III Corps and FH Reg 115-1

Climatic, Hydrological, and
Topographic Services

Weather Support to III Corps and Fort Hood

Department of the Army
Headquarters III Corps and Fort Hood
Fort Hood, Texas 76544
21 February 2013

UNCLASSIFIED

SUMMARY of CHANGE

III Corps & FH Reg 115-1
Weather Support to III Corps and Fort Hood

This major revision, dated 21 February 2013

- Makes administrative changes (throughout)
- Makes format changes (throughout)

DEPARTMENT OF THE ARMY
HEADQUARTERS, III CORPS AND FORT HOOD
FORT HOOD, TEXAS 76544-5016
21 February 2013

***III CORPS & FH REG 115-1**

Climatic, Hydrological, and Topographic Services
Weather Support to III Corps and Fort Hood

History. This publication is a major revision. Portions affected by this revision are listed in the summary of change.

Summary. This regulation implements Army Regulation (AR) 115-10 (Weather Support for the US Army {AFI 15-157 (IP)}) at Fort Hood.

Applicability. This regulation applies to III Corps and Fort Hood units, major subordinate commands, non-divisional units, and partners in excellence activities. During full mobilization requirements, this regulation remains in full effect.

Supplementation. Local supplementation of this regulation is prohibited except upon approval of the Assistant Chief of Staff (ACofS), G2.

Suggested improvements. The proponent of this regulation is the ACofS, G2. Users may send comments and suggested improvements on DA Form 2028 (Recommended Change to Publications and Blank Forms) to the Commander, III Corps and Fort Hood, ATTN: AFZF-GS-G2, Fort Hood, Texas.

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This regulation supersedes III Corps & FH Reg 115-1, dated 26 October 2010.

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Chapter 1
Introduction

1-1. Purpose
This regulation defines the responsibilities of the 3d Weather Squadron (3 WS) for providing weather support to Fort Hood (FH) organizations in accordance with (IAW) Air Force Instruction (AFI) 15-128, *Air Force Weather Roles and Responsibilities* and Air Force Manual (AFMAN) 15-129 Volume 2, *Air and Space Weather Operations – Exploitation*. It further specifies responsibilities incumbent upon III Corps and various Fort Hood Army units in providing support to 3 WS IAW Army Regulation (AR) 115-10 (AFJI15-157), *Weather Support for the US Army* and 3d Air Support Operations Group (3 ASOG) inter-service support agreement. This publication will be reviewed and revised at least biennially IAW AFMAN15-129, Volume 2.

1-2. References
Required and related publications and prescribed and referenced forms are listed in appendix A.

1-3. Abbreviations and terms
Abbreviations and terms used in this regulation are explained in the glossary.

1-4. Supported units
The 3 WS provides weather support to the Fort Hood, Installation Management Command (IMCOM), III Corps, 1st Cavalry Division (1CD), 1st Army Division West, 3d Cavalry Regiment (3CR), 21st Cavalry Brigade (21CAV), 504th Battlefield Surveillance Brigade (504 BfSB), 15th Military Intelligence Battalion (15MI) and their subordinate units.

1-5. 26th Operational Weather Squadron (26 OWS) and 3d Weather Squadron (3 WS) interaction

The 26th Operational Weather Squadron (26 OWS) is the regional weather center for the south central and southeastern United States (US). The 26 OWS is responsible for providing and arranging operational-level weather forecast products and support to Department of Defense (DoD) units assigned within and/or deployed into its area of responsibility (AOR) IAW AFI 15-128,Air Force Weather Roles and Responsibilities, and AFMAN 15-129, Volume 1, *Air and Space Weather Operations – Characterization*. Specifically, the 26 OWS produces, disseminates forecast weather watches, and warnings for Fort Hood. In addition, the 26 OWS produces and disseminates the terminal aerodrome forecast (TAF) for Robert Gray Army Airfield (RGAAF) and provides flight weather briefings to transient aircrews operating within their AOR. Similarly, the 3 WS provides or arranges for tactical-level weather support for Fort Hood, and associate units in-garrison and deployed. The 3 WS provides tailored weather products translating decision-quality environmental information into operational impacts for mission planning and execution of Army training and combat operations. The 3 WS will understand their supported units' mission and tactics, along with the 26 OWS capabilities; in order to better anticipate, exploit and integrate weather information. In addition, the 3 WS Weather Operations Center (WOC), RGAAF Weather Station, serves as the "eyes forward" for the 26 OWS by providing real-time interpretation of local weather information. *Note*: The 3 WS WOC will be referred to as the RGAAF Weather Station throughout this document.

Chapter 2
Responsibilities

2-1. Overview

a. The 3 WS is a US Air Force, Air Combat Command (ACC) unit, reporting directly to the 3 ASOG, Fort Hood, Texas. The Commander, 3 WS is assigned as the Staff Weather Officer (SWO) to the III Corps and subordinate units.

b. The III Corps SWO also appoints subordinate officers/Noncommissioned Officer (NCOs) to serve as staff weather officers for 1CD,1st Air Combat Brigade (1ACB), 1st Army Division West, 3CR, 21CAV, 504th BfSB, and 15MI. The flight commander for the RGAAF Weather Station is the SWO to the Garrison Commander and Directorate of Aviation Operations (DAO).

c. The 3 WS RGAAF Weather Station provides 24 hours a day, 7 days a week weather support to the Fort Hood reservation, to include RGAAF and Hood Army Airfield (HAAF). The 3 WS Integration Flight and assigned staff weather officers

Noncommissioned Officers (NCOs) coordinate support for III Corps and all associate units (refer to Chapter 5.).

2-2. The 3d Weather Squadron (3 WS) Commander

The 3 WS Commander will:

a. Provide or arrange for operational and staff weather support to III Corps and major corps elements both in Garrison, in the field IAW AR 115-10, and this publication.

(1) Commander and staff personnel are available from 0700 to 1600, Monday through Friday (except federal holidays and scheduled III Corps training holidays).

(2) Weather technician(s) will be available in the RGAAF Weather Station 24/7.

(3) Refer to appendix J for contacts/telephone numbers.

b. Act as focal and coordination point for all weather and weather support related issues.

c. Retain Uniform Code of Military Justice, Article 15 (Nonjudicial Punishment) authority; Commander, Headquarters Ninth Air Force, Shaw Air Force Base (AFB), South Carolina, exercises special and summary court martial jurisdiction.

d. Advise supported commanders on mitigating, exploiting weather impacts to combat, and training operations.

e. Understand the mission, organization, operational commitments, and weather impacts to assets/equipment of supported units.

f. Advise supported commanders on Air Force weather support capabilities and limitations to assist in developing weather support requirements.

g. Monitor, assess effectiveness of weather products, and support.

h. Assist aircraft accident investigation boards or safety investigation boards when requested or when weather or weather support is believed to be a contributing factor.

i. Provide weather expertise for airfield inspections and certifications.

2-3. Robert Gray Army Airfield (RGAAF) Weather Station

The RGAAF Weather Station will:

a. Provide manual or automated surface weather observations for RGAAF and HAAF IAW AFMAN15-111, Surface Weather Observations.

b. Provide observed weather warnings and observed weather advisories for the Fort Hood Reservation (including RGAAF and HAAF). Provide weather watches and warnings for the Western Training Area (WTA). Refer to appendix D and appendix E for specific criteria.

c. Provide mission weather products (MWPs) (i.e., flight weather briefings, mission/staff planning briefs, Et Cetera (etc).) for III Corps and Fort Hood assigned aviation units operating in garrison 24 hours a day, 7 days a week. The RGAAF Weather Station will

provide briefings to transient aircraft when workload permits, otherwise transient aircraft will be referred to the 26 OWS for a flight weather briefing IAW AFMAN 15-129V2.

d. Act as the liaison with the 26 OWS at Barksdale AFB, Louisiana (United States Air Force (USAF) regional weather center).

e. Assist the RGAAF and HAAF air traffic control (ATC) tower personnel to create and maintain visibility chart(s) or photo file of local visibility markers IAW Cooperative Weather Watch (CWW) program Letter of Agreement (LOA) between 3 WS and DAO.

f. Provide limited weather observation training and certification to ATC personnel IAW CWW program.

g. Act as the point of contact (POC) for the Joint Environmental Toolkit (JET), the primary weather dissemination system.

h. Provide weather briefings to the Garrison Commander on request.

i. Provide day-to-day weather and climatology information to civilian contractors provided they are performing work for the DoD. Weather information cannot normally be provided to the general public unless imminent danger to life or property is involved. The National Weather Service is responsible for weather support to the general public and should be used when possible. IAW Air Force Instruction (AFI) 35-101 (Public Affairs Policies and Procedures), all non-military requests for meteorological information will be coordinated through the installation Public Affairs Office (PAO).

j. Request ATC tower personnel monitor the pilot-to-metro service (PMSV) frequency (306.5 ultra high frequency (UHF)), as their duties permit, during RGAAF weather station equipment outages or evacuation.

k. Notify RGAAF Airfield Operations personnel during extended PMSV outages. Request they disseminate a Notice To Airmen (NOTAM) for the outage. The RGAAF Weather Station will notify Airfield Operations personnel when PMSV service is restored.

l. Provide weather input to appropriate Army agencies for the creation of heat stress and wind chill indices. The 3 WS does not calculate heat stress indices. Refer to FH Reg 350-16, Prevention of Heat and Cold Injury.

m. Provide surface observations or alphanumeric forecasts representative of the location/time of a Chemical, Biological, Radiological, and Nuclear (CBRN) event to Emergency Management (EM), Fire Emergency Services (FES), and other Fort Hood force protection agencies upon request.

n. Provide “eyes-forward”/collaboration support to the 26 OWS.

(1) Relay significant, time-sensitive weather information to the 26 OWS.

(2) At a minimum, contact and collaborate with the 26 OWS (via Defense Connect Online (DCO), 26 OWS webpage, and/or telephone) for the following criteria:

(a) Conditions requiring RGAAF TAF amendment occurring or about to occur.

(b) Severe Weather Action Procedures (SWAP) weather criteria occurring or expected to occur.

(c) Whenever RGAAF weather station issues a Weather Watch Warning or Advisory (WWA) for the Fort Hood Reservation or the WTA.

(d) An urgent Pilot Report (PIREP) is received by the RGAAF weather station.

(e) All weather products issued by the 26 OWS for the Fort Hood Reservation and/or RGAAF.

(3) Serve as back-up to the 26 OWS for Continuity of Operations (COOP) for issuance of WWAs and the RGAAF TAF IAW AFMAN15-129, Volume 1.

(4) Coordinate and update the Installation Data Page for Fort Hood with the 26 OWS when changes occur. The data page will be maintained on the 26 OWS website.

(5) Notify the 26 OWS when re-locating to the RGAAF Weather Station Alternate Operating Location (AOL). Provide temporary telephone numbers and any changes in WWA notification procedures to the 26 OWS.

2-4. 26th Operational Weather Squadron (26 OWS)

The 26 OWS will:

a. Issue forecasted weather watches and warnings for the Fort Hood Reservation (refer to appendix D for criteria).

(1) The 26 OWS, in coordination with the RGAAF Weather Station, has the primary responsibility for issuing WWAs for the Fort Hood Reservation IAW AFMAN15-129, Volume 1 and the Fort Hood Installation Data Page.

(2) The 26 OWS will disseminate WWAs through the Integrated Weather Warning Capability (IWWC) system and the JET.

(3) The 26 OWS will call the agencies listed below to verify receipt of WWAs when the IWWC system and the JET are not operational or does not receive successful dissemination.

(a) Installation Operations Center (IOC): (DSN)	737-2520	Alternate: 737-2506
(b) RGAAF ATC Tower:	663-1940	Alternate: 663-2525
(c) RGAAF ATC ARAC:	738-9111	Alternate: 663-2526
(d) HAAF ATC Tower (M-F 0800-2400L):	737-5741	Alternate: 737-6643
(e) RGAAF Airfield operations:	738-9200	Alternate: 738-9209
(f) RGAAF Weather Station:	738-9620	Alternate: 738-9400

b. Issue observed WWAs for the Fort Hood Reservation (i.e. observed lightning warning and observed weather advisories) only when conducting back-up operations for the RGAAF Weather Station (i.e., during IWWC and JET outage).

c. Issue a TAF for RGAAF.

(1) The TAF will be produced for RGAAF IAW AFMAN 15-124, Meteorological Codes, using the International Civilian Aviation Organization (ICAO) identifier, "ICAO Locator for Robert Gray Army Airfield" (KGRK.)

(2) The TAF is issued every eight hours and is valid for a 30-hour period.

(3) Forecast elements in the main body of the TAF apply to the area within a 5 nautical mile radius of RGAAF.

(4) The TAF will specify time of onset, duration, and intensity for the standard criteria IAW AFMAN 15-129, Volume 1 throughout the valid period.

(5) The TAF will be amended for standard criteria IAW AFMAN 15-129, Volume 1.

(6) The TAF will be disseminated using standard Air Force weather communication systems into the international weather information network . The TAF will also be available on the 26 OWS Websites.

d. Provide MWPs (i.e., flight weather briefings) to transient aircrews operating from RGAAF or HAAF when RGAAF Weather Station is unable to provide support.

e. Notify the RGAAF Weather Station in the event of an interruption in weather operations at the 26 OWS (scheduled exercise or real-world events). The RGAAF weather station will assume responsibility for Fort Hood WWAs, the RGAAF TAF, and transient aircrew MWPs until the 26 OWS resumes normal operations.

2-5. Commanders of supported units

Commanders of supported units (III Corps, 1CD, 1ACB, 1st Army Division West, 3CR, 21CAV, 504th BfSB, and 15MI) will:

a. Ensure Bravo, III Corps, Headquarters, Headquarters Battalion (BN) supplies equipment and maintenance in support of appropriate battlefield weather flights (BWFs); IAW with AR 115-10, the current supported unit Modified Table of Organization, and Equipment (MTOE) as applicable.

(1) Ensure all equipment in the weather section of the unit MTOE is requisitioned, assigned to 3 WS for operator maintenance, and property accountability.

(2) Ensure MTOE equipment is <u>not</u> pulled from weather teams and used for other purposes except in extreme conditions and with coordination. Reduced weather MTOE can seriously degrade mission support capabilities.

(3) Dispatch MTOE vehicles monthly due to the distance required to travel to Headquarters, Headquarters Company (HHC) motor pools and limited Air Force (AF) weather personnel to perform frequent dispatch routines.

(4) Provide common table of allowance (CTA) equipment items such as tents, field heaters, cots, and other items required by Battlefield Weather Flight (BWFs) to function in field environments.

(5) Provide proper weapons and protective masks.

(6) Provide or arrange for organizational and higher echelon maintenance for MTOE equipment assigned to weather teams.

(7) Provide secure storage space for deployed BWFs.

b. Budget for, provide sufficient funds for temporary duty (TDYs), non-Air Force equipment, expendable supplies required to perform garrison, and tactical missions. The 3 WS in coordination with III Corps G8 will manage these account(s).

c. Provide 3 WS with weekly flight/training schedules and any changes to these schedules via E-mail to the RGAAF Weather Station:

usarmy.hood.3-asog.mbx.3w3-woc@mail.mil

d. Assist 3 WS with identifying, documenting weather sensitivities, thresholds applicable to supported units' operations, missions, aircraft, and weapons.

e. Ensure SWOs have direct interface with supported unit commanders, staff, and access to command, control, and planning functions. SWOs must inject weather into the planning and execution process to allow for development of courses of action during the planning process to mitigate environmental threats.

f. Provide feedback on weather products and services through the respective SWO or the RGAAF Weather Station.

2-6. III Corps Assistant Chief of Staff (ACofS), G2

The Assistant Chief of Staff (ACofS), G2 will:

a. Inform the III Corps SWO of any change in the operational weather support requirements of III Corps and Fort Hood.

b. Allow the III Corps SWO access to planning documents and ensure the SWO is included in planning activities that require weather support.

c. Allow the III Corps SWO access to locally available Command and Control (C2) mission-planning systems to better integrate environmental information for planning and execution.

d. Notify the III Corps SWO of post alerts, recalls, exercises, or changes in readiness status that affect weather activities or require a weather response.

e. Ensure the G2 Special Security Office provides administrative oversight to 3 WS Sensitive Compartmented Information (SCI) clearance processes, to include:

(1) Receive and maintain a 3 WS file for message traffic and notify 3 WS security personnel upon receipt of classified message traffic.

(2) Notification of all incidents involving 3 WS personnel that may impact SCI access and/or clearance.

2-7. U.S. Army Garrison (USAG) Garrison Commander

The Garrison Commander will:

a. Provide funding for the 3 WS, to include funding for travel and per diem of AF personnel; required for planning, training or providing weather support for installation operations IAW AR 115-10.

b. Provide the RGAAF Weather Station with an outlook of major activities planned at Fort Hood. This will ensure attention is focused on these periods when preparing forecasts and that the Garrison Command Staff can be notified ahead of time if significant weather is expected.

2-8. Directorate of Aviation Operations (DAO)

The DAO will:

a. Provide office space necessary to operate the garrison weather station at RGAAF.

b. Maintain Army-owned radio equipment supporting PMSV.

c. Notify the RGAAF Weather Station of installation weather support requirements.

d. Ensure 3 WS is notified and included in the Fort Hood Flight Safety and Standardization Committee (FHFSSC) and/or Garrison Airfield Operations Board (AOB).

e. The RGAAF and HAAF airfield managers will:

(1) Allow or arrange for unrestricted access to meteorological equipment located on RGAAF, HAAF by 3 WS forecasters, and weather maintenance technicians.

(2) Provide current copies of the Flight Information Publication (FLIP) to the RGAAF Weather Station.

(3) Assist the RGAAF Weather Station in updating weather support information (duty hours, PMSV frequency, etc.) in the FLIPs.

(4) Provide a basic orientation of the airfield, to include location of meteorological sensors to newly assigned weather technicians.

f. Airfield Base Operations personnel will:

(1) Notify the RGAAF Weather Station of any aircraft mishap involving aircraft assigned to or operating from Fort Hood that occur in the local flying area as defined in Fort Hood Regulation 95-1 (Fort Hood Local Flying Rules). In addition, notify the RGAAF Weather Station of in-flight emergencies.

(2) Notify the RGAAF Weather Station when local NOTAMs and applicable directives change airfield minima.

(3) Disseminate a NOTAM and/or airfield advisory when notified by RGAAF Weather Station personnel of extended PMSV outages.

(4) Ensure weather watches, warnings and advisories are appropriately disseminated IAW local procedures.

g. ATC Services personnel at RGAAF and HAAF will:

(1) Notify the RGAAF Weather Station when the active runway changes.

(2) Notify the RGAAF Weather Station when current weather data is not available via the ATC Information Display and Dissemination System (IDS5).

(3) Provide a basic orientation of tower and army radar approach control (ARAC) facilities to newly assigned weather technicians.

(4) Monitor the PMSV frequency (306.5 UHF), as other duties permit, during RGAAF Weather Station equipment outage or evacuation.

(5) Participate in the CWW program IAW Chapter 3 of this publication and the CWW Letter of Agreement between 3 WS and DAO (ATC).

2-9. Directorate of Plans, Training, Mobilization, and Security (DPTMS):

The DPTMS will:

a. Ensure weather support from 3 WS is integrated into contingency plans, training and exercises relevant to the management of all emergency and/or hazard response.

b. Ensure 3 WS is notified in advance of all garrison emergency management response exercises.

c. The Fort Hood IOC will:

(1) Serve as the primary focal point for the dissemination of all weather watches, warnings and advisories received from the 26 OWS (Air Force regional weather center) and/or RGAAF Weather Station to Fort Hood units and/or agencies.

(2) Notify the RGAAF Weather Station when damage reports due to a weather event are received from anywhere on the Fort Hood reservation.

(3) Activate the mass notification system when notified of a tornado warning by the 26 OWS and/or RGAAF Weather Station.

(4) Notify the RGAAF Weather Station in the event of a Chemical, Biological, Radiological, Nuclear, and high-yield Explosive (CBRNE) event on the Fort Hood installation or any emergency management event that may require weather support.

d. Range Operations will assist the RGAAF Weather Station in conducting a Cooperative Weather Watch for the Fort Hood Reservation, by reporting the following conditions when observed on the Fort Hood Reservation:

(1) Tornado or funnel cloud.

(2) Any damage or injury caused by weather.

2-10. Directorate of Public Works (DPW)

The Directorate of Public Works (DPW) will:

a. Notify 3 WS through RGAAF Airfield Operations when a test of the back-up power system to Building 90029 (Airfield Operations) will occur. If local weather conditions are unfavorable, DPW will delay the test. This will be coordinated through the DPW Maintenance Division and DAO.

b. Provide resources for purchasing, replacing, repairing, servicing, and installing four Army-owned air conditioners (AC) and one generator required for the efficient operation of the Weather Surveillance Radar – 88 Doppler (WSR-88D) antenna site located in Granger, Texas.

(1) Building #GRL01 – TPS Shelter (1 A/C unit)

(2) Building #GRL02 – RDA Shelter (3 A/C units)

(3) Building #GRL03 – Generator Shelter

c. Replace and/or repair damaged and/or burned out airfield obstruction lights on meteorological sensors/equipment located on the RGAAF and HAAF complex. This will be coordinated through the RGAAF and HAAF respective airfield managers (DAO).

d. Assist in providing monetary estimates to damaged resources on Fort Hood caused by severe weather events for after-action reports to Air Force higher headquarters. Information can be obtained through the DPW Business Office.

e. Provide allied support requirements for meteorological and communications equipment upgrades or replacements IAW AR 115-10 for the weather sensors located on RGAAF and HAAF.

2-11. Network Enterprise Center (NEC)

The Network Enterprise Center (NEC) will:

a. Provide maintenance for RGAAF Weather Station, Building 90029, telephone (voice), and meteorological equipment data communication lines. Provide maintenance for data communication lines for all meteorological sensors located on RGAAF/HAAF.

b. Maintain common user communications, non-secure internet protocol router network (NIPRNET) service 24 hours a day, 7 days a week with a minimum 2-hour response time to repair outages during non-duty hours. Weather information, including weather warnings and advisories, are received and disseminated via NIPRNET making it critical to Fort Hood resource protection. Additionally, daily flying weather is gathered via the NIPRNET, with outages causing degradation to flight safety.

c. Maintain the JET Server IAW Memorandum of Agreement between the JET Program Office, Head Quarters (HQ)Air Force Weather Agency, and US Army Network Enterprise Technology Command/9th Signal Command (Army).

d. Provide allied support requirements for meteorological and communication equipment upgrade or replacement on the Fort Hood Reservation, to include RGAAF/HAAF.

Chapter 3
Airfield weather services

3-1. Operating hours

The RGAAF Weather Station is manned 24 hours a day, 7 days a week. There are normally two weather technicians on duty from 0700-1500, Monday through Friday. One weather technician is normally on duty from 1500-0700, Monday through Friday and weekends and holidays (including training holidays). Refer to appendix J for contacts and phone numbers.

3-2. Duty priorities

The following is a list of prioritized duties performed by weather technician(s) at the RGAAF Weather Station. Individual(s) may alter these priorities if the situation warrants using Operational Risk Management (ORM) principles/processes, particularly if imminent danger to life and property is expected to occur.

a. Perform emergency war order (EWO) tasking(s).
b. Execute emergency weather station and/or facility evacuation.
c. Respond to aircraft and/or ground emergencies.
d. Respond to PMSV contacts.
e. Take and disseminate surface weather observations.
f. Provide “Eyes Forward” and collaborate with 26 OWS.
g. Issue weather watches, warnings, and advisories for the Fort Hood Reservation and the WTA.
h. Perform SWAP.
i. Disseminate urgent PIREPs (relay to the 26 OWS)
j. Perform mission execution forecast process (MEFP) – produce and disseminate forecasts.
k. Disseminate PIREPs.
l. Perform mission watch Mission-Scale Meteorological Watch (MISSIONWATCH) activities.
m. Provide other briefings.
n. Perform weather functional training.
o. Accomplish administrative tasks.

3-3. Airfield weather observations

a. RGAAF.

(1) The RGAAF weather station provides manual weather observations for RGAAF using the International Civil Aviation Organization (ICAO) airport identifier KGRK. Observations are manually prepared and disseminated 24/7 IAW AFMAN15-111.

(2) A position qualified weather technician is responsible for observing, evaluating, and preparing routine scheduled weather observations (METAR) and unscheduled special observations (Aviation Selected Special Weather Report (Observation SPECI) or Aviation Selected Local Weather Report (Observation LOCAL) when significant changes or occurrences are observed IAW appendix C.

(3) Automated Surface Observing System (ASOS) weather sensors located on RGAAF are used for “objective” elements (i.e., pressure, temp, and wind) and manual observing techniques are used for “subjective” elements (i.e., sky condition, visibility, and present weather). Refer to Figure 3-1 for RGAAF weather sensor locations.

(4) The official observation point at RGAAF is at the mid-point of the concrete sidewalk extension adjacent to Building 90029 (Airfield Operations) on the runway side of the building. Weather technicians must first contact the tower to gain approval to proceed to the end of the sidewalk toward the taxiway if they wish to better evaluate visibility. This location has a 360-degree view of the airfield complex, but hills, airfield buildings and/or hangars, and slope of the runway to the south through the northwest restrict view of the sky and/or horizon and horizontal visibility in those directions. In addition, glare from medium and high intensity lights surrounding Building 90029 may limit the ability to make accurate reports of sky conditions at night. Refer to Figure 3-1 for RGAAF official observation point.

(5) RGAAF weather technicians conduct a Basic Weather Watch (BWW). Weather technicians <u>cannot</u> monitor the weather continuously due to other operational duties. As a result, weather personnel may not detect and report all weather changes as they occur, so the BWW program IAW AFMAN 15-111 has been implemented to establish the minimum requirements needed to ensure the proper level of weather watch is maintained to ensure flight safety.

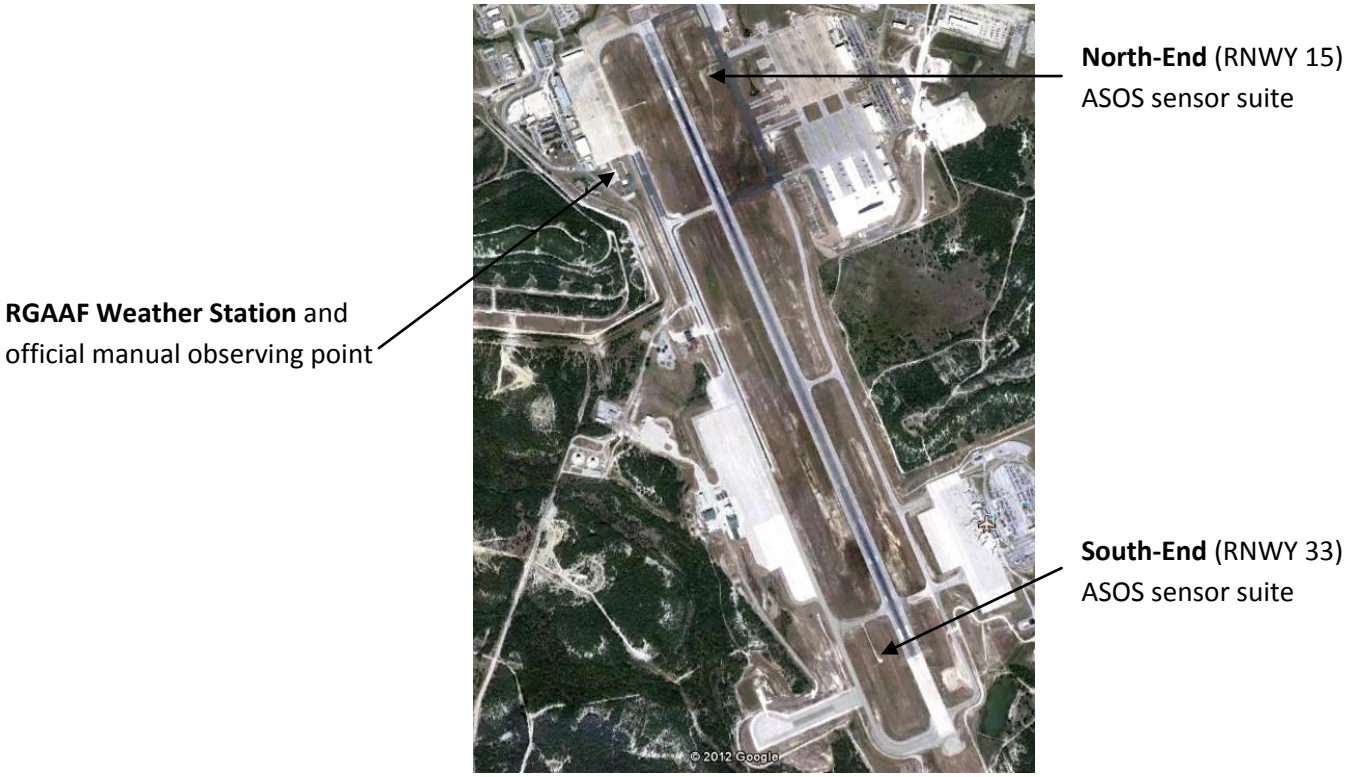

Figure 3-1. RGAAF Weather Sensors and Official Observing Point

b. HAAF.

(1) Weather observations at HAAF are fully automated via the ASOS and are disseminated using the ICAO airport identifier KHLR. Aviation Weather Routine Weather Report (Observation (METAR)) and SPECI for significant changes or occurrences are automatically and continuously disseminated into the military and national weather networks. Refer to Figure 3-2 for HAAF weather sensor location.

(2) There are inherit limitations with an ASOS operating fully automated especially during rapidly changing weather conditions when some delay in reporting cloud ceilings and visibilities may occur.

(3) To ensure flight safety weather technicians and HAAF ATC tower personnel will work together to maintain situational awareness of current weather conditions and the ASOS observation.

(4) Under certain conditions, weather technicians are required to augment (back-up) the HAAF ASOS. Back-up is the method of manually providing meteorological data and/or dissemination to the ASOS when the primary automated method is not operational or unavailable due to sensor and/or communication failure. Weather technicians will back-up the HAAF ASOS from the HAAF tower during airfield operating hours (Mon-Fri, 0800-2400, except federal holidays) when:

(a) ASOS becomes fully inoperative.

(b) The wind sensor becomes inoperative.

(c) Ceiling or visibility sensors become inoperative AND weather conditions are/or forecast to be instrument flight rules (IFR) [ceiling < 1000FT (ceiling sensor not operational) or visibility < 3SM (visibility sensor not operational)] within 2 hours.

(d) Local communication between ASOS and IDS-5 becomes inoperative.

(e) Lastly, data is deemed unrepresentative (potential impact to flight safety) or upon request from HAAF ATC personnel.

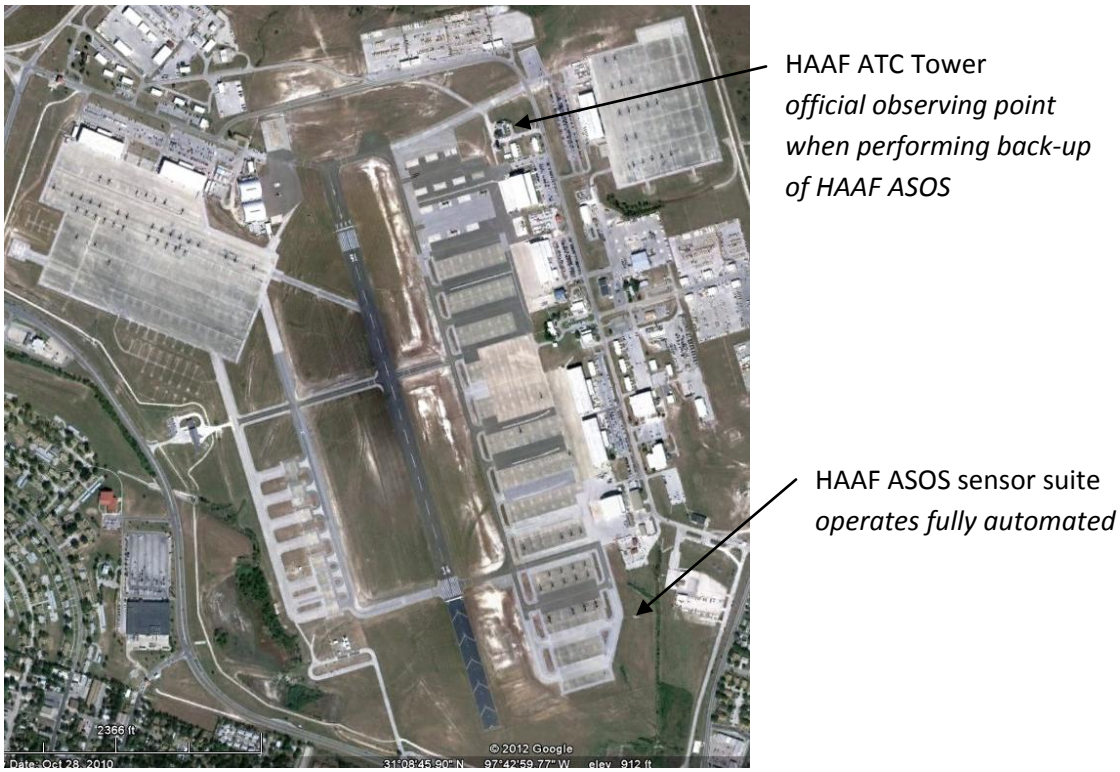

Figure 3-2. HAAF Weather Sensors and Official Observing Point (Back-up)

c. CWW Program.

(1) AFMAN 15-111 and Army ATC directives requires AF weather units to establish a CWW with ATC and other appropriate base and/or post agencies. Of primary concern is the report of tower visibility different from the prevailing surface visibility, local PIREPs and any occurrence of previously unreported weather conditions that could affect flight safety. Anything else that could be critical to the safety or efficiency of other local operations and resources.

(2) Specific CWW responsibilities of both 3 WS forecasters and Fort Hood ATC will be formally documented in a separate letter of agreement. Primary responsibilities include:

(a) Certified air traffic controllers will evaluate tower visibility to report changes in tower prevailing visibility to the RGAAF weather station when tower visibility is less than 4 statute miles and different from the surface prevailing visibility.

(b) Weather personnel will notify the tower as soon as possible, whenever the prevailing visibility at the official weather observation point decreases to less than or increases to equal or exceed 4 miles (RGAAF only).

(c) Weather personnel will re-evaluate surface prevailing visibility as soon as practical, upon initial receipt of a differing control tower value and upon receipt of subsequent reportable changes at the control tower level (RGAAF only).

(d) Weather personnel will use control tower values of prevailing visibility as a guide in determining the surface visibility when the view of portions of the horizon is obstructed by buildings, aircraft, etc. The presence of a surface-based obscuration, uniformly distributed to heights above the level of the tower, is sufficient reason to consider the RGAAF weather station's prevailing visibility to be the same as the control tower level (RGAAF only).

(e) Weather Personnel can encode tower visibility as a remark in manual observations (RGAAF only) when the reported tower visibility is < 4 miles and different by a reportable visibility value from the surface visibility.

(f) ATC personnel will relay local PIREPs to the RGAAF weather station within 5 minutes of receipt (or as ATC duties allow). In addition, relay any occurrence of previously unreported weather conditions that affect flight safety or be critical to the safety or efficiency of other local operations and resources.

3-4. Pilot-to-Metro-Services (PMSV)

a. The PMSV at RGAAF is monitored continuously 24 hours a day, 7 days a week on 306.5 UHF. This service allows aircrews to receive current and forecast weather conditions, as well as updates to flight weather briefings.

b. Aviators are strongly encouraged to relay PIREPs via the PMSV. Reports from airborne aircraft are one of the most important sources of current weather information and contribute greatly to improving meteorological support for Army aviation operations.

c. If unable to contact weather personnel through the PMSV, aviators should contact the RGAAF or HAAF ATC Tower or Airfield Operations and request personnel pass information, PIREPs, or potential problems with the PMSV radio to the RGAAF Weather Station.

d. During PMSV outages or RGAAF Weather Station evacuation, the RGAAF tower will, as their duties permit, monitor the PMSV frequencies and pass contact information to the RGAAF Weather Station (or alternate location). During extended PMSV outages, a NOTAM will be disseminated by RGAAF Airfield Operations to highlight the unavailability of PMSV service.

e. Dissemination of PIREPs significant to flying operations and flight safety will be via JET as per example in appendix G.

3-5. Dissemination of weather information and/or products

a. The 26 OWS and the RGAAF Weather Station will disseminate weather information through the JET. The JET system is connected to the post local area network (LAN) and is the primary system for disseminating weather information (i.e., RGAAF [KGRK] weather observations and (WWAs) to Fort Hood units and agencies.

b. The Fort Hood IOC will further disseminate WWAs to subordinate units via telephone and/or other local dissemination systems. Units assigned or attached to Fort Hood will establish procedures to ensure timely dissemination of weather information to subordinate personnel and units through the IOC. The IOC maintains the Fort Hood prioritized severe weather notification checklist (refer to example at appendix B).

c. The JET is also connected to the ATC IDS5. Weather information from the RGAAF and HAAF ASOSs, other observations and forecasts, and WWAs can be viewed through the IDS5.

d. If the JET is inoperative, the 26 OWS will disseminate forecast weather watches and warnings IAW section 2-4 of this publication.

e. If the JET is inoperative, the RGAAF Weather Station will disseminate observed warnings and advisories for the Fort Hood Reservation and watches and warnings for the WTA via telephone to:

(1) IOC
(2) RGAAF (KGRK) ATC Tower
(3) RGAAF (KGRK) ATC ARAC
(4) HAAF ATC Tower (M-F 0800-2400L)
(5) RGAAF Airfield operations

f. If the JET is inoperative, the RGAAF Weather Station will disseminate all observations for RGAAF to the following agencies in the order listed:

(1) RGAAF ATC Tower
(2) RGAAF ATC ARAC

g. Current weather conditions for RGAAF and HAAF to include active weather watches, warnings and advisories can always be viewed from the 3 WS website at http://www.hood.army.mil/3ws or the 26 OWS website at https://ows.barksdale.af.mil.

3-6. Evacuation of weather station facilities

a. It could become necessary for weather technician(s) to evacuate the RGAAF Weather Station, Building 90029, to an AOL for actual emergencies (i.e., toxic spill, bomb threat or natural disaster). The weather technician(s) will not evacuate for exercises. When evacuation is necessary, the weather technician(s) will relocate to Building 90041, Room 212 (refer to appendix J for 3 WS alternate facility telephone numbers).

b. The weather technician will contact the IOC, RGAAF Tower, RGAAF ARAC, HAAF tower (when open), and the 26 OWS either prior to evacuation (if time permits) or immediately upon arrival at the AOL, and will provide alternate contact phone number(s). Since RGAAF Airfield Operations will likely relocate in such emergencies, the weather technician will coordinate with RGAAF Operations during evacuation.

c. All possible means will be implemented to provide uninterrupted weather support to Fort Hood agencies, but some limitations will likely occur:

(1) Aircrew briefing services may be delayed or temporarily unavailable.

(2) PMSV will not be available at the evacuation site. The RGAAF tower will, as their duties permit, monitor the PMSV frequencies and pass contact information to the weather technician at the AOL.

(3) Weather technicians will have a limited view of the horizon due to obstructions of buildings and/or hangars in the immediate vicinity of Building 90041 that could limit estimations of surface visibility and sky condition. In addition, ceiling heights, wind direction and speed, and altimeter readings may have to be estimated if the ASOS on the airfield is not operational.

d. Weather technicians will implement back-up procedures using ORM principles to obtain weather situational awareness and continue providing mission-essential functions in support of Fort Hood activities.

e. Upon termination of AOL operations, weather technicians will return to RGAAF Weather Station and resume normal weather operations as the situation dictates.

Chapter 4
Mission weather services

4-1. MWP (Flight Weather Briefings) description, format and delivery method

a. Requests for flight weather briefings from aircrews assigned to Fort Hood can be made in person, by phone, via fax, or E-mail 24 hours a day, 7 days a week to the RGAAF Weather Station (refer to appendix J for phone numbers/E-mail address). Units requiring information in support of exercises or deployments must contact their respective SWO or contact the 3 WS Integration Flight (refer to appendix J for phone numbers).

b. When Fort Hood aircrews are operating away from Fort Hood, the RGAAF Weather Station or supporting SWO will determine the most effective means of ensuring the aircrew(s) receive mission execution weather information. This support could be provided by reach-back to the RGAAF Weather Station, deploying AF weather personnel with the supported unit, by the AF weather unit at the transient or staged location, or from the servicing AF regional weather center.

c. Flight weather briefings and updates to briefings will only be provided to the “pilot of record” recorded on the aircrew’s flight plan.

d. Flight weather briefings are annotated on a DD Form 175-1 or on a local weather briefing log (local flights), as requested by the aviator and IAW FH Reg 95-1. At a minimum, briefings will include the following:

(1) General meteorological situation for the mission area.

(2) Current and forecast weather (including flight hazards and Significant Meteorological Information (SIGMETs) / Airmen's Meteorological Information (AIRMETs)) for takeoff.

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(3) Forecasted en route weather (including flight hazards and SIGMETs/AIRMETs).

(4) Forecast conditions at destinations and alternate airfields.

e. The Department of Defense (DD) Form 175-1 will normally be returned to the aircrew via fax or e-mail. The electronic DD Form 175-1 will not contain a briefing time, void time or the initials of the weather technician. The pilot must call back after receipt of the DD Form 175-1 to complete the briefing process. Only then will the weather technician provide the brief time, void time, and his or her initials. The DD Form 175-1 will not be considered complete without these times and initials. If the aircrew does not have access to a fax or e-mail, the DD Form 175-1 will be briefed verbally over the phone.

f. "Local" verbal briefings will be documented by the weather technician on the 3 WS aircrew briefing log, to include the aircraft type, last 3 numbers of the aircraft tail number or call sign, unit, take-off and/or landing times, 3 WS MWP Flimsy number and revision (if applicable), mission weather to include any changes to the current 3 WS MWP Flimsy, weather watches, warnings, and/or advisories, brief time, void time, forecaster's initials, and the pilot's initials.

g. Transient aircrews.

(1) The RGAAF Weather Station may provide weather briefings or updates to existing briefings IAW duty priorities for transient aircrews at RGAAF or HAAF. If the RGAAF Weather Station is unable to provide a briefing, the aircrew will be directed to contact the servicing OWS. The RGAAF Weather Station will provide access to a computer and/or provide telephone numbers for the OWS or refer to the FLIP. The RGAAF will not deny assistance to an aircrew seeking a flight weather briefing.

(2) Transient aircrews should request weather briefings from the servicing OWS with a minimum of 2 hours lead time to give the OWS adequate time to examine weather conditions and complete required documentation

(3). The OWS will complete no-notice and/or short-notice weather briefings as time permits depending on current workload, available manpower and duty priorities. No-notice flight weather briefings will be prioritized behind existing requests unless special circumstances warrant a higher priority (i.e., alert, search and rescue, medical evacuation, etc.).

(4) The 26 OWS will provide flight weather briefing services to transient aircrews operating within their area of responsibility (AOR) upon request via phone, fax or the 26 OWS flight brief scheduling system accessible through the 26 OWS website at https://ows.barksdale.af.mil/. Refer to appendix J for the 26 OWS contact information or refer to the FLIP.

4-2. MWP (3 WS Flimsy) description, format and delivery method

a. The 3 WS MWP Flimsy (refer to example at appendix H, figure H-1) is designed to incorporate the needs of most Fort Hood missions into a single product for mission planning of flight operations within the local flying area (as defined in FH Reg 95-1).

b. The flimsy specifically provides mission planning and execution information for the following areas/locations (refer to figure 4-1):

(1) The Fort Hood Reservation as defined in FH Reg 95-1 to include RGAAF and HAAF, Longhorn and Shorthorn Auxiliary Airfields, restricted area (R6302), training areas, ranges (i.e., Crittenberger Range), landing strips (i.e., UAS operations at Landing Strip Cold Springs (LSCS) and Landing Strip 50 (LS50)), drop/landing zones, Forward Arming and Refueling Points (FARPs) (i.e., FARP West and FARP East), etc.

(2) Maintenance Test Flight Areas III, IV, V, and VI as defined in FH Reg 95-1.

(3) WTA as defined in FH Reg 95-1.

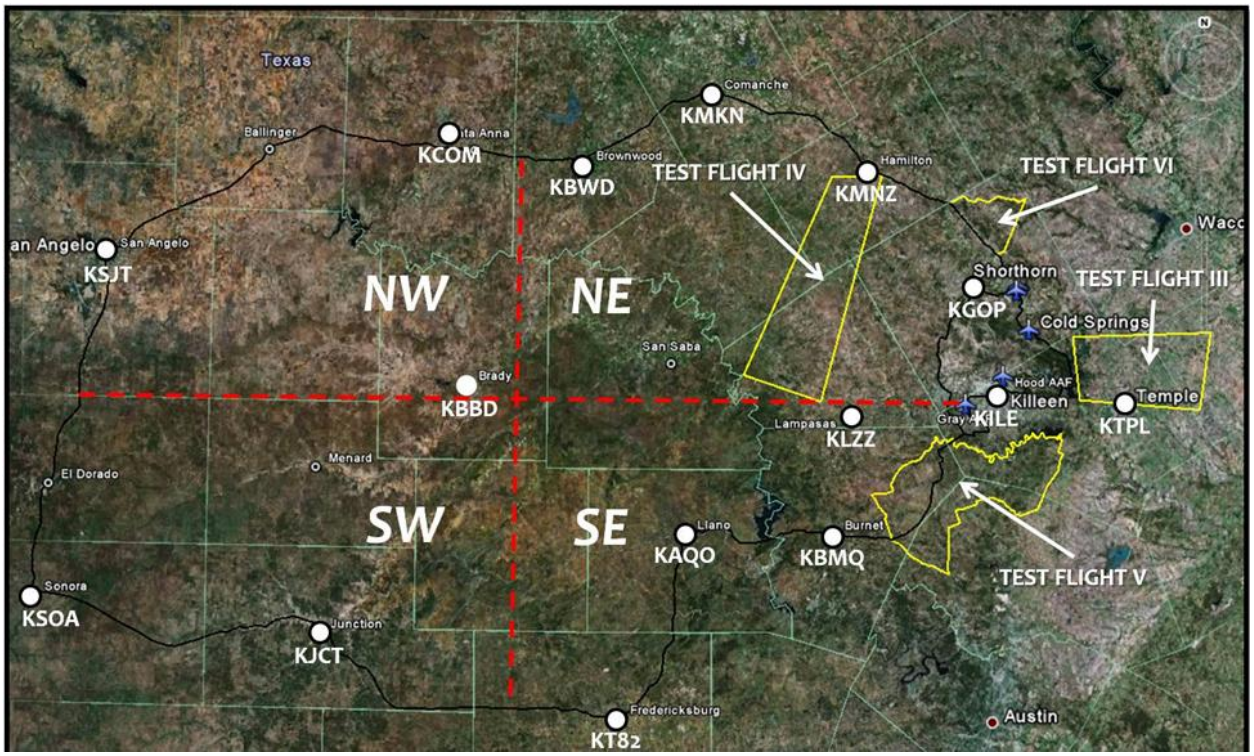

Figure 4-1. MWP Flimsy Forecast Areas

c. This product is produced 24 hours a day, 7 days a week every 8 hours and will be posted to the 3 WS website at http://www.hood.army.mil/3 WS. Each flimsy will be valid for 12 hours and will be numbered based on the day with an alphanumeric suffix representing the initial hour the product was issued starting with 00Z, Zulu Time (Z). For example, the flimsy issued on the 25th of the month at 00Z would be numbered "25A."

FLIMSY #	VALID TIME
00Z = A	0000Z – 1200Z
08Z = B	0800Z – 2000Z
16Z = C	1600Z – 0400Z

Table 4-1. Flimsy Valid Times

d. The 3 WS MWP Flimsy will be amended (updated) when any of the mission limiting thresholds (MLTs) listed in appendix I (Table I-1 and Table I-2):

(1) Occurs; was not forecast to occur and is expected to continue.

(2) Is forecasted to occur; does not occur and is no longer expected to occur.

e. Amendments will be numbered with a numeric suffix for each new version (i.e., the second amendment of the 25A Flimsy would be numbered "25A2.")

4-3. Mission-Scale Meteorological Watch (MISSIONWATCH)

a. The 3 WS weather technician will actively MISSIONWATCH all missions briefed from brief time through mission completion. Weather technicians will use Operational Risk Management concepts during the MISSIONWATCH process.

b. Weather technicians will prioritize missions IAW the Operational Risk Management category listed below:

(1) High Risk: Highest priority—Environmental MLT in appendix I (Table I-1 and Table I-2) are observed or expected.

(2) Medium Risk: Middle priority—Environmental conditions observed or expected near MLTs in appendix I (Table I-1 and Table I-2).

(3) Low Risk: Lowest priority—Environmental MLT conditions in appendix I (Table I-1 and Table I-2) are not observed or expected.

c. Weather technicians will place more focus on missions identified as "High Risk" and "Medium Risk".

d. At a minimum, weather technicians will conduct hourly MISSIONWATCH checks of real-time weather data (i.e., surface observations, PIREPs, satellite imagery, radar) to ensure conditions have not met environmental MLTs.

e. When environmental MLT conditions in appendix I (Table I-1 and Table I-2) are expected or observed, technicians will increase the frequency of MISSIONWATCH checks.

f. When environmental MLT conditions appendix I (Table I-1 and Table I-2) may impact success and were not originally forecast and/or briefed, weather technicians will:

(1) Assess the situation and amend impacted MWPs.

(2) Identify alternate possibilities (i.e., alternate execution area or time).

(3) Contact impacted supported unit(s) and/or mission commander in any manner possible that will accurately and efficiently relay the mission-limiting condition to the unit(s) and/or mission commander (i.e., phone or PMSV to specific units' flight operations, RGAAF airfield operations and range control).

(4) Contact ARAC/flight following and request ATC pass the changes to the aircrew(s) for any airborne aircraft.

(5) Document the changes/updates on respective mission's MWP IAW local procedures.

(6) Upon notifying the supported unit, resume MISSIONWATCH.

g. Weather technicians will inform the 26 OWS, when weather products issued by the 26 OWS do not accurately reflect observed conditions and impact flight safety. This includes supported unit MLTs.

4-4. Space weather information

a. The RGAAF Weather Station will use Air Force Weather Agency produced space weather products to determine impacts to High Frequency (HF) and Ultra-High Frequency (UHF) communications, and single-frequency Global Positioning Systems (GPS) in support of mission commanders.

b. Space weather conditions will be included on MWPs. Satellite data and communications systems are particularly sensitive to space weather phenomena, as a result, during significant space weather events, some military systems and/or operations may experience a decreased capability.

c. Mission commanders, aircrews, and other supported agencies should report suspected space weather impacts to the RGAAF Weather Station or respective SWO to be forwarded to Air Force Weather Agency (AFWA) via Air Force Weather Web Service (AFW-WEBS).

4-5. Tropical cyclone support

a. The National Hurricane Center (NHC) issues official forecasts for tropical storms and hurricanes. In addition, the 26 OWS produces a Tropical Cyclone-Threat Analysis Product (TC-TAP) derived from the NHC official forecast. Weather personnel will fully utilize and not deviate from the tropical cyclone information (i.e., official forecast position, track, movement, maximum wind speed, or intensity trend) provided by the 26 OWS derived from the NHC.

b. The 26 OWS will serve as primary liaison between NHC and the RGAAF Weather Station.

c. The 3 WS will provide tropical cyclone forecasts and updates to supported organizations as required for mission execution decisions such as evacuation and force protection (refer to examples at appendix H, figure H-2 and H-3).

d. The 3 WS will use local mission execution forecast processes to tailor official tropical cyclone forecasts into a specific mission forecast product for their supported customers. Tailoring may include local effects of vegetation/ground cover, terrain, and position relative to the storm. Inland locations may often require the frictional TC-TAP application.

e. The 3 WS will follow Fort Hood, PAO policies and procedures regarding the release of tropical cyclone forecasts to the general public.

f. Forecast outlooks of 48 hours or beyond contain a high degree of uncertainty, are for planning purposes only, and are subject to change.

4-6. Volcanic ash

a. The 3 WS will use appropriate theater-specific volcanic ash products from civil Volcanic Ash Advisory Centers (VAAC) and supplement with 2 WS products and services.

b. VAAC and 2 WS products are available on the Air Force AFW-WEBS (select "Environmental Events" under the Product Manager).

https://weather.af.mil/AFW_WEBS/index2.php

c. The 3 WS will provide volcanic ash forecasts and updates to supported organizations as required for mission execution decisions.

4-7. Climatological support

a. Standard climatological summary data for RGAAF can be viewed from the 3 WS webpage.

b. Additional climatological data for Fort Hood can be obtained by contacting the RGAAF Weather Station (refer to appendix J for phone numbers).

c. Climatological suport for any location worldwide can also be obtained through the respective unit's SWO or the 3 WS Integration Flight (refer to appendix J for phone numbers).

d. Depending on the complexity of requests, data can be prepared in a few hours or up to a week.

4-8. Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) support

a. The RGAAF weather station will provide surface observations or alphanumeric forecasts representative of the location/time of the CBRNE event as requested by the Fort Hood IOC/Emergency Operations Center (EOC) or other agencies.

b. Weather data (if available) that may be requested by the IOC/EOC:

(1) Wind speed in Miles Per Hour (mph)

(2) Wind direction (from) in degrees

(3) Temperature in Fahrenheit (^{o}F)

(4) Measurement height above ground in feet or meters (sensor height if applicable)

(5) Cloud cover [complete cover Overcast (OVC), partly cloudy (Few (FEW), Scattered (SCT), Broken (BKN), Clear (CLR); or use value 0-10 to represent tenths of the sky covered by clouds]

(6) Stability class (by letter—U=Unstable, N=Neutral, S=Stable)

(7) Inversion height if any (feet or meters)

(8) Humidity (0-100 percent)

c. Historical climatological data should not be used.

d. The EOC at Fort Hood does not require/use traditional Chemical Downwind Messages (CDMs) in response to CBRNE events. In the event a CDM is requested, the RGAAF Weather Station will obtain/provide CDMs from the 26 OWS or AFW-WEBS IAW local procedures.

e. Refer to Chapter 5 for additional CBRNE support information.

4-9. Feedback

a. Mission planners, aircrews, and other users of weather information are highly encouraged to provide positive and negative feedback to the RGAAF Weather Station or through their respective SWO on the quality and/or accuracy of 3 WS MWPs.

b. Aircrews can simply complete the feedback form provided with the faxed and/or e-mailed flight weather brief and fax back to the RGAAF Weather Station (refer to appendix J for fax number) or via e-mail by clicking on the mailbox feedback icon on the 3 WS MWP Flimsy found on the 3 WS home page.

c. Feedback is critical to ensure Army decision makers and aircrews have accurate and timely weather intelligence to reduce, mitigate or eliminate the risk and enable mission accomplishment. Forecasting is a circular process, much like ORM, and weather technicians must continually evaluate their process to improve the quality of the products provided.

d. Monthly forecast performance metrics for the RGAAF weather station are posted on the 3 WS website.

Chapter 5
Staff Meteorological Functions

a. The 3 WS Integration Flight and assigned Staff SWOs will provide or arrange for staff weather support Monday through Friday (except federal holidays) from 0700 to 1600 (or surge as required) to supported units IAW AR 115-10 and this publication. Supported units include III Corps, 1CD, 1st Army Division West, 3CR, 21CAV, 504BfSB, 15MI and attached units. Refer to appendix J for phone numbers.

b. For after-hours and emergency and/or crisis response, contact the RGAAF Weather Station at 288-9620/9400.

c. The 3 WS Integration Flight is designed to integrate weather intelligence data into Army mission planning and execution of ground and aviation training and contingency operations.

d. IAW AR 115-10, 3 WS weather technicians will not be assigned lower than brigade level for ground support or battalion level for aviation operations. Requests for lower levels will be submitted through their brigade/battalion level headquarters; then, submitted through their respective SWO to the 3 WS.

e. The SWOs are members of the supported commanders' special staff and work in coordination with the G2s and S2s. Each SWO coordinates directly with the supported commander and advises them on weather intelligence matters in order to reliably inject timely, accurate, and relevant environmental information at every decision point in the mission planning and execution process in an effort to optimize mission success.

f. Weather personnel aligned to each supported unit are assigned to operate, maintain, and train on MTOE equipment. Weather technicians perform routine operator maintenance IAW the appropriate Army standards. Weather technicians operationally deploy, employ, and re-deploy assigned MTOE equipment to support Army exercises and contingency requirements. Weather personnel are responsible for accountability and safety of assigned equipment.

g. Weather technicians will only perform weather duties and/or services as directed by their Air Force chain of command.

h. Tactical weather support generally parallels support provided in garrison.

i. Supported command tactical standing operating procedures (SOPs) and instructions contain specific procedures for tactical weather support.

j. Weather support to tactical operations is communications-dependent. Weather services can be seriously degraded during periods of limited communications capability. If tactical units are unable to communicate with their SWO while deployed during exercises or contingencies, tactical units should contact the SWO at the next higher echelon.

k. The 3 WS Integration Flight and assigned SWOs will:

(1) Gain an in-depth understanding of supported mission platforms, equipment, and systems capabilities/sensitivities as well as mission processes (i.e., ORM, Common Operating Picture (COP), tactics, etc.).

(2) Advise supported commanders of Air Force weather support capabilities, limitations, and on mitigating and exploiting weather impacts to operations.

(3) Prepare and review weather annexes to plans and orders of supported units.

(4) Provide weather data/briefings for periodic flight and ground safety (or instrument refresher), seasonal training, planned exercises, operations, pre-deployment, large aircraft movements, etc. upon request. These requests should be coordinated as far in advance as possible.

(5) Monitor space weather products and notify supported units when conditions may impact military operations.

(6) Provide or arrange for climatological studies and analyses in support of planned exercises, operations and commitments.

(7) Develop specific weather support procedures to provide or arrange for the dissemination of weather information to supported unit(s) such as weather observations and MWPs or the integration of weather information into the supported units' command and control system(s).

(8) Solicit feedback from supported customers on the quality and/or accuracy of mission weather products.

(9) Provide weather support for CBRNE operations to include:

(a) Serve as weather subject matter expert to CBRNE operations IAW roles and responsibilities laid out in AFI 15-128.

(b) Meet routinely with installation Emergency Management (EM), Fire Emergency Services (FES), and other Fort Hood force protection agencies.

(c) Get familiar with the Chemical, Biological, Radiological, and Nuclear (CBRN) plume models (i.e., Incident Management System (IMS) and the Consequence Assessment Tool) utilized by the Fort Hood Garrison EM/CBRNE Operations Specialist and uses garrison commander/senior commander decision cycles.

(d) Understand, recommend and provide the most appropriate weather data type for EM's use to run their model(s) to assess a real-time event which has occurred at a specific location and time (i.e., model data from the Defense Threat Reduction Agency (DTRA)), local data provided by RGAAF Weather Station or supporting SWO).

(e) Recommend historical climatological data not be used except for training or long-term planning where "canned" scenarios are being used.

(f) Ensure if surface observations or alphanumeric forecasts are requested and provided, they are representative of the location/time of the CBRNE event.

(g) Work closely with the RGAAF Weather Station, the IOC/EOC, and EM/CBRNE operations specialist to ensure the supported commander gets a consistent picture.

(h) In the event a CDM is requested by the EOC/IOC or other support agencies, weather technicians will obtain/provide CDMs from the 26 OWS or AFW-WEBS IAW local procedures.

(10) Provide or arrange weather support for Fort Hood units training at the National Training Center (NTC) IAW Forces Command (FORSCOM) Regulation 350-50-1 (Training at the National Training Center), Appendix D.

(11) Provide or arrange weather support for Fort Hood units training at the Joint Readiness Training Center (JRTC) IAW Appendix W of FORSCOM Regulation(REG) 350-50-2, *Training at the Joint Readiness Training Center*.

(12) Operate in the IOC/EOC upon request from supported agencies during emergency/crisis response events.

(13) Provide tactical decision aids (TDA) support, upon request from mission commanders and/or aircrews.

(a) Requests for TDA support (i.e., electro-optical [E-O] forecasts) must be made through the respective units' supporting SWO or contact the 3 WS Integration Flight (refer to appendix J for phone numbers). Requests should be made 24 hours in advance.

(b) Mission commanders and/or aircrews are responsible for providing all information (i.e., sensor type, target, background information, etc.) required by the E-O software to properly complete the tactical decision aid.

(14) Coordinate training of Army personnel on the use of weather information IAW AR 115-10.

Appendix A
References

Section I
Required Publications

AFI 11-202 Volume 3
General Flight Rules (Cited in Table C-2)

AFI 15-128
Air Force Weather Roles and Responsibilities (Cited in paras 1-1 and 1-5)

AFI 35-101
Public Affairs Policies and Procedures (Cited in para 2-3i and 2-4i)

AFMAN 15-111
Surface Weather Observations (Cited in paras 2-3a, 3-3a(1), 3-3c(1), and appendix C)

AFMAN 15-124
Meteorological Codes (Cited in para 3-3b(1) and 5-9a)

AFMAN 15-129 Volume 1
Air and Space Weather Operations – Characterization (Cited in paras 1-5, 2-3d, and 2-5a(1))

AFMAN 15-129 Volume 2
Air and Space Weather Operations - Exploitation (Cited in paras 2-2c, 1-5, 2-4a, 2-4b, 3-3b(2), and 3-4e(1))

AR 95-1
Flight Regulations (Cited in 2-8f(1), 4-1d, 4-2(1)(2)(3), 4-2a, appendix B, C, and H)

AR 115-10 (AFIJ15-157)
Weather Support for the US Army (Cited in paras 2-5, 2-10e, 5a,d,5-14)

FH Reg 95-1
Fort Hood Local Flying Rules (Cited in paras 2-8(e)(1), 3-3a(3)(f), 3-3c(3), and appendix I)

FH Reg 350-16
Prevention of Heat and Cold Injury (Cited in paras 2-31, 2-4l)

FH Reg 385-2
Procedures for Cold Weather Operations (Cited in Table I-2)

FH Reg 385-3
Procedures for Emergency Warning Announcements

FM 34-81/AFM 105-4
Weather Support for Army Tactical Operations (appendix I a.)

Flight Information Publication (Cited in paras 2-8e(2), 2-8e(3) and appendix C)

FORSCOM Reg 350-50-1
Training at the National Training Center (Cited in para 5-10)

FORSCOM Reg 350-50-2
Training at the Joint Readiness Training Center (Cited in para 5-11)

JP 3-59
Joint Doctrine, Tactics, Techniques, and Procedures for Meteorological and Oceanographic Operations (Cited in appendix I)

Section II
Related Publications

Section III
Prescribed Forms

DD Form 175-1
Flight Weather Briefing (Cited in paras 3-3c(3) and 3-3c(4), 4-1d, and 4-1e)

Section IV
Referenced Forms

FH Form 1853
Distribution Scheme

DA Form 2028
Recommended Changes to Publications and Blank Forms

Appendix B
Fort Hood Weather Notification

a. All weather watches, warnings and advisories are disseminated to Fort Hood units and agencies IAW this publication and IOC and RGAAF Airfield Operations local procedures.

b. The IOC will maintain the notification list of Major Subordinate Commands (MSCs) and other Fort Hood units/organizations.

b. If a weather warning involves severe thunderstorms or non-convective damaging wind (≥ 45 knots) the IOC will ensure MSCs and other Fort Hood units/organizations submit aircraft tie-down reports IAW FH Reg 95-1 (6-2. and 6-3.).

c. The IOC will activate the Mass Notification System (Big Voice) in the event of a Tornado Warning.

d. When weather watches and warnings are issued for the Fort Hood Reservation, the IOC may:

(1) Send an E-Mail message via weather notification distribution list (Commanders, MSCs and our partners in excellence).

(2) Update the Fort Hood Installation Information Banner on the Fort Hood webpage.

(3) Record message on the Information Alert Hotline.

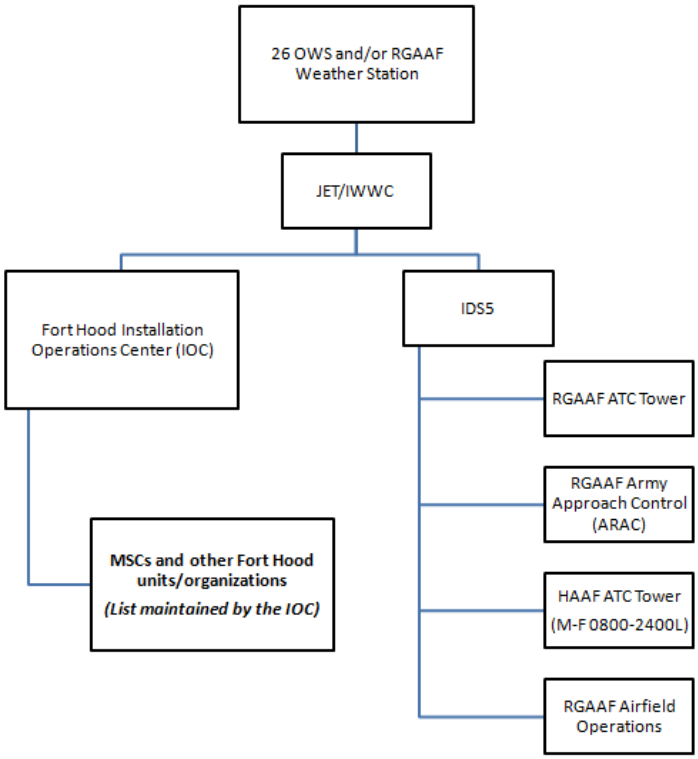

Figure B-1. Example of Fort Hood weather notification pyramid

Appendix C
Robert Gray Army Airfield (RGAAF) and Hood Army Airfield (HAAF) Special (SPECI) and LOCAL Weather Observation Criteria

a. References. AFMAN 15-111, FLIP, AR 95-1, and local operating procedures.

b. Special Weather Report (SPECI) weather observation criteria.

(1) Visibility. Surface visibility (statute miles) as reported in the body of the report decreases to less than, or if below, increases to equal or exceed:

Table C-1. Visibility

Robert Gray Army Airfield	Hood Army Airfield
3 miles (AFMAN15-111)	3 miles (AFMAN15-111)
2 1/2 miles (FLIP)	2 miles (AFMAN15-111)
2 1/4 miles (FLIP)	1 mile (AFMAN15-111)
2 miles (AFMAN15-111, FLIP)	3/4 mile (FLIP)
1 3/4 miles (FLIP)	1/2 mile (FLIP--**Airfield Minimum**)
1 1/2 miles (FLIP)	1/4 mile (AR95-1)
1 3/8 miles (FLIP)	
1 1/4 miles (FLIP)	
1 1/8 miles (FLIP)	
1 mile (AFMAN15-111, FLIP)	
3/4 mile (FLIP)	
1/2 mile (FLIP--**Airfield Minimum**)	
1/4 mile (AR95-1, FLIP)	

Figure C-1

(2) Ceiling. The ceiling (rounded off to reportable values) forms or dissipates below, decrease to less than, or if below, increases to equal or exceed:

Table C-2. Ceiling

Robert Gray Army Airfield	Hood Army Airfield
3,000 feet Above Ground Level (AGL) (15MI Hunter UAS SOP)	3,000 feet AGL (Local Requirement—MFVR)
2,000 feet AGL (AFI11-202Vol3)	1,500 feet AGL (AFMAN15-111)
1,500 feet AGL (AFMAN15-111)	1,000 feet AGL (AFMAN15-111)
1,000 feet AGL (AFMAN15-111)	700 feet AGL (AFMAN15-111, FLIP)
800 feet AGL (AFMAN15-111, FLIP)	500 feet AGL (AFMAN15-111, FLIP—**Airfield Minimum**)
700 feet AGL (AFMAN15-111, FLIP)	100 feet AGL (AR95-1)
600 feet AGL (FLIP)	
500 feet AGL (AFMAN15-111, FLIP)	
400 feet AGL (FLIP)	
300 feet AGL (FLIP)	
200 feet AGL (FLIP—**Airfield Minimum**)	
100 feet AGL (AR95-1)	

Figure C-2

(3) Sky condition. A layer of clouds or obscuring phenomena aloft is observed below **800 feet** AGL (**700 feet** AGL for HAAF) and no layer aloft was reported below 800 feet AGL (700 feet AGL for HAAF) in the previous METAR or SPECI.

(4) Wind shift. Wind direction change by 45 degrees or more in less than 15 minutes and the wind speed is 10 knots or more throughout the wind shift.

(5) Squall. When squalls occur – a strong wind characterized by a sudden onset (a duration on the order of minutes and a rather sudden decrease in speed) in which the wind speed increases at least 16 knots and is sustained at 22 knots or more for at least one minute.

(6) Volcanic eruption. Eruption or volcanic ash cloud is first noted.

(7) Thunderstorm (occurring at the station). A SPECI is not required to report the beginning of a new thunderstorm if one is currently reported.

(a) Thunderstorm begins.

(b) Thunderstorm ends.

(8) Precipitation. Except for freezing rain, freezing drizzle, hail, and ice pellets, a SPECI is not required for changes in type (i.e., drizzle changing to snow grains) or the beginning or ending of one type while another is in progress (i.e., snow changing to rain and snow).

(a) Hail begins or ends.

(b) Freezing precipitation begins, ends or changes in intensity.

(c) Ice pellets begin, end or change in intensity.

(d) Any other type of precipitation begins or ends.

(9) Tornado, funnel cloud or water spout. If a tornado, funnel cloud, or water spout:

(a) Is observed.

(b) Disappears from sight or ends.

(10) Runway visual range (RVR). RGAAF – Runway 15 only; HAAF does not have RVR capability or published RVR minimum.

(a) Prevailing visibility first observed $\leq$ 1SM, again when prevailing visibility goes above 1SM.

(b) RVR for Runway 15 decreases to less than or, if below, increases to equal or exceed:

Table C-3. RVR (RGAAF (GRK) – RNWY 15)

6,000 feet (AFMAN15-111, FLIP)
5,500 feet (FLIP)
5,000 feet (AFMAN15-111, FLIP)
4,000 feet (FLIP)
2,400 feet (AFMAN15-111, FLIP)
2,000 feet (AFMAN15-111)
1,200 feet (AR95-1)

Figure C-3

(c) RVR is first determined as unavailable (RVRNO) for Runway 15, and when it is first determined RVRNO report is no longer applicable, provided conditions for reporting RVR exist.

(11) Upon resumption of observing functions. A SPECI observation will be taken within 15 minutes after the weather technician returns to duty following a break in observing coverage or augmentation at the observing location unless a METAR observation is filed during that 15 minute period.

(12) Aircraft mishap. Take an aircraft mishap SPECI immediately following notification or sighting of an aircraft mishap at or near the observing location unless there has been an intervening observation.

(13) Miscellaneous. Any other meteorological situation that in the weather technician's opinion is critical.

c. LOCAL weather observation criteria. A LOCAL is an unscheduled observation, reported to the nearest minute, not meeting SPECI criteria. Weather units will only take single element LOCALs for altimeter setting changes. LOCALs will only be taken during back-up of ASOS pressure sensor at RGAAF and HAAF.

(1) Altimeter setting (ALSTG). LOCAL ALSTG observations will be taken at an interval <u>not</u> to exceed 35 minutes when there has been a change of 0.01 inch mercury (Hg) (0.3 hectopascals [hPa]) or more since the last locally disseminated ALSTG value.

(2) A METAR or SPECI taken within the established time interval will meet this requirement or the observation may be taken and disseminated as a "single element" LOCAL.

Appendix D
Weather Watch and Warning Criteria

a. Weather watch and warning criteria were established based on supported unit supplied critical weather elements and Air Force directives.

b. The weather watch can be thought of as a “heads up,” at which time agencies need to consider implementing required protective actions should a subsequent weather warning be issued. Watches normally precede a weather warning.

c. Each watch and warning issued by the 26 OWS will be numbered by month and then sequentially (i.e., 02-008 would be the eighth weather watch and warning issued for the month of February). Weather watches and warnings issued by the 3 WS will be numbered in the same format except the sequence will be prefixed with the letter “A” (i.e., 02-A008).

d. In rare circumstances, the RGAAF Weather Station may issue warnings for forecast phenomena when imminent weather conditions pose a hazard to life and property and notification to the 26 OWS is not possible. The RGAAF Weather Station will contact the 26 OWS as soon as possible after local dissemination.

e. Weather warnings will be cancelled when the warning criteria is no longer occurring. Weather watches will be cancelled when the potential for the watch criteria no longer exists.

f. Watches and warnings will be issued for the entire Fort Hood Reservation, to include RGAAF and HAAF for the criteria in Table D-1 and D-2. Exception: The observed lightning warning for the Fort Hood Reservation will specify if it includes Robert Gray AAF and/or Hood AAF or does not include the airfields (lightning observed on the reservation, but not within 5nm of the airfield(s)).

g. Weather watches and warnings will be issued for the Western Training Area for the criteria in Table D-3.

h. Watches and warnings will include maximum wind speed, maximum hail size, maximum rain/snow accumulation expected.

i. Only one warning will be in effect at a given time (and will include multiple warning criteria as required) except for the forecast tornado warnings and/or observed lightning warnings for the Fort Hood Reservation.

Table D-1. Fort Hood Weather Watches

Threat/Threshold	Impact	Warning Desired Lead-time
Tornado / Funnel cloud (detected by radar or visually observed) AND threatening the Fort Hood Reservation	Immediate threat of catastrophic damage to personnel and property.	**As potential warrants**
Severe Thunderstorm Damaging Wind ≥ 45KT associated with thunderstorms -AND/OR- Damaging Hail ≥ 1/2 inch	Immediate threat to exposed personnel; high risk of damage to facilities and exposed aircraft/equipment.	**As potential warrants**
Damaging Wind Surface wind not associated with thunderstorm ≥ 45KT	Immediate threat to exposed personnel; increased risk of damage to facilities and equipment.	**As potential warrants**
Freezing Precipitation Liquid precipitation of any type and intensity falls and produces glaze ice on exposed surfaces	Range of impacts dependent on precipitation type/intensity Examples: Light freezing drizzle increases risk of unsafe driving conditions and disrupts airfield/maneuver activities and effects can be mitigated. Moderate or greater intensity freezing rain (ice storm) poses significant risk of damage to facilities and rapidly creates hazardous conditions for personnel and vehicle movement that cannot easily be mitigated.	**As potential warrants**
Lightning Lightning within 5 NM miles of the Fort Hood Reservation	Immediate threat to exposed personnel; increased risk of damage to equipment and delay in operations.	**30 minutes**

Figure D-1

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Table D-2. Fort Hood Weather Warnings

Threat/Threshold	Impact	Warning Desired Lead-time
Tornado / Funnel cloud (detected by radar or visually observed) AND threatening the Fort Hood Reservation	Immediate threat of catastrophic damage to personnel and property.	**15 minutes**
Severe Thunderstorm Damaging Wind ≥ 45 Knots (KT) associated with thunderstorms -AND/OR- Damaging Hail ≥ 1/2 inch	Immediate threat to exposed personnel; high risk of damage to facilities and exposed aircraft/equipment.	**1 hour**
Moderate Thunderstorm High Wind ≥ 35KT and < 45KT associated with thunderstorms -AND/OR- Large Hail ≥ 1/4 inch and < 1/2 inch	Increased risk to exposed personnel; increased risk of damage to unsecured equipment; increased risk to outdoor/airfield activities and damage to exposed aircraft or vehicles.	**1 hour**
Damaging Wind Surface wind not associated with thunderstorm ≥ 45KT	Immediate threat to exposed personnel; increased risk of damage to facilities and equipment.	**1 hour**

Continued on next page

Strong Wind Surface wind not associated with thunderstorms ≥ 35KT and < 45KT	Increased risk to exposed personnel; increased risk of damage to unsecured equipment; increased risk to outdoor/airfield activities and damage to exposed aircraft or vehicles	**1 hour**
Freezing Precipitation Liquid precipitation of any type and intensity falls and produces glaze ice on exposed surfaces	Range of impacts dependent on precipitation type/intensity Examples: Light freezing drizzle increases risk of unsafe driving conditions and disrupts airfield/maneuver activities and effects can be mitigated. Moderate or greater intensity freezing rain (ice storm) poses significant risk of damage to facilities and rapidly creates hazardous conditions for personnel and vehicle movement that cannot easily be mitigated.	**1 hour**
Heavy Rain 2 inches in 12 hours	Increased threat of flash flooding or systemic flooding posing credible threat to unprotected resources and personnel; disrupts airfield and maneuver activities; imposes increased risk on personnel movement.	**1 hour**
Heavy Snow 2 inches in 12 hours	Disrupts personnel movement or airfield activities; increases risk of unsafe driving conditions.	**1 hour**
Lightning Lightning within 5 Nautical Mile (NM) miles of the Fort Hood Reservation	Immediate threat to exposed personnel; increased risk of damage to equipment and delay in operations.	**As observed**

Figure D-2

Note: Due to geographic location and customer needs, it has been determined Fort Hood does not require warnings for Blizzard, Sandstorm, and Duststorm.

Table D-3. Western Training Area (WTA) Weather Watches and Warnings

Threat/Threshold	Impact	Watch Desired Lead-time	Warning Desired Lead-time
Thunderstorms[1] within the WTA[2]	Increased risk to exposed personnel; increased risk of damage to unsecured property; increased risk to aircraft or vehicles; disrupts aviation operations/missions.	**2 hours**	**As observed**

Figure D-3

Note 1: Denotes deviation from standard criteria as defined in AFMAN15-129V1.
Note 2: The WTA will be subdivided along an east-west line and by a north-south line to divide it into four separate sectors (areas). The four areas are the Northeast (NE), the Southeast (SE), the Southwest (SW) and the Northwest (NW) sectors. The watch and warning for the WTA will specify the sector or sectors thunderstorms are expected to occur or are occurring (refer to Figure 4-1.).

Appendix E
Weather Advisory Criteria

a. Weather advisories were established based on supported unit supplied critical weather elements that will impact operations. Criteria may change as operational requirements change.

b. Each advisory will be numbered by month and then sequentially prefixed with an "A" (i.e., 02-A008 would be the eighth weather advisory issued for the month of February).

c. All Fort Hood weather advisories are observed advisories, meaning when the condition is observed by Doppler weather radar, weather sensors, or PIREPs, the advisory will be issued. It will be valid "Until Further Notice" and it will be cancelled when the condition is no longer occurring.

d. The 3 WS will issue observed weather advisories when criteria below occur and for the area affected.

Table E-1. Observed weather advisories

Criteria	Area Affected
Low-level wind shear below 2,000 feet AGL (not associated with thunderstorms)	within 50 NM of Fort Hood
Moderate or greater icing below 10,000 feet AGL (not associated with thunderstorms)	within 50 NM of Fort Hood
Moderate or greater turbulence below 10,000 feet AGL (not associated with thunderstorms)	within 50 NM of Fort Hood
Surface wind greater than or equal to 25 knots	Fort Hood Reservation

Figure E-1

Appendix F
Severe Weather Action Procedures (SWAP)

a. The RGAAF Weather Station is manned with at least one certified weather technician 24 hours a day, 7 days a week. To help mitigate the threat of severe and/or mission-limiting weather, 3 WS will maintain procedures IAW AFMAN 15-129V2 to ensure sufficient personnel are recalled and/or available during potential and/or actual severe weather events as listed in Table F-1.

Table F-1. Mandatory SWAP Activation Criteria

Tornado Watch
Tornado Warning
Severe Thunderstorm Watch
Severe Thunderstorm Warning
Damaging Wind (≥ 45KT) not associated with thunderstorms) Watch
Damaging Wind (≥ 45KT) not associated with thunderstorms) Warning

Figure F-1

b. SWAP may be activated when the potential for any weather watch/warning criteria or other significant weather event is expected or occurs. In addition, SWAP may be activated at the discretion of the weather technician, should they feel they need additional assistance during an operational mission(s) or significant event such as response to natural or man-made disaster (i.e., CBRNE) where additional manpower is needed to meet customer requirements.

c. Specifically, the RGAAF Weather Station will maintain procedures to conduct expanded “Eyes Forward” and enhanced MISSIONWATCH to enable weather technicians to focus activities and allocate resources to exploit weather conditions, mitigate mission delays, and enhance overall effectiveness of operations.

d. Upon activation of SWAP, weather technicians will divide duties IAW local procedures to ensure a heightened watch over the weather situation and to enhance interaction with supported units and the 26 OWS.

Appendix G
Examples of Weather Product Dissemination

Table G-1. Examples of weather product dissemination

Product	Example	Explanation
Weather Observation	KGRK METAR 1255Z 24008KT 7SM FEW035 SCT100 BKN250 29/22 ALSTG 30.17 RMK Cumulonimbus (CB) Distant (DSNT) NW Moving (MOV) SE Pressure Altitude (PA) +800 Density Altitude (DA) +2000	• KGRK: Location identifier for RGAAF • METAR: Type of observation (may also be SPECI or LOCAL) • 1255Z: Time of observation Universal Time Code (UTC) • 24008KT: Wind direction from 240 degrees (magnetic) at 08 knots • 7: Prevailing visibility (statute miles) • FEW035: Clouds less than 3/8th total cloud cover at 3,500 feet AGL • SCT100: Clouds 3/8 to 4/8ths total cloud cover at 10,000 feet AGL • BKN250: Clouds 5/8 to 7/8ths total cloud cover at 25,000 feet AGL • 29/22: Temperature and dew point (degrees Celsius) • ALSTG 30.17: Altimeter setting (inches of mercury) • Remark (RMK): Significant remarks - cumulonimbus (thunderstorm) distant northwest moving southeast • PA +800: Pressure altitude (feet) • DA +2000: Density altitude (feet)
Terminal Aerodrome Forecast (TAF)	KGRK FCST 1316-1422 16015KT 7 FEW030 SCT250 ALSTG30.17INS BECMG 21-22 16015G25KT 5 –SHRA BKN030 OVC250 ALSTG30.09INS TEMPO 00-03 VRB25G35KT 1 +TSRA BKN015CB OVC030 TEMP 24C AT 2200Z TEMP 16C AT 1200Z	• KGRK: Location identifier for RGAAF • Forecast (FCST): 30-hour forecast • 1316-1422: FCST valid 13th 1600Z to 14th 2200Z (UTC) • 16015KT: FCST wind direction (from) and speed (knots) • 7: FCST prevailing visibility (statue miles) • FEW030: Clouds less than 3/8th total cloud cover at 3,000 feet AGL • SCT250: Clouds 3/8 to 4/8ths total cloud cover at 25,000 feet AGL • ALSTG30.17INS: Forecast minimum altimeter setting (inches of mercury) • Becoming (BECMG) 21-22: FCST gradual change between 2100 and 2200Z • 16015G25KT: FCST wind direction, speed and gusts (knots) • 5 -SHRA: Prevailing visibility (statue miles) in light rain showers • BKN030: Clouds 5/8 to 7/8ths total cloud cover at 3,000 feet AGL • OVC250: Clouds 8/8 total cloud cover at 25,000 feet AGL • ALSTG30.09INS: Forecast minimum altimeter setting (inches of mercury) • LGT TURBC SFC-030: Light turbulence surface - 3,000 feet AGL • TEMPO 00-03: Forecast temporary condition between 0000Z and 0300Z • VRB25G35KT: Forecast wind direction, speed and gusts (knots) • 1+TSRA: Prevailing visibility (statue miles) in thunderstorm with heavy rain • BKN015CB: Clouds 5/8 to 7/8ths total cloud cover at 1,500 feet AGL with cumulonimbus cloud (thunderstorm) • OVC030: Clouds 8/8 total cloud cover at 3,000 feet AGL • TEMP 24C AT 2200Z: Forecast maximum temperature Celsius and time • TEMP 16C AT 1200Z: Forecast minimum temperature Celsius and time

continued on next page

Product	Example	Explanation
PIREP	KGRK UUA /OV KGRK360005/TM 1440/FL220/TP BE20/SK BKN012-TOP045/WX FV99SM/TA M25/WV 24085KT/TB NEG/IC LGT RIME/RM LLWS +25KT During Climb (DURC) KGRK	• KGRK: Location identifier for RGAAF receiving PIREP • Urgent PIREP (UUA): indicator (UA = Routine PIREP) • OV KGRK360005: Location of report; 5 nautical miles north of RGAAF • TM 1440: Time of report 1440 UTC • FL220: Flight Level - 22,000 feet Feet Above Sea Level(MSL) • TP BE20: Type of aircraft • SK BKN012-TOP045: Sky Cover - Clouds 5/8 to 7/8ths total cloud cover at 1,200 feet MSL; tops of clouds 4,500 feet MSL • WX FV99SM: Weather and Flight-level visibility = unrestricted visibility in statue miles • TA M25: Outside air temperature at flight level minus 25 degrees Celsius • WV 24085: Flight level wind direction and speed (from 240 degrees at 85 knots) • TB NEG: Turbulence = negative turbulence (none) • IC LGT RIME : Icing = Light rime icing flight level • RM LLWS+25KT DURC KGRK: Remarks = Low Level Wind Shear with 25 knot gain in airspeed during climb from RGAAF
Weather Watch	WEATHER WATCH 09-006 FOR FORT HOOD (KGRK) VALID 13/1900Z (13/1400L) TO 14/0000Z (13/1900L) POTENTIAL FOR SEVERE THUNDERSTORMS WITH DAMAGING WINDS GREATER THAN OR EQUAL TO 45 KTS. FORECAST VALUE 45 KTS. AND/OR DAMAGING HAIL GREATER THAN OR EQUAL TO 1/2 IN. FORECAST VALUE 1/2 IN. ON THE FORT HOOD RESERVATION	• WEATHER WATCH 09-006 FOR FORT HOOD (KGRK): Sixth weather watch issued by the 26 OWS for Fort Hood for the month of September VALID 13/1900Z (13/1400L) TO 14/0000Z (13/1900L): Valid Time of expected conditions • POTENTIAL FOR SEVERE THUNDERSTORMS WITH DAMAGING WINDS GREATER THAN OR EQUAL TO 45 KTS. FORECAST VALUE 45 KTS. AND/OR DAMAGING HAIL GREATER THAN OR EQUAL TO 1/2 IN. ON THE FORT HOOD RESERVATION: Specific weather conditions expected

Continued on next page

Product	Example	Explanation
Weather Warning	WEATHER WARNING 09-006 FOR FORT HOOD (KGRK) VALID 13/1900Z (13/1400L) TO 14/0000Z (13/1900L) SEVERE THUNDERSTORMS WITH DAMAGING WINDS GREATER THAN OR EQUAL TO 45 KTS. FORECAST VALUE 45 KTS. AND/OR DAMAGING HAIL GREATER THAN OR EQUAL TO 1/2 IN. FORECAST VALUE 1/2 IN. ON THE FORT HOOD RESERVATION. WEATHER WATCH 09-006 REMAIN IN EFFECT	• WEATHER WARNING 09-006 FOR FORT HOOD (KGRK): Sixth weather warning issued by the 26 OWS for Fort Hood for the month of September VALID 13/1900Z (13/1400L) TO 14/0000Z (13/1900L): Valid Time of expected conditions • SEVERE THUNDERSTORMS WITH DAMAGING WINDS GREATER THAN OR EQUAL TO 45 KTS. FORECAST VALUE 45 KTS. AND/OR DAMAGING HAIL GREATER THAN OR EQUAL TO 1/2 IN. ON THE FORT HOOD RESERVATION: Specific weather conditions expected or occurring WEATHER WATCH 09-006 REMAIN IN EFFECT: Status of other current (active) watches, warnings, and/or advisories
Weather Warning	WEATHER WARNING 09-A10 FOR FORT HOOD (KGRK) VALID 13/2100Z (13/1600L) UFN OBSERVED THUNDERSTORMS EXISTS WITHIN THE WESTERN TRAINING AREA THUNDERSTOMRS ARE OCCURRING IN THE NORTHWEST AND SOUTHWEST SECTORS. WEATHER WATCH 09-006 AND WEATHER WARNING 09-006 REMAIN IN EFFECT	• WEATHER WARNING 09-A10 FOR FORT HOOD (KGRK): Tenth weather warning issued by the 3 WS for Fort Hood for the month of September VALID 13/2100Z (13/1600L) UFN: Observed warning meaning conditions are occurring and the warning is valid until further notice • OBSERVED THUNDERSTORMS EXISTS WITHIN THE WESTERN TRAINING AREA THUNDERSTOMRS ARE OCCURRING IN THE NORTHWEST AND SOUTHWEST SECTORS.: Specific weather conditions occurring and geographic location WEATHER WATCH 09-006 AND WEATHER WARNING 09-006 REMAIN IN EFFECT: Status of other current (active) watches, warnings, and/or advisories

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Weather Advisory	WEATHER ADVISORY 06-A02 FOR FORT HOOD (KGRK) VALID 20/1830Z (20/1330L) UFN OBSERVED SURFACE WINDS GREATER THAN OR EQUAL TO 25 KNOTS AT FORT HOOD.	• WEATHER ADVISORY 06-A02 FOR FORT HOOD (KGRK): Second weather advisory issued by 3 WS for Fort Hood for the month 0f June • VALID 20/1830Z (20/1330L) UFN: Observed advisory meaning conditions are occurring and the advisory is valid until further notice • OBSERVED SURFACE WINDS GREATER THAN OR EQUAL TO 25 KNOTS AT FORT HOOD: Specific weather conditions occurring

Figure G-1

Legend for Table G-1:

AGL – above ground level coverage
ALSTG – altimeter setting
BECMG – becoming
BKN – broken (as in sky condition of 5/8ths to 7/8ths cloud coverage)
C - Celsius
CB – Cumulonimbus
DA – density altitude
DSNT – distant
DURC – during climb
FCST – forecast
FEW – few (as in sky condition of 1/8ths to 28ths cloud coverage)
FL – flight level
FV – flight level visibility
IC – icing
IN – inches
KGRK – ICAO locator for Robert Gray Army Airfield
KT – knots
L – local time
LGT – light
METAR – aviation routine weather report
MOV – moving
MSL – meters above sea level
NEG – negative
NW – northwest
OVC – overcast (as in sky condition of 8/8ths cloud coverage)
PA – pressure altitude
PIREP – pilot report
RGAAF – Robert Gray Army Airfield
RM – Remark
SE – southeast
SCT – scattered (as in sky condition of 3/8ths to 4/8ths cloud coverage)
SFC – surface
SHRA (-/+) – rain showers (- indicates light intensity and + indicates heavy intensity)
SK – Sky Condition
SM – Statue Miles
SPECI – special weather report
TA – outside air temperature
TAF – terminal aerodrome forecast
TB – turbulence
TEMP – temperature
TEMPO – temporary conditions
TP – aircraft type
TSRA (-/+) – thunderstorms (- indicates light intensity and + indicates heavy intensity)
TM time
UFN – until further notice
UA – Routine PIREP
UUA – Urgent PIREP
VRB – variable
WV – flight level wind direction and speed
WX – weather at flight level
Z – Zulu time

Appendix H
Sample Weather Products

3d WEATHER SQUADRON - FORT HOOD MISSION PLANNING / EXECUTION FORECAST

DATE:	1-Oct-12	VALID TIME:	1/1600Z - 2/0400Z	MEF #	01	C	REV #		TIME:	
FORECASTER:			3d WS Homepage:	www.hood.army.mil/3ws				RGAAF METRO:	306.5 UHF	

SOLAR LUNAR DATA

DATE	BMNT	SR	SS	EENT	MR	MS	ILLUM	MOON ANGLE > 30°
1-Oct-12	0633L	0726L	1916L	2008L	2005L	0847L	99%	2233-2/0711
2-Oct-12	0633L	0726L	1915L	2007L	2042L	0942L	96%	2313-3/0803

SPACE WEATHER IMPACTS

GPS	G	Unlikely Degredation
UHF	Y	Moderate Degredation
HF	R	Severe Degredation

FLIGHT LEVEL WINDS (KNOTS) AND TEMPERATURES (°C) - FORT HOOD RESERVATION

500' AGL		1,000' AGL		2,000' AGL		3,000' AGL		5,000' MSL		6,000' MSL		8,000' MSL		10,000' MSL	
15015	16°C	15015	14°C	15015	10°C	15015	09°C	15015	07°C	15015	04°C	15015	02°C	15015	01°C

FLIGHT HAZARDS FOR LOCAL FLYING AREA (IAW FHR 95-1)

HAIL, SEVERE TURB/ICING, HEAVY PRECIP, LIGHTNING & WIND SHEAR EXPECTED IN & NEAR T-STORMS

CAT II ACFT: UH-60, AH-64, CH-47, UH-72, BE-20, UC-35, C-208 // CAT I ACFT: GRAY EAGLE, HUNTER, SHADOW UAS

HAZARDS	INTENSITY/COVERAGE	LEVELS (MSL)		LOCATION
THUNDERSTORMS	NONE	MAX TOPS		
ICING	NONE			
TURB CAT II	LGT-MDT // MDT	SFC-040 // 180-220		ENRTE
TURB CAT I (FHR ONLY)	MDT	SFC-040		FT HOOD RESERVATION

PLEASE PROVIDE FEEDBACK

MIN FREEZING LEVEL: 120 MSL

FORT HOOD RESERVATION AREA FORECAST (INCLUDES RGAAF, HAAF, LONGHORN AND SHORTHORN AUXILIARY AIRFIELDS)

VALID TIME	MIN CIG (AGL)	MIN VIS (sm)	SIG WX	SURFACE WIND		MAX TEMP °C	MAX TEMP °F	MAX DPT °C	RH %	MIN ALSTG	RGAAF MAX PA	RGAAF MAX DA	HAAF MAX PA	HAAF MAX DA
1600Z - 1800Z	NONE	7		16027	G20	29	84	15	43%	29.92	1016 ft	3343 ft	925 ft	3231 ft
1800Z - 2000Z	030	3	BR	16027	G22	29	84	16	45%	29.90	1034 ft	3365 ft	943 ft	3253 ft
2000Z - 2200Z	020	2	BR	16027	G25	31	88	14	36%	29.88	1053 ft	3663 ft	962 ft	3550 ft
2200Z - 2400Z	015	2	BR	16027	G30	29	84	15	43%	29.50	1407 ft	3821 ft	1316 ft	3709 ft
0000Z - 0200Z	010	1 1/2	BR	16027	G38	25	77	16	57%	29.60	1313 ft	3166 ft	1222 ft	3054 ft
0200Z - 0400Z	004	1/4	FG	16010		21	70	16	73%	30.30	666 ft	1842 ft	575 ft	1729 ft

FORT HOOD PLAIN LANGUAGE FORECAST / OUTLOOK FOR THE NEXT 24-HOURS

PARTLY TO MOSTLY CLOUDY THROUGH THE DAY WITH LIGHT SOUTH WIND; LOW TEMP THIS MORNING IN THE LOW 40S AND HI TEMP NEAR 60. BECOMING MOSTLY CLOUDY AFTER MIDNIGHT THIS EVENING WITH FOG RESTRICTING VISIBILITIES TO 1/2 MILE OR LESS BY 3AM. EXPECT FOG TO QUICKLY DISSIPATE BY LATE TUESDAY MORNING WITH WIND BECOMING NORTHWEST AT 15 GUSTING TO 25 MPH; TURNING COLDER WITH HIGH TEMP IN THE UPPER 30S.

TEST FLIGHT AREA (TFA) // (IAW FHR 95-1)

VALID TIME	1600 - 2000Z							
LOCATION	TFA III		TFA IV		TFA V		TFA VI	
MIN CIG (AGL)	060		060		060		060	
MIN VIS (SM)	5		2		5		5	
SIG WX	BR		BR		BR		BR	
SFC WND	14015	G27	14015	G50	14015		14015	G27
VALID TIME	2000 - 0000Z							
LOCATION	TFA III		TFA IV		TFA V		TFA VI	
MIN CIG (AGL)	060		060		060		060	
MIN VIS (SM)	5		5		5		5	
SIG WX	BR		BR		BR		BR	
SFC WND	14015	G27	14015	G27	14015	G27	14015	
VALID TIME	0000 - 0400Z							
LOCATION	TFA III		TFA IV		TFA V		TFA VI	
MIN CIG (AGL)	060		060		060		060	
MIN VIS (SM)	5		5		5		5	
SIG WX	BR		BR		BR		BR	
SFC WND	14015	G27	14015	G27	14015	G27	14015	G27

WESTERN TRAINING AREA // (IAW FHR 95-1)

VALID TIME	1600 - 2000Z							
LOCATION	NE		SE		SW		NW	
MIN CIG (AGL)	060		060		060		060	
MIN VIS (SM)	5		5		5		5	
SIG WX	BR		BR		BR		BR	
SFC WND	14015	G27	14015	G27	14015	G27	14015	G27
VALID TIME	2000 - 0000Z							
LOCATION	NE		SE		SW		NW	
MIN CIG (AGL)	060		060		060		060	
MIN VIS (SM)	5		5		5		5	
SIG WX	BR		BR		BR		BR	
SFC WND	14015	G27	14015	G27	14015	G27	14015	G27
VALID TIME	0000 - 0400Z							
LOCATION	NE		SE		SW		NW	
MIN CIG (AGL)	060		060		060		060	
MIN VIS (SM)	5		5		5		5	
SIG WX	BR		BR		BR		BR	
SFC WND	14015	G27	14015	G27	14015	G27	14015	G27

Figure H-1. Sample of 3 WS MWP Flimsy

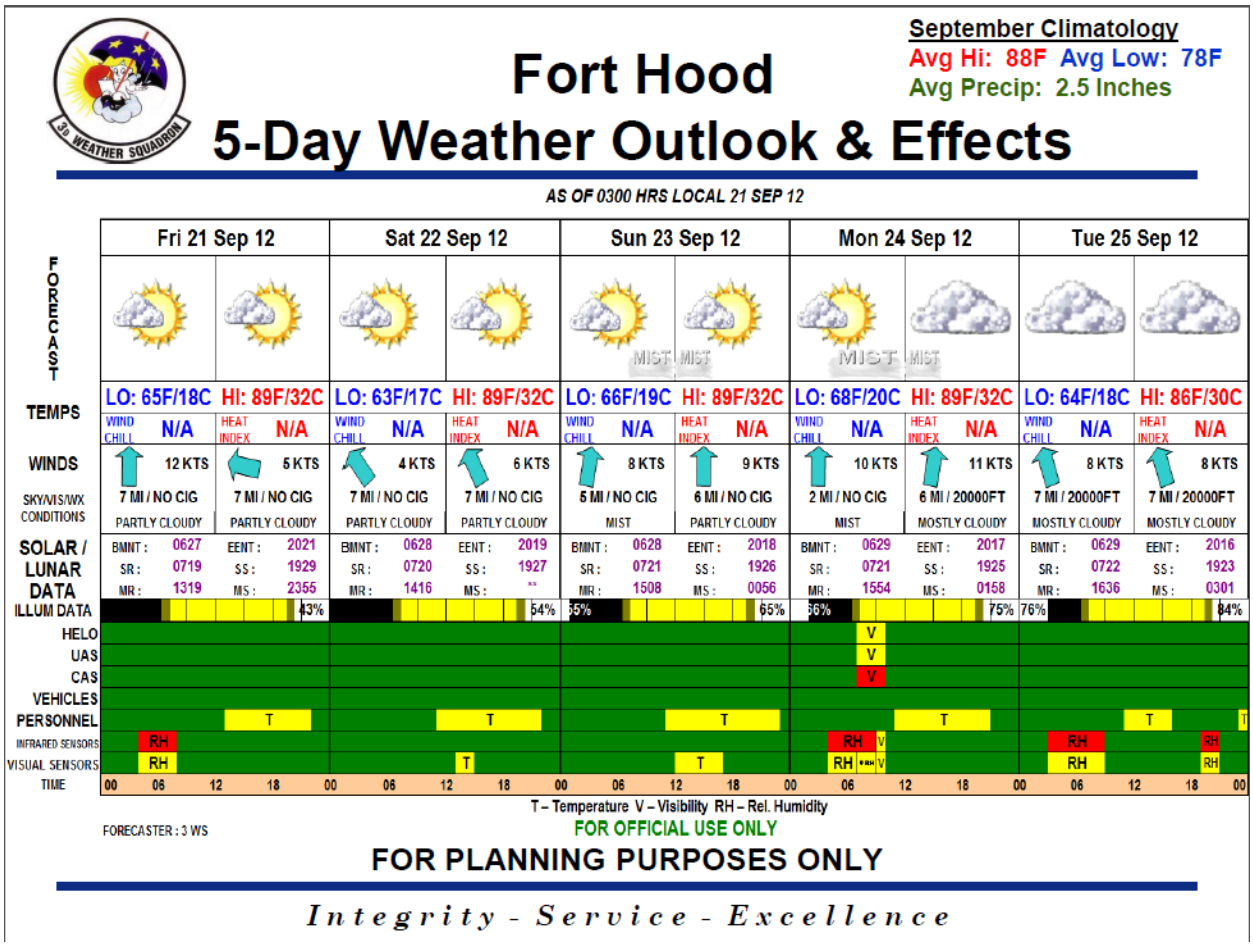
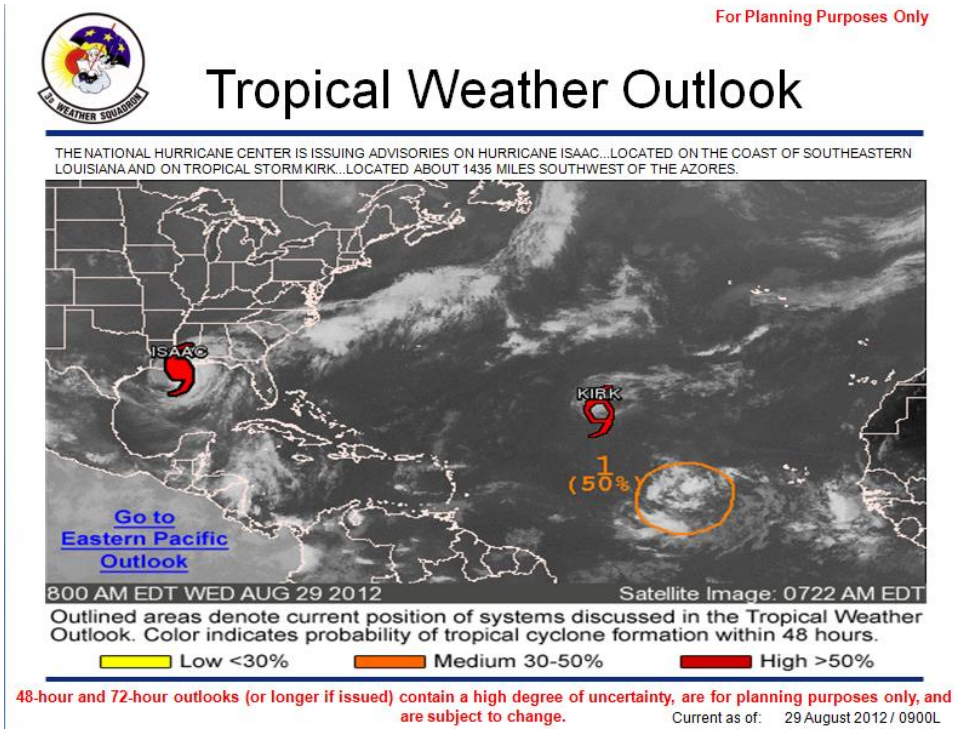


Figure H-2. Sample of 3 WS 5-Day Forecast and Impacts



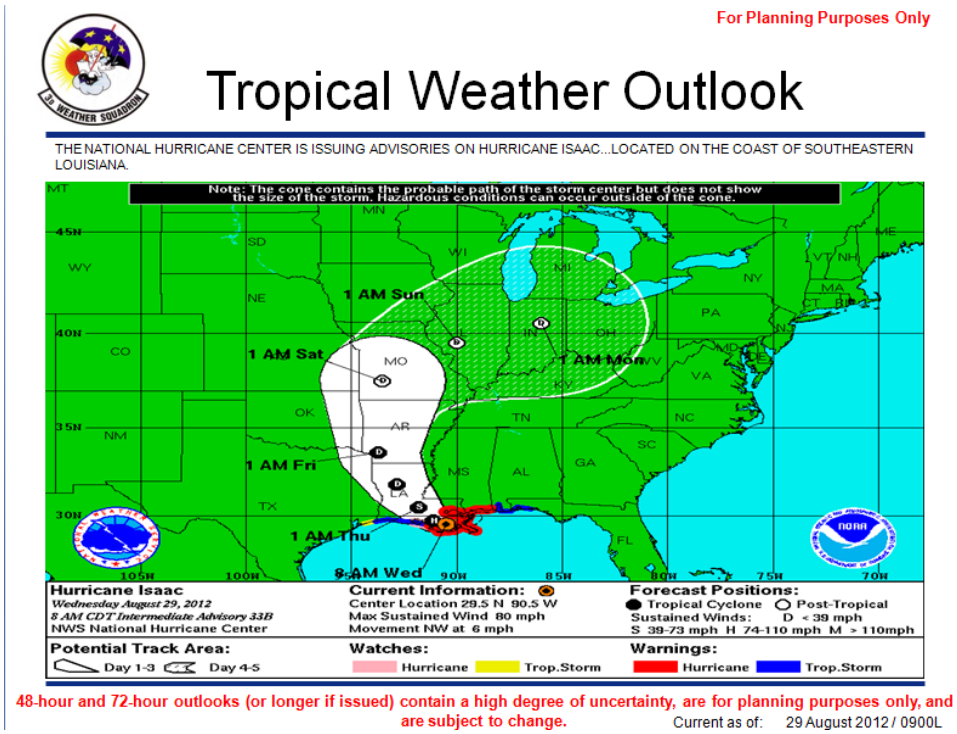


Figure H-3. Sample of 3 WS Tropical Weather Outlook Slides

Appendix I
Environmental Mission Limiting Thresholds (MLTs)

a. Compiled from Joint Publication (JP) 3-59 *Meteorological and Oceanographic Operations*, Field Manual (FM) 34-81/Air Force Manual (AFM) 105-4 (*Weather Support for Army Tactical Operations*), various equipment technical documents (i.e., Technical Orders, TOs), and local operating procedures, this list is designed to present a general picture of weather impacts on operations. This list is not all-inclusive.

b. Weather technicians will use this list as a baseline, expanding or changing it as required to support mission-specific operational requirements and limitations.

c. Supported units will assist 3 WS identifying and documenting weather sensitivities and thresholds applicable to supported units' operations, missions, aircraft, and weapon systems.

d. Supported units will provide SWOs and/or RGAAF Weather Station with weather support requirements and environmental MLTs no later than 15 days prior to exercises and contingency operations.

Table I-1. Aviation Operations – Environmental MLTs

Launch / Recovery	Fixed-Wing	Rotary	UAS
Ceiling (ft) / Visibility (mi)	200 / 1/2	1000 / 3 500 / 1/2	3000 / 3
Cross-Wind (knots)	≥ 20 (UC35 and C208)	N/A	≥ 15 (Hunter)
	≥ 22 Wet RWY (C12)		≥ 20 G25 (Shadow)
	≥ 25 Dry RWY (C12)		> 20 (Gust spread > 10) (Gray Eagle)
Surface Wind (knots)	≥ 35 (C208)	≥ 35	≥ 25 (Hunter/Shadow)
	≥ 50 (UC35 and C12)	≥ 45	> 30 (Headwind component) (Gust spread > 10) [Max Wind for taxi is 36] (Gray Eagle)
Precipitation	N/A	N/A	Wet Runway
Enroute	**Fixed-Wing**	**Rotary**	**UAS**
Ceiling (ft) / Visibility (mi)	IAW AR95-1	Day – No min ceiling / 1/2	3000 / 3
	6000 / 3 (Task Force Odin)	Night – 500 / 1	
Wind Aloft (knots)	N/A	N/A	≥ 50
Thunderstorms	Avoid all	Avoid all by at least 20 nm	Avoid all
Turbulence	Forecast / Observed Severe (CAT II)	Forecast / Observed Severe (CAT II)	Forecast / Observed Severe (CAT I)
Icing	Forecast / Observed Severe	Forecast / Observed Severe (UH72 will avoid all icing; CH47 will not operate in Forecast / Observed Moderate or greater)	Forecast / Observed Any Icing
Precipitation	N/A	N/A	Moderate (Hunter/Shadow)
			Heavy (.5 inches per hour) (Gray Eagle)
Space Weather	Severely degraded HF/UHF or High GPS (Single-Frequency) Impacts (≥ 50 meter errors)		

Figure I-1

continued on next page

Legend for Table I-1:

CAT - Category
ft – feet
GPS – Global-Positioning System
HF – High Frequency
mi – miles
min – minimum
N/A - Not-Applicable
RWY - runway
UAS – unmanned aircraft system
UH - Utility Helicopter
UHF – Ultra High Frequency

Table I-2. Garrison Operations – Environmental MLTs

Threshold Value	Impact	Supported Unit Action(s)
Tornado	Immediate threat of catastrophic damage to personnel and property	Warn base populace (**refer to FH Reg 385-3**)--seek immediate shelter; hangar and moor aircraft; secure equipment; divert aircraft; man emergency control centers / disaster response teams
Severe Thunderstorm (damaging wind ≥ 45 knots and/or damaging hail ≥ 1/2 inch	Immediate threat to exposed personnel; high risk of damage to facilities and exposed aircraft/equipment	Seek shelter; hangar and moor aircraft; secure equipment; divert aircraft
Moderate Thunderstorm (high wind ≥ 35 to < 45 knots and/or large hail ≥ 1/4 inch to < 1/2 inch	Increased risk to exposed personnel; increased risk of damage to unsecured equipment; increased risk to outdoor/airfield activities and damage to exposed aircraft or vehicles	Consider hangar aircraft; secure aircraft and equipment on the flightline; limit outdoor high-risk activities--increase operational risk assessment
Damaging Wind (surface wind not associated with thunderstorms ≥ 45 knots)	Personal injury and/or property, aircraft and/or equipment damage	Seek shelter; hangar and moor aircraft; secure equipment; divert aircraft
Strong Wind (surface wind not associated with thunderstorms ≥ 35 knots to < 45 knots)	Personal injury and/or property, aircraft and/or equipment damage	Consider hangar aircraft; secure aircraft and equipment on the flightline; limit outdoor high-risk activities--increase operational risk assessment
Lightning With In (w/i) 5 NM	Immediate threat to exposed personnel; increased risk of damage to equipment and delay in operations	Cease aviation refueling; limit outdoor activities to protect personnel; cease explosives and/or ammunition operations; backup generators
Freezing Precipitation or Heavy Snow (≥ 2 inches w/i 12 hours)	Range of impacts dependent on precipitation type/intensity Examples: Light freezing drizzle increases risk of unsafe driving conditions and disrupts airfield/maneuver activities and effects can be mitigated. Moderate or greater intensity freezing rain (ice storm) poses significant risk of damage to facilities and rapidly creates hazardous conditions for personnel and vehicle movement that cannot easily be mitigated.	Hangar or protect aircraft; report runway conditions (runways / taxiways / ramps); sand overpasses /intersections, close roads—limit and/or restrict post driving (**Refer to FH Reg 385-2**)

continued on the next page

Heavy Rain (≥ 2 inches w/i 12 hours)	Increased threat of flash flooding or systemic flooding posing credible threat to unprotected resources and personnel; disrupts airfield and maneuver activities; imposes increased risk on personnel movement	Restrict vehicle movement (off-road)--avoid water crossings; beware of flash flood potential; increase operational risk assessment
Space Weather Severely degraded HF/UHF and High GPS (Single-Frequency) Impacts (≥ 50 meter errors)	Degrade communication and navigation equipment	

Figure I-2

Legend for Table I-2:
NM – nautical mile
GPS – Global-Positioning System
HF – High Frequency
UHF – Ultra High Frequency
w/i – within

Table I-3. Army Combat Operations – Environmental MLTs

OPERATION/SYSTEM	Favorable (No degradation)	Marginal (Some degradation)	Unfavorable (Significant degradation)
Rotary Wing (HELO)			
Ceiling/Visibility	≥ 1000 ft and/or 3 SM (4800 m)		< 500 ft and/or 1/2 SM (800 m)
Weather/Precipitation	None	Blowing Sand	Thunderstorms or Freezing Precipitation
Wind Speed	< 35 kt		≥ 45 kt
Density altitude	< 5000 ft		≥ 6,000 ft
Turbulence	None - Light (CAT II)	Moderate (CAT II)	Severe (CAT II)
Icing	None - Light	Moderate	Severe
Unmanned Aerial Systems (UAS)			
Ceiling/Visibility	≥ 3000 ft and/or 3 SM (4800 Meter (m))		< 3000 ft and/or 3 SM (4800 m)
Weather/Precipitation	None	Light - Moderate	Heavy Precipitation, Thunderstorms, or Freezing Precipitation
Wind Speed	< 25 kt		≥ 25 kt
Turbulence	None - Light (CAT I)	Moderate (CAT I)	Severe (CAT I)
Icing	None		Any
Close Air Support (CAS)			
Ceiling/Visibility	≥ 10,000 ft and/or 3 SM (4800 m)		< 5000 ft and/or 3 SM (4800 m)
Weather/Precipitation		Thunderstorms / Blowing Sand	
Air Interdiction			
Ceiling / Visibility	≥ 300 ft / 1/4 SM (400 m)		< 300 ft and/or 1/4 SM (400 m)
Aerial Reconnaissance			
Ceiling/Visibility	≥ 5000 ft and/or 3 SM (4800 m)		Less than 1,000 ft and/or 1,600 m
Weather/Precipitation	None	Blowing Sand	Thunderstorms
Wind Speed	< 60 knots		≥ 60 knots
Icing	None	Trace	Light - Severe
Night Vision Goggles			
Cloud Cover or Ceiling	< 50% or ≥ 3000 feet	≥50% or < 3000 feet	
Visibility	≥ 1/2 SM (800 m)	< 1/2 SM (800 m)	
Precipitation	Light - Moderate	Heavy	
Temperature	33° F to 124° Fahrenheit (F)	≥ 125° F or < 33° F	

continued on next page

Smoke			
Precipitation	None	Light - Moderate	Heavy
Temperature	< 80° F		> 120° F
Nuclear, Biological, Chemical			
Ceiling and/or Temperature	> 600 ft and/or 86° F to 32° F	< 600 ft and/or > 86° F	< -15° F
Precipitation	None	Light	Moderate
Low level inversion and/or stability	Yes or Stable	No or Unstable	
Wind Speed	0-9 knots		> 20 knots
Personnel			
Temperature or Heat Index	84° F to 33° F	> 85° F or < 33° F	> 95° F or < -25° F
Wind Chill	> 15° F		< -25° F
Weather or Precipitation	Light Liquid or Snow	Moderate or Freezing Drizzle	Heavy or Freezing Rain
Vehicles			
Snow depth	< 6 in		> 12 in
Weather / Precipitation	None or Light	Moderate or Light Freezing Rain	Heavy or Moderate to Heavy Freezing Rain
Temperature	104° F to 1° F	> 105° F or < 0° F	
Air Defense Artillery			
Ceiling and/or Visibility	> 5000 ft and/or 1 SM (1600 m)		< 2500 ft and/or 1/2 SM (800 m)
Wind	< 35 knots		> 50 knots
Weather/Precipitation	None - Light	Blowing Sand or Dust	Heavy
Visual Systems			
Visibility and/or Weather	≥ 2 SM (3200 m) and/or Light Precipitation		< 5/8 SM (1000 m) and/or Heavy Precipitation
Temperature or Relative Humidity (RH)	< 100° F or RH < 80 %	≥ 100° F or < -25° F or RH ≥ 80 %	
Infrared (IR) Sensors			
Visibility and/or Weather/Precipitation	≥ 2 SM (3200 m) and/or Light Precipitation	< 2 SM (3200 m) and/or Moderate Precipitation	Heavy Precipitation and/or Fog and/or Blowing Sand and/or Snow
Temperature or Relative Humidity (RH)	125° F to 20° F or RH < 80 %		> 125o F or < -25o F or RH > 85 %
Electro-Optic Air and Ground			
	Detect Range > 5 km	3-5 km	< 3 km or IR Crossover

Legend for Table I-3:

continued on next page

CAT – category
f – Fahrenheit
ft – feet
IR - Infrared
km – kilometers
m - meters
NM – nautical mile
SM - statue mile

Figure I-3

Appendix J
Key Contacts - Phone/E-mail/Websites/Facility Directory

Table J-1. 3 WS Staff Phone Directory

Office	Commercial	DSN	Cell
3 WS Commander (CC)	254-288-1313	738-1313	254-289-8829
3 WS Director of Operations (DO)	254-287-7397	737-7387	254-289-8830
3 WS Operations Superintendent (DOS)	254-287-2960	737-2940	N/A
3 WS Commander's Support Staff (CSS)	254-287-2922 Fax: 254-553-3656	737-2922 Fax: 663-3656	N/A
3 WS Integration Flight *Staff Weather Officers (SWOs)*	254-288-4249/4250	738-4249/4250	N/A

Figure J-1

Table J-2. RGAAF Weather Station Phone Directory

Office	Commercial	DSN
Weather Forecaster	254-288-9620 254-288-9400 Fax: 254-288-1190	738-9620 738-9400 Fax: 738-1190
3 WS Alternate Operating Location (AOL), Bldg 90041, Room 212	254-288-4258 254-288-4259 254-288-4260 Fax: 254-553-3656 (3 WS CSS)	738-4258 738-4259 738-4260 Fax: 663-3656
Emergency Cell Phone (Will be turned on ONLY during telephone outages)		*254-289-9036*

Figure J-2

Table J-3. 3 WS E-mail Directory

Office	E-mail
RGAAF Weather Station—Forecaster	usarmy.hood.3-asog.mbx.3w3-woc@mail.mil
3 WS Integration Flight (SWOs)	usarmy.hood.3-asog.mbx.3ws-integration@mail.mil
3 WS Command Section	usarmy.hood.3-asog.mbx.3ws-workflow@mail.mil

Figure J-3

Table J-4. Other Key Phone Numbers

Office	Commercial	DSN
26 OWS Flight Weather Briefings	318-529-2651 318-529-2652 318-529-2653 Fax: 318-529-2609	331-2651 331-2652 331-2653 Fax: 331-2609
Fort Hood Installation Operations Center (IOC)	254-287-2520 Alternate: 254-287-2506	737-2520 Alternate: 737-2506
RGAAF (KGRK) ATC Tower	254-553-1940 Alternate: 254-553-2525	663-1940 Alternate: 663-2525
RGAAF (KGRK) ATC ARAC	254-288-9111 Alternate: 254-553-2526	738-9111 Alternate: 663-2526
HAAF (KHLR) ATC Tower	254-287-5741 Alternate: 254-287-6643	737-5741 Alternate: 737-6643
RGAAF Airfield Operations	254-288-9200 Alternate: 254-288-9209	738-9200 Alternate: 738-9209
RGAAF Automated Surface Observing System (ASOS) (Runway 15)	254-618-8509	N/A
RGAAF Automated Surface Observing System (ASOS) (Runway 33)	254-287-3434	N/A
HAAF Automated Surface Observing System (ASOS)	254-286-5692	N/A

Figure J-4

Table J-5. Key Websites

Office	Website
3 WS	**http://www.hood.army.mil/3ws**
26 OWS	https://ows.barksdale.af.mil
AFW-WEBS	https://weather.af.mil/AFW_WEBS
14 WS (Climatological Products)	https://www.afccc.af.mil/

Figure J-5

Table J-6. Key Facilities

Office	Building Number
RGAAF Weather Station	**90029 (RGAAF Airfield Operations)**
3 WS Alternate Operating Location (AOL)	**90041, Room 212 (3 WS HQ Building)**
WSR-88D Weather Radar Antenna Site (Granger, TX)	GRL01 (TPS Shelter)
	GRL02 (RDA Shelter)
	GRL03 (Generator Shelter)

Figure J-6

Section I
Terms

Basic weather watch (BWW)
A program to ensure weather technicians provide the proper level of weather awareness to detect and report significant changes in specified weather elements.

Ceiling
The height above ground level of the lowest broken (5/8 coverage or more) or overcast (8/8 coverage) cloud layer or total obscuration.

Cooperative weather watch
A practice of augmenting a basic weather watch with information received from non-weather sources. Air traffic controllers are the most common example.

Desired lead time
The amount of advance notice a supported agency needs to react to an advisory or warning.

Equivalent chill temperature
An approximate measure of the cooling effect on exposed skin of the ambient air temperature and wind speed combined

Mission weather product (MWP)
Any weather product or group of weather products generated by a weather unit that is integrated into the military decision making process. MWPs may be planning or execution products and are not limited to aviation missions.

Meteorological watch (METWATCH)
A deliberate process for monitoring the terrestrial weather or 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 and determine courses of action to update or amend a forecast product or group of products and notify designated agencies.

Mission watch (MISSIONWATCH)
A deliberate process of monitoring terrestrial weather or the space environment for specific mission-limiting environmental factors that may adversely impact missions in execution. The MISSIONWATCH process is intended to identify previously unidentified environmental threats and alert decision-makers at the operational unit and/or airborne mission commanders, enabling dynamic changes to mission profiles that may mitigate the environmental threat and optimize the chance of mission success.

Pilot report (PIREP)
A report of observed flight weather conditions provided by an aircraft crew-member.

Prevailing visibility
The greatest visibility equaled or exceeded through half or more of the horizon circle.

Terminal aerodrome forecast (TAF)
A forecast of required weather elements for a particular aerodrome or terminal covering a period up to 24 hours. Forecast elements within the body of the forecast text refer to the area within 5 nautical miles of the center of the aerodrome complex.

Weather advisory
Weather advisories provide specific notice to an operational agency of weather phenomena impacting operations.

Weather observation
An evaluation of one or more meteorological elements that describes the state of the atmosphere at the observation location.

Weather warning
A special weather product to facilitate resource protection decisions. Weather Warnings alert designated agencies to the imminent or actual occurrence of weather conditions of such intensity as to pose a hazard to life or property for which the agency must take immediate protective actions.

Weather watch
A special weather product to facilitate resource protection decisions. Weather Watches provide advance notice to designated agencies of the existence of a potential for weather conditions of such intensity as to pose a hazard to life or property for which the agency should consider taking protective measures.

Glossary

Section II
Abbreviations

AC
Air Conditioner

ACC
Air combat command

ACofS
Assistant Chief of Staff

AF
Air Force

AFB
Air Force base

AFI
Air Force instruction

AFM
Air Force manual

AFMAN
Air Force manual

AFWA
Air Force Weather Agency

AFW-WEBS
Air Force Weather Web Services

AGL
Above Ground Level

AIRMET
Airmen's Meteorological Information

ALSTG
Altimeter Setting

AOB
Garrison Airfield Operations Board

AOL
Alternate Operating Location

AOR
Area of Responsibility

AR
Army Regulation

ARAC
Army Radar Approach Control

ASOS
Automated Surface Observing System

ATC
Air Traffic Control

BECMG
Becoming

BKN
Broken (as in sky condition of 5/8ths to 7/8ths cloud coverage)

BN
Battalion

BWF
Battlefield Weather Flight

BWW
Basic Weather Watch

C
Celsius

CAT
Category

CB
Cumulonimbus

CBRN
Chemical, Biological, Radiological, and Nuclear

CBRNE
Chemical, Biological, Radiological, Nuclear, and High-yield Explosive

COOP
Continuity of Operations

COP
Common Operating Picture

CDM
Chemical Downwind Messages

CLR
Clear

CTA
Common Table of Allowance

CWW
Cooperative Weather Watch

C2
Command and Control

DA
Density Altitude

DAO
Directorate of Aviation Operations

DCO
Defense Connect Online

DD
Department of Defense (Forms)

DOD
Department of Defense

DPW
Directorate of Public Works

DSN
Defense Switched Network

DSNT
Distant

DTRA
Defense Threat Reduction Agency

DURC
During Climb

EM
Emergency Management

E-O
Electro-Optical

EOC
Emergency Operations Center

ETC
Et Cetera

EWO
Emergency War Order

F
Fahrenheit

FARP
Forward Arming and Refueling Points

FCST
Forecast

FES
Fire Emergency Services

FEW
Few (as in sky condition of 1/8ths to 2/8ths cloud coverage)

FH
Fort Hood

FHFSSC
Fort Hood Flight Safety and Standardization Committee

FL
Flight Level

FLIP
Flight Information Publication

FM
Field Manual

FORSCOM
Forces Command

FT
Feet

FV
Flight Level Visibility

GPS
Global Positioning System

HAAF
Hood Army Airfield

HF
High Frequency

Hg
Inches of mercury

HHC
Headquarters, Headquarters Company

HPA
Hectopascal

HQ
Headquarters

IAW
In Accordance With

IC
Icing

ICAO
International Civil Aviation Organization

IDS5
Information Display System (Fort Hood Air Traffic Control)

IFR
Instrument Flight Rules

IMCOM
Installation Management Command

IMS
Incident Management System

IN
Inches

IOC
Installation Operations Center

IR
Infrared

IWWC
Integrated Weather Warning Capability

JET
Joint Environmental Toolkit

JP
Joint Publication

JRTC
Joint Readiness Training Center

KGRK
ICAO locator for Robert Gray Army Airfield

KHLR
ICAO Locator for Hood Army Airfield

KM
Kilometer

KT
Knots

L
Local Time

LAN
Local Area Network

LGT
Light

LLWS
Low Level Winds Sheer

LOA
Letter of Agreement

LOCAL
Aviation Selected Local Weather Report (Observation)

LSCS
Landing Strip Cold Springs

LS50
Landing Strip 50

M
Meter

MEFP
Mission Execution Forecast Process

METAR
Aviation Routine Weather Report (Observation)

MI
Miles

MIN
Minimum

MISSIONWATCH
Mission-Scale Meteorological Watch

MLT
Mission Limiting Thresholds

MPH
Miles Per Hour

MOV
Moving

MSC
Major subordinate command

MSL
Meters Above Sea Level

MTOE
Modified Table of Organization and Equipment

MWP
Mission Weather Product

N
Neutral

N/A
Not-Applicable

NCO
Noncommissioned Officer

NE
Northeast

NEC
Network Enterprise Center

NEG
Negative

NHC
National Hurricane Center

NIPRNET
Non-Secure Internet Protocol Router Network

NM
Nautical Mile

NOTAM
Notice to Airmen

NTC
National Training Center

NW
Northwest

ORM
Operational Risk Management

OVC
Overcast (as in sky condition of 8/8ths cloud coverage)

OWS
Operational Weather Squadron

PA
Pressure Altitude

PAO
Public Affairs Office

PARA
Paragraph

PIREP
Pilot Report

PMSV
Pilot-to-Metro Service

POC
Point of Contact

REG
Regulation

RGAAF
Robert Gray Army Airfield

RM
Remarks

RMK
Remark

RVR
Runway Visual Range

RVRNO
Runway Visual Range Not Available

RWY
Runway

R6302
Restricted Area

S
Stable

SCI
Sensitive Compartmented Information

SCT
Scattered (as in sky condition of 3/8ths to 4/8ths cloud coverage)

SE
Southeast

SFC
Surface

SHRA
Rain Showers

SIGMET
Significant Meteorological Information

SK
Sky Condition

SM
Statute Miles

SOP
Standard Operating Procedure

SPECI
Aviation Selected Special Weather Report (Observation)

SW
Southwest

SWAP
Severe Weather Action Procedures

SWO
Staff Weather Officer

TA
Outside Air Temperature

TB
Turbulence

TAF
Terminal Aerodrome Forecast

TC-TAP
Tropical Cyclone-Threat Analysis Product

TDA
Tactical Decision Aids

TDY
Temporary Duty Assignment

TEMP
Temperature

TEMPO
Temporary Conditions

TM
Time

TP
Aircraft Type

TSRA
Thunderstorm with rain

U
Unstable

UA
Routine PIREP

UAS
Unmanned Aircraft System

UFN
Until Further Notice

UH
Utility Helicopter

UHF
Ultra High Frequency

US
United States

USAF
United States Air Force

UTC
Universal Time Code

UUA
Urgent PIREP

VAAC
Volcanic Ash Advisory Centers

VRB
Variable

W/I
Within

WOC
Weather Operations Center

WSR-88D
Weather Surveillance Radar – 88 Doppler

WTA
Western Training Area

WV
Flight Level Wind Direction and Speed

WWA
Weather Watch Warning or Advisory

WX
Weather

Z
Zulu time

1CD
1st Cavalry Division

1ACB
1st Air Combat Brigade

3CR
3d Cavalry Regiment

3 ASOG
3d Air Support Operations Group

3 WS
3d Weather Squadron

15MI
15th military Intelligence Battalion

21CAV
21st Cavalry Brigade

26 OWS
26th Operational Weather Squadron

504 BfSB
504th Battlefield Surveillance Brigade