidents involving weather or weather services.

8.2.2. Coordinates with 52 OSS/OSW on all messages containing references to weather.

8.2.3. 52 FW/SE will inform 52 OSS/OSW of requirements for seasonal weather briefings at least 3 duty days in advance.

8.3. 52 FW Public Affairs (PA).

8.3.1. Upon request, takes photographs covering a 360-degree view of the airfield complex from both the Building 47 and Building 160 observing points for 52 OSS/OSW's visibility binder.

8.4. 52 FW Plans and Programs (XP).

8.4.1. Informs the 52 OSS/OSW of and provides access to plans and programs which require weather planning and inputs.

8.5. 52 Operations Group (52 OG).

8.5.1. 52 Operations Group Standardization and Evaluation (52 OG/OGV).

8.5.1.1. Coordinate requirements for SOF and IRC briefings at least 3 duty days in advance.

8.5.1.2. Assists 52 OSS/OSW with validating local airfield and range mission weather limitations at least once annually.

8.5.1.3. Ensure SOF duties include procedures to:

8.5.1.3.1. Inform 52 OSS/OSW of any declared alternate airfields.

8.5.1.3.2. Provide any received PIREPs within the local flying area to 52 OSS/OSW within 5 minutes of receipt.

8.5.1.3.3. Receive weather update from the AWSF prior to assuming SOF duties for their shift.

8.5.2. 480 Fighter Squadron (480 FS).

8.5.2.1. Ensures flying schedules are available to 52 OSS/OSW

8.5.2.2. Encourage aircrews and TOP 3 to pass PIREPs to 52 OSS/OSW or to ATC/SOF. PIREPs that include cloud amounts, bases, and tops, as well as turbulence and icing encountered are particularly valuable.

8.5.2.3. Provide feedback/mission debrief to 52 OSS/OSW.

8.5.2.4. Coordinate weather support for all exercises, deployments, or other off station needs with 52 OSS/OSW as soon as possible.

8.5.2.5. Ensure the forecaster is incorporated into the planning phase of flying operations.

8.5.2.6. Report to 52 OSS/OSW any suspected space weather impacts to operations (for example, HF radio not functioning during period of solar activity).

8.5.2.7. Coordinate CORONET mission support at least 3 duty days in advance.

8.5.2.8. Coordinate Flight Weather Briefings, DD Form 175-1, at least 24 hours in advance.

8.5.2.9. Provide target details for the optimal development of TDAs.

8.5.3. 52 OSS Airfield Operations (52 OSS/OSA). This section outlines responsibilities of OSW and OSA as part of the Spangdahlem AB Cooperative Weather Watch (CWW) program. If duty conflicts arise with any requirements in the following sections, personnel will consult documented duty priorities and use RM and to complete tasks in order of highest priority.

8.5.3.1. Airfield Management (52 OSS/OSAM).

8.5.3.1.1. Notifies 52 OSS/OSW when updated Flight Information Publications (FLIPs) have been delivered.

8.5.3.1.2. Reports runway conditions (RCR) to 52 OSS/OSW.

8.5.3.1.3. Provides airfield management orientation for weather personnel.

8.5.3.2. Ground Controlled Approach (GCA) (52 OSS/OSAR).

8.5.3.2.1. Provides GCA orientation for weather personnel.

8.5.3.2.2. Relays all PIREPs to AWSF technicians within five minutes of receipt for local and long-line dissemination IAW with AFMAN 15-129.

8.5.3.2.3. Reports JET and FBWOS malfunctions to 52 OSS/OSW.

8.5.3.2.4. Notifies 52 OSS/OSW when GCApersonnel/facilities evacuate/relocate.

8.5.3.3. Air Traffic Control Tower (52 OSS/OSAT).

8.5.3.3.1. Provides tower orientation for weather personnel.

8.5.3.3.2. Takes tower visibility observations (tower VIS) when surface prevailing visibility or tower VIS is < 4 statute miles (6000 meters) and the tower VIS differs from surface visibility by a reportable value.

8.5.3.3.3. Relays all PIREPs and Tower Visibility observations to the OSW technicians within five minutes of receipt for local and long-line dissemination.

8.5.3.3.4. When requested, provides a Pilot-to-Metro Service (PMSV) radio check.

8.5.3.3.5. Relays weather WWAs to aircrews.

8.5.3.3.6. Relays obstructions to visibility.

8.5.3.3.7. Reports when lightning is observed.

8.5.3.3.8. Reports JET and FBWOS malfunctions to 52 OSS/OSW.

8.5.3.3.9. Notifies 52 OSS/OSW technicians of the following:

8.5.3.3.9.1. Runway lights become inoperative, or if inoperative, become operational.

8.5.3.3.9.2. Tower personnel/facilities evacuate/relocate.

8.5.3.3.9.3. Active runway changes.

8.5.3.3.9.4. Termination of wing flying.

8.5.3.4. Airfield Systems (52 OSS/OSACR).

8.5.3.4.1. Maintains the AN/FMQ-19, AN/TMQ-53, and PMSV radio.

8.5.3.4.1.1. OSACR will perform annual inspection of all meteorological equipment, ensure equipment is in good condition, and verify no obstructions are affecting the equipment siting and exposure. Weather leadership at the airfield will accompany airfield systems personnel on this inspection and log any new equipment limitation(s) into appropriate Flight Information Handbook or report equipment issues to higher level(s) (e.g., MAJCOM)

8.5.3.4.1.2. OSACR will certify the AN/FMQ-19 annually.

8.5.3.4.1.3. Notify 52 OSS/OSW at least 30 minutes prior to any preventative maintenance and on completion.

8.5.3.4.2. Provides a tour of airfield sensors for new weather personnel.

8.5.3.5. Airfield Automation (52 OSS/OSAX).

8.5.3.5.1. The Airfield Operations Automation Manager or AOAM / NCOIC, Airfield Automation Manager or NAAM Acts as a focal point for all non-JET related Airfield Automation System, also known as just AFAS, issues.

8.5.3.6. Weather Support to Airfield Operations.

8.5.3.6.1. 52 OSS/OSW will notify Tower and GCA of the following:

8.5.3.6.1.1. When weather personnel evacuate/relocate to the AOL.

8.5.3.6.1.2. When JET or FBWOS equipment malfunctions and when the equipment must be taken down for troubleshooting or maintenance.

8.5.3.6.2. Limited Observation Training. All new ATC personnel will call the 52 OSS/OSW and schedule an appointment with the 52 OSS/OSW Training Manager for local familiarization. At the end of training, ATC personnel are tested for qualification and will receive a familiarization tour of the weather station. Orientation and certification will be conducted by certified weather personnel and documented on the AF Form 3622, ATC/Weather Certification and Rating Record. Training will cover the following:

8.5.3.6.2.1. Basic observing techniques.

8.5.3.6.2.2. Visibility and obstructions to visibility.

8.5.3.6.2.3. Local weather phenomena.

8.5.3.6.2.4. Decoding observations and TAFs.

8.5.3.6.2.5. JET operations and FBWOS overview, including automated and augmented observation procedures.

8.5.3.6.2.6. Weather WWAs.

8.5.3.6.2.7. Importance of a cooperative OSW/OSA relationship.

8.5.3.6.3. Provide Tower facilities RVR readings when reported. If JET is inoperative, OSW will update GCA and Tower of any changes to RVR until JET and/or FBWOS have been restored.

8.5.3.6.4. Act as focal point to resolve all JET and FBWOS outages. Pass pertinent weather data to GCA and Tower via telephone until JET/FBWOS outages are resolved. In the event of telephone outage, time-sensitive weather data (i.e., RVR, rapidly changing ceiling, rapidly changing visibility, etc.) can be passed via PMSV while the JET/FBWOS is being augmented.

8.5.3.6.5. Validate the Tower visibility charts at least annually and provide Tower with an MFR after the inspection to keep in their visibility binder IAW AFI 13-204v3 USAFESUPPLEMENT.

8.5.3.6.6. Weather personnel will ensure supported ATC agencies are notified of all outages prior to contacting any maintenance agency.

8.5.4. 52 Operations Group Detachment 1, Łask AB, Poland (Det 1). Weather support for Det 1 is provided by the host nation, 21 OWS and/or the Theater Forecasting Unit (TFU) as defined in their IDP. This includes meteorological observations, TAFs, and WWAs. The 52 OSS/OSW will coordinate support when 52 FW jets are expected to operate out of Det 1.

8.5.4.1. Any changes to required weather support must be coordinated through the 52 OSS/OSW and documented on the IDP.

8.6. 52 Maintenance Group (52 MXG).

8.6.1. Maintenance Operations Center (MOC).

8.6.1.1. Receives weather WWAs from CP and notifies base maintenance agencies.

8.6.1.2. Provides MOC orientation to newly assigned weather personnel.

8.6.1.3. Coordinates updates to weather portions of Emergency Actions (EA) Checklists with weather flight leadership and sends new copies of EA Checklists to weather flight leadership.

8.7. 52 Munitions Maintenance Group (52 MMG).

8.7.1. The 52 MMG has four Munitions Support Squadrons (MUNSS) which are geographically separated units (GSUs) located outside of Spangdahlem AB:

8.7.1.1. 701 MUNSS, Kleine Brogel AB, Belgium

8.7.1.2. 702 MUNSS, Buechel AB, Germany

8.7.1.3. 703 MUNSS, Volkel AB, Netherlands

8.7.1.4. 704 MUNSS, Ghedi AB, Italy

8.7.2. The 21 OWS is responsible for RP and maintains a separate IDP for each MUNSS to document required support.

8.7.3. Any changes to required weather support for any of the MUNSS should be coordinated through the 52 OSS/OSW and documented on the respective IDP.

8.8. 52 Mission Support Group (52 MSG).

8.8.1. 52 Communications Squadron.

8.8.1.1. Responsible for maintenance of phones, local area network, and internet communications.

8.8.1.2. 52 CS houses the JET Server but does not maintain server. Maintenance actions are performed by system admins within 52 OG.

8.8.1.3. 52 CS provides applicable TCNO patches required for the JET Server to system admins within 52 OG for maintenance to be performed.

8.8.1.3.1. Weather personnel will download the patches from the JET Support website and provide a link to their location on the shared network drives.

8.8.2. 52 Security Forces Squadron (52 SFS).

8.8.2.1. Military Working Dog Training. 52 OSS/OSW will provide weather information, to include observed and forecasted wind speed and direction, ambient temperature, and lightning data via the on-duty forecaster, as requested, to support 52 SFS working dog training.

8.8.2.2. Road Condition Status (ROADCON). 52 OSS/OSW will provide observed and forecasted snow, ice and heavy rain accumulation information as requested to aid the MSG/CC, MSG/CD, and 52 SFS in ROADCON determination. Note: 52 OSS/OSW does NOT make the ROADCON determination. It will only provide the necessary weather information required by appropriate authorities.

8.8.3. 52 Civil Engineer Squadron.

8.8.3.1. Emergency Management (52 CES/CEX) prepares & maintains disaster preparedness plans for base survival and recovery during a natural disaster. 52 CES/CEX will coordinate any weather-related information regarding emergency plans with 52 OSS/OSW.

8.8.3.2. Snow and Ice Control/Removal (52 CES/CEOH) will notify 52 OSS/OSW to the scheduling of snow and ice control meeting, a pre-season and post-season snow brief.

8.8.3.3. In the event of a toxic chemical spill or release, 52 OSS/OSW will provide information, as requested, to 52 CES/CEX to be used by the Fire Department or CE Readiness Toxic Corridor programs.

8.8.3.4. In the event of an emergency, 52 CES/CEX will coordinate emerging WWA requirements as soon as possible.

8.8.3.5. The Fire Department will provide access for 52 OSS/OSW personnel to building 47.

8.8.3.6. 52 OSS/OSW will provide average temperatures for heating/cooling days to 52 CES, usually during the onset of fall and spring. Other specialized data is available upon request.

8.9. Tenant Units.

8.9.1. 726 Air Mobility Squadron (AMS). The 726 AMS is a tenant unit utilizing the Spangdahlem airfield and base facilities. The 618 AOC (TACC)/XOW and the 21 OWS provide routine support to Air Mobility missions. Requests for weather support will be handled on a case-by-case basis IAW Attachment **2**, **52**OSS/OSW duty priorities.

8.9.2. Armed Forces Network Detachment 9 (AFN Det 9).

8.9.2.1. AFN broadcasts the current and forecast weather information over the radio throughout the day. This information can be found on the JET Guest Portal: **https://owsjet21.us.af.mil/portal/private/guestspangdahlem/Sensor**.

8.9.2.2. 52 OSS/OSW will provide an extended forecast daily, Monday through Friday, via e-mail by 0830L.

8.9.2.3. 52 OSS/OSW will provide training for broadcasting basic weather information to AFN DJs upon request.

8.9.3. All 52 FW Agencies.

8.9.3.1. Notify 52 OSS/OSW of problems with JET equipment.

8.9.3.2. Notify 52 OSS/OSW, through proper chain of command, of new weather support requirements.

8.9.3.3. Each unit at Spangdahlem AB is responsible for coordinating additional WWA support or special notification for existing WWAs with 52 OSS/OSW. Each customer requesting support must validate the requirement by providing 52 OSS/OSW with a list of protective actions for each WWA.

8.9.3.4. Coordinate changes and additions to weather support requirements as soon as they are foreseen. Temporary non-routine requirements will be treated as Special Assistance Requests (SAR) and will be documented and supported to the best of 52 OSS/OSW capabilities. Depending on the duration and demand to resources, 52 OSS/OSW may request assistance from USAFE/A3AW or the 557th Weather Wing to aid with the needed support.

8.9.3.5. 52 OSS/OSW will provide the current IDP to all supported units upon request.

8.9.4. Transient Aircrew Support.

8.9.4.1. During controlled airfield hours, transient aircrews may receive flight weather briefings from 52 OSS/OSW according to the duty priorities outlined in the IDP.

8.9.4.1.1. Outside controlled airfield hours, transient aircrews should contact 21 OWS for flight weather briefing support at DSN 489-2133.

8.9.4.1.2. Both the 52 OSS/OSW and 21 OWS typically require 24-hour advanced notice for flight weather briefings.

8.9.4.2. Flying units in which the 52 FW or 52 OG has operational control (OPCON) or tactical control (TACON), e.g., TSPs, should make every effort to provide or arrange for their own weather support prior to arriving in theater. This includes initiating a request for forces through their home MAJCOM.

8.9.4.2.1. While assigned to the 52 OG, flying units will follow the requirements listed for the 480 FS in section 8.5.2 if the 52 OSS/OSW is tasked to provide support.

JOHN C. POWERS, Lieutenant Colonel
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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AFMAN 33-322, *Communication and Information*, 10 Mar 2020, Corrective Actions applied 12 May 2020

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

DAFMAN 13-201, *Airspace Management*, 10 Dec 2020

DAFI 91-204, *Safety*, 10 Mar 2021

Adopted Forms

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

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

AF Form 3806, *Weather Watch Advisory Log*

DAF Form 847, *Recommendation for Change of Publication*

DD Form 175-1, *Flight Weather Briefing*

Abbreviations and Acronyms

21 OWS—21st Operational Weather Squadron

52 OSS/OSW—52d Operations Support Squadron Weather Flight

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFW—Air Force Weather

AMC—Air Mobility Command

AOL—Alternate Operating Location

AWSF—Airfield Weather Support Function

ATC—Air Traffic Control

C—Celsius

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

CDM—Chemical Downwind Message

COOP—Continuity of Operations

CP—Command Post

CWW—Cooperative Weather Watch

DoD—Department of Defense

EA—Emergency Actions

EDM—Affective Downwind Message

EM—Emergency Management

EO—Electro Optics

EOC—Emergency Operations Center

EWO—Emergency War Order

FBWOS—Fixed Based Weather Observing System

FLIP—Flight Information Publication

FW—Fighter Wing

FWB—Flight Weather Brief

GSU—Geographically Separated Unit

IAW—In Accordance With

IWWC—Integrated Weather Warning Coordination

KTS—knots

LAN—Local Area Network

LOA—Letter of Agreement

JET—Joint Environmental Toolkit

MEF—Mission Execution Forecast

MEFP—Mission Execution Forecast Process

METAR—Aviation Routine Weather Report

METWATCH—Meteorological Watch

MOA—Memorandum of Agreement

MOC—Maintenance Operations Center

MWI—Mission Weather Integration

NM—Nautical Mile

NOTAM—Notice to Airmen

OPR—Office of Primary Responsibility

OPREP—Operational Report

ORM—Operational Readiness Management

OSW—Operational Weather Squadron

PIREP—Pilot Report

PMSV—Pilot-to-Metro Service

RCR—Runway Condition Reading

RVR—Runway Visual Range

SABI—Spangdahlem Air Base Instruction

SAR—Special Assistance Request

SOF—Supervisor of Flying

SPECI—Aviation Special Weather Report

SWAP—Severe Weather Action Procedures

SWAT—Severe Weather Action Team

TACC—Tanker-Airlift Control Center

TAF—Terminal Aerodrome Forecast

TAWS—Target Acquisition Weapons Software

TDA—Tactical Decision Aid

TFU—Theater Forecasting Unit

TSPs—Theater Support Packages

UHF—Ultra High Frequency

USAFE—United States Air Forces in Europe

WWAs—Watches, Warnings, and Advisories

Terms

Meteorological Watch—The monitoring of weather for a designated military operating area and informing supported agencies when certain weather conditions could affect operations.

Mission Execution Forecast—A MEF is the integration of strategic center products and perishable weather data to support an operator's weapon systems and tactics.

MISSIONWATCH—Monitoring the weather within a route, sortie, or training area and advising organizations when forecast or observed conditions breach operational thresholds or when hazardous weather conditions affect operations or pose a threat to life or property.

Operational Weather Squadron—An organization with regional forecast responsibility comprised of management, staff, and technical personnel and its assigned resources. Their mission is to produce fine-scale tailored weather forecast products and services to customers within their area of responsibility.

Weather Advisory—A special notice provided to a supported agency when an established weather condition is occurring that could affect its operation.

Weather Warning—A special notice provided to supported customers that alerts them of weather conditions (occurring or expected to occur within 5 NM of the center point of the runway) of such intensity as to pose a hazard to life or property.

Weather Watch—A special notice provided to supported customers that alerts them of conditions favorable for the development (potential) of weather conditions of such intensity as to pose a hazard to life or property.

Attachment 2

WWA NOTIFICATION MATRICES

A2.1. 52 Command Post Weather Notifications. The 52 CP will contact the agencies listed in **Tables A2.1** and **Table A2.2**, through the appropriate announcement IAW their Quick Reaction Checklists.

Table A2.1. 52CP Weather Advisory Notifications.

Agency / Advisory	Surface winds ≥ 25kts	Crosswinds ≥ 20kts (Wet Runway)	Crosswinds ≥ 25 kts (Dry runway)	Low Level Wind Shear (From PIREP)	FITS	Ice Fod(F-16)	Icing Below FL100 (From PIREP)
FW/CC	X						
FW/CV	X						
OG/CC	X	X	X	X	X	X	X
MXG/CC	X				X	X	
MMG/CC	X						
MSG/CC	X						
MDG/CC	X						
FW/CCC							
FW/DS	X						
SFS/BDOC	X						
FIRE DISPATCH	X						
MOCC	X	X	X	X	X	X	X
SNOW CONTROL							
VEHICLE DISPATCH	X						
CS/CFP	X						
MDG/AMBULANCE SERVICES	X						
AFN DET 9	X						
SPANG COMMISSARY							
FLIGHT SIM							
GOLF COURSE	X						
BILLETING	X						

Table A2.2. 52 CP Weather Watch and Warning Notifications.

Agency / Watch or Warning	Surface Winds 35-49 Kts	Surface Winds ≥50 Kts	Lightning w/in 5 NM of Spangdahlem AB	Tornado	Moderate T-storms	Severe T-storms	Heavy Precip (≥ 2" rain or snow in 12 hrs	Blizzard	Freezing Precip
FW/CC	X	X	X	X	X	X	X	X	X
FW/CV	X	X	X	X	X	X	X	X	X
OG/CC	X	X	X	X	X	X	X	X	X
MXG/CC	X	X	X	X	X	X	X	X	X
MMG/CC	X	X	X	X	X	X	X	X	X
MSG/CC	X	X	X	X	X	X	X	X	X
MDG/CC	X	X	X	X	X	X	X	X	X
FW/CCC			X	X	X	X	X	X	X
FW/DS	X	X	X	X	X	X	X	X	X
SFS/BDOC	X	X	X	X	X	X	X	X	X
FIRE DISPATCH	X	X	X	X	X	X	X	X	X
MOCC	X	X	X	X	X	X	X	X	X
SNOW CONTROL							X (Snow Only)	X	X
VEHICLE DISPATCH	X	X	X	X	X	X	X	X	X
CS/CFP	X	X	X	X	X	X	X	X	X
MDG/AMBULANCE SERVICES	X	X	X	X	X	X	X	X	X
AFN DET 9	X	X	X	X	X	X	X	X	X
SPANG COMMISSARY			X	X	X	X	X	X	X
FLIGHT SIM			X	X	X	X	X	X	X
GOLF COURSE	X	X	X	X	X	X	X	X	X
BILLETING	X	X	X	X	X	X	X	X	X

A2.2. Maintenance Operations Center (MOC) Weather Notifications. The MOC broadcasts all weather watches, warnings, and advisories over the maintenance nets.

Attachment 3

EXAMPLE MISSION EXECUTION FORECAST

Figure A3.1. Example Mission Execution Forecast.

52 OSS/OSW MEF - A3							20/0530Z	ENE
METAR ETAD 200556Z AUTO 24007KT 9999 BKN085 11/08 A2991 RMK AO2 SLP117 T01120082 10120 20103 58018							CLIMB WINDS	
								DIR	KT
TAF ETAD 200400Z 2004/2110 VRB05KT 9999 FEW050 SCT070 BKN200 QNH2987INS							350	250	075
TEMPO 2005/2009 6000 BR SCT010 BKN050							300	240	070
BECMG 2009/2010 22012G18KT 9999 BKN025 QNH2974INS							250	240	065
BECMG 2014/2015 22015G25KT 6000 SHRA BKN015 OVC020 QNH2960INS							200	240	065
BECMG 2020/2021 22020G35KT 8000 SHRA OVC015 520004 QNH2942INS							150	240	055
NO VALID VVA'S							100	230	045
NO REMARKS	GPS	HF	UHF	FRZ LVL	CONS	TOLD	050	240	045
				080	350-600	+61°F	SFC	210	010

ENROUTE HAZARDS		
THUNDERSTORMS	TURBULENCE	ICING
NONE	LGT TURB SFC-060 06-12Z	LT RIME ICG 080-180 06-09Z

AREA FORECAST												
TIME	TRA 205AD/305AD (WEST)					TIME	TRA 205BC/305BC (EAST)					
07-09Z	006SCT-BKN020 020FEW-SCT070 070BKN120 220FEW320					07-09Z	002SCT020 040FEW-SCT080 080BKN130 190FEW330					
09-11Z	006FEW-SCT100 150FEW-SCT240					09-11Z	002FEW-SCT060 060SCT-BKN120					
HAZARDS	LGT TURB SFC-060 06-12Z LT RIME ICG 070-120 06-09Z					HAZARDS	LGT TURB SFC-060 06-12Z LT RIME ICG 060-120 06-09Z					
FL	DIR	KT	FL	DIR	KT	FL	DIR	KT	FL	DIR	KT	
150	230	65	350	240	95	150	240	60	350	240	90	
100	240	55	300	240	90	100	230	50	300	240	80	
50	240	45	250	240	80	50	250	45	250	240	80	
SFC	210	10	200	240	75	SFC	220	15	200	240	70	

SOLAR / LUNAR									
TIME	20/0500	20/0600	20/0700	20/0800	20/0900	20/1000Z	20/1100Z	Civil Twilight B	05:30 Z
SOLAR ELEV	-11	-1	8	16	22	27	29	Sunrise	06:03 Z
SOLAR AZIM	93	105	116	129	143	158	175	Sunset	16:32 Z
LUNAR ELEV	4	-5	-13	-21	-27	-32	-34	Civil Twilight E	17:05 Z
LUNAR AZIM	273	284	296	308	323	338	355	Moonrise	16:46 Z
ILLUM (mLux)	>10	>10	>10	>10	>10	>10	>10	Moonset	05:33 Z

ALTERNATES	
ETSB	METAR ETSB 200520Z 23011KT 9999 SCT055 SCT075 11/08 Q1013 BLU+BLU TEMPO BLU+ TAF ETSB 200408Z 2005/2014 23015G25KT 9999 NSW FEW050 BKN080 BECMG 2011/2013 23018G30KT 5000 -RA SCT005 BKN010 BKN040 TEMPO 2013/2014 23020G30KT 2000 SHRA SCT003 BKN005 BKN010TCU BY ETGL
ETAR	METAR ETAR 200556Z AUTO 26005KT 9999 CLR 14/14 A2996 RMK AO2 SLP148 T01360136 10145 20134 57012 TAF ETAR 200200Z 2002/2108 26010G20KT 9999 FEW040 520004 QNH2990INS BECMG 2011/2012 22015G30KT 9999 SCT025 BKN040 520004 QNH2979INS BECMG 2014/2015 22015G30KT 9000 -SHRA SCT025 BKN040 520004 QNH2972INS BECMG 2020/2021 22020G30KT 8000 -SHRA BKN015 OVC025 520004 QNH2956INS BECMG 2100/2102 22020G35KT 8000 -SHRA BKN015 OVC025 530004 QNH2949INS
ETNN	METAR ETNN 200420Z 20008KT 9999 FEW120 BKN260 15/09 Q1010 BLU+BLU+ TAF AMD ETNN 200522Z 2005/2014 20010KT 9999 NSW BKN020 TEMPO 2005/2014 20010G20KT 9999 NSW BKN030 BY ETGL
EBFS	METAR EBFS 200555Z 19016KT 9999 SCT060 BKN220 14/10 Q1010 BLU BLU TAF AMD EBFS 200556Z 2007/2016 19015G25KT 9999 SCT060 BKN200 BECMG 2008/2010 21018G30KT SCT015 BKN020 PROB30 TEMPO 2008/2012 5000 -RA SCT012 BKN018 PROB30 TEMPO 2008/2012 3000 RA SCT010 BKN015 BECMG 2012/2014 21018G32KT FEW015 SCT025
EBBL	METAR EBBL 200555Z 21009KT 9999 FEW080 SCT100 BKN220 15/11 Q1007 BLU BLU TAF EBBL 200541Z 2007/2016 20013KT 9999 FEW050 SCT100 BKN170 TEMPO 2007/2016 21015G25KT TEMPO 2009/2016 SCT020 BKN070 TEMPO 2012/2016 21015G30KT 4000 -SHRA BKN015TCU BKN030
EBBE	METAR EBBE 200555Z 19014KT 9999 FEW090 BKN240 15/11 Q1008 BLU BLU TAF EBBE 200541Z 2007/2016 22015KT 9999 SCT060 BKN240 BECMG 2007/2009 SCT020 BKN030 TEMPO 2008/2014 22020G30KT 4000 -RA RA SCT008 OVC020 TEMPO 2010/2016 22025G35KT 3000 -SHRA SHRA SCT005 SCT015TCU BKN025
EHVK	METAR EHVK 200555Z AUTO 20011KT 1401V240 9999 FEW075 OVC210 15/11 Q1006 BLU BECMG 21010G20KT SCT018 BKN030 TAF EHVK 200443Z 2005/2017 19010KT CAVOK BECMG 2008/2011 21015G25KT SCT015 BKN020 TEMPO 2008/2013 4000 RA SHRA SCT010 SCT020CB BKN030 BECMG 2013/2015 SCT025 TEMPO 2013/2017 23017G30KT 4000 SHRA FEW015 SCT025CB
EHEH	METAR EHEH 200555Z AUTO 19012KT 160V230 9999 BKN075 OVC081 16/12 Q1007 BLU BECMG 20015G25KT TAF EHEH 200523Z 2006/2112 19010KT CAVOK BECMG 2007/2010 21015G25KT SCT015 BKN020 TEMPO 2008/2013 4000 RA SHRA SCT010 SCT020CB BKN030 BECMG 2013/2016 SCT025 TEMPO 2013/2021 23017G30KT 4000 SHRA FEW015 SCT025CB

PLEASE CHECK 480th SHAREPOINT FOR UPDATED WEATHER BRIEFS

Attachment 4

EXAMPLE EXTENDED FORECAST

Figure A4.1. Example Extended Forecast.

Friday, 15 Oct		Saturday, 16 Oct		Sunday, 17 Oct		Monday, 18 Oct		Tuesday, 19 Oct		Wednesday, 20 Oct		Thursday, 21 Oct	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
													
MOSTLY CLOUDY	MOSTLY CLOUDY	PARTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY	PARTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY	MOSTLY CLOUDY
FOG	RAIN SHOWERS	FOG	NONE	NONE	NONE	NONE	NONE	RAIN SHOWERS	RAIN SHOWERS	NONE	NONE	RAIN SHOWERS	RAIN SHOWERS
	TRACE							TRACE	TRACE			0.25"	TRACE
1SM	7SM	1SM	7SM	7SM	7SM	7SM	7SM	6SM	6SM	7SM	7SM	7SM	7SM
200FT	1800FT		4000FT	1000FT	2000OFT	2000OFT	3000FT	6000FT	1200FT		5000FT	2400FT	2000FT
37F / 3C	55F / 13C	39F / 4C	54F / 12C	37F / 3C	55F / 13C	41F / 5C	59F / 15C	46F / 8C	61F / 16C	54F / 12C	66F / 19C	43F / 12C	59F / 15C
													
SW	NE	NE	VRB	W	SW	SW	SW	SW	SW	SW	S	SW	SW
9KT	9KT	5KT	5KT	5KT	07KT	04KT	10G15KT	9KT	15G20KT	12KT	15G25KT	20G35KT	15G20KT