



GOES-7 Visible November 1, 19 1601 UTC (110



# Ft Hood Semi-Annual Weather Briefing

Unnamed hurricane

# Winter Weather



3rd Combat Weather Squadron





### **OVERVIEW**



- Local Area Influences
- Winter Climo
- Winter Hazards
- Watches / Advisories / Warnings
- Services / Station Operations
- POC's







### Local Area Influences



- Rolling hills with peaks up to 1,500'
- Large lake areas and abundant foilage
  - Act as moisture sources that feed AM fog and lower ceilings
- Isolated weather conditions throughout reservation
  - What looks good at RGAAF can be totally different at HAAF







## Winter Climatology



- Degraded Flying Operations
  - Lower AM vis/ceilings due to fog and stratus
    - Can extend into afternoon
    - Induced by upslope conditions
    - Cooler Temps
  - Low Level Icing
    - Can extend down to surface







# Winter Synoptic Pattern



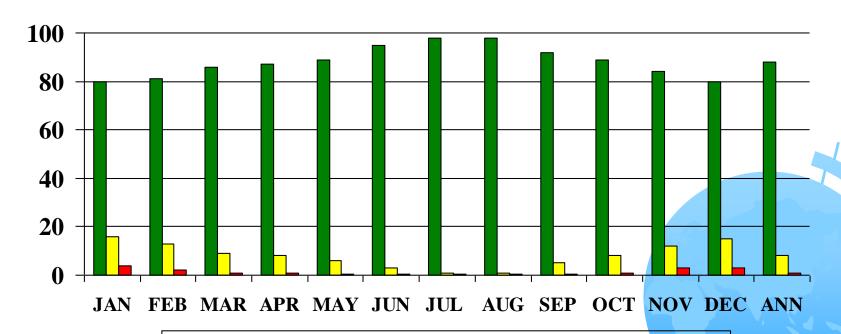
- Frontal passages generally occur every 5-7 days
- Polar Front Jet moves further south bringing colder temperatures.
- Decrease in thunderstorm activity but increase in AM fog and lower ceilings.







# CEILING AND VISIBILITY CLIMO





 $\blacksquare$  CIG > 015' VIS > 3 MI  $\blacksquare$  CIG < 010' VIS < 2 MI

■ CIG < 002' VIS < .5 MI



IN ARMORED CORP.

**PHANTOM** 



### Winter Hazards



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









### **TURBULENCE**



- May occur at any time without warning
  - Faster aircraft = more turbulence
  - Heavier aircraft = less turbulence
  - Greater the wing width = more turbulence







#### TURBULENCE



- Caused by wind shear
  - Horizontal or vertical
  - In direction or speed (Jet Stream)
- Occurs in patches
- Occurs in Layers
  - May be as thick as 2,000 ft
  - Can be 10 to 40 miles wide







#### TURBULENCE



- Also caused by strong winds over rough terrain (Ft. Hood is not considered rough terrain)
  - Rougher terrain = More turbulence
  - Higher wind speed = More Turbulence
- Frontal Zone Turbulence
  - Occurs between 1,000 and 30,000 ft







# LOW LEVEL WIND SHEAR



- A change in wind speed of 30kts within 2,000ft of the surface
- Causes sudden changes in aircraft performance
  - May gain or lose altitude or deviate from level flight by pitching up or down. Affects glide slope of aircraft
  - Indicated airspeed fluctuates







### **ICING**



#### Types of Icing

- Rime: Rough, milky and opaque. Similar to ice in a refrigerator. Associated with stratus clouds
- Clear: Glossy and clear; formed by slow freezing of large supercooled water droplets.
   Found in cumulus clouds (Puffy low clouds)
- Frost: Light feathery deposit occurring when an aircraft is descending from cold air to warmer air layers.



### **ICING**



- Adds weight, blocks the flow of air into engine
- Destroys the efficiency of the airfoil by altering its shape. When the lifting qualities of the wing are gone, the aircraft can no longer remain airborne!









# Fog



#### Reduces Visibility and Lowers Ceilings

- Patchy Fog
  - ◆ Visibility can be severely restricted; 1/4 mile away it can appear 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









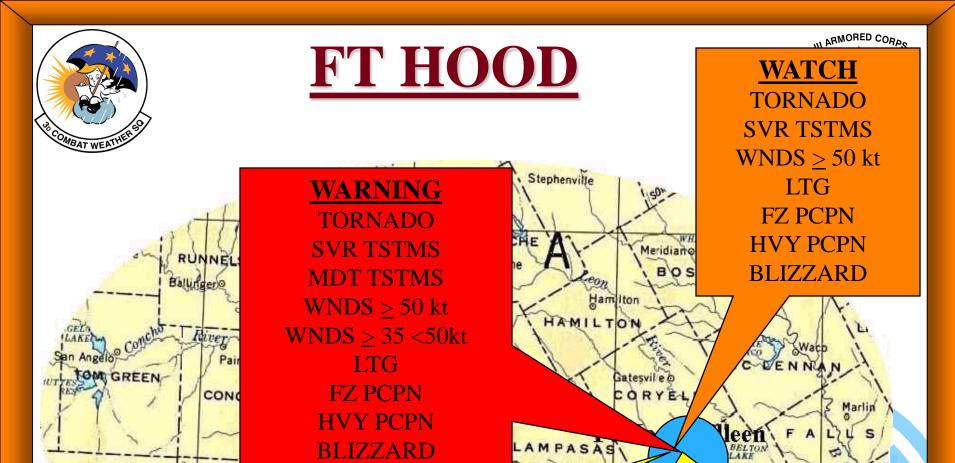
## W/W/A



- Watch: Issued for the <u>potential</u> of weather conditions
- Warning: Issued for <u>imminent</u> occurrence of weather conditions
- Advisory: Observed condition affecting area
  - Terminal: valid within 5nm of either airfield
  - Area: valid within 50nm of 3 Corps HQ







LANO

OON B. JOHNSON

BUCHANAN

#### **TERMINAL ADVISORY**

 $WND \ge 30kt$   $WIND \ CHILL \le 10F$   $WND \ GUST \ SPREAD \ge 15 \ kt$ 

AREA ADVISORY
MDT OR GTR TURBC
MDT OR GTR ICG
LLWS





# PILOT REPORTS (PIREPS)



#### HIGHLY VALUED!!

- Thunderstorms
- Turbulence
- Icing
- Clouds
- Winds, temperature, etc..

PMSV frequencies: UHF 306.5 FM 41.20









# Weather Station Operations 24 Hours a day, 7 days a week (RGAAF)



- 24 Hours a day, 7 days a week (Automated Obs HAAF)
- 1 Forecaster location, RGAAF
- What we do for you:
  - Mission Execution Forecast (MEF)
  - Flight weather briefings
  - Weather advisories, watches, and warnings
  - Pilot reports (PIREPS)
  - Pilot to metro service (PMSV) calls

**NOT NECESSARILY IN THAT ORDER! Please be patient!** Remember, there are many pilots on Fort Hood, but only one Weather Station and ONE forecaster





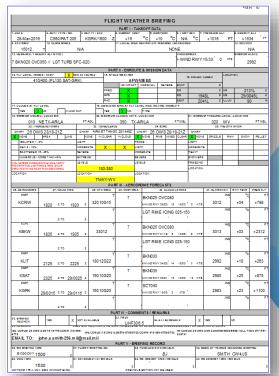


# FLIGHT WEATHER BRIEFINGS



- Call 288-9620 or 288-9400 (RGAAF)
- E-mail: usarmy.hood.3-asog.mbx.3w3-woc@mail.mil
- Please follow up flight weather briefing requests sent via E-mail / Fax with a phone call









### AF Weather Network



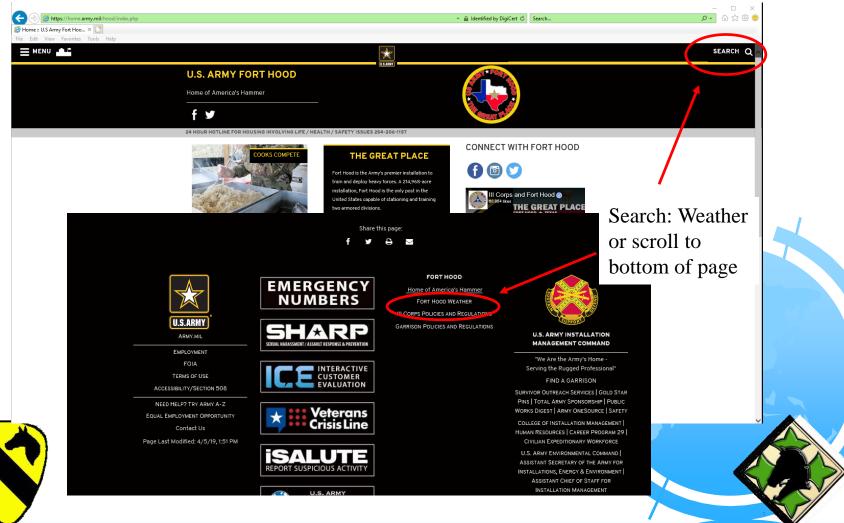
- 26th Operational Weather Squadron (Barksdale AFB, LA) provides:
  - 24hr Terminal Aerodrome Forecast TAFs (updated every 8hrs)
    - TAF breakdown can be found in AFH 11-203, Vol. 2, Chap. 3. (http://www.e-publishing.af.mil/)
  - 5-Day Forecasts
  - Weather briefs to transient aircraft
  - Back up if KGRK goes down





## Fort Hood Home Page









# 3D Combat Weather Squadron Homepage

https://home.army.mil/hood/index.php/ fort-hood-weather





LOCATION

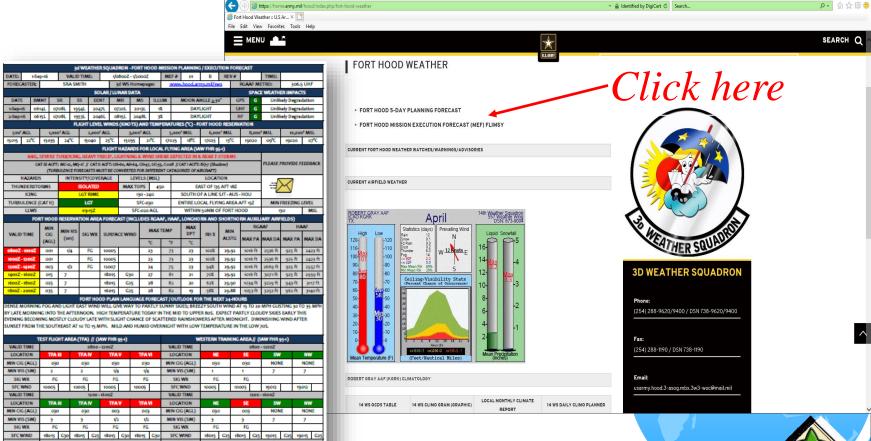
MIN CIG (AGL)

LOCATION

MIN CIG (AGL)

# MWP (3 WS Flimsy)







## 5-Day Forecast





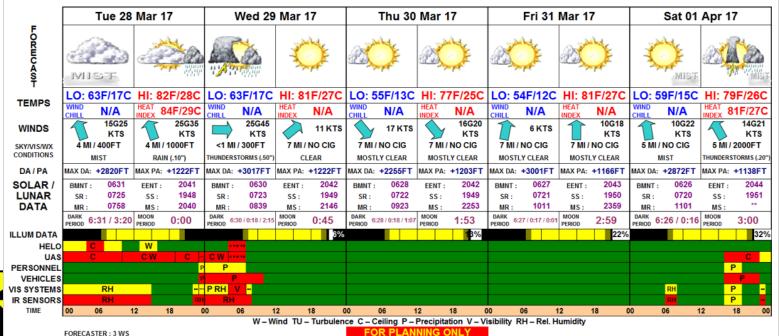
#### Fort Hood 5-Day Weather Outlook & Effects

March Climatology

Avg Hi: 73F Avg Low: 50F Avg Precip: 2.5 Inches

#### FORT HOOD. TX 5-DAY FORECAST

AS OF 0300 HRS LOCAL 28 MAR 17





# 5-Day Forecast Impacts



|             | FOR PLANNING ONLY  |                        |                             |
|-------------|--------------------|------------------------|-----------------------------|
| OPERATION   | FAVORABLE          | MARGINAL               | UNFAVORABLE                 |
|             | (No Degradation)   | (Some Degradation)     | (Significant Degradation)   |
| HELO        | CIG >= 1000 FT     | CIG 500 - 999 FT       | CIG < 500 FT                |
|             | VIS >= 4800 METERS | VIS 0800 - 4799 METERS | VIS < 0800 METERS           |
|             | WIND < 35 KTS      | WIND 35 - 44 KTS       | WIND >= 45 KTS              |
|             |                    |                        | LGT OR MDT OR SVR TSTM      |
|             |                    |                        | LGT OR MDT OR HVY FZ PRECIP |
|             |                    | MDT TURB               | SVR TURB                    |
|             |                    | LGT OR MDT ICING       | SVR ICING                   |
| UAS         | CIG >= 5000 FT     | CIG 3000 - 4900 FT     | CIG < 3000 FT               |
|             | VIS >= 8000 METERS | VIS 4800 - 6000 METERS | VIS < 4800 METERS           |
|             | WIND < 25 KTS      |                        | WIND >= 25 KTS              |
|             |                    | LGT OR MDT PRECIP      | HVY PRECIP                  |
|             |                    |                        | LGT OR MDT OR SVR TSTM      |
|             |                    |                        | LGT OR MDT OR HVY FZ PRECIP |
|             |                    | LGT TURBC              | MDT OR SVR TURBC            |
|             |                    |                        | LGT OR MDT OR SVR ICING     |
| PERSONNEL   | TEMP 33 - 84 F     | TEMP < 33 F            | TEMP <= -25 F               |
|             |                    | TEMP >= 85 F           | TEMP >= 95 F                |
|             | LGT PRECIP         | MDT PRECIP             | HVY PRECIP                  |
|             |                    |                        | LGT OR MDT OR SVR TSTM      |
| VEHICLES    | LGT PRECIP         | MDT PRECIP             | HEAVY PRECIP                |
|             |                    | LGT FZ PRECIP          | MDT OR HVY FZ PRECIP        |
|             | TEMP 01 - 104 F    | TEMP < 1 F             |                             |
|             |                    | TEMP > 104 F           |                             |
| VIS SYSTEMS | VIS >= 3200 METERS | VIS 1000 - 3199 METERS | VIS < 1000 METERS           |
|             | LGT PRECIP         | MDT PRECIP             | HVY PRECIP                  |
|             | TEMP < 100 F       | TEMP >= 100 F          |                             |
|             | REL HUMIDITY < 80% | TEMP < -25 F           |                             |
|             |                    | REL HUMIDITY >= 80%    |                             |
| IR SENSORS  | VIS >= 3200 METERS | VIS < 3200 METERS      |                             |
|             | LGT PRECIP         | MDT PRECIP             | HVY PRECIP                  |
|             | TEMP 20 - 125 F    |                        | TEMP > 125 F                |
|             | REL HUMIDITY < 80% |                        | TEMP < -25 F                |
|             |                    |                        | REL HUMIDITY >= 80%         |





### **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

**Gray Metro: UHF 306.5** 





