

Fort Hood Semi-Annual Weather Briefing



Perfect Storm Event
GOES-7 Visible
November 1, 1991
1601 UTC (1101 EST)

👉 Winter Weather



3d Weather Squadron (3 WS)

Updated 24 Sep 12



OVERVIEW



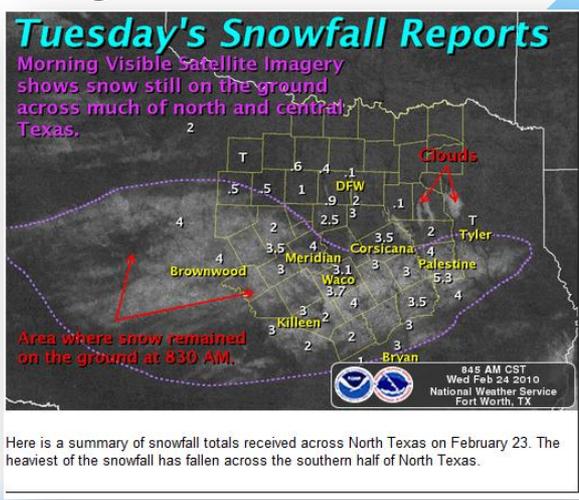
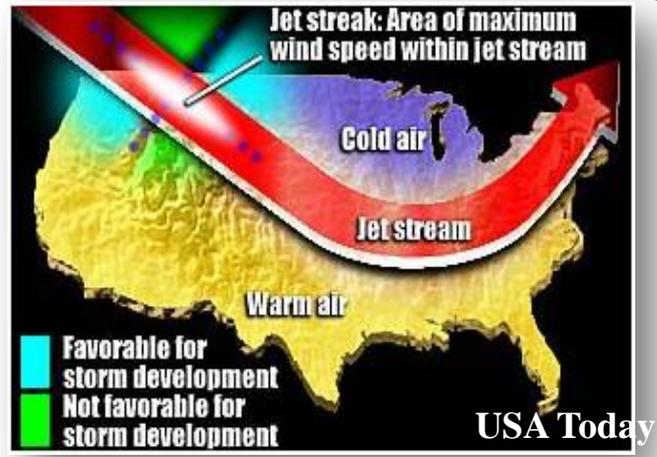
- ☞ Local Area Influences
- ☞ Winter Climatology
- ☞ Winter Hazards
- ☞ Watches/Warnings/Advisories
- ☞ Weather Operations
- ☞ POCs





Winter Synoptic Pattern

- Polar Front Jet (PFJ) moves further south
- Frontal passages occur ~ every 5-7 days
- Fall second (minor) severe season (Sep-Nov)
- Decrease in thunderstorm activity, but increase in morning fog and low ceilings





Local Area Influences



- ☞ Rolling hills with peaks up to 1,500 feet
- ☞ Upslope under easterly flow can cause prolonged IFR conditions
- ☞ Large lake areas and abundant foilage
 - Act as moisture sources for fog and low ceilings
- ☞ Isolated weather conditions throughout reservation
 - What looks good at RGAAF and HAAF can be different on the far north and east side of the reservation
- ☞ Low river crossings, hard ground, low water retention causes flash flood situations





Winter Climatology



☞ Degraded Flying Operations

- Lower AM visibility/ceilings due to fog/stratus
 - ◆ Can extend into afternoon
 - ◆ Induced by upslope conditions (easterly flow)
 - ◆ Cooler temperatures
- Aircraft Icing
 - ◆ Major winter weather hazard—lower freezing level
 - ◆ Can extend down to surface (frost)





Climatological Data



Oct Nov Dec Jan Feb

Temperature

Mean Max (F)	79	68	60	58	62
Mean Min (F)	59	48	41	39	42
Extm Max (F)	101	93	89	88	102

Precipitation

Mean Month (inch)	3.6	2.3	2.1	1.7	2.5
Mean # TSTM Days	3	2	2	2	2





CEILING CLIMO

(< 1,000 Ft)



% Ceiling < 1000 ft

Name: ROBERT GRAY AAF, TX United States Block Station: 722576

ICAO: KGRK Lat: 31.067 Lon: -97.833 Time Offset: -6.00

Data Derived from 14WS Surface Observation Database / POR: 1973 - 2005

14WS (AFWA)

151 Patton Ave, Rm 120
Asheville, NC 28801-5002

23Z (17L)	14	12	9	4	2	1	0	1	3	5	10	14
22Z (16L)	15	12	7	5	2	1	0	1	3	5	9	14
21Z (15L)	15	12	8	5	2	1	0	0	3	6	10	14
20Z (14L)	16	13	10	6	1	1	0	1	3	7	10	15
19Z (13L)	19	15	11	7	2	2	0	1	3	8	12	15
18Z (12L)	20	17	13	8	3	1	1	1	5	9	11	17
17Z (11L)	24	20	17	11	5	2	1	2	6	11	14	20
16Z (10L)	25	25	20	14	7	4	1	3	7	14	19	23
15Z (09L)	27	27	22	19	12	5	2	4	11	20	23	25
14Z (08L)	27	27	25	23	16	10	4	6	15	24	26	25
13Z (07L)	27	29	24	25	21	13	7	7	17	25	25	25
12Z (06L)	26	28	25	22	21	12	7	6	16	25	23	23
11Z (05L)	25	24	22	18	20	13	6	5	12	19	21	22
10Z (04L)	27	23	21	16	17	11	5	5	12	18	21	22
09Z (03L)	25	23	20	15	12	7	4	4	10	17	19	21
08Z (02L)	24	20	18	14	10	6	3	3	10	15	17	21
07Z (01L)	22	19	18	11	9	4	2	2	9	12	17	20
06Z (00L)	21	17	17	9	7	3	2	2	6	10	14	19
05Z (23L)	20	16	14	9	5	3	1	2	5	9	14	20
04Z (22L)	18	16	12	8	4	2	1	1	4	8	13	17
03Z (21L)	16	14	11	6	3	2	1	1	4	7	13	16
02Z (20L)	14	16	11	6	3	2	0	1	3	6	12	15
01Z (19L)	14	14	10	5	3	1	0	1	3	5	11	14
00Z (18L)	14	13	10	5	2	1	0	1	3	5	10	13

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec





VISIBILITY CLIMO

(< 3 SM)



% Visibility < 3 SM

Name: ROBERT GRAY AAF, TX United States Block Station: 722576

ICAO: KGRK Lat: 31.067 Lon: -97.833 Time Offset: -6.00

Data Derived from 14WS Surface Observation Database / POR: 1973 - 2005

14WS (AFWA)

151 Patton Ave, Rm 120
Asheville, NC 28801-5002

23Z (17L)	10	8	4	1	2	1	0	1	3	3	5	9
22Z (16L)	9	8	4	2	2	1	0	1	2	3	4	8
21Z (15L)	9	7	4	3	2	1	0	1	2	3	5	8
20Z (14L)	10	6	5	3	1	1	0	1	3	2	4	9
19Z (13L)	11	7	5	4	1	1	1	1	2	3	5	9
18Z (12L)	11	7	8	3	2	1	0	1	3	3	5	9
17Z (11L)	15	9	8	5	2	1	1	0	3	4	7	9
16Z (10L)	16	12	9	7	4	1	1	1	3	7	10	13
15Z (09L)	19	16	12	9	5	1	1	1	4	10	14	17
14Z (08L)	20	18	16	11	6	2	1	2	6	15	17	17
13Z (07L)	19	18	15	13	9	4	3	3	10	19	18	16
12Z (06L)	17	16	16	13	11	5	3	4	9	16	16	13
11Z (05L)	16	13	13	8	9	5	3	2	5	10	14	12
10Z (04L)	17	13	10	7	5	3	2	1	4	7	12	12
09Z (03L)	16	12	9	7	3	2	2	1	3	7	11	11
08Z (02L)	15	11	10	5	3	2	1	1	2	7	9	11
07Z (01L)	14	11	10	4	3	1	1	1	2	5	8	12
06Z (00L)	13	9	8	4	3	1	0	1	1	4	7	12
05Z (23L)	13	7	7	4	2	1	0	0	1	4	7	13
04Z (22L)	13	9	5	4	2	1	0	0	1	4	7	11
03Z (21L)	10	7	5	4	2	1	0	1	1	3	6	9
02Z (20L)	9	8	6	3	1	1	0	0	1	3	6	9
01Z (19L)	10	8	7	3	2	1	0	0	1	2	5	9
00Z (18L)	10	8	6	3	1	1	0	0	2	3	5	7
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

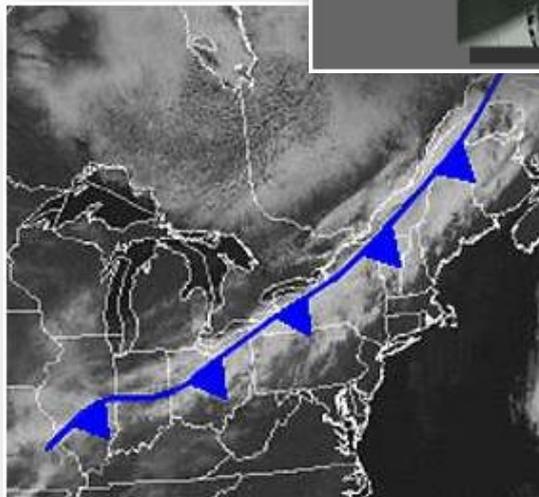




Winter Hazards



- ☞ Turbulence
- ☞ Icing
- ☞ Low-Level Wind Shear
- ☞ Reduced Visibility
- ☞ Colder Temps



Turbulence





TURBULENCE



- ☞ Turbulence is one of the most unexpected aviation hazards to fly through and one of the most difficult to forecast
- ☞ Caused by *abrupt, small-scale variations in wind speed and direction*
- ☞ **Pilot Reports (PIREPS) are crucial!**
 - May trigger advisories to help warn others
 - Always include location, time, intensity, flight level, and aircraft type

Gray METRO: UHF 306.5 / FM 41.2





TURBULENCE

(Continued)



☞ May occur any time without warning

- Directly proportional to speed:

Faster aircraft=more turbulence experienced

- Inversely proportional to weight:

Heavier aircraft=less turbulence experienced

- Directly proportional to wing area

Greater distance between leading and trailing edge of wing=more turbulence





TURBULENCE

(Continued)



- ☞ Intensities based upon Airspeed & Climb Rate
 - Light: Slight, erratic changes in altitude and or attitude (pitch, roll, yaw)
 - Moderate: Greater intensity than light, but aircraft remains in positive control
 - Severe: Large abrupt changes in altitude/attitude, large variations in airspeed; control becomes very difficult
 - Extreme: Aircraft violently tossed around with control virtually impossible; may cause structural damage





TURBULENCE

(Continued)



- ☞ Also caused by strong wind over rough terrain (*Fort Hood area not considered rough terrain*)
 - Rougher terrain = More turbulence
 - Higher wind speed = More Turbulence
- ☞ Frontal Transition Zone Turbulence
- ☞ Jet Stream (CAT)





TURBULENCE

(Continued)



- ☞ **Wake Turbulence:**
Caused by ‘Wingtip Vortices’
- ☞ **Virtually all aircraft produce wingtip vortices while in flight, even rotary wing aircraft; this is especially apparent with heavier aircraft**





LOW-LEVEL WIND SHEAR (LLWS)



- Rapid change in wind direction or speed below 2,000 feet AGL
- May occur with or without Turbulence
- Causes sudden changes in aircraft performance and attitude
- Common occurrence in Central Texas associated with night-time low-level jet
- Can occur with fronts and thunderstorm gust fronts (microburst)

Gray METRO: UHF 306.5

ICING





ICING



☞ Types of Icing

- **Rime**: Rough, milky, and opaque--similar to ice in a refrigerator; associated with stratiform clouds; lighter in weight than clear ice
- **Clear**: Glossy and clear; formed by slow freezing of large supercooled water droplets; found in cumulus clouds and freezing precip—hard to remove
- **Mixed Rime and Clear**: Water droplets vary in size or mixed rain and snow; can form rapidly
- **Frost**: Light feathery deposit occurring when an aircraft is descending from cold air to warmer air layers or parked on the surface and exposed to freezing temps





ICING

(Continued)



- ➔ Adds weight, blocks air flow into engine
- ➔ Destroys efficiency of airfoil by altering its shape—when lifting qualities of the wing are gone, the aircraft can no longer remain airborne!
- ➔ Icing on rotary-wing aircraft may cause vibration, loss of efficiency or control; rotational speed of main and tail rotors can produce rapid icing growth on certain surfaces
- ➔ Shedding of ice can result in structural damage (FOD) or injury to ground personnel



VISIBILITY & CEILINGS





Visibility and Ceilings



☞ Historically, poor visibilities & low ceilings have contributed to many aircraft accidents

☞ Types of visibility:

- **Prevailing:** greatest horizontal visibility observed throughout at least half of the horizon circle
- **Tower:** prevailing visibility determined to be different by tower personnel (trained controllers)
- **Sector:** visibility within a specific 45 degree arc (NE, SE, etc.) of the horizon circle
- **Slant Range:** angle from which you view an airfield or target from above ground vantage point—often lower than prevailing visibility





Visibility and Ceilings

(Continued)



☞ ASOS (*HLR Automated Sensor*)

- There are inherent limitations especially during rapidly changing weather conditions when some delay in reporting cloud ceilings and visibilities may occur

☞ Ceilings:

- Height above the earth's surface (AGL) of the lowest (thin or opaque) layer as broken or overcast, or vertical visibility into surface-based total obscuration (indefinite ceiling)





Fog



- ☞ Surface-based cloud composed of either water droplets or ice crystals
- ☞ Ideal fog conditions:
 - Small temperature dew point spread 1 to 2 C
 - Abundant condensation nuclei
 - Light surface wind
 - Cooling land surfaces, warmer air above
- ☞ Rarely forms at Fort Hood under west to north wind





Fog

(Continued)



☞ Reduces Visibility and Ceilings

– Patchy Fog

- ◆ Visibility can be severely restricted; 1/4 mile away it can be unrestricted
- ◆ Usually appears in low lying areas
- ◆ Not very thick
- ◆ **Hardest to forecast**

– Wide-spread Fog

- ◆ Large continuous even fog
- ◆ Usually at least 800 ft thick





Weather Alerts



WEATHER WATCHES



- Issued for ***potential*** of weather conditions that can effect operations and safety at *Fort Hood and/or the Western Training Area*--Command decision on whether or not operations are altered
- Valid Times per text
- Valid for area described in text
 - Fort Hood Reservation
 - Western Training Area (Entire area or specific sector(s)--northeast, southeast, southwest or northwest)

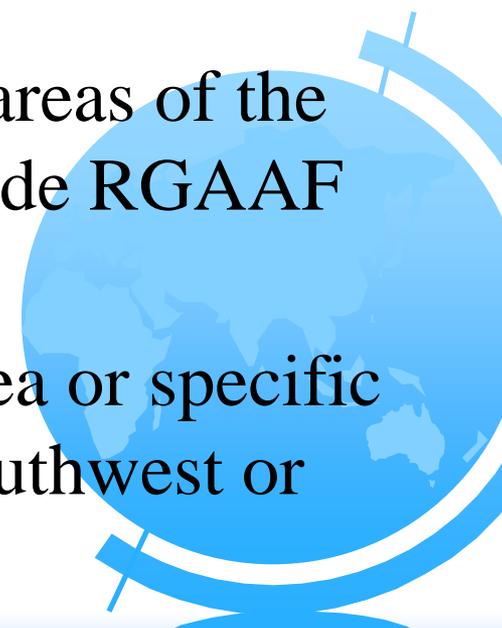




WEATHER WARNINGS



- ☞ Take actions to protect property and life
- ☞ Valid Times per text [Observed Warnings valid Until Further Notice (UFN)]
- ☞ Valid for area described in text
 - Fort Hood Reservation (Specific areas of the reservation to include or not include RGAAF and/or HAAF)
 - Western Training Area (Entire area or specific sector(s)--northeast, southeast, southwest or northwest)





WEATHER ADVISORIES



- Advisories provide specific notice to an operational agency of weather phenomena *impacting operations*
- 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
- Valid for the area described in the text
- It will be valid “Until Further Notice” and it will be cancelled when the condition is no longer occurring





Fort Hood Reservation

Watch / Warning / Advisory



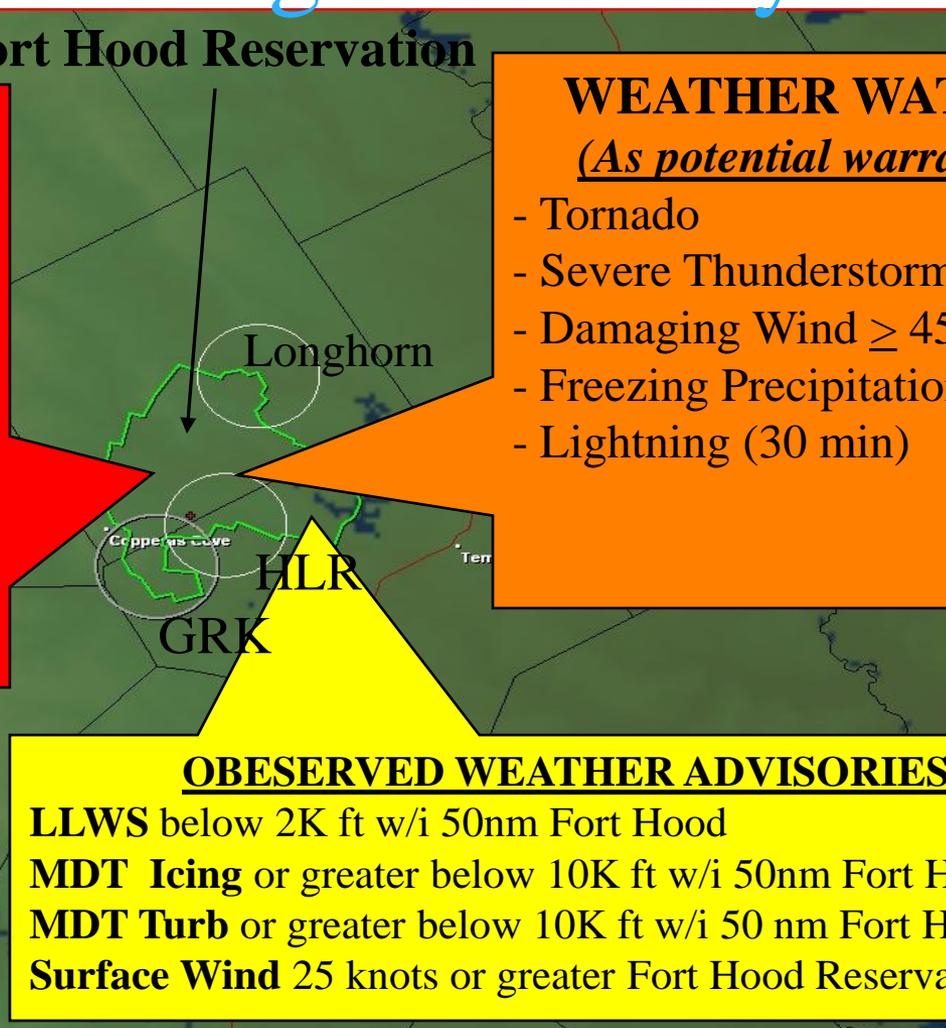
WEATHER WARNINGS:

- Tornado (15 min)
- Severe thunderstorms (1 hr)
- Damaging Wind \geq 45 kts (1 hr)
- Moderate Thunderstorms (1 hr)
- High Wind 35-44 kts (1 hr)
- Freezing Precipitation (1 hr)
- Heavy Rain (1 hr)
- Heavy Snow (1 hr)
- Lightning (Observed)

WEATHER WATCH *(As potential warrants)*

- Tornado
- Severe Thunderstorm
- Damaging Wind \geq 45 kts
- Freezing Precipitation
- Lightning (30 min)

Fort Hood Reservation



OBESERVED WEATHER ADVISORIES:

- LLWS** below 2K ft w/i 50nm Fort Hood
- MDT Icing** or greater below 10K ft w/i 50nm Fort Hood
- MDT Turb** or greater below 10K ft w/i 50 nm Fort Hood
- Surface Wind** 25 knots or greater Fort Hood Reservation



Fort Hood Reservation



☞ Severe Thunderstorm

- Damaging wind ≥ 45 knots and/or
- Damaging hail $\geq \frac{1}{2}$ inch in diameter

☞ Moderate Thunderstorm

- High wind ≥ 35 knots to < 45 knots and/or
- Large hail $\geq \frac{1}{4}$ inch to $< \frac{1}{2}$ inch

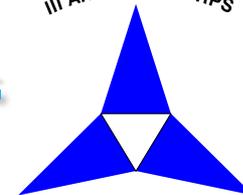
☞ **IMPORTANT: Refer to FH Reg 95-1 for specific severe weather plans/actions**





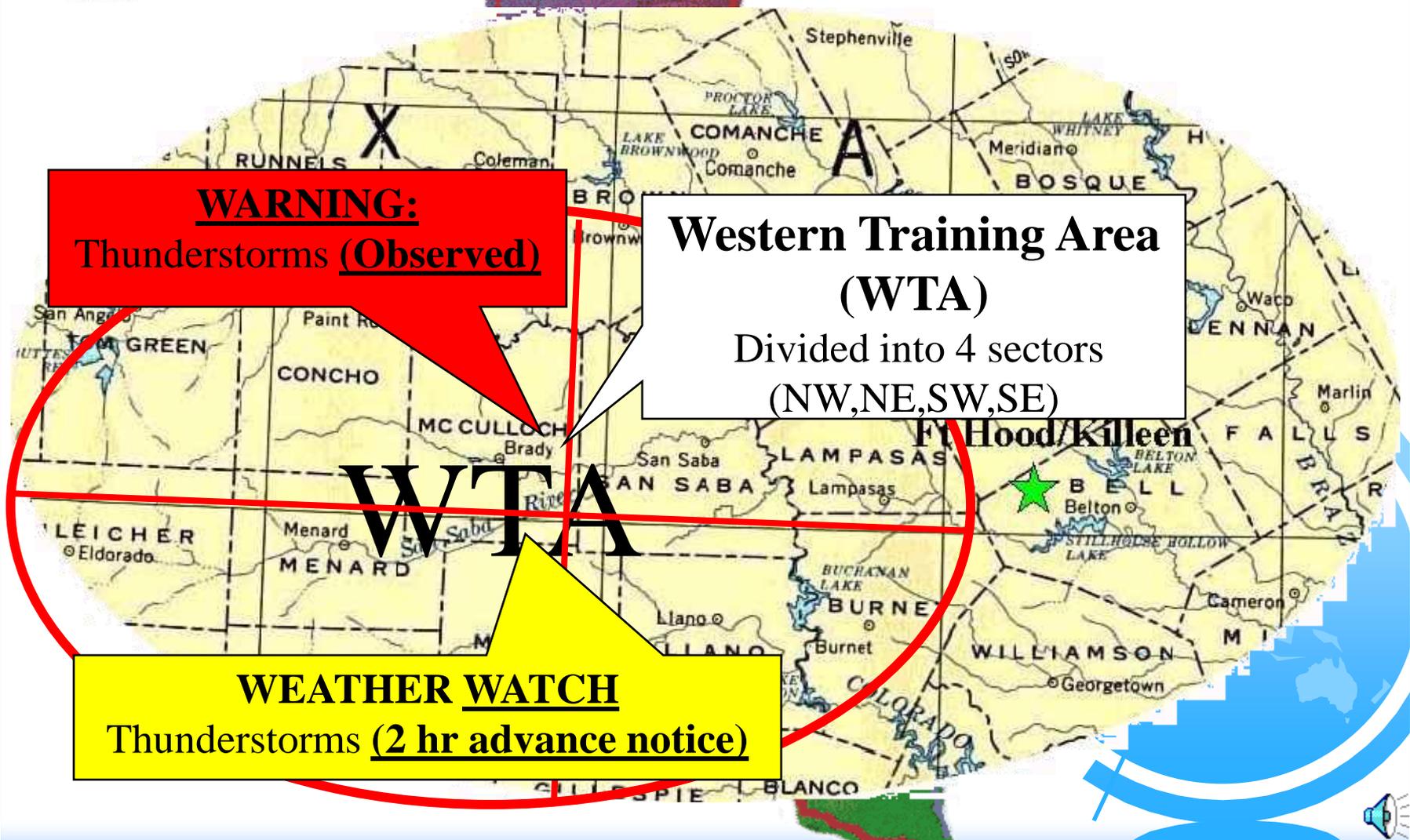
WESTERN TRAINING AREA

III ARMORED CORPS



PHANTOM

Watch / Warning



WARNING:
Thunderstorms (Observed)

**Western Training Area
(WTA)**
Divided into 4 sectors
(NW, NE, SW, SE)

WEATHER WATCH
Thunderstorms (2 hr advance notice)

WTA

Ft. Hood/Killeen





PILOT REPORTS (PIREPS)

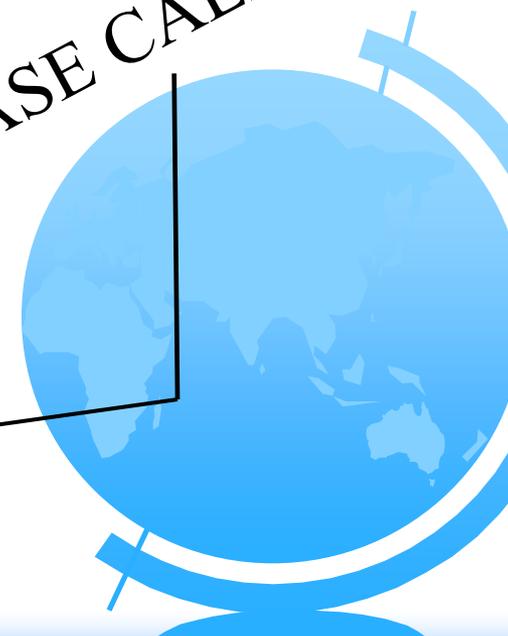


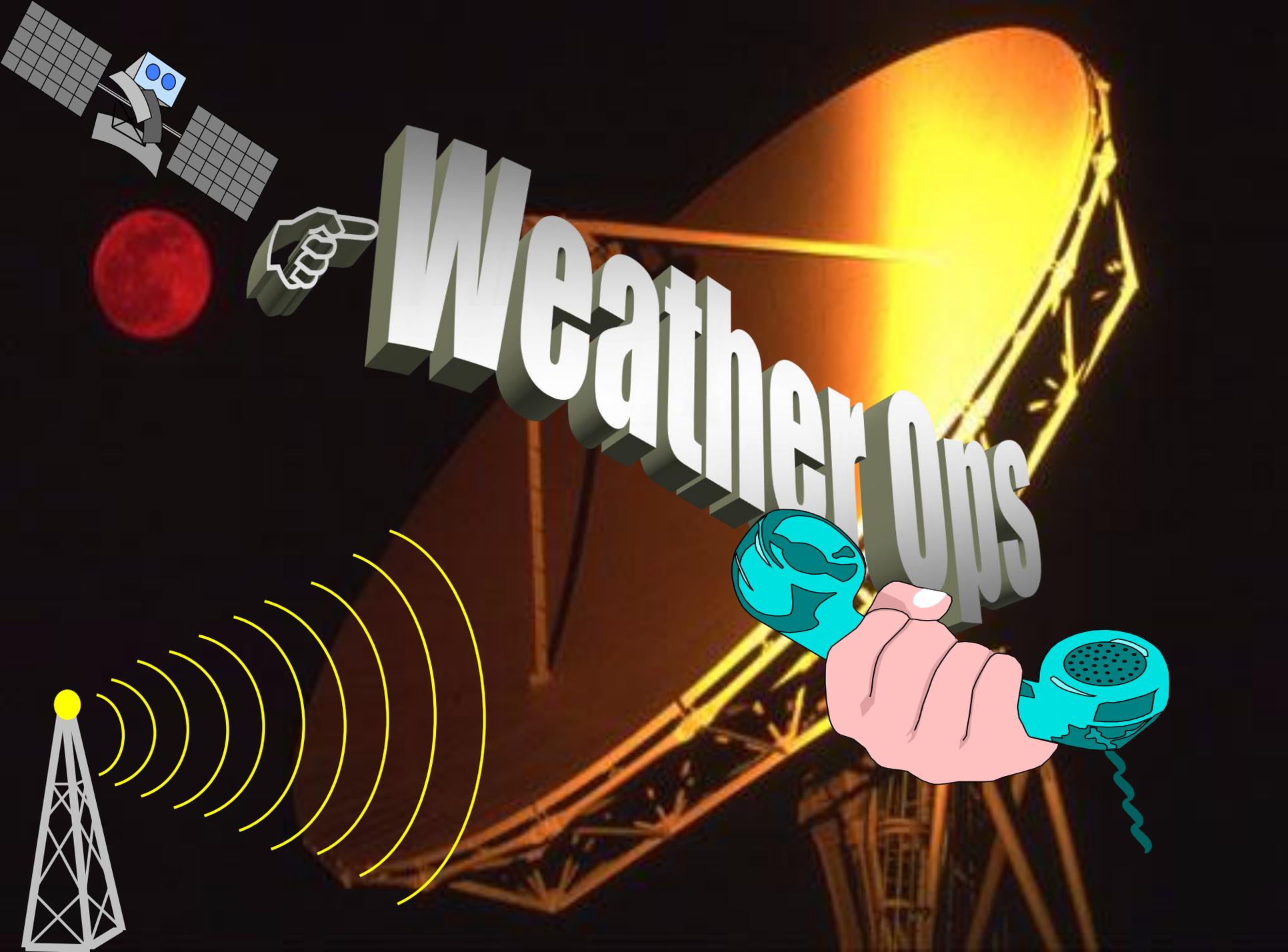
☞ Provide forecasters additional observations around the reservation and Western training areas

- Thunderstorms
- Turbulence
- Icing
- Low-Level Wind Shear (LLWS)
- Cloud conditions
- Wind, temperature, etc..
- Visibility, weather (i.e., fog, rain, etc.)

☞ PMSV frequencies: **UHF 306.5**

PLEASE CALL US!!!





Weather Ops



RGAAF Weather Station Operations



- ☞ RGAAF Weather Station located on West Fort Hood, Airfield Ops Bldg 90029:
 - 24/7 Operations
 - 2 Forecasters Mon-Fri 0600-1400L
 - 1 Forecaster Nights, Weekends, & Holidays
 - Manual Weather Observations
 - Flight Weather Briefings
- ☞ HAAF: Automated Weather Observations Only

Gray METRO: UHF 306.5





FLIGHT WEATHER BRIEFINGS



- ➡ Call 288-9620 or 288-9400
- ➡ E-mail: usarmy.hood.3-asog.mbx.3ws-woc@mail.mil
- ➡ Please arrange DD175-1 weather briefings as far in advance as possible
- ➡ **IAW AR 95-1, ONLY PILOTS CAN RECEIVE FLIGHT WEATHER BRIEFINGS**





FLIGHT WEATHER BRIEFINGS (Continued)



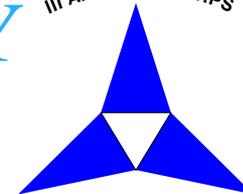
- ☞ DD175-1 Weather Briefs can be faxed or E-mailed
- ☞ **IMPORTANT:** Aircrews must call 288-9620/9400 after receiving the brief for briefer's initials, brief & void times--otherwise briefing is not official!
- ☞ For weather information visit our web site:
www.hood.army.mil/3ws
 - Current local airfield weather conditions
 - Current weather watches, warnings, advisories
 - Other weather information products



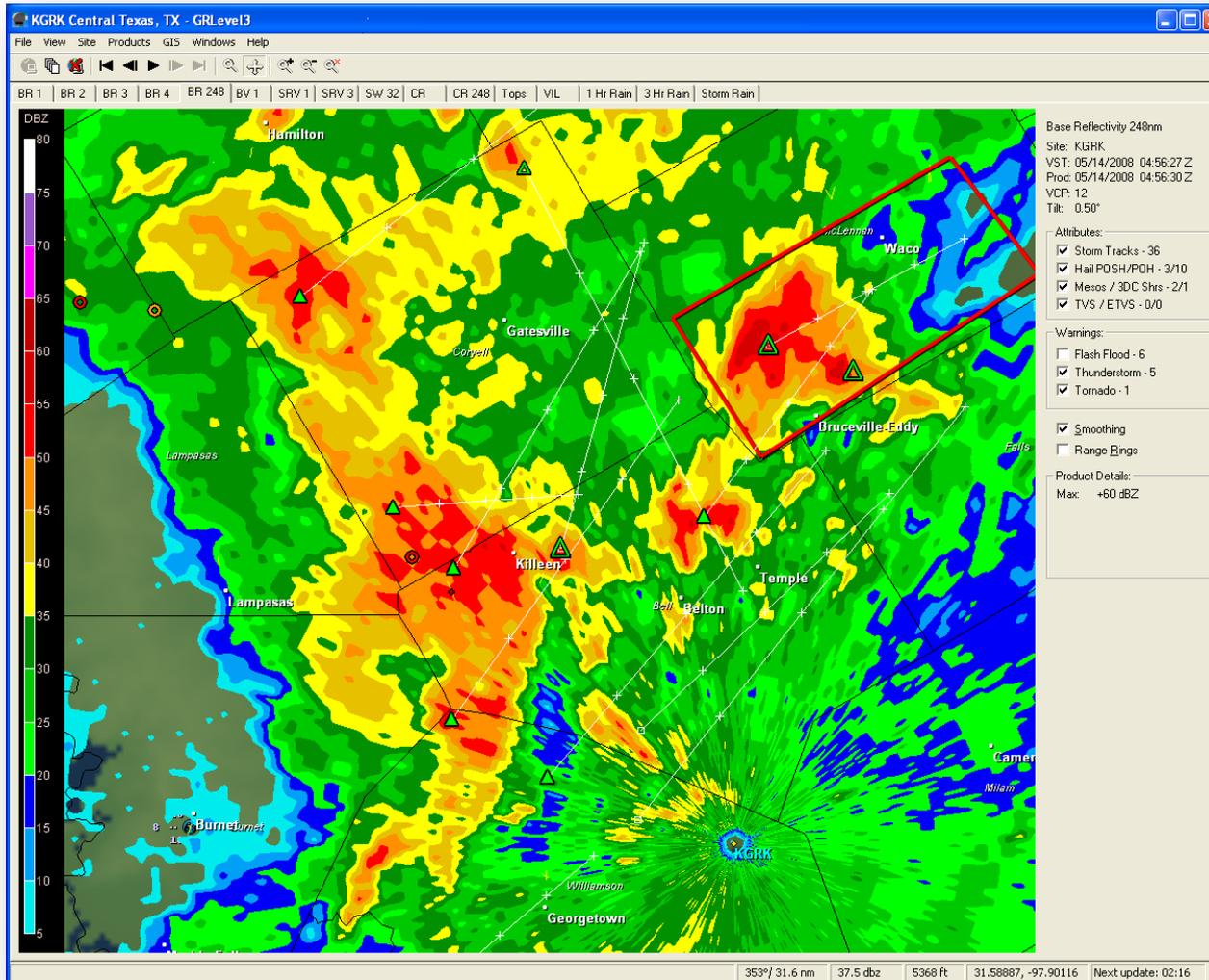


DOPPLER RADAR TECHNOLOGY

III ARMORED CORPS



PHANTOM





DOPPLER RADAR TECHNOLOGY



- ☞ Tracks storm movement
- ☞ Provides vertical wind profiles (LLWS)
- ☞ Determine storm relative motion
- ☞ Highlights “potential” severe weather
 - Hail
 - Storm rotation--Tornadoes
- ☞ Cross-sections





3D Weather Squadron Homepage

www.hood.army.mil/3ws





Fort Hood Home Page

INSTALLATION STATUS: Welcome to Fort Hood's updated web presence - designed to enhance

HOOD A-Z HOOD FMWR IMCOM FORSCOM CENTCOM ARMY HOME DEFENSE LINK WEATHER FAW ARMY A-Z AKO

HOOD.ARMY.MIL
WELCOME TO FORT HOOD, TEXAS

...The Great Place

Tuesday, September 23, 2008 2:31:04 PM

search hood.army.mil Search FORT H

Fort Hood Weather Center - Windows Internet Explorer provided by US Army - Fort Hood NIPRNet

http://www.hood.army.mil/weather/weather.htm

File Edit View Favorites Tools Help

Fort Hood Weather Center

and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community. Get the latest Fort Hood weather from any Internet portal by clicking on:

Further, complaints must be promptly filed within IG, command, or other grievance channels. IG's may dismiss a complaint if there is no FWA, recognizable wrong or violation of law, regulation, or policy. Also, complaints should be received in a timely manner.

<http://www.srh.noaa.gov/forecast/MapClick.php?CityName=Killeen&state=TX&site=FWD>

3d Weather Squadron

The squadron is the largest base- or post-level weather unit in the Air Force. The support provided by the squadron is as diverse as its history and that of the Army customers it supports. For example, the squadron maintains a 24-hour observing and forecasting section at Robert Gray Army Airfield with automated observing at Hood Army Airfield.

The latest weather information for professional aviators - or anyone with AKO access - is online at: <http://www.hood.army.mil/3ws>.

NOAA Storm Watch

You'll find links to the latest weather forecasts around the USA. Track storms through NOAA weather satellites, get the latest weather maps and learn how to protect yourself and your community from severe weather. Hurricane, drought and tornado information can be found at the listed NOAA Web sites. Check it out online at: <http://www.noaa.gov/stormwatch/>.

National Hurricane Center

Click here, then here





3D Weather Squadron Homepage

III ARMORED CORPS



PHANTOM

Current MWP (Flimsy)

Misc Briefings

Current WWAs

Current Obs

3rd Weather Squadron - View page in Internet Explorer provided by US Army - Fort Hood NIPRNet
 http://www.hood.army.mil/3ws/
 3rd Weather Squadron

3d Weather Squadron

Fort Hood, Texas

U.S. AIR FORCE **"2010 AIR FORCE OUTSTANDING BATTLEFIELD WEATHER SQUADRON"** U.S. ARMY

HOME WEDNESDAY, JUNE 29

FORT HOOD WEATHER	IMAGES BELOW DO NOT DEPICT ACTUAL CONDITIONS CLICK ON THUMBNAILS FOR CURRENT INFORMATION		BRIEFINGS
<p>*FORT HOOD WEATHER WATCHES, WARNINGS, AND ADVISORIES (WWA)</p> <p><i>Click above for active Weather Watches, Warnings, and Advisories for Fort Hood</i></p> <p>*KGRK OBSERVATION & TAF</p> <p>*KHLR OBSERVATION</p> <p><i>* Denotes .mil access required</i></p>	MISSION EXECUTION FORECAST/5-DAY FORECAST		SEMI-ANNUAL AVIATION WEATHER BRIEF (SUMMER)
AVIATION WEATHER	Mission Execution Forecast	5-Day Forecast	SEMI-ANNUAL AVIATION WEATHER BRIEF (WINTER)
PILOT REPORTS (PIREPS)	SATELLITE/RADAR/LIGHTNING/HAZARDS		AIR TRAFFIC CONTROL WEATHER TRAINING
AIRMETS/SIGMETS	Satellite Imagery	Fort Hood Doppler Radar	MANUAL WEATHER OBSERVING - JET
SPACE WEATHER IMPACTS			DRY-LINE FORECASTING 3 WS MTRF/RIRF DRYLINE EXAMPLE
<p>CLICK BELOW FOR FLIGHT WEATHER BRIEFINGS OR OTHER REQUESTS FOR WEATHER SUPPORT:</p> <p>WEATHER STATION E-MAIL</p> <p>RGAAF PMSV (Gray Metro):</p>			TURBULENCE--AIRCRAFT CATEGORIES
			RADAR IMAGES TORNADO 25APR11
			PERFORMANCE METRICS: HOW WELL ARE WE FORECASTING?
			DoD WEATHER
			*JOINT ARMY-AF WEATHER INFORMATION NETWORK (JAAWIN)

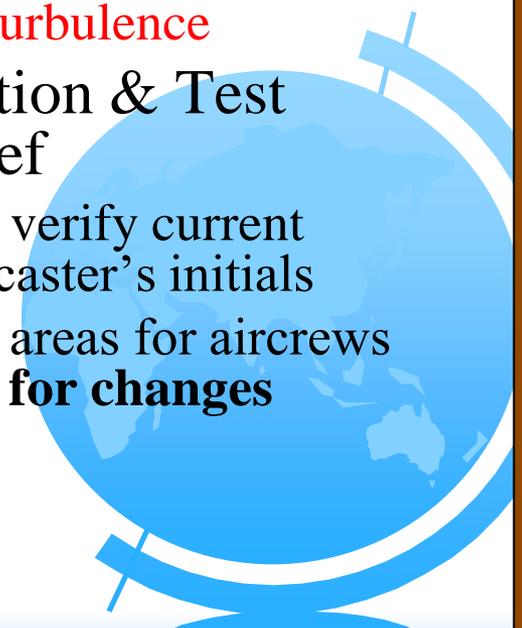




3 WS Mission Weather Product (Flimsy)



- Located on our web page: www.hood.army.mil/3ws
- Updated 3 times daily (0000Z, 0800Z, 1600Z)
- Amended:
 - Ceiling 3000 ft
 - Ceiling/Visibility 1000 ft / 3 SM (IFR – VFR)
 - Ceiling/Visibility 500 ft / ½ SM (HAAF Airfield Minimums)
 - Thunderstorms, Moderate or Greater Icing & Turbulence
- Aircrews flying within Fort Hood Reservation & Test Flight Areas III/V must call for official brief
 - Call the weather station at 288-9620 or 9400 to verify current Flimsy #, any updates, brief/void time and forecaster's initials
 - Units' ops may post copy of flimsy in common areas for aircrews (**IMPORTANT: Check website periodically for changes especially during inclement weather**)

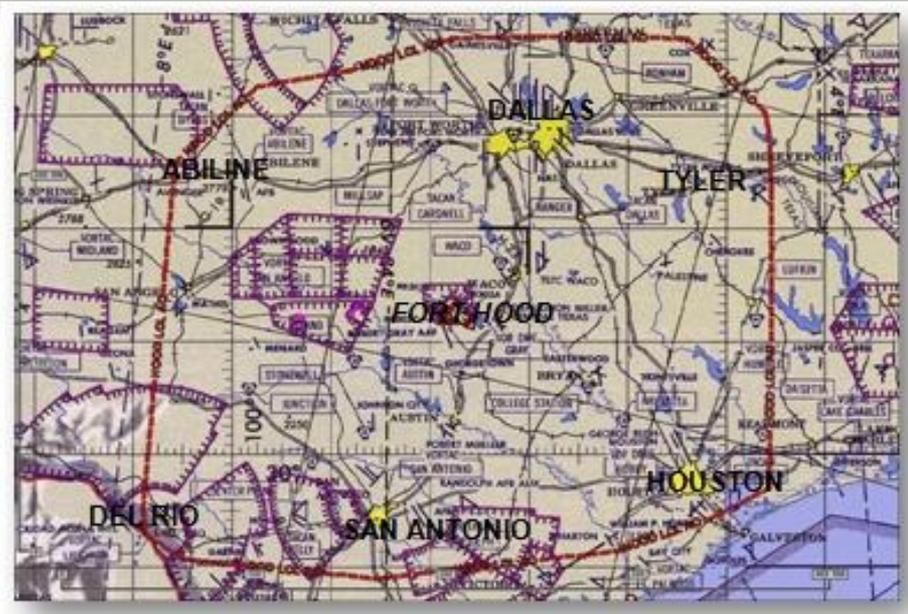




MWP – Flight Hazards

FLIGHT HAZARDS WITHIN ~150NM OF FORT HOOD (LOCAL FLYING AREA IAW FHR95-1)			
<i>HAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIP, LIGHTNING & WIND SHEAR EXPECTED IN & NEAR THUNDERSTORMS</i>			
HAZARD	LEVEL (MSL)	INTENSITY/COVERAGE	LOCATION
TSTMS	MAX TOPS 450	ISOLD	NORTH OF A LINE FROM CLL-GRK-SJT
ICING	060-160	LGT RIME	N1/2 LOCAL FLYING AREA (N OF AUS) TIL 21Z
TURBC CAT II	SFC-080//180-400	LGT-MDT // MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z
TURBC CAT I	SFC-080	MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z

CAT II AIRCRAFT (UH-60, AH-64, CH-47, BE-20, UC-35, C-208) // CAT I AIRCRAFT (UH-1, OH-58, HUNTER UAS, SHADOW UAS)
 NOTE: AN AIRCRAFT'S WEIGHT, AIRSPEED, AND/OR ALTITUDE MAY CHANGE ITS TURBULENCE CATEGORY FROM ITS DEFAULT VALUE



Local Flying Area (LFA) – FHR95-1



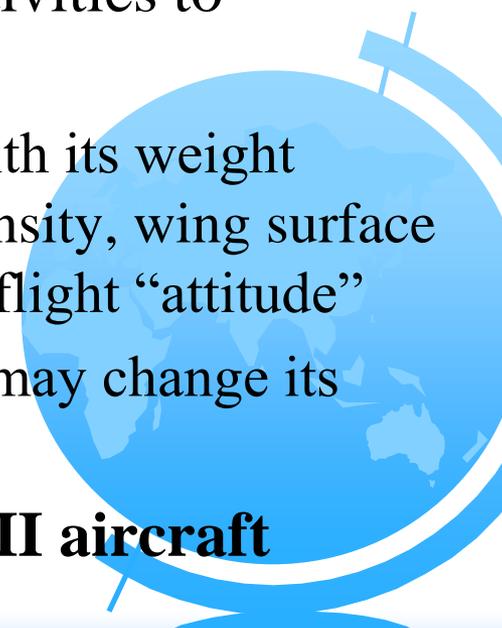
MWP – Turbulence



FLIGHT HAZARDS WITHIN ~150NM OF FORT HOOD (LOCAL FLYING AREA IAW FHR95-1)				
HAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIP, LIGHTNING & WIND SHEAR EXPECTED IN & NEAR THUNDERSTORMS				
HAZARD	LEVEL (MSL)		INTENSITY/COVERAGE	LOCATION
TSTMS	MAX TOPS	450	ISOLD	NORTH OF A LINE FROM CLL-GRK-SJT
ICING	060-160		LGT RIME	N1/2 LOCAL FLYING AREA (N OF AUS) TIL 21Z
TURBC CAT II	SFC-080//180-400		LGT-MDT // MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z
TURBC CAT I	SFC-080		MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z

CAT II AIRCRAFT (UH-60, AH-64, CH-47, BE-20, UC-35, C-208) // CAT I AIRCRAFT (UH-1, OH-58, HUNTER UAS, SHADOW UAS)
NOTE: AN AIRCRAFT'S WEIGHT, AIRSPEED, AND/OR ALTITUDE MAY CHANGE ITS TURBULENCE CATEGORY FROM ITS DEFAULT VALUE

- Different types of aircraft have different sensitivities to turbulence
 - An aircraft's sensitivity varies considerably with its weight (amount of fuel, cargo, munitions, etc.), air density, wing surface area, wing sweep angle, airspeed, and aircraft flight "attitude"
 - An aircraft's weight, airspeed, and/or altitude may change its turbulence category from its default value
- **Turbulence forecasts in TAFs are for CAT II aircraft**





UAS (Shadow) MWP



- Use 3 WS MEF (Flimsy) for mission planning
- Contact RGAAF weather station for actual flight weather briefs
 - Provide Unit, Phone #, Location (i.e., LSCS), Aircraft Tail#, Launch/Landing Time, Flight Level, and Pilot Name

SHADOW UAS MISSION EXECUTION FORECAST MONTH/YEAR:

UNIT / PHONE#:

LOCATION:

TAIL #	LAUNCH DTG:	RECOVERY DTG:	FLIGHT LEVEL:
TEMP (C)		WIND/TEMP ALOFT (C)	
DEWPOINT (C)			2K MSL
RH (%)			4K MSL
ALSTG			6K MSL
PA			8K MSL
DA			10K MSL
SFC WIND--LAUNCH		THUNDERSTORMS	
SFC WIND--RECOVERY		TURBULENCE (CAT I Aircraft)	
MIN VIS / WX		ICING	
MIN CIG			
FREEZING LVL		BRIEF / VOID TIME	
WWA (#)		INITIALS BRIEFER/PILOT	
		EXTENDED TIME	
		INITIALS BRIEFER/PILOT	





UAS (Shadow) MWP



SHADOW UAS MISSION EXECUTION FORECAST

MONTH/YEAR:

UNIT / PHONE#:

LOCATION:

TAIL #	LAUNCH DTG:	RECOVERY DTG:	FLIGHT LEVEL:
TEMP (C)		WIND/TEMP ALOFT (C)	
DEWPOINT (C)			2K MSL
RH (%)			4K MSL
ALSTG			6K MSL
PA			8K MSL
DA			10K MSL
SFC WIND--LAUNCH		THUNDERSTORMS	
SFC WIND--RECOVERY		TURBULENCE (CAT I Aircraft)	
MIN VIS / WX		ICING	
MIN CIG			
FREEZING LVL		BRIEF / VOID TIME	
WWA (#)		INITIALS BRIEFER/PILOT	
		EXTENDED TIME	
		INITIALS BRIEFER/PILOT	

Minimum/worst conditions expected for the mission duration



Forecast Performance Metrics



- How well are we forecasting mission impacting weather?
- **Best measure of our performance is direct feedback from aircrews:**
 - Click on “Feedback Icon” on flimsy; send an E-mail
 - Complete Flight Weather Briefing Feedback Form on our webpage or faxed with all DD175-1s
 - Call RGAAF weather station NCOIC at 288-9166
- We’ll take good and bad comments!!!





Monthly Performance Metrics



Check out our monthly performance reports on our web site: www.hood.army.mil/3ws/MEFVERFeedback.ppt



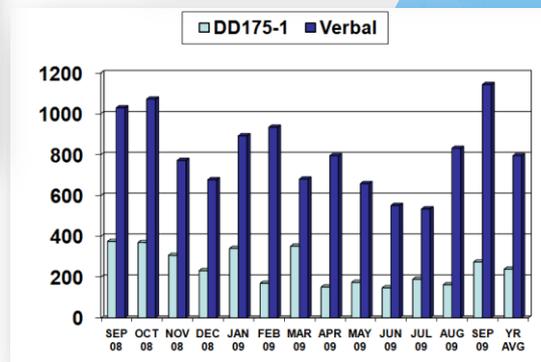
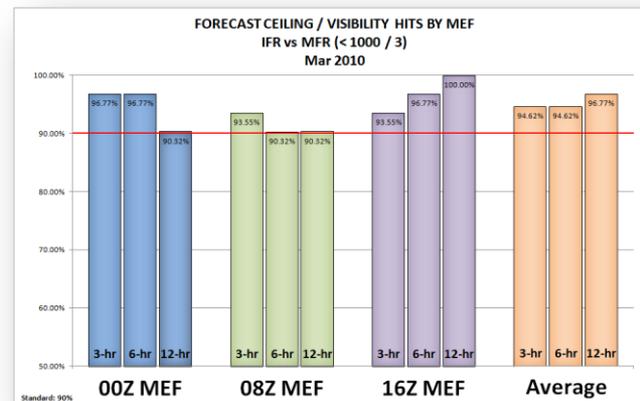
3^d Weather Squadron

Integrity - Service - Excellence



FORECAST PERFORMANCE METRICS

RGAAF Weather Station
August 2011





Objective Verification



☞ In addition to direct feedback we employ an objective method to measure (verify) our forecast performance:

☞ We selected three key operational parameters:

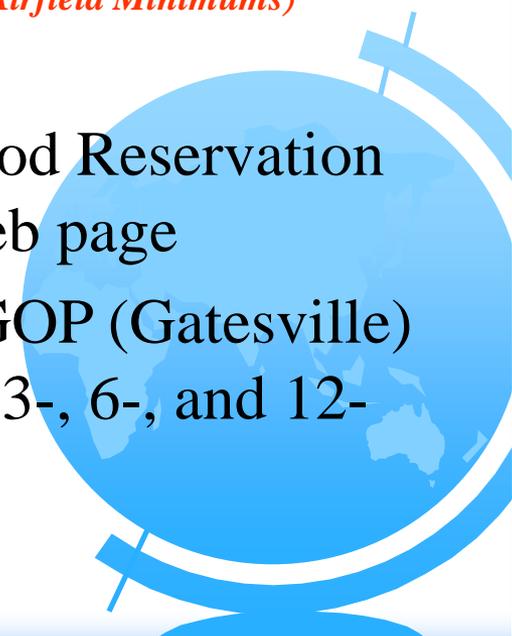
☞ **Ceiling / Visibility < 1000 feet / 3 miles (IFR)**

☞ **Ceiling / Visibility < 500 feet / 1/2 mile (HLR Airfield Minimums)**

☞ **Thunderstorms**

☞ We measure the accuracy of each Fort Hood Reservation Forecast (Flimsy) published on the 3 WS web page

☞ We use observations at GRK, HLR, and GOP (Gatesville) and any PIREPs to verify each flimsy at the 3-, 6-, and 12-hour point from the original issuance time

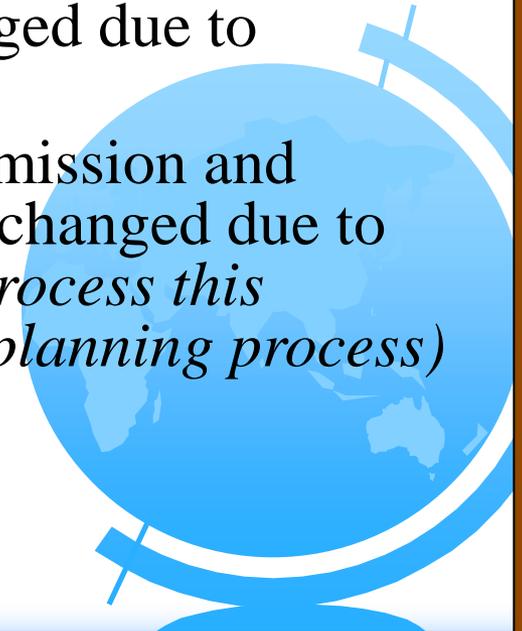




Did the Forecast or Weather Impact the Mission?



- ☞ Did we forecast **“GO”** weather for your mission and weather was a **“GO”** -- mission completed
- ☞ Did we forecast **“GO”** weather for your mission and weather was a **“NO GO”** -- mission cancelled or changed due to un-forecast weather
- ☞ Did we forecast **“NO GO”** weather for your mission and weather was **“GO”**-- mission cancelled or changed due to forecast (*lost opportunity or needless change*)
- ☞ Did we forecast **“NO GO”** weather for your mission and weather was **“NO GO”** -- mission cancelled or changed due to forecast/weather (*if inserted early in planning process this situation can prevent wasted time and enhance planning process*)





POCs



- 3 WS Commander: **288-1313**
- 3 WS Operations Officer: **287-7397**
- Operations Superintendent: **287-2948**
- RGAAF Weather Station NCOIC: **288-9166**
- RGAAF Weather Station: **288-9620/9400**
- Plans Section **288-9176/5965/0197**

Gray METRO: UHF 306.5





SUMMARY



- ☞ Local Area Influences
- ☞ Winter Climatology
- ☞ Winter Hazards
- ☞ Watches/Warnings/Advisories
- ☞ Weather Operations
- ☞ POCs



A military helicopter, possibly a Black Hawk, is shown from a front-quarter perspective on a tarmac. The helicopter is dark green and black. The background is a clear, light blue sky. Overlaid on the image are two large, 3D, yellow-to-orange gradient text elements. The first element, 'THE END!!!', is positioned in the upper left and is preceded by a hand icon pointing towards it. The second element, 'Any question or comments?', is positioned in the lower right and is preceded by a hand icon pointing towards it. The entire image is framed by a thick orange border.

THE END!!!

Any question or comments?