



**DEPARTMENT OF THE ARMY  
 INSTALLATION MANAGEMENT AGENCY  
 HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT LEONARD WOOD  
 320 MANSCEN LOOP STE 120  
 FORT LEONARD WOOD, MISSOURI 65473-8929**

REPLY TO  
 ATTENTION OF

FLW Regulation  
 NO 115-1

12 December 2005

Climatic, Hydrological, and Topographic Services  
 WEATHER DATA

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Summary. This regulation reflects the changes in weather support provided to Fort Leonard Wood.

Applicability. This regulation applies to all units assigned or attached to and facilities within the Fort Leonard Wood (FLW) area.

Supplementation. Supplementation of this regulation is prohibited without prior approval by Headquarters, MANSCEN.

Suggested improvements. The proponent agency of this regulation is the Directorate of Plans, Training, and Mobilization. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Cdr, MANSCEN, ATTN: IMNW-LNW-PLA, Fort Leonard Wood, MO 65473.

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\*This regulation supersedes FLW Reg 115-1, 19 June 2002.

1. Purpose. This regulation establishes policies, procedures, and responsibilities for requesting, obtaining, and disseminating weather data for Headquarters, United States Army Maneuver Support Center (MANSCEN).

2. References.

a. Required references.

(1) Army Regulation (AR) 95-1 (Army Aviation Flight Regulation). Cited in paragraph 13a(2)(b).

(2) AR 115-10/Air Force Joint Instruction(AFJI) 15-157 (Weather Support For The US Army). Cited in paragraph 14b.

(3) Department of Defense (DOD) FLIP. Cited in paragraph 13a(2)(b).

(4) Air Force Manual (AFM) 15-111 (Surface Aviation Observations). Cited in paragraph 13a(2)(b).

3. Explanation of Acronyms, Abbreviations, and Terms.

a. Acronyms and abbreviations. Acronyms and abbreviation used in this regulation are explained in the glossary.

b. Terms.

(1) Weather Warning. A weather warning is issued by the 26 Operational Weather Squadron (26 OWS), for a specific location (Fort Leonard Wood), valid for a specified time period. Criteria and area of the warnings are determined by the stated needs of the supported organizations. A weather warning implies the occurrence and/or forecast of phenomena of such intensity as to prompt immediate protective action by the supported organizations.

(2) Severe Weather Warning. A specific weather warning issued for tornadoes or severe thunderstorms which contain hail 3/4 inch or larger in diameter and/or winds gusting to 50 knots or more.

(3) Lead Time. The elapsed time between the issuance of a weather warning and the first occurrence of the phenomena. The desired lead times in paragraph 6 are established by supported organizations based on the time needed to react to the warning, tempered by the current "state of the art" of weather forecasting.

(4) Weather Advisory. A special notice that certain weather conditions which may be hazardous to personnel or equipment is occurring at Fort Leonard Wood. It is issued to minimize injury and/or damage.

(5) Weather Observations. Reports of existing weather conditions at a specific time and place, such as Waynesville Regional Airport at Forney Field (WRAFF). Observations include sky condition, weather (rain, thunderstorms, hail, snow, etc.), visibility and obstructions to visibility (dust, haze, fog, etc.), temperature, dew point, wind direction and speed, wind chill factor, altimeter setting, pressure altitude (PA), density altitude (DA) (upon request), and runway condition reading/runway surface condition (RCR/RSC).

4. Weather Support Concept. Weather support to Fort Leonard Wood is provided by Operating Location-B (OL-B), 3rd Weather Squadron (3WS), United States Air Force (USAF), located at WRAFF and the 26 OWS, located at

Barksdale Air Force Base (AFB), LA. OL-B is operated and manned by 3D Research Corporation under Air Force contract# F44650-03-C-002. A mix of locally produced surface weather observations and centrally produced weather warnings are used to satisfy supported unit's requirements.

5. Operating Hours.

a. OL-B is a limited-duty weather observing unit, and is operational Monday through Friday 0600L-2100L, Saturday 0700L-1500L, and Sunday 1100L-1900L.

b. 26 OWS is operational 24 hours per day, year-round, and maintains a continuous weather watch for Fort Leonard Wood, issuing weather warnings as necessary.

6. Weather Warnings.

a. 26 OWS issues weather warnings for Fort Leonard Wood (Missouri 7) for the following criteria:

CRITERIA - DESIRED LEAD TIME

(1) Tornadoes - 30 Minutes

(2) Winds 50 knots or greater - 120 Minutes

(3) Winds 35 knots to 49 knots - 90 Minutes

(4) Hail ¼ inch diameter or larger - 120 Minutes

(5) Hail equal to or larger than ½ inch diameter but less than ¾ inch diameter - 90 Minutes

(6) Heavy rain or snow 2 inches or more within 12 hours - 90 Minutes

(7) Freezing precipitation - 90 Minutes

(8) Blizzard - 90 Minutes

(9) Sandstorm - 90 Minutes

(10) Lightning within 15 NM of Fort Leonard Wood - 30 Minutes

b. Weather Warnings are currently disseminated telephonically, directly from 26 OWS to the Emergency Operations Center (EOC), Directorate of Plans, Training and Mobilization (DPTM) during duty hours and to the Post Staff Duty Officer (SDO) during non-duty hours. Any changes to the EOC/SDO telephone numbers must be promptly reported to the OL-B, 596-0702. Fort Leonard Wood internal dissemination procedures are detailed in paragraph 9.

c. Weather Warnings are valid for the entire Fort Leonard Wood military reservation.

d. 26 OWS uses radar and lightning display systems to issue and cancel lightning warnings. This technology may not be as timely or as accurate as local weather observations or local lightning detection systems.

e. OL-B will issue an observed weather warning for the occurrence of lightning within 5 and 15 nautical miles of WRAFF during duty hours.

f. Emergency alert and notification systems are installed in the installation SDO and the FLW EOC offices, which provides instantaneous 24 hours a day coverage of severe weather posing an imminent danger and threat. The FLW

EOC during duty hours, and the SDO after duty hours will initiate sirens, cable tv, and the automated notification system called The Communicator, to facilitate the protection of personnel and assets located on the installation.

7. Observed Weather Advisory Criteria. During normal observing duty hours, the USAF weather station will issue advisories whenever one of the following occurs:

- a. Surface winds 35 knots or greater.

8. Procedures for Requesting Weather Warning Service.

- a. Fort Leonard Wood units may submit request for weather warning advisory service to Headquarters, MANSCEN, ATTN: ATZT-PTM-PP. However, consideration must be given that this headquarters has no weather forecasting facility.

- b. Initial requests for weather warning service will include the following:

- (1) Name of the unit or site for which support is requested, mailing address and telephone number.

- (2) The weather conditions for which warnings are required using the criteria in paragraphs 6 and 7 above.

- (3) Complete justification for the service.

- (4) The daily time period during which the service is requested.

- c. Requests for changes to existing weather warning service will be accomplished in the same manner as initial requests.

- d. Activities requesting weather warning service of Headquarters, MANSCEN, will adhere to the criteria as stated in paragraphs 6 and 7 above. Requests for service based on weather criteria other than those listed will be considered; however, detailed justification must accompany the request. Such justification will include an estimate of the effects that such weather will have on operational or structural capabilities of specified resources, as obtained from technical manuals or technical bulletins. This procedure is necessary in order to justify specialized weather warning support from 26 OWS.

9. General Dissemination Procedures:

- a. Weather Warnings.

- (1) Observed weather warnings for the occurrence of lightning are disseminated by OL-B, via local weather dissemination system, to EOC during duty hours or the SDO during non-duty hours, when the weather station is open. 26 OWS disseminates all other warnings telephonically to the EOC/SDO. Warnings will then be relayed to major subordinate commands and designated offices, but not to subordinate elements thereof, through the Command Incident Notification System. Further dissemination is the responsibility and function of the office receiving the warning. The office receiving weather warning service is responsible for providing notice of appropriate telephone number changes to the transmitting office.

- (2) The Net Control Station (NCS) is the EOC, DPTM, 0730-1630 hours weekdays, SDO other times .

- (3) Relaters and recipients of weather warnings will not alter the text of the weather warning message.

- b. Current weather conditions. An automatic telephonic answering device (ATAD) number will be utilized to record current weather conditions, to include wind chill factor when the ambient air temperature is less than 40 degrees Fahrenheit (596-2059), for dissemination to Fort Leonard Wood and vicinity. Current weather conditions will be recorded hourly, during periods that the weather station is operational.

10. Dissemination Responsibilities.

- a. DPTM is responsible for:

- (1) Staff supervision of the activities of the USAF Weather Station pertaining to weather support for this command.

- (2) Initiating, coordinating, and consolidating the command's requirements for weather information and service.

- (3) Disseminating weather advisories and warnings.

- (4) Recording weather advisories on the Educational Television (ETV) Command Clock within 5 minutes of notification.

- (5) Transmitting all NOTAMS for WRAFF on the military circuit.

- b. Training Support Battalion, Range Control, is responsible for disseminating wet bulb global temperatures (WBGT) readings.

- c. The USAF Weather Station is responsible for:

- (1) Provide monthly climatology summary to Fort Leonard Wood units.

- (2) Forwarding other command climatological and meteorological data requirements to 26 OWS.

- (3) Providing surface weather observations during weather station operating hours. An Alternate Observing Location (AOL), the conference room in building 5007, will be used during periods of extended weather station evacuation.

- (4) Disseminating observed weather advisories and observed lightning warnings to EOC/SDO (during observing duty hours only).

- (5) Recording information as noted in paragraph 9.b, on ATAD.

- (6) Disseminating all significant pilot reports (PIREPs) via local dissemination system.

- (7) Providing/interpreting weather data, obtained from Air Force communications systems to pilots for use in flight planning.

- d. The Directorate of Public Works (DPW) is responsible for issuing flood stage advisories whenever United States Weather Bureau upstream gauging stations indicate anticipated flood stage conditions on the Big Piney River.

e. The DPW Natural Resources Officer, or Fire and Emergency Services personnel, are responsible for relaying fire index computations to the weather station to be included into current weather conditions recording.

f. The Staff Duty Officer is responsible for disseminating warnings and advisories during the periods the EOC is closed.

g. Commanders of major units are responsible for:

(1) The dissemination of weather warnings or flood stage conditions to subordinate units or activities.

(2) Providing the post Staff Duty Officer with telephone numbers of unit or activity officials to be called during non-duty hours.

#### 11. Weather Warning Plans.

a. Assigned and attached units receiving weather warning service will prepare and publish a weather warning plan which will include as a minimum the following information:

(1) Local office authorized to receive weather warnings.

(2) Persons and activities to be notified upon receipt of weather warnings.

(3) Protective measures to be taken when weather warnings are received.

(4) Criteria for which warnings are received.

(5) Provisions for recording the receipt and dissemination of warnings.

(6) Source(s) of weather warnings.

(7) Procedures for preparing and submitting damage reports in accordance with paragraph 12 below.

b. Weather warning plans and requirements will be reviewed annually and revised as required.

12. Weather Damage Reports. Damage to buildings/facilities or injuries to personnel, known or suspected to have been caused as a result of weather phenomenon, will be reported to OL-B, 3WS (596-0702) within 24 hours.

#### 13. Aviation Weather Support.

a. Surface Weather Observations.

(1) A Basic Weather Watch (BWW) is conducted by OL-B, to detect and report significant changes in specified weather elements. In addition to taking and disseminating required observations, the BWW involves the minimum requirements to re-check weather conditions at intervals not to exceed 20 minutes since the last observation, to determine the need for a Local or SPECI observation, when any of the following conditions are observed to be occurring or are forecast to occur within 1 hour:

(a) Ceiling forms below, dissipates, or increases/decreases to equal or exceed 1,500 feet.

(b) Visibility decreases to less than 3 miles, or increases to equal or exceed 3 miles.

(c) Precipitation (any form).

(d) Fog.

(2) OL-B will take and locally disseminate surface weather observations to include RCR/RSC, via local weather dissemination system to WRAFF Airfield Operations, Control Tower, and the contract commuter airline.

(a) Aviation Routine Weather Report (METAR) observations are complete observations taken hourly.

(b) SPECI, as listed in Appendix A, are taken to report significant changes in weather elements. These observations will be taken in accordance with criteria, specified in AFM 15-111. SPECIs may also be taken for appropriate ceiling/visibility criteria specified in the DOD FLIP and AR 95-1.

(c) Local observations, as listed in Appendix B, are primarily taken to report changes in conditions significant to local airfield or other post operations, but which do not meet special criteria.

(3) Local dissemination formats for weather observations are:

(a) METAR - KTBN METAR 1955 20010 7 SCT040 27/11 ALSTG 30.10 PA +990 56/GPW

(b) SPECI - KTBN SPECI 2013 23013 5 -SHRA BKN040 26/13 ALSTG 30.11 PA +980 WR// 14/GPW

(c) LOCAL - KTBN LOCAL 2125 ALSTG 30.13 PA +970 25/GPW

(4) Cooperative Weather Watch. As OL-B, 3WS, because of other weather operations duties, cannot monitor the weather continuously, WRAFF Control Tower personnel will maintain a cooperative weather watch, informing the weather observer (duties permitting) whenever:

(a) A ceiling forms, dissipates, raises or lowers.

(b) Visibility increases or lowers through Instrumental Flight Rules (IFR)/Visual Flight Rules (VFR) criteria.

(c) A thunderstorm begins or ends.

(d) A tornado or funnel cloud is observed.

(e) Precipitation starts or ends.

(f) Lightning is first observed.

(g) An obstruction to vision appears (fog, smoke, etc.).

(h) A significant pilot report (PIREP) is received (i.e., PIREP of turbulence, icing, wind shear, clouds, visibility, etc.).

b. Flight Weather Briefings.

(1) Full time remote aviation weather briefing service is available from 26 OWS, Barksdale AFB, LA.

(2) During duty hours, OL-B, 3WS, will provide transient pilots with the current weather conditions at WRAFF. OL-B will assist pilots, through use of Air Force communications systems, on the weather station computer, in obtaining updated observed/forecast weather conditions for other locations as required.

c. Training of Army Air Traffic Controllers. At the request of the ATC Branch, OL-B will conduct weather observation training and certification for Army Air Traffic Controllers to take limited weather observations. Controllers will be certified prior to being rated to pass meteorological information to the weather station.

d. Maintenance of Weather Records.

(1) In the event of an aircraft accident or incident, a file of weather data will be prepared and maintained for a period of not less than 6 months.

(2) Routine weather records (observations) will be maintained IAW applicable Air Force directives.

(3) Weather records will be made available to aircraft accident investigation officers/boards upon request.

14. Support to OL-B, 3WS.

a. WRAFF Control Tower/Airfield Operations will:

(1) Notify OL-B whenever they open or close the ATC function.

(2) Maintain a cooperative weather watch with OL-B, duty priorities permitting.

(3) Relay tower visibility whenever the reported prevailing visibility is 4 miles or less and differs from the observer's reported visibility by one or more reportable values.

(4) When the prevailing visibility is 3 miles or less, notify OL-B whenever the high intensity runway lights (HIRLS) are turned on or off, or the setting is changed.

(5) Notify OL-B whenever the active runway changes.

(6) Notify OL-B of all in-flight emergencies, incidents, or accidents.

(7) Pass significant PIREPS to OL-B for further dissemination.

(8) Provide OL-B, upon receipt, a copy of the latest FLIP for review of any possible changes to weather support requirements.

b. Allow OL-B use of the conference room in Building 5007 as the AOL during periods of extended weather station evacuation.

c. The MANSCEN will provide administrative and logistics support in accordance with AR 115-10/AFJI 15-157.

15. Limiting Factors.

a. Personnel assigned to OL-B, 3WS, are weather observers and have no ability or authorization to make weather forecasts or provide Toxic Corridor information. Their mission is to provide weather observing services to WRAFF and to relay forecasts produced by 26 OWS, AFGWC, or other Air Force Weather units.

b. 26 OWS is somewhat limited in its ability to issue accurate weather warnings for Fort Leonard Wood when personnel of OL-B are not on duty to provide timely observations of the current weather.

c. Surface observations at WRAFF are limited by a tree line from East to South to West.

d. OL-B weather personnel will accomplish duties IAW the following priority list:

(1) Perform Emergency War Orders Tasking.

(2) Respond to Aircraft and Ground Emergencies.

(3) Take and Disseminate Surface Weather Observations.

(4) Produce and Disseminate Observed Weather Advisories and Warnings.

(5) Provide Support to Forney Operations.

(6) Transmit PIREPS and AIREPS.

(7) Perform METWATCH and MISSIONWATCH Duties.

(8) Provide "Eyes Forward" / Collaborate with OWS.

(9) Perform Back-up Procedures During 26 OWS Service Interruptions.

(10) Provide Other Weather Support.

e. Non-DOD agencies/individuals must request, and obtain approval for, the release of weather information through the appropriate USA/USAF channels.

#### Appendix A SPECI OBSERVATION CRITERIA

Take, disseminate, and record SPECI Observations to report significant changes in weather elements when criteria, as indicated below, are observed.

A-1. CEILING. The ceiling is observed to form below, decrease to less than or if below, increase to equal or exceed: 3000, 1500, 1000, 700, 600, 500, or 400 feet.

A-2. SKY CONDITION. A layer of clouds or obscuring phenomena aloft is observed below 600 feet and no layer aloft was reported below 600 feet in the previous METAR or SPECI observation.

A-3. VISIBILITY. Prevailing visibility is observed to decrease to less than or, if below, increases to equal or exceed: 3, 2, 1 3/4, 1 1/2, 1 1/4, 1, or 3/4 miles.

A-4. TORNADO, FUNNEL CLOUD, OR WATERSPOUT: Is observed, disappears from sight (single element SPECI authorized).

A-5. THUNDERSTORM: Begins or ends.

A-6. PRECIPITATION:

- 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.

A-7. Squall: Wind suddenly increases at least 16 kts and is sustained at 22 kts or more for at least one minute.

A-8. WIND SHIFT: The wind direction changes by 45 degrees or more in less than 15 minutes with sustained winds (or gust) of 10 kts or more throughout the wind shift.

A-9. RUNWAY CONDITIONS: Upon receipt, transmit runway condition readings as a SPECI or append to a METAR or SPECI being taken at time notified.

A-10. TOWER VISIBILITY: Upon receipt of a reportable tower visibility value, when either tower or weather's visibility is less than 4 miles, and they differ by a reportable SPECI criteria value, transmit a SPECI with the higher of the two as a remark.

A-11. RVR: The highest value from the designated RVR runway decreases to less than, or if below, increases to equal or exceed 2400 feet (RVR is not reported longline, as it is INSTANTANEOUS).

A-12. REAL WORLD NUCLEAR ACCIDENT: Append the remark AEROB as the last remark to the SPECI.

A-13. VOLCANIC Eruption: When first noted (single element SPECI authorized).

A-14. MISCELLANEOUS: Any other meteorological situation, which, in the opinion of the observer, is significant to the safety of aircraft operations or resource protection.

A-15. RESUMPTION OF OBSERVING SERVICES: Take, disseminate, and record a SPECI within 15 minutes after returning to duty following a break in hourly coverage if a METAR was not filed as scheduled during that 15 minute period.

Appendix B  
LOCAL OBSERVATION CRITERIA

Take, disseminate, and (when applicable) record Local observations as indicated below:

B-1. Immediately following notification or sighting of an aircraft mishap or in-flight emergency at or near the station unless there has been an intervening METAR observation.

B-2. When there is a change in the runway in use. You must allow time for the RVR sensor to update after you switch it to the other runway.

B-3. For a change in altimeter setting of .01 inch or more (may be a single element Local).

- a. Upon request.
- b. At a frequency not to exceed 35 minutes since the last determination.

B-4. Whenever the RVR criteria listed below are observed to occur:

a. Instantaneous RVR for the active runway is observed to decrease to less than, or if below, increases to equal or exceed: 6000, 5000, or 4000 feet (may be a single element local).

b. Prevailing visibility conditions for reporting RVR are first observed and when the prevailing visibility conditions no longer exist.

c. RVR is first determined as unavailable (RVRNO) for the runway in use, and when it is first determined that the RVRNO report is no longer applicable, provided conditions for reporting RVR exist.

B-5. For any other meteorological situation which, in the opinion of the observer, is significant to local operations.

Glossary

AG Bn – Adjutant General Battalion

AFB - Air Force Base

AFJI - Air Force Joint Instruction

AFM - Air Force manual

AOL - Alternate Observing Location

AR - Army regulation

ATAD - automatic telephone answering device

ATC - Air Traffic Control

AWWC - Army Weather Warning Center

DA - density altitude

DES – Directorate of Emergency Services

DOD - Department of Defense

DPTM - Directorate of Plans, Training and Mobilization

DPW - Directorate of Public Works

ETV - educational television

FLW - Fort Leonard Wood

GLWACH - General Leonard Wood Army Community

Hospital

HIRLS - high intensity runway lighting system

IAW - in accordance with

IOC – Installation Operations Center

IFR - Instrumental Flight Rules

LOCAL - Local Observation

MANSCEN – US Army Maneuver Support Center Ft

Leonard Wood

METAR - Aviation Routine Weather Report

NCS - Net Control Station

NOTAMS - Notices to Airmen

OL-B - Operating Location-B

OWS – Operational Weather Squadron

PA - pressure altitude

PIREP - Pilot Report

RCR - runway condition reading

RSC - runway surface condition

RVR - runway visual range

SDO - Staff Duty Officer

SPECI - Special observation

USA - United States Army

USAF - United States Air Force

VFR - Visual Flight Rules

WBGT - Wet Bulb Global Temperature

WRAFF – Waynesville Regional Airport at Forney Field

