

**BY ORDER OF THE SECRETARY
OF THE AIR FORCE**

AIR FORCE INSTRUCTION 15-128

21 JUNE 2019



Weather

WEATHER FORCE STRUCTURE

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: This publication is available digitally on the e-Publishing website at www.e-Publishing.af.mil for downloading or ordering

RELEASABILITY: There are no releasability restrictions on this publication

OPR: AF/A3WP

Certified by: AF/A3W
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Supersedes: AFI 15-128, 7 May 2019,
AFI 15-182, 12 March 2015

Pages: 13

This publication implements Air Force (AF) Policy Directive (AFPD) 15-1, *Weather Operations*. This instruction defines the mission, organization, roles and responsibilities of Air Force Weather (AFW) personnel. This instruction applies to all uniformed members and civilian personnel assigned to the Regular Air Force (RegAF) and Air Reserve Component (ARC) when mobilized. This AFI may be supplemented at any level, but all supplements that directly implement this publication must be routed to the Office of Primary Responsibility (OPR) for coordination prior to certification and approval. Refer recommended changes to the OPR using AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional office within the chain of command. The authorities to waive wing/organization level requirements in this publication are identified with a Tier number (“**T-0, T-1, T-2, T-3**”) following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority. For non-tiered and Tier 1 compliance items, HQ USAF/A3W is delegated as the waiver approval authority for this publication; submit waiver requests to the Office of Primary Responsibility for processing. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include a change in title, the information in **Chapter 4**, and the removal of unit specific details, which were moved to more appropriate 15-series publications.

Chapter 1

MISSION

1.1. Overview. Weather Operations forces, as part of the joint team, deliver accurate, consistent, relevant and timely environmental information, products and services, anywhere in the world. Executing core processes to collect, analyze, predict, tailor, and proactively integrate environmental threat information into commanders' decision cycles, weather operations forces enable commanders at all levels. Commanders' anticipate, mitigate the impact of, and exploit the weather; optimizing air, space, cyberspace, and ground operations to the advantage of allied objectives and the detriment of the adversary.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Director of Weather (AF/A3W) responsibilities. The Director of Weather will:

- 2.1.1. Organize and functionally manage weather services and support for the AF and Army. The AF/A3W staff oversees organizing, training and equipping weather organizations AF-wide.
- 2.1.2. Develop doctrine, policy, and standards for weather support to the AF, Army, designated unified commands, North Atlantic Treaty Organization (NATO), other allies, coalition partners, national programs, and emergency response operations.
- 2.1.3. Interface with Headquarters, Department of the Army (HQDA) concerning weather support provided by Airmen to Army forces in accordance with (IAW) AR 115-10/AFI 15-157(IP), *Weather Support and Services for the U.S. Army*. Coordinates with HQDA, Deputy Chief of Staff, Intelligence (G-2) on Army weather doctrine, policy, standards and requirements, as well as Army installation and aviation/airfield support resources, programs, and priorities.
- 2.1.4. Evaluate effectiveness of weather forces by maintaining oversight of Weather technical readiness program most critical processes through Weather Operations metrics and AF evaluations and inspection programs.
- 2.1.5. Execute functional management for the enlisted, officer, and civilian weather career fields.
- 2.1.6. Oversee planning, programming, and budgeting for Air Force Weather (AFW) resources.
- 2.1.7. Provide programming, manpower and systems subject matter expertise during the development and execution of AFW functional Joint Capabilities Integration and Development System document development.
- 2.1.8. Develop and implement mid and long-range strategy and vision for the organization, equipment, manpower, and technology necessary to meet future AF and Army weather requirements. Acts as advocate for AF and Army weather requirements.
- 2.1.9. Serve as AF/A3 staff focal point for Air Force Weather Weapon System (AFWWS) and Space Based Environmental Monitoring (SBEM) architectures.
- 2.1.10. Provide AFW functional expertise to coordinate and advocate for Intelligence Community weather priorities and requirements.
- 2.1.11. Advocate and oversee acquisition and fielding of standardized AFW equipment.
- 2.1.12. Advise Major Command (MAJCOM) functional managers regarding career field, manpower, personnel utilization, training, operations policy and procedures, and technology acquisition issues.
- 2.1.13. Produce training products and technical services to ensure the latest techniques, skills and resources are translated into operational and decision superiority in the field.
- 2.1.14. Manage an AFW Technical Library.

2.1.15. Oversee Training Requester Quota Identifier management responsibilities for the Army Weather Support Course allocating seats to MAJCOMs.

2.1.16. Adjudicate any support concerns for **paragraphs 3.1.12 – paragraphs 3.1.16** with units outside Air Combat Command (ACC) when a resolution cannot be reached.

2.1.17. Serve as Department of Defense (DoD) lead agency for the Next Generation Weather Radar (NEXRAD) program, pursuant to tri-agency agreement with DoD, Department of Commerce and Department of Transportation, *Interagency Operation of the Weather Surveillance Radar-1988, Doppler (WSR-88D)*, 24 March 2008.

2.1.18. Serve as DoD executive agent for modeling and simulation of the Air and Space Natural Environment.

2.1.19. Engage in actions relating to cooperation and leveraging of atmospheric and space weather resources as the AF lead representative to the National Oceanic and Atmospheric Administration (NOAA), pursuant to Headquarters Air Force Mission Directive (HAFMD) 1-54, *Deputy Chief of Staff, Operations, Plans, & Requirements*, Appointment of AF Deputy to NOAA.

2.1.20. Oversee actions relating to providing atmospheric and space weather support to US Army operations pursuant to AR 115-10/AFI 15-157 (IP); Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3810.01E, *Meteorological and Oceanographic Operations*; and Department of Defense Instruction (DoDI) 5100.73, *Major DoD Headquarters Activities*.

2.1.21. Serve as Authorizing Official for AFW. The authorizing official is the official with the authority responsible for accepting a level of risk for a system balanced with mission requirements per AFI 17-101, *Risk Management Framework (RMF) for Air Force Information Technology (IT)*.

2.1.22. Serve as Information Owner for AFW. The Information Owner is the organization official with statutory, management, or operational authority for specified information and the responsibility for establishing the policies and procedures governing its generation, collection, processing, dissemination, and disposal as defined in Committee on National Security Systems Instruction 4009, *Committed on National Security Systems Glossary*, per AFI 17-130, *Air Force Cybersecurity Program Management*.

2.1.23. Serve as Functional Manager for officer, enlisted and civilian career fields delegated by the Functional Authority, the HQ AF Deputy Chief of Staff, Operations (AF/A3).

2.1.24. Manage actions relating to the development, coordination, and approval of interservice, interagency, and international support agreements.

2.2. Major Command (MAJCOM) Weather Staffs. In addition to the requirements in AFPD 15-1, MAJCOM weather staffs will:

2.2.1. Provide weather functional management to organize, train, equip, and sustain weather forces as well as manage Air Expeditionary Force deployment taskings for weather resources within its MAJCOM IAW AFI 10-401, *Air Force Operations Planning and Execution* and AFI 10-403, *Deployment Planning and Execution*.

2.2.2. Engage in planning, programming, and budgeting for MAJCOM weather resources IAW AFI 65-601, Volume 1, *Budget Guidance and Procedures*.

2.2.3. Request, manage, and monitor contracts for required weather support and ensure contract oversight IAW AFI 64-102, *Operational Contracting Program*.

2.2.4. Manage execution of MAJCOM weather programs.

2.2.5. Provide weather subject matter expertise to its MAJCOM headquarters staff.

2.2.6. Provide staff assistance, technical training assistance, and technical consultant assistance to assigned weather organizations upon request.

2.2.7. Conduct evaluations on aligned weather organizations IAW AFI 90-201, *The Air Force Inspection System*.

2.2.8. Develop and cross feed technical training materials throughout the MAJCOM.

2.2.9. Coordinate with functionally aligned weather organizations to implement weather technical readiness measures of performance for weather functional capabilities and processes IAW AFI 15-114, *Weather Technical Readiness*.

2.2.10. Prioritize advanced academic degrees and submit to AF/A3W for centralized management.

2.3. Operational Organizations. Weather operations are organized to provide a seamless transition from garrison or home-base operations to wartime and contingency operations. Organizations operate on global, regional and local scales.

2.3.1. Air Force Forces (AFFOR) Weather Staff. This operations focused staff supports the Air Force Component Commander to a Unified Combatant Command, or subordinate unified command, when appropriate. The AFFOR weather staff has oversight of operational and administrative requirements in their Area of Responsibility (AOR), to include identification and organization of manpower needs during contingency, sourcing, training, and equipment logistics to meet the needs of assigned resources. The AFFOR weather staff works through service (administrative) channels to identify and coordinate functional these functional needs. C-NAFs and C-MAJCOMs may perform these functions when serving as part of the AFFOR staff.

2.3.2. The 557th Weather Wing (557 WW). The 557 WW, located at Offutt AFB, Nebraska, is the AF's only special mission weather wing. The 1st Weather Group (1 WXG) and 2nd Weather Group (2 WXG), also located at Offutt AFB, are assigned to 557 WW. The 557 WW, through 1 WXG and 2 WXG, provides a wide array of timely, accurate, relevant, consistent, and authorized terrestrial and space-environmental data, analyses, threat-warning and mitigation products, and models. The 557 WW enables multi-domain decision superiority for weather and non-weather warfighters and decision makers throughout the United States Government, allied, and partner nations at all levels of warfare.

2.3.3. Operational, Specialized, Army support, and Spacelift support Weather Squadron (WS). Operational Weather Squadrons (OWSs), Army support, specialized and spacelift support WSs conduct weather operations to optimize decision making by supported or aligned commanders. All weather squadrons conduct weather forces' core competencies: collecting, analyzing, and tailoring weather data based on their assigned mission areas, or enable those functions.

2.3.4. Weather Flight (WF). WF describes weather organizations aligned beneath their respective squadrons (Operational Support Squadron, OWS, Army Support Squadrons, etc.) and include detachments, operating locations, Operations Support Squadron WFs, etc. WFs evaluate environmental threats and impacts to missions and provide alternatives to key decision makers throughout the planning and execution phases of operations. WFs support the full-spectrum of operations at AF and Army installations, aircraft and missile test ranges, space launch facilities and field locations.

2.3.5. Air National Guard (ANG) and Air Force Reserve (AFR). ANG and AFR weather resources primarily support AF and Army active and reserve component wartime deployment and employment requirements. ANG or AFR personnel may support rotational (i.e., Air and Space Expeditionary Force) taskings on a volunteer basis. Air Reserve Component (ARC) personnel will support steady state, backfill or sustainment and mobilization requirements as needed by the Regular AF (RegAF) component. Deployable ARC personnel must be trained and equipped to the same level as their RegAF counterparts. ARC personnel must train and keep current with readiness requirements to be able to support both home-station and wartime missions. ARC personnel provide direct support to their assigned and/or aligned missions IAW the roles and responsibilities set forth in this instruction when activated for training, contingency or war.

Chapter 3

OPERATIONS

3.1. Air Combat Command (ACC) will:

3.1.1. Conduct and support global and regionally centralized weather operations. **(T-1)**.

3.1.2. Support AF, Army, NATO, other allied and coalition support partners, and other designated missions, leveraged across all MAJCOMs. **(T-1)**.

3.1.3. Support both a regional and global scope of responsibility providing the full spectrum of centralized weather information. To include: output from numerical weather models, Meteorological Satellite imagery, air and space environmental data and mission weather products, climatology, and analysis of past, current and future air and space environment. **(T-1)**.

3.1.4. Align worldwide weather operations of OWS areas of responsibility with geographic AORs of combatant commands according to AF Visual Aid (AFVA) 15-137, *Operational Weather Squadron Areas of Responsibility*, to allow authoritative weather products for all supported AF, Army and joint mission within the AOR. **(T-1)**. OWSs will provide assistance to Air Operation Center (AOC) Weather Specialty Teams, as needed, in support of CCDR requirements. **(T-2)**.

3.1.5. Support U.S. Navy and U.S. Marine Corps missions on joint basing installations where the AF or the Army has the lead for base operations and sustainment support or when missions do not require specialized support and are similar to existing support to AF and Army units. Provided missions do not drive additional manpower or other costs to the AF without a valid inter-service agreement coordinated by AF/A3W and the respective Service (U.S. Navy, U.S. Marines) does not provide a centralized briefing service for the AOR. **(T-1)**.

3.1.6. Provide volcanic ash products for DoD and intelligence community operations that supplement and enhance Volcanic Ash Advisory Center products at multiple classification levels IAW FCM-P14-2018, *Federal Plan for Cooperative Support and Outage Mitigation Among Operational Processing Centers*. **(T-0)**. In the absence of Volcanic Ash Advisory Center products, 557th Weather Wing products are authoritative for all AF and Army aviation operations. **Note:** FCM-P14-2018 is not accessible via the Office of the Federal Coordinator for Meteorological Services and Supporting Research website and should be requested from ofcm.mail@noaa.gov.

3.1.7. Collect, analyze, process, and format weather data and products for further distribution and .mil web based access. **(T-1)**.

3.1.8. Create and disseminate authoritative, standard, global hazard database for machine-to-machine applications and associated visualizations for all aviation requirements. **(T-1)**.

3.1.9. Provide space anomaly assessments for units and intelligence community experiencing possible space weather impacts. Coordinate and serve as authoritative source for anomaly assessments conducted jointly with 614th Combat Training Squadron Weather Flight. **(T-1)**.

- 3.1.10. Create and maintain a standardized, web-based analysis support assistance request and request for information form, on unclassified and classified domains, to be hosted on supporting weather organizations' websites. **(T-1)**.
- 3.1.11. Process support assistance requests or request for information requirements that cannot be met by existing software or baseline systems. **(T-1)**.
- 3.1.12. Provide worldwide broadcast-quality public weather services and planning forecasts to the American Forces Radio and Television Service for overseas DoD personnel IAW current support agreement. **(T-1)**.
- 3.1.13. Coordinate, produce, and provide weather modeling and simulation products and data to support operational training, exercises, and system development. **(T-1)**.
- 3.1.14. Provide tailored 24-hours per day, 7-days per week, weather operations and supporting products at the Top Secret-Sensitive Compartmented Information security clearance level to Joint Forces and Intelligence Community for units without dedicated weather support that have documented weather support requirements. **(T-1)**.
- 3.1.15. Maintain lists, provide, and recall KQ identifiers in support of field users and follow KQ procedures outlined in AFMAN 15-129, *Air And Space Weather Operations*. **(T-1)**.
- 3.1.16. Serve as the Operational Test Organization or Participating Test Organization for the strategic and fielded components of AFW provided equipment. **(T-1)**.
- 3.1.17. Serve as weather subject matter expert staff, airfield, and mission services provider for installations without a supporting weather flight, or other AF or MAJCOM-designated service provider, to agencies to include the Mission Support, Medical, Maintenance and Operations groups. See AFI 10-2501, *Air Force Emergency Management Program*, Air Force Manual (AFMAN) 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Environment*, and equivalent joint guidance for specific emergency management support procedures.
- 3.1.18. Provide global authoritative terrestrial and space weather forecasts, climatology, terrestrial and space models, graphical, numerical and alphanumeric predictions critical to success for DoD and Intelligence Community.

Chapter 4

CAPABILITIES-BASED REQUIREMENTS AND IMPLEMENTATION

4.1. Weather Functional Capabilities-Based Requirements and Oversight. This instruction does not prescribe or describe the internal requirements processes conducted at combatant commands or MAJCOMs. All requests for weather support that involve expenditure of funds, (e.g., upgraded capabilities, new sensors, and systems) are forwarded through command channels for validation (usually by a MAJCOM). Requests are also sent to lead command for assessment and operational capability requirements development. Forward a courtesy copy of the request to AF/A3W.

4.2. Requirements from outside the AF, (e. g., federal agencies) or the combatant commands, should be staffed through the appropriate organization (e.g., Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, or the Joint Staff). U.S. Army needs will be staffed according to applicable inter-service instructions. **(T-1).**

4.3. Weather Functional Capabilities Area Steering Group (WFCA SG). The WFCA SG is the senior weather functional activity to review and recommend prioritization of cross-command capability needs to the lead commands. The WFCA SG is chaired, managed and facilitated by AF/A3W. Using and Implementing Commands provide representatives to the WFCA SG. This forum enables:

- 4.3.1. The lead command to provide status and use of the AFWWS and SBEM, and associated operational capability requirements development.
- 4.3.2. User Commands to provide feedback and input on the AFWWS and SBEM.
- 4.3.3. Implementing Commands to provide status to integrated life cycle management of the AFWWS and SBEM.

MARK D. KELLY, Lt Gen, USAF
Deputy Chief of Staff, Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 15-1, *Weather Operations*, 12 November 2015

AFPD 16-10, *Modeling and Simulation*, 23 January 2015

AFI 10-2501, *Air Force Emergency Management (EM) Program*, 19 April 2016

AFI 10-401, *Air Force Operations Planning and Execution*, 7 December 2006

AFI 10-403, *Deployment Planning and Execution*, 20 September 2012

AFI 15-114, *Weather Technical Readiness*, 16 March 2017

AFI 17-130, *Cybersecurity Program Management*, 31 August 2015

AFI 33-360, *Publications and Forms Management*, 1 December 2015

AFI 64-102, *Operational Contracting Program*, 9 October 2014

AFI 65-601, *Budget guidance and procedures*, 24 October 2018

AFI 90-201, *The Air Force Inspection System*, 20 November 2018

AFMAN 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High Yield Explosive (CBRNE) Environment*, 7 July 2011

AFMAN 33-363, *Management of Records*, 1 March 2008

AFVA 15-137, *Operational Weather Squadron Areas of Responsibility*, 27 October 2015

AR 115-10/AFI 15-157, *Weather Support and Services for the U.S. Army*, 24 February 2017

CJCSI 3810.01E, *Meteorological and Oceanographic Operations*, 16 May 2016

CNSSI 4009, *Committee on National Security Systems Glossary*, 6 April 2015

DoDI 5000.70, *Management of DoD Modeling and Simulation Activities*, 10 May 2012

DoDI 5100.73, *Major DoD Headquarters Activities*, 12 June 2012

FCM-P14-2018, *Federal Plan for Cooperative Support and Outage Mitigation Among Operational Processing Centers*, 1 January 2018

HAFMD 1-54, *Deputy Chief of Staff, Operations, Plans & Requirements*, 8 September, 2015

MOA, *Interagency Operation of the Weather Surveillance Radar (WSR-88D)*, 24 March 2008

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

AF—Air Force

AFB—Air Force Base
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFPD—Air Force Policy Directive
AFRC—Air Force Reserve Command
AFVA—Air Force Visual Aid
AFW—Air Force Weather
AFWWS—Air Force Weather Weapon System
ANG—Air National Guard
AOC—Air Operations Center
AOR—Area of Responsibility
AR—Army Regulation
CBRNE—Chemical, Biological, Radiological, Nuclear, and High-yield Explosive
AFFOR—Air Force Forces
C-MAJCOM—Component Major Command
C-NAF—Component Numbered Air Force
CJCSI—Chairman Joint Chiefs of Staff Instruction
C4ISR—Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
DoD—Department of Defense
HQ—Headquarters
HQDA—Headquarters Department of the Army
MAJCOM—Major Command
NATO—North Atlantic Treaty Organization
NOAA—National Oceanic and Atmospheric Administration
OPR—Office of Primary Responsibility
OWS—Operational Weather Squadron
SBEM—space based environmental monitoring
USAF—United States Air Force
WF—Weather Flight
WFCA SG—Weather Functional Capabilities Area Steering Group
WS—Weather Squadron

Terms

Decision Cycles—Joint Operational Planning Process, Military Decision Making Process, Joint Intelligence Preparation of the Operational Environment, Intelligence Preparation of the Battlespace, Risk Management processes, Common Operating Picture and C4ISR.

KQ identifiers—special use International Civil Aviation Organization (ICAO) identifiers for use by deployed units supporting real world contingencies; deployed/in-garrison units providing support during exercises; classified operating locations; and units that have requested, but not yet received a permanent location identifier.