

31 DECEMBER 2015

Weather

WEATHER SUPPORT



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at www.e-publishing.af.mil for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: 48 OSS/OSW

Certified by: 48 OG/CC
(Col Scottie L. Zamzow)

Supersedes: LAKENHEATHI15-101,
10 October 2013

Pages: 38

This instruction implements Air Force Policy Directive (AFPD) 15-1, *Air Force Weather Operations*. It establishes responsibilities and weather support procedures for Royal Air Force (RAF) Lakenheath and RAF Feltwell. It applies to all units assigned to the 48th Fighter Wing. It provides general information for observations and forecasts; weather warnings, watches, and advisories; space weather supported services and dissemination of information and reciprocal support. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication*, prescribed by AFI 11-215, *USAF Flight Manuals Program*; route AF Form 847s from the field through publications/forms managers. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMAN 33-363, *Management of Records*, and disposed of IAW *Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS)*.

SUMMARY OF CHANGES

Updates procedures to reflect weather watches, warnings and advisories for RAF Lakenheath, also applies to RAF Feltwell for resource protection purposes. Aligns Airfield Systems responsible for maintenance of AN/FMQ-19 from 48th Communication Squadron to 48th Operations Support Squadron Airfield Operations (48 OSS/OSA). Adds tropical cyclone, volcano and close watch briefing supports.

1.	General Information.	2
2.	Limitations to Weather Services.	3

3.	Airfield Support Function (ASF).	3
4.	Mission Integration Function (MIF).	5
5.	21 OWS Forecasting Services.	6
6.	Forecasting Services and Specialized Support.	6
7.	Weather Watches, Warnings, and Advisories (WWA).	10
8.	Roles and Responsibilities.	11
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION		18
Attachment 2—WEATHER IMPACTS ON FLYING OPERATIONS		24
Attachment 3—48 OSS/OSA WEATHER IMPACTS ON SUPPORTED AGENCIES		27
Attachment 4—SUPPLEMENTATION CRITERIA		33
Attachment 5—EXAMPLE WEATHER FLIMSY		34
Attachment 6—WEATHER ADVISORY DISSEMINATION MATRIX		37
Attachment 7—WEATHER WATCH/WARNING DISSEMINATION MATRIX		38

1. General Information.

1.1. Introduction. 48th Operations Support Squadron Weather Flight (48 OSS/OSW) provides and arranges weather support for the 48th Fighter Wing (48 FW). Basic concepts and procedures are outlined in Air Force and MAJCOM directives listed in Attachment 1. This instruction establishes responsibilities and procedures for areas of weather support required to support mission needs of the 48 FW. The RAF Lakenheath Weather Support Data Sheet is located at [https://ice.usafe.af.mil/sites/435AGOW/21OWS/layouts/xlviewer.aspx?id=/sites/435AGOW/21OWS/Datasheets/Northern%20Europe/NE%201/Lakenheath \(EGUL\) Datasheet 3 OCT 14.xlsx&Source=https%3A%2F%2Fice%2Eusafe%2Eaf%2Emil%2Fsites%2F435AGOW%2F21OWS%2FDatasheets%2FForms%2FAIItems%2Easpx%3FRotFolder%3D%252Fsites%252F435AGOW%252F21OWS%252FDatasheets%252FNorthern%2520Europe%252FNE%25201&DefaultItemOpen=1](https://ice.usafe.af.mil/sites/435AGOW/21OWS/layouts/xlviewer.aspx?id=/sites/435AGOW/21OWS/Datasheets/Northern%20Europe/NE%201/Lakenheath%20(EGUL)%20Datasheet%203%20OCT%2014.xlsx&Source=https%3A%2F%2Fice%2Eusafe%2Eaf%2Emil%2Fsites%2F435AGOW%2F21OWS%2FDatasheets%2FForms%2FAIItems%2Easpx%3FRotFolder%3D%252Fsites%252F435AGOW%252F21OWS%252FDatasheets%252FNorthern%2520Europe%252FNE%25201&DefaultItemOpen=1).

1.2. Assumptions. Weather communication networks will function and provide sufficient data for the continuity of weather support.

1.3. 48 OSS/OSW Mission. Serves as the weather foundation of the 48 FW and 48th Operations Group (48 OG) combat capability maximizing effectiveness of peacetime and wartime operations.

1.4. Support. Weather support provided by 48 OSS/OSW is largely driven by the requirements of flying operations (listed in Attachment 2) and base agencies (listed in Attachment 3).

1.5. Duty Priorities. 48 OSS/OSW duty priorities are listed on the RAF Lakenheath Weather Support Data Sheet.

1.6. Release of Weather Information. Weather observations, forecasts, and historical data/records will be released only to Department of Defense (DoD) agencies or contractors under contract to the United States Air Force (USAF). All other agencies and civilians will be referred to Public Affairs (48 FW/PA) and/or the Base Freedom of Information Act Monitor (48 CS/SCOK) to obtain approval prior to the release of weather observation records.

2. Limitations to Weather Services.

2.1. Interruption of the normal receipt of alphanumeric and graphic data via Joint Environmental Toolkit (JET), Nonsecure Internet Protocol Router Network (NIPRNET) or Secret Internet Protocol Router Network (SIPRNET) can severely degrade forecasting capabilities.

2.2. Observing site limitations at the primary operating location (Building 1392) include limited visual references beyond 5000 meters. In addition, the tower blocks the Runway 06 approach. At the Alternate Operating Location (AOL), which is the Strike Eagle Complex (Building 1319), technicians have fewer visual references but are able to continue to evaluate weather conditions.

2.3. 48 OSS/OSW does not have weather radar. To compensate, the weather flight uses a combination of Air Traffic Control (ATC) radar, data from the 21st Operational Weather Squadron (21 OWS), United Kingdom (UK) composite radar normally available via NIPRNET, and/or pilot reports (PIREPs) to determine if precipitation and/or thunderstorms are within 25 Nautical Miles (NM) of the base.

2.4. RAF Feltwell has no weather personnel or weather sensors. Therefore, in the interest of safety and resource protection, all weather watches, warnings, and advisories (WWAs) issued for RAF Lakenheath are also in effect for RAF Feltwell. The only exceptions are induction icing and wind shear are not applicable to RAF Feltwell and there is a separate lightning warning for RAF Feltwell.

2.5. Many flying areas are over unpopulated or water regions. Lack of weather data from such areas may limit the weather watch capabilities of the duty forecaster. Pilot reports are extremely useful over data sparse areas.

2.6. Forecasting in the United Kingdom (UK) is very challenging. The speed at which systems move is difficult to track/determine due to the limited amount of data upstream. Keeping this in mind, forecasts beyond 24 hours diminish in accuracy, and it is advisable to obtain daily updates when possible.

2.7. Due to local terrain features near the runway, sensor wind speeds between the 06 and 24 approach ends of the runway may differ by several knots. This is a standard and acceptable variance and no corrective action is warranted.

3. Airfield Support Function (ASF).

3.1. General. All official weather observations at RAF Lakenheath will be taken in accordance with (IAW) AFMAN 15-111, *Surface Weather Observations*. 48 OSS/OSW operates a FMQ-19, automated observing system, which provides 24 hour observation capability. 48 OSS/OSW will be on phone standby on weekends, 48 FW Down Days, and US holidays. Deviations to these hours can be made by the Weather Flight Commander, 48

Operations Support Squadron Commander (48 OSS/CC), 48 OG Commander (48 OG/CC), or 48 FW Commander (48 FW/CC) as required to support mission needs. A standby member will be subject to recall at all times when the weather station is closed. A standby technician may be recalled through the Wing Command Post at DSN 314-226-4800 or the assigned mobile phone and will man the weather station no more than 1 hour after being recalled.

3.2. Types of Observations.

3.2.1. Record Observations, also called an Aviation Routine Weather Report (METAR), will be disseminated IAW AFMAN 15-111, Chapter 2, via JET between 55 and 59 minutes after each hour.

3.2.2. Special (SPECI) Observations are observations to report significant changes in weather elements in accordance with AFMAN 15-111, local policy, to include all published minima applicable to RAF Lakenheath as listed in the enroute and terminal Flight Information Publication (FLIP). A special observation will be taken and disseminated for criteria listed in RAF Lakenheath Weather Support Data Sheet.

3.2.3. Augmentation is the process of having position-qualified weather technicians manually add or edit data to an observation generated by a properly sited Automated Meteorological Observation System (AMOS). The two augmentation processes used are *supplementing* and *back-up*. Supplementing is a method of manually adding meteorological information to an automated observation that is beyond the capabilities of the AMOS to detect and/or report. An observation will be supplemented when any phenomena in Attachment 4 occurs. Back-up is the method of manually providing meteorological data and/or dissemination to an AMOS observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure. A certified observer continuously maintains weather situational awareness, utilizes Risk Management (RM), and is available to augment the AMOS during standard operating hours and upon recall during standby hours. During local wing flying, whenever reported conditions are unrepresentative and significant to operations/flight safety, the certified observer will err on the side of caution for the following criteria:

3.2.3.1. Unrepresentative sky coverage for layers less than or equal to 2000 feet, to include BKN-OVC ceilings.

3.2.3.2. Unrepresentative visibility when apparent visibility is 5000 meters or less.

3.2.3.3. Type of precipitation when the FMQ-19 is reporting the incorrect type.

3.3. Observation Site. The primary AMOS observation site is the active runway sensor group. The augmented observation site is the roof platform on building 1392.

3.3.1. Due to duty priorities (e.g. processing and disseminating weather data), some weather changes may not be immediately detected and reported exactly when they occur. To offset this, air traffic controllers are trained and expected to assist by way of a Cooperative Weather Watch (CWW) to alert 48 OSS/OSW of significant weather changes that occur between scheduled observations. This is detailed in paragraphs 3.5. and 8.14.3.

3.3.2. If the primary observation site is non-operational, or the technician has to evacuate building 1392, observations will be taken from the AOL. Building 1319 is the primary

AOL. However, if Building 1319 is unsafe or inaccessible, any location with a view of the airfield complex, a telephone, and access to the base local area network (LAN) may be used as an AOL in an emergency. Observations made from an AOL might contain estimated elements, such as winds and pressure. The primary means of dissemination at the AOL is JET, but email and/or telephone may be used. If email is used, observations will be sent to the Radar 48OSS/OSAR, 48OSS/OSA, 21OWS/OPS org boxes, and the on-duty Supervisor of Flying (SOF). Contact information for the AOL can be located on RAF Lakenheath Weather Support Data Sheet.

3.4. Dissemination.

3.4.1. JET is the primary weather communication tool for Air Traffic Control (ATC).

3.4.2. Telephones and hotlines are a secondary method used to disseminate weather data when JET is off-line. When using voice communication as a backup means, observations will be sent to ATC agencies (i.e. Tower, Radar Approach Control (RAPCON), SOF) first.

3.4.3. E-mail via base NIPRNET LAN is used as a tertiary means to disseminate weather data.

3.5. Cooperative Weather Watch (CWW). ATC personnel assist the weather ASF technician by participating in cooperative weather watch. The ASF technician in turn will incorporate this data in the official observation when applicable. The ASF technician is the final authority for all information included in the official observation. Of primary concern is the report of lightning, tower visibility less than 6000 meters and different from the prevailing surface visibility, local pilot reports (PIREPS) within 5 minutes of notification, and any occurrence of previously unreported weather conditions that could affect flight safety or local operations.

3.5.1. Weather technicians will reevaluate weather conditions whenever ATC or reliable sources such as pilots, local law enforcement, etc., report weather conditions different from the last disseminated observation. The ASF technician will generate a SPECI observation if required or include information in the next METAR observation if required.

3.5.2. 48 OSS/OSW leadership will assist tower personnel in creating appropriate guides to perform CWW. This will include day and night visibility marker guides as well as a listing of all SPECI observation criteria. This information will be reviewed annually by weather leadership or whenever significant changes occur.

3.5.3. See paragraph 8.14 of this document for additional obligations between 48 OSS/OSW and 48 OSS/OSA.

3.6. Climatological Support. Requests for climatological data and studies should be sent to 48 OSS/OSW Flight Commander.

4. Mission Integration Function (MIF).

4.1. General. 48 OSS/OSW and the 21 OWS provide services in concert.

4.2. 48 OSS/OSW. The 48 OSS/OSW maintains a limited duty weather station. The 48 OSS/OSW is primarily responsible for Mission Weather Product (MWP) and assisting the 21

OWS with Resource Protection at RAF Lakenheath. The MWP consists of the flimsy posted on the 48 OSS/OSW share point page in conjunction with a verbal brief to the aircrew or squadron Top-3.

4.2.1. Normal duty hours for services are 0000L on Monday through the end of local flying on Friday. 48 OSS/OSW is on standby on weekends, 48 FW Down Days and US holidays. Outside of normal duty hours, contact the 21 OWS at DSN 489-2134/2138 or access the OWS web page at <https://21ows.us.af.mil> for weather service. Deviations to these hours can be made by the 48 OSS/OSW Commander, 48 OSS/CC, 48 OG/CC, or the 48 FW/CC.

4.2.2. A standby technician will be subject to recall at all times when the weather station is closed and subject to guidance in section 3.1.

4.3. 21 OWS. The 21 OWS is open 24 hours per day, 7 days a week. The 21 OWS issues all Terminal Aerodrome Forecasts (TAFs), all WWAs (including observed advisories when the 48 OSS/OSW is closed), and performs a continuous meteorological watch (METWATCH) for RAF Lakenheath.

4.4. Communication. If a communication outage occurs at the 21 OWS or between the 21 OWS and the 48 FW, then 48 OSS/OSW assumes all meteorological watch (METWATCH), TAF, and resource protection responsibility at RAF Lakenheath until communication is restored and the OWS again accepts METWATCH and resource protection responsibility.

5. 21 OWS Forecasting Services.

5.1. Terminal Aerodrome Forecast (TAF). The TAF is an operational level forecast geared to aviation support. The TAF is valid for areas within a 5 nautical mile radius of the center of the aerodrome. The Lakenheath (EGUL) TAF is prepared and issued by the 21 OWS and is used to construct the MWP. TAFs will normally be issued at 0400Z, 1200Z and 2000Z.

5.1.1. All TAFs produced for RAF Lakenheath will be constructed in IAW AFMAN 15-129 Volume 1, *Air and Space Weather Operations—Characterization* Chapter 3 and AFMAN 15-124, *Meteorological Codes*, Chapter 1.

5.1.2. TAF specification and amendment criteria can be found in the RAF Lakenheath Weather Support Data Sheet.

5.1.3. Examples of TAFs can be found in AFMAN 15-124, Chapter 1.

5.2. Dissemination.

5.2.1. JET is the primary system used for air traffic control when disseminating TAFs.

5.2.2. Air Force Weather Web Services (AFW-WEBS), the telephone, and e-mail are used as secondary methods to disseminate the TAF when JET is off-line.

6. Forecasting Services and Specialized Support.

6.1. Local MWP. A local MWP consists of two parts: the flimsy, a planning document produced daily to support local flying; and a verbal brief provided to each aircrew or squadron Top-3 based on individual mission weather thresholds. These two parts in conjunction are the equivalent of a DD Form 175-1, *Flight Weather Briefing*, prescribed by AFMAN 15-129 Volume 2, *Air and Space Weather Operations—Exploitation*.

6.1.1. Briefing Procedures. The local flimsy is disseminated via the 48 FW Weather share point page with the first flimsy issued five hours prior to first takeoff. The 48 FW Weather share point page also contains links to current observations and forecasts for all alternate airfields.

6.1.1.1. Attachment 5 is an example of the flimsy. Due to continuous upgrades to technology and mission requirements, the content or format of the flimsy may be changed whenever new information/technologies are deemed significant to operations or deemed obsolete. The 48 OSS/OSW Flight Commander will coordinate changes with the 48 OSS/CC, 492/493/494 Fighter Squadron Commanders (FS/CCs) and the 56 Rescue Squadron Commander (RQS/CC) before changes to content or format are made.

6.1.1.2. Aircrew or duty desk will call the weather station at 226-4184 to receive a finalized flight brief prior to departure. If a forecaster is available at the operations desk within the flying unit, aircrew will receive an in person finalized flight brief prior to departure. This brief completes the MWP and will be delivered by phone, email, fax or in person and will be documented by the duty forecaster. If the TAF is different than the forecast given in the MWP, the MWP should be used to determine airfield status and if an alternate airfield is required. Differences in the forecasts will not cross operational thresholds unless a time constraint prevents coordination between 48 OSS/OSW and 21 OWS.

6.1.2. Area of Operation. Local flying is defined as flying in England, Wales, Scotland, the North Sea and the Dutch coast, as depicted by the Low Fly Areas, Air-to-Air Refueling Areas, and UK Air Defense Airspace Depiction in the 48 FW In-Flight Guide.

6.1.3. Updates to MWP s. Updates to each MWP will be communicated to aircrew or squadron Top-3s prior to aircrew step brief time. However, all aircrew are welcome at any time to contact the weather technician at 226-4184 for additional information, clarification, or to request a formal brief.

6.1.4. Amendments. The MWP will be amended IAW AFMAN 15-129 Volume 2, Chapter 2, and any time it is deemed unrepresentative of the actual or forecast conditions.

6.1.5. Planning Forecast. A planning forecast for the following day will also be completed Monday through Friday and posted on the 48 FW Weather share point page by 0500L. Included will be a regional breakdown of expected UK flying and water areas for the next flying window and links to forecast wind and wave data.

6.1.6. MISSIONWATCH. A MISSIONWATCH is conducted by the MIF technician on all areas of operations and will use RM to focus on daily mission areas to be used by the 48 FW, IAW AFMAN 15-129 Volume 2, Chapter 2. If the MIF technician determines the need to notify aircrew of weather changes discovered during MISSIONWATCH, they will immediately contact the SOF and the flying squadron Top-3s, and provide pertinent information to these individuals for relay to aircrew.

6.2. Pilot-to-Metro Service (PMSV). 48 OSS/OSW provides PMSV support as listed in the FLIP. Weather operates this program IAW AFMAN 15-129 Volume 2, Chapter 3, and uses standard phraseology found in Federal Aviation Administration Handbook (FAAH) 7110.10, Chapter 14.

6.2.1. Pilot Reports (PIREPS). It is impossible for ground based weather technicians to report the weather that aircrews see or experience while on a mission. Reports of weather as observed from airborne aircraft, especially reports of hazards to air operations, are therefore very beneficial to forecasters and other aircrews.

6.2.2. Dissemination of PIREPS. PIREPs will be transmitted via JET.

6.3. Electro-Optical (EO) Support. Lakenheath uses an Air Force Weather (AFW) Tactical Decision Aid (TDA) program named Target Acquisition Weapons Software (TAWS) to generate electro-optical tactical decision aid (EOTDA) products. This windows-based program computes detection and lock-on ranges for various precision-guided munitions (PGMs) and temperature contrasts between target and background.

6.3.1. Required Information for TAWS Support. The following information must be provided to 48 OSS/OSW to generate TAWS products. This can be accomplished by filling out a request form on the 48 FW Weather share point page, or by calling 226-4184. TAWS products should be requested at least 2 hours prior to the desired delivery time. Short notice requests will be handled by the counter forecaster as duty priorities allow.

6.3.1.1. Required Time/Date.

6.3.1.2. Type of target.

6.3.1.3. Target Latitude/Longitude.

6.3.1.4. Date/Time over Target.

6.3.2. Additional Information for TAWS Support. The following information will help to produce a more accurate TDA forecast product.

6.3.2.1. Attack Heading.

6.3.2.2. Target orientation.

6.3.2.3. Target background.

6.3.2.4. Target clutter level.

6.4. Specialized Support. Unless stated otherwise in this instruction, the minimum notification time required to request briefing support is 24 hours. Short-notice requests will be fulfilled if weather personnel are available. 48 OSS/OSW standard briefing format is PowerPoint and/or paper hardcopies.

6.4.1. Transient Aircraft. 48 OSS/OSW will provide transient aircraft weather briefings via a DD Form 175-1 upon request when a technician is on duty and time allows. When no MIF technician is on duty, or when higher duty priorities preclude it, the 21 OWS will provide the flight weather briefings. The OWS can be contacted at DSN489-2133/6145, via their website at <https://21ows.us.af.mil>, or via email at ows.ops@us.af.mil.

6.4.2. Local Flying. 48 FW and/or transient aircrews performing local flying, i.e. destination of RAF Lakenheath, may obtain a flight weather briefing in person at the weather station, or by using the local flimsy available on the 48 FW Weather share point page in conjunction with a verbal mission brief documented by the duty forecaster on a daily mission tracking spreadsheet.

6.4.3. Cross-Country. 48 FW aircrews departing RAF Lakenheath whose final destination is not RAF Lakenheath will contact 48 OSS/OSW to obtain the necessary weather briefing. 48 FW aircrews departing another location and whose final destination is not RAF Lakenheath may contact the 48 OSS/OSW, or other approved source such as the 21 OWS flight weather-briefing desk at DSN 489-2133/2136, via their website at <https://21ows.us.af.mil>, or via email at ows.ops@us.af.mil for flight weather information.

6.4.4. Deployment/Contingency. 48 OSS/OSW will provide in-squadron briefings in support of deployments and/or contingency operations. General information required for briefing support is briefing time and location, take-off times, route, destination, and CORONET Delivery Control Officer (DCO) contact information if available.

6.4.5. Wing and Operations Group Standups. A 48 OSS/OSW representative will present a weather briefing at the wing staff meeting held every Tuesday, Thursday and Friday. Briefing content will generally consist of the synoptic situation, local forecast, and forecast for areas of interest (usually areas where 48 FW aircraft are deployed).

6.4.6. Situation Briefings. Situation briefings are briefed upon request. Content varies depending upon the situation; however, most briefings contain satellite, synoptic overview, and local forecast.

6.4.7. CORONET EAST. These briefings are prepared and briefed upon request from the coordinating Air Combat Command Delivery Control Officer (ACC DCO), who will establish brief times and locations. 48 OSS/OSW has an established briefing format for CORONET EAST movements. Enroute hazards forecasts are coordinated with the ACC Air Operations Squadron, Air Operations Weather (AOW).

6.4.8. Close Watch Briefing. 48 OSS/OSW will provide briefing when RAF Lakenheath is on close watch divert plan.

6.4.9. Miscellaneous. Other weather briefs may be provided upon request and availability of personnel.

6.4.10. Instrument Refresher Course (IRC). Presented to aircrews when requested by instructor. UK hazards, climatology, and weather services/operations are covered per AFMAN 15-129, Volume 2, Chapter 1.

6.4.11. Base/School delays and cancellations. When requested, 48 OSS/OSW will provide weather information for the Mission Support Group Commander (MSG/CC) for impacts to operations. This information is normally requested via conference call with the Command Post.

6.4.12. Chemical Downwind Messages (CDM) and Effective Downwind Messages (EDM). 48 OSS/OSW will provide weather information for creation of CDMs and EDMs as required.

6.4.13. Long-range forecast. The 21 OWS produces and updates the RAF Lakenheath 5-day outlook each day. Users may access it from the 21 OWS website at <https://21ows.us.af.mil>. This product provides planning weather for outdoor events, PT tests, etc., but is not intended for operational use.

6.5. Tropical Cyclone Support. Though RAF Lakenheath does not enact official Tropical Cyclone Conditions of Readiness or Hurricane Conditions, 48 OSS/OSW will provide the necessary forecast services/products required for installation commanders to make mission execution decisions such as evacuation and resource protection.

6.6. Volcano Support. 48 OSS/OSW will use the appropriate Volcanic Ash Advisory Center (VAAC) to provide necessary forecast services/products required for installation commanders to make mission execution decisions such as evacuation and resource protection.

6.7. Jump weather forecast. 48 OSS/OSW will provide the 57th Rescue Squadron (57 RQS) jump forecast when requested. Jump forecast will include forecast winds, ceilings, and sea states (when applicable).

7. Weather Watches, Warnings, and Advisories (WWA).

7.1. General. Weather WWA will be issued when any of the specific criteria listed on the RAF Lakenheath Weather Support Data Sheet is occurring or is expected to occur, as appropriate, within a 5 NM radius (unless otherwise specified) from the center of the RAF Lakenheath runway. In the interest of safety and resource protection, all WWAs issued for RAF Lakenheath, with the exceptions of induction icing and wind shear, are also in effect for RAF Feltwell. There is also a separate lightning WWA for RAF Feltwell.

7.2. Definitions:

7.2.1. Weather Advisory (WA). A special notice provided to supported customers that alerts them when an established weather condition that could affect operations is occurring. Advisory criteria are located on the RAF Lakenheath Weather Support Data Sheet.

7.2.2. Weather Watch (WWATCH). A special notice provided to supported customers that alerts them of conditions favorable for the development (potential) of weather conditions within 5 NM of the center point of the RAF Lakenheath runway of such intensity as to pose a hazard to life or property. Watch criteria are located on the RAF Lakenheath Weather Support Data Sheet.

7.2.3. Weather Warning (WW). A special notice provided to supported customers that alerts them to the occurrence or expected occurrence of weather conditions within 5 NM of the center point of the runway of such intensity as to pose a hazard to life or property. Warning criteria are located on the RAF Lakenheath Weather Support Data Sheet.

7.3. Dissemination.

7.3.1. Issuing and Canceling. Weather WWA meeting the criteria on the RAF Lakenheath Weather Support Data Sheet will be disseminated IAW Attachment 6 and Attachment 7, with JET being the primary means. Observed WWA will be issued by the 48 OSS/OSW during hours of operation. The 21 OWS will issue Observed WWA when the weather station is closed. Weather Flight will notify the 21 OWS upon arrival and departure to coordinate the transfer of responsibility for Observed WWA support.

7.3.2. Confirmation of Receipt. The weather flight will verify receipt by the SOF, Command Post (CP), RAPCON, Airfield Management Operations (AMOPS), and Tower.

7.3.3. Backup Procedures. If there is a JET outage, then telephones and hotlines will be used to disseminate weather WWA to normal recipients, and to notify them of the JET outage. 48 OSS/OSW will notify SOF/Tower, and 21 OWS of any new observations to include SPECIs.

7.4. Severe Weather Action Plan (SWAP). When severe weather threatens RAF Lakenheath during normal duty hours, 48 OSS/OSW will take actions to monitor the weather and provide timely notification to base agencies. Standby personnel will also be available for recall at all times and will man the weather station IAW section 3.1 of this document. Once recalled (or notified of the need during regular duty hours), 48 OSS/OSW will augment personnel as the situation dictates and intensify the METWATCH to keep the 21 OWS informed of all weather changes and impact to base agencies, within duty priorities established in section 1.5 of this document. The weather flight will identify in local standard operating procedures (SOPs) further SWAP actions required (e.g. checklists accomplished). In addition, supported agencies can request that the 48 OSS/OSW take specific actions for each type of severe weather. Outside of duty hours, personnel will be recalled by the 21 OWS or 48 FW Command Post (48 FW/CP) IAW with criteria listed on the RAF Lakenheath Weather Support Data Sheet.

8. Roles and Responsibilities.

8.1. General. In order for the 48 OSS/OSW to provide the best weather support possible it is necessary to receive reciprocal support from various organizations.

8.2. Group Commanders will:

8.2.1. Ensure their units are listed with appropriate priority in the weather WWA notification system matrices located in Attachments 6 and 7 of this instruction and 48 FW Plan 10-2, Annex B.

8.2.2. Ensure adequate procedures exist for disseminating appropriate WWAs to subordinate agencies and personnel within their organizations.

8.3. 48 FW Command Post (48 FW/CP) will:

8.3.1. Upon notification from 48 OSS/OSW or 21 OWS of WWA issuance for RAF Lakenheath and RAF Feltwell immediately notify all base agencies IAW Attachments 6 and 7 of this instruction. When the airfield is closed, questions or concerns about the weather should be directed to the 21 OWS duty forecaster at DSN 489-2134.

8.3.2. Recall 48 OSS/OSW personnel when requested by 21 OWS, 48 OSS/CC, 48 OG/CC or 48 FW/CC. *The 48 OSS/OSW will provide a memorandum for record (MFR) listing standby and flight leadership contact numbers. The MFR will be updated each time a change occurs.*

8.3.3. Ensure 48 OSS/OSW is promptly notified of all contingencies, alerts, exercises, deployments, or emergency movement of aircraft that would require weather support.

8.3.4. Promptly notify 48 OSS/OSW of any aircraft incidents or mishaps or any weather-related property damage to the base, so they can save significant weather data.

8.3.5. Notify the 48 OSS/OSW on all OPREP-3 messages on events or incidents that involve weather to ensure accurate weather data and information is contained in the OPREP-3 message.

8.4. 48 FW Plans and Inspections (48 FW/XP) will:

8.4.1. Provide 48 OSS/OSW access to classified/unclassified plans required to support the 48 FW.

8.4.2. Ensure 48 OSS/OSW conducts Severe Weather Action Procedure exercise semi-annually.

8.4.3. Reserve workspace for one weather person, including one NIPRNET and one SIPRNET connection, and a secure telephone in the ICC for exercises and contingency operations.

8.5. 48 FW Safety Office (48 FW/SE) will:

8.5.1. Notify 48 OSS/OSW as soon as practical of all reported air or ground incidents in which weather or weather services may be a factor.

8.6. 48 FW Installation Deployment Officer (48 LRS/LGRDX) will:

8.6.1. Ensure a weather briefing (if requested) is included in the concept briefing, to include the appropriate deployment area. 48 OSS/OSW requests as much notice as possible for concept weather briefings.

8.7. 48th Communications Squadron (48 CS) will:

8.7.1. Garner high priority response from the Central help desk for outages that impact NIPRNET and SIPRNET connectivity to all systems used to obtain weather data.

8.7.2. The following order of priority will apply to restoring communications:

8.7.2.1. NIPRNET/SIPRNET.

8.7.2.2. PMSV Radio.

8.7.2.3. Phone.

8.7.3. 48 OSS/OSW relies on the 48 FW Weather share point page as the primary distribution tool for the flimsy and all real-time weather data for aircrew. If access/functionality of the 48 OSS/OSW specific section of the page is lost, repair tickets will be given no less than a medium priority, as any communication outages significantly impact operations. 48 CS will strive to garner a high priority for outages that cause operations stoppages.

8.7.4. Provide all position certified 48 OSS/OSW personnel with permission to upload documents within the shared documents section of the weather pages on the 48 FW Weather share point page.

8.7.5. Provide communications and equipment plans and programming support on matters affecting Lakenheath weather equipment.

8.8. 48th Civil Engineering Squadron Readiness (48 CES/CEX) will:

- 8.8.1. Ensure the Comprehensive Emergency Management Plan (CEMP) 10-2 and procedures that require weather support are coordinated with 48 OSS/OSW.
- 8.8.2. Ensure the 48 OSS/OSW Flight Commander or designated alternate attends the semi-annual wing readiness council meeting to address any issues regarding severe weather resource protection.
- 8.8.3. Solicit required weather data from 48 OSS/OSW for CDM and EDM.
- 8.9. Defence Infrastructure Organisation (48 CES/DIO) will:
- 8.9.1. Obtain permission from the on-duty weather shift supervisor prior to transferring any weather facility or weather sensor equipment to/from primary power.
- 8.9.2. The base weather station back-up generator must be manually started, and power manually switched from commercial to generator and back again. It must be manually started by personnel from the DIO maintenance contract unless there is an emergency in which case only trained personnel from Weather or AMOPS will perform generator start-up and then immediately contact Civil Engineer Customer Service. The system will run during all facility power outages and will not be paralleled with existing facility load during maintenance checks.
- 8.10. 48th Operations Group Standardization and Evaluation (48 OG/OGV) will:
- 8.10.1. Ensure that SOF interaction with 48 OSS/OSW will be conducted IAW AFI 11-418 Lakenheath Supplement, *Operations Supervision*.
- 8.11. Flying Squadron Responsibilities:
- 8.11.1. Aircrew desiring mass weather briefings (in squadrons, etc.) will request these briefings at least 24 hours in advance. Short-notice requests will be fulfilled if weather personnel are available.
- 8.11.2. Aircrew flying local sorties will provide post-mission weather feedback to 48 OSS/OSW whenever possible, especially if conditions were significantly different than forecast.
- 8.11.3. Coordinate weather support requirements at least 48 hours in advance when possible with 48 OSS/OSW Flight Commander or designated alternate for all deployments. Requirements should include both support for flying operations and resource protection. Weather will, in turn, provide or arrange for a person or persons to deploy with the squadron for MWP support if required, and will coordinate resource protection support with the theater OWS responsible for the deployed location.
- 8.11.4. If in-squadron weather support is requested, allow space and opportunity for a weather technician to perform in-squadron MWP refinement and aircrew pre-departure briefings at or near the operations counter, both home station and deployed.
- 8.11.5. When relaying a PIREP, aircrew will attempt to report the following information:
- 8.11.5.1. Time, location, altitude, and aircraft type.
- 8.11.5.2. Clouds (bases, amount (FEW, SCT, BKN, OVC), tops) on takeoff, enroute, and arrival.

- 8.11.5.3. Hazards: icing, turbulence, hail, lightning, etc. Be sure to specify intensity, location, and proximity to clouds, altitude, and time.
- 8.11.5.4. Significant deviations from forecast weather, winds, clouds, etc.
- 8.11.5.5. Wind shear whenever encountered.
- 8.11.6. Report PIREPs as soon as possible after making the observation. PIREPs at any time are valuable, especially in poor flying weather. In-flight PIREPs may be passed to any USAFE Control Agency (Control Tower, Ground Radar Facility, etc.) or RAF Lakenheath PMSV. Post-flight PIREPs may be passed directly to weather personnel or by phone. PIREPs passed to any USAFE Air Traffic Control Agency at RAF Lakenheath will be relayed to the MIF technician as soon as possible.
- 8.11.7. Notify 48 OSS/OSW in writing of new or changed weather support requirements.
- 8.12. 48th Operations Support Squadron Intel Flight (48 OSS/IN) will:
 - 8.12.1. Ensure 48 OSS/OSW is informed when a contingency mission-planning cell is activated.
 - 8.12.2. Ensure all weather data from mission Target Weather Information (TARWIs) Reports during exercises/wartime are promptly relayed to the weather technician at 226-4184.
 - 8.12.3. Notify 48 OSS/OSW as soon as possible when requesting Mission Qualification Training briefing support.
- 8.13. 48th Operations Support Squadron Current Operations Flight (48 OSS/OSO) will:
 - 8.13.1. Ensure 48 OSS/OSW has access to weekly/daily flying schedule and other information required for flight weather briefings.
 - 8.13.2. Promptly notify 48 OSS/OSW of upcoming IRC briefings.
- 8.14. 48th Operations Support Squadron Airfield Operations Flight (48 OSS/OSA) will:
 - 8.14.1. When needing regional altimeter settings, will pass the area two-digit identifier to 48 OSS/OSW. Weather technicians will obtain the requested regional altimeter settings and notify the controller as soon as practical.
 - 8.14.2. Receive WWAs issued via JET. 48 OSS/OSW will call AMOPS, Tower, and RAPCON to verify receipt of all WAs, WWATCHs, and WWs IAW this instruction.
 - 8.14.2.1. Upon issuance of Aircraft-Induced Lightning advisory, Tower personnel will broadcast the advisory on ATIS. Specific verbiage will be as follows: "Aircraft-induced lightning risk high at flight level XXX-YYY" with levels XXX and YYY identified by 48 OSS/OSW for each advisory.
 - 8.14.2.2. Upon issuance of Aircraft-Induced Lightning advisory, RAPCON personnel will note at-risk flight levels and, when possible, attempt to minimize vectoring aircraft at or through levels identified to be at risk. Ex. "Aircraft-induced lightning risk high at flight level 040-060" would indicate that aircraft are at greatest risk to induce a strike at flight levels between 4000 feet and 6000 feet.

8.14.3. Cooperative Weather Watch. ATC units play an essential role in the Cooperative Weather Watch with 48 OSS/OSW by reporting the following data in a timely manner to weather:

8.14.3.1. Pilot Reports (PIREPs). RAPCON and Tower will:

8.14.3.1.1. Solicit PIREPs from aircraft IAW JO 7110.65, *Air Traffic Control*, and/or when requested by 48 OSS/OSW personnel.

8.14.3.1.2. The ATC facility that receives a PIREP will relay the information to Weather Flight personnel and opposite ATC facility in a timely manner, contingent upon higher priority duties.

8.14.3.2. Freezing and Frozen Precipitation: Tower controllers will advise weather personnel and AMOPS at the beginning and end of observed freezing or frozen precipitation.

8.14.3.3. Tower visibility: ATC personnel will use the hotline or other telephone to notify weather personnel of changes in prevailing tower visibility as required by JO 7110.65, *Air Traffic Control*, and AFI 13-204V3, *Airfield Operations Procedures and Programs*, and AFMAN 15-111, *Surface Weather Observations*. A tower visibility remark will be included in the next METAR or SPECI when either the surface prevailing visibility or the control tower visibility is less than 6000 meters and the control tower visibility differs from the surface prevailing visibility by a reportable value.

8.14.3.4. IAW JO 7110.65, and AFI 13-204V3, ATC duties take precedence over non-ATC duties. Controllers shall not allow the reporting of meteorological information to interfere with air traffic control operations. The Tower will notify 48 OSS/OSW of the following:

8.14.3.4.1. Tower visibility less than 6000 meters and different from the prevailing surface visibility.

8.14.3.4.2. Thunderstorms or lightning is observed.

8.14.3.4.3. Precipitation begins or ends.

8.14.3.4.4. Fog bank or low cloud approaches the airfield.

8.14.3.4.5. Any other meteorological condition tower personnel feel is significant to operations.

8.14.3.4.6. Evacuation of the tower during exercises or real world situations.

8.14.3.5. RAPCON will verbally notify 48 OSS/OSW of significant observed radar weather echoes, contingent upon higher priority duties.

8.14.4. AMOPS will verbally notify 48 OSS/OSW of the following:

8.14.4.1. Changes in Runway Surface Condition (RSC).

8.14.4.2. Changes in Runway Condition Reading (RCR).

8.14.4.3. Notice to Airmen (NOTAM), which affect airfield minimums.

8.14.4.4. NATO color code "Black" when in use and when removed.

8.14.4.5. Scheduled flights with Distinguished Visitors on board.

8.14.4.6. Any changes to published airfield operating hours (i.e. early/late opening/closing or out of normal operations).

8.14.5. All tower controllers must receive Cooperative Weather Watch training, to include local phenomena (IAW AFI 13-204V3 and AFMAN 15-111).

8.14.5.1. Tower personnel will attempt to schedule training in advance with the OSW Flight Chief. No-appointment training will only be conducted when manning and meteorological conditions permit.

8.14.5.2. A qualified weather technician will conduct the initial training in the weather duty section during controller in-processing. Training must include the following:

8.14.5.2.1. Basic observing.

8.14.5.2.2. Sky conditions and ceilings.

8.14.5.2.3. Visibility reporting and obstructions to vision.

8.14.5.2.4. Types of weather and precipitation.

8.14.5.2.5. AN/FMQ-19 sensors.

8.14.5.2.6. WWAs.

8.14.5.2.7. Altimeter and procedures for obtaining regional altimeter settings.

8.14.5.3. At the completion of this training, OSW personnel will issue Tower controllers a weather familiarity exam. If the controller scores 80% or higher, they will be certified to take tower visibility observations and the training will be documented on AF Form 3622, *Air Traffic Control/Weather Certification and Rating Record (LRA)*, prescribed by AFI 11-218, *Aircraft Operations and Movement on the Ground* (located in the individual's AF Form 623, *On-The-Job Training Record*, prescribed by AFI 36-2201V3, *Air Force Training Program On the Job Training Administration*).

8.14.5.4. 48 OSS/OSW personnel will validate visibility checkpoint charts annually IAW AFI 13-204 V3.

8.14.5.5. All 48 OSS/OSW personnel must receive ATC Familiarization Training from the NCOIC, Air Traffic Control Training (NATCT), as part of their indoctrination. No-appointment training will only be conducted when manning permits. This training will include the following:

8.14.5.5.1. Local air traffic control mission.

8.14.5.5.2. Effects of weather on the local air traffic system.

8.14.5.5.3. Importance of timely receipt of weather information by controllers.

8.14.6. AN/FMQ-19 sensors:

8.14.6.1. Tower Watch Supervisor will notify 48 OSS/OSW personnel when changing runways.

8.14.6.2. 48 OSS/OSW will coordinate with the Tower and RAPCON Watch Supervisor before deactivating wind sensors for either the active or inactive runway.

8.14.6.3. Priority of maintenance will apply to AN/FMQ-19 Automated Meteorological Observing System.

8.14.6.4. Upon request from 48 OSS/OSW leadership, arrange for designated weather personnel to view all airfield weather sensors. Note: All 48 OSS/OSW personnel must view airfield sensors once per tour IAW AFMAN 15-129 Volume 2.

8.14.6.5. Preventive maintenance and prompt repair of weather equipment, associated circuits, and ancillary equipment located at RAF Lakenheath, and maintained by the Airfield Systems.

8.14.6.6. Preventive maintenance or modifications that require equipment shutdown will be coordinated with 48 OSS/OSW flight leadership beforehand.

8.14.7. 48 OSS/OSW will notify the NCOIC, Airfield Management Operations (NAMO), or designated FLIP manager, of changes to weather information in current FLIPs. If the change is urgent, contact the NAMO to request issuance of a Notice to Airmen (NOTAM).

8.14.8. Notify 48 OSS/OSW leadership of quarterly Airfield Operations Board meetings. 48 OSS/OSW leadership must attend.

8.14.9. Allow for aircrews to access weather forecasts (48 FW Weather share point page and 21 OWS webpage) on a computer in building 1392.

8.15. 492nd Fighter Squadron (492 FS) and 494th Fighter Squadron (494 FS) will:

8.15.1. Reserve workspace for one person, including a desk, NIPRNET connection, and a telephone in Building 1319, Strike Eagle Compound (SEC).

8.15.2. Provide the code for entry into the 492 FS and 494 FS to the Weather Flight Commander or Flight Chief any time the codes are changed, to include cipher locks on the outside doors.

8.15.3. Building 1319 is the designated AOL and will be used by a weather technician in the event Building 1392 is evacuated.

ROBERT G. NOVOTNY, Colonel, USAF
Commander, 48th Fighter Wing

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

- AFI 10-229, *Responding to Severe Weather Events*, 15 October 2003
- AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, 24 January 2007
- AFI 10-2501, USAFE Supplement, *Air Force Emergency Management (EM) Program Planning and Operations*, 16 May 2009
- AFI 11-2F-15EV3, *F-15E—Operations Procedures*, 05 April 2013
- AFI 11-2HH-60V3, *HH-60—Operations Procedures*, 05 January 2011
- AFI11-2HH-60V3, Lakenheath Supplement, *HH-60—Operations Procedures*, 31 December 2012
- AFI 11-215, *USAF Flight Manuals Program*, 22 December 2008
- AFI 11-301V1, *Airfield Flight Equipment (AFE) Program*, 25 February 2009
- AFI 11-418, *Operations Supervision*, 15 September 2011
- AFI 11-418, Lakenheath Supplement, *Operations Supervision*, 14 June 2012
- AFI 13-201, *Airspace Management*, 21 August 2012
- AFI 13-204V3, *Airfield Operations Procedures and Programs*, 01 September 2010
- AFI 13-204V3, USAFE Supplement, *Airfield Operations Procedures and Programs*, 11 May 2012
- AFI 15-114, *Functional Resource and Weather Technical Performance Evaluation*, 07 December 2001
- AFI 15-127, *Air Force Weather Qualification Training*, 14 March 2012
- AFI 15-128, *Air and Space Weather Operations—Roles and Responsibilities*, 07 February 2011
- AFI 23-201, *Fuels Management*, 23 January 2012
- AFI 33-115V1, *Network Operations* 24 May 2006
- AFI 33-115V2, *Licensing Network Users and Certifying Network Professionals*, 14 April 2004
- AFI 33-332, *Air Force Privacy and Civil Liberties Program*, 05 June 2013
- AFI 34-116, *Air Force Golf Course Program*, 24 June 2011
- AFDD 3-59, *Weather Operations*, 27 August 2012
- AFMAN 15-111, *Surface Weather Observations*, 27 February 2013
- AFMAN 15-124, *Meteorological Codes*, 28 February 2013
- AFMAN 15-129V1, *Air and Space Weather Operations—Characterization*, 06 December 2011
- AFMAN 15-129V2, *Air and Space Weather Operations—Exploitation*, 07 December 2011

AFMAN 33-363, *Management of Records*, 01 March 2008

AFMAN 33-363, USAFE Supplement, *Management of Records*, 25 November 2008

AFPD 15-1, *Air Force Weather Operations*, 19 February 2010

JO 7110.65V, *Air Traffic Control*, 3 April 2014

LAKI 11-2F-15-EV3, *Local Operating Procedures*, 15 January 2015

LAKI 13-201, *Airfield Operations Procedures*, 22 October 2012

Adopted Forms

DD Form 175-1, *Flight Weather Briefing*

AF Form 623, *On-the-Job Training Record*.

AF Form 847, *Recommendation for Change of Publication*

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

Abbreviations and Acronyms

ACC—Air Combat Command

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRIMS—Air Force Records Information Management System

AFW—Air Force Weather

AFWA—Air Force Weather Agency

AFW—WEBS—Air Force Weather Web Service

AMOPS—Airfield Management Operations

AMOS—Automated Meteorological Observation System

AO—Area of Operations

AOL—Alternate Operating Location

AOW—Air Operations Weather

APW—As Potential Warrants

ASF—Airfield Services Function

ATC—Air Traffic Control

BWS—Base Weather Station

CDM—Chemical Downwind Message

CEMP—Comprehensive Emergency Management Plan

CES/CEX—Civil Engineering Squadron Readiness

CES/DIO—Civil Engineering Squadron Defence Infrastructure Organisation

CP—Command Post

CS—Communication Squadron

CS/SCOK—Base Freedom of Information Act Monitor

CWW—Cooperative Weather Watch

DCO—Delivery Control Officer

DLT—Desired Lead Time

DoD—Department of Defense

DoDDS—Department of Defense Dependent Schools

DSO—District Superintendent's Office

ESF—Emergency Support Function

EDM—Effective Downwind Message

EGUL—Royal Air Force Lakenheath

EO—Electro Optics

EOTDA—Electro-Optical Tactical Decision Aid

EWO—Emergency War Order

FLIP—Flight Information Publication

FS/CC—Fighter Squadron Commander

FW—Fighter Wing

FW/CC—Fighter Wing Commander

FW/PA—Fighter Wing Public Affairs

FW/SE—Fighter Wing Safety

FW/XP—Fighter Wing Plans and Inspections

IAW—In Accordance With

LAN—Local Area Network

IAW—In Accordance With

ICE—Information Collaborative Environment

ICC—Installation Control Center

IDRC—Installation Deployment Readiness Cell

IRC—Instrument Refresher Course

JET—Joint Environmental Toolkit

LLWS—Low Level Wind Shear

LRS/LGRDX—Fighter Wing Installation Deployment Officer

MAJCOM—Major Command

METAR—Aviation Routine Weather Report

METWATCH—Meteorological Watch

MIF—Mission Integration Function

MSL—Mean Sea Level

MSG/CC—Mission Support Group Commander

MWP—Mission Weather Product

NAMO—NCOIC, Airfield Management Operations

NATCT—NCOIC, Air Traffic Control Training

NIPRNET—Nonsecure Internet Protocol Router Network

NM—Nautical Miles

NOTAM—Notice to Airmen

NVG—Night Vision Goggles

OG—Operations Group

OG/CC—Operations Group Commander

OG/OGV—Operations Group Standardization and Evaluation

OJT—On-the-Job Training

OPR—Office of Primary Responsibility

OSS/CC—Operations Support Squadron Commander

OSS/OSA—Operations Support Squadron Airfield Operations

OSS/OSW—Operations Support Squadron Weather Flight

OWS—Operational Weather Squadron

PA—Privacy Act

PGM—Precision Guided Munition

PIREP—Pilot Report

PMSV—Pilot-to-Metro Service

RAF—Royal Air Force

RAPCON—Radar Approach Control

RCR—Runway Condition Reading

RDS—Records Disposition Schedule

RM—Risk Management

RQS/CC—Rescue Squadron Commander
RSC—Runway Surface Condition
RVR—Runway Visual Range
SAAM—Special Assignment Airlift Mission
SEC—Strike Eagle Complex
SIPRNET—Secret Internet Protocol Router Network
SOF—Supervisor of Flying
SOP—Standard Operating Procedure
SPECI—Aviation Special Weather Report
SWAP—Severe Weather Action Plan
SWAT—Severe Weather Action Team
TAF—Terminal Aerodrome Forecast
TAWS—Target Acquisition Weapons Software
TDA—Tactical Decision Aid
TERPS—Terminal Instrument Procedures
TO—Technical Order
UK—United Kingdom
USAF—United States Air Force
USAFE—United States Air Forces in Europe
VAAC—Volcanic Ash Advisory Center
WA—Weather Advisory
WATCH—Weather Watch
WW—Weather Warning
WWA—Watches, Warnings, and Advisories

Terms

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

Blizzard Conditions—Duration of ≥ 3 hours, sustained winds or gusts ≥ 30 knots, considerable falling and/or blowing snow, with prevailing visibility frequently $\leq \frac{1}{4}$ mile/0400 meters.

Desired Lead-time—The amount of advanced notice a supported agency desires before the onset of a particular weather phenomenon.

Issue Time—The time when an agency is notified of a WA, WWTCH, or WW. When more than one agency is notified, the issue time is the time the last agency is notified. Follow up

notifications are not considered when determining issue time. For RAF Lakenheath, the issue time is the time the WA, WWTCH, or WW was transmitted on JET.

Limited Duty Station—A weather station that provides less than 24-hour a day forecast service.

Meteorological Watch—Monitoring the weather for a route, area, or terminal and advising concerned organizations when hazardous conditions that could affect their operations or pose a hazard to life or property are observed or forecast to occur.

Mission Weather Product—A MWP is the integration of strategic center (AFWA) products, OWS produced products, and perishable weather data to the supported operator's/war-fighter's weapon system and tactics.

MISSIONWATCH—Monitoring the weather for a route, sortie, or training area and advising concerned organizations when forecast conditions change past operational thresholds or hazardous weather conditions that could affect operations or pose a threat to life or property are observed or forecast to occur.

Operational Weather Squadron—An organization with regional forecast responsibility. The organization is comprised of the assigned 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.

Timing Error—The difference between the forecast time of occurrence and the actual time of occurrence. The timing error is positive (+) if the event occurred later than forecast and negative (-) if it occurred earlier than forecast.

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

WEATHER IMPACTS ON FLYING OPERATIONS

Table A2.1. F-15 Maneuver and Ceiling/Visibility Minimums.

<u>Maneuver</u>	<u>Ceiling/Visibility Minimum</u>
F-15C/D/E Cat A Pilot Takeoff	Published mins Published mins for approach to be flown
Landing F-15C/D/E Cat B Pilot Takeoff & Landing	300 feet/1600 meters*
F-15C/D/E Cat C Pilot Takeoff & Landing	500 feet/2400 meters*
F-15C/D/E Cat D Pilot Takeoff & Landing	700 feet/3200 meters* 1500 feet/5000 meters*
F-15C/D/E Cat E Pilot Takeoff & Landing	*Or published minimums for the approach to be flown, whichever is higher
Formation Takeoffs	300 feet/1600 meters or Pilot Weather Category (PWC)
Formation Approaches/Landings	500 feet/2400 meters or PWC
Approach Below Divert Fuel	700 feet/3200 meters
Touch & Go Landings	500 feet/2400 meters
Low Fly Area Minimums	1500 feet/8000 meters (2000 feet in Germany)
Range Minimums (Day)	1500 feet/5000 meters
Range Minimums (Night)	1500 feet/8000 meters
Low Altitude Intercepts	3000 feet/8000 meters (w/ Hard Altitude)
Low Altitude Intercepts	4000feet/8000 meters (2 X 500 feet Blocks)
In-Flight Refueling	Visibility \geq 1NM

(ref: AFI11-202V3_USAFESUP_I, AFI11-418, ATP 3.3.4.2.)

Table A2.2. F-15 Crosswind/RCR Limits.

		<u>CROSSWIND/RCR LIMITS</u>			
	RCR	ICY(12)	WET(16)	DRY(23)	
Max Crosswind		15*	25*	30*	* steady state or ½ gust factor
Formation Takeoffs	Maximum crosswind or gust component 15 knots				
Formation Approaches/Landings	Maximum crosswind or gust component 10 knots				

(ref: AFI11-2F-15V3, AFI11-2F-15EV3, TO 1F-15A-1CL-1, TO 1F-15E-1-2-1CL-1)

Table A2.3. F-15 Additional Thresholds.

<u>ADDITIONAL THRESHOLDS</u>
Flying operations surface wind and sea state maximums: IAW AFI11-202V3_USAFESUP_I, paragraph 6.6 & LAKENHEATHI11-2F-15-EV3, paragraph 49.4, flying will not be conducted when steady state winds (actual or forecast) are ≥ 35 knots over land/25 knots over water or waves > 4 meters. (OG/CC may waive over water winds up to 30 knots and waves up to 5 meters).
"Anti-exposure suit" (CWU21-T, Anti Exposure Assembly): Anti-exposure suits are worn when water temperature is less than 15.5C (60F). Not required for water temperature $> 15.5C$. (ref: AFI 11-301v1 USAFE Sup, LAKENHEATHI11-2F-15-EV3, paragraphs 49.2-49.3)

Table A2.4. F-15 Hazard Impacts/Sensitivities.

<u>Hazards</u>	<u>Impacts/Sensitivities</u>
Thunderstorms/Lightning	Can produce severe weather such as turbulence, icing, hail, updrafts, downdrafts, and heavy precipitation. There is also an increased danger of engine stagnation. Lightning strikes to the aircraft can cause both physical damage and/or affect the aircraft's instrumentation. Avoid by 10 NM below FL250, 20 NM at and above FL250.
Turbulence	Increased danger of engine stagnation. Can cause structural damage and/or injury to crew. Avoid moderate/severe/extreme.
Icing (Structural)	Disrupts air flow over the wing, increasing weight and stalling speed--reduces lift and increases drag. Accumulation of ice on exterior movable surfaces affects aircraft control. May penetrate areas of icing but not loiter.
Icing (Induction)	Inlet lip and engine face icing can occur when the ambient temperature is between 10C (50F) and -20C (-4F) and the dewpoint is within 0 to 3 C (5F) of the ambient temperature. Can cause engine damage to aircraft.

Freezing Precipitation	Especially critical to F-15C/D/E operations. Causes delays in take-offs due to aircraft de-icing by maintenance. Can also stop flying entirely if widespread. Also causes braking action problems on the runway.
Snow	Poses braking action problems on the runway. Heavy snowfall can completely stop all operations due to limited snowfall removal equipment. Also affects the F-15E terrain following radar.

(ref: TO 1F-15A-1 & TO 1F-15E-1-2-1)

Table A2.5. HH60 Flying Operations.

<u>Limiting Criteria</u>	<u>Weather Impacts/Sensitivities</u>
WINDS	Maximum wind velocity for rotor start or stop is 45 knots from any direction. Practice auto-rotations require the aircraft to be aligned within 45 degrees of the wind direction when winds exceed 15 knots, at or below 15 knots, aircraft heading will be within 90 degrees of the wind.
CEILING/VISIBILITY	Weather minimums: Day VFR: 700/1600. Night VFR NVG operations: 700/3200. Night VFR unaided and night practice EPs: 1000/5000. Weapons Delivery: 800 feet AGL or at least 500 feet above the highest portion of the weapons delivery pattern, whichever is higher. Visibility 3500 day, 5000 night. IFR Training Takeoff: Published ceiling and visibility no less than one-half mile (800 RVR). IFR Operational Takeoff without a departure alternate published visibility. IFR Operational Takeoff with a departure alternate, one-half the published visibility but no less than one-quarter mile (400 RVR).
ICING	Helicopters equipped with operational blade de-ice capability are permitted flight into moderate icing conditions
TURBULENCE	Intentional flight into known severe turbulence is prohibited
THUNDERSTORMS	Intentional flight into thunderstorms is prohibited. Pilots shall not fly in IMC in the vicinity of actual thunderstorms. In the vicinity is defined as within 10 NM below FL230.
ILLUMINATION	Low illumination: < 10% Medium illumination: 10 - 40% High illumination: > 40%
ADDITIONAL THRESHOLDS	OTS or Mac-10s will be required for preplanned overwater flights when the water temperature is less than 60F unless waived by OG/CC.

(ref: AFI 11-2HH-60V3, TO 1H-60(H)G-1, AFI 11-2HH-60V3_LAKENHEATHSUP_1)

Attachment 3

48 OSS/OSA WEATHER IMPACTS ON SUPPORTED AGENCIES

Table A3.1. 48 OSS/OSA Weather Impacts on Supported Agencies.

48 OSS/OSA--Includes AMOPS, RAPCON, and Tower		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Tornado	Protect resources/personnel, terminate ops	5-25 mins
	Place DASR antenna in free wheel mode and power system down.	Immediate
Hail \geq 1/2 inch	DASR operation limits; cease outdoor activity.	Immediate
Freezing Precipitation or Hail \geq 1/2 inch or Snow \geq 2 inches in 12 hours	Monitor accumulation, issue airfield advisories. ILS will be inoperative with significant snowfall and/or drifting	Immediate
Snow (any)	Snow must be removed from DASR reflective surfaces for proper system operation	Immediate
Thunderstorms within 25 NM or winds observed \geq 50 knots	If required, auto-start back-up generator will automatically initiate	Immediate
Winds > 75 knots	Tower evacuation	15-25 mins
Winds > 65 knots	RAPCON must notify Radar Maintenance to free wheel radar antenna	Immediate
Winds \geq 45 knots	AMOPS performs airfield check	< 5 mins
Winds > 130 knots	Maximum winds for DASR survival	Immediate
Winds > 65 knots	Place DASR in free wheel mode.	Immediate
Winds >15 knots	Cease climbing antenna	< 5 mins
Lightning within 5 NM	Cease routine airfield checks; respond to aircraft/ airfield emergencies only	Immediate
Visibility < 400 meters	Tower operates taxiway lights for aircraft movement of any type	Immediate
All warning criteria (except lightning)	AMOPS conducts runway check for debris	Immediate
Aircraft-Induced Lightning favorable conditions observed	Tower includes advisory on ATIS RAPCON avoids vectoring aircraft at high risk altitudes when possible	Immediate

Table A3.2. 48 MXG Weather Impacts.

48th Maintenance Group (48 MXG)		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Tornado	Protect resources/personnel, terminate ops	5-25 mins
Freezing Precipitation or Hail \geq 1/2 inch	Shelter aircraft and equipment; limit driving and move personnel indoors	10-120 mins
Snow	Shelter aircraft and equipment; limit driving.	30-60 mins
Winds > 80 knots	Aircraft evacuation recommended. If aircraft in nonflyable status, recommend aircraft be hangared.	Immediate
Winds > 60 knots	Close and lock aircraft canopies and do not operate	Immediate
Winds \geq 50 knots	Shelter all exposed aircraft	Immediate
	Move all non-essential personnel to shelters	Immediate
	Prohibit the use of high sided vehicles	Immediate
	Stop munitions handling operations	Immediate
	Non sheltered aircraft moored and main landing gear wheels double chocked	Immediate
Winds \geq 45 knots	Re-evaluate continued refueling operations	Immediate
Winds \geq 35 knots	Cease operations with explosive equipment	Immediate
	Aircraft sheltered whenever possible	Immediate
	Cease nitrogen operations (outdoors)	Immediate
	Evacuate aircraft from temporary wash racks	Immediate
Winds > 30 knots	Aircraft canopy manually restrained.	Immediate
	Production supervisors prepare to evacuate aircraft from temporary wash racks.	Immediate
Winds \geq 25 knots	Cease upload of tanks on open ramps	Immediate
	Production supervisors monitor weapons and maintenance operations on flight line and determine if actions can continue.	Immediate
	Aircraft jacking allowed only if satisfactory tie down provisions are made.	Immediate
	Main and/or nose landing gear axle jacking not approved unless aircraft sheltered or blocked from winds.	Immediate
	Close and secure radomes, canopies, and panels on all exposed aircraft. Terminate work as soon as possible.	Immediate
	Install all -21 gear on aircraft or remove equipment from open ramps. Intake plugs installed to prevent engine wind milling.	Immediate

	Remove all AGE and equipment not in use from around aircraft. Secure and/or check all AGE and equipment in use.	Immediate
	Position fire bottles flat on ground	Immediate
	Aircrew and maintenance personnel increase awareness of an engine hot start. If necessary, the FS expediter will direct repositioning of the aircraft prior to engine start.	Immediate
Winds \geq 15 knots	Down jack unsheltered aircraft	Immediate
	Monitor weapons and maintenance operations on the open ramp and determine if actions can safely continue	Immediate
	All personnel operating vehicles with hinged doors will ensure that personnel entering or exiting vehicles will do so only when the vehicle is facing into the wind and individuals have a firm grasp on doors when they open it, as not to damage the vehicle.	Immediate
	All personnel will increase awareness of accident potential (open panels, stands, lightweight AGE, etc.).	Immediate
	Canopy jury strut will be utilized if canopy is open.	Immediate
Lightning within 5 NM	Cease all outside operations	Immediate
	Disconnect any -60 units with power cables and air hoses routed through opening in the side of the Protective Aircraft Shelters. Remove power cables and air hoses completely from contact with the shelter. Cease all inside/outside munitions operations	Immediate
Temp \leq 50F	Maintenance will not use engine inlet screens. Spotter employed to keep personnel away from engine inlet and watches inlet lip for ice formation	Immediate

Table A3.3. 48 CS Weather Impacts.

48th Communications Squadron (48 CS)		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Tornado	Protect resources/personnel, terminate ops	5-25 mins
Freezing Precipitation	Any ice must be removed from antenna reflective surfaces for proper operation; cease climbing	Immediate
Snow Accumulation \geq 2 inches in 12 hours	Restrict driving to mission essential only	30 mins
Winds $>$ 15 knots	Cease climbing antenna	$<$ 5 mins

Table A3.4. 48 SFS Weather Impacts.

48th Security Forces Squadron (48 SFS)		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Tornado	Protect resources/personnel, terminate ops	5-25 mins
Hail \geq 1/2 inch	Foot/bike patrols and vehicles take cover	30 mins
Freezing Precipitation or Snow/Rain \geq 2 inches in 12 hours	Patrol will drive simple route to assess road conditions. Makes recommendation to the CP to upgrade/downgrade road condition	30 mins
Winds \geq 45 knots	Increase observation capability--noise detection wind filters unreliable or unavailable.	30 mins
Winds $>$ 20 knots	Deactivate certain sensors annunciating continuous nuisance alarms and implement compensatory measures.	Immediate
Lightning within 5 NM	Cease outside training.	Immediate

Table A3.5. 48 CES Weather Impacts.

48th Civil Engineering Squadron (48 CES)		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Tornado	Protect resources/personnel, terminate ops	5-25 mins
Hail \geq 1/2 inch	Outside personnel take cover	Immediate
Freezing Precipitation	Salt base roads	4 hours
Snow Accumulation \geq 2 inches in 12 hours	Prepare to plow base roads	4 hours
Snow Accumulation (any)	Activate snow control center and recall people to begin snow and ice removal operations	4 hours
Winds $>$ 40 knots	Activate standby team for damaged facilities	Immediate
Winds \geq 35 knots	No burning of explosives	Immediate
Winds \geq 25 knots	Cease maintenance activities involving using or on bucket-ladder trucks, safety ladders, or roofs	Immediate
Lightning Watch (30mins from lightning being within 5NM)	Initiate controlled termination procedures for all explosives operations at outdoor locations equipped with an LPS, at locations (outdoor and indoor) not equipped with an LPS, and facilities containing exposed explosives, explosive dust, or explosive vapor.	Immediate
Lightning Warning (within 5NM)	Protect mainframe computer, notify personnel of hazard, cease outdoor maintenance activities	Immediate
	All EOD explosive operations will cease and personnel evacuated.	Immediate

Table A3.6. 48 LRS Weather Impacts.

48th Logistics Readiness Squadron (48 LRS)		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Tornado	Protect resources/personnel, terminate ops (AFI 23-201, <i>Fuels Management</i> (6.5.))	5-25 mins
Freezing Precipitation or Hail \geq 1/2 inch or Snow/Rain \geq 2 inches in 12 hours	Limit driving, move personnel indoors	30-60 mins
Snow Accumulation \geq 2 inches in 12 hours	Vehicle Ops/Supply--Limit driving to mission essential only	30-60 mins
Winds \geq 45 knots	Vehicle Ops--Restrict driving of high profile vehicles Supply--Tie down equipment in outside storage areas; move personnel indoors, limit driving	30 mins
Lightning within 5 NM	Move personnel indoors, cease all POL operations	Immediate

Table A3.7. 48 FSS Weather Impacts.

48th Force Support Squadron (48 FSS)		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Lightning within 5 NM	Golf Course--cease playing	10-20 mins
Tornado	Protect resources/personnel, terminate all sporting events	5-25 mins
Snow Accumulation \geq 2 inches in 12 hours	Shovel and salt sidewalks around all FSS facilities	4 hours
Winds \geq 40 knots	Cease all outdoor activities. Ensure all outdoor equipment is properly stored.	Immediate
Winds \geq 35 knots	Notify all outdoor activities on wind conditions. Ensure all outdoor equipment is properly stored.	Immediate
Winds \geq 25 knots	Notify all outdoor activities on wind conditions. Ensure all outdoor equipment is properly stored.	Immediate
Hail \geq 1/2 inch	Outside personnel take cover	Immediate
Freezing Precipitation	Shovel and salt sidewalks around all FSS facilities	4 hours

Table A3.8. 48 MDG Weather Impacts.

48th Medical Group (48 MDG)		
<u>Threshold</u>	<u>Actions/Impacts</u>	<u>Response Time</u>
Tornado	Protect resources/personnel, terminate ops	5-25 mins
Freezing Precipitation (Any)	Inform staff/ensure rigs are loaded with winterwear/shovels/sand	4 hrs
Snow Accumulation (Any)	Inform staff/ensure rigs are loaded with winterwear/shovels/sand	4 hrs
Lightning within 5 NM	Mission essential/limit outdoors	5-25 mins
Visibility < 400meters	Inform staff/brief, ensure all lights on rig visible in all directions	4 hrs

Attachment 4

SUPPLEMENTATION CRITERIA

Table A4.1. Supplementation Criteria.

<i>Mandatory Supplementary Weather Conditions – Body of Report (Note 1.)</i>
Tornado (+FC) (Note 2) (Note 3)
Funnel Cloud (FC) (Note 2) (Note 3)
Waterspout (+FC) (Note 2) (Note 3)
Hail (GR) (Only when size is greater than or equal to ¼” IAW local warning criteria)
Volcanic Ash (VA)
Sandstorms (SS) or Duststorms (DS) (Note 4) (NO LOCAL WARNING REQUIRED, DO NOT SUPPLEMENT for SS or DS at RAF Lakenheath)
Ice Pellets (IP)
<i>Mandatory Supplementary Weather Conditions- Remarks Section of Report (Note 1.)</i>
Funnel Cloud (Tornadic Activity _B/E(hh)mm_LOC/DIR_(MOV)) (Note 2)
Snow Depth (Note 4) (only during airfield operating hours and if heavy snow warning has been issued and snowfall is occurring)
Tower Visibility (Note 5)
NOTES: 1. References for coding of augmentable weather conditions are located in AFMAN 15-111 Chapter 13. 2. The immediate reporting of funnel clouds takes precedent over any other phenomena. 3. Log on to JET and be prepared to supplement for tornadic activity anytime a weather watch or warning has been issued for the phenomena. 4. All Remarks and Additive Data references are provided in AFMAN 15-111 Attachment 3. 5. When either the surface prevailing visibility or the control tower visibility is less than 4 statute miles (6000 meters) and the control tower visibility differs from the surface prevailing visibility by a reportable value.

Attachment 5

EXAMPLE WEATHER FLIMSY

Figure A5.1. Flimsy Slide 1.

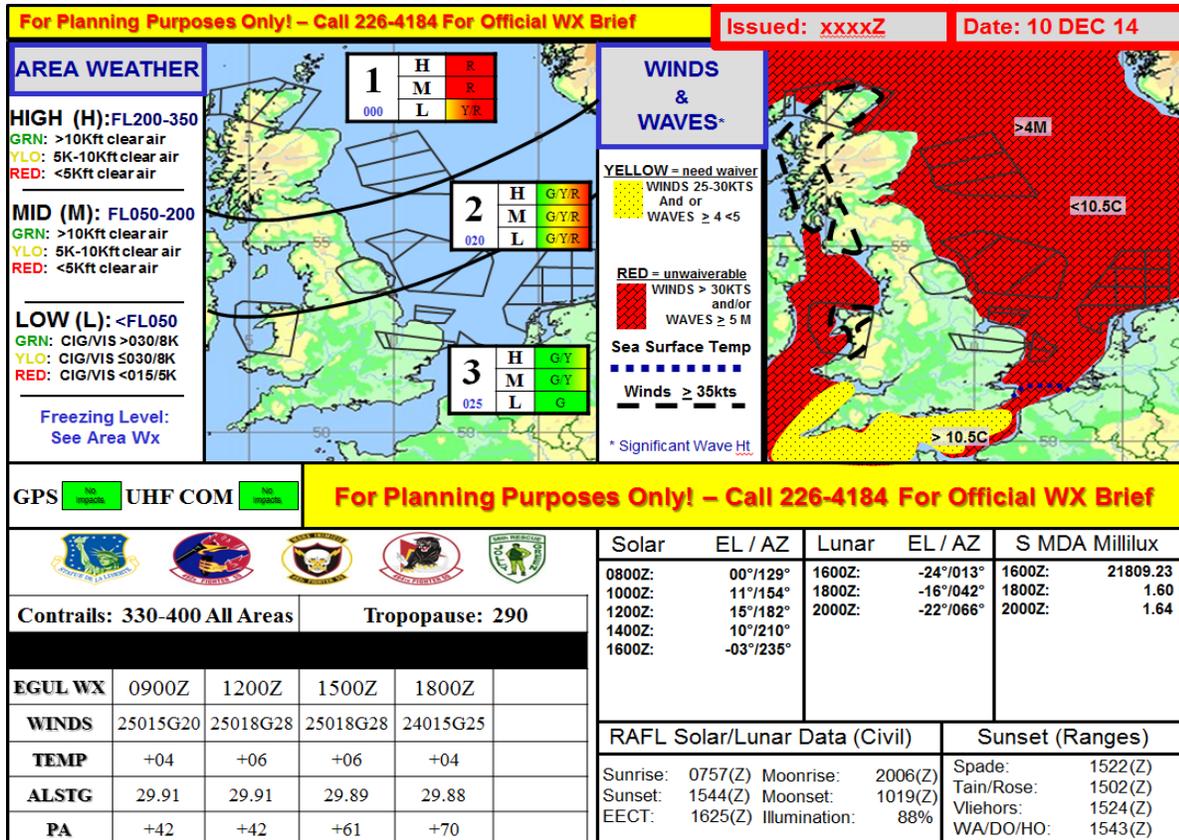


Figure A5.2. Flimsy Slides 2-5.

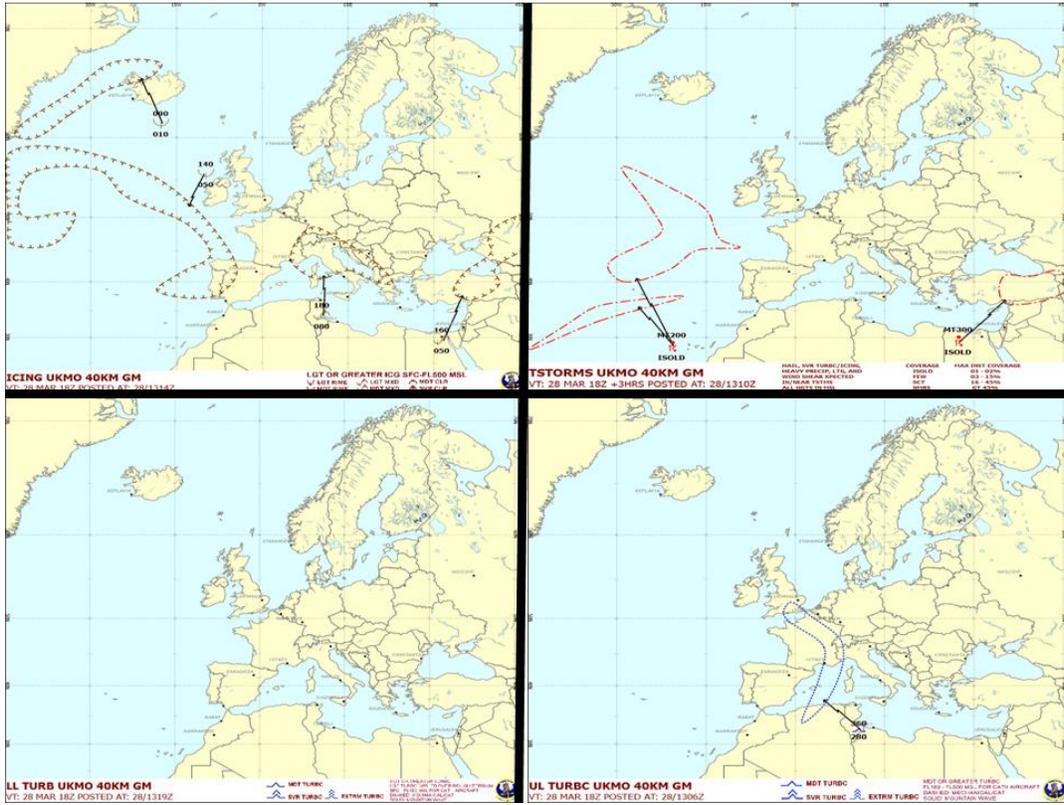


Figure A5.3. Flimsy Slides 6-8.

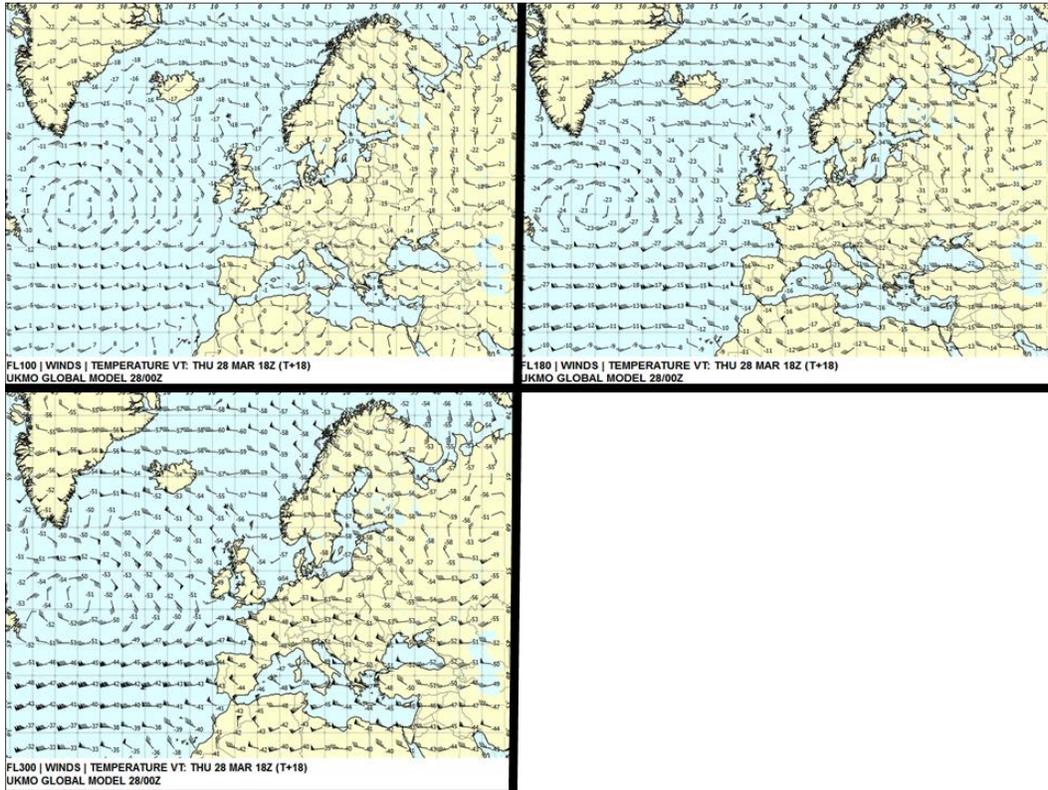
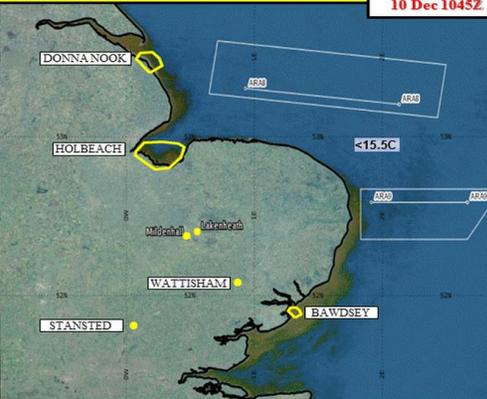


Figure A5.4. Flimsy Slide 9.

For Planning Purposes Only – Call 226-4184 For Official WX Brief				Issued: 10 Dec 1045Z	
VALID TIME	10Z	13Z			
AAR 8	■	■	□	□	
AAR 9	■	■	□	□	
DONNA NOOK	■	■	□	□	
HOLBEACH	■	■	□	□	
BAWDSEY	■	■	□	□	
STANSTED	■	■	□	□	
WATTISHAM	■	■	□	□	
EGUL TEMP	+06C	+06C			
EGUL PA	+42	+61			
Solar/Lunar Data					
SR: 0757(Z)		SS: 1544(Z)			
MR: 2006(Z)		MS: 1019(Z)			
ILL: 88%					
	Satellite Link OBS/TAFS Link Radar/Obs Link (Link requires one-time account request)				
	FREEZING LEVEL: 025		Sea Surface Temp < 10.5C > 10.5C > 15.5C		
		Flight Level Winds FL 005: 25025KT/+04C FL 010: 25030KT/+03C FL 015: 26035KT/+02C FL 020: 27045KT/+00C FL 030: 28050KT /-01C FLKEY: SFC-050 GREEN: CIG/VIS > 010/5000M YELLOW: CIG/VIS < 010/5000M > 007/1600M RED: CIG/VIS < 007/1600M			

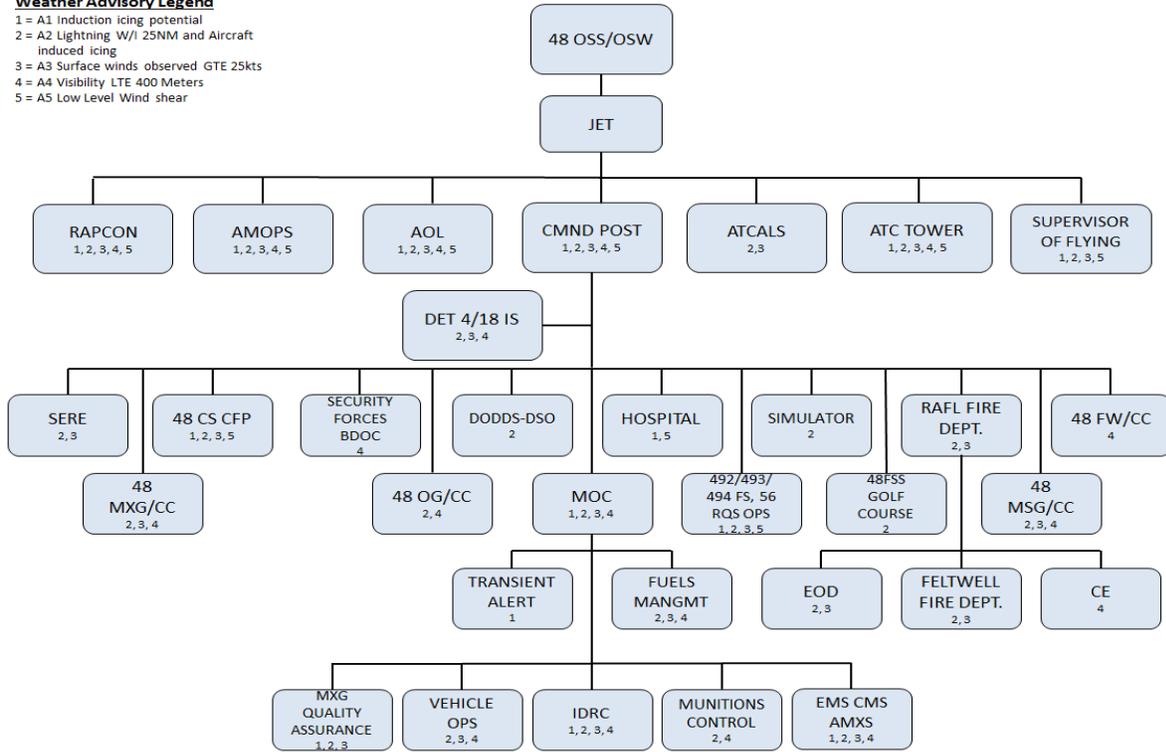
Attachment 6

WEATHER ADVISORY DISSEMINATION MATRIX

Figure A6.1. Weather Advisory Dissemination Matrix.

Weather Advisory Legend

- 1 = A1 Induction icing potential
- 2 = A2 Lightning W/I 25NM and Aircraft induced icing
- 3 = A3 Surface winds observed GTE 25kts
- 4 = A4 Visibility LTE 400 Meters
- 5 = A5 Low Level Wind shear



Attachment 7

WEATHER WATCH/WARNING DISSEMINATION MATRIX

Figure A7.1. Weather Watch/Warning Dissemination Matrix.

