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Climatic, Hydrological, and Topographic Services
WEATHER DATA

FOR THE COMMANDER:

OFFICIAL:

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History. This publication has minor revisions.

Summary. This regulation establishes policies and procedures for requesting and obtaining weather support for Fort Leonard Wood (FLW).

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

Proponent and execution authority. The proponent agency of this regulation is the Directorate of Plans, Training, Mobilization, and Security (DPTMS).

Supplementation. Supplementation of this regulation is prohibited without prior approval by Headquarters, United States Army Maneuver Support Center of Excellence (MSCoE).

Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, MSCoE, ATTN: AMIM-LDO, Fort Leonard Wood, MO 65473-5000.

Distribution. Electronic medium only and posted on FLW Web Site.

*This regulation supersedes FLW Reg 115-1, 10 December 2019.

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Chapter 1 INTRODUCTION

1-1. Purpose. This regulation establishes policies, procedures, and responsibilities for requesting, obtaining, and disseminating weather data, as provided by Air Force Weather agencies, for Headquarters, Fort Leonard Wood - Maneuver Support Center of Excellence (MSCoE).

1-2. References.

a. Required references.

- (1) Army Regulation (AR) 95-1 (Army Aviation Flight Regulation).
- (2) AR 115-10 (Weather Support for the U.S. Army).
- (3) Air Force Instruction (AFI) 15-157 (Weather Support and Services for the U.S. Army).
- (4) Air Force Manual (AFM) 15-111 (Surface Weather Observations), 12 March 2019.
- (5) AFM 15-129 (Air and Space Weather Operations), 9 July 2020, Incorporating Change 1, 16 June 2021.
- (6) AFI 15-128 (Weather Force Structure), 21 June 2019.

1-3. Weather Support Concept. Weather support to Fort Leonard Wood (FLW) is provided by Operating Location C, 3d Combat Weather Squadron (OL-C, 3 CWS), located at Building (BLDG) 5004 on Forney Field. OL-C is officially called a Weather Exploitation Unit or FLW's EU. The 26th Operational Weather Squadron (26 OWS), located at Barksdale Air Force Base (AFB), Louisiana, also provides weather support in concert with the EU. The EU is operated and manned by Air Force Weather Civil Service personnel. Locally produced weather products are used to satisfy supported unit's requirements.

1-4. Explanation of Acronyms, Abbreviations, and Terms. Acronyms and abbreviations. Acronyms and abbreviations used in this regulation are explained in the glossary.

1-5. Operating Hours

a. The EU is a limited-duty weather unit and is operational Monday through Friday 0700L-2200L. The EU is closed on weekends and federal holidays. During periods that the EU is not open, automated observations will be transmitted and the EU will transfer most responsibilities to the 26 OWS. The EU can be available for Emergency Operations Center/Installation Operations Center (EOC/IOC) briefings and resource protection during off hours and weekends/holidays if weather conditions permit.

b. 26 OWS is operational 24 hours per day - 365 days a year - and maintains a continuous weather watch for FLW, issuing weather watches and warnings as necessary.

Chapter 2 WEATHER WARNINGS

a. The 26 OWS or the FLW EU issues weather warnings for Fort Leonard Wood for the following criteria:

CRITERIA	DESIRED LEAD TIME
Tornado or Funnel cloud	15 Minutes
Severe Thunderstorm (Winds 45 knots or greater and/or hail ½ inch or greater)	30 Minutes
Moderate Thunderstorms (Winds 35 knots or greater but less than 45 knots and/or hail ¼ inch but less than ½ inch)	30 Minutes
Damaging winds equal to or greater than 45 knots not from thunderstorms	60 Minutes
Strong winds equal to or greater than 35 knots not from thunderstorms	30 Minutes
Heavy rain. 2 inch accumulation in a 12 hour period	60 Minutes
Freezing Precipitation	60 Minutes
Falling and/or blowing snow and visibility less than or equal to ¼ mile and winds greater than or equal to 30 knots lasting 3 hours (Blizzard)	60 Minutes
Lightning observed within 5 to 10 miles of Forney Airfield	Observed
Winter Storm (Freezing precipitation >= ¼ inch and/or snow accumulation > 4 inches in a 24-hour period)	4 Hours

b. Weather Warnings are currently disseminated and displayed on Joint Environmental Toolkit (JET), via weather dissemination system, directly from 26 OWS or the EU to the FLW Watch Office, Directorate of Plans, Training, Mobilization and Security (DPTMS,) during duty hours and to the Watch Office NCO during non-duty hours. Any changes to the telephone numbers must be promptly reported. FLW internal dissemination procedures are detailed in paragraph 2-4.

c. Weather Warnings are valid for the entire FLW military reservation.

d. The 26 OWS/EU use automated observation, radar, and lightning display systems to issue and cancel lightning warnings. This technology is not perfect and may not be as timely or as accurate as local weather observations or local lightning detection systems.

e. Emergency alert and notification systems are installed in the Watch Office which provide instantaneous 24 hours a day coverage of severe weather posing an imminent danger and threat. The Watch Office NCO will initiate either sirens, cable tv, or the automated notification system to facilitate the protection of personnel and assets located on the installation.

2-2. Weather Watches

The 26 OWS/EU issue weather watches for FLW for the following criteria:

CRITERIA	DESIRED LEAD TIME
Tornado or Funnel cloud	As potential Warrants
Severe Thunderstorm (Winds 45 knots or greater and/or hail ½ inch or greater)	As potential Warrants
Moderate Thunderstorms (Winds 35 knots or greater but less than 45 knots and/or hail ¼ inch but less than ½ inch)	As potential Warrants
Damaging winds equal to or greater than 45 knots not from thunderstorms	As potential Warrants

Strong winds equal to or greater than 35 knots not from thunderstorms	As potential Warrants
Heavy rain or snow. 2-inch accumulation in a 12-hour period	As potential Warrants
Freezing Precipitation	As potential Warrants
Falling and/or blowing snow and visibility less than or equal to ¼ mile and winds greater than or equal to 30 knots lasting 3 hours (Blizzard)	As potential Warrants
Lightning observed within 5 to 10 miles of Forney Airfield	30 Minutes
Winter Storm (Freezing precipitation \geq ¼ inch and/or snow accumulation $>$ 4 inches in a 24-hour period)	As Potential Warrants

2-3. Observed / Forecast Weather Advisory Criteria

During duty hours, the EU will also issue advisories whenever the following occurs: Snow accumulation \geq 1 inch but less than 4 inches, wind chill or ambient temperatures at or below 15F and 0F.

2-4. Procedures for Requesting Weather Warning Service.

- a. FLW units may submit request for weather warning advisory service to Director, DPTMS.
- b. Initial requests for weather warning service will include the following:
 - (1) Name of the unit or site for which support is requested, BLDG number and telephone number.
 - (2) The weather conditions for which warnings are required using the criteria in paragraphs 2-1 and 2-2 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 will adhere to the criteria as stated in paragraphs 2-1 and 2-2 above. Requests for service based on weather criteria other than those listed will be considered on a case-by-case basis. Justification must accompany the request to include an estimate of the effects that specific weather phenomena 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 the EU or 26 OWS.

2-5. General Dissemination Procedures

- a. Weather Warnings.
 - (1) Observed and forecasted weather watches/warnings/advisories (WWA) is disseminated by the EU, via JET, to the IOC during duty hours or the Watch Office during non-duty hours, when the weather station is open. The 26 OWS is responsible for issuing all other WWA's to the Watch Office when the EU is closed or unavailable. The Watch Office then disseminates the warnings throughout the installation. Offices receiving weather warning service are responsible for providing

any changes in contact information to the IOC.

(2) If FLW is under severe weather threat conditions the EU will form a severe weather action team and take over responsibilities from the 26 OWS.

(3) Disseminators and recipients of weather warnings will not alter the text of the weather warnings.

2-6. DPTMS/EU Responsibilities

a. DPTMS is responsible for:

(1) Staff supervision of the activities of the EU 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) Range Operations and Combat Training Company are responsible for disseminating wet bulb global temperature (WBGT) readings.

b. EU is responsible for:

(1) Providing monthly climatology summary to FLW units.

(2) Providing surface weather observations, Mission Execution Forecasts (MEF), and Terminal Aerodrome Forecasts (TAF) during weather station operating hours. Outside of posted weather station hours, the automated observation system will transmit weather observations.

(3) Disseminating plain language forecasts to DPTMS Director, FLW Watch Office, and Emergency Management.

(5) Disseminating all significant pilot reports (PIREPs) via JET.

(6) Provide staff briefings to FLW stakeholders when post mission limiting weather is imminent.

c. The IOC 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.

d. The Directorate of Public works (DPW) Natural Resources Branch personnel, or Fire and Emergency Services personnel, are responsible for relaying fire index computations to the weather station.

e. The Watch Office NCO is responsible for disseminating WWA's during the periods the IOC is closed.

f. Commanders of major units are responsible for:

(1) The dissemination of WWA's or flood stage conditions to subordinate units or activities.

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

Chapter 3 WEATHER WARNING PLANS AND REPORTING

3-1. Planning

a. Assigned and attached units receiving weather warning service will prepare and publish a weather warning plan which will include at 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 3-2 below.

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

3-2. 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 Directorate of Emergency Services (DES) and the IOC who will then report to OL-C, 3 CWS (573-596-0702) within 24 hours M-F and on Monday if occurrence is over a holiday/weekend.

3-3. Aviation Weather Support.

A. Surface Weather Observations.

(1) A Basic Weather Watch (BWW) is conducted by the EU 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) Thunderstorms.

(e) Fog or mist.

(2) The EU will take and locally disseminate surface weather observations, via JET to Airfield (FORNEY) Operations, Control Tower, and the Watch Office.

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

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

(3) Local dissemination formats for weather observations are:

(a) METAR - KTBN METAR 1955 20010KT 7SM SCT040 27/11 A3027 A02 SLP210 PA +830 DA -844

(b) SPECI - KTBN SPECI 2013 23013KT 5SM -SHRA BKN040 26/13 A3027 A02 PA +830 DA -844

(4) Cooperative Weather Watch. As EU, because of other weather operations duties, cannot monitor the weather continuously, Forney 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 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, the EU will provide transient pilots with a weather briefing and the current weather conditions at Forney. EU will assist pilots obtain updated observed/forecast weather conditions.

c. Training of Army Air Traffic Controllers. At the request of the Air Traffic Control (ATC) Branch, OL-C, 3 CWS 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.

3-4. Support to the FLW EU

a. Forney Control Tower/Airfield Operations will:

(1) Notify the EU whenever they open or close the ATC function.

(2) Maintain a cooperative weather watch with the EU 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) Notify EU whenever the active runway changes.

(5) Notify EU of all in-flight emergencies, incidents, or accidents.

(6) Pass significant PIREPS to EU for further dissemination.

(7) Provide EU, upon receipt, a copy of the latest FLIP for review of any possible changes to weather support requirements.

b. Allow EU use of Building 5007 as the Alternate Observing Location (AOL) during periods of extended weather station evacuation.

c. The Maneuver Support Center of Excellence (MSCoE) will provide administrative and logistics support in accordance with AR 115-10/AFI 15-157.

3-5. Limiting Factors

a. Personnel assigned to OL-C, 3 CWS, are not full time (24 hr.) weather technicians. Sometimes coverage outside operating hours might be limited. Also, the OWS is not staffed to be able to provide specialized briefings. If a FLW unit needs specialized support outside normal hours, please coordinate with EU leadership prior to the exercise or scheduled event.

b. Manning issues sometimes arise that are out of the control of the EU. At times the EU will need to reduce duty hours and will not be able to stay open when TWR is open.

c. The 26 OWS is limited in its ability to issue accurate weather warnings for FLW when no weather personnel are available for an eyes forward function.

- d. Surface observations at Forney are limited by a tree line from East to South to West.
- e. EU 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 and TAF's.
 - (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.

Chapter 4

MISSION EXECUTION FORECAST (MEF)

4-1. Planning

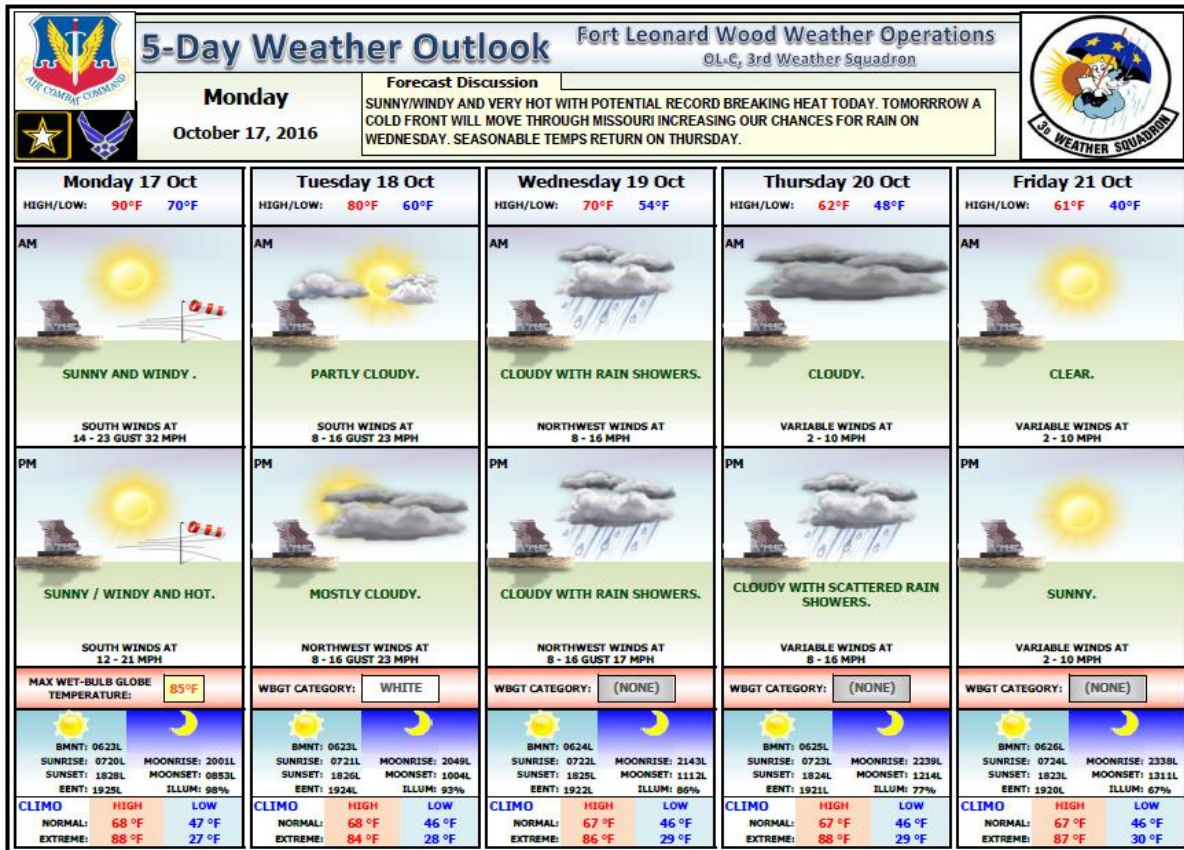
- a. Assigned and attached units receiving weather service can request a MEF by email if the unit is not able to access the FLW Common Operating Picture (COP). The unit must make a formal request through the EU.
- b. MEF requirements will be reviewed annually and revised as required.

4-2. MEF Dissemination

A non-amendable 5 Day MEF will be posted at 0800L and 1600L to the FLW COP M-F. During inclement weather the forecaster on duty will adjust the timing to meet mission requirements.

4-3. MEF Parameters

The 5 Day MEF will contain the elements below. Change request must be made to the EU.



Appendix

Section I 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 below, or increase to equal or exceed: 3000, 2000, 1500, 1000, 800, 700, 600, 500, 400, 300, 200, or 100 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, 3/4, 1/2, or 1/4 mile.

A-4. TORNADO, FUNNEL CLOUD, OR WATERSPOUT: Is observed, disappears from sight, or ends.

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: When squalls occur.

A-8. WIND SHIFT: The wind direction changes by 45 degrees or more in less than 15 minutes and the wind spread is 10 knots or more throughout the wind shift.

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

A-10. Runway Visual Range (RVR):

a. RVR for the active runway decreases to less than, or if below, increases to equal or exceed 6000, 5000, 2400, 2000, or 1200 feet.

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.

A-11. VOLCANIC ERUPTION: When eruption or volcanic ash are first noted.

A-12. MISCELLANEOUS: Any other meteorological situation that, in the weather technician's opinion, is critical.

A-13. RESUMPTION OF OBSERVING SERVICES: Take, disseminate, and record a SPECI observation within 15 minutes after returning to duty following a break in observing coverage if a METAR was not filed as scheduled during that 15-minute period.

A-14. Aircraft Mishap: Immediately following notification or sighting of an aircraft mishap at or near the observing location unless there has been an intervening observation.

Section II. Terms

(1) Weather Watch/Warning/Advisory (WWA's). WWA's are issued for the post reservation only, and valid for a specified time period. Criteria and area are determined by the stated needs of FLW organizations. A WWA implies the likelihood of 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, hail 1/2 inch or larger in diameter, or winds gusting to 45 knots or more.

(3) Lead Time. The time elapsed between the issuance and first occurrence of phenomena requiring the warning/advisory. The desired lead times in paragraph 2-1 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 or will occur 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. 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).

Glossary

Section I. Acronyms and abbreviations.

26 OWS

26th Operational Weather Squadron

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

ATC

Air Traffic Control

AWWC

Army Weather Warning Center

BWW

Basic Weather Watch

COP

Common Operational Picture

DA

Density Altitude

DES

Directorate Of Emergency Services

DOD

Department of Defense

OL-C,3CWS

Operating Location C, 3d Combat weather

OWS

Operational Weather Squadron

PA

Pressure Altitude

PIREP

Pilot Report

RCR

Runway Condition Reading

RSC

Runway Surface condition

SDO

Staff Duty Officer

SPECI

Special Observation

TAF

Terminal Aerodrome Forecast

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

Summary of Change

To

FLW Reg 115-1, Weather Data, dated 10, December 2019.

FLW Reg 115-1 has undergone minor revision.

- Updates weather warning criteria (Chapter 2).
- Added weather warning criteria-desired lead time prior to warning (Chapter 2).
- Updated general dissemination procedures (Chapter 3).
- Updated dissemination responsibilities. (Chapter 3)
- Updated weather warning plans (Chapter 3).
- Updated aviation weather support (Chapter 3).
- Appendix updated.