BY ORDER OF THE COMMANDER 439TH AIRLIFT WING

439 AIRLIFT WING INSTRUCTION 15-101

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Weather

WEATHER SUPPORT

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Air Force Weather Operations*; Air Force Instruction (AFI) 10-206, *Operational Reporting*; AFI 10-229, *Responding to Severe Weather Events*; AFI 15-114, *Functional Resource and Weather Technical Performance Evaluation*; AFI 15-128, *Air Force Weather Roles and Responsibilities*; AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*; Air Force Manual (AFMAN) 15-111, *Surface Weather Observations*; AFMAN 15-124, *Meteorological Codes*, AFMAN 15-129V1, *Air and Space Weather Operations – Characterization*; and AFMAN 15-129V2, *Air and Space Weather Operations – Exploitation*. This instruction establishes responsibilities and weather support requirements during daily operations. It also provides general information for weather services including weather observations, forecasts, warnings, watches, advisories, space weather data, information dissemination, and base-wide reciprocal support. It applies to units assigned or attached to Westover Air Reserve Base (WARB). Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

SUMMARY OF CHANGES

This publication has been substantially revised. Updates General Information chapter. Updates Duty Priorities and **Table 1.1**. Updates Meteorological Equipment. Updates Alternate (Back-up)

Operating Location (AOL) information. Updates Airfield Services chapter and adds in **Tables 2.1** and **2.2**. Updates Mission Services chapter. Updates Staff Weather Services chapter. Updates Space Weather Support and Products chapter. Updates Resource Protection Services chapter and Table 6.1 and 6.2. Updates Reciprocal Support chapter and **Table 7.1**. Updates **Attachments 1, 2, 3, 4**, and adds in **5** and **6**.

Chapter 1

GENERAL INFORMATION

1.1. General. The 439th Operations Support Squadron Weather Flight (439 OSS/OSAW) in conjunction with the 15th Operational Weather Squadron (15 OWS), Scott AFB, IL provides and/or arranges for weather support to the 439th Airlift Wing (439 AW) and other units assigned to Westover Air Reserve Base (WARB). The 439 OSS/OSAW will also provide or arrange for day-to-day weather support to Department of Defense (DoD) civilian contractors who request weather information to support government-funded, on-base projects.

1.1.1. The 439 OSS/OSAW is a DoD civilian government operation and will hereafter be referred to as the Weather Flight (WF) or 439 OSS/OSAW.

1.1.2. The WF is the focal point for all weather services. This instruction will be reviewed annually and updated as required.

1.2. Background.

1.2.1. The 15 OWS at Scott AFB, IL provides the regional operational-level weather products and information to Air Force and Army units in the northeast region of the Continental United States (CONUS).

1.3. Responsibilities. Specific responsibilities of the 15 OWS and the WARB WF are defined in the Unit Data Page hosted on the 15 OWS website at **https://ows.scott.af.mil/Tailored_Met/index.cfm?fuseaction=showunit&B_ICAO=KCEF&UNIT_ID=106&UID=106&BW=H&UF=M&AOR=1&AOI**=.

1.3.1. The 15 OWS issues WARB Terminal Aerodrome Forecasts (TAFs), will provide weather briefings to transient aircrews passing through that cannot be supported by the WF, issues observed lightning warnings when the WF is closed, and issues forecast weather watches, warnings, and advisories. The 15 OWS will collaborate with the WF on the issuance of all TAFs and forecast watches, warnings, and advisories.

1.3.2. The WF will issue all observed warnings, create tailored weather products focused on the local mission, provide the "eyes forward" function to the 15 OWS, and collaborate on forecast weather products (TAFs, Watches, Warnings, Advisories, etc.) with the 15 OWS during WF duty hours. Additionally, the WF will support the base in educating agencies on the purpose and applicability of weather products as required by regulation AFI 10-2501, Air Force Emergency Management (EM) Program Planning and Operations, or directed by the 439 AW/CC.

1.3.3. The WF will augment observations provided by the Automated Meteorological Observing System (AMOS) using "supplementing" and/or "back-up" procedures based on the AFMAN 15-111 and local policy. See Chapter 2. The WF will also ensure all observations that are not disseminated due to equipment or communication problems are passed on to the 15 OWS and the WARB Air Traffic Control Tower (TWR) for operational aviation and forecast purposes.

1.4. Duty Priorities.

1.4.1. WF duty priorities are listed in Table 1.1. WF Meteorological Technicians will use good judgment and Operational Risk Management (ORM) in complying with these duty priorities, especially when there is imminent danger to life and/or property.

Table 1.1. Westover Weather Station Duty Priority Listing.

Westover Weather Station Duty Priority Listing **(Please understand mission critical information involving safety and resource protection may be a higher priority than your immediate request. Thank you!)**	
Priority	**Duties**
1	Perform Emergency War Order (EWO) Taskings.
2	Respond to Aircraft and Ground Emergencies.
3	Disseminate Tornado Warnings.
4	Prepare and Disseminate Observed Lightning Warnings.
5	Respond to Pilot-to-Metro Service (PMSV) Radio Calls.
6	Augment/Backup AMOS (Automated Meteorological Observing System) per AFMAN 15-111 and SOP AOS-01.
7	Perform “Eyes Forward” (coordinated forecast operations) with the 15 OWS.
8	Relay Urgent PIREPs and AIREPs.
9	Disseminate other Warnings and Advisories.
10	Conduct Severe Weather Action Plan (SWAP) operations.
11	Disseminate PIREPs and AIREPs
12	Disseminate Watches.
13	Provide Mission Execution Forecasts (MEFs) and other Flight Weather Briefings.
14	Provide MISSIONWATCH (monitor weather conditions and provide updates) for Westover ARB based missions.
15	Provide non-mission essential weather support for Westover ARB agencies and Department of Defense contractors.

1.5. Operational Hours. Services are normally provided from 0600 Local to 2300 Local, 7 days a week, including holidays. Meteorological Technicians performing these services can be

contacted at DSN 589-2879 or Comm (413) 557-2879. Services during the hours 2300 Local to 0600 Local are provided by the 15 OWS, DSN 576-9755 or Comm (618) 256-9698. Requests for locally provided services during the hours 2300 Local to 0600 Local must be forwarded to the 439 OSS/OSAW Weather Station Manager as far in advance as possible.

1.6. Assumptions, Shortfalls, and Limitations.

1.6.1. Assumptions. Weather support can only be provided if the appropriate facilities, funding, communications, personnel, and indigenous support (e.g., power, water, etc.) are available.

1.6.2. Shortfalls. Some services may not always be available due to station evacuation or other higher priority missions or duties (e.g., out of station briefings).

1.6.3. Limitations. Surface weather observing has buildings obstructing the view of the horizon from south through southwest and to some extent west through north.

1.7. Meteorological Equipment. Readouts for all meteorological sensors are located at the Base Operations, Building 1610.

1.7.1. The primary sensor group is located on the approach end of Runway 23, approximately 1097’ from the threshold and 513’ off the runway.

1.7.1.1. The 23 end primary sensors include wind, ice accretion, cloud height, visibility/runway visual range (RVR), precipitation identification, temperature/relative humidity, ambient light, rain bucket (tipping bucket), lightning detection, and pressure.

1.7.2. The discontinuity sensor group is located on the approach end of Runway 05, approximately 2130’ from the displaced threshold and 87’ off the runway.

1.7.2.1. The 05 end discontinuity sensor includes wind, cloud height, and visibility/runway visual range (RVR).

1.7.3. Another discontinuity sensor group is located on the approach end of Runway 33, approximately 1033’ from the threshold and 572’ off the runway.

1.7.3.1. The 33 end discontinuity sensor includes wind and visibility/runway visual range (RVR).

1.8. Communications Equipment. Just as vital as meteorological equipment, communications equipment allows the WF to get the right information to the customer. The following systems are the backbone of the WF communications network.

1.8.1. Local Area Network (LAN). The WF relies heavily on the LAN to receive all forecast tools and to operate all weather systems. This improves the timeliness and accuracy of weather intelligence to our customers.

1.8.2. Joint Environmental Toolkit (JET). This is the primary system for disseminating weather forecasts, observations, warnings, watches, and advisories. This system relies on the LAN and 15 OWS communications to function properly.

1.8.3. Pilot-to-Metro Service Radio (PMSV). The PMSV radio (274.75 MHz (UHF)) allows the WF to communicate with aircrews and TWR personnel.

1.8.4. Phones/Hotlines. Phones and hotlines primarily serve as a back-up system for disseminating critical, time-sensitive information rapidly.

1.9. Alternate (Back-up) Operating Location (AOL). In the event of a building evacuation, the WF will move to the Westover Fire Station, Building 7084, Room 35, to continue operational support and their "eyes forward" responsibilities to the 15 OWS. WF Meteorological Technicians will resume operations at the AOL using Standard Operating Procedures (SOP) and back-up equipment, as required. An observation will be disseminated within 15 minutes of relocating to the AOL if augmenting. Weather services from the AOL may be limited.

1.9.1. If electrical power/LAN communications are still available, weather sensor information will be accessible. If electrical power/LAN communications are impacted/disrupted, backup equipment will be used as needed. The wind and pressure element of the observation will be estimated whenever back-up equipment is in use.

1.9.2. The WF will not have access to their local Doppler/WSR-88D radar data for storm interrogation and the PMSV radio.

1.9.3. Dissemination of longline observations will be through JET. If unable to upload through JET, Air Force Weather Web Services (AFW-WEBS) will be used as the primary backup.

1.9.4. Local dissemination of observations, watches, warnings, and advisories will be done via telephone if normal dissemination through JET is unavailable.

1.10. Release of Weather Information to Non-Department of Defense Agencies and Individuals. The National Weather Service (NWS) is the agency with the primary responsibility for providing government weather services to non-Department of Defense agencies and the general public. Any inquiries to gather weather information will be forwarded to the local NWS office or to WARB Public Affairs (PA) for review and approval.

1.11. Aircraft or Ground Mishaps. The WF has a role when advised of an emergency or mishap. The WF will ensure applicable weather data used in the development of any product and/or service provided is saved for an investigation (e.g., MWPs, MEFs, space weather products, radar, briefing slides, etc.). The WF will save data to fully reconstruct the environmental conditions involved. These steps include:

1.11.1. Follow local data save procedures using JET.

1.11.2. Save radar imagery.

1.11.3. Coordinate with the 15 OWS to initiate a data save, as appropriate.

1.11.4. If the WF used products from other OWSs to support the mission involved, the WF must coordinate with all applicable OWSs to initiate a data save.

1.11.5. Coordinate with Air Force Weather Agency (AFWA) Operations at DSN 271-2586 to save any applicable data and products not available locally.

1.11.6. If an aircraft mishap is involved, ensure all the procedures of AFMAN 15-129V2, *Air and Space Weather Operations – Exploitation*, Chapter 3, paragraph 3.5., are followed.

1.11.7. Provide all necessary assistance as required by 439 AW Mishap Investigation Plan.

1.11.8. Retrieve archived surface observations upon request.

Chapter 2

AIRFIELD SERVICES

2.1. General. Airfield services include those actions that affect the WARB aerodrome, (defined as within 5 nautical miles (NM) of the center of the airfield). Examples include surface weather observations, PMSV, and resource protection (weather watches, warnings, and advisories). Resource protection will be addressed separately in **Chapter 6**.

2.2. Surface Weather Observations. Surface weather observations are taken, encoded, recorded, and disseminated in accordance with AFMAN 15-111, *Surface Weather Observations*.

2.2.1. Automated Meteorological Observing System (AMOS). WARB is an automated weather observing station equipped with an AMOS. The AMOS in use is the Air Force's FMQ-19 system.

2.2.2. Official Observing Site. The official observing site is the sensor group and will be determined by the current active runway in use. When augmenting, the official observing site is located on the northeast corner of Building 1610 by the manual rain gauge.

2.2.3. Types of Surface Weather Observations:

2.2.3.1. Aviation Routine Weather Report (METAR) observations are taken and disseminated every hour between 58 and 59 minutes after the hour.

2.2.3.2. Aviation Selected Special Weather Report (SPECI) observations are taken whenever certain specified criteria are observed per the AFMAN 15-111. Additional SPECI criteria for ceiling, visibility, and runway visual range (RVR) are determined specifically for WARB based on flying information published in the Flight Information Publication (FLIP), Notice to Airmen (NOTAM), and in the 439 AW Flying Operations Supplement, AFI 11-2C-5V3. See Attachment 2 for WARB SPECI criteria. Note: While Attachment 2 lists WARB SPECI criteria at the time of publishing this instruction, SPECI criteria is subject to change and is kept up-to-date in the local Cooperative Weather Watch (CWW) agreement. See the local CWW agreement for the latest SPECI criteria published for WARB or contact the WF.

2.2.4. Augmentation. Augmentation is the process of having position qualified, certified Meteorological Technicians manually add or edit data to an observation generated by a properly sited AMOS. Meteorological Technicians will perform augmentation in accordance with the AFMAN 15-111. The two augmentation processes used are "supplementing" and "back-up".

2.2.4.1. **Supplementing**. A method of manually adding meteorological information to an automated observation that is beyond the capabilities of the AMOS to detect and/or report. Per the AFMAN 15-111, WARB Meteorological Technicians will supplement for the following and provide a Basic Weather Watch (BWW) when the following conditions are forecast to occur within 1 hour:

2.2.4.1.1. **Tornado, Funnel Cloud, Waterspout**

2.2.4.1.2. **Hail (≥ 1/2 inch**)

2.2.4.1.3. **Volcanic Ash**

2.2.4.1.4. **Ice Pellets**

2.2.4.1.5. **Snow depth** (only if a heavy snow warning has been issued, snowfall is occurring, and it is during airfield operating hours.)

2.2.4.1.6. **Remarks for tornadic activity** indicating beginning/ending times, location, direction, and movement if known.

Note: The criteria listed above will be supplemented when the airfield open. However, tornadic activity (Tornado, Funnel Cloud, Waterspout) will also be supplemented even during airfield closure periods.

2.2.4.2. **Local Supplementing Criteria.** Based on ORM and known local weather situations particular to WARB that are frequently beyond AMOS's capabilities and/or are limitations of the automated equipment, the criteria listed below will be supplemented by the Meteorological Technicians when the airfield is open, unless otherwise noted. These situations will be supplemented based on duty priorities and are situations that could adversely impact flight/ground operations, safety, or pose a threat to mission success.

2.2.4.2.1. **Ground Fog (MIFG)/Patchy Fog (BCFG)**. This is a frequent occurrence near the Runway 23 sensor group and on occasion can affect the Runway 05 and 33 sensor groups as well. This will cause the sensor to falsely report the prevailing visibility below 3 SM and, on occasion, below 1 SM when the actual prevailing visibility is +7 SM. Note: RVR in these situations will continue to be reported despite supplementation of the visibility. RVR is not an augmentable parameter per AFMAN 15-111.

2.2.4.2.2. **Thunderstorms**. Due to limitations of AMOS's lightning detection system, thunderstorms and, therefore, lightning could be occurring and not detected or reported by AMOS. Due to safety, supplementation will occur when Meteorological Technicians are issuing Observed Lightning Warnings for within 5 NM and 10 NM of WARB when thunderstorms are observed and/or detected on other lightning detection system (i.e., AFW-WEBS).

2.2.4.2.3. **Freezing Rain/Freezing Drizzle**. Due to the significant impact of freezing precipitation to operations, supplementation will occur when it is actually occurring and not being detected or reported by AMOS. Also, supplementation will occur when freezing precipitation is being reported by AMOS and it is NOT actually occurring. This can occur when wet, sticky snow is falling.

2.2.4.2.4. **Drizzle/Freezing Drizzle**. Drizzle is not always detected by AMOS and could have an impact on the visibility, which can also go undetected. If it is freezing drizzle, a more significant kind of icing is occurring that could impact aviation operations and will be supplemented for operational and forecasting purposes.

2.2.4.2.5. **Correct precipitation type and/or report mixed precipitation**. There are situations, especially in the winter, where AMOS will not report the correct type of precipitation that is occurring. This may be significant to operations and forecasts (i.e., icing forecasts, warnings, snow/ice removal, etc.).

2.2.4.2.6. **Clouds and Visibility**. Due to some limitations on cloud and visibility sensing with AMOS, certain situations may require supplementation when flight safety and mission impact are at risk, especially when conditions are below 3000 FT and 3 SM. WARB SPECI criteria will be considered when augmenting for clouds and visibility.

2.2.4.2.7. **Rapidly Changing Conditions**. Due to AMOS's time averaging methods, rapidly changing conditions are not handled well and a significant reporting delay occurs. This could adversely impact flight operations.

2.2.4.2.8. **Unknown Precipitation (UP)**. Due to the frequency that AMOS reports UP, especially in the winter, supplementation will occur to report the actual precipitation that is occurring for operational and forecasting purposes.

2.2.4.2.9. **False reports due to bugs/bees**. This is a frequent occurrence Spring through Fall. Bugs/bees will cause false reports of drizzle, rain, or UP to occur that will be supplemented for operational and forecasting purposes.

2.2.4.2.10. **Hail during airfield closure periods**. The WF will supplement for hail $\geq$ 1/2 inch during airfield closure periods when on duty for Severe Weather Action Plan (SWAP) procedures. This will ensure documentation and accurate verification for any hail related damage sustained by WARB.

2.2.4.2.11. **Precipitation Amounts.** The WF will supplement liquid precipitation amounts when AMOS values are unrepresentative due to its limitations. This can occur during windy conditions, isolated local events, winter precipitation, and when false reports of precipitation occur. This will ensure accuracy of local climatological records that are used by various base agencies.

2.2.4.2.12. Anything else in the Meteorological Technician's opinion that may affect flight/ground operations, safety, and/or any mission.

2.2.4.3. **Back-up**. A 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. Meteorological Technicians must maintain situational awareness of current weather conditions and AMOS observations.

2.2.5. Cooperative Weather Watch (CWW). A process is in place to allow WARB TWR personnel and flying units to report changes in weather conditions or significant meteorological phenomena to the Meteorological Technician at DSN 589-2879 or Comm (413) 557-2879. See **Chapter 7** for details.

2.3. Terminal Aerodrome Forecasts (TAFs). WARB TAFs are produced and disseminated by the 15 OWS. The 15 OWS collaborates with the WF prior to TAF dissemination during WF duty hours. TAFs are valid for 30 hours and apply to the area within 5 NM of the center of the WARB aerodrome. Individual elements in the TAF will be forecast, as possible. The WF will issue all TAFs should the 15 OWS become unable to provide them.

2.3.1. TAF specification and amendment criteria are listed in AFMAN 15-129V1, Table 3.10. Ceiling and visibility TAF amendment criteria specific to WARB are listed below in Table 2.1.

Table 2.1. WARB Ceiling and Visibility Amendment Criteria.

WARB Ceiling and Visibility Amendment Criteria		
Ceiling or Visibility observed or expected to decrease to less than, or if below, increase to equal or exceed:		
CEILING	**VISIBILITY**	**AMENDMENT CATEGORY**
GTE 2000 FT	GTE 3 SM (4800 M)	E
GTE 1000 FT	GTE 2 SM (3200 M)	D
GTE 700 FT	GTE 2 SM (3200 M)	C
GTE 200 FT	GTE 1/2 SM (800 M)	B
LT 200 FT	LT 1/2 SM (800 M)	A

2.3.2. TAF issue times for Westover ARB are listed below in Table 2.2.

Table 2.2. WARB TAF Issue Times.

WARB TAF Issue Times	
During Daylight Savings Time (DST)	02Z, 10Z, 18Z
During Eastern Standard Time (EST)	03Z, 11Z, 19Z

2.4. "Eyes Forward" Process. This is the process by which the WF relays significant, time-sensitive meteorological information not found in coded meteorological reports to the 15 OWS. The process permits the WF to provide meaningful meteorological information to enhance the 15 OWS's METWATCH process. Additionally, the WF assists in translating the current state of the atmosphere and relays potential local weather effects that will impact weather conditions at WARB and its operations. This helps form an integrated, site specific weather forecast for WARB that takes into account local weather effects and enhances mission safety and success.

2.5. Pilot to Metro Service (PMSV) Support. The WF operates a PMSV on the frequency of 274.75 MHz (UHF). It is the primary means of disseminating weather information to airborne aircraft. A daily radio check will be performed no later than 0800L. Back-up for this system is via the WARB TWR.

2.6. Emergency Management Support. The WF will provide climatological data and specialized support to 439 MSG/CEX to include Chemical Downwind Messages (CDM) and/or Effective Downwind Messages (EDM), or any weather data necessary to calculate toxic corridors. See Chapter 6 for more details.

Chapter 3

MISSION SERVICES

3.1. General. Mission services are those products providing weather input affecting each customer's daily mission. The primary products for accomplishing this are Mission Weather Products (MWP). The MWP is used to refine large-scale forecast products, in both time and space, on order to provide the environmental information necessary to make operational decisions regarding specific missions.

3.2. MWP. MWPs are essentially mission-specific forecasts provided by a number of methods such as verbal briefs, mass briefings, electronic briefs, etc.

3.2.1. The WF will generate a MWP by fusing and tailoring strategic and theater weather center products, as well as, information supplied by local units and agencies. MWPs must be horizontally consistent with, but not necessarily mirror, products issued by the strategic and theater centers such as AFWA and the 15 OWS respectively. The end result is a product/information designed to provide tailored, timely, accurate, and relevant weather intelligence to various customers by whatever means proves most effective. MWPs are provided for either flying or non-flying missions as required by the specific mission/activity.

3.3. 337 AS Flight MEF. A flight MEF (Mission Execution Forecast) is a MWP that is developed from mission information provided by the Global Decision Support System (GDSS)-2 and the Wing Operations Plan (WOP).

3.3.1. The WF will provide a flight MEF for all 337 AS, non-IFM (Integrated Flight Mission), missions departing WARB.

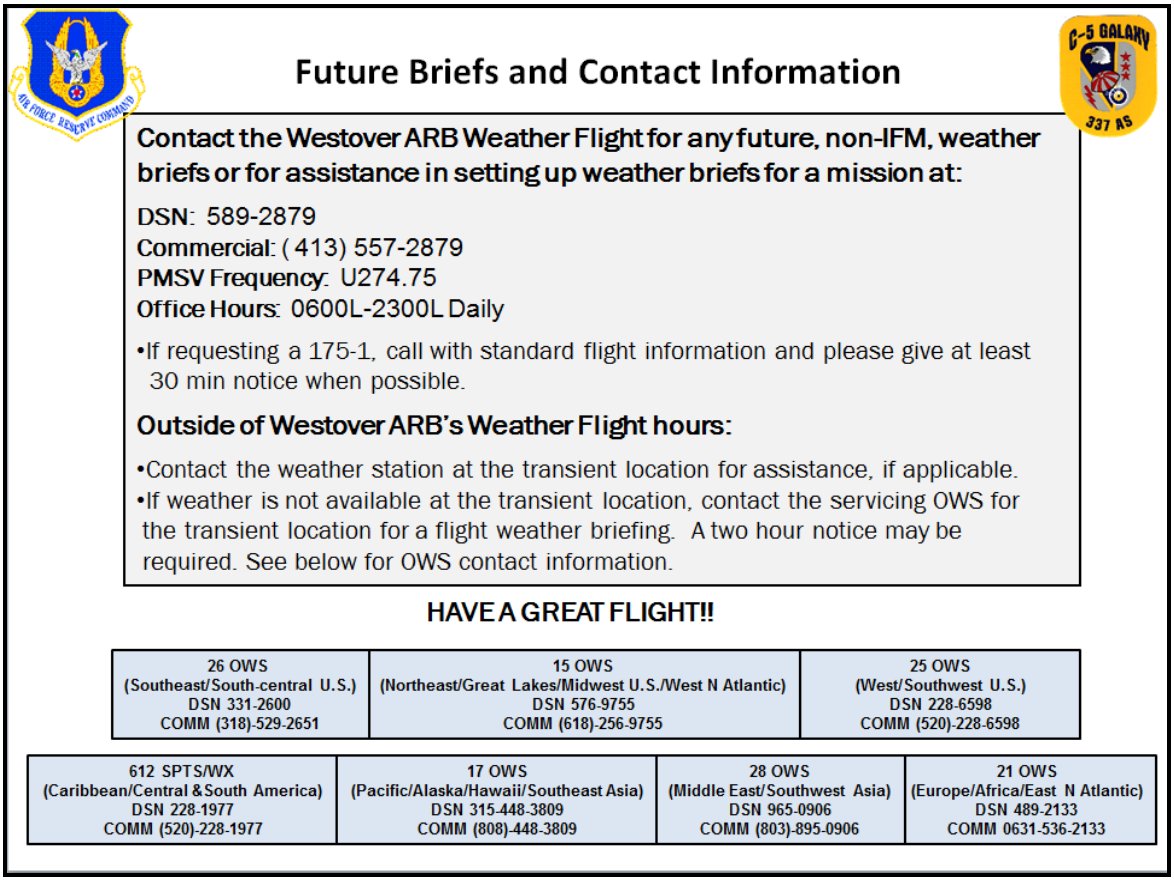
3.3.2. Support for 337 AS, non-IFM, missions departing from other locations can be provided by the WF during duty hours but will be at the mission aircraft commander's discretion. The WF can be contacted at DSN 589-2879 or Comm (413) 557-2879 to provide weather support or assist in arranging it.

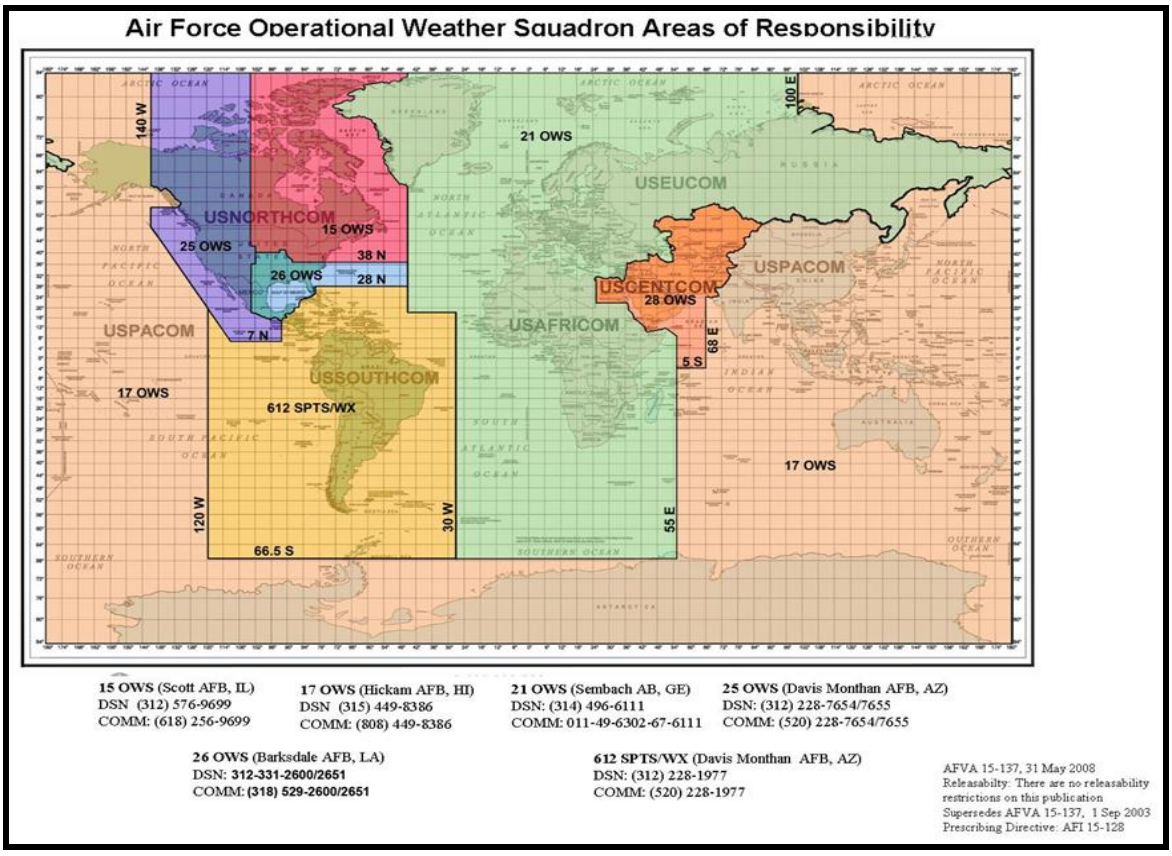
3.3.2.1. It will be the aircraft commander's decision to decide who will be more practical/appropriate in providing weather support for the mission when not departing from WARB (Westover WF, local base WF, or supporting OWS for the location). He/she will be responsible for arranging weather support but the WF can provide the support or assist with arranging the support upon request.

3.3.2.2. If the aircraft commander requests that the WF provide support, he/she will keep the WF up-to-date on any changes or mission delays so they can evaluate the MEF for potential updates. They will also provide contact information and the preferred means of delivering the MEF.

3.3.2.3. The following outlines future brief instructions and contact information for the WARB WF and OWSs. This information will be provided at the end of all 337 AS, non-IFM, MEFs departing WARB so future contact information is available for the mission:

Figure 3.1. WARB TAF Issue Times.





3.3.3. Weather support for IFM missions are provided by the 618 AOC (TACC)/XOW at Scott AFB, IL who will provide the official brief. See Attachment 3 for an example.

3.3.3.1. For IFM missions departing WARB, the WF will post a basic slide consisting of the current WARB TAF and the TAF for the first destination.

3.3.3.2. The WF can also provide current satellite and radar imagery at the weather station upon request.

3.3.4. Flight MEFs provided by the WF will be posted to the base "Y" drive at **Y:\OG\337\ALL\Flying Briefs\WX Briefs.**

3.3.5. Flight MEFs will be posted 4 hours 15 minutes prior to the departure time when possible but, at a minimum, will be posted 3 hours 15 minutes prior in order to meet the aircrew briefing time.

3.3.5.1. Any briefings that would need to be posted during the normal WF closure period (2300L to 0600L) to meet the minimum 3 hours 15 minutes posting will be coordinated with the Weather Station Manager as soon as possible. Please note a minimum of 1 hour is needed to prepare a flight MEF.

3.3.5.2. A copy of a flight MEF and current satellite and radar imagery can be obtained at the weather station upon request.

3.3.5.3. Any questions related to the MEF can be addressed to the Meteorological Technician at the weather station.

3.3.6. MEFs include all pertinent weather information affecting the flying missions. Example flight MEFs are given in Attachment 3.

3.3.7. Aircrew members may receive a verbal briefing relative to a specific WF flight MEF at the weather station or by the calling the Meteorological Technician at DSN 589-2879 or Comm (413) 557-2879.

3.3.8. For any exercises (ORI, ORE, etc.) that will take place away from WARB, the Weather Station Manager will arrange the weather support either by reaching back to the WARB WF or by submitting a SAR request to the appropriate servicing OWS if requested by the 337 AS.

3.4. Sensitivities and Limitations Employed in the Development of MWPs. Several sources will be used by the Meteorological Technicians when developing MWPs so as to focus efforts on known weather sensitivities and limitations that may have a "Go/No Go" impact on the mission.

3.4.1. Airframe-Specific Weather Limitations. The 15 OWS Operational Weather Limiters (OWL) provides all known weather limitations for C-5 operations and any other transient operation as well. The information compiled in the OWL is based on Air Force publications and can be found on the 15 OWS website at **https://ows.scott.af.mil/Tech_Ref/owl/index.cfm**.

3.4.2. Flight Mission Weather Limitations/Restrictions. Weather thresholds for flight MEFs and MISSIONWATCH will be considered and are in accordance with AFI 11-202V3 and AFI 11-2C-5V3_439AWSUP_I.

3.4.3. The base weather limitations that have an impact on operations at WARB are outlined below in **Table 3.1**.

Table 3.1. WARB Base Weather Limitations.

WARB Base Weather Limitations
Tornado
Hail $\geq$ 1/2 inch
Wind $\geq$ 50 KT (Convective and/or Non-Convective)
Wind $\geq$ 35 KT but < 50 KT
Wind $\geq$ 25 KT but < 35 KT
Freezing Precipitation (Any Intensity)
Heavy Snow ($\geq$ 6 inch accumulation in 12 hours)
Blizzard
Lightning within 5 NM
Lightning within 10 NM

3.5. Space Weather. Space weather products are primarily provided by utilizing information available on AFW-WEBS at **https://weather.af.mil/confluence/display/AFWWEBSTBT/Space+Weather+Main+Page**.

3.6. Updates. Flight MEFs will be updated whenever forecast weather crosses amendment and "GO/NO GO" thresholds. The acting Operations Supervisor (OPSUP) will be notified via Command Post (CP) or directly by the WF if updates are significant and mission limiting.

3.7. MISSIONWATCH. MISSIONWATCH provides an organized approach for Meteorological Technicians to continuously monitor routes, areas, and installations for significant changes to weather products.

3.7.1. MISSIONWATCH will focus on mission-limiting thresholds for the specific mission or associated units and notify customers when parameters cross these thresholds.

3.7.2. Meteorological Technicians will provide alternatives to exploit mission weather and update environmental information through a continuous Mission Execution Forecast Process (MEFP).

3.7.3. All on-site meteorological data sources will be used to accomplish MISSIONWATCH. Airfield Management Operations (AMOPS) will notify the WF when missions depart and arrive. The WF will be given access to GDSS-2 for awareness and MISSIONWATCH.

3.7.4. During rapidly changing weather, the WF will amend/update the flight MEF as required and contact the CP to pass on changes or contact the OPSUP/aircrew themselves if changes are critical.

3.8. Transient Aircraft Weather Briefings. Westover WF Meteorological Technicians will provide transient aircrews traditional flight weather briefings, for non-IFM missions ONLY, utilizing the DD Form 175-1 (Flight Weather Briefing) or local verbal briefing procedures. Updates to an existing flight weather briefing will be provided upon request.

3.8.1. Transient briefings will be made available in the weather station or via phone.

3.8.2. Updates to an existing IFM supported mission will be coordinated with 618 AOC(TACC)/XOW at DSN 779-0353 or Comm (618) 229-0353 when significant changes have occurred.

3.8.3. If the WF cannot support a transient aircrew due to hours of operation or other duty and mission priorities, the 15 OWS has the primary responsibility to provide weather briefings to transient aircraft. Briefings can be requested through the 15 OWS web page at **https://ows.scott.af.mil/wx_brief/index.cfm?fuseaction=request&UID=106&BW=H&UF=M&AOR=1&USEHF=1** or by calling DSN 576-9755 or Comm (618) 256-9755.

3.8.4. The WF will support Air Combat Command Air Operations Squadron (ACC AOS) controlled missions, which included CORONET movements, with launch, alternate, abort, and destination base forecasts but must use the ACC AOS/AOSW weather flight's Control Mission Weather Product (CMWP) for the enroute and air refueling track portion of the brief. Any briefing support needed outside of WF hours of operation will be coordinated with the Weather Station Manager as soon as possible.

3.9. Non-Flight MWP. Non-Flight MWPs are developed in response to any non-flying operational mission being conducted. The scope, format, and delivery method will be determined in coordination with the requestor.

3.10. WARB Snow and Ice Plan. Snow and ice removal crews are normally not scheduled outside of normal duty hours, Mon-Fri. The WF will therefore send a Snow and Ice Plan Notification for weather events requiring snow and/or ice removal of trace amounts or more from the runway/base so crews, equipment, and the possible use of chemicals can be planned and staged in advance.

3.10.1. Snow and Ice Plan Notification Issuance.

3.10.1.1. Issued around 1300L or earlier, pending other duty priorities, on the duty day (Mon-Fri) prior to the event whenever the potential exists for a trace or more of snow and/or ice to affect WARB.

3.10.1.2. For events that are expected to occur on a Sunday, Monday, Holiday, or the day after a Holiday, updates should be expected over the weekend or the day prior given the weather situation may change (i.e., change in storm track, change in precipitation type, change in storm timing, etc.) and require adjustments to such a detailed forecast provided that far in advance.

3.10.1.3. For unanticipated/unpredictable weather events that may produce a trace or more of snow or ice, a Snow and Ice Plan Notification will be issued as soon as possible.

3.10.1.4. Snow and Ice Plan Notifications will be updated, if needed, for adjustments to timing, precipitation type, and amounts based on local criteria provided by Real Property Maintenance (RPM) and their snow and ice removal operation.

3.10.1.5. For events or situations in which agencies may need more time to prepare, the Weather Station Manager will coordinate with appropriate agencies in advance to see if an earlier issuance is needed.

3.10.2. Snow and Ice Plan Notification Checklist. See Attachment 4 for an example.

3.10.2.1. The Snow and Ice Plan Notification Checklist will be filled out and contain, at a minimum, information on precipitation type, timing, and amounts plus information on temperature and wind. It may also contain any remarks that may be pertinent to snow and ice removal (e.g., expect blowing and drifting snow, expect temperatures to rise above freezing after 0900L, etc.) and an outlook for 12 to 24 hours after the event.

3.10.2.2. The Snow and Ice Plan Notification Checklist will be emailed to any base organization or personnel requesting email notification. Requests to be added or removed from the email notification list should be addressed to the Weather Station Manager.

3.10.2.3. Those organizations and their contacts listed on the Snow and Ice Plan Notification Checklist will be the only organizations/personnel called by the WF to verify receipt of Snow and Ice Plans. See Attachment 4.

3.10.3. Snow and Ice Plan Notification Coordination. The Weather Station Manager will coordinate criteria for snow and ice plan issuance and contact information annually but NLT October 1st to ensure local criteria has not changed prior to the season.

3.10.3.1. Coordination will take place with the RPM manager (439 CE/PMI), Base Civil Engineering (439 MSG/CE), the Airfield Operations Manager (439 OSS/OSA), and the Airfield Manager (439 OSS/OSA).

3.10.3.2. The agencies listed above will notify the Weather Station Manager with any changes to criteria or contacts when they occur.

3.11. Westover Five Day Outlook. A general weather five day outlook will be provided daily for any base agency to use for planning purposes only. **This forecast is specific to Westover ARB and may not be representative of surrounding areas.** See **Attachment 5** for examples.

3.11.1. The Westover Five Day Outlook will be posted to the following location on the base "Y" drive by 0900L or as workload and duty priorities permit: **Y:\OG\337\ALL\Flying Briefs\WX Briefs**

3.11.2. During the fall/winter months, a "**Winter Precipitation Amount Outlook**" will also be provided to the general five day outlook and will be based on the following categories:

3.11.2.1. **MINIMAL** – Snow: < 1 inch and/or Ice: Trace

3.11.2.2. **MINOR** – Snow: ≥ 1 inch to < 6 inches and/or Ice: Trace to ≤ 1/4 inch

3.11.2.3. **MAJOR** – Snow: ≥ 6 inch and/or Ice: > 1/4 inch

3.11.2.4. **HIGHLY UNCERTAIN** – The weather situation dictates too much uncertainty to predict snow and/or ice amounts this far in advance. Customers should keep abreast of the upcoming weather situation as it gets closer to the day of the event. Note: A detailed Snow and Ice Plan Notification will be sent out one duty day prior to the event, even in "HIGHLY UNCERTAIN" weather situations.

3.11.3. During the spring/summer months, a "**Thunderstorm Potential Intensity Outlook**" will also be provided to the general five day outlook and will be based on the following categories:

3.11.3.1. **GENERAL** – Wind: < 25 KT and/or Hail: None

3.11.3.2. **WEAK** – Wind: ≥ 25 KT to < 35 KT and/or Hail: < 1/4 inch

3.11.3.3. **MODERATE** – Wind: ≥ 35 KT to < 50 KT and/or Hail: ≥ 1/4 inch to < 1/2 inch

3.11.3.4. **SEVERE** – Wind: ≥ 50 KT and/or Hail: ≥ 1/2 inch

3.12. Fitness Center 1. 5-Mile Run and 1.0-Mile Walk Forecast. Upon request from 439 FSS/SVMP fitness center personnel, the WF will provide a forecast for the 1.5-mile run and 1.0-mile walk. See Attachment 6 for an example. A verbal GO/NO GO will be passed on and a forecast worksheet will be filled out and posted to the Y drive at **Y:\Restricted\MSG\MSS\Fitness\Unit PT Exams** weather. Forecasts will be based on the following criteria per AFI 36-2905, *Fitness Program* and all criteria must be met in order for conditions to be a "GO":

3.12.1. The air temperature must be ≥ 20F.

3.12.2. There can be "no significant rain". 439 FSS/SVMP determined any amount of rain/drizzle will make it a "NO GO".

3.12.3. If it is a wet day (i.e., rain, mist, or heavy dew), the temperature, with the wind chill, must be > 34F.

3.12.4. Sustain wind must be ≤ 15 MPH.

3.12.5. Gusts must be ≤ 20 MPH.

3.12.6. There can be no snow accumulating on the running surface.

3.12.7. There can be no lightning within 5 NM and must wait at least 30 min after the last observed lightning.

3.12.8. There can be no hail forecast or reported within 25 miles.

3.12.9. Wet Bulb Globe Temperature (WBGT) must be < 86F at the start of the run/walk. Note: The WF does not do WBGT. Fitness center personnel must contact Bioenvironmental Engineering for the latest information at 557-2918.

3.12.10. A GO/NO GO forecast outlining the weather criteria will be provided to the 439 FSS/SVMP to be used to make their assessment and final determination of whether the exam will take place.

3.13. Wet Bulb Globe Temperature (WBGT). The responsibility of WBGT readings and notification lies with Bioenvironmental Engineering. Contact them at 557-2918 for information on WBGT.

Chapter 4

STAFF WEATHER SERVICES

4.1. General. Staff services are those briefings and other services provided primarily by WF leadership. The briefings may be provided in a non-flight MEF format focusing on planning for a particular event or a general informational brief for a specific audience. Examples include, but are not limited to, staff meetings, Installation Command Center (ICC) briefings, Crisis Action Team (CAT) briefings, and Instrument Refresher Course (IRC) briefings. Other services consist of, but are not limited to, meteorological training for ATC personnel and fulfilling any requests for meteorological data not provided on a scheduled or routine basis.

4.2. Staff Briefings. Staff weather briefings for 439 AW/CC (Wing Stand-up) will be provided as required. Standard information includes current synoptic situation, 24 hour synoptic situation, today's forecast with maximum/minimum temperatures, five day outlook, and flight following information for the next 24 hours.

4.3. IRC Briefings. IRC briefings are provided to the 337 AS upon request. Individualized instruction may be provided depending on technician availability and priority of duties.

4.4. ICC/CAT Briefings. The WF will provide weather briefings as required for ICC/CAT briefings. This includes real-world emergency, exercise, and deployment briefings. Each briefing will be tailored to provide the appropriate weather intelligence required by wing leadership.

4.5. Seasonal Weather Briefings. Upon request, the WF will provide a WF briefer for any required seasonal weather briefings.

4.6. Pre-deployment Planning Briefings. The WF will provide pre-deployment weather briefings when requested. The content of the briefing will vary depending on the customer's requirements.

4.7. Flight Information Publication (FLIP) Weather Updates. The WF is responsible for ensuring all weather information in FLIP products is accurate. All weather related revisions, corrections, or updates will be processed through the Airfield Management FLIP Manager, 439 OSS/OSAA, and submitted directly to the National Geospatial-Intelligence Agency (NGA).

4.8. ATC Limited Observation Training. The WF provides ATC Limited Observation Training as requested. The ATC individual seeking training will call the Weather Station Manager at DSN 589-3230 or Comm (413) 557-3230 and schedule an appointment.

4.9. Climatic Data Requests. Requests for climatological data can be made by phone, e-mail, or in person. The WF will provide climatological data for WARB and other locations either through locally maintained records or by utilizing the 14 WS/Air Force Combat Climatology Center (AFCCC) for any requests beyond the local capability to fill.

4.10. Support Assistance Requests (SAR). Any specialized support for terrestrial, space, or climatological services needed for base agencies or contractors will be handled by the WF. The WF will submit a SAR request to the appropriate agency.

Chapter 5

SPACE WEATHER SUPPORT AND PRODUCTS

5.1. General. Many AF weapons and communications systems use Global Positioning System (GPS), satellite communications (SATCOM) and high frequency (HF), very high frequency (VHF) and ultra-high frequency (UHF) radio waves that can be rendered useless by electro-magnetic radiation from the sun. This chapter contains some brief information regarding space weather support, limitations, and products such as space weather analyses, forecasts, alerts, and warnings.

5.2. Support. The WF will maintain working knowledge of AFWA space weather products to support Westover missions/systems that could potentially experiencing adverse space weather affects. Graphic products depicting space weather impacts on military systems have been created to provide near real-time data on potential system impacts and are available via web pages from the Air Force Weather Agency (AFWA) or National Oceanic and Atmospheric Administration (NOAA). Any space weather support requirements that cannot be met by AFWA's or NOAA's available space weather products will require the WF to submit a support assistance request (SAR) to AFWA. Sufficient time will be required for the SAR process to generate new products to best satisfy the requirement.

5.3. Limitations. Like terrestrial weather, there are numerous factors that influence space weather. One of the biggest limitations in identifying and forecasting space weather is a lack of sensors. Additionally, given the speed of solar wind and light, the ability to provide lead-times for significant space events can be extremely limited.

5.4. Products. Worldwide space weather products are available utilizing products generated at AFWA's strategic weather center and available through AFW-WEBS' Space Weather Main Page at **https://weather.af.mil/confluence/display/AFWWEBSTBT/Space+Weather+Main+Page**. Most space weather products from the strategic center are current to very short-term forecasts (6-hourly periods). Broad coverage CONUS- based space weather graphics products are available at **https://weather.af.mil/confluence/display/AFWWEBSTBT/CONUS%20Regional%20Space%20Weather**. AFW-WEBS products are the primary source used by the WF to provide the space weather portion of the flight MEF.

5.5. Additional Space Weather Products and Support. Other advanced graphical and textual-based space weather products are available via space weather web pages from AFWA via AFW-WEBS' Space Weather Main Page or NOAA at **http://sec.noaa.gov**. These websites present information concerning space weather events, warnings, observations, analyses, forecasts, and data summaries. Both websites also supply on- line help pages and educational materials (briefings, product catalogs, and links to other space weather sites). They provide additional details for these and other space weather products, data, and images. For additional information or product requests, contact the WF.

5.6. Reporting. Actual space weather impacts experienced by WARB personnel will be reported either through the WF, any Air Force weather unit, or via the AFW-WEBS site at **https://weather.af.mil/AFW_WEBS/forms/SpaceImpactAssessmentRequest.php.**

Chapter 6

RESOURCE PROTECTION SERVICES

6.1. General. Weather watches, warnings, and advisories for WARB are issued for customer specified/higher authority specified criteria and within a desired lead time (DLT), when required.

6.2. Support. The 15 OWS is responsible for issuing all forecast weather watches, warnings, and advisories. During WF duty hours, the 15 OWS and WF collaborate on all products issued. The WF is responsible for issuing all observed warnings

6.2.1. As the "eyes forward" for the 15 OWS, the WF can issue a forecast warning if there is an immediate threat to life and/or property and there is insufficient time for the 15 OWS to issue the weather warning and/or collaboration.

6.2.2. Additionally, the WF will issue all weather watches, warnings, and advisory products should the 15 OWS become unable to provide such products/services.

6.3. Severe Weather Action Plan(SWAP) Procedures. Although the primary responsibility for resource protection lies with the 15 OWS, the most effective protection comes from the 15 OWS and the WF working together using the "eyes forward" and collaboration processes. When the potential exists for severe weather to affect WARB, the 15 OWS and WF will implement SWAP.

6.3.1. SWAP is used to ensure sufficient personnel are available during potential/actual severe weather events or during meteorological and operational events critical to mission success.

6.3.2. It is imperative that timely and accurate weather watches, warnings, and advisories are disseminated to all WARB agencies for personnel safety and resource protection.

6.3.3. The WF will perform SWAP responsibilities as defined in AFMAN 15-111, AFMAN 15-129V1, AFMAN 15-129V2, AFI 15-128, AFI 10-229, AFMAN 10-206, and in the agreement with the 15 OWS documented in the OWS-WF Unit Data Page.

6.4. Limitations. Reports of actual weather conditions received from other than a certified Meteorological Technician are considered "unofficial" weather observations.

6.5. Weather Watches. Watches are issued whenever atmospheric conditions are forecast to become favorable for the development of a predefined weather event that poses a threat to life and property which could "potentially" occur within a 5 NM radium from the center of the WARB aerodrome.

6.5.1. Watches are issued 2 hours or more prior to the onset of the criteria listed in Table 6.1 when possible.

6.5.2. A watch will be upgraded to a warning should the criteria actually develop or when development is imminent and will pose a threat within a 5 NM radius of WARB.

Table 6.1. WARB Weather Watch Criteria.

Criteria	DLT

Tornado	As Potential Warrants
Severe Thunderstorm Wind ≥ 50 KT and/or Hail ≥ 1/2 inch	As Potential Warrants
Winds ≥ 50 KT (Not associated with thunderstorms)	As Potential Warrants
Freezing Precipitation (Any Intensity)	As Potential Warrants
Heavy Snowfall (≥ 6 inches accumulating in 12 hours)	As Potential Warrants
Blizzard *	As Potential Warrants
Lightning within 5 NM of WARB	30 minutes
*NOTE 1: Blizzard criteria includes a duration ≥ 3 hours, sustained wind or gusts ≥ 30 KT, and considerable falling and/or blowing snow with prevailing visibility frequently ≤ 1/4 SM. All criteria must be met.	

6.6. Weather Warnings. Weather warnings are issued when the criteria in **Table 6.2** pose a threat to life and property within a 5 NM radius of WARB.

Table 6.2. WARB Weather Warning Criteria and Minimum DLTs.

Criteria	Standard Lead-Time	WARB DLT*
Tornado	15 min	15 min
Severe Thunderstorm Wind ≥ 50 KT and/or Hail ≥ 1/2 inch	60 min	60 min
Wind ≥ 50 KT (Not associated with thunderstorms)	60 min	60 min
Moderate Thunderstorm Wind ≥ 35 KT but < 50 KT and/or Hail ≥ 1/4 inch but < 1/2 inch	60 min	60 min
Wind ≥ 35 KT but < 50 KT (Not associated with thunderstorms)	60 min	60 min
Freezing Precipitation (Any Intensity)	60 min	60 min
Heavy Snow (≥ 6 inches accumulating in 12 hours)	60 min	60 min

Blizzard**	60 min	60 min
Lightning within 5 NM***	Observed	Observed
Lightning within 10 NM***	Observed	Observed
*NOTE 1: Any DLTs > or < standard lead-times are based on WARB requirements specified in wing publications.		
**NOTE 2: Blizzard criteria includes a duration $\geq$ 3 hours, sustained wind or gusts $\geq$ 30 KT, and considerable falling and/or blowing snow with prevailing visibility frequently $\leq$ 1/4 SM. All criteria must be met.		
***NOTE 3: Observed Lightning Warnings are issued by the WARB WF when open. During WF closure periods, the 15 OWS at Scott AFB, IL will issue Observed Lightning Warnings based on lightning detection systems only. Therefore, ORM should still be exercised by all personnel.		

6.7. Observed Weather Warnings. Lightning warnings are the only type of "observed" weather warning issued for WARB. A Meteorological Technician will determine whether lightning is occurring within 5 NM or 10 NM of WARB and issue/cancel the appropriate warning when necessary. A lightning warning will remain in effect until a Meteorological Technician has determined that lightning has not occurred within the distance specified in the warning, 5 NM or 10 NM, **for a minimum of 15 minutes per AFMAN 15-111.**

6.7.1. Observed Lightning Warnings for the area within 5 NM radius of the center point of the WARB runway complex are issued in accordance with AFOSH Standards 91-66, *General Industrial Operations* and 91-100, *Aircraft Flight Line – Ground Operations and Activities.*

6.7.2. Observed Lightning Warnings for the area in a 5 NM-10 NM radius of the center point of the WARB runway complex are issued in accordance with AFMAN 91-201, *Explosives Safety Standards and Department of Defense (DoD) 6055.9-STD, DoD Ammunition and Explosives Safety Standards* Chapters 7, Paragraph C7.4.1.1.

6.8. Weather Advisories. A weather advisory is a special notice sent to customers whenever mission-limiting, non-severe weather is expected to occur at WARB. The predefined weather phenomenon may impact operations and is forecast to occur during the valid time of the advisory. WARB weather advisory criteria can be found in **Table 6.3**.

Table 6.3. WARB Weather Advisory Criteria and Minimum DLTs.

Criteria	DLT
Wind $\geq$ 25 KT but < 35 KT	60 minutes

6.9. Weather Watch, Warning, and Advisory Dissemination. All weather watches, warnings, and advisories are issued via JET and are numbered consecutively using five digits. The first two digits indicate the month and the last three digits indicate the sequence number (e.g., 04-003).

6.9.1. CP and the Maintenance Operations Center (MOC) will receive and automated email message containing the watch, warning, and/or advisory to their organization's email box. MOC will also receive a copy via JET.

6.9.2. The TWR will receive the watch, warning, and/or advisory into their local ATC system, Airfield Automated System (AFAS), via the JET system.

6.9.3. The WF will call CP, TWR, and MOC to verify receipt of all watches, warnings, and advisories.

6.9.4. All watches, warnings, and advisories will be verbally passed on to Airfield Management Operations (AMOPS)/Airfield Management.

6.9.5. Observed lightning warnings for "Lightning within 5 NM" are additionally disseminated verbally to Explosive Ordnance Disposal (EOD).

6.9.6. Observed lightning warnings for "Lightning within 10 NM" are disseminated via JET but are ONLY called out by the WF for dissemination or verification of receipt to EOD and MOC.

6.9.7. Certain weather warnings are disseminated by CP to the base "Giant Voice" system, in accordance with the Westover ARB Installation Emergency Management Plan 10-2, which allows all members on base to prepare for inclement weather.

6.9.8. Weather watches, warnings, and advisories are disseminated by CP to the AtHoc system 24/7.

6.9.9. Certain weather watches and warnings are disseminated by AMOPS via the Secondary Crash Network (SCN) per Westover ARB Installation Emergency Management Plan 10-2 and local policy.

6.9.10. Watches, warnings, and advisories will be called out by the WF in the following order:

6.9.10.1. CP

6.9.10.2. TWR

6.9.10.3. MOC

6.9.10.4. AMOPS

6.9.10.5. EOD for Observed Lightning Warnings for within 5 NM and 10 NM ONLY

6.10. Upgrades/Downgrades. Advisories and warnings will be upgraded (e.g., forecast winds increase from 35 knots to 50 knots) or downgraded as required. Upgrades should meet the desired lead times specified in Tables 6.1, 6.2, and 6.3. Only one forecast warning may be in effect at one time. If a warning is issued for one criteria and it becomes necessary to warn for another criteria, a new warning with a new number will be issued to include all criteria expected. A separate valid time may be specified for each criterion, if necessary.

6.11. Amendments/Extensions. Amendments/extensions to weather watches, warnings, and advisories will only be issued to change the valid time and will be issued before the original watch, warning, or advisory expires. New warnings and watches will be issued for any other change in weather criteria.

6.12. Cancellations. Watches, warnings, and advisories may be cancelled when the weather phenomena are no longer occurring or expected to occur. Cancellations will be disseminated in the same manner described above in 6.9 for issuances. However, if the product is not cancelled, it is assumed it will expire at the end of the valid period and additional notification will not occur.

6.13. Chemical, Biological, Radiological, Nuclear, and High Yield Explosive (CBRNE). CBRNE operations lie with Emergency Management (EM), Fire Emergency Services (FES), and Bioenvironmental Engineering (BEE). The WF will serve as the subject matter expert (SME) for weather information needed to run CBRNE models.

6.13.1. The WF will supply current weather information to EM, FES, and BEE to run plume models upon request.

6.13.2. The WF will also provide forecast meteorological information and, as the weather SME, will determine which meteorological model data will best represent the current and forecast state of the atmosphere. The following lists the forecast products/information that can be provided by the WF to the CBRNE team upon request:

6.13.2.1. **Chemical Downwind Message (CDM).** Used to predict the spread of chemical or biological agents after an incident or attack.

6.13.2.2. **Effective Downwind Message (EDM).** Used to provide wind information in the prediction of areas affected by fallout following a nuclear attack.

6.13.2.3. **Basic Wind Message (BWM).** Used to provide basic atmospheric information on wind, temperature, and pressure for a specific time and location surface to 30 KM.

6.13.2.4. Other Meteorological Information. Atmospheric information on wind, stability, temperature, humidity, weather, clouds, etc., can be provided by the WF upon request if information in CDMs, EDMs, or BWMs are inadequate, misrepresentative, or unavailable.

6.13.3. During WF closure periods, CDM, EDM, and BWM forecast products can be provided by the 15 OWS. Contact the 15 OWS Senior Duty Officer at DSN 576-9698/9699 or Comm (618) 256-9698/9699.

6.14. OPREP-3 Reporting. The WF will assist the 439 AW/CP with weather related OPREP-3 reports and provide the CP with all pertinent weather information as requested. The CP, in turn, will provide the WF with a copy of any weather related OPREP-3 summary reports. The WF will then forward this information to HQ AFRC/A3VA and the 15 OWS.

6.15. Tropical Cyclone Support. The WF monitors a Tropical Cyclone Threat Assessment Product (TC-TAP) that is posted by the 15 OWS when a tropical system poses a threat to the 15 OWS AOR (i.e., the northeast CONUS).

6.16.1. The WF **CANNOT** deviate from the 15 OWS TC-TAP forecast position, track, movement, maximum wind speed, or intensity. However, the WF can provide tailored weather forecasts for WARB based on the TC-TAP.

6.16.2. The WF will ensure all customers understand that the 48-hour and 72-hour outlooks (or longer if issued) contain a high degree of uncertainty, are for planning purposes only, and are subject to change.

Chapter 7

RECIPROCAL SUPPORT

7.1. General. This chapter outlines the support provided to the WARB WF by various base agencies.

7.2. 439 Operations Support Squadron.

7.2.1. 439 OSS/OSAA will:

7.2.1.1. Disseminate lightning watches and all weather warning products to designated agencies via the secondary crash network when applicable and as outlined in the Westover ARB Installation Emergency Management Plan 10-2 and local policy.

7.2.1.2. Notify WF Meteorological Technicians of aircraft emergencies, incidents, or accidents via the SCN.

7.2.1.3. Notify WF Meteorological Technicians of distinguished visitor arrivals, departures, and/or diversions.

7.2.1.4. Coordinate with the WF prior to any planned switch to generator power within Building 1610.

7.2.1.5. Notify WF Meteorological Technicians of new, updated, or changed procedural NOTAMs affecting circling, landing, and take-off minimums.

7.2.1.6. Issue/cancel NOTAMs for weather equipment upon WF request.

7.2.1.7. Notify WF Meteorological Technicians about aircraft arrival and departure times.

7.2.2. 439 OSS/OSAT will:

7.2.2.1. Notify the Weather Station Manager of changes to published approach minimums at WARB.

7.2.2.2. Provide control tower orientation training to Meteorological Technicians. The Weather Station Manager will provide limited observation training and certification for TWR personnel to report TWR prevailing visibility. Training in the Cooperative Weather Watch (CWW) program and orientation of WF operations will also be provided.

7.2.2.3. Provide backup monitoring of the WF's PMSV radio frequency, 274.75 MHz (UHF), in the event of an outage or evacuation to their Alternate Operating Location (AOL).

7.2.2.4. Notify the WF daily of airfield closure.

7.2.2.5. Notify the WF when the active runway is changed.

7.2.2.6. Report changes to runway edge light settings during periods when the visibility is less than 1 SM or RVR is 6000 FT or less. This ensures the FMQ-19 RVR is based on the appropriate light setting.

7.2.2.7. Relay all local pilot weather reports (PIREPs) received directly from the pilot to the WF within 5 minutes of receipt. Note: The Meteorological Technician will evaluate

the reported conditions and determine their use in observations, TAFs, and/or if a PIREP will be sent.

7.2.2.8. Initiate radio checks, when requested, to ensure proper PMSV operation.

7.2.2.9. Notify WF Meteorological Technicians when observations and/or wind information are no longer being received.

7.2.2.10. Notify WF Meteorological Technicians if elements in "automated" observations are missing or suspect due to possible equipment malfunction.

7.2.2.11. Notify the WF when any of the weather conditions in Table 7.1 occur as part of the CWW program. The Meteorological Technician's view from building 1610 is significantly obstructed by buildings south through southwest. Note: Upon receipt of this information, the Meteorological Technician will determine if augmentation is needed based on the AFMAN 15-111 and local policy. If augmentation is needed, the Meteorological Technician will determine if a SPECI will be generated or if conditions will be reflected in the next METAR.

Table 7.1. Cooperative Weather Watch Program.

1.	A tornado, funnel cloud, or waterspout is observed or is reported by other non-weather personnel (e.g., pilots), especially to the south through southwest.
2.	Lightning is observed, thunder is heard, or hail is falling, especially to the south through southwest.
3.	The Tower's prevailing visibility drops below 4 SM and differs by one or more reportable value.
4.	When the Tower's prevailing visibility "rapidly" increases or decreases when conditions are below 3 SM.
5.	When the visibility rapidly drops to the south through southwest.
6.	Any other meteorological condition that could have an immediate, significant impact on the airfield and/or aircraft operations.

7.3. 439 AW/CP will:

7.3.1. Immediately relay changes in the flight MEF to aircrews when received from the WF.

7.3.1.1. For critical MEF updates, they will pass on the current Operations Supervisor's (OPSUP) contact information to the WF so they may speak with them directly.

7.3.2. Immediately relay all mission status updates (i.e., maintenance delays, changes to departure times, changes to mission destinations, etc.) to the WF for all LOCAL and non-IFM missions. This will allow the WF to properly MISSIONWATCH the mission and determine if the MEF for the mission needs to be updated, especially when non-IFM missions are delayed or there are changes to destinations.

7.3.3. Ensure the fastest dissemination of all weather watches, warnings, and advisories upon receipt in accordance with the Westover ARB Installation Emergency Management Plan 10-2.

7.3.3.1. CP has the primary responsibility for sounding the Emergency Notification System (Giant Voice) in the event of a tornado warning or other significant warnings (e.g., observed lightning warning, wind warning, etc.).

7.3.3.2. CP has the primary responsibility for disseminating weather watches, warnings, and advisories via the AtHoc system for base-wide distribution 24/7.

7.3.4. Request the assistance of the WF in providing required weather information to be included in any required OPREP-3 reports. Copies of any weather related OPREP-3 reports will be provided to the Weather Station Manager.

7.4. 439 AW/PA will:

7.4.1. Act as a liaison for inquiries from the general public to include, but not limited to, news sources, lawyers, construction companies, local government agencies, and individuals not associated with any base agency or base contractor.

7.4.2. Refer public requests to the servicing National Weather Service office at **http://www.erh.noaa.gov/box/contact.shtml**.

7.4.3. Authorize any information that may be given to the general public by the WF. The WF will not pass on any current, forecast, or climatological information without going through PA.

7.5. 439 CS will:

7.5.1. Provide, coordinate, or arrange for the installation, maintenance, outage, and repair of all weather communication and meteorological sensing equipment.

7.5.2. Support the WF when conducting troubleshooting or replacement of JET equipment.

7.5.3. Provide all necessary support to the JET Sensor Collection Appliance (SCA) that is housed and maintained by 439 CS in building 1510, room 132.

7.5.4. Advise the WF on any change in weather system connectivity.

7.5.5. Notify the WF prior to conducting routine maintenance on weather equipment, communication equipment, and JET so as not to degrade the mission capabilities of the WF during periods of inclement weather. Preventive maintenance will be provided as appropriate and as time permits.

7.5.6. Restore critical systems based on the restoral priorities that have been established in the event of natural disaster, or any other anomaly, that simultaneously impacts systems base-wide. See Table 7.2 for weather equipment priorities.

7.5.7. While the 439 CS will be the main contact for coordination with all off-base agencies to repair off-base lines, weather data, and telephone circuits, they will ensure that a 24-hour point of contact is established for reporting outages and meeting established maintenance response times.

Table 7.2. Restoral Priorities.

Equipment	Organization	Response Times
PMSV	439 CS/SCOA	24 hours

RVR/Visibility	439 CS/SCOA	24 hours
LAN/Internet Connectivity	439 CS/SC	24 hours
Laser Beam Ceilometer	439 CS/SCOA	24 hours
Temperature/Relative Humidity	439 CS/SCOA	24 hours
Wind	439 CS/SCOA	24 hours
Pressure	439 CS/SCOA	24 hours
Ice Accretion	439 CS/SCOA	24 hours
Precipitation Identification	439 CS/SCOA	24 hours
Ambient Light	439 CS/SCOA	24 hours
Rain Bucket	439 CS/SCOA	24 hours
Lightning Detection	439 CS/SCOA	24 hours

7.6. 337 AS will:

7.6.1. Notify the WF when current/planned mission specifics change in order for the WF to provide the most accurate information possible and/or to provide updates if necessary. A minimum of 30 minutes is required for preparation of an updated MEF.

7.6.2. Provide post-mission feedback. The WF utilizes this data to refine their mission support role, gauge WF products strengths and weaknesses, and review forecasting techniques used.

7.6.3. Advise the WF of any known future changes in general mission or support requirements (e.g., adding in new training requirements, changes to weather minimums whether permanent or temporary, etc.).

7.6.4. Coordinate any changes to the format or issuance of MWPs or MEFs provided by the WF with the Weather Station Manager.

7.6.5. Provide PIREPs directly to the WF via the PMSV, phone, TWR, or CP as frequently as possible.

7.6.6. Coordinate any weather briefing support that would need to be provided by the WF outside the WF's normal duty hours with the Weather Station Manager as soon as possible.

7.6.7. Coordinate weather support for any special training activities, exercises, or events with the Weather Station Manager as far in advance as possible. Coordination of weather limitations and notification procedures may need to be established. The Weather Station Manager may also need to submit weather Support Assistance Requests (SAR) to appropriate agencies in advance for activities that take place away from WARB when it is not practical or possible for the WF to provide the support.

7.7. 439 MOS/MOCC. Will exercise ORM for lightning that may affect their operations when the WARB WF is closed. MOC will be given access to AFW-WEBS' lightning detection for use outside of WF operating hours to assist in the ORM process.

7.7.1. The 15 OWS at Scott AFB, IL will provide observed lightning warnings for within 5 NM and 10 NM of WARB when the WF is closed. However, MOC will still need to exercise ORM when lightning is observed and/or thunder is heard as these "observed" warnings will be based on lightning detection systems ONLY. Lightning detection systems have limitations and do not detect all lightning strikes.

7.7.2. During WF operating hours, WARB Meteorological Technicians will make the official determination on lightning that affects all WARB operations and, therefore, will determine if observed warnings for lightning within 5 NM and 10 NM will be issued or cancelled.

7.8. All Unit Agencies Receiving Weather Support will:

7.8.1. Notify WF through proper chain of command when new weather support requirements are identified.

7.8.2. Coordinate changes/additions to weather support requirements as soon as they are foreseen with the Weather Station Manager.

7.8.3. Promptly inform the Weather Station Manager of any requests for climatological data or specialized support required for day-to-day operations on WARB.

STEVEN D. VAUTRAIN, Colonel, USAFR
Commander, 439th Airlift Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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

AFI 10-206, *Operational Reporting*, 06 September 2011

AFI 10-229, *Responding to Severe Weather Events*, 15 October 2003

AFI 15-114, *Functional Resource and Weather Technical Performance Evaluation*, 7 December 01

AFI 15-128, *Air Force Weather Roles and Responsibilities*, 07 February 2011

AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, 24 January 07

AFI 11-2C-5V3, *C-5 Operations Procedures*, 24 February 2012

AFI 11-202V3, *General Flight Rules*, 22 October 2012

AFI 36-2905, *Fitness Program*, 03 January 2013

AFI 11-418, *Operations Supervision*, 15 September 2011

AFMAN 11-210, *Instrument Refresher Program (IRP)*, 3 February 2005

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 91-201, *Explosives Safety Standards*, 12 January 2011

AFOSH Standard 91-100, *Aircraft Flight Line – Ground Operations and Activities*, 20 September 2005

DoD 6055.9-STD, Incorporating Through Change 2, 21 August 2009, *DoD Ammunition and Explosives Safety Standards*, 29 February 2008

Westover ARB Installation Emergency Management Plan (10-2), 15 January 2013

439 AW Mishap Investigation Plan 91-204

Unit Data Page – Agreement between the 15 OWS and 439 OSS/OSAW

Forms Adopted

DD Form 175-1, Flight Weather Briefing

Abbreviations and Acronyms

AFAS—Airfield Automated System

AFCCC—Air Force Combat Climatology Center

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFOSH—Air Force Occupational Safety Hazard

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFWA—Air Force Weather Agency

AFW—WEBS – Air Force Weather Web Services

AMOPS—Airfield Management Operations

AMOS—Automated Meteorological Observing System

AOL—Alternate Operating Location

AR—Air Refueling

AIREP—Air Report

AS—Airlift Squadron

ATC—Air Traffic Control

AW—Airlift Wing

BEE—Bioenvironmental Engineering

BWM—Basic Wind Message

BWW—Basic Weather Watch

C—Celsius

CAT—Crisis Action Team

CBRNE—Chemical, Biological, Radiological, and High Yield Explosive

CC—Commander

CDM—Chemical Downwind Message

CONUS—Continental United States

CMWP—Control Mission Weather Product

CP—Command Post

CS—Communications Squadron

CWW—Cooperative Weather Watch

DLT—Desired Lead Time

DoD—Department of Defense

DST—Daylight Savings Time

EDM—Effective Downwind Message

EM—Emergency Management

EOD—Explosive Ordinance Disposal

EST—Eastern Standard Time

EWO—Emergency War Order

F—Fahrenheit

FES—Fire Emergency Services

FLIP—Flight Information Publication

FT—Feet

GDSS—2 – Global Decision Support System 2

GPS—Global Positioning System

HF—High Frequency

HQ—Headquarters

ICC—Installation Command Center

IFM—Integrated Flight Mission

IRC—Instrument Refresher Course

IRP—Instrument Refresher Program

JET—Joint Environmental Toolkit

KT—Knot

LAN—Local Area Network

M—Meter

MEF—Mission Execution Forecast

MEFP—Mission Execution Forecast Process

METAR—Aviation Routine Weather Report

MHz—Megahertz

MOC—Maintenance Operations Center

MOS—Maintenance Operation Squadron

MPH—Miles per Hour

MSG—Maintenance Support Group

MWP—Mission Weather Products

NGA—National Geospatial-Intelligence Agency

NM—Nautical Mile

NOAA—National Oceanic and Atmospheric Administration

NOTAM—Notice to Airmen

NWS—National Weather Service

OPR—Office of Primary Responsibility

OPREP—Operational Report

OPSUP—Operations Supervisor

ORM—Operational Risk Management

OSS—Operations Support Squadron

OWL—Operational Weather Limiters

OWS—Operational Weather Squadron

PA—Public Affairs

PIREP—Pilot Report

PMSV—Pilot to Metro Service

RDS—Records Disposition Schedule

RVR—Runway Visual Range

SAR—Support Assistance Request

SATCOM—Satellite Communications

SCA—Sensor Collection Appliance

SCN—Secondary Crash Network

SM—Statue Miles

SOP—Standard Operating Procedure

SPECI—Aviation Selected Special Weather Report

SWAP—Severe Weather Action Plan

TAF—Terminal Aerodrome Forecast

TC-TAP—Tropical Cyclone Threat Assessment

TWR—Air Traffic Control Tower

UHF—Ultra High Frequency

WARB—Westover Air Reserve Base

WBGT—Wet Bulb Globe Temperature

WF—Weather Flight

WOP—Wing Operations Plan

Z—Zulu Time

Attachment 2

SPECIAL WEATHER OBSERVING CRITERIA

A2.1. General. SPECI surface weather observations will be taken and disseminated for the criteria listed in this attachment. However, the ceiling, sky condition, visibility, and RVR criteria listed below are subject to temporarily change if procedural NOTAMs have been issued for the WARB airfield. Any changes that occur between updated publications of this regulation will be published in the WARB Cooperative Weather Watch (CWW). Please see the CWW for current SPECI criteria or contact the WF.

A2.1.1. Ceiling SPECI Criteria.

Figure A2.1. Ceiling SPECI Criteria.

Ceiling SPECI Criteria: **SPECI's are generated when the ceiling forms or dissipates below, decreases to less than, or if below, increase to equal or exceed the values listed.**		
200 FT	**800 FT**	**2000 FT**
300 FT	**900 FT**	**3000 FT**
500 FT	**1000 FT**	
600 FT	**1100 FT**	
700 FT	**1500 FT**	
Ceiling heights are measured and reported in feet above ground level (AGL)		

A2.1.2. Sky Condition. A layer of clouds (it does not have to be a ceiling) or obscuring phenomena aloft is observed below **1100 FT** and no layer was reported below this height in the previous METAR or SPECI.

A2.1.3. Visibility SPECI criteria:

Figure A2.2. Visibility SPECI criteria.

Visibility SPECI Criteria: **SPECI's are generated when visibility decreases to less than, if below, increase to equal or exceed the values listed.**		
1/4 SM	**1 1/4 SM**	**2 1/2 SM**
1/2 SM	***(1 3/8 SM)**	**3 SM**
3/4 SM	**1 1/2 SM**	
***(7/8 SM)**	***(1 5/8 SM)**	
1 SM	**1 3/4 SM**	
***(1 1/8 SM)**	**2 SM**	
*** Values in parentheses are SPECI criteria for Westover ARB but are not reportable values in AMOS observations**.		

A2.1.4. RVR SPECI criteria:

Figure A2.3. RVR SPECI Criteria.

Runway Visual Range (RVR) SPECI Criteria: **SPECI's are generated when the highest RVR value during the preceding 10 minutes decreases to less than or, if below,**

increases to equal or exceed the values listed.		
600 FT	2000 FT	5500 FT
1000 FT	2400 FT	6000 FT
1200 FT	4000 FT	
1600 FT	4500 FT	
1800 FT	5000 FT	
When RVR is first determined as unavailable (RVRNO) for the runway in use, and when it is first determined that the RVRNO report is no longer applicable, provided conditions for the reporting RVR exist.		

A2.1.5. Tornado, funnel cloud, or waterspout. Is observed, disappears from sight or ends.

A2.1.6. Thunderstorm (occurring at the station within 5 NM). Either begins or ends. Note: A thunderstorm is considered to have ended 15 minutes after the last occurrence within 5 NM of the aerodrome.

A2.1.7. Thunderstorm in the vicinity (occurring within 5-10 NM of the station). Either begins or ends. Note: A thunderstorm is considered to have ended 15 minutes after the last occurrence within 5-10 NM of the aerodrome. This is local policy SPECI criteria due to the requirement of issuing observed lightning warnings for within 10 NM.

A2.1.8. Precipitation.

A2.1.8.1. Hail ($\geq$ 1/2 inch) begins or ends.

A2.1.8.2. Freezing precipitation begins, ends, or changes intensity.

A2.1.8.3. Any other type of precipitation that begins or ends. NOTE: Except for freezing rain, freezing drizzle, and hail, a SPECI observation is not required for changes in type (e.g., drizzle changing to snow) or the beginning or ending of one type while another is in progress (e.g., snow changing to rain).

A2.1.9. Wind.

A2.1.9.1. **Shifts.** A directional change of 45 degrees or more in less than 15 minutes with a wind speed of 10 KT or more throughout the wind shift.

A2.1.9.2. **Squall.** A strong wind characterized by a sudden onset in which the wind speed increases at least 16 KT and is sustained at 22 KT or more for at least one minute.

A2.1.10. **Upon resumption of Observing Services.** If "supplementing" or providing "back-up" to the AMOS, a SPECI observation will be taken within 15 minutes after the Meteorological Technician returns to duty following a break in observing coverage or augmentation at the unit unless a record observation if filed during that 15 minute period. If AMOS is functioning properly and is in "AUTO", a SPECI observation is not required.

A2.1.11. **Volcanic Eruption.** When eruption or a volcanic ash cloud is first noted.

A2.1.12. **Aircraft Mishap.** ASPECI observation will be taken immediately following notification or sighting of an aircraft mishap at or near the observing location if augmenting the observations in back-up mode and/or supplementing observations for the mandatory or local policy supplementing criteria. A SPECI is not required if AMOS is functioning properly and is in "AUTO".

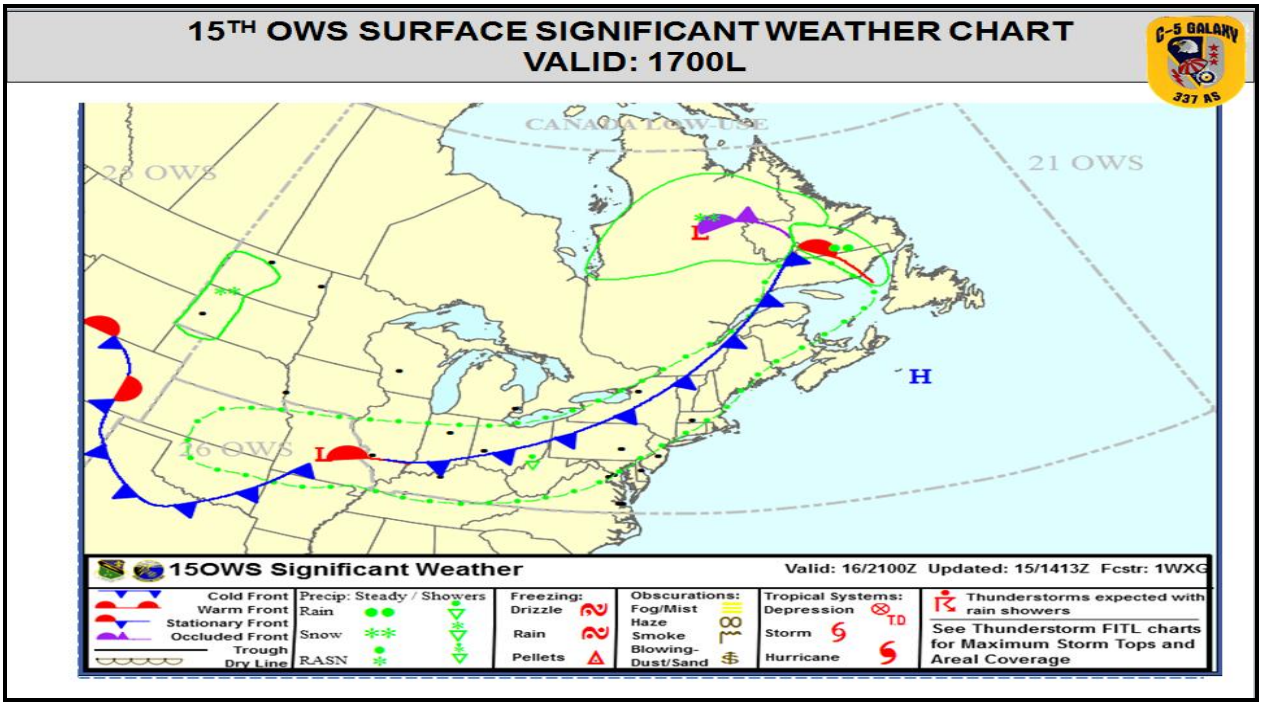
A2.1.13. Any other meteorological situation that in the Meteorological Technician's opinion is critical to the mission or flight safety.

Attachment 3

MISSION WEATHER PRODUCTS (MWP) – 337 AS FLIGHT MISSION EXECUTION FORECAST (MEF)

A3.1. General. The WF's forecast products for flying missions are organized into a standard format for LOCAL/LOCAL AR MEFs and OFFSTATION MEFs. Examples of these products are presented below. Forecast products for non-flying missions will be tailored individually to satisfy the customer's request.

A3.1.1. Sample LOCAL/LOCAL AR MEF.



Watches/Warnings/Advisories

04-017 WIND ADVISORY 25-34KT VALID CURRENT -2100L

WESTOVER ARB FORECAST AND AIRFIELD INFORMATION
VALID TIME: 1700L-2100L

TIME (L)	WIND DIR	WIND SPEED (KT)	VIS (SM) / WX	CLOUDS	RMK	TEMP (C)	PA (FT)	ALSTG (IN)
1700-2000	190	15 G 25	7	SCT030 BKN060 BKN100	LGT-MDT TURBC 020-180	+17	65	30.11
TEMPO	200	18 G 30						
2000-2100	190	12 G 20	7	SCT025 BKN035 OVC100	LGT-MDT TURBC 020-180	+13	84	30.09
TEMPO	200	15 G 25		BKN025				
		G						

ACTIVE RWY: 23

SPACE WEATHER IMPACTS		
HF COMM	FAVORABLE	
SOLAR DATA		
CIVIL TWILIGHT (L)	START	0539
	END	2002
SUN (L)	RISE	0607
	SET	1933

NOTE
CROSSWIND CALCULATED USING ONLY RUNWAY HEADING AND FORECASTED WIND SPEED / DIRECTION, TO INCLUDE GUSTS.

CROSSWIND AND HEAD/TAIL WIND INFORMATION (BY TIME)

TIME (L)	RUNWAY 05/23 X-WND	RUNWAY 05/23 H/T-WND	RUNWAY 15/33 X-WND	RUNWAY 15/33 H/T-WND
1700-2000	16	19	16	19
TEMPO	15	26	23	19
2000-2100	13	15	13	15
TEMPO	12	22	19	16
	0	0	0	0

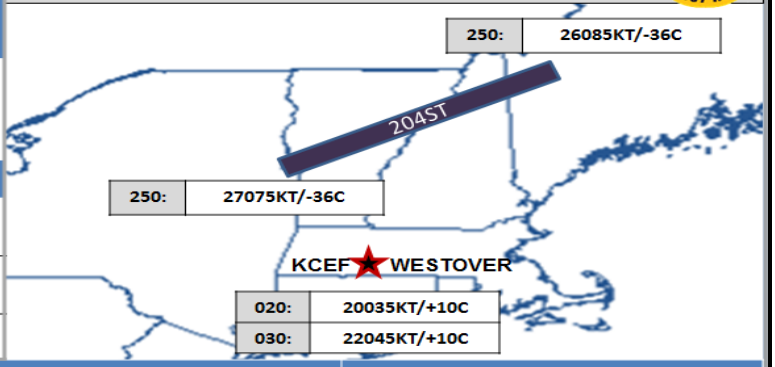
This slide is provided on LOCAL AR MEFs ONLY

AR204ST FORECAST

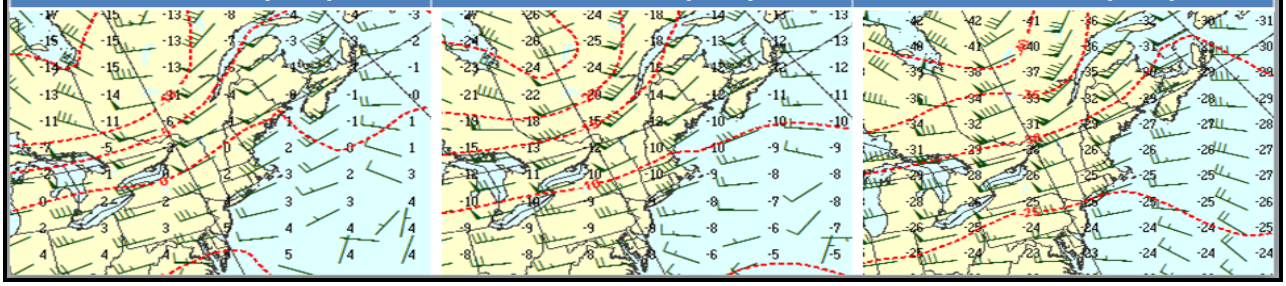
SKY CONDITION	VISIBILITY IN CLOUD (+3NM ASSUMED OUTSIDE OF CLOUD UNLESS OTHERWISE NOTED)
210 FEW-SCT 250	+5NM
180 SCT-BKN 210	1-3NM
010 OVC 180	≤ 1/2NM

HAZARDS	
TURBC	LGT-MDT 020-180; MDT 180-320 FAR NE
ICG	LGT RIME 180-210 LGT MXD 100-180
TSTM	NONE

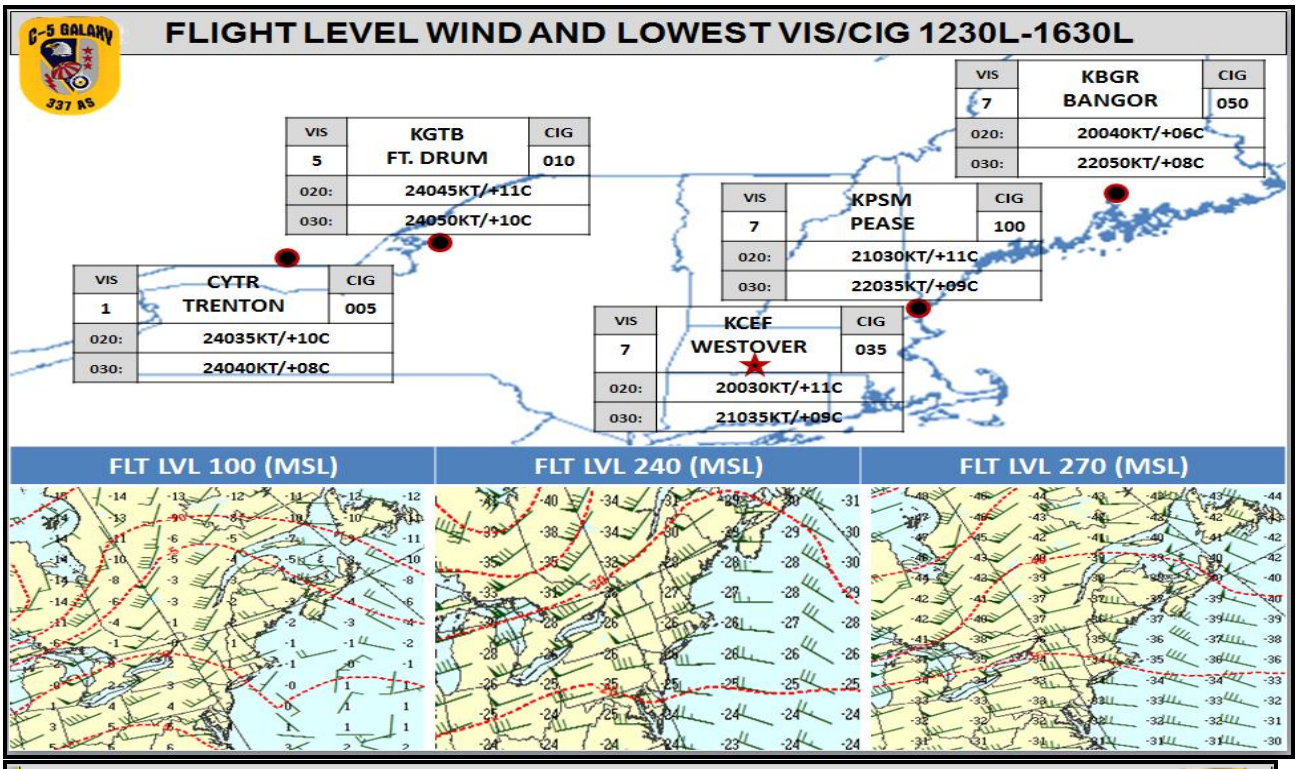
AR204ST FORECAST AND WIND INFORMATION
VALID TIME: 1915L-2015L

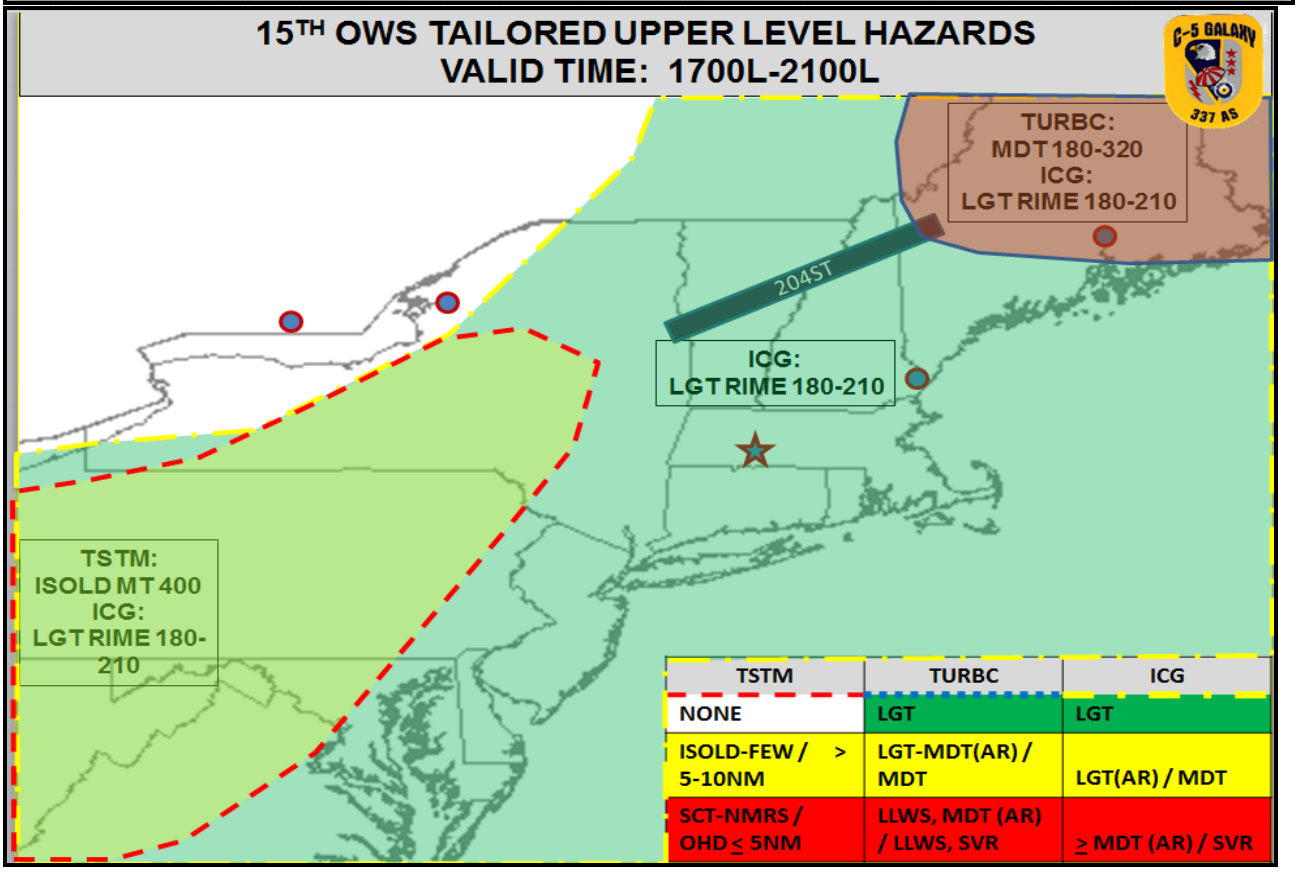


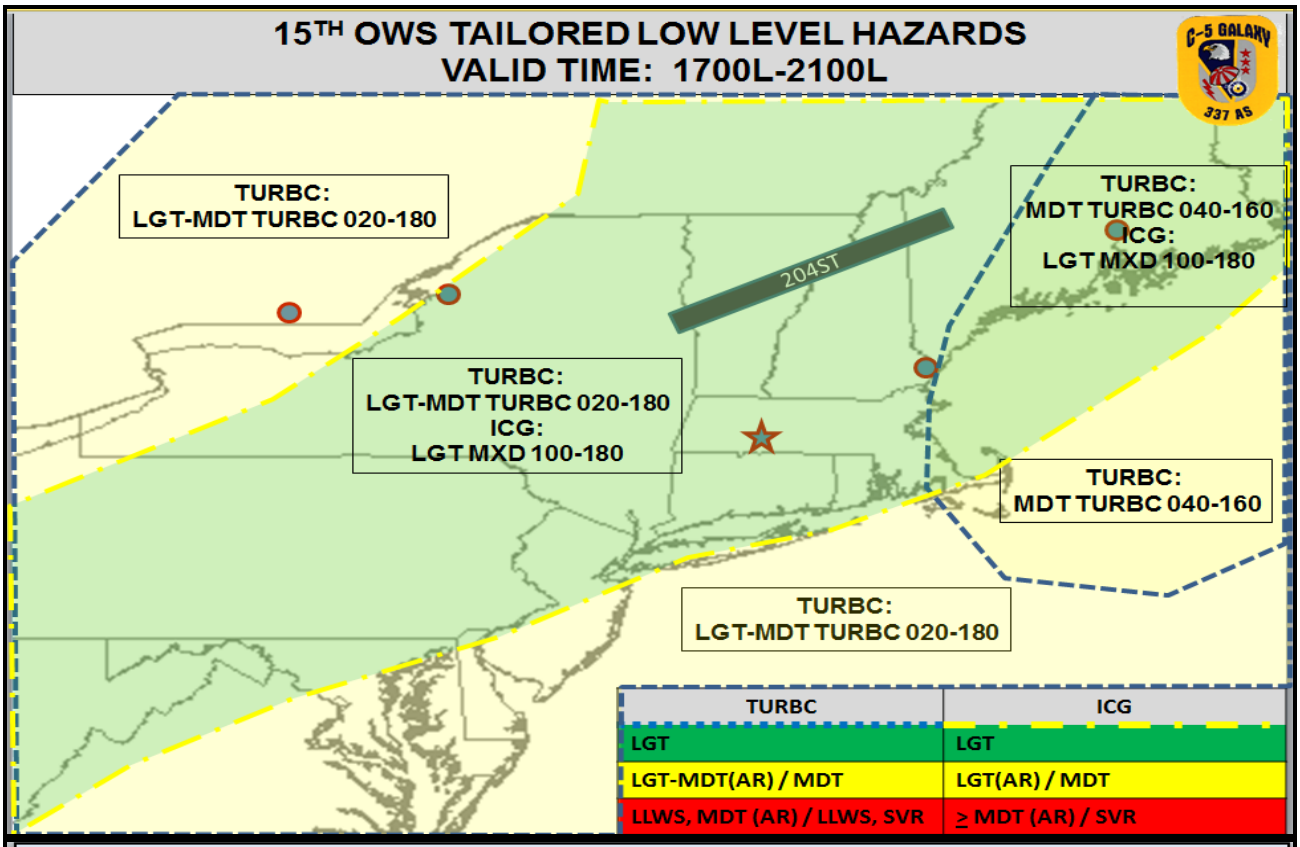
FLT LVL 100 (MSL) | FLT LVL 150 (MSL) | FLT LVL 250 (MSL)



This slide is provided on LOCAL MEFs ONLY


FLIGHT LEVEL WIND AND LOWEST VIS/CIG 1230L-1630L
C-5 GALAXY 337 AS
VIS 5 KGTB FT. DRUM CIG 010
020: 24045KT/+11C
030: 24050KT/+10C
VIS 1 CYTR TRENTON CIG 005
020: 24035KT/+10C
030: 24040KT/+08C
VIS 7 KBGR BANGOR CIG 050
020: 20040KT/+06C
030: 22050KT/+08C
VIS 7 KPSM PEASE CIG 100
020: 21030KT/+11C
030: 22035KT/+09C
VIS 7 KCEF WESTOVER CIG 035
020: 20030KT/+11C
030: 21035KT/+09C
FLT LVL 100 (MSL)
FLT LVL 240 (MSL)
FLT LVL 270 (MSL)


15TH OWS TAILORED UPPER LEVEL HAZARDS
VALID TIME: 1700L-2100L
C-5 GALAXY 337 AS
TURBC: MDT 180-320 ICG: LGT RIME 180-210
204ST
ICG: LGT RIME 180-210
TSTM: ISOLD MT 400 ICG: LGT RIME 180-210
TSTM | TURBC | ICG
NONE | LGT | LGT
ISOLD-FEW / > 5-10NM | LGT-MDT(AR) / MDT | LGT(AR) / MDT
SCT-NMRS / OHD ≤ 5NM | LLWS, MDT (AR) / LLWS, SVR | ≥ MDT (AR) / SVR

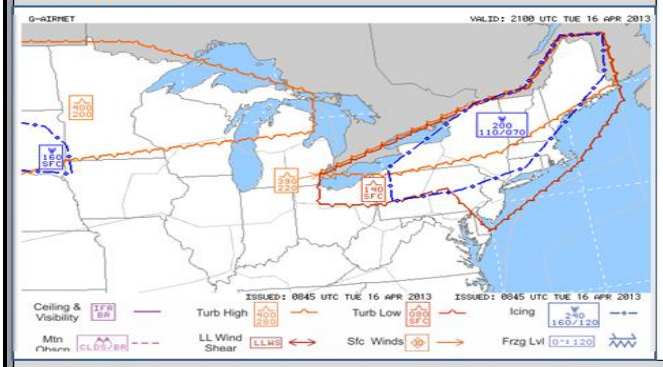


FLARE TRAINING AREAS
VALID TIME: 1700L-2100L

C-5 GALAXY 337 AS

	CLOUDS	VISIBILITY IN CLOUD (+3NM ASSUMED OUTSIDE OF CLOUD UNLESS OTHERWISE NOTED)	HAZARDS
W105A AREA C (S of Nantucket)	100 SCT 180	+5NM	MDT TURBC 040-160
W104A (E of Boston)	070 BKN-OVC 250	< 1NM	MDT TURBC 040-160; LGT MXD ICG 100-180; LGT RIME ICG 180-210
W103 (E of Pease)	050 BKN-OVC 250	< 1NM	MDT TURBC 040-160; LGT MXD ICG 100-180; LGT RIME ICG 180-210
R5201 (NE of FT Drum)	010 OVC 150	≤ 1/2 NM	LGT-MDT TURBC 020-180; LGT MXD ICG 100-150

AIRMETS



SIGMETS

NONE

Turbulence AIRMET | Icing AIRMET | IFR Instrument Flight Rules AIRMET | MTOS Mountain Obscuration AIRMET | Convective Outlook | Convective SIGMET

PIREPS:

NONE

ALTERNATE WEATHER LOCATIONS
VALID TIME: 1700L-2100L

BANGOR - KBGR

TIME (L)	DIR	SPD	(KT	VIS / WX	CLOUDS	T (C)	PA (FT)	ALSTG	X-WND	
1700-2000	190	16 G	26	7	BKN050	+10	127	29.99	RWY15/33	17
2000-2100	190	17 G		3 -SHRA	OVC015	+08	146	29.97	RWY15/33	11
		G							RWY15/33	0

PEASE - KPSM

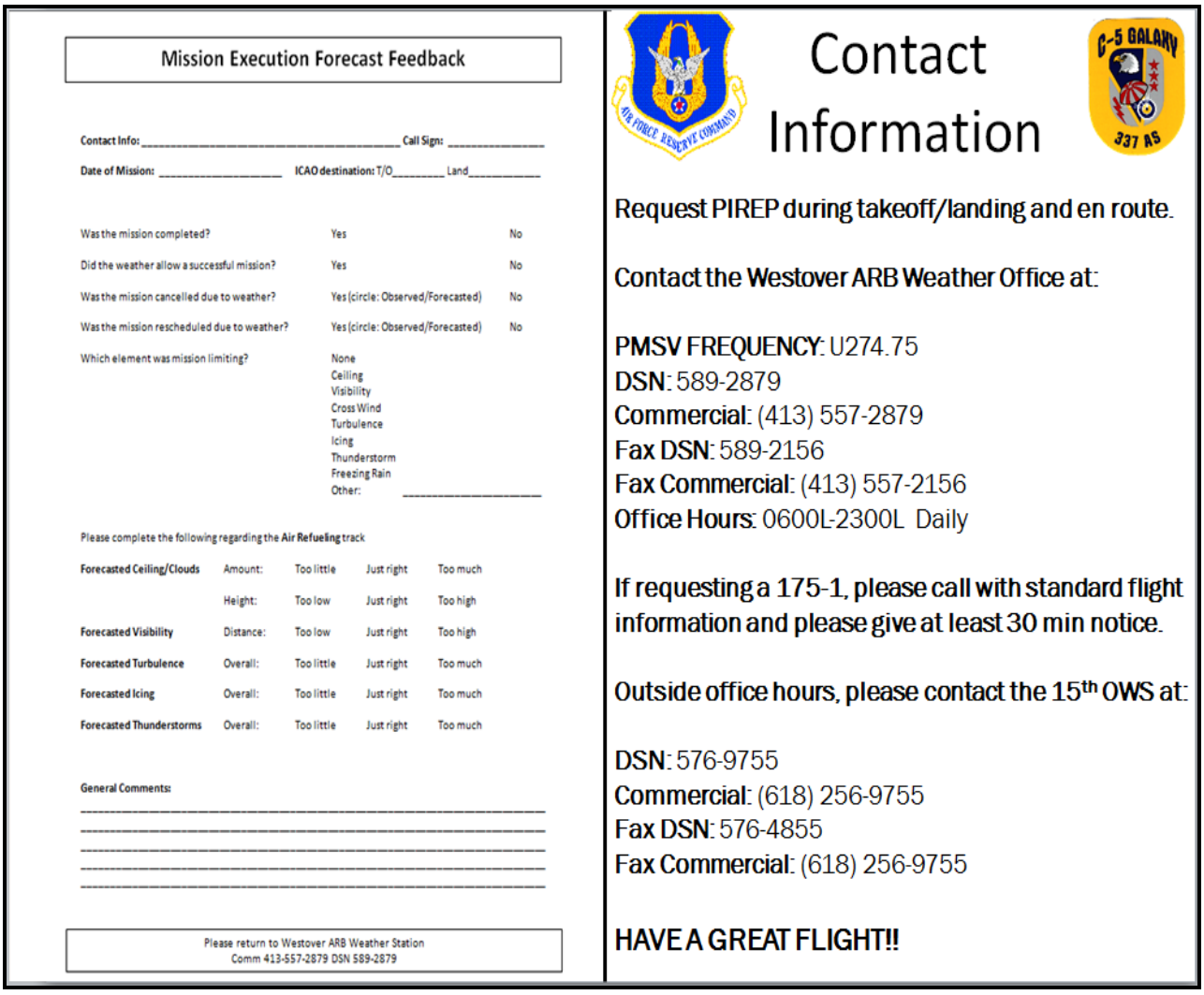
TIME (L)	DIR	SPD	(KT	VIS / WX	CLOUDS	T (C)	PA (FT)	ALSTG	X-WND	
1700-2000	180	16 G	26	7	OVC100	+16	-20	30.05	RWY16/34	9
2000-2100	190	14 G		7 VCSH	OVC050	+13	-29	30.06	RWY16/34	7
		G							RWY16/34	0

TRENTON - CYTR

TIME (L)	DIR	SPD	(KT	VIS / WX	CLOUDS	T (C)	PA (FT)	ALSTG	X-WND	
1700-1900	280	12 G	22	5 -SHRA	BKN012 OVC040	+09	181	30.03	RWY06/24	14
1900-2100	290	10 G		7	FEW030	+07	126	30.09	RWY06/24	8
		G							RWY06/24	0

FT DRUM - KGTB

TIME (L)	DIR	SPD	(KT	VIS / WX	CLOUDS	T (C)	PA (FT)	ALSTG	X-WND		
									03/21	08/26	15/33
1700-1900	210	15 G	30	5 -SHRA	BKN010 OVC020	+11	599	30.02	0	23	26
1900-2100	270	12 G		7	FEW020 SCT150	+09	534	30.09	10	2	10
		G							0	0	0



Mission Execution Forecast Feedback

Contact Info: _____ Call Sign: _____

Date of Mission: _____ ICAO destination: T/O_____ Land_____

Was the mission completed?	Yes	No
Did the weather allow a successful mission?	Yes	No
Was the mission cancelled due to weather?	Yes (circle: Observed/Forecasted)	No
Was the mission rescheduled due to weather?	Yes (circle: Observed/Forecasted)	No
Which element was mission limiting?	None Ceiling Visibility Cross Wind Turbulence Icing Thunderstorm Freezing Rain Other: _____	

Please complete the following regarding the **Air Refueling** track

Forecasted Ceiling/Clouds	Amount:	Too little	Just right	Too much
	Height:	Too low	Just right	Too high
Forecasted Visibility	Distance:	Too low	Just right	Too high
Forecasted Turbulence	Overall:	Too little	Just right	Too much
Forecasted Icing	Overall:	Too little	Just right	Too much
Forecasted Thunderstorms	Overall:	Too little	Just right	Too much

General Comments:

_____
_____
_____
_____
_____

Please return to Westover ARB Weather Station
Comm 413-557-2879 DSN 589-2879

Contact Information

C-5 GALAXY 337 AS

Request PIREP during takeoff/landing and en route.

Contact the Westover ARB Weather Office at:

PMSV FREQUENCY: U274.75
DSN: 589-2879
Commercial: (413) 557-2879
Fax DSN: 589-2156
Fax Commercial: (413) 557-2156
Office Hours: 0600L-2300L Daily

If requesting a 175-1, please call with standard flight information and please give at least 30 min notice.

Outside office hours, please contact the 15th OWS at:

DSN: 576-9755
Commercial: (618) 256-9755
Fax DSN: 576-4855
Fax Commercial: (618) 256-9755

HAVE A GREAT FLIGHT!!

A3.1.2. Sample **OFFSTATION** MEF.

27 AUG 2012
Prepared by XX POSTED 1015L
RCH5006

GO	MARGINAL		NO-GO	
	1630Z	1700Z	1800Z	1900Z
TAKEOFF/LANDING	ETD KSKF 1630Z			ETA KCEF 1950Z
ENROUTE			FEW TSTM MD-SE NY	

SPACE WEATHER IMPACTS	
HF COMM	FAVORABLE

NOTE:
- Forecast valid for Flight Mission Time ONLY as noted in GDSSII and annotated above.
- Any mission delays exceeding 1hour will need to be passed on to the Meteorological Technician as this brief will require an update.
- ENROUTE data applies to Route of Flight within 25 miles either side of route (if known) and within 5000 FT above and below the planned flight level.

TAKE OFF/LANDING

≥ 2000 / ≥3 | ≥200 to <2000 / ≥1/2 to <3 / TSTM >5-10 | <200 / <1/2 / TSTM OHD-5 / FZ PCPN / LLWS

ENROUTE

NO HZDS | TSTM ISOLD-FEW / MDT TURB / MDT ICG | TSTM SCT-NMRS / SVR TURB / SVR ICG

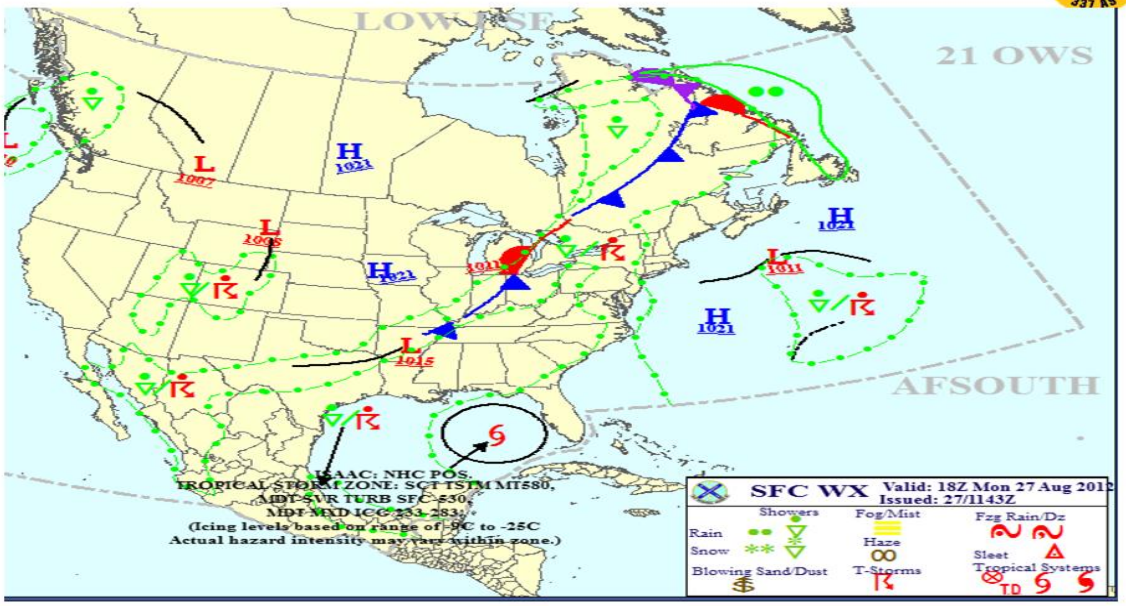
AR

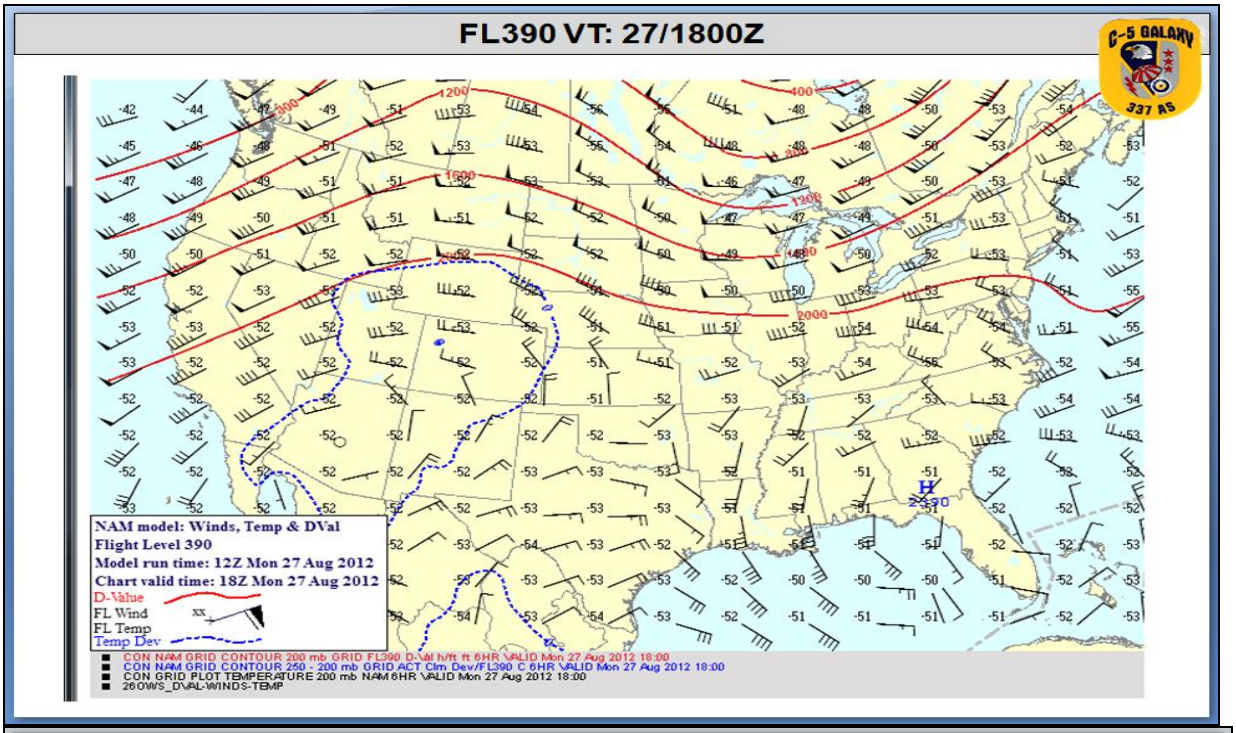
NO HZDS | TSTM ISOLD-FEW / LGT-MDT TURB / LGT ICG / 1-3NM | TSTM SCT-NMRS/ ≥MDT TURB / ≥MDT ICG/ <1NM

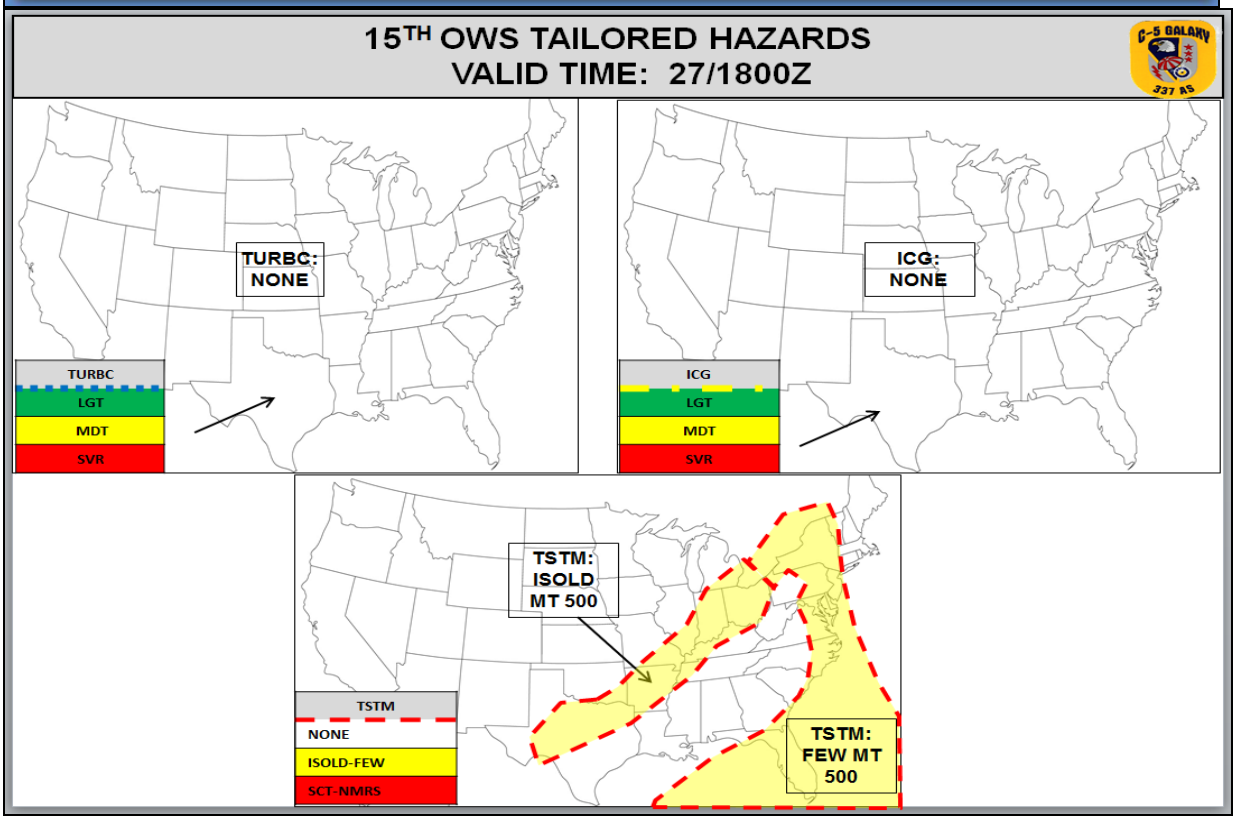
SPACE WEATHER IMPACTS

FAVORABLE | MARGINAL | UNFAVORABLE

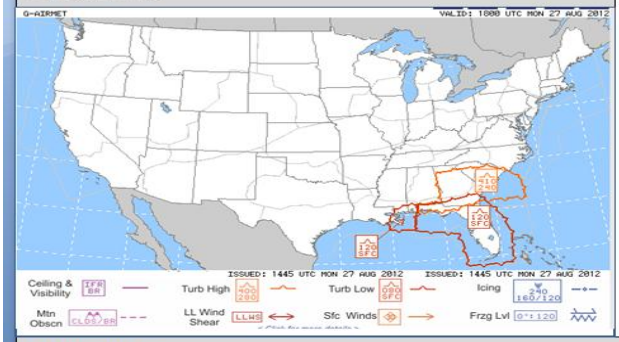
15TH OWS SURFACE SIGNIFICANT WEATHER CHART
VALID: 27/1800Z



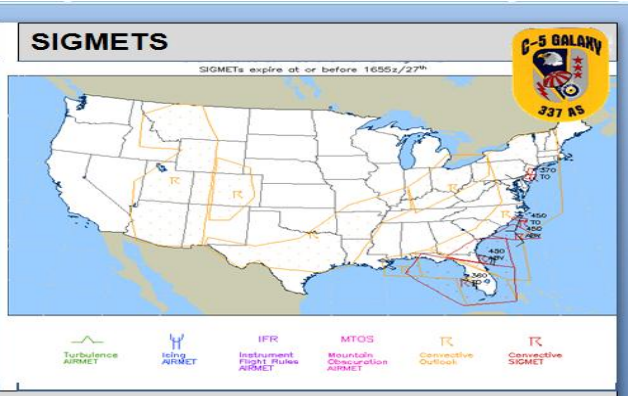

FL390 VT: 27/1800Z
C-5 GALAXY
337 AS
NAM model: Winds, Temp & DVal
Flight Level 390
Model run time: 12Z Mon 27 Aug 2012
Chart valid time: 18Z Mon 27 Aug 2012
D-Value
FL Wind
FL Temp
Temp Dev
CON NAM GRID CONTOUR 200 mb GRID FL390 D-Val h/ft ft 6HR \VALID Mon 27 Aug 2012 18:00
CON NAM GRID CONTOUR 250 - 200 mb GRID ACT Clm Dev/FL390 C 6HR \VALID Mon 27 Aug 2012 18:00
CON GRID PLOT TEMPERATURE 200 mb NAM 6HR \VALID Mon 27 Aug 2012 18:00
26OWS_D\VAL-WINDS-TEMP


15TH OWS TAILORED HAZARDS
VALID TIME: 27/1800Z
C-5 GALAXY
337 AS
TURBC:
NONE
TURBC
LGT
MDT
SVR
ICG:
NONE
ICG
LGT
MDT
SVR
TSTM:
ISOLD
MT 500
TSTM
NONE
ISOLD-FEW
SCT-NMRS
TSTM:
FEW MT
500

AIRMETS



SIGMETS



PIREPS:

NONE

AF FORM 175-1 NOTES:

- **PRINTABLE VERSION OF YOUR FLIGHT WEATHER BRIEFING CAN BE FOUND IN YOUR CALL SIGN FOLDER UNDER WX BRIEFS**

*****PLEASE SEE THE 175-1 IN THE OFFSTATION FOLDER FOR RCH5006*****

Future Briefs and Contact Information

Contact the Westover ARB Weather Flight for any future, non-IFM, weather briefs or for assistance in setting up weather briefs for a mission at:

DSN: 589-2879
Commercial: (413) 557-2879
PMSV Frequency: U274.75
Office Hours: 0600L-2300L Daily

- If requesting a 175-1, call with standard flight information and please give at least 30 min notice when possible.

Outside of Westover ARB's Weather Flight hours:

- Contact the weather station at the transient location for assistance, if applicable.
- If weather is not available at the transient location, contact the servicing OWS for the transient location for a flight weather briefing. A two hour notice may be required. See below for OWS contact information.

HAVE A GREAT FLIGHT!!

26 OWS (Southeast/South-central U.S.) DSN 331-2600 COMM (318)-529-2651	15 OWS (Northeast/Great Lakes/Midwest U.S./West N Atlantic) DSN 576-9755 COMM (618)-256-9755	25 OWS (West/Southwest U.S.) DSN 228-6598 COMM (520)-228-6598

612 SPTS/WX (Caribbean/Central & South America) DSN 228-1977 COMM (520)-228-1977	17 OWS (Pacific/Alaska/Hawaii/Southeast Asia) DSN 315-448-3809 COMM (808)-448-3809	28 OWS (Middle East/Southwest Asia) DSN 965-0906 COMM (803)-895-0906	21 OWS (Europe/Africa/East N Atlantic) DSN 489-2133 COMM 0631-536-2133

Mission Execution Forecast Feedback

Contact Info: _____ **Call Sign:** _____

Date of Mission: _____ **ICAO destination:** T/O_____ Land_____

Was the mission completed?	Yes	No
Did the weather allow a successful mission?	Yes	No
Was the mission cancelled due to weather?	Yes (circle: Observed/Forecasted)	No
Was the mission rescheduled due to weather?	Yes (circle: Observed/Forecasted)	No
Which element was mission limiting?	None Ceiling Visibility Cross Wind Turbulence Icing Thunderstorm Freezing Rain Other: _____	

Please complete the following regarding the **Air Refueling** track

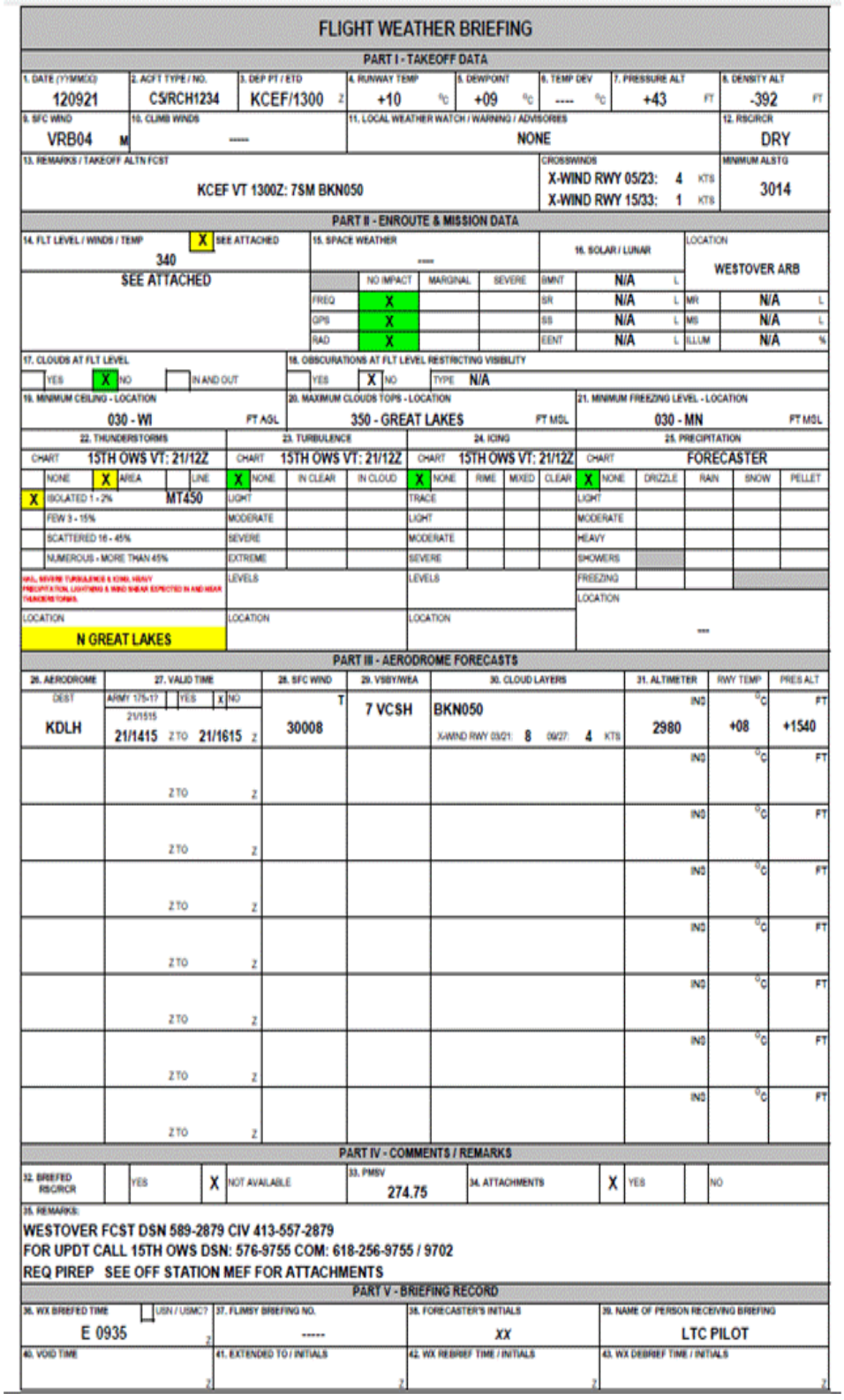
Forecasted Ceiling/Clouds	Amount:	Too little	Just right	Too much
	Height:	Too low	Just right	Too high
Forecasted Visibility	Distance:	Too low	Just right	Too high
Forecasted Turbulence	Overall:	Too little	Just right	Too much
Forecasted Icing	Overall:	Too little	Just right	Too much
Forecasted Thunderstorms	Overall:	Too little	Just right	Too much

General Comments:

_____
_____
_____
_____
_____

Please return to Westover ARB Weather Station
Comm 413-557-2879 DSN 589-2879

A 175-1 is also provided for OFFSTATION missions in addition to the slides shown above.



FLIGHT WEATHER BRIEFING

PART I - TAKEOFF DATA

1. DATE (YYMMDD)	2. ACFT TYPE / NO.	3. DEP PT / ETD	4. RUNWAY TEMP	5. DEWPOINT	6. TEMP DEV	7. PRESSURE ALT	8. DENSITY ALT
120921	C5/RCH1234	KCEF/1300 Z	+10 °C	+09 °C	---- °C	+43 FT	-392 FT

9. SFC WIND	10. CLIMB WINDS	11. LOCAL WEATHER WATCH / WARNING / ADVISORIES	12. RSCR/CR
VRB04 M	-----	NONE	DRY

13. REMARKS / TAKEOFF ALTN FCST	CROSSWINDS	MINIMUM ALSTG
KCEF VT 1300Z: 7SM BKN050	X-WIND RWY 05/23: 4 KTS X-WIND RWY 15/33: 1 KTS	3014

PART II - ENROUTE & MISSION DATA

14. FLT LEVEL / WINDS / TEMP	X SEE ATTACHED	15. SPACE WEATHER	16. SOLAR / LUNAR	LOCATION
340 SEE ATTACHED		-----		WESTOVER ARB

	NO IMPACT	MARGINAL	SEVERE				
FREQ	X			BMNT	N/A L		
GPS	X			SR	N/A L	MR	N/A L
RAD	X			SS	N/A L	MS	N/A L
				EENT	N/A L	ILLUM	N/A %

17. CLOUDS AT FLT LEVEL	18. OBSCURATIONS AT FLT LEVEL RESTRICTING VISIBILITY
YES X NO IN AND OUT	YES X NO TYPE N/A

19. MINIMUM CEILING - LOCATION	20. MAXIMUM CLOUDS TOPS - LOCATION	21. MINIMUM FREEZING LEVEL - LOCATION
030 - WI FT AGL	350 - GREAT LAKES FT MSL	030 - MN FT MSL

22. THUNDERSTORMS	23. TURBULENCE	24. ICING	25. PRECIPITATION
CHART 15TH OWS VT: 21/12Z	CHART 15TH OWS VT: 21/12Z	CHART 15TH OWS VT: 21/12Z	CHART FORECASTER

NONE	X AREA	LINE	X NONE	IN CLEAR	IN CLOUD	X NONE	RIME	MIXED	CLEAR	X NONE	DRIZZLE	RAIN	SNOW	PELLET
X ISOLATED 1 - 2%	MT450		LIGHT			TRACE				LIGHT				
FEW 3 - 15%			MODERATE			LIGHT				MODERATE				
SCATTERED 16 - 45%			SEVERE			MODERATE				HEAVY				
NUMEROUS - MORE THAN 45%			EXTREME			SEVERE				SHOWERS				
			LEVELS			LEVELS				FREEZING				
			LOCATION			LOCATION				LOCATION				
N GREAT LAKES										---				

PART III - AERODROME FORECASTS

26. AERODROME	27. VALID TIME	28. SFC WIND	29. VSBY/WEA	30. CLOUD LAYERS	31. ALTIMETER	RWY TEMP	PRES ALT
DEST KDLH	ARMY 175-17 YES X NO 21/1515 21/1415 ZTO 21/1615 Z	T 30008	7 VCSH	BKN050 X-WIND RWY 03/21: 8 09/27: 4 KTS	IN 2980	°C +08	FT +1540
	ZTO Z				IN	°C	FT
	ZTO Z				IN	°C	FT
	ZTO Z				IN	°C	FT
	ZTO Z				IN	°C	FT
	ZTO Z				IN	°C	FT
	ZTO Z				IN	°C	FT
	ZTO Z				IN	°C	FT

PART IV - COMMENTS / REMARKS

32. BRIEFED RSC/RCR	YES	X NOT AVAILABLE	33. PMSV	34. ATTACHMENTS	X YES	NO
			274.75			

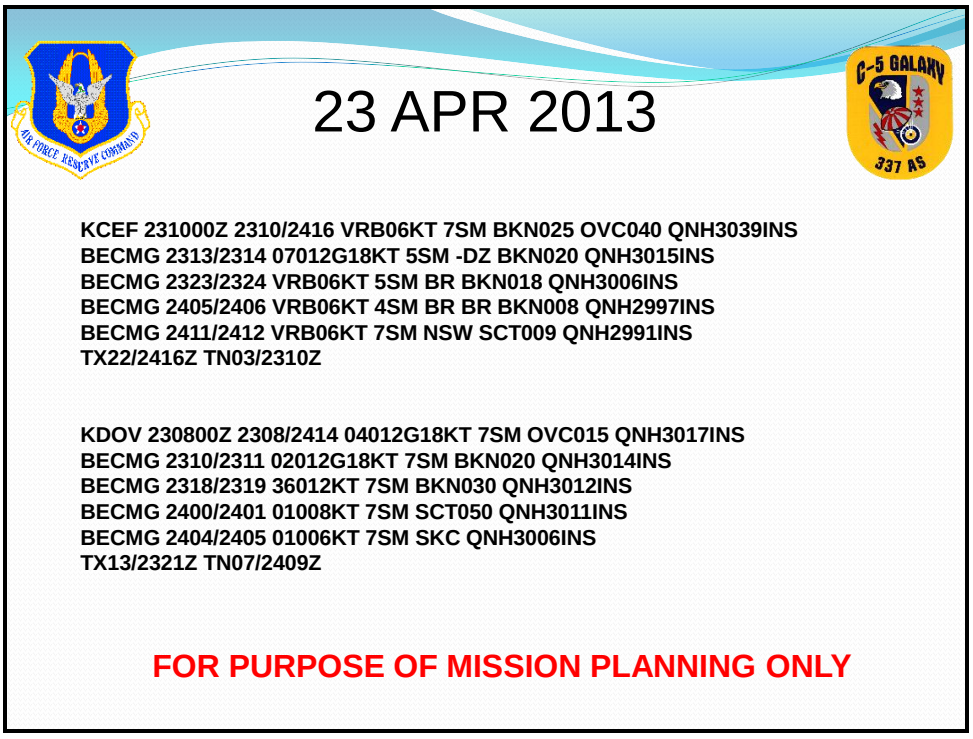
35. REMARKS:
WESTOVER FCST DSN 589-2879 CIV 413-557-2879
FOR UPDT CALL 15TH OWS DSN: 576-9755 COM: 618-256-9755 / 9702
REQ PIREP SEE OFF STATION MEF FOR ATTACHMENTS

PART V - BRIEFING RECORD

36. WX BRIEFED TIME	USN / USMC?	37. FLIMSY BRIEFING NO.	38. FORECASTER'S INITIALS	39. NAME OF PERSON RECEIVING BRIEFING
E 0935 Z		-----	XX	LTC PILOT

40. VOID TIME	41. EXTENDED TO / INITIALS	42. WX REBRIEF TIME / INITIALS	43. WX DEBRIEF TIME / INITIALS
Z	Z	Z	Z

A3.1.3. Sample **IFM** MEF. This is for planning purposes ONLY. The official brief for IFM missions is provided by 618 AOC (TACC)/XOW at Scott AFB, IL.


23 APR 2013
C-5 GALAXY
337 AS
KCEF 231000Z 2310/2416 VRB06KT 7SM BKN025 OVC040 QNH3039INS
BECMG 2313/2314 07012G18KT 5SM -DZ BKN020 QNH3015INS
BECMG 2323/2324 VRB06KT 5SM BR BKN018 QNH3006INS
BECMG 2405/2406 VRB06KT 4SM BR BR BKN008 QNH2997INS
BECMG 2411/2412 VRB06KT 7SM NSW SCT009 QNH2991INS
TX22/2416Z TN03/2310Z
KDOV 230800Z 2308/2414 04012G18KT 7SM OVC015 QNH3017INS
BECMG 2310/2311 02012G18KT 7SM BKN020 QNH3014INS
BECMG 2318/2319 36012KT 7SM BKN030 QNH3012INS
BECMG 2400/2401 01008KT 7SM SCT050 QNH3011INS
BECMG 2404/2405 01006KT 7SM SKC QNH3006INS
TX13/2321Z TN07/2409Z
FOR PURPOSE OF MISSION PLANNING ONLY

Attachment 4

SNOW AND ICE PLAN NOTIFICATION

A4.1. Sample Snow and Ice Plan.

SNOW and ICE PLAN NOTIFICATION CHECKLIST

TIME/DATE: 1300L 07 FEB 2013

WEATHER FORECAST

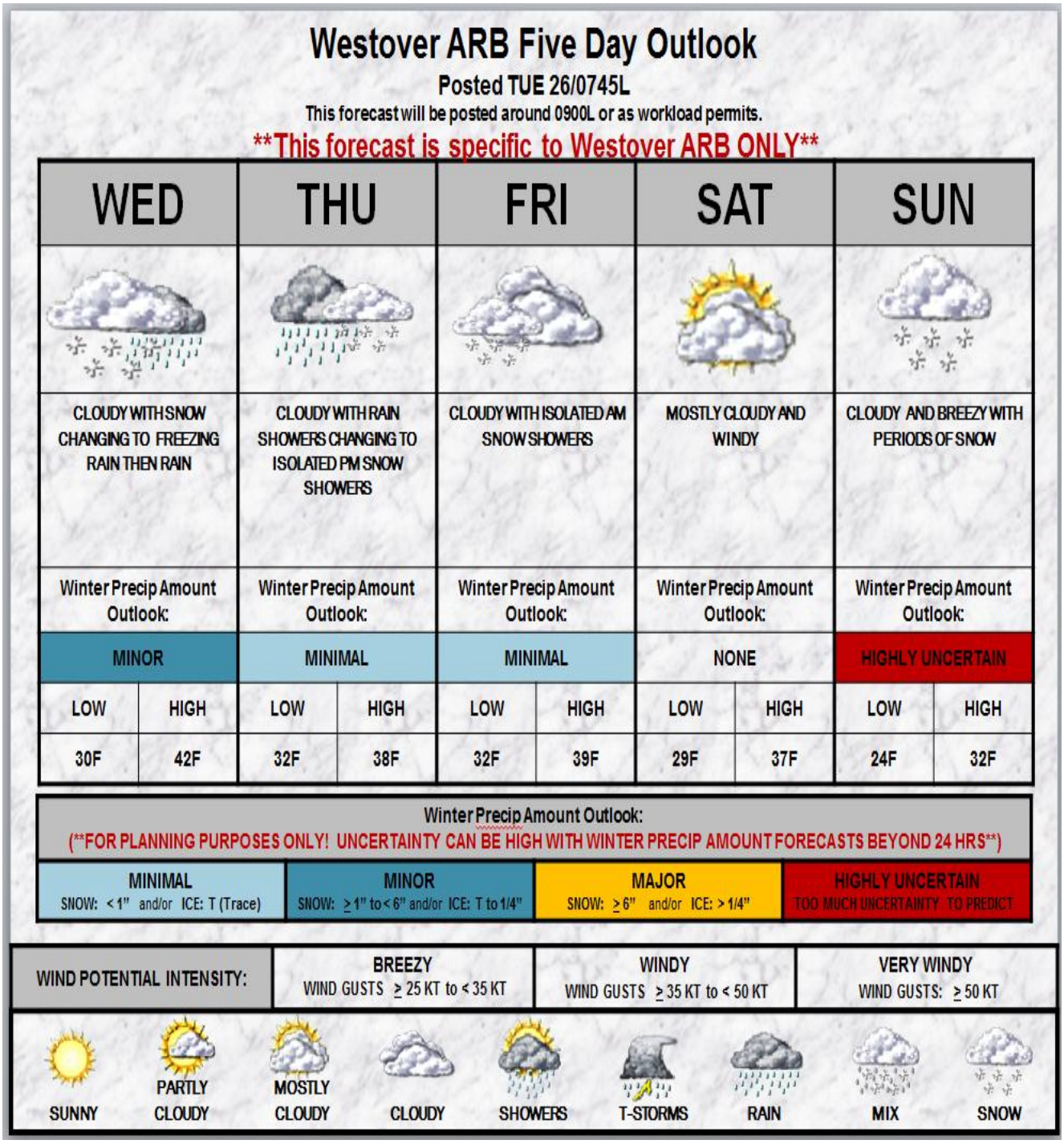
ORGANIZATION Time Frame Precip Type	NAME & PHONE# Precip Amount Temp	INITIALS Wind	TIME
RPM MANAGER (Call with all updates)	**(Primary)**- XX **DP-557-2437** Home # ###-###-#### Cell # ###-###-####		
RPM SUPERVISOR (Call with all updates)	**(Primary)** XX **DP-557-2163** Cell # ###-###-####		
ROADS AND GROUNDS LEAD (Call with all updates)	**(Primary)**- XX -**DP-557-2511** Cell # ###-###-#### Home # ###-###-####		
AIRFIELD MANAGEMENT **During duty hours**, call primary/alternate to verify receipt. Updates via email only. **During non-duty hours**, print out all plans and pass on to the Base Ops on duty controller.	**(Primary)**- XX- **DP-557-2944** Cell # ###- ###-#### (**Alternate**)- XX- **DP-557-2187** Cell# ###-###-####		
BCE (Updates via email only)	**(Primary)** XX **DP-557-3812** Cell # ###-###-#### Home# ###-###-#### (**Alternate**) XX **DP-557-2836** Home # ###-###-#### Cell # ###-###-####		
AIRFIELD OPERATIONS MGR (Updates via email only) AIRFIELD MANAGEMENT QAP (Updates via email only)	**(Primary)** XX- **DP-557-2710** Cell # ###-###-#### (**Alternate**) XX- **DP-557-3370** Cell # ###-###-####		
PMI PROJECT MANAGER (Updates via email only)	**(Primary)** XX - **DP-557-2009** Cell # ###-###-#### (**Alternate**) XX **DP-557-3119/x3805** Cell # ###-###-#### Home# ###-###-####		
COMMAND POST (Call and verify receipt of all plans)	On Duty controller via Hotline **(Alternate) 557-3571/3572/3573**		
FIRE DEPARTMENT (Verify receipt. Updates via email only)	On Duty controller at **557-3818**		
CONTRACTING OFFICE (Normal Duty Hours Only. Updates via email)	**(Primary)** XX **DP- 557-3139** **(Alternate**) XX **DP-557-2603**		

Attachment 5

WESTOVER FIVE DAY OUTLOOK

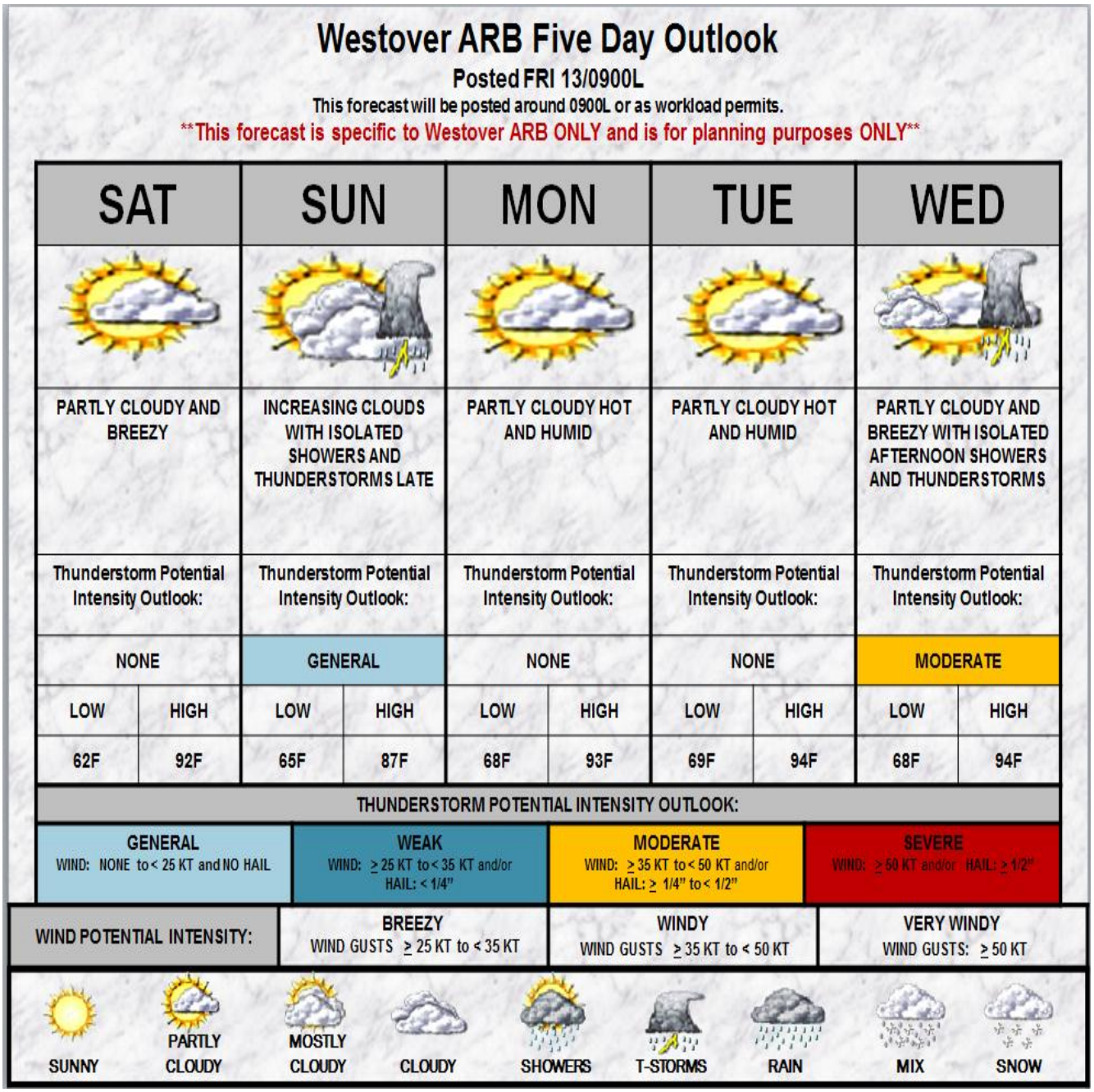
A5.1. Sample Fall/Winter Westover Five Day Outlook.

Figure A5.1. Sample Fall/Winter Westover Five Day Outlook.



A5.2. Sample Spring/Summer Westover Five Day Outlook.

Figure A5.2. Sample Spring/Summer Westover Five Day Outlook.



Attachment 6

FITNESS CENTER 1.5-MILE RUN AND 1.0-MILE WALK FORECAST

A6.1. Sample Fitness Center 1. 5-Mile Run and 1.0-Mile Walk Forecast.

Figure A6.1. Sample Fitness Center 1.5-Mile Run and 1.0-Mile Walk Forecast.

Fitness Center 1.5-Mile Run and 1.0-Mile Walk PT Forecast **All conditions must be met per AFI 36-2905**					
DATE:	**12 JUN 2013**	**TIME FRAME OF RUN/WALK:**		**1000-1300**	**L**
AFI 36-2905 Condition:		**Forecast Value / Comments**	**UNIT**	**NO GO**	**GO**
1. Air temperature must be ≥ 20F.		66-72	F		X
2. There can be "no significant rain". 439 FSS/SVMP determined any amount of rain/drizzle will make it a "NO GO". Will there be a trace or more of rain/drizzle?		NONE			X
3. If it is a wet day (i.e. rain, mist, or heavy dew), the temperature must be > 34F, **including wind chill.**		N/A	F		X
4. Sustain wind must be ≤ 15 mph.		16	MPH	X	
5. Gusts must be ≤ 20 mph.		29	MPH	X	
6. There can be no snow accumulating on the running surface. Will there be accumulating snow?		NONE			X
7. There can be no lightning within 5NM and must wait at least 30 min after the last observed lightning. Will there be lightning within 5NM?		NONE			X
8. There can be no hail forecast or reported within 25 miles. Will hail be a threat?		NONE			X
9. Wet Bulb Globe Temperature (WBGT) must be < 86F at the start of the run/walk. **CALL BIOENVIRONMENTAL FOR WBGT!**		**Refer them to Bioenvironmental at 557-2918.**		N/A	N/A
Based on Steps 1-8, the run/walk is a:				X	
Forecaster Initials:	WX	Post to Y drive at:	**Y:\Restricted\MSG\MSS\Fitness\Unit PT Exams weather**		
		Phone:	**557-3958/2667**		