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KIRTLAND AIR FORCE BASE**

**KIRTLAND AIR FORCE BASE  
INSTRUCTION 15-101**



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**WEATHER SUPPORT**

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This instruction implements 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*, AFMAN 15-129V2, *Air and Space Weather Operations - Exploitation*. It establishes responsibilities and weather support procedures. It also provides general information for weather services, including weather observations and forecasts, weather warnings, watches, and advisories; space weather data, information dissemination, and base-wide reciprocal support. It applies to units assigned to the 377th Air Base Wing (377 ABW), subordinate units, and units assigned, attached, or supported by Kirtland Air Force Base (KAFB). This publication does not apply to Air Force Reserve Command (AFRC) Units. This publication does not apply to the Air National Guard (ANG). Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFI 33-363, *Management of Records*, and disposed of IAW the Air Force Records Information System (AFRIMS) *Records Disposition Schedule (RDS)*. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional's chain of command.

**SUMMARY OF CHANGES**

This revision of KIRTLANDAFBI 15-101 replaces references to AFMAN 15-129V2, *Aerospace Weather Operations – Processes and Procedures*; with references to, AFMAN 15-129V1, *Air and Space Weather Operations - Characterization*; and AFMAN 15-129V2, *Air and Space Weather Operations – Exploitation*. It replaces references to the New Tactical Forecast System (NTFS) which is now obsolete, with the Joint Environmental Toolkit (JET). It also replaces references to Combat Weather Team (CWT), with the now accepted nomenclature of 377 Maintenance Squadron/Weather Flight (377 MXS/MXOW). This document has been substantially revised and must be completely reviewed. This instruction provides major rewrite/reorganization from the previous version, KIRTLANDAFBI 15-101, 1 Apr 2003.

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## Chapter 1

### CHARACTERIZATION UNIT (CU) & EXPLOITATION UNIT (EU) INTERACTIONS

**1.1. General.** The 25<sup>th</sup> Operational Weather Squadron (25 OWS), and the 377<sup>th</sup> Maintenance Squadron Weather Flight (377 MXS/MXOW) are the official weather information agencies for KAFB, New Mexico. These agencies provide weather information in support of the 377 ABW, the 58<sup>th</sup> Special Operations Wing (58 SOW), and subordinate units and units assigned, attached, or supported by KAFB. The 377 MXS/MXOW is commonly referred to as the Weather Flight (WF) and is the focal point for all weather-related issues.

1.1.1. The 25 OWS is considered the characterization unit. Characterization encompasses the “collect, analyze and predict” weather core competencies. Characterization depends on Air Force Weather’s ability to collect accurate data, correctly analyze that data, and use the results to produce a coherent picture of the present and future state of the air and space environment.

1.1.2. 377 MXS/MXOW is considered the exploitation unit. Exploitation is the ability to minimize the impact of environmental threats to friendly forces while simultaneously capitalizing on environmental conditions that maximize the operational advantage over enemy forces. Exploitation units tailor the characterization provided by the characterization unit. Tailoring is the extraction of data that is pertinent to a specific mission profile from the overall characterization of the air and space environment. Tailoring does not mean changing the characterization. To the greatest extent possible exploitation units will use the characterized data provided to them.

### 1.2. Concept of Operations.

1.2.1. The 25 OWS at Davis Monthan Air Force Base (AFB), Arizona, provides regional and operational-level weather products and information to Air Force and Army units in the Southwest region of the Continental United States (CONUS).

1.2.2. Meteorological Watch (METWATCH). The 25 OWS performs a continuous METWATCH for KAFB. METWATCH is a deliberate, continuous process for monitoring terrestrial weather or the space environment in an area or region. The purpose of a METWATCH is to identify when and where observed conditions significantly diverge from forecast conditions, determine courses of action to update or amend a forecast product or group of products, and notify designated agencies.

1.2.3. The WF is the primary source of tailored weather services in support of the 377 ABW, the 58 SOW, subordinate units and units assigned, attached, or supported by KAFB and transient aircrews. The WF will make every effort to ensure that mission-limiting weather is anticipated and exploited, and that safety and Resource Protection (RP) are maintained.

### 1.3. Responsibilities.

1.3.1. General responsibilities of the 25 OWS and WF are outlined in AFI 15-128, para 4.1.

1.3.1.1. The 25 OWS has ultimate responsibility for issuing Terminal Aerodrome Forecasts (TAF) (excluding KAFB, which is issued by the National Weather Service [NWS]), Weather Warnings, Watches, and Advisories, within its Area of Responsibility

(AOR) as well as provide weather briefings to transient aircrews during 377 MXS/MXOW non-duty hours. This allows the 377 MXS/MXOW to focus on tailored customer support to areas such as Flight Weather Briefing support, Mission Execution Forecasts (MEF), deployment briefings, and other specialized weather support.

1.3.1.2. The WF issues all observed advisories and warnings when the WF is open.

1.3.1.3. The WF will create Mission Weather Products (MWP) that fuse theater scale products with local mission requirements to enable the direct inject of weather impacts into warfighter planning and/or execution. Upon request, the WF will provide flight weather briefings and operational weather support for the 932 AW. The WF will also provide flight weather briefings for the 58 SOW and transient aircrews IAW the WF duty priorities listed in Table 1.1.

1.3.2. KAFB Installation Data Page. The 25 OWS and KAFB WF will coordinate and maintain a KAFB Installation Data Page detailing TAF specification and amendment criteria, Watch, Warning and Advisory (WWA) thresholds, desired lead times, mission impacts, unit information, JET back-up contacts and local outage back-up information.

1.3.3. Eyes Forward & Collaboration. The KAFB WF will act as the eyes forward for the OWS by relaying significant, time-sensitive meteorological information not found in coded meteorological reports to the 25 OWS to assist in forecast operations.

**1.4. Duty Priorities.** 377 MXS/MXOW Duty Priorities. IAW AFMAN 15-129V2, [para 1.3.3.1](#), the WF has created the following duty priorities based on 377 ABW mission requirements.

**Table 1.1. 377 MXS/MXOW Duty Priority Listing**

Priority	Duties
1	Perform Emergency War Order (EWO) taskings
2	Execute WF evacuation
3	Respond to Aircraft/Ground emergencies
4	Respond To Pilot-to-Metro Service (PMSV) Contacts
5	Issue Observed Weather Warnings or Advisories
6	Severe Weather Action Procedures (SWAP) Operations
7	Mission Execution Forecast Process – Produce and Disseminate
8	Provide “Eyes Forward” / Collaborate with 25 OWS
9	Disseminate Urgent Pilot Reports (PIREPs) and Special Air Reports (AIREPs) Locally and to the 25 OWS
10	Disseminate routine PIREPs locally and to the 25 OWS (as required)
11	Transmit all PIREPs/AIREPs long line
12	Perform MISSIONWATCH
13	Provide Staff Weather Briefings

14	Provide other weather products, information, and weather briefings
15	Weather Functional Training
16	Accomplish Administrative Tasks

### 1.5. Hours of Operation & Contact Information.

1.5.1. WF. Normal airfield and mission services hours of operations are Monday-Friday from 0600L-2100L. The WF is closed on Federal holidays, and other dates, as deemed appropriate by the 377 ABW/Commander (377 ABW/CC) or the Chief, Airfield Operations Flight (377 MXS/MXO). The WF will remain open past published hours when directed by the 377 ABW/CC or 377 MXS/MXOW Flight Chief. In addition, WF personnel will be on duty when SWAP have been activated as outlined in para 2.8.2.

1.5.1.1. A web-based aircrew-briefing terminal is located in base operations, Flight Planning Room. This briefing terminal allows aircrews to self-brief or schedule a flight weather briefing from the 25 OWS

1.5.1.2. Prior to closing the station, the WF technician is responsible for contacting the 25 OWS, 58 SOW Wing Operations Center, (WOC), base operations (when open), and the 377 ABW Command Post (CP). The weather technician will not leave the work center until all available agencies have been notified.

1.5.2. **25 OWS.** Hours of operation are 24/7, 365 days a year.

#### 1.5.3. Contact Information

1.5.3.1. **WF** (505) 846-9707/9722 / DSN 246-9707/9722

1.5.3.2. **WF Alternate Operating Location (AOL).** (505) 846-9482 / DSN 246-9482

1.5.3.3. **PMSV** 342.3 MHz

1.5.3.4. **25 OWS (520)** 228-7655 / DSN 228-7655 / Toll free (877) 451-8367x1

**1.6. Continuity of Operations Plan (COOP).** Continuity of support to the installation is susceptible to communication outages at the 25 OWS and WF.

1.6.1. **WF COOP and WF AOL.** In the event of a building evacuation, the WF will move to building 1017 (58 SOW Operations Bldg), basement floor, room C10, Comm (505) 846-9482 / DSN 246-9482. WF members will follow duty-specific Standard Operating Procedures (SOPs) and evacuation checklists and resume services at the AOL as soon as possible. The flight will notify the KAFB forecaster, continue operational support and resume eyes forward responsibilities for the OWS. If access to Albuquerque Sunport (KABQ) observations is lost, manual equipment will be used to take observations. Most WF services/support will be provided, but will require a case-by-case assessment depending on communication line status, equipment status, etc. Expect most services to be somewhat degraded (weather products, pilot briefings, etc.) due to limited facilities and loss of dedicated data services, including various data types (meteorological satellite [METSAT], radar imagery, etc.). For flight safety reasons, the WF will not evacuate during exercises.

1.6.2. 25 OWS COOP.

1.6.2.1. For short term outages (up to 72 hours), the WF will assume local weather watch, warning and advisory responsibility.

1.6.2.2. For long-term outages (greater than 72 hours), the 25 OWS' plan is to resume all support from an alternate location.

1.6.2.3. **Exercises.** In coordination with WFs, 25 OWS conducts periodic COOP exercises.

## Chapter 2

### AIRFIELD SERVICES

**2.1. General.** Airfield services include those actions affecting the KAFB aerodrome (defined within 5 Nautical Miles [NM] of the airfield) or the base as a whole.

**2.2. Observations.** Weather observations are provided by NWS, Albuquerque under the identifier of KABQ, and augmented by Federal Aviation Administration (FAA) contract personnel as required. Due to communication interface with NWS and the internet, a delay in receiving current observations of 5-8 minutes exists:

2.2.1. **Meteorological Terminal Aviation Routine Report Aviation (METAR).** METAR observations are created between 45 and 59 minutes after every hour. METARs are disseminated long-line between 51 and 59 minutes after the hour.

2.2.2. **Aviation Selected Special Weather Report (SPECI)** SPECI is an unscheduled observation completed and transmitted when any of the KAFB special criteria listed in [Attachment 3](#) have been observed or sensed. SPECI will contain all data elements found in a METAR plus additional remarks that elaborates on data in the body of the report. All SPECI reports will be prepared and transmitted as soon as possible after the relevant criteria are observed. [Attachment 2](#) contains an example SPECI weather observation.

2.2.3. **Official Observing Points.** The official observing point is the location of the Automated Surface Observing System (ASOS) sensors. During periods of augmentation, the observation point will be along the road on the flight line (south) side of building 333 (Hangar 333). During relocations to the AOL, and augmentation is required, the observation point is marked by a red box with a weather (WX) symbol inside of it on the Northwest corner of the parking lot West of Bldg 1017 along the fence.

2.2.4. **Observing Point Limitations.**

2.2.4.1. Augmented observations taken at the primary augmentation site (Bldg 333) are degraded because the observer's view to the north is blocked by an aircraft hangar and thunder may not be heard due to flight line noise.

2.2.4.2. Augmented observations taken at the AOL are degraded because view to the north through south is blocked by buildings, and northwest through north by buildings and thunder may not be heard due to flight line noise..

**2.3. TAF Support.** KAFB TAFs are produced and disseminated by the NWS and are identified by the International Civil Aviation Organization (ICAO) of KABQ. TAFs are valid for 24 hours, apply to the area within the 5NM area of the City of Albuquerque Sunport complex, and are disseminated at 0000, 0600, 1200, and 1800 Zulu time. [Attachment 2](#) contains an example of a typical City of Albuquerque Sunport TAF.

**2.4. Resource Protection (RP) Support & WWA's.** The 25 OWS conducts a continuous meteorological watch to identify and assess emerging and imminent threats to KAFB. Special Weather Statements (SWS) and Watches, Warnings, and Advisories are special notices provided by the 25 OWS resulting from both the forecast and METWATCH processes to assist military decision makers with resource and RP decisions. Watches and warnings provide notice of

weather events posing a hazard to life or property. Advisories provide specific notice to an operational agency of environmental phenomena with the potential to impact operations. Customer responses to WWAs are listed in [attachment 4](#).

2.4.1. **SWS.** SWSs are special notices issued by the 25 OWS to assist military decision makers with RP decisions.

2.4.2. **Weather Watches.** A weather watch is a special notice to installation personnel/supported units of a potential for environmental conditions of such intensity as to pose a hazard to life or property. They are used by installation personnel/supported units to make force protection and risk management decisions. Watches are issued for a 5NM radius of the center point of the KAFB runway complex and are defined in [Table 2.1](#)

**Table 2.1. Weather Watches**

Watch Type	Criteria	Desired Lead Time
Tornado (SWAP)	within 5NM	As potential warrants
Thunderstorms (SWAP)	Winds $\geq$ 50 knots and/or Hail $\geq$ 3/4 inch	As potential warrants
Lightning	within 10NM	30 Minutes
Damaging Winds	$\geq$ 41 knots	As potential warrants
Heavy Snow	$\geq$ 2 inch accumulation in $\leq$ 12 hours	As potential warrants
Hail	$\geq$ 1/2 but $<$ 3/4 inches	As potential warrants
Freezing Precipitation	Any Intensity	As potential warrants

2.4.3. **Weather Warnings.** A special notice to notify installation personnel when an established weather condition of such intensity as to pose a hazard to life or property is occurring or is expected to occur. Weather warnings provide concise information outlining environmental threats and are used by commanders and personnel to make RP decisions and take protective action. Warnings are issued for a 5NM radius at the center point of the runway and are defined in [Table 2.2](#)

**Table 2.2. Weather Warnings**

Warning Type	Criteria	Desired Lead Time
Tornado (SWAP)	within 5NM	30 minutes
Thunderstorms (SWAP)	Winds $\geq$ 50 knots and/or Hail $\geq$ 3/4 inch	2 hours
Lightning	within 5NM within 10NM within 15NM	Observed
Damaging Winds	$\geq$ 41 knots	2 hours
Heavy Snow	$\geq$ 2 inch accumulation in $\leq$ 12 hours	90 minutes
Large Hail	$\geq$ 1/2 inch but $<$ 3/4 inch	90 minutes
Freezing Precipitation	Any Intensity	30 minutes

2.4.4. **Observed Weather Warnings.** Lightning warnings are the only observed warning issued for KAFB and extends 5NM, 10NM, and 15NM in all directions from the airfield. Lightning warnings are not issued until lightning is observed, either visually or via the National Lightning Detection Network. The lightning warning will remain valid until lightning is no longer observed within range for at least 15 minutes. Exception: A lightning warning will not be cancelled if a thunderstorm is within 5NM (as indicated on radar).

2.4.5. **Weather Advisories.** An observed weather ADVISORY is a special product notifying an end user when an established environmental condition effecting operations is occurring or immanent on KAFB and are defined in [Table 2.3](#)

**Table 2.3. Weather Advisories**

Advisories Type	Criteria	Desired Lead Time
Wind Chill	$\leq$ 15°F but $>$ -20°F	Observed
Wind Chill	$\leq$ -20°F	Observed
Temperature	$\leq$ 32°F	Observed
Surface Winds	$\geq$ 25 but $<$ 41 kts.	30 minutes
Snow.	$\geq$ 1 but $<$ 2 inches	2 hours
Snow	$\geq$ Trace	2 hours
Heavy Rain	$\geq$ 1 inch. within 6 hours	30 minutes
Heat Index	$\geq$ 105°F	Observed
Heat Index	$\geq$ 90°F but $<$ 105°F	Observed
Heat Index	$\geq$ 80°F but $<$ 90°F	Observed

**2.4.6. WWA Numbering Scheme.** Advisories, watches, and warnings are numbered consecutively by identifying the type of weather message (watch, warning, or advisory) followed by a five-digit number. The first two numbers indicate the current month while the second three numbers indicate the sequence number. For example, the message “Weather Warning 02-005” means the month is February (02) and this is the fifth (005) warning issued in the month. The message “Weather Advisory 12-013” means the month is December (12) and this is the thirteenth (013) advisory issued in the month. Examples of different messages are contained in [Attachment 2](#).

**2.4.7. WWA Upgrades/Downgrades.** WWAs will be upgraded (i.e., winds increase from 35 knots to 50 knots) or downgraded as required. Upgrades should meet the desired lead times specified in **Tables 2.1., 2.2. and 2.3.** Only one warning will be in effect at a given time (and will include multiple warning criteria as required) except for forecast tornado warnings and/or observed lightning warnings. Tornado and lightning will be separate warnings. With the exception of tornado and lightning warnings, if a warning is issued for one criteria and it becomes necessary to warn for another criteria, a new warning and new number will be issued, to include all criteria expected. A separate valid time may be specified for each criteria if necessary.

**2.4.8. WWA Amendments.** When WWAs no longer adequately describe the phenomenon's expected occurrence, a completely new WWA with a new number will be issued. The amendment will clearly state how the amendment or extension affects any previously issued notices.

**2.4.9. WWA Extensions.** WWAs may be extended provided the extension is issued prior to the expiration of the original notice.

**2.4.10. WWA Cancellation.** Warnings and watches are canceled when the weather phenomena is no longer occurring or expected to occur. Warnings not extended or canceled will automatically expire at the end of the valid period. Observed advisories will be canceled when the criteria is no longer occurring and have not occurred in the last 30 minutes. See [para 2.4.4](#) for cancellation of observed lightning warnings.

## **2.5. Dissemination Process.**

**2.5.1. Observations.** Observations taken by either the FAA contractors or the ASOS automated observing system are disseminated by the FAA ASOS and is completely separate from KAFB. Observations taken by the KAFB weather technicians are disseminated via JET under the identifier of KIKR. When JET is nonoperational, the WF will relay observations to the following local organizations in order of priority listed in **Table 2.4.**

**Table 2.4. Notification Priority**

1. Tower commercial (505) 856-4903
2. 377 ABW/CP commercial (505) 846-3777
3. 58 SOW/WOC commercial (505) 846-9482
4. Base operations commercial (505) 846-8335
5. 25 OWS DSN 228- 7665 commercial (520) 228-7665 – toll free (877) 451-8367 x1

2.5.2. **TAFs.** FAA disseminates TAFs. If the FAA for any reason fails to disseminate a TAF, the WF will coordinate with the 25 OWS to disseminate TAFs via JET. If JET is nonoperational, the WF will disseminate TAFs to 377 ABW/CP and 58 SOW/WOC via telephone, fax, or e-mail. See **Table 2.5**.

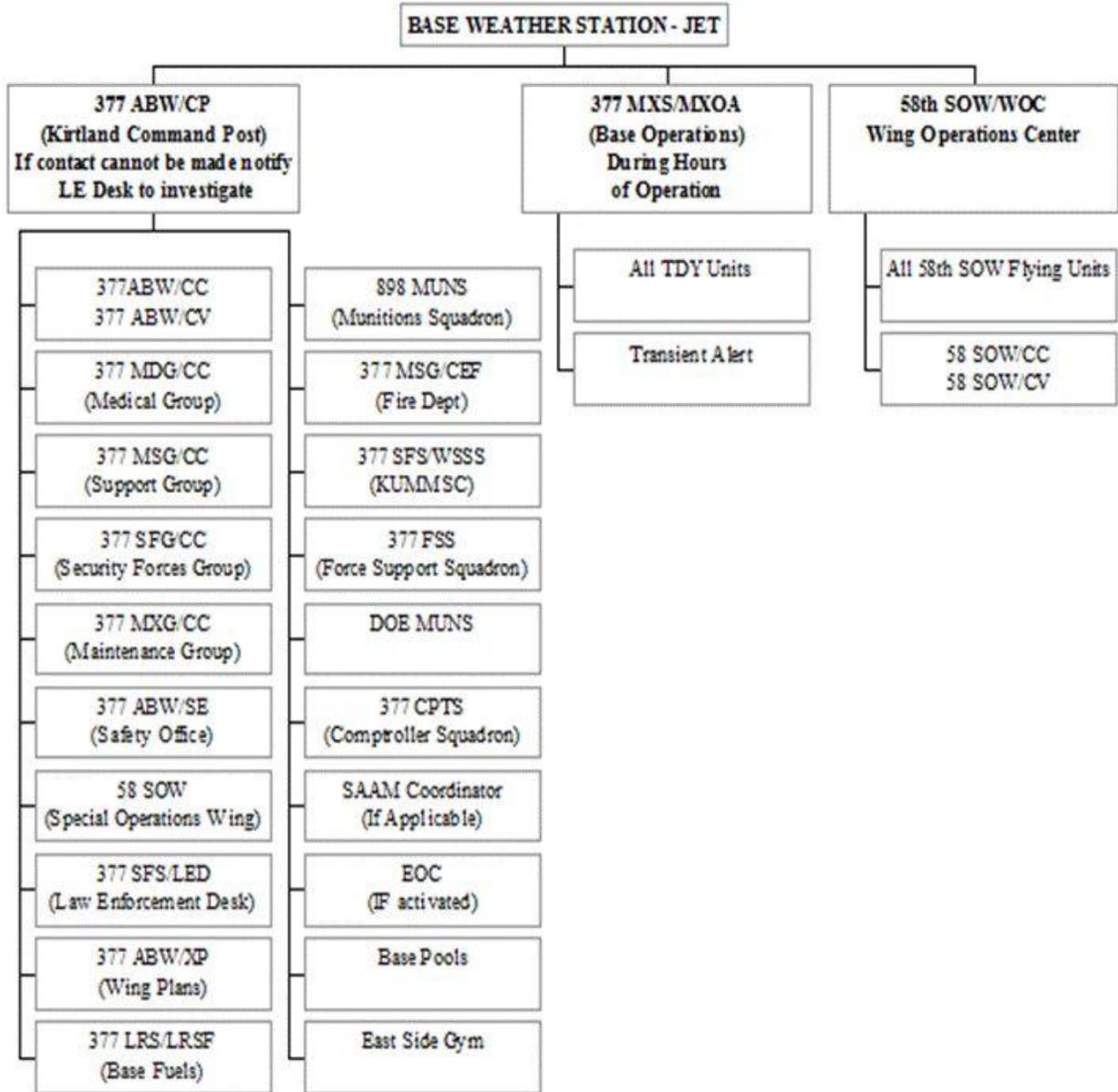
2.5.3. **SWSs.** SWSs provide advance notice of widespread hazardous weather conditions that have the potential to affect KAFB. 25 OWS transmits SWSs to WF leadership via e-mail. WF leadership forwards SWSs to 377 ABW and 58 SOW leadership. See **Table 2.5**.

2.5.4. **WWAs.** The 25 OWS or WF will enter WWAs into JET which will disseminate the information to 377 ABW/CP, 58 SOW/WOC, and 377 MXS/MXOA Airfield Management. If JET is out-of-service, 25 OWS or the WF will make back-up calls. See **Table 2.5**. Upon notification, these units will further disseminate all WWAs using the pyramid notification scheme shown in **Figure 2.1**. In addition, the 377 ABW/CP disseminates all WWAs via e-mail and/or AtHoc.

**Table 2.5. Contact Agencies/Phone Numbers**

<b>Agency</b>	<b>Phone Number</b>
Command Post	(505) 846-3777
58 <sup>th</sup> WOC	(505) 846-9482
Base Ops	(505) 846-8335/8336

Figure 2.1. Weather Pyramid Alerting



2.5.4.1. **Lightning Warnings.** In addition to the normal WWA notification process, all lightning warnings are disseminated by the 377 ABW/CP to the base populace via the Giant Voice system, allowing all personnel on base to be prepared for dangerous weather.

2.5.4.2. **Tornado Warnings.** In addition to the normal WWA notification process, the 377 ABW/CP has the primary responsibility for sounding the base siren for a tornado warning issuance.

**2.6. Cooperative Weather Watch (CWW).** The NWS and Air Traffic Control (ATC) have established procedures within their respective channels because of this the Albuquerque Sunport ATC will not participate in a CWW with the KAFB WF as required by AFI 13-204V3, *Airfield Operations Procedures and Programs* and AFMAN 15-111.

2.6.1. **Procedures.** The procedures require the Albuquerque Sunport ATC personnel to enter the tower visibility into the ASOS System when tower visibility is less than 4 statute miles (SM) (6000 meters) and different from the surface prevailing visibility

2.6.1.1. These procedures also require the Albuquerque Sunport ATC personnel to relay to FAA Flight Services any PIREPS they receive who then disseminate them accordingly. As well as any occurrence of previously unreported weather conditions that could affect flight safety or be critical to the safety or efficiency of other local operations and resources.

2.6.2. **ATC Limited Observation Training.** The Albuquerque Sunport ATC personnel receive ATC limited observation training as part of their FAA certification process.

**2.7. PMSV Support.** Weather information is available via PMSV during duty hours on frequency 342.3 MHz. The duty forecaster will monitor PMSV traffic for all aircraft contacts. For aircraft outside the range of our PMSV system, the KAFB WF or 25 OWS can provide PMSV support through a phone patch to the 377 ABW/CP (DSN 246-3777/Commercial (505) 846-3777). PMSV outages are discussed in [para 5.3.2](#).

## **2.8. Emergency Action(s) Response.**

2.8.1. **Aircraft Mishap.** When notified on an aircraft mishap, the WF will initiate a save of applicable data used in the development of any weather products provided and provide this data to investigating agencies upon request.

2.8.1.1. If the WF provided the MWP, the WF will notify the OWS Operations Floor Production Supervisor of all aircraft mishaps as soon as possible after notification of the event. The WF will coordinate with 25 OWS to save all applicable data and products. If products from other OWSs were used, the WF will coordinate with all applicable OWSs to ensure data is saved. Enough data covering weather conditions before and after the mishap will be saved to fully reconstruct environmental conditions.

2.8.1.2. If an OWS, or another WF provided the MWP, they will conduct the data save in coordination with any other Air Force Weather units involved.

2.8.2. **SWAP.** The WF will initiate SWAP in accordance with criteria listed in [Table 2.6](#) SWAP ensures sufficient manpower is available to meet the increased demand for timely weather information from its supported unit(s) during significant weather events. It is imperative that timely and accurate weather watches, warnings, and advisories are disseminated to all agencies to ensure personnel and RP. The WF will initiate a heightened METWATCH. The WF forecaster will notify the WF Chief of SWAP activation during normal staff duty hours. During non-duty hours, the 25 OWS will notify the WF standby forecaster when conditions listed in [Table 2.6](#) have been met and the WF technician will activate SWAP.

**Table 2.6. Conditions Requiring SWAP Activation**

<b>SWAP ACTIVATION Criteria</b>
<b>One of the following is issued by the OWS:</b>
Tornado Watch
Tornado Warning
Thunderstorms w/Winds $\geq$ 50 knots and/or Hail $\geq$ 3/4 inch Watch
Thunderstorms w/Winds $\geq$ 50 knots and/or Hail $\geq$ 3/4 inch Warning

2.8.3. **WF Forecaster Recall Requirements.** The WF forecaster will be notified/recalled under the following circumstances:

2.8.3.1. The 25 OWS notifies the standby forecaster prior to issuing any watch or warning for KAFB.

2.8.3.2. The 25 OWS notifies the standby forecaster when observations are not being transmitted or are not representative of current conditions.

2.8.4. Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) Response.

2.8.4.1. If surface observations or alphanumeric forecasts are requested, make sure that observations and forecasts provided are representative of the location/time of the CBRNE event.

2.8.4.2. Work closely with Emergency Management or other functions to ensure the supported commander gets a consistent picture.

2.8.4.3. Upon request from Disaster Preparedness or any other agency, obtain/provide Chemical Downwind Messages from the servicing CU.

## Chapter 3

### MISSION SERVICES

**3.1. General.** The WF and 25 OWS support the KAFB flying and non-flying missions. This chapter identifies the flying and non-flying missions and the weather support provided.

**3.2. Flying Missions.** The WF and the 25 OWS provide weather support to the flying units listed in **Attachment 4**. The bulk of flying operations at KAFB are supported by the WF.

**3.3. MWP.** MWPs fuse theater scale products with local mission requirements enabling the direct inject of weather impacts into war fighter planning and/or execution. The result is a product designed to provide timely, accurate, and relevant environmental information for planning and execution. The MWPs must be horizontally consistent with (but not necessarily mirror) products issued by any OWS and Air Force Weather Agency (AFWA).

**3.3.1. Flight Weather MEFs.** The KAFB page located on the Air Force Portal is the primary means in which a MEF can be obtained by the flying units, upon request as a back up the MEF can be faxed or e-mailed upon request. Updates can be obtained by contacting the WF at DSN 246-9707/Commercial (505) 846-9707.

**3.3.2. Flight Weather Briefings.** A Flight Weather Briefing on the DD Form 175-1, *Flight Weather Briefing* may be requested by contacting the WF at DSN 246-9707/Commercial (505) 846-9707 or when outside our operating hours by contacting 25 OWS briefing cell. The 25 OWS briefing cell can be reached at DSN228-6598/6599/6588, commercial (520) 228-6598/6599/6588 FAX DSN228-7361, or via web access. <https://ows.dm.af.mil/index.cfm?fuseaction=main&BW=L&UF=O&AOR=2&sc=183773>

**3.4. MISSIONWATCH.** This is a deliberate process for monitoring terrestrial weather and/or the space environment for specific mission-limiting environmental factors.

**3.4.1. WF Briefed Sorties.** It is through MISSIONWATCH that MWP amendments/updates are accomplished. During rapidly changing weather, the WF will inform the OWS when weather products issued by the OWS do not accurately reflect observed conditions and impact flight safety. The WF will amend/update the MWP as necessary. In addition, when previously unforecasted weather conditions develop that place a mission at risk, the WF will contact the 58 SOW/Supervisor of Flying (SOF) with updates. The SOF will pass this information to the aircrew. MISSIONWATCH will be conducted and logged.

**3.5. Post-Mission Analysis/Feedback.** Aircrews should contact the WF with post-mission information and/or follow-up support. The WF will utilize customer feedback to improve internal processes and enhance training, forecast proficiency, and product accuracy. Formal/informal feedback methods include:

3.5.1. Completion of 377MXS/MXOW Feedback worksheet or feedback solicitation e-mail.

3.5.2. Phone call or an e-mail to the WF.

3.5.3. Face-to-face feedback after briefing and/or mission completion.

3.5.4. Feedback provided in the post mission comments in GTIMS.

**3.6. Transient Aircrew Support.** Weather technicians will provide or arrange for weather support for transient aircrews IAW the duty priorities list **Table 1.1**. The WF may provide flight weather briefings (DD Form 175-1), and/or updates to aircrews. Weather technicians may arrange for weather support from the 25 OWS briefing cell when greater duty priorities take precedence. The 25 OWS briefing cell can be reached at DSN228-6598/6599/6588, commercial (520) 228-6598/6599/6588 FAX DSN228-7361, or via web access from the aircrew briefing terminal located in the flight planning room. (<https://ows.dm.af.mil/index.cfm?fuseaction=main&BW=L&UF=O&AOR=2&sc=183773>).

**3.7. Aero Club Activities.** The WF will provide flight weather briefings to Aero Club members performing official Air Force operational duties (i.e., Civil Air Patrol and Initial Flying Training Programs). The WF will provide or arrange briefings when such Aero Club flights are in a transient status through the appropriate OWS or Flight Service Station. The WF will not remain open on weekends or times outside normal published operating hours to provide briefings for routine Aero Club flying activities. The WF will advise Aero Club members performing official flight duties of the OWS web page request process and self-briefing capabilities.

**3.8. Non-Flying Missions.** The WF and 25 OWS support various non-flying missions (e.g., Wg Picnic, change of command ceremonies, Morale Welfare and Recreation) through RP (WWAs). Specific support to non-flying missions is identified in **Chapter 4**. Specialized weather information can be provided to support any non-flying mission upon request. Non-governmental agencies should request weather information and support through 377 Public Affairs (PA).

**3.9. Space Weather Impacts.** KAFB's missions have a wide-variety of parameters affected by various space-weather conditions (High Frequency (HF) and Ultra High Frequency (UHF) communication, radar, Global Positioning System communications, etc.). The WF provides space impacts on their MWP. More detailed products are available at [https://ows.dm.af.mil/by\\_type/space/index.cfm?bandwidth=H&userFunction=M&aor=2](https://ows.dm.af.mil/by_type/space/index.cfm?bandwidth=H&userFunction=M&aor=2). An example of the daily discussion is provided in **Attachment 6**.

## Chapter 4

### STAFF SERVICES

**4.1. General.** Staff services are typically accomplished by WF leadership and include meteorological functions (briefings), ensuring the WF is trained and equipped for day-to-day operations, and cultivating relationships with base agencies to ensure WF support is optimal.

**4.2. Staff Meteorological Functions.** Staff meteorological functions aid leadership in identifying and understanding specific weather and environmental impacts. The WF is available to assist commanders in determining weather support requirements and impacts to operations. Examples of staff meteorological functions provided are:

4.2.1. **377 ABW Staff Briefings.** Staff weather briefings for 377 ABW (wing stand up) will be provided as required. Standard information includes satellite picture, radar imagery, daily weather story, and a 5-day KAFB weather outlook with a focus on any affected Wing events. A daily weather slide presentation will be provided to the 377 Maintenance Group. Standard information includes a 5-day KAFB weather outlook.

4.2.2. **Installation Control Center (ICC)/Crisis Action Team (CAT) Briefings.** The WF will provide weather support 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 377 ABW leadership.

4.2.3. **Instrument Refresher Briefings.** In accordance with AFMAN 11-210, *Instrument Refresher Program (IRP)*, computer based training is available for the weather portion of the briefing. If requested, the WF can provide a briefer to discuss more detailed local weather effects and impacts. This briefing will include airfield and mission services, WF capabilities, RP, seasonal/regional weather and space weather impacts (when applicable).

4.2.4. **Pre-deployment Planning Briefings.** The WF will provide pre-deployment weather briefings as requested. Briefing content will be tailored to meet customer requirements. For example, an aviation unit will receive weather impacts at the deployed location on their flying mission, in addition to the standard surface weather information usually presented to ground units. A ground-based unit will receive a briefing on surface temperatures, wind speed, potential for blowing sand and dust, and precipitation.

4.2.5. **Climatology Services.** WF will provide climatology information when requested, for example end of month climatology or historical climatology.

**4.3. Staff Integration Functions.** WF leadership will ensure their unit is adequately resourced to meet both operational and staff requirements. In addition to leadership and management of unit activities, these unit members will also function as a direct interface with the supported unit commander and staff, and provide direct support to command, control and planning functions. Specific integration with base agencies is outlined below.

4.3.1. **377 ABW/CC (XP).** The WF will assist in periodic exercises tailored to upcoming seasonal weather or other environmental concerns and will educate base agencies on the purpose and applicability of weather watches, warnings and advisories.

4.3.2. **377 ABW/CP and 58 SOW WOC.** The WF will notify the CP and WOC whenever the base weather station is evacuated and/or the AOL is activated.

4.3.3. **377 ABW/PA.** The WF provides tours of the base weather station for community groups and others when coordinated by PA.

4.3.4. **377 MXS/MXOA.** The OWS or WF provides notification of all forecasted weather watches, warnings, and advisories via Integrated Weather Warnings Capability (IWWC), telephone, e-mail, or in-person during hours of operations.

4.3.4.1. The WF will notify the MXOA whenever the base weather station is evacuated and/or the AOL is activated.

4.3.4.2. WF leadership will participate as a member of the Airfield Operations Board (AOB) as directed in AFI 13-204 Vol III, Airfield Operations Procedures and Programs

4.3.5. **377 MSG/CE.** The WF will provide a monthly climatology report upon request.

4.3.6. **All Supported Flying Units.** The WF will provide services as outlined throughout this publication.

#### **4.4. Reciprocal Support.**

##### **4.4.1. KAFB Command Post. .**

4.4.1.1. Ensure dissemination of weather watches, warnings, and advisories as outlined in Chapter 2 of this instruction.

4.4.1.2. Notify the WF forecaster-on-duty immediately of all aircraft emergencies, incidents, or accidents.

4.4.1.3. CP will run applicable Quick Reaction Checklists (QRCs) to notify wing leadership and various base agencies of severe weather when notified by the OWS or the WF.

4.4.2. Activate sirens for a tornado when a tornado WARNING is issued.

4.4.3. Announce observed lightning w/n 15nm, 10nm, and 5nm over giant voice.

4.4.4. Notify Squadron UCCs of pertinent weather events when activated.

4.4.5. Disseminate as required Special Weather Notices issued by the 377 MXS/MXOW.

4.4.6. Coordinate requirements for operations orders or plans relevant to a specific operation requiring weather support with the 377 MXS/MXOW Flight Chief.

4.4.7. Contact the standby forecaster when notified by the 25 OWS of one of the following warning or watch criteria: tornado, wind  $\geq 41$  knots, hail  $\geq \frac{3}{4}$ ", and heavy snow  $\geq 2$ " in 12 hours.

4.4.8. Notify 377 MXS/MXOW when new or unique weather support becomes known.

4.4.9. **377 ABW/PA.** Coordinate tours of the WF by community groups and others with the WF chief.

**4.4.10. 377 MXS/MXOA.**

4.4.10.1. Notify WF personnel of in-flight, ground emergencies, or mishaps and termination via the secondary crash network.

4.4.10.2. Activate sirens when a Tornado WARNING is issued and the 377 CP does not have the capability to issue.

4.4.10.3. Ensure dissemination of weather warnings and advisories as outlined in Chapter 2 of this instruction.

**4.4.11. 58 SOW.**

4.4.11.1. Ensures Aircrews receive weather briefing prior to each flight and aircrews provide Pilot Reports (PIREPS) to the WF either during flight or post-flight debriefs, as time permits.

4.4.11.2. Flying squadrons and the 58th Training Squadron provide at least a 72-hour notice of required instrument Refresher Course (IRC) presentations.

4.4.11.3. A work area with a DSN capable telephone, Local Area Network (LAN), and Internet connectivity is available for weather personnel in the basement of Building 1017 of KAFB, 58 WOC, if the WF must evacuate Building 333.

4.4.11.4. Ensures WF is notified of new or unique weather support requirements.

4.4.11.5. 58 SOW/WOC relays pilot weather reports to WF on duty forecaster within 5 minutes of receipt of said PIREP, or as soon as operations allow.

4.4.11.6. Ensures WF is notified of changes to briefing schedules, exercises, and EWO requirements.

4.4.11.7. The 58 SOW/WOC disseminates weather watches, warnings, and advisories via phone to specified agencies, upon notification by JET and/or the weather forecaster. E-mail notification will be provided to those individuals/agencies as requested. During emergency situations, such as a tornado, lightning etc., controllers will activate emergency notification procedures.

4.4.11.8. The 58 SOW/WOC disseminates as required, Special Weather Notices issued by the WF.

**4.4.12. 377 MSG/SC (Communications).**

4.4.12.1. Provide, coordinate, or arrange for the installation, maintenance, and repair of all weather communication and meteorological sensing equipment, except for the communication and meteorological equipment maintained by contract.

4.4.12.2. Ensure scheduled maintenance does not degrade METWATCH and/or MISSIONWATCH performed by the WF during periods of inclement weather and notify the weather technician prior to routine maintenance.

4.4.12.3. Utilize the restoration priorities for weather communications and meteorological sensing equipment outlined in this instruction .

4.4.12.4. Notify the responsible service agents for weather communications and meteorological sensing equipment outages.

- 4.4.12.5. Coordinate with off-base agencies to repair off base lines
  - 4.4.12.6. Perform necessary follow-up actions as required until full service is restored.
  - 4.4.12.7. Ensure weather data and telephone circuits are assigned repair priorities.
  - 4.4.12.8. Ensure established maintenance response times are met.
  - 4.4.12.9. Ensure a 24-hour point of contact for reporting outages and assigning job control numbers is available.
  - 4.4.12.10. Coordinate with WF shift supervisor prior to taking any equipment down for maintenance.
- 4.4.13. **377 MSG/CE.** Contact the WF Chief to request climatological data and specialized support for projects on KAFB.
- 4.4.13.1. Provide emergency power for weather equipment located in building 333 on KAFB.
  - 4.4.13.2. Coordinates the Installation Emergency Management Plan 10-2 changes concerning weather support requirements with the Weather Flight Chief.
  - 4.4.13.3. Notify the Weather Flight Chief when new or unique weather support requirements become known.
- 4.4.14. **377 Security Forces Squadron (SFS).** Promptly inform the WF of any hazardous weather reported by Security Forces personnel (tornado, hail, etc).
- 4.4.15. **All Supported Flying Units**
- 4.4.15.1. Notify weather technician of current and planned weather alternates and any special considerations affecting duration of tour (i.e., weather categories, exercise/deployment considerations, etc.).
  - 4.4.15.2. Notify the WF of required additional support as soon as it becomes known to include monitoring of alternate observations/forecast and tracking of weather conditions affecting local flying operations.
  - 4.4.15.3. Provide timely notification of changes to scheduled operations affecting weather support requirements as soon as the change is identified.
  - 4.4.15.4. Provide PIREPS either directly to the WF or through the PMSV, or SOF.
  - 4.4.15.5. Provide feedback on all weather briefings via e-mail or survey to the WF or through the WOC.
  - 4.4.15.6. Provide guidance (at least 2 weeks in advance) to the WF regarding any weather training/educational requirements (or changes in requirements) if applicable.
- 4.4.16. **Base Operations Flight Information Publication (FLIP) Manager.** The FLIP manager will submit FLIP updates provided by the WF to Air Force Flight Standards Agency/Operating Location-D (AFFSA)/(OL-D).
- 4.4.17. **377 ABW Bioenvironmental Flight.** Provide the base populace with the Wet Bulb Globe Temperature (WBGT) as required.

**4.4.18. All Weather Support Recipients.**

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

4.4.18.2. Coordinate changes/additions to weather support requirements as soon as they are foreseen.

## Chapter 5

### WEATHER EQUIPMENT

**5.1. General.** This chapter provides a brief description of the meteorological and communications equipment used by the WF. Additionally, it provides information on backup systems, maintenance, and restoring priorities.

**5.2. Meteorological Equipment.** The WF uses the Weather Surveillance Radar, 1988 Doppler (WSR-88D) radar to determine the current state of the atmosphere. This critical system provides customers the most timely, accurate and relevant weather intelligence possible.

5.2.1. **WSR-88D.** The WF utilizes the WSR-88D as its primary source of radar data. Weather technicians make use of an Open Principle User Processor (OPUP) to analyze complex radar signatures and obtain detailed information on storm intensity, movement, internal circulation, and general wind flow. Weather technicians will routinely incorporate the latest radar information into all mission execution forecasts and RP products.

**5.3. Communications Equipment.** The following systems are the backbone of the WF communications network:

5.3.1. **JET.** As discussed in [para 2.5](#) of this instruction, JET is the primary system for disseminating forecast, observations, warnings, watches, and advisories. Telephones are used as a backup for key aircraft controlling agencies.

5.3.2. **PMSV Radio.** The PMSV Radio (342.3 MHz) allows the WF to communicate with aircrews, both on the ground and flying, as well as KAFB CP personnel. If the PMSV is out-of-service, aircrews can contact the WF or the OWS via phone patch (where possible) to get weather data.

5.3.3. **Phones/Hotlines.** Phones and hotlines serve primarily for rapidly passing along critical, time-sensitive information, as well as to serve for backup services.

5.3.4. **Local Area Network (LAN).** The WF relies heavily on the LAN to improve the timeliness and accuracy of weather intelligence to our customers.

#### 5.4. Maintenance.

**Table 5.1. Identifies which organizations provide preventive maintenance and repair weather and communications equipment.**

**Table 5.1. Equipment Maintenance List**

Organization	Equipment
AFWA Fielded Systems	JET
377 MSG/SCM (Telephone Systems)	Phones/Hotlines
377 MSG/SCNH (Network Maintenance)	LAN/Internet Connectivity

5.4.1. **Restoral Priorities.** Priorities for restoring critical systems exist the event natural disasters or any other anomaly, simultaneously impacting systems base wide. Significant indicates a situation where the equipment is completely inoperative, while minimal means the equipment is in limited operation. The priorities for weather equipment are listed in [Table 5.2](#) below (priorities may be adjusted based on forecasted weather):

**Table 5.2. Equipment Restoral Priorities**

Equipment	Organization	Response priority/no later than
PMSV Radio	377 MSG/SCMR	1 /1.5 hours
LAN/Internet Connectivity/Phones/Hotlines/JET	377 MSG/SCNH	1/1.5 hours

**5.5. Building Power.** In the event of a commercial power interruption, Bldg 333 will automatically switch to a backup generator.

JOHN C. KUBINEC, Colonel, USAF  
Commander

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

AFI 10-206, Operational Reporting, 06 September 2011

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

AFI 10-2501, Air Force Emergency Management (EM) Program Planning and Operations, 24 January 2007

AFI 13-204V3, Airfield Operations Procedures and Programs, 01 September 2010

AFI 15-114, Functional Resource and Weather Technical Performance Evaluation, 7 December 2001

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

AFI 11-202V3, General Flight Rules, 22 October 2010

AFMAN 33-363, Management of Records, 1 March 2008

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

AFMAN 15-111, Surface Weather Observations, 10 March 2009

AFMAN 15-124, Meteorological Codes, 28 October 2009

AFI 15-127, Air Force Weather Qualification Training, 14 March 2012

AFMAN 15-129V1, Air and Space Weather Operations- Characterization, 06 December 2011

AFMAN 15-129V2, Air and Space Weather Operations-Exploitation, 07 December 2011

KAFB Weather Data Page,  
[https://ows.dm.af.mil/ows\\_unique/25data/moa/Kirtland\\_AFB\\_Data\\_Page.pdf](https://ows.dm.af.mil/ows_unique/25data/moa/Kirtland_AFB_Data_Page.pdf)

***Adopted Forms***

DD Form 175-1, *Flight Weather Briefing*

AF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**ABW**—Air Base Wing

**AIREP**—Air Report

**AFB**—Air Force Base

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFMC**—Air Force Material Command

**AFPD**—Air Force Policy Directive

**AFFSA**—Air Force Flight Standards Agency

**AFWA**—Air Force Weather Agency  
**AOL**—Alternate Operating Location  
**ASOS**—Automated Observing System  
**AOR**—Area of Responsibility  
**ATC**—Air Traffic Control  
**CAT**—Crisis Action Team  
**CBRNE**—Chemical, Biological, Radiological, Nuclear, and High-yield Explosive  
**CC**—Commander  
**CONUS**—Continental United States  
**COOP**—Continuity of Operations Plan  
**CP**—Command Post  
**CWW**—Cooperative Weather Watch  
**EWO**—Emergency War Orders  
**FLIP**—Flight Information Publication  
**FTU**—Formal Training Unit  
**HF**—High Frequency  
**IAW**—In Accordance With  
**ICAO**—International Civil Aviation Organization  
**ICC**—Installation Control Center  
**IWWC**—Integrated Weather Warnings Capability  
**JET**—Joint Environmental Toolkit  
**KT**—Knots  
**LAN**—Local Area Network  
**LTG**—Lightning  
**METAR**—Meteorological Terminal Aviation Routine Report  
**METSAT**—Meteorological Satellite  
**METWATCH**—Meteorological Watch  
**MWP**—Mission Weather Product  
**NM**—Nautical Miles  
**NWS**—National Weather Service  
**OHD**—Overhead  
**OL—D**—Operating Location-D

**OPR**—Office of Primary Responsibility  
**OWS**—Operational Weather Squadron  
**PA**—Public Affairs  
**PIREP**—Pilot Report  
**PMSV**—Pilot-to-Metro Service  
**RDS**—Records Disposition Schedule  
**RVR**—Runway Visual Range  
**SC**—Communications  
**SFS**—Security Forces Squadron  
**SM**—Statute Mile  
**SOF**—Supervisor of Flying  
**SOP**—Standard Operating Procedure  
**SPECI**—Aviation Selected Special Weather Report  
**SWAP**—Severe Weather Action Procedures  
**TAF**—Terminal Aerodrome Forecast  
**UFN**—Until Further Notice  
**UHF**—Ultra High Frequency  
**VHF**—Very High Frequency  
**VIS**—Visibility  
**WF**—Weather Flight  
**WSR**—88D —Weather Surveillance Radar, 1988 Doppler

## Attachment 2

SAMPLE WEATHER PRODUCT DISSEMINATION FORMAT/INTERPRETATION  
OBSERVATION/TAF/WWAS

## A2.1. METAR/SPECI Code

Table A2.1. Sample Weather Observation

<p><b>METAR or SPECI_CCCC_YYGGggZ_AUTO or COR_dddff(f)Gfmfm(fm)KT_dndndnVdxdxdx_ VVVVVSM_[RDRDR/VRVRVRVRFT or RDRDR/VNVNVNVNVVXVXVXVXFT]_w'w'_[NsNsNshshshs or VVhshshs or SKC/CLR]_T'T'/T'dT'd_APHPHPHPH _RMK_(Automated, Manual, Plain Language)_(Additive Data and Automated Maintenance Indicators)</b></p>
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Table A2.2. Sample Weather Observation

<p><b>KABQ 150952Z 04004KT 10SM CLR M11/M17 A2011 RMK AO2 SLP240 T11111167</b></p>
------------------------------------------------------------------------------------

A2.1.1. METAR/SPECI has two major sections: the Body (consisting of a maximum of 11 groups) and the Remarks (consisting of 2 categories). Together, the body and remarks make up the complete METAR/SPECI. In general, the remarks are coded in the order depicted above and established in the remainder of this attachment.

## A2.1.2. Format and Content of the METAR/SPECI

## A2.1.3. Body of report.

A2.1.3.1. Type of Report - **METAR/SPECI**A2.1.3.2. Station Identifier - **CCCC**A2.1.3.3. Date and Time of Report - **YYGGggZ**A2.1.3.4. Report Modifier - **AUTO/COR**A2.1.3.5. Wind - **dddff(f)Gfmfm(fm)KT\_dndndnVdxdxdx**A2.1.3.6. Visibility - **VVVVVSM**A2.1.3.7. Runway Visual Range - **RDRDR/VRVRVRVRFT or  
RDRDR/VNVNVNVNVVXVXVXVXFT**A2.1.3.8. Present Weather - **w'w'**A2.1.3.9. Sky Condition - **NsNsNshshshs or VVhshshs or SKC/CLR**A2.1.3.10. Temperature and Dew Point - **T'T'/T'dT'd**A2.1.3.11. Altimeter - **APHPHPHPH**A2.1.4. Remarks report--**RMK**

A2.1.4.1. Automated, Manual, and Plain Language

A2.1.4.2. Additive and Maintenance Data

A2.1.5. The underline character "\_" indicates a required space between the groups. If a group is not reported, the preceding space is also not reported. In addition to the format given, agencies shall provide for the inclusion of any special Beginning-of-Message, End-of-Message, or End-of-Transmission signals required by their communications system.

A2.1.6. The actual content of a METAR or SPECI depends on the observation program at the individual station. At designated stations, the 0000, 0600, 1200, and 1800 Coordinated Universal Time (UTC) METAR's include additional data specified by the responsible agency and are known as 6-hourly reports. At designated stations, the 0300, 0900, 1500, and 2100 UTC METAR's are known as 3-hourly reports and also contain additional information specified by the responsible agency.

A2.1.7. For additional guidance refer to the FMH-1 (Federal Meteorological Handbook-1) Chapter 12 that can be found at <http://www.ofcm.gov/fmh-1/pdf/L-CH12.pdf>

## A2.2. TAF

**Table A2.3. Sample TAF**

KABQ 151741Z 1518/1618 01010KT P6SM SKC FM152000 34012G18KT P6SM SKC FM160100 34007KT P6SM SKC FM161600 VRB05KT P6SM SKC
-----------------------------------------------------------------------------------------------------------------------------------

A2.2.1. The forecast follows the same general format as the observation with the following exceptions noted :

A2.2.1.1. **Valid Date/Time.** Forecasts are valid for a 24-hour period. In this example, the forecast is valid from the Fifteenth at 1800Z until the sixteenth at 1800Z.

A2.2.1.2. **BECMG** – This is a code to indicate the predominant conditions will change to (or become) the conditions listed in the line of the forecast. The conditions will change during the time period follows the BECMG code (i.e. 1700 to 1800Z) (these groups are seen rarely in NWS TAF's, and are common in Military TAF's).

A2.2.1.3. **FM** – This is a code to indicate the predominant conditions will change to (or From) the conditions listed in the line of the forecast. The conditions will change starting at the time that follows the FM code (i.e. 2000 equals 2000Z in the example above).

A2.2.1.4. **TEMPO** – This code means the conditions listed on the line may occur for periods of an hour or less (1 hour and 15 minutes or less for thunderstorms) anytime between the time frame following the TEMPO code (1900Z to 2200Z in this example).

A2.2.1.5. **Max Temp/Min Temp.** T24 indicates a maximum temperature in Celsius to occur at 20Z. T10 indicates a minimum temperature of 10 Celsius to occur at 10Z (**Note:** M indicates a minus sign in front of the number: M05 = -5 C)(These groups are not included in NWS TAF's But are in Military TAF's.)

## A2.3. Weather Warnings, Watches, and Advisories.

**Table A2.4. Observed/Forecast Weather Warnings, Watches, and Advisories****1. FORECAST WEATHER WARNING.**

KIKR Weather Warning 03-001 Issued 2012-03-01 190300

Weather Warning 03-001 for Kirtland AFB (KIKR) Valid 1/1902Z (1/1202L) to 2/0100Z (1/1800L)

Forecasted High Winds  $\geq$  41 knots. forecast value 41 knots. Winds from: (SWAP)

Weather Advisory 03-001 remains in effect.

**2. WEATHER WATCH.**

KIKR Weather Watch 03-001 Issued 2012-03-02 141600

Weather Watch 03-001 for Kirtland AFB (KIKR) Valid 2/1900Z (2/1200L) to 3/0300Z (2/2000L)

Potential for High Winds  $\geq$  41 knots. forecast value 43 knots. Winds from: (SWAP)

Weather Advisories 03-003 03-004 remain in effect.

**3. OBSERVED WEATHER ADVISORY.**

KIKR Weather Advisory 09-A21 Issued 2012-09-17 210400

Weather Advisory 09-A21 for Kirtland AFB (KIKR) Valid 17/2103Z (17/1503L) until Further Notice (UFN)

Observed Heat Stress Index  $\geq$  80 but  $<$  90 F. observed at 80 F. occurring

Weather Advisory 09-030 remains in effect.

**4. FORECAST WEATHER ADVISORY**

KIKR Weather Advisory 09-029 Issued 2012-09-14 170200

Weather Advisory 09-029 for Kirtland AFB (KIKR) Valid 14/1730Z (14/1130L) to 14/1900Z (14/1300L)

Forecasted Surface Winds  $\geq$  25 but  $<$  41 knots. forecast value 26 knots.

## Attachment 3

## SPECIAL WEATHER OBSERVATION CRITERIA

**A3.1. A Special weather observation will be taken and disseminated for listed criteria:**

A3.1.1. **Visibility.** When the prevailing visibility decreases below or, if below, increases to equal or exceeds any of the values listed below:

Table A3.1. Visibility Levels

<i>Visibility (Statue Miles)</i>	3	2	<u>1</u>	<u>½</u>
------------------------------------------	---	---	----------	----------

A3.1.2. **Ceiling.** When the ceiling goes below or, if below, increases to equal or exceeds any of the values listed below:

Table A3.2. Ceiling Levels

<i>Height (feet)</i>	3,000	1,500	1,000	<u>800</u>	<u>700</u>	<u>600</u>	<u>500</u>	<u>300</u>	<u>200</u>
--------------------------	-------	-------	-------	------------	------------	------------	------------	------------	------------

A3.1.3. **Sky Condition.** A layer of clouds (it does not have to be a ceiling) or obscuring phenomena aloft is observed below 800 feet and no layer was reported below this height in the previous METAR or SPECI.

A3.1.4. **Wind.**

A3.1.4.1. **Shifts.** A directional change of 45 degrees or more in less than 15 minutes with sustained winds of 10 knots or more throughout the wind shift.

A3.1.4.2. **Squall.** A strong wind characterized by a sudden onset in wind speed increasing at least 16 knots and sustained at 22 knots or more for at least 1 minute. A SPECI is not required to report a squall if one is currently in progress.

A3.1.5. **Volcanic Ash.** Eruption or volcanic ash cloud first noted. Only a single-element special observation is needed.

A3.1.6. **Thunderstorm.**

A3.1.6.1. **Begins** (Note: A Special observation is not required to report the beginning of a new thunderstorm if one is currently reported as in progress at the airfield).

A3.1.6.2. **Ends** (Note: 15 minutes after the last occurrence of criteria for a thunderstorm; an audible sound of thunder, lightning within five NM of the airfield, etc.).

A3.1.7. **Precipitation.**

A3.1.7.1. Hail begins or ends.

A3.1.7.2. Freezing precipitation begins, ends, or changes intensity.

A3.1.7.3. Ice pellets begin, end, or change in intensity.

A3.1.7.4. Any other type of precipitation begins or ends. Note: Except for freezing rain, freezing drizzle, hail, and ice pellets, a Special observation is not required for changes in type (e.g., drizzle changing to snow grains) or the beginning or ending of one type while another is in progress (e.g., snow changing to rain and snow).

A3.1.8.1. Tornado, Funnel Cloud, or Waterspout. Only a single-element special observation is needed.

A3.1.8.1.1. Observed and/or disappears from sight.

A3.1.9. Runway Visual Range (RVR). The ATC personnel will provide RVR to aircrews when available and as necessary.

A3.1.10. **Upon Resumption of Observing Services.** Take, disseminate, and record a SPECI within 15 minutes after returning to duty following a break in hourly coverage, if a METAR was not filed as scheduled during the 15-minute period.

A3.1.11. **Aircraft Mishap.** When notified of an aircraft mishap, the contract Observers will check the latest ASOS observation (i.e., METAR/SPECI/OMO (one minute observation) and perform augmentation/back-up if required. When operating in a back-up mode WF will immediately take a SPECI observation IAW AFMAN 15-111.

A3.1.12. Any other meteorological situation that, in the weather technician's opinion, is critical.

## Attachment 4

## CUSTOMER RESPONSE &amp; MISSION LIMITING ENVIRONMENTAL CONDITIONS

## A4.1. Customer Response

Table A4.1. Customer Response Matrix

Weather Phenomena	Lead Time	Impact	Customer Action
Tornado	30 min	Personal injury/death Equipment damage	Seek shelter
Hail (3/4" or more)	2 hours	Personal injury/death Equipment damage	Seek shelter; hangar or divert aircraft
Freezing Precipitation	30 min	Delay or cease operations	Cease flying; hangar or protect aircraft
Surface winds $\geq$ 50 knots	2 hours	Flight hazard Equipment damage	Cease unnecessary flying; secure or hangar aircraft; secure light objects outside
Surface winds $\geq$ 41 knots	2 hours	Flight hazard Equipment damage	Cease unnecessary flying; secure aircraft
Lightning w/in 5 NM of KAFB	Observed	Personal injury/death Delay operations	Cease flight-line work; clear pool/golf course
Lightning w/in 10 NM of KAFB	Observed	Personal injury/death Delay operations	Prepare to cease flight-line work
Lightning w/in 15 NM of KAFB	Observed	Personal injury/death Delay operations	Prepare to cease flight-line work
Snow accumulation GTE 2" w/in 12 hours	90 min	Delay operations	Activate snow removal plan Hangar aircraft
Equivalent Wind Chill Temp 15 to -20F	Observed	Personal injury Slow/delay outside work	Wear proper cold weather gear to work
Wind Chill Temp - 20F or colder	Observed	Personal injury Slow/delay outside work	Recommend work 45 minutes; Rest 15 minutes in heated area

## A4.2. Flying Units Supported &amp; Mission Limiting Environmental Conditions

Table A4.2. Flying Units Supported

Organization	Mission
550 SOS (C-130)	Trains Special Tactics.
415 SOS (C-130J)	Trains Special Tactics.
71 SOS (CV-22)	Trains Special Tactics.
512 RQS (HH-60G) (UH-1N)	Trains Special Tactics.

**A4.3. Mission Limiting Thresholds.****Table A4.3. USAF General Flight Rules Weather Limitations**

(Ref: AFI 11-202V3)		
Weather Condition	Impact	Customer Action
Cig/Vis < 2,000 / 3	Alternate required	Add fuel to allow divert
Cig/Vis < 1,000/ 2, if MAJCOM approved	Alternate required	Add fuel to allow divert
Cig/Vis < 500 / 2	Terminal not suitable for alternate	Select another alternate

A4.3.1. **Airframe-Specific Weather Limitations.** Tables A4.3 – A4.7 provide the general airframe weather limitations based on AFI 11-202V3, *General Flight Rules*.

**A4.3.1.1. Icing Conditions.**

A4.3.1.1.1. Rotary wing aircraft without fully operational blade de-ice kits will not be flown when *light icing* conditions exist or have been forecast unless one of the following criteria can be met:

A4.3.1.1.1.1. A ceiling of at least 1,000 feet above ground level (AGL) along an entire route is forecast.

A4.3.1.1.1.2. In and out of cloud conditions at the desired flight level or altitude are forecast.

A4.3.1.1.1.3. The tops of clouds are forecast to be at or below 8,000 feet mean sea level (MSL).

A4.3.1.1.2. Fixed wing aircraft C130 Hercules is equipped with anti-icg/de-icg equipment, will avoid severe icing.

A4.3.1.2. **Turbulence Conditions.** Aircraft will not be intentionally flown into areas of known or forecast extreme turbulence. Aircraft will not be intentionally flown into areas of known or forecast severe unless unit Commanders give clearance for the flight.

A4.3.1.3. **Thunderstorms.** Aircraft will not be intentionally flown into thunderstorms

**A4.3.2. Supported Aircraft Go/No Go Weather Limitations**

A4.3.2.1.. **UH-1N Go/No Go Weather Limitations.** The UH1 Huey is not equipped with a de-ice kit

Table A4.4. UH-1N Go/No Go Weather Limitations

Aircraft	Weather Phenomena	Impact/Action	GO / NO GO
UH-1N	Landing Low Vis < 1SM	Alternate Landing Site Required	NO GO
"	Single-pilot Day missions: Cig <700ft / Vis <2SM	No land or Takeoff @ Airfield	NO GO
"	Dual-pilot Day missions: Cig <500ft / Vis <SNM	No land or Takeoff @ Airfield	NO GO
"	Night NVG: 1000/2	No land or Takeoff @ Airfield	NO GO
"	Unaided Night: 700/2	No land or Takeoff @ Airfield	NO GO
"	Thunderstorm	No intentional flight into Tstm	NO GO
"	Tstm / Hail	No land or Takeoff @ Airfield	NO GO
"	Tstm / Heavy Rain	No land or Takeoff @ Airfield	NO GO
"	Tstm / Lightning	No land or Takeoff @ Airfield	NO GO
"	Tstm / Strong Gust $\geq$ 35 kts	No land or Takeoff @ Airfield	NO GO
"	Tstm / Wind Shear	No land or Takeoff @ Airfield	NO GO
"	Freezing Rain	De-Icing Required	NO GO
"	Snow Cover on Aircraft	De-Icing Required	GO
"	Alternate Cloud Cig < 700 ft	Below min for Alternate Airfield	GO
"	Alternate Low Vis < 400 m (1/4 sm)	Below min for Alternate Airfield	GO
"	Icing	Avoid all ares of any icing	NO GO
"	Severe Turbulence Aloft	Avoid Severe or Extreme	NO GO
"	Volcanic Activity	No Fly in known/reported region	NO GO

A4.3.2.2. **HH-60G Go/No Go Weather Limitations.** The UH60 Blackhawk and the UH60 Pave Low have de-ice equipment but it is not connected due to high maintenance.

Table A4.5. HH-60G Go/No Go Weather Limitations

<b>HH-60G</b>	Day: Cig <700ft / Vis <1SM	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Night NVG: Cig <700ft / Vis <2SM	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Night Unaided: 1000/3 Cig <1000ft / Vis <3SM	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Instrument: visibility less than ½ SM	<b>No land or Takeoff @ Airfield</b>	NO GO
"	<b>Tstm / Hail</b>	<b>No land or Takeoff @ Airfield</b>	NO GO
"	<b>Tstm / Heavy Rain</b>	<b>No land or Takeoff @ Airfield</b>	NO GO
"	<b>Tstm / Lightning</b>	<b>No land or Takeoff @ Airfield</b>	NO GO
"	<b>Tstm / Strong Gust ≥ 35 kts</b>	<b>No land or Takeoff @ Airfield</b>	NO GO
"	<b>Tstm / Wind Shear</b>	<b>No land or Takeoff @ Airfield</b>	NO GO
"	<b>Thunderstorm</b>	<b>No intentional flight into Tstm</b>	GO
"	<b>Freezing Rain</b>	<b>De-Icing Required</b>	NO GO
"	<b>Snow Cover on Aircraft</b>	<b>De-Icing Required</b>	GO
"	<b>Icing</b>	<b>≥ Mdt prevents Flight Ops</b>	NO GO
"	<b>Turbulence Aloft</b>	<b>≥ Mdt prevents Flight Ops</b>	NO GO
"	<b>Volcanic Activity</b>	<b>Not Fly in known/reported region</b>	NO GO

A4.3.2.3. **CV-22 Go/No Go Weather Limitations.** For IFR minimums. Comply with AFI 11-202, Vol 3, helicopter weather minimums unless local or theater specific-weather minimums are more restrictive. IMC TF flight may be accomplished on published IFR Military Training Routes (IR Routes) or other approved, surveyed training routes

Table A4.6. CV-22 Go/No Go Weather Limitations

<b>CV-22</b>	Day missions: Cig <500ft / Vis <2SM	<b>No land or Takeoff @ Airfield</b>	NO GO
	Night Unaided: Cig <1000ft / Vis <2SM	<b>No land or Takeoff @ Airfield</b>	NO GO
	Night NVG: Cig <500ft / Vis <2SM	<b>No land or Takeoff @ Airfield</b>	NO GO
	Sfc Winds $\geq$ 90 kts	<b>Evacuate or hangar aircraft</b>	NO GO
"	Sfc Winds $\geq$ 45 kts	<b>Gust locks installed</b>	NO GO
"	Sfc Winds $\geq$ 60 kts	<b>Nose into wing</b>	NO GO
"	Sfc Winds $\geq$ 45 kts	<b>No Engine Start/Shut-down</b>	NO GO
"	Thunderstorm	<b>No intentional flight into Tstm</b>	GO
"	Tstm / Hail	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Tstm / Heavy Rain	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Tstm / Lightning	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Tstm / Strong Gust $\geq$ 35 kts	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Tstm / Wind Shear	<b>No land or Takeoff @ Airfield</b>	NO GO
"	Freezing Rain	<b>De-Icing Required</b>	NO GO
"	Snow Cover on Aircraft	<b>De-Icing Required</b>	GO
"	Icing	<b><math>\geq</math> Mdt prevents Flight Ops</b>	NO GO
"	Turbulence Aloft	<b><math>\geq</math> Mdt prevents Flight Ops</b>	NO GO
"	Volcanic Activity	<b>No Fly in known/reported region</b>	NO GO

## A4.3.2.4. HC/MC-130P/H/J Go/No Go Weather Limitations.

Table A4.7. HC/MC-130P/H/J Go/No Go Weather Limitations.

Aircraft	Weather Phenomena	Impact/Action	GO / NO GO
HC/MC-30P/H/J	Day VFR: standard VFR of 1500/3	No land or Takeoff @ Airfield	NO GO
"	Night, NVG or unaided: 1500/3	No land or Takeoff @ Airfield	NO GO
"	Instrument: Cig below 200ft and visibility below ½ SM	No land or Takeoff @ Airfield	NO GO
"	Sfc Winds $\geq$ 35 kts	Prevents landing/takeoff	NO GO
"	Thunderstorm	No intentional flight into Tstm	GO
"	Tstm / Hail	No land or Takeoff @ Airfield	NO GO
"	Tstm / Heavy Rain	No land or Takeoff @ Airfield	NO GO
"	Tstm / Lightning	No land or Takeoff @ Airfield	NO GO
"	Tstm / Strong Gust $\geq$ 35 kts	No land or Takeoff @ Airfield	NO GO
"	Tstm / Wind Shear	No land or Takeoff @ Airfield	NO GO
"	Freezing Rain	De-Icing Required	NO GO
"	Snow Cover on Aircraft	De-Icing Required	GO
"	Low Level Winds $\geq$ 25 kts	Precautionary for Low level	GO
"	Low Level Winds $\geq$ 40 kts	Cancel Low level Flight	NO GO
"	Icing	$\geq$ Mdt prevents Flight Ops	NO GO
"	Turbulence Aloft	$\geq$ Mdt prevents Flight Ops	NO GO
"	Volcanic Activity	No Fly in known/reported region	NO GO

Attachment 5

MISSION EXECUTION FORECAST EXAMPLE

A5.1. Mission Execution Forecast Example

Figure A5.1. Mission Execution Forecast Example (1of 7)

Kirtland AFB - MISSION PLANNING / EXECUTION FORECAST										DATE:	24-Jan-13
NOT AN EXECUTION FORECAST UNTIL VALIDATED BY KIRTLAND WEATHER TECHNICIAN										VALID TIME:	1400-0200Z
KIRTLAND AFB - WEATHER DESK (377th MWX): DSN 246-9707/9722										FORECASTER:	SSGT PREECE
										MEF #	01-24 AM
Kirtland Air Force Base (KABQ) TAKE-OFF/LANDING DATA (TOLD)											
TIME (Z)	VIS (SM)	WX	TEMP	ALSTG	PA (FT)	DA (FT)	WIND DIR SPD GUST (KT)	CLOUD LEVELS	TEMPO CONDITIONS / REMARKS		
14	7		-2		33779	32999					
15	7		2		33779	33479					
16	7		3		33779	33599					
17	7		6		33779	33959					
18	7		8		33779	34199					
19	7		12		33779	34679					
20	7		13		33779	34799					
21	7		14		33779	34919					
22	7		15		33779	35039					
23	7		14		33779	34919					
24/00	7		14		33779	34919					
01	7		12		33779	34679					
02	7		9		33779	34319					
				LOW RISK		MOD RISK		HIGH RISK			
				CIG ≥ 015; VIS ≥ 3SM		CIG > 002 BUT < 015; VIS > 1/2 BUT < 3SM		CIG ≤ 002; VIS ≤ 1/2SM or TSTM ON STN			
MISC DATA			SOLAR/LUNAR DATA (KABQ)				SPACE WEATHER IMPACTS				
FZ LEVEL:	130	BEGIN NAUT TL: (L)	0612	SUNSET: (L)	1728	MOONRISE: (L)	241524	HF	UNLIKELY DEGRADATION		
VOLCANIC ASH:	N/A	BEGIN CIV TL: (L)	0643	END CIV TL: (L)	1755	MOONSET: (L)	250508	UHF	UNLIKELY DEGRADATION		
CURRENT RCR:	DRY	SUNRISE: (L)	0710	END NAUT TL: (L)	1825	MOON ILLUM:	92%	GF6	UNLIKELY DEGRADATION		
*** PLEASE CALL WEATHER STATION FOR LATEST WEATHER WATCHES, WARNINGS AND ADVISORIES***								SPACE WX REMARKS	N/A		
FLIGHT HAZARDS (25 OWS)											
HAZARD	TYPE / INTENSITY	LOCATION	LEVEL	VALID	REMARKS						
THUNDERSTORMS	NONE		MAX TOPS:								
LOW LEVEL TURBULENCE	LIGHT OCNL MODERATE			15-18Z	SEE CHART						
ICING	LIGHT RIME	W. AZ/ E.NM	080-180	15-18Z	STARTS IN AZ PROGRESSES EAST W/ NEXT SYSTEM						
PRECIPITATION	NONE		N/A								
*** HAIL, SEVERE TURB & ICING, HEAVY PRECIPITATION, LIGHTNING & WIND SHEAR EXPECTED IN AND NEAR THUNDERSTORMS***											
PLANNING DESTINATION / ALTERNATE / DIVERT AIRFIELD FORECASTS											
KABQ	ALBUQUERQUE INTL AIRPORT					KHMN	HOLLOMAN AFB				
KABQ 241140Z 2412/2512 VRB05KT P6SM SCT250 FM241930 29007KT P6SM FEW180 BKN250 FM250200 34005KT P6SM BKN140 BKN200						KHMN 2412/2518 VRB06KT 9999 SCT180 QNH3012INS BECMG 2500/2501 VRB06KT 9999 SCT100 BKN120 QNH3013INS T18/2500Z TM01/2414Z					
KCVS	CANNON AFB					KPUB	PUEBLO AIRPORT				
KCVS 2410/2516 27012G18KT 9999 FEW250 QNH3016INS BECMG 2417/2418 25015G25KT 9999 FEW250 QNH3004INS BECMG 2502/2503 31009KT 9999 BKN200 QNH3007INS T22/2422Z T01/2412Z						KPUB 241120Z 2412/2512 09006KT P6SM BKN150 FM241900 28015G25KT P6SM SCT110 BKN150 FM250200 30012KT P6SM SCT140 BKN200					
KROW	ROSWELL AIRPORT					KSAF	SANTA FE				
KROW 241140Z 2412/2512 VRB04KT P6SM SCT250 FM242030 21009KT P6SM BKN250						KSAF 241140Z 2412/2512 01011KT P6SM SCT250 FM241400 36013G19KT P6SM BKN200 FM242000 28009KT P6SM OVC200 FM250200 35007KT P6SM BKN140 BKN200					
WEATHER LEGEND (CIG-VIS) / RISK FACTOR: BASED ON ACFT TAKE-OFF/LANDING WX SENSITIVITIES				LOW RISK		MOD RISK		HIGH RISK			
				CIG ≥ 015; VIS ≥ 3SM		> 002 BUT < 015; VIS > 1/2 BUT < 3		CIG ≤ 002; VIS ≤ 1/2SM or TSTM ON STN			
PLANNING DESTINATION / LOW LEVEL ROUTES FORECASTS											
SR201	PET FOREST WESTERN 1/2 (KINW)					SR201/200	PET FOREST EASTERN 1/2 & CUT OFF (KGUP)				
WINDS DGDSFG FVGHSD VIS/WX AFSA SKY CONDITION ALSTG						WINDS VIS/WX SKY CONDITIONS ALSTG					
SR210/211	NORTHERN 1/2 (KABQ)					SR210/211	SOUTHERN 1/2 (KSAF)				
WINDS GAF VIS/WX SKY CONDITION ALSTG						WINDS VIS/WX SKY CONDITIONS ALSTG					

Figure A5.2. Mission Execution Forecast Example (2 of 7)

VR176 EASTERN 1/2 (KABQ) WINDS VIS/WX SKY CONDITION ALSTG				VR176 WESTERN 1/2 (KSVC) WINDS VIS/WX SKY CONDITIONS ALSTG			
IR 137/308 NORTHERN 1/3 (KPUB) WINDS VIS/WX SKY CONDITION ALSTG				IR 137/308 MIDDLE 1/3 (NEAR BORDER) (KALS) WINDS VIS/WX SKY CONDITIONS ALSTG			
IR 137/308 SOUTHERN 1/3 (KSAF,LAM) WINDS VIS/WX SKY CONDITION ALSTG							
<b>AR FORECASTS</b>							
AR 117V /125V WINDS VIS/WX SKY CONDITION ALSTG				AR 674A (KGUP) WINDS VIS/WX SKY CONDITIONS ALSTG			
AR 672 (KCAO,KDHT) WINDS VIS/WX SKY CONDITION ALSTG				AR 602 (KCVS) WINDS VIS/WX SKY CONDITIONS ALSTG			
<b>DROP ZONE FORECASTS</b>							
IZLETA / BURRIS AUX FIELD / NE, SE, SW, NW CENTER-FIRE WINDS VIS/WX SKY CONDITION ALSTG				OSCURA / RED RIO WINDS VIS/WX SKY CONDITIONS ALSTG			
<b>CENTER-FIRE/ ISLETA DZ WINDS</b> WIND DIR WND SPD (KT) TEMP (C)				<b>OSCURA / RED RIO DZ WINDS</b> WND DIR WND SPD TEMP (C)			
003				003			
006				006			
009				009			
WEATHER LEGEND (CIG/MS) / RISK FACTOR BASED ON ACFT TAKE-OFF/LANDING WX SENSITIVITIES		LOW RISK CIG ≥ 015; VIS ≥ 3SM		MDD RISK > 002 BUT < 015; VIS > 1/2 BUT < 3		HIGH RISK CIG ≤ 002; VIS ≤ 1/2SM or TSTM ON STN	
<b>BRIEFING INFO / REQUIREMENTS</b>							
FORECASTE DESK: DSN 246-9722; COMM 505-846-9722				BRIEF TIME:		CALL SIGN:	
PMSV FREQUENCY: KIKR 342.3				RE-BRIEF TIME:		WX INITIALS:	
<b>NOT AN EXECUTION FORECAST UNTIL VALIDATED BY KIRTLAND WEATHER TECHNICIAN - PLEASE CALL DSN: DSN 246-9722; COMM 505-846-9722</b>							

Figure A5.3. Mission Execution Forecast Example (3 of 7)



Figure A5.4. Mission Execution Forecast Example (4 of 7)

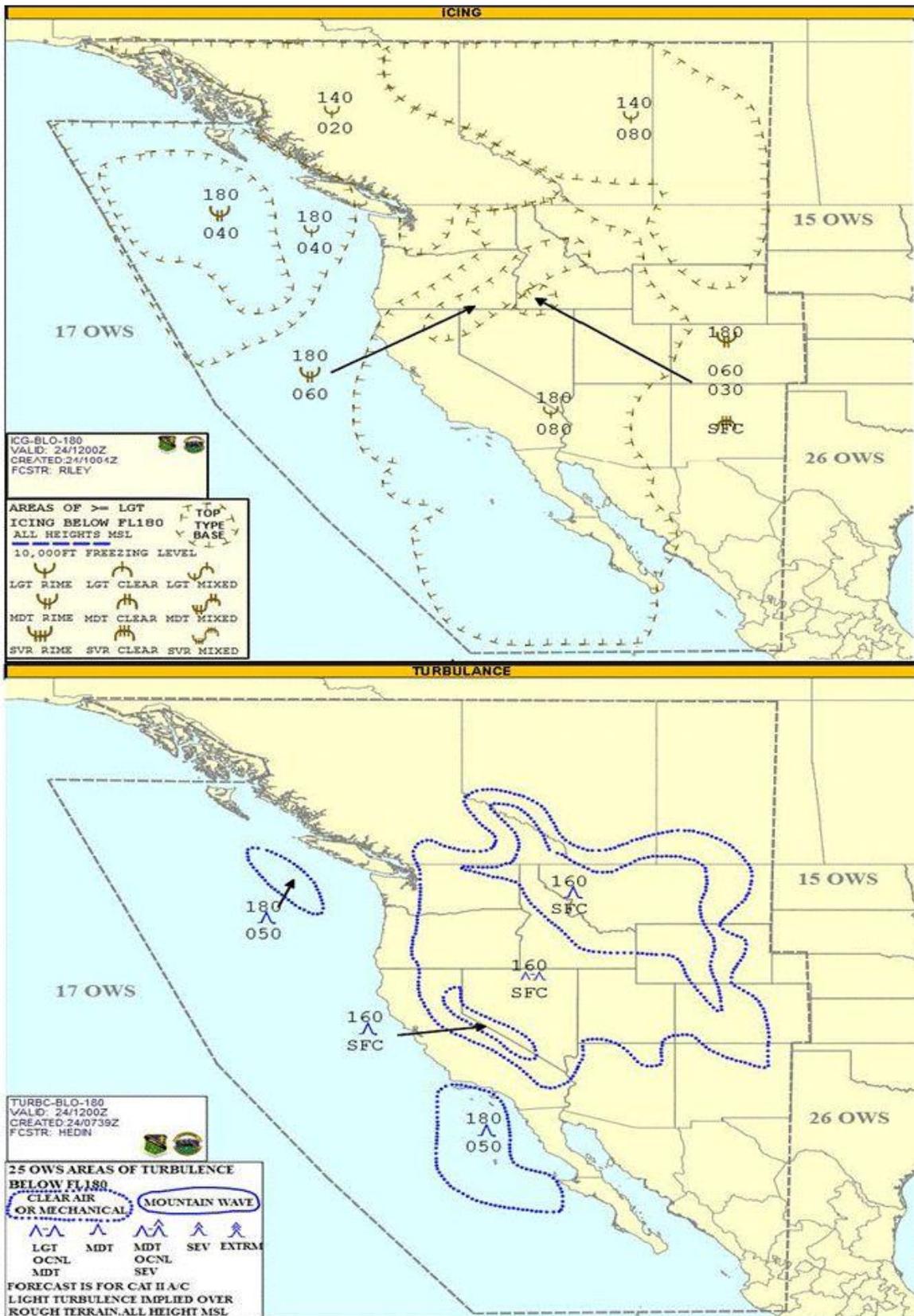


Figure A5.5. Mission Execution Forecast Example (5 of 7)

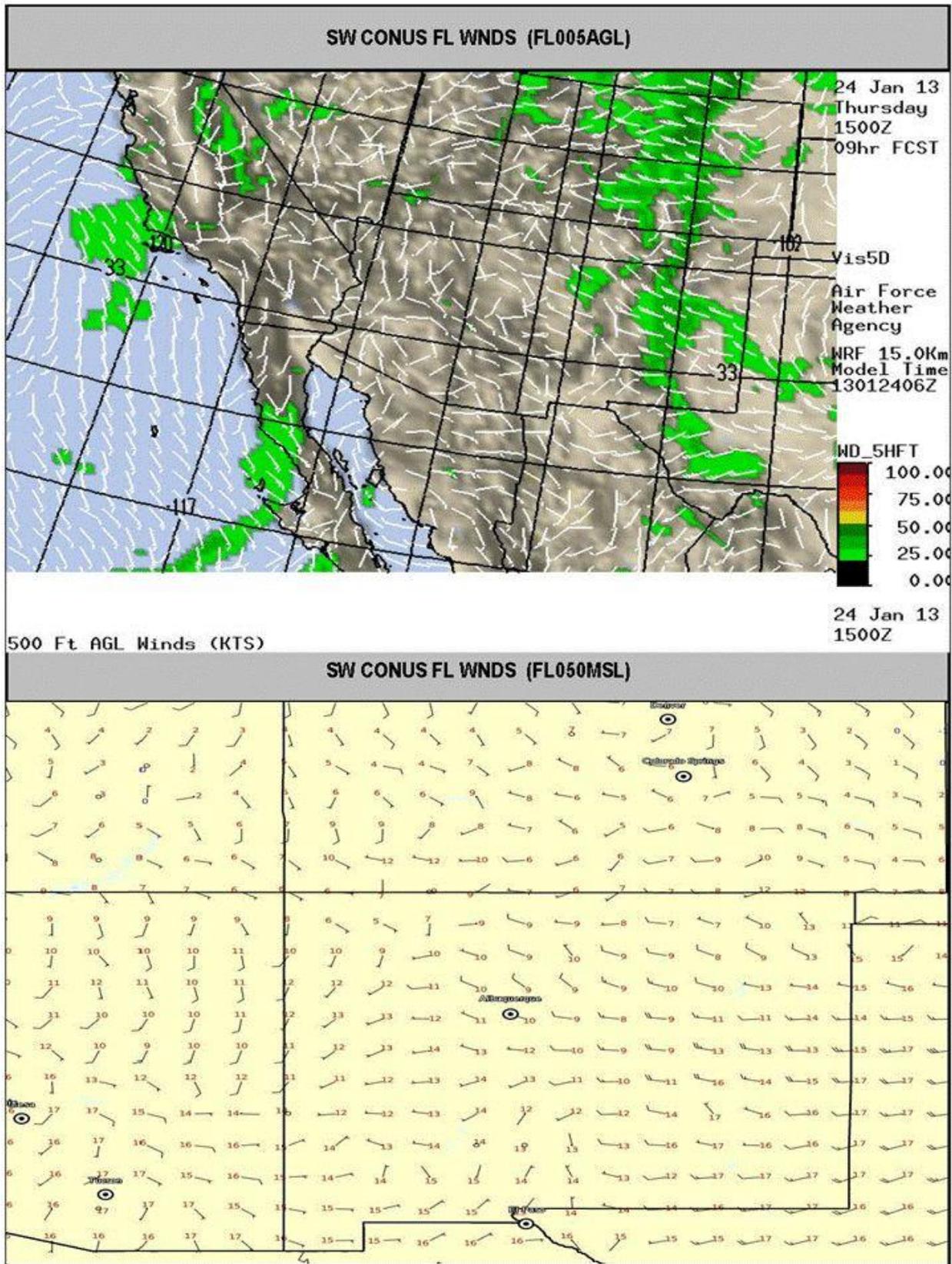


Figure A5.6. Mission Execution Forecast Example (6 of 7)

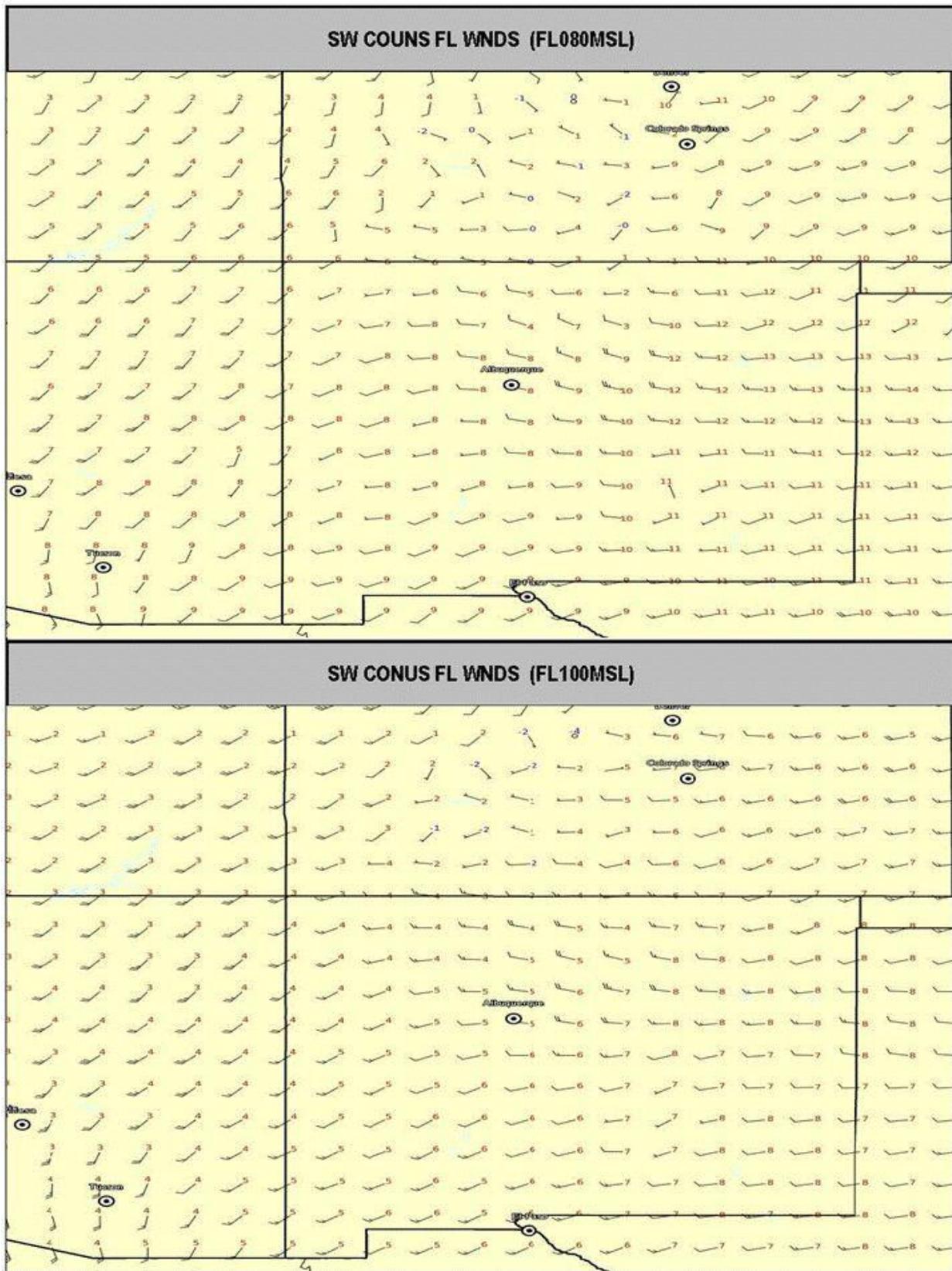
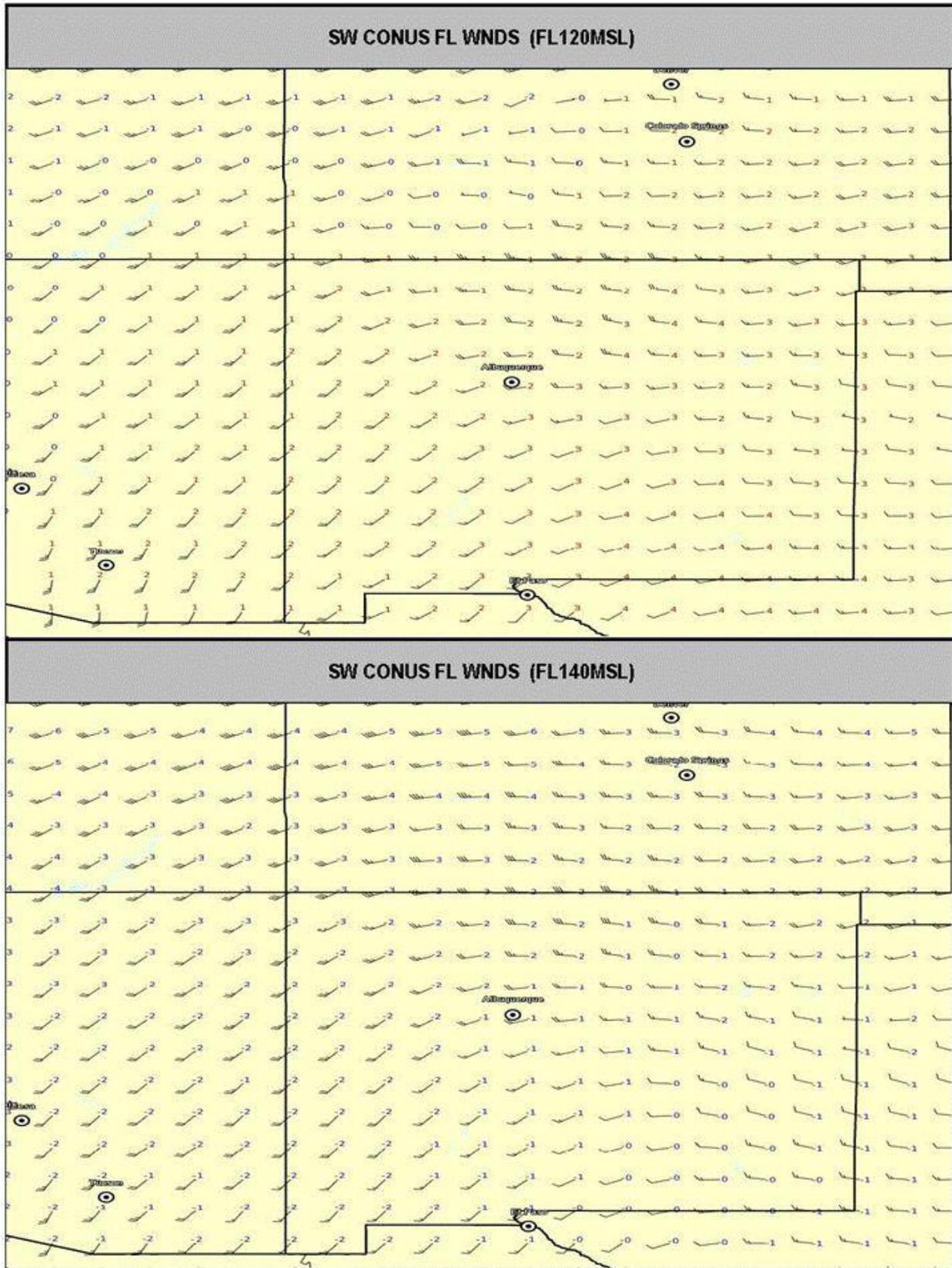


Figure A5.7. Mission Execution Forecast Example (7 of 7)



A5.2. Flying Routes and Training Areas

Figure A5.8. Flying Routes and Training Areas

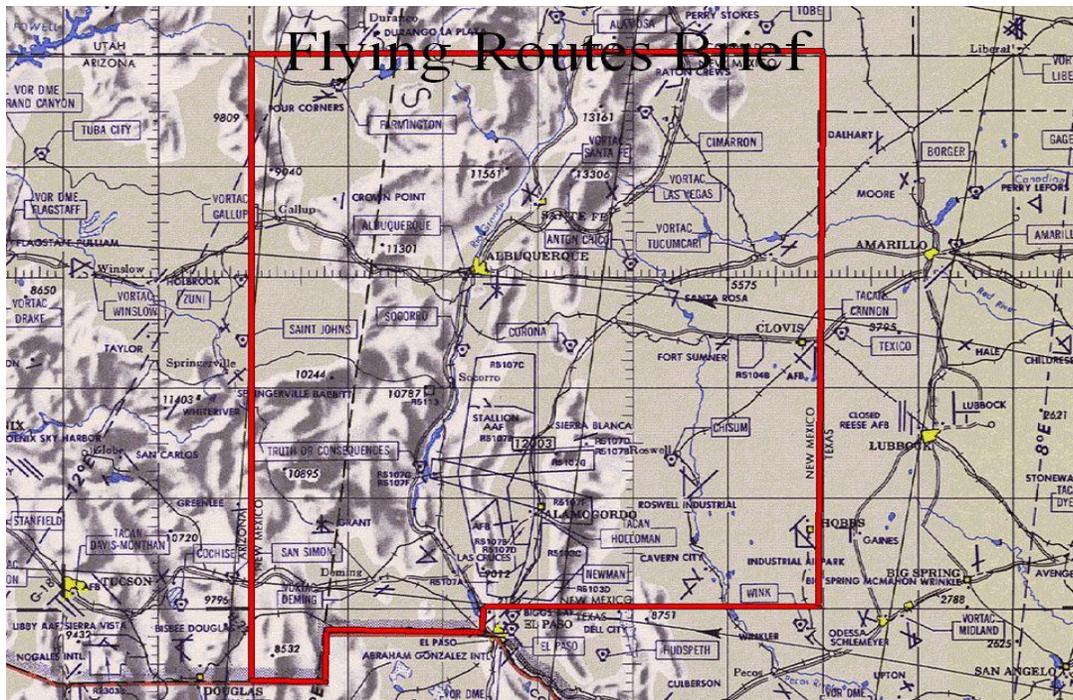


Figure A5.9. Flying Routes and Training Areas (IR 137)

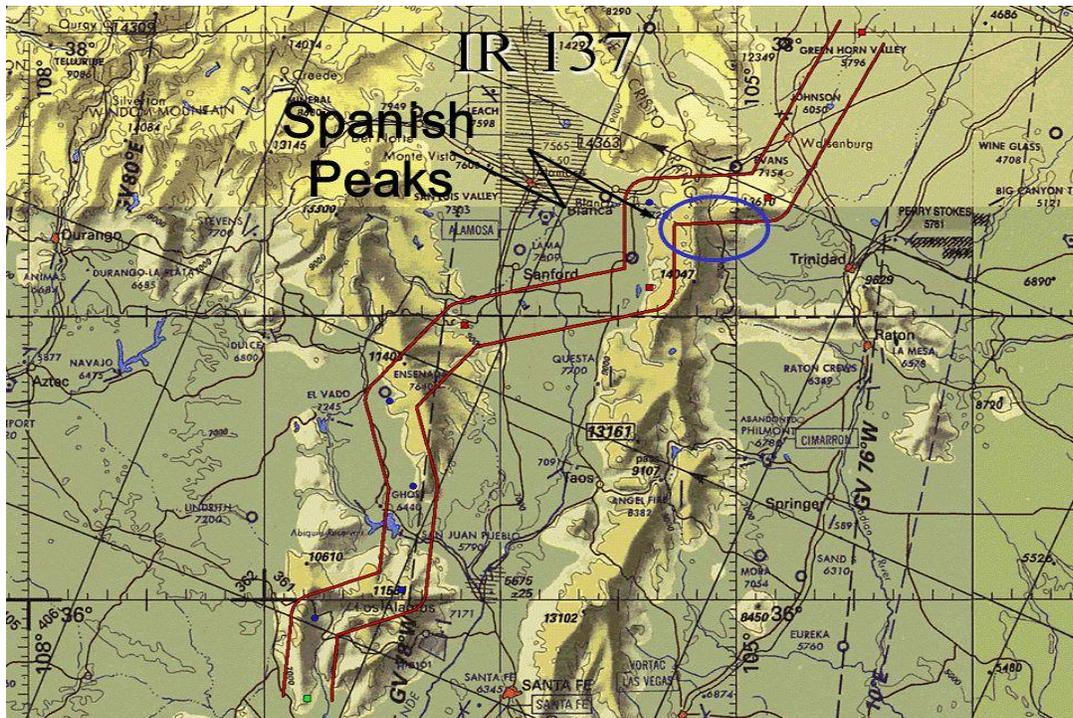


Figure A5.10. Flying Routes and Training Areas (IR 308)

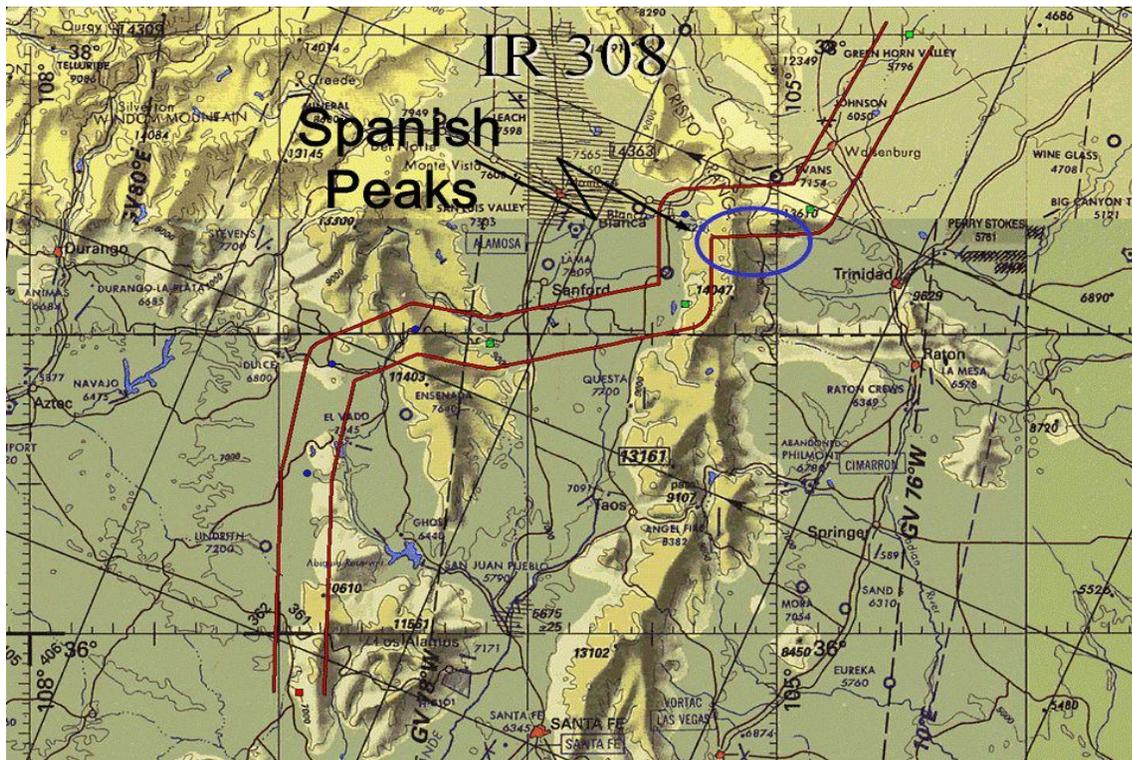


Figure A5.11. Flying Routes and Training Areas (Red Diamond)

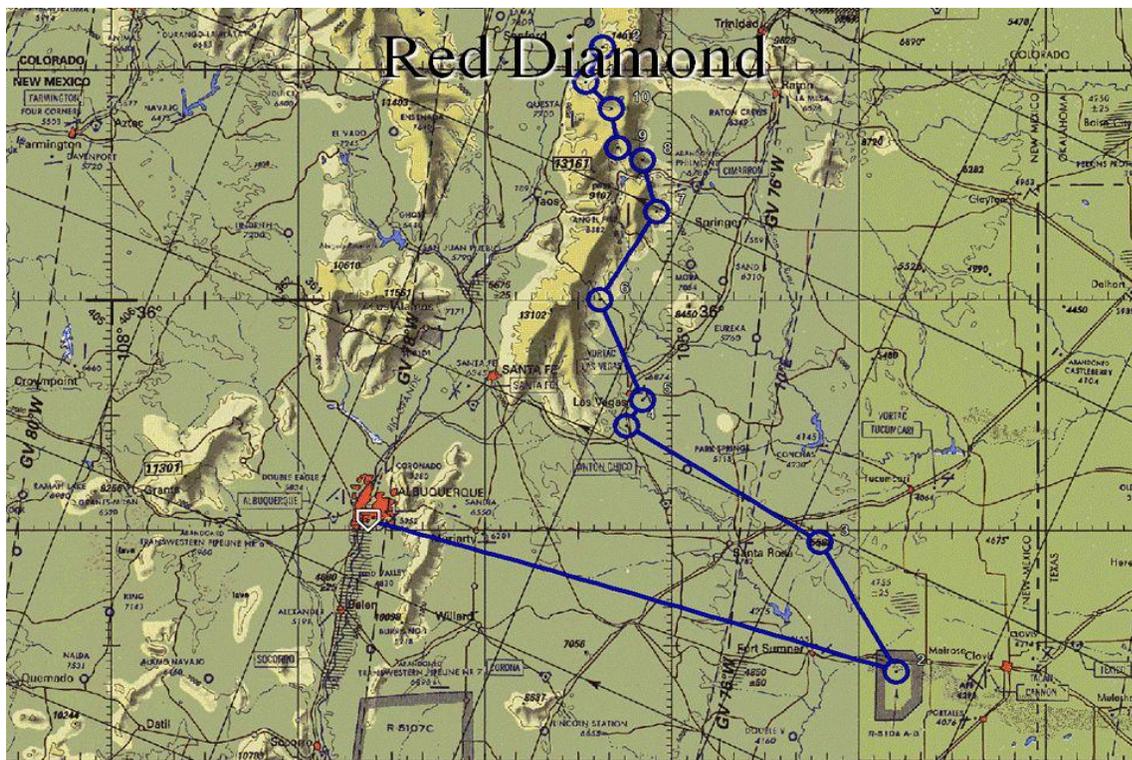






Figure A5.16. Flying Routes and Training Areas (VR 176)

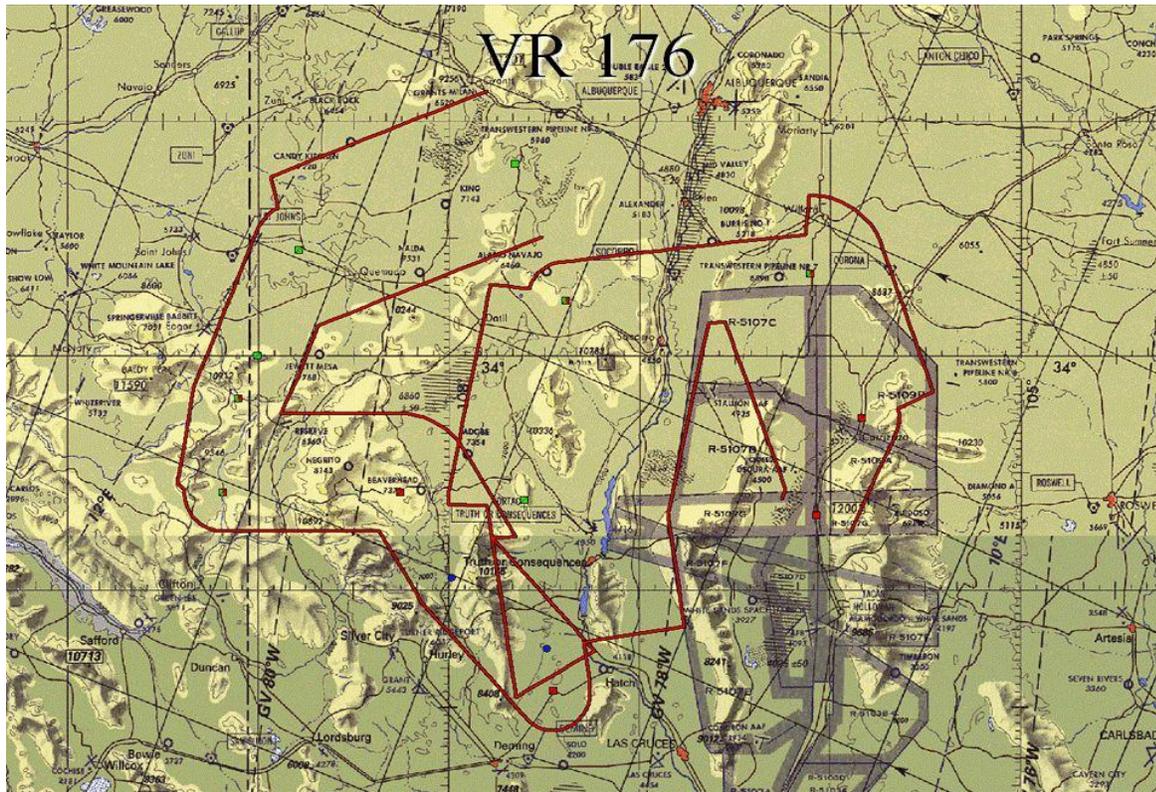


Figure A5.17. Flying Routes and Training Areas (IR 112)

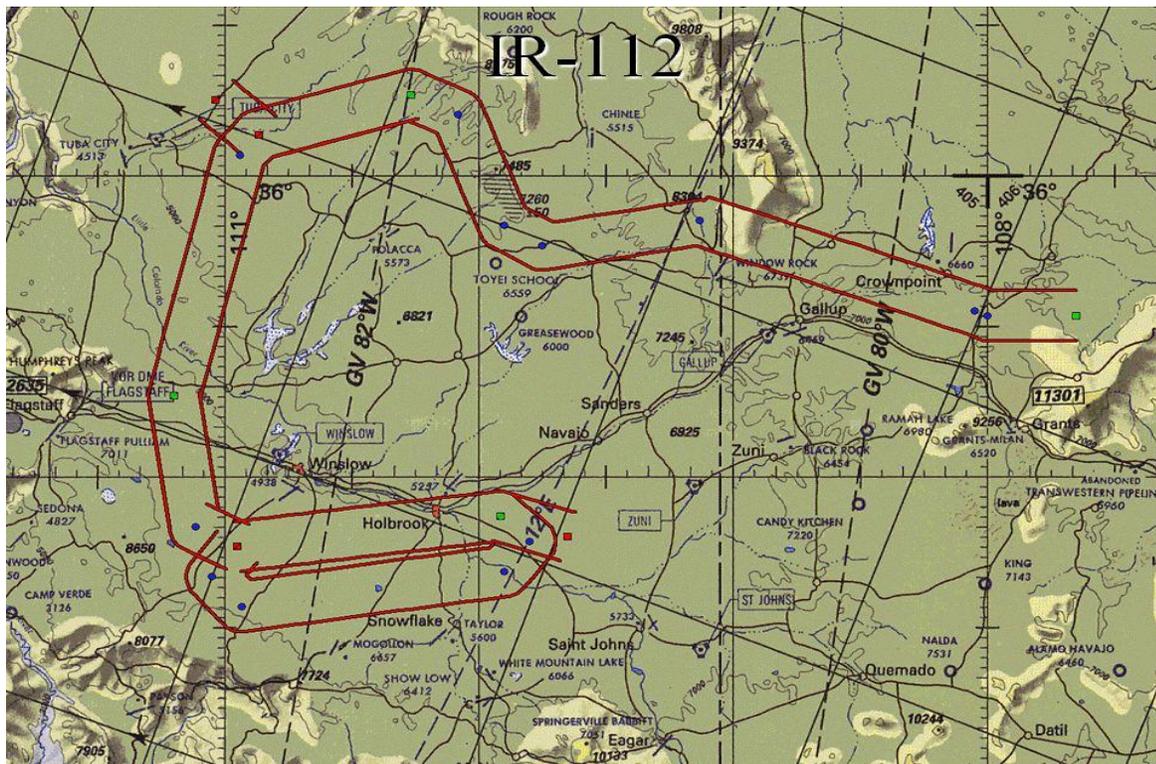


Figure A5.18. Flying Routes and Training Areas (AR 117)

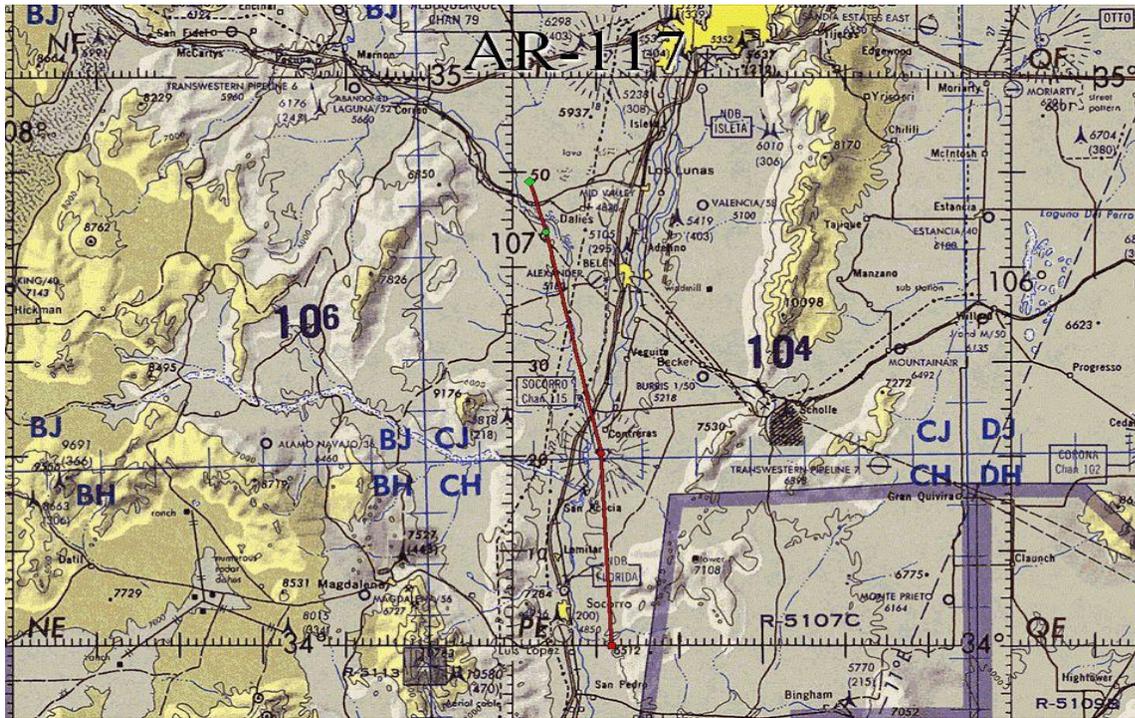


Figure A5.19. Flying Routes and Training Areas (AR 125)

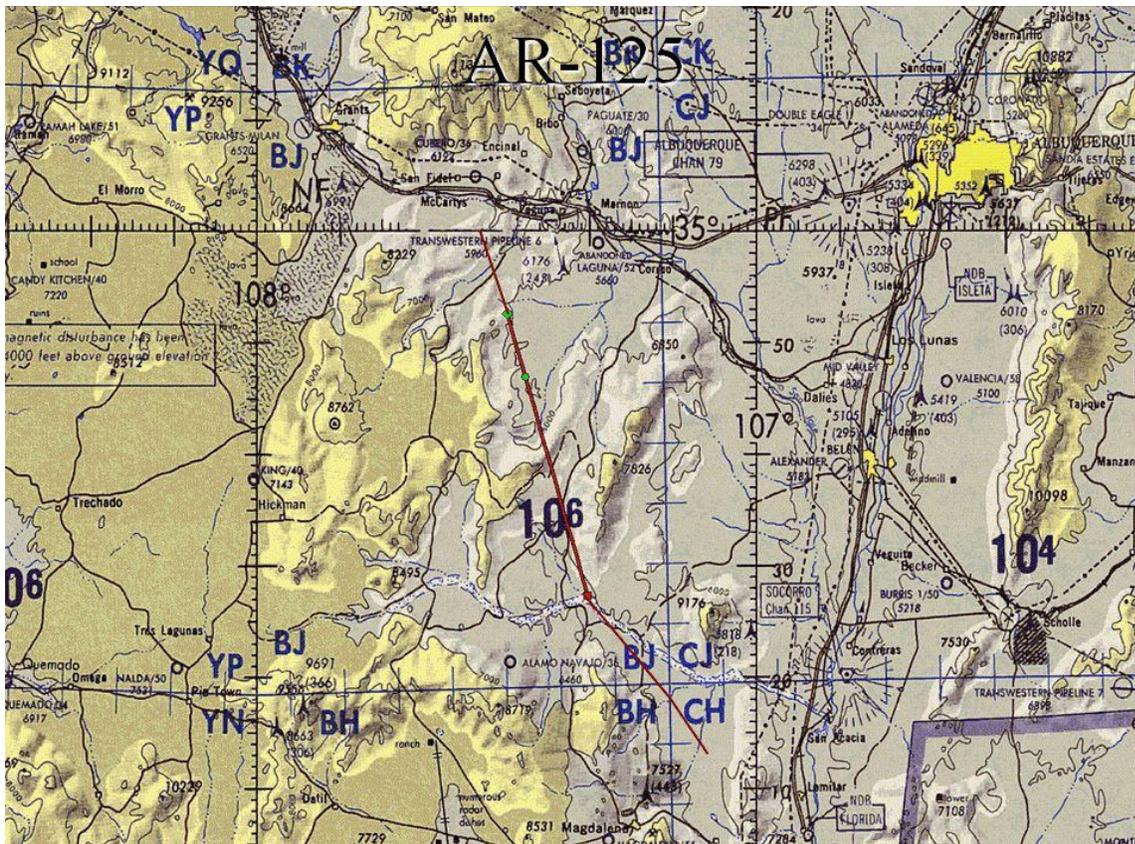


Figure A5.20. Flying Routes and Training Areas (AR 672)

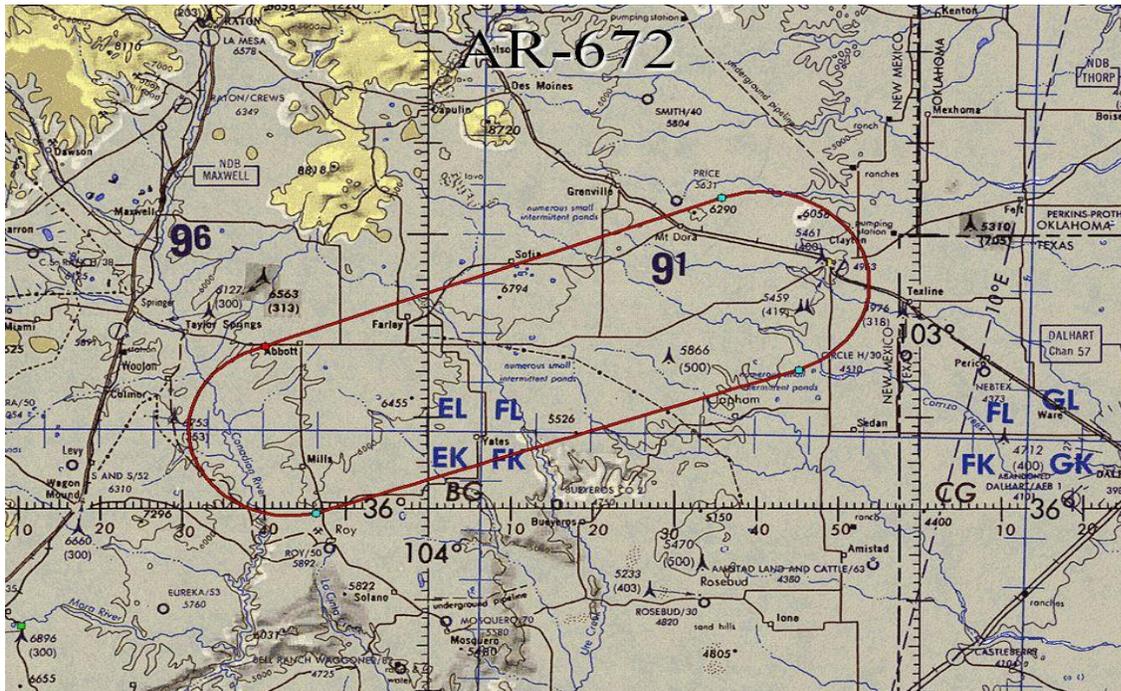


Figure A5.21. Flying Routes and Training Areas (AR 674)

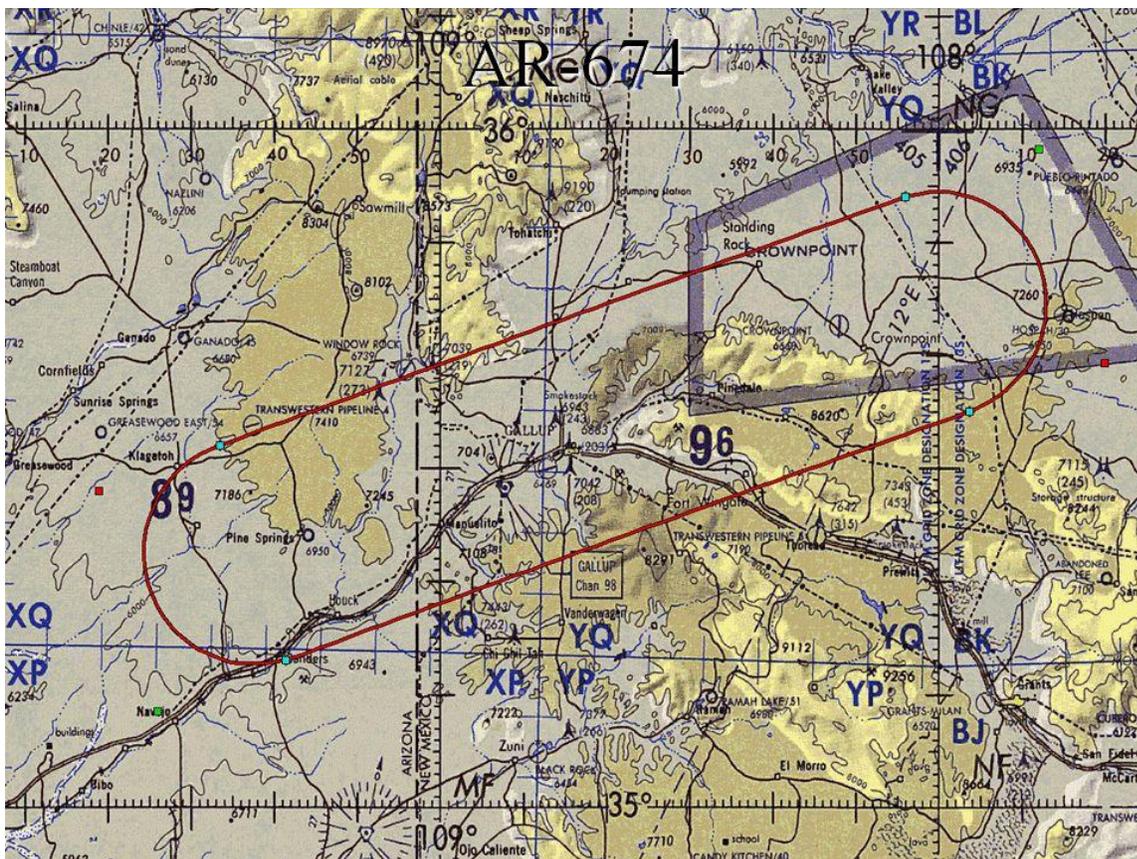


Figure A5.22. Flying Routes and Training Areas (Jamez)

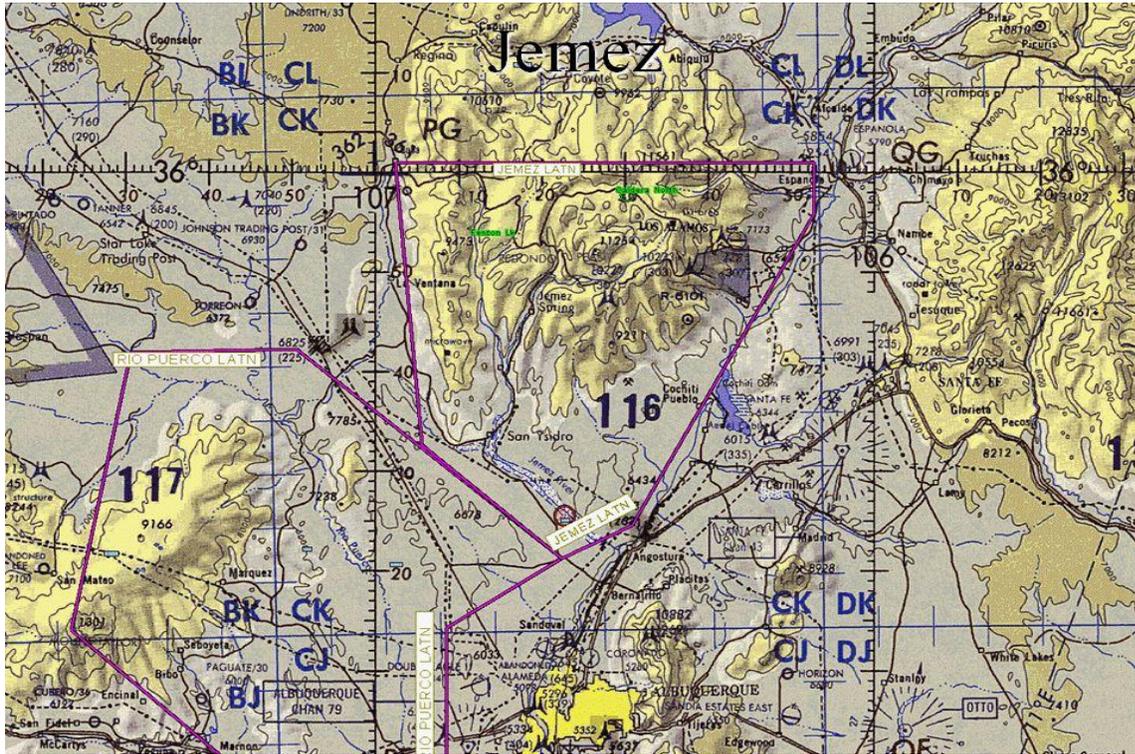


Figure A5.23. Flying Routes and Training Areas (Red Rio & Stallion)

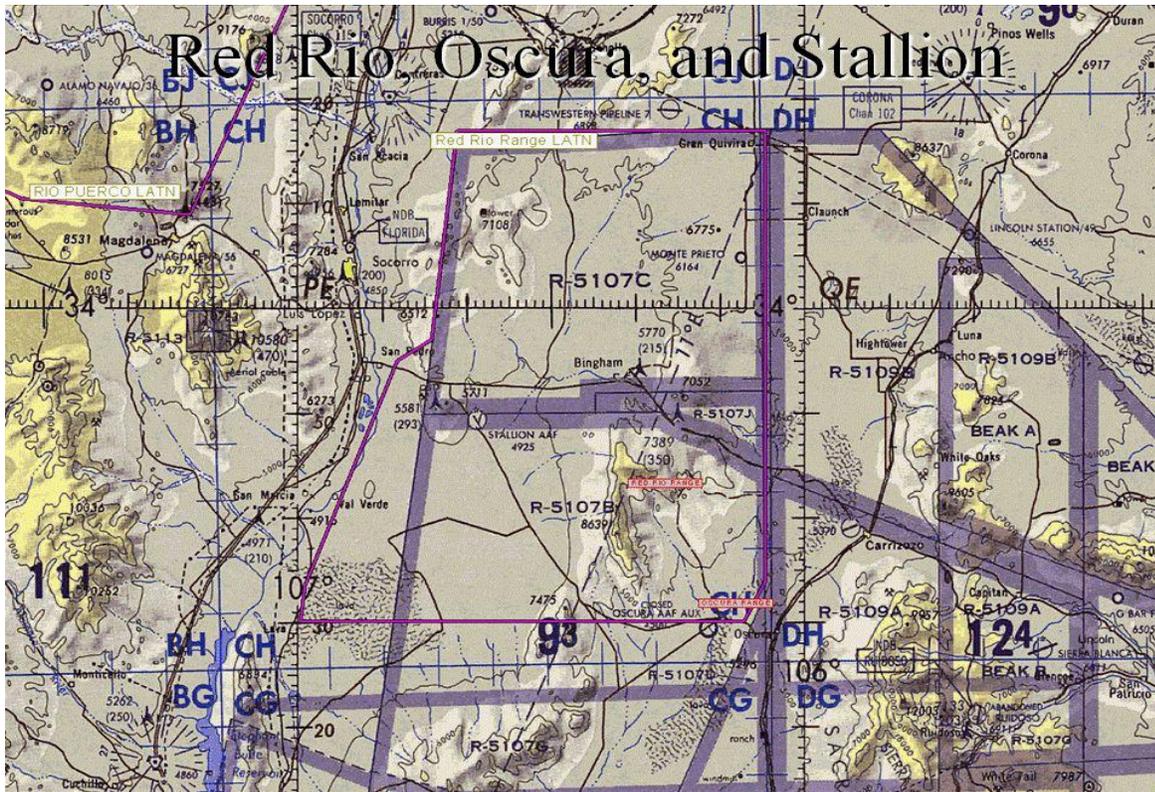


Figure A5.24. Flying Routes and Training Areas (Rio Puerco)

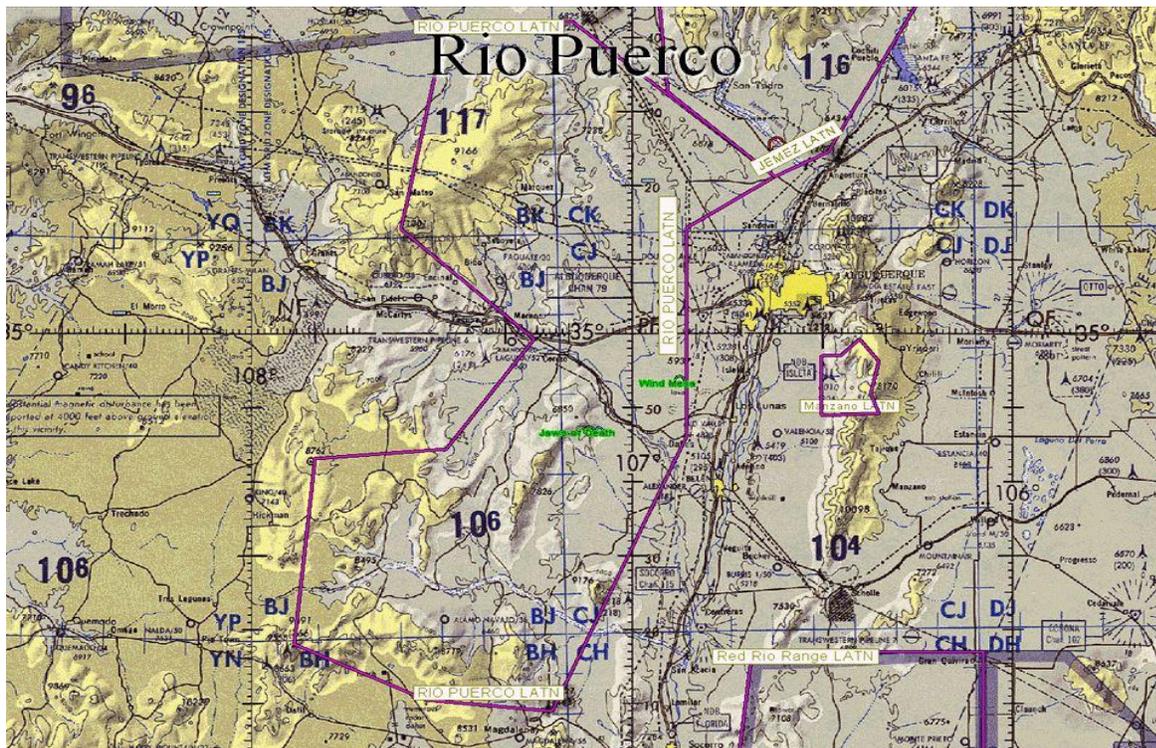


Figure A5.25. Flying Routes and Training Areas (N. Remotes and Drop Zones)

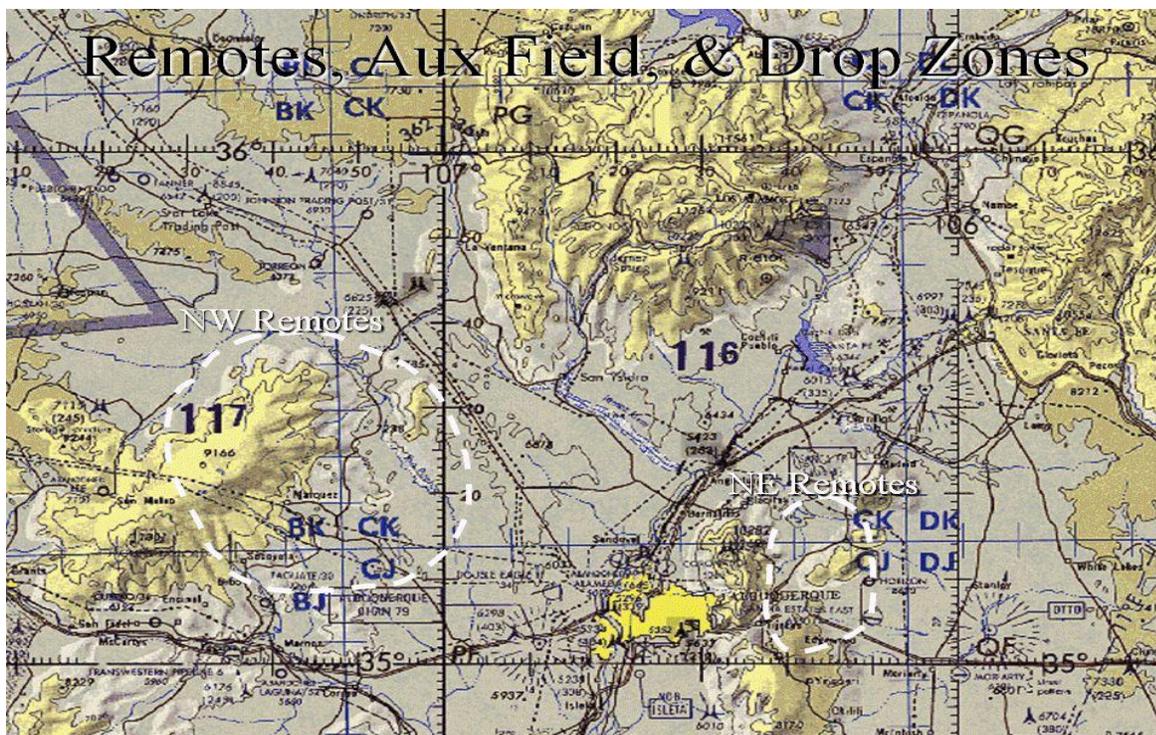


Figure A5.26. Flying Routes and Training Areas (S. Remotes and Drop Zones)

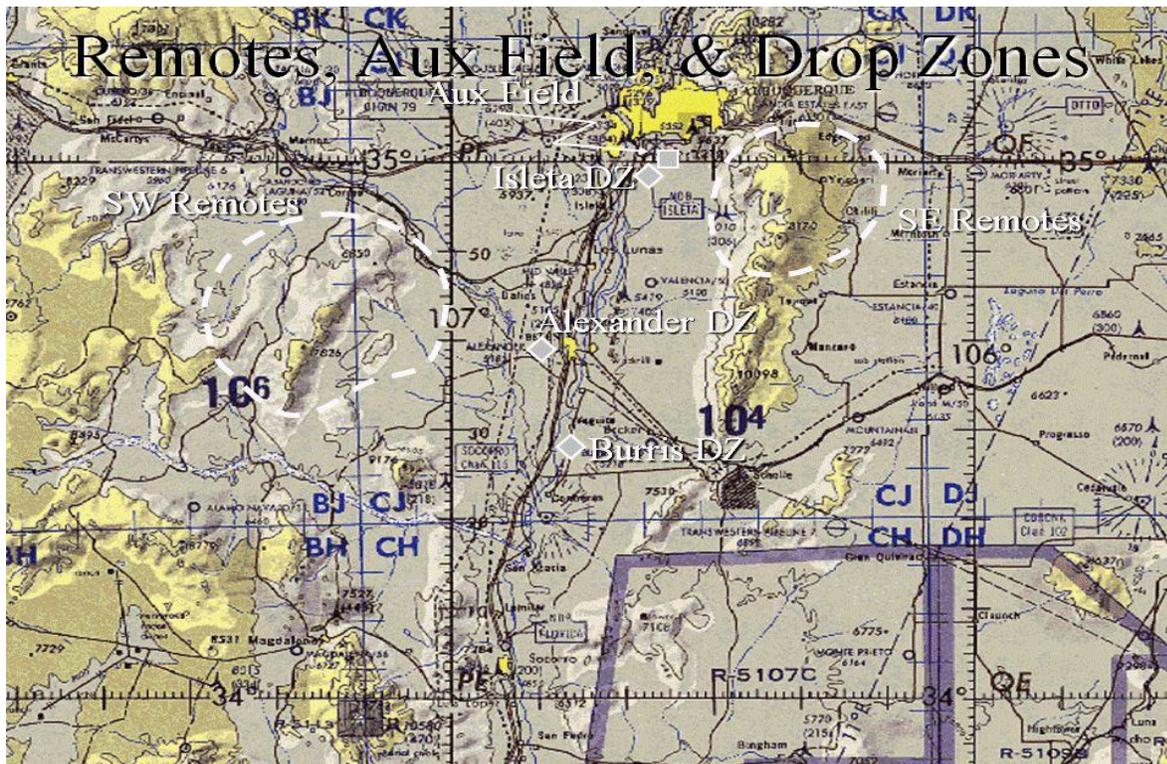


Figure A5.27. Flying Routes and Training Areas (FCF Area)

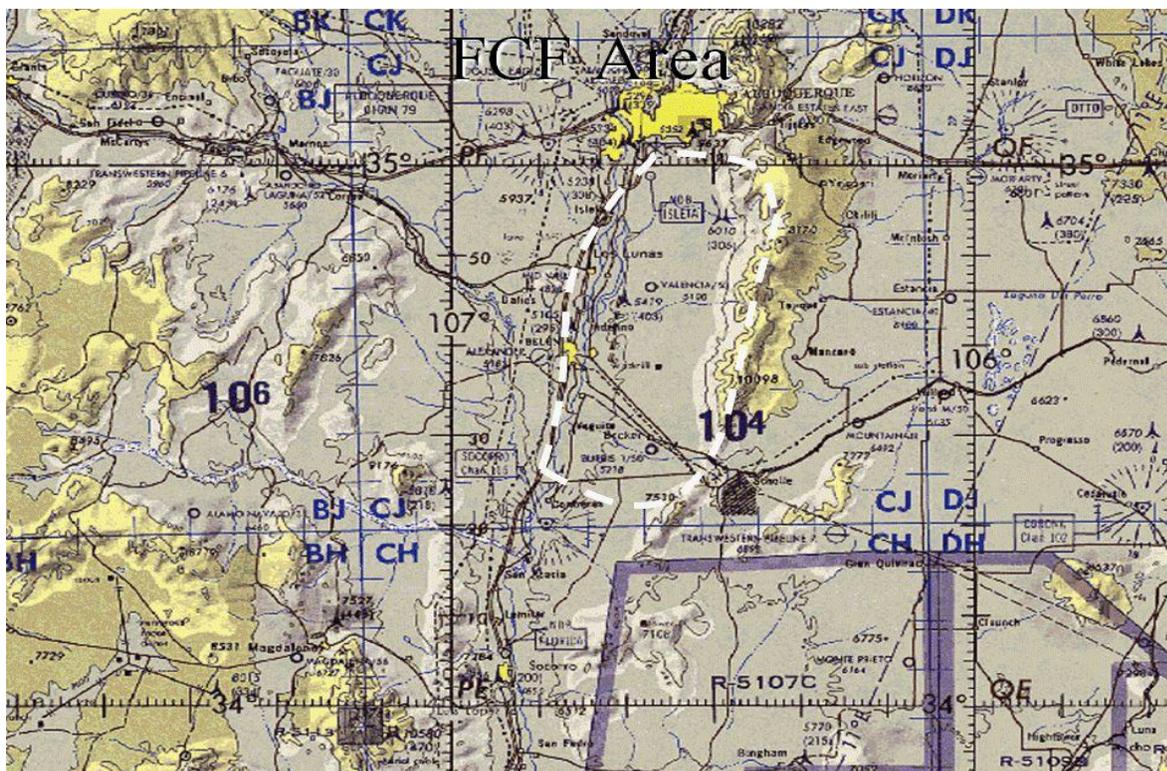
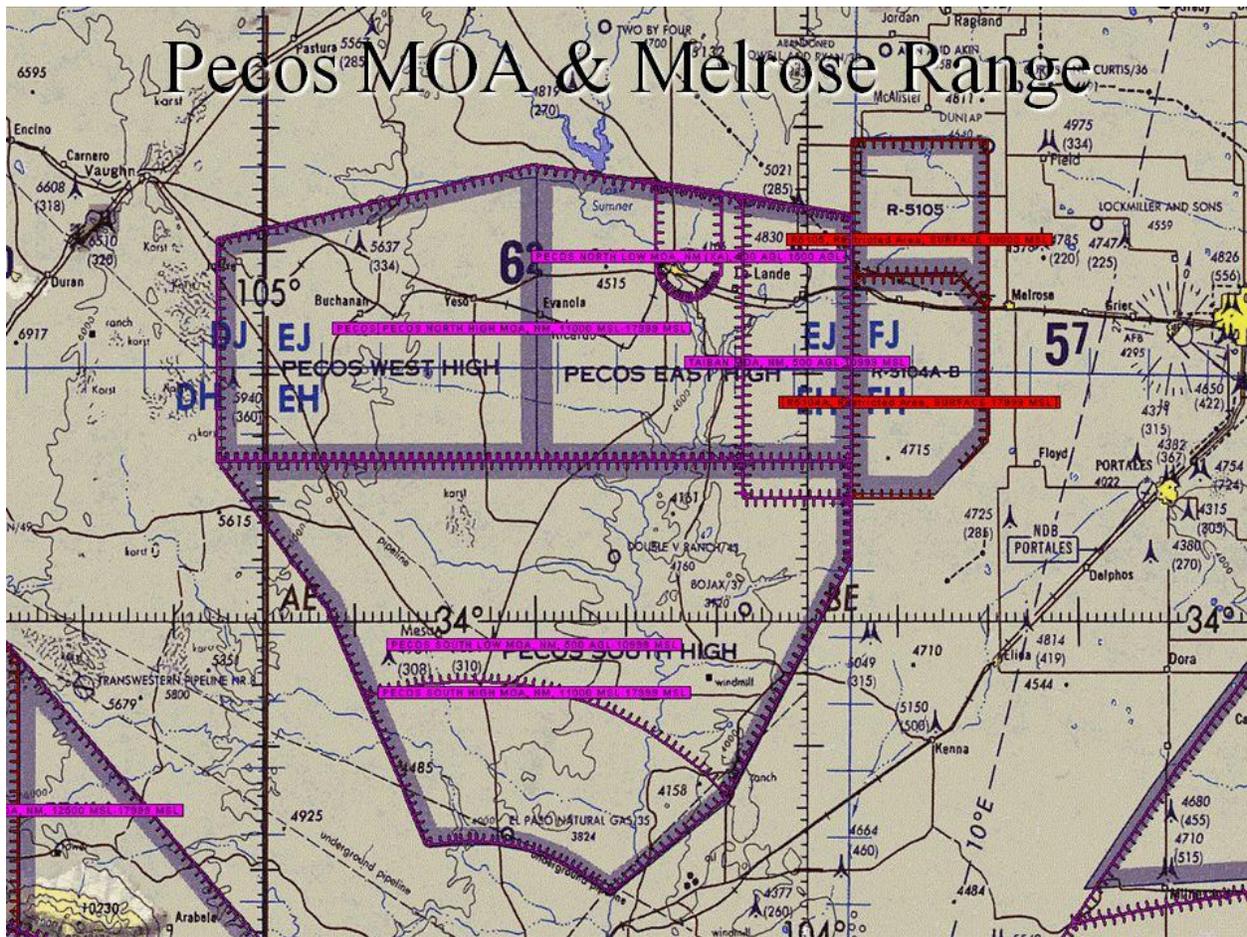


Figure A5.28. Flying Routes and Training Areas ( Pecos & Melrose Range)



Attachment 6

SPACE WEATHER IMPACTS

Figure A6.1. Space Environment Global Situational Awareness

