

**Army Regulation 115–10  
AFI 15–157 (IP)**

**Climatic, Hydrological, and Topographic  
Services**

# **Weather Support for the U.S. Army**

**Headquarters  
Departments of the Army,  
and the Air Force  
Washington, DC  
6 January 2010**

**UNCLASSIFIED**

# ***SUMMARY of CHANGE***

AR 115-10/AFI 15-157 (IP)  
Weather Support for the U.S. Army

This major revision, dated 6 January 2010--

- o Places Service specific responsibilities into separate chapters (chaps 2 and 3).
- o Adds responsibility for direct support to Army Brigade Combat Teams (para 3-2c(3)).
- o Incorporates changes in Air Force weather support operations described in Air Force Doctrine Document 2-9.1, Weather Operations, and the Air Force Enabling Concept for Weather Support to Army Modular Forces (throughout).
- o Clarifies general policy guidance on weather requirements, resources, and Service responsibilities for installation, garrison, and tactical weather support services (throughout).
- o Revises Service responsibilities and designations within Department of the Army and Department of the Air Force (throughout).
- o Changes Air Force publication type from "Air Force Joint Instruction" to Air Force Interservice Publication (throughout).
- o Makes administrative changes (throughout).

Effective 6 February 2010

Climatic, Hydrological, and Topographic Services

**Weather Support for the U.S. Army**

By Order of the Secretary of the Army and the Air Force:

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**History.** This publication is a major revision.

**Summary.** This regulation sets forth policies and establishes U.S. Army and U.S. Air Force responsibilities for weather operations and services in support of the U.S. Army.

**Applicability.** This regulation applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. This regulation also applies to the Active Air Force, the Air National Guard, and U.S. Air Force Reserve.

**Proponent and exception authority.** The proponent of this regulation is Deputy Chief of Staff, G-2, and the Air Force Deputy Chief of Staff for Air, Space and Information Operations, Plans and Requirements (Headquarters, U.S. Air Force/A3/5). The proponent has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or

field operating agency, in the grade of colonel or the civilian equivalent. Activities may request a waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance.

**Army management control process.** This regulation contains management control provisions in accordance with AR 11-2, but it does not identify key management controls that must be evaluated.

**Supplementation.** Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from Deputy Chief of Staff, G-2 (DAMI-OPS), 1000 Army Pentagon, Washington, DC 20310-1040 and HQ USAF/A3O-WP, 1490 Air Force Pentagon, Washington, DC 20330-1490.

**Suggested improvements.** Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Deputy Chief of Staff, G-2 (DAMI-OPS), 1000 Army Pentagon, Washington, DC 20310-1040. Air Force users are invited to send comments on AF Form 847 (Recommendation for Change of Publication) to HQ USAF/A3O-WP, 1490 Air Force Pentagon, Washington, DC 20330-1490.

**Distribution. Army:** This regulation is available in electronic media only and is intended for command levels list commands B, C, D, and/or E for the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

**Air Force: RELEASABILITY:** There are no releasability restrictions on this publication.

\*This regulation supersedes AR 115–10/AFJI 15–157, dated 30 June 1996.

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## Chapter 1 Introduction

### 1–1. Purpose

This regulation establishes Army and Air Force (AF) policy and responsibilities for weather operations in support of the Active Army and Reserve Components of the U.S. Army. This regulation describes responsibilities of the AF to conduct weather operations and provide weather services in support of the U.S. Army and responsibilities of the Army to support the AF as they develop and execute weather operations and provide weather services. The regulation assigns the Army and AF general responsibilities in the areas of operations, communications, training, administration, budget, and logistics. It includes Army and AF responsibilities for the execution of installation, garrison, and tactical weather operations. Inter-Service and intra-Service cooperation and synchronization are imperative to the establishment and maintenance of effective and efficient weather operations in support of the Army; policy contained in this regulation guides this mutually supporting relationship.

### 1–2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

### 1–3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the glossary.

### 1–4. Responsibilities

a. All Army and AF agencies responsible for establishing Army or AF meteorological, oceanographic, and space weather requirements (see paras 2–1 and 3–1) will ensure that capabilities and Joint Capability Integration and Development Systems (JCIDS) requirements documents are coordinated across all Military Departments in accordance with Department of Defense (DOD), Joint, and Service regulations to promote interoperability and avoid duplication of weather operations, capabilities, services, and support. The AF and Army weather functional leads will work closely with other Services during the development phase of requirement documents to ensure that technical architectural integrity meets interoperability objectives outlined in Chairman Joint Chiefs of Staff Instructions. The AF and Army will establish and maintain an Army and Air Force shared weather architecture.

b. Specific Army and AF responsibilities are listed in chapters 2 and 3.

c. The AF and the Army will collaborate in development of weather and weather system concept of operations and/or concepts to set weather policy and resolve weather issues across the spectrum of doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) between the Army and AF.

### 1–5. Policy

a. *Requirements.* The Army establishes, validates, prioritizes, and communicates weather requirements (also known as military requirements) for Army installation, garrison, training and tactical operations to the AF. The AF establishes, validates and communicates training, equipment, communications, and other requirements required to conduct weather operations and provide weather services in support of the Army.

b. *Resources.* The Army budgets, plans, and programs for resources to meet the Army's responsibility as described in chapter 2 of this regulation. The AF budgets, plans, and programs to meet the AF's responsibilities as described in chapter 3. When the AF is unable to meet a new Army weather support requirement, the HQ AF A3/5 will request the Army prioritize the affected missions so the AF can support using available resources until the AF receives additional resources through the Program Objective Memorandum process.

c. *Installation weather operations and services.* The AF conducts weather operations and provides weather services to support installation, garrison, airfield, and range operations, garrison commanders, garrison forces, emergency management/response, and training.

d. *Tactical weather operations and services.* The AF conducts weather operations and provides weather services in support of Army mission commanders and staff while conducting Army operations and/or training at Tactical Operations Centers (command post), tactical airfield(s), or other tactical or deployed locations.

e. *Personnel and command relationships.*

(1) Air Force personnel conducting weather operations and providing weather services in support of Army organizations will not be assigned duties (for example, guard duty, charge of quarters, mess hall duty) inconsistent with their primary mission of conducting weather operations and providing weather services.

(2) The AF retains administrative control (for example, command and Uniformed Code of Military Justice authority, personnel actions) and operational control of AF personnel and equipment unless otherwise directed by the combatant commander. The supporting AF commander may temporarily delegate tactical control to the supported Army commander.

(3) The AF senior weather representative at each Army echelon, traditionally referred to as the Staff Weather

Officer (SWO), serves as a member of the Army commander's special or personal staff under the staff supervision of the Deputy Chief of Staff, (DCS, G-2) or the brigade/regiment intelligence officer (S-2).

## Chapter 2 Army Responsibilities

### 2-1. General

General responsibilities of Army Headquarters, Army Commands (ACOMs), Army Service Component Commands (ASCC), and Direct Reporting Units (DRUs) are listed in this regulation.

- a. Deputy Chief of Staff, G-2 (DCS, G-2) will—
  - (1) Establish weather policy within the Army.
  - (2) Coordinate on AF weather policy issues with the Air Force Director of Weather (HQ USAF A3/5).
  - (3) Submit validated Army weather requirements and priorities to the HQ USAF/A3/5.
  - (4) Coordinate with the AF on Army-AF and Joint Service weather operational concepts and doctrine.
  - (5) Serves as the Army staff proponent for meteorological satellite capabilities and issues.
  - (6) Review and coordinate Army related support issues with the Office of the Secretary of Defense, the Joint Staff, the Department of the AF, other Services, HQDA staffs, ACOMs, DRUs, ASCCs and other Federal agencies.
- b. Deputy Chief of Staff, G-3/5/7 (DCS, G-3/5/7), HQDA will—
  - (1) Validate Army-generated weather requirements.
  - (2) Set priorities for weather support for Army training and contingencies.
  - (3) Coordinate with the HQ USAF A3/5 on Army weather program and resource issues, Army Guard and Reserve weather issues, and Army installation weather support requirements.
  - (4) Provide the Army aviation interface to DOD, Federal and civilian agencies.
- c. Commanding General, U.S. Army Training and Doctrine Command (CG, TRADOC) will—
  - (1) Establish DOTMLPF requirements for the Army.
  - (2) Lead Army development of Army-AF inter-Service weather operations and services concepts and doctrine required to conduct Army operations in coordination with AF SWOs assigned within TRADOC.
  - (3) Document standard Army equipment for use by AF weather personnel in the appropriate table of organization equipment (TOE).
  - (4) Provide recommended modification TOE (MTOE) and common tables of allowances (CTA) to DCS, G-3/5/7 for validation.
  - (5) Represent the Army's warfighting functions by determining needed weather capabilities and processing weather requirements found in Joint and Army conceptual documents and from TRADOC centers and schools. Represent the Army's warfighting functions by collecting and processing weather requirements from TRADOC schools/centers, Medical Command and US Army Corps of Engineers, and collaborates with the HQDA and AF to recommend solutions to satisfy those requirements.
  - (6) Process tactical Army weather support requirements, through the JCIDS process, as identified by Army commands or by appropriate Joint and/or Army concept documents.
  - (7) Identify deficiencies in Army doctrine pertaining to weather, weather impacts, weather operations and weather services.
  - (8) Assess the effectiveness of weather operations and weather services provided to the Army.
  - (9) Develop solutions for deficiencies within the Army's area of responsibility specified in chapter 2, in coordination with AF staff weather officer (SWOs) assigned within TRADOC.
  - (10) Communicate to DCS, G-3/5/7 perceived shortfalls in the AF's ability to meet Army requirements for weather support and other perceived weather deficiencies within the AF's area of responsibility.
  - (11) Fulfill responsibilities in paragraph 2-1*i*.
- d. Commanding General, U.S. Army Materiel Command (CG, AMC), will support the Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA(ALT)) in developing and sustaining Army-developed meteorological systems and software, including tactical decision aids and meteorological and environmental models designed to meet Army responsibilities specified in this regulation.
- e. Commanding General, U.S. Army Test and Evaluation Command (CG, ATEC) will—
  - (a) Provide operational meteorological support for Army Research, Development, Test, and Evaluation (RDT&E) test ranges and centers.
  - (b) Develop weather models and nowcasting tools to support research, development, test and evaluation (RDT&E) test ranges and center.
- f. The Surgeon General (TSG) and Commanding General, U.S. Army Medical Command (MEDCOM), will develop

models of weather's physiological changes in and effects on Soldiers and decision aids depicting weather's physiological effects on Soldiers ability to undertake missions.

g. Commanding General, U.S. Army Corps of Engineers (CG, USACE) is the director and monitor for Army programs in the atmospheric, topographic, hydrographic and terrestrial sciences. The CG, USACE will—

- (1) Review all emerging Army systems for impacts (natural and induced) of the environment on those systems.
- (2) Support Cold Regions research and development (R&D).
- (3) Conduct hydrological R&D.
- (4) Provide hydrological studies, forecasts, and decision aids for military training, operations, and emergency purposes.
- (5) Provides special climatological studies and climatic design criteria for use in environmental testing, both natural and chambered.

(6) Demonstrates live, virtual and constructive environmental simulations in a common synthetic battlespace.

h. All ACOM, ASCC, DRU, Army National Guard commanders, and responsible Active and Reserve Component (RC) commanders at all levels will—

(1) Stating non-urgent and doctrinal weather requirements and needed weather capabilities to TRADOC, and state urgent, war/mobilization planning, or contingency operations weather requirements and need weather capabilities to HQDA DCS, G-3/5/7.

(2) Provide support and funding as documented in this chapter to supporting AF personnel.

(3) Fund and provide for weather operations, communications, training, administration, budget, and logistics as outlined in this chapter.

(4) Provide DCS, G-2 with input for the annual Federal Plan for Meteorological Services and Supporting Research document.

(5) Document and send deficiencies in weather operations and support identified during training, operations, exercises, and contingencies to TRADOC.

(6) Send weather operations and support lessons learned to the Center for Army Lessons Learned.

(7) Ensure standard Army equipment is issued to the AF including that listed in the MTOE, table of distribution and allowances (TDA), and CTA.

(8) Certify Army-procured weather sensing systems.

i. The ASA(ALT) will fund USACE, ATEC, MEDCOM, and AMC acquisition-related efforts that support meeting the Army's weather requirements to include funding the following:

(1) Weather R&D initiatives and weather RDT&E support to test ranges and centers.

(2) Meeting Army responsibilities for collecting, processing, modeling, and transmitting weather data, automated decision aids, and other weather products.

(3) Facilitating weather data collection and processing by Army personnel directly supporting Army weapons systems, activities, or operations.

(4) Assisting the AF in meeting unique Army requirements, including—

(a) Simulations and visualization of environmental effects on Army personnel, systems and operations.

(b) Designing systems to operate in the Army tactical environment and to meet Army standard criteria for tactical mobility, target signature, and communications capability and accreditation.

(5) With AF assistance, developing and providing materiel solutions to meet the Army's responsibilities, ensuring a robust logistics and maintenance capability for those solutions, and developing and providing Army-procured weather system installations and required certifications.

(6) Live, virtual and constructive environmental (for example, weather) simulations for use during training and exercises.

j. Army Chief Information Officer/G-6 (CIO/G-6) will—

(1) Develop communications architecture to support Army weather operations.

(2) Lead AF-Army development of communications architectures to support AF tactical, installation, and garrison weather operations and provision of weather services in support of the Army.

(3) Guide and facilitate AF efforts to meet Army communications security requirements to include information assurance and accreditation.

k. Commander, U.S. Army Combat Readiness Center/Safety Center (USACRC), will arrange for meteorological expertise on accident/incident boards when weather or weather service is or is suspected to be a contributing factor.

## **2-2. Operations responsibilities**

a. *Installation support.* The Army identifies, documents, and prioritizes Army airfield and installation weather requirements.

b. *Weather sensing at installation airfields.* If sensing is required, the Army provides surface weather sensing at

Army airfields that are uncontrolled or not controlled by Army-Air Traffic Control (ATC) and will provide observations to the servicing weather organization whenever possible. For this purpose and to meet the Joint Requirements Oversight Council's (JROC's) intent, the Army will participate in the AF's airfield weather sensing programs of record and procure systems leveraging existing or planned AF contracts for airfield weather sensing capabilities, whenever possible.

*c. Weather sensing in the tactical environment.* Outside of air and space environmental data and information collected by the AF, the Army provides for the collection of tactical weather data when the Army deems necessary, both full observations and limited parameters/elements (for example, ceiling and visibility only, temperature only) from traditional and non-traditional (for example, manned and unmanned aerial systems) sources. During intelligence and weather collection planning, the Army will request SWO expertise to determine the best locations to emplace Army-owned weather sensing equipment. The Army will provide these observations to the servicing weather organization whenever possible. The Army will procure AF recommended tactical weather sensing equipment and sensors whenever possible and will provide tactical weather sensing equipment and sensor requirements to the AF.

*d. Tactical/installation support plans development.* The Army includes required AF weather operations and services needed for Army mobilization, contingency, and operations in the appropriate planning documents.

(1) During mobilization and deployment planning, the Army provides to the AF the Army's requirements for weather services to support deployment, reserve component mobilization, and Army residual forces, installations, garrisons, and airfields.

(2) During contingency and operations plans development, the Army provides to the AF the Army's requirements for weather services to support operations in accordance with Joint Operational Planning and Execution System (JOPES) or its successor's procedures. In coordination with the AF, the Army includes and synchronizes Army-provided equipment used to support AF weather forces in the Time-Phased Force Deployment Database (TPFDD).

*e. Artillery meteorology.* The Army provides ballistic meteorology (for example, artillery ballistics forecasts), personnel, and equipment to perform general and specialized observations required in direct support of Army artillery systems. If Army systems sense or derive meteorological data (for example, soundings, radar), the Army will provide the sensed or derived meteorological data to the AF whenever possible.

*f. Range support.* The Army provides weather sensing at Army ranges, as required, and will provide these observations and limited parameters/elements to the servicing weather agency whenever possible. The Army will leverage existing or future AF programs and contracts to procure weather sensing equipment and sensors, whenever possible.

*g. Heat and cold stress support.* The Army develops and provides heat and cold stress products and impacts beyond the standard AF-provided heat and wind chill indices.

*h. Research, development, test and evaluation support.* The Army provides weather support to Army RDT&E.

*i. Numerical weather modeling and forecast tools.* The Army assists AF-led synoptic and meso-scale numerical weather modeling efforts and teams with the AF to develop micro-scale models and nowcasting tools. The Army leads verification and validation of micro-scale analysis and forecasting models and develops numerical weather models and nowcasting tools to support RDT&E test ranges and centers.

*j. Weather decision aids and exploitation tools.*

(1) The Army provides the AF critical and operationally significant threshold values for weather effects to land component systems.

(2) The Army leads development of soldier-level decision aids and exploitation tools and teams with the AF on development of tactical and operational level decision aids and exploitation tools.

(3) The Army operates, maintains, and makes available the Critical (Central) Rules Database for use by all Services.

*k. Vehicle licensing and dispatch.* The Army delegates vehicle dispatch and employment authority to the supporting AF SWO comparable to that provided to the supported Army Commander's Senior and Special Staff. Per AR 600-55, the Army recognizes validated AF-issued operator licenses that meet reciprocity requirements for dispatch and operation of Army vehicles (also see para 3-4c of this regulation).

*l. Staff supervision.* The SWO is a member of the supported commander's special or personal staff. The Army will provide staff guidance to the SWO required to execute his/her duties. The supported Army commander or his designee will provide written input/feedback to the commander of the supporting SWO upon request.

*m. Training and exercises.* The Army will use real world weather, or realistic, live, virtual, and constructive environmental simulations whenever possible to assist in training of realistic impacts to Army operations and warfighting functions.

*n. Chemical, biological, radiological, nuclear, high-yield explosive.* The Army develops and provides Chemical, Biological, Radiological, Nuclear, High-yield Explosive (CBRNE) models and decision aids and makes derived weather information from the models and decision aids available to the AF whenever possible.

*o. Hydrological products.* The Army develops and provides hydrological studies, forecasts and decision aids for military training, operations and emergency purposes.

*p. Weather services hardware/software.* The Army integrates an AF-provided weather services software toolkit into an Army command and control system (for example, an intelligence system) that will operate on Army provided

hardware in the tactical environment. The Army provides hardware for Army personnel to use the same weather services software toolkit in garrison.

### **2-3. Communications responsibilities**

*a.* The Army funds, provides, installs, tests and evaluates, operates, and maintains secure and non-secure communications and Information Technology (IT) equipment connectivity, and services for Army and AF personnel and systems supporting Army tactical, installation garrison, and range operations except for those specified in paragraph 3-3. The Army funds, provides, installs, tests and evaluates, operates, and maintains secure and non-secure communications to move data (for example, weather)—

(1) Within the Army tactical enterprise (for example, around the tactical operations area), from the theater downlink site, to the theater uplink site, and to/from the joint forces theater entry point.

(2) Within the Army non-tactical enterprise (for example, around the installation) to include ranges and airfields.

*b.* The Army guides and facilitates AF efforts to meet Army-specific security and information assurance certification/accreditation requirements for AF-provided systems.

### **2-4. Training responsibilities**

*a. Army personnel.* The Army trains Army personnel on the following:

(1) Weather impacts to Army operations and warfighting functions, weather intelligence exploitation, and integration of weather information into decision-making processes, mission planning, execution, and sustainment.

(2) Requesting or obtaining weather operations and weather services from AF or Army sources. For AF sources, the Army will seek advice and collaborate with the AF on the proper process to request and obtain weather operations and weather services for inclusion into Army training content.

(3) Weather operations and equipment that are an Army responsibility.

(4) The roles, responsibilities, and operational concepts of AF weather operations through use of AF developed or provided lesson plans and materials.

*b. Army funds.* The Army funds or provides for AF personnel to train on—

(1) Army doctrine, organization, planning and operations concepts, requirements and processes. The Army does not fund travel and per diem for formal Air Education and Training Command courses.

(2) Operations and user-level preventive maintenance checks of MTOE and CTA equipment.

(3) Weather impacts to Army operations and warfighting functions, weather intelligence exploitation, and integration of weather information into decision-making processes, mission planning, execution, and reconstitution sustainment operations.

(4) Common Soldier and tactical field skills that are not provided by standard AF formal training programs or that supplement basic skills obtained in AF training courses.

(5) Specialized skills, as required, to support Army operations and training (for example, air assault; airborne; pathfinder; ranger; arctic survival; jumpmaster; self-contained underwater breathing apparatus; survival; evasion; resistance, and escape).

(6) Safety and security issues necessary to operate in the Army environment.

(7) Installation and tactical IT equipment connectivity, and services.

*c. Army standards.* For proficiency, qualification, and certification training, the Army provides instructors, support personnel, range access, range operations and materials.

*d. Army coordination.* The Army coordinates with the AF to determine the level and types of training required.

### **2-5. Administration, budget, and logistics responsibilities**

The Army funds and provides (on a non-reimbursable basis from the AF)—

*a.* Capabilities, personnel, and equipment identified as an Army responsibility in this regulation.

*b.* Assistance to AF weather organizations in Army programming and budget submissions. The Army provides funding in the supported Army units' budget for execution by the AF SWO to support the AF's installation, garrison, and tactical weather operations and training.

*c.* Budget, supply, clerical, administrative, intelligence expertise and services as well as logistical expertise and support commensurate with and comparable to the supported Army unit.

*d.* Special Security Office (SSO) support, required special compartmented information (SCI) access (formerly known as billets) for eligible AF personnel, and SCI access management (as defined in DOD 5105.21-M-1, chap 2). The Army also provides dedicated storage of classified materials and other intelligence support (for example, threat briefings).

*e.* Communications Security (COMSEC) custodian services, COMSEC equipment and material, and dedicated storage for COMSEC equipment and material.

*f.* Armorer services within the capabilities of the Army Armorer and storage of AF and Army-provided weapons and ammunition.

- g.* Installation and tactical IT equipment, connectivity, and services.
- h.* Office space and furniture, office equipment, vehicle and equipment storage facilities, and real property to house AF personnel conducting administration, weather operations, maintenance, and training. The Army provides operation and maintenance of real property and other facilities and equipment provided for use by AF personnel.
- i.* Preventive, organizational/unit-level, scheduled, and depot maintenance, fuels, lubricants, and parts for Army-provided vehicles, generators, radios, and trailers. The AF Reserve Component (RC) units, not collocated with their supported Army unit, will coordinate with the nearest Army maintenance support activity for their preventive, organization, scheduled, and depot maintenance on their assigned Army equipment.
- j.* Procurement, preventive, organizational/unit-level, scheduled, and depot maintenance, operation, and sustainment of Army-provided equipment including that listed in the MTOE and CTA and other equipment required to operate in the Army tactical environment.
- k.* Non-tactical vehicles on a dispatch basis to conduct administrative tasks, installation support, and operational support functions comparable to the supported Army unit or headquarters. The Army delegates vehicle dispatch and employment authority to the supporting AF SWO comparable to that provided to the supported Army Commander's Senior and Special Staff.
- l.* Installation services (comparable to those provided to Army organizations, personnel and families) to AF organizations, personnel, and families to include but not limited to those shown in appendix B.
- m.* Non-standard services and equipment required by the Army but not available from the AF comparable with that furnished to the supported Army unit.
- n.* The CBRNE equipment required or issued by the Army but not provided by the AF.
- o.* Individual equipment required or issued by the Army but not provided by the AF.
- p.* Building maintenance and utilities including, but not limited to, heating/air conditioning, electricity, gas, water, sewage, garbage collection, housekeeping supplies, and fee for service utilities (for example, fixed and mobile telephone, pagers, cable).
- q.* Allied support (for example, structures, foundations, environmental control, cables and power) to prepare sites for installation and fielding of AF-provided weather equipment. Technical details of required allied support will be outlined in the system Project Support Agreement (PSA).
- r.* Training quotas for AF personnel requiring specialized skills training in accordance with paragraph 2-4*b*.
- s.* Travel and per-diem of AF personnel, conducting weather operations and providing weather services in support of the Army, for training and non-contingency operations per the Joint Travel Regulation (JTR) and applicable AF Instructions (AFI) unless provided in-kind. The Army funds for non-collocated (supplemental) AF personnel only after arrival at the supported Army unit's location (see para 3-5*b*).
- t.* Shipment of weather equipment assigned to collocated AF units/elements for Army training and non-contingency operations. The Army funds shipment of non-collocated (supplemental) equipment only after arrival at the supported unit's location.
- u.* Functional area subject matter experts to assist AF development of instructional materials for use in AF courses and continuation training programs.
- v.* Standard Army ammunition for proficiency training and operations.
- w.* Travel and per diem for AF-provided weather subject matter expertise/experts (SMEs) supporting Army safety investigation boards, for AF weather SMEs supporting airfield inspection and certification, and for AF weather SMEs when required to certify Army procured weather sensing systems.

## **Chapter 3 Air Force Responsibilities**

### **3-1. General**

Headquarters, USAF A3/5, through AF/A3O-W, will—

- a.* Manage AF weather resources, develops plans and concepts, and establish operations policy to address Army-validated requirements that are the responsibility of the AF.
- b.* Coordinate with HQDA DCS, G-2 on weather policy and requirements issues.
- c.* Coordinate with both DCS, 3/5/7 and DCS, G-2 on Army installation and aviation/airfield support policy, requirements, resources, programs, and priorities.
- d.* Coordinate with Secretary of the Air Force, Warfighting Integration and Chief Information Officer (SAF/XC) (HQ USAF/A6 and CIO) and CIO/G-6 on communications and IT issues.

### **3-2. Operations responsibilities**

- a.* The AF provides—

- (1) Weather operations and services to support all Army training, planning, and operations through habitually aligned, direct support and general support personnel and organizations.
- (2) Tailored mission planning and mission execution weather services for Army manned aviation and Unmanned Aircraft System (UAS) via direct support. The AF provides general aviation planning and execution weather data/information for Small Unmanned Aircraft Systems (SUAS) via general support.
- (3) Weather operations and services for emergency management/response.
- (4) Formal coordination with DCS, G-2 on AF-developed weather policies and concepts.
- (5) Weather personnel at Headquarters, Department of the Army to assist with the coordination of Army weather policy, within TRADOC to assist with Army requirements generation and collection, capabilities assessments, doctrine, training, and concepts development, and within the National Guard Bureau (NGB) to manage the NGB weather program and weather support to the Army National Guard.
- (6) Weather SME(s) to participate in Army Safety Investigation Boards when the Army believes weather or weather support may be present or a contributing factor.
- (7) Weather SMEs to participate in Army airfield inspections and certifications.
- (8) Tailored climatological information and long-range outlooks in direct support of Army planning and operations.
- (9) Technical assistance to the Army as they develop materiel solutions to meet the Army's weather responsibilities.
- (10) Recommendations on the purchase of standard weather sensors and sensing equipment to assist the Army in meeting its applicable responsibilities for tactical, installation, airfield and range weather sensing. The AF also ensures that AF contracts for sensor and sensing equipment purchases include an option for the Army to purchase these systems as applicable. The AF will assist the Army with required system certifications until an Army certification program is in place.
- (11) Weather data and information tailored to assist Army hydrological forecasting, terrain analysis and mobility assessments.

*b. Tactical/installation support plans development.* During mobilization, deployment/redeployment, contingency and emergency management/response plan development and in coordination with the supported Army commander, the AF develops a plan to provide the Army with weather services to support active and reserve component mobilization, deployment/redeployment, contingency operations, stay-behind forces, installations, garrisons, and airfields. During mobilization, deployment, and emergency management/response planning, the AF will provide staff weather services for the garrison commander.

*c. Tactical support.* The AF provides—

- (1) Personnel and equipment task-organized to conduct weather operations and provide weather services, to include tailoring and integrating weather effects information for mission planning and mission execution, based on the supported Army mission and commander's priorities. In coordination with the supported Army commander, the AF commander task-organizes habitually and non-habitually aligned AF personnel and equipment to conduct weather operations and provide weather services in support of the supported Army commander's mission.
- (2) TPFDD entries for AF personnel and AF provided equipment unit type codes (see para 2-2d(2)).
- (3) Habitually aligned AF personnel at the following active and reserve component echelon headquarters in direct support of— ASCCs, Corps, Divisions, Combat Aviation Brigades (CAB), Brigade Combat Teams (BCT), Armored Cavalry Regiments, Special Forces Groups, Ranger Regiments, and Special Operations Aviation Regiments (SOAR), both in garrison and when deployed. The AF may task organize to provide direct support at Aviation Battalions and Special Operations Battalions headquarters. The AF will provide direct support to Theater Intelligence Brigades.
- (4) Surface weather sensing capability at locations where the AF has deployed weather personnel. The AF will provide airfield weather services at CAB, Regiment, and SOAR main airfields at a comparable level of support provided to installation and garrison airfields.
- (5) Advice to Army leadership during determination of emplacement locations for Army-owned weather sensing equipment.

*d. Army installation and installation airfield support.* The AF provides airfield weather services to include surface sensing capabilities to meet operational weather observing requirements at Army ATC-controlled airfields. The AF task organizes to provide personnel to augment (supplement and back up) automated sensing capabilities at these airfields. The AF provides direct support to garrison commanders in support of emergency management and response, airfield, range, deployment, and mobilization operations.

*e. Numerical weather modeling.* The AF leads synoptic and meso-scale numerical weather modeling efforts and teams with the Army to develop micro-scale models and nowcasting tools. The AF assists the Army with verification and validation of micro-scale analysis and forecasting models.

*f. Environmental scenario.* The AF provides a replication of the operational weather environment at the required resolution to support Army training and operational systems during BCT and higher-level exercises, aviation/special operations battalion and higher exercises, and for weapons system simulators.

*g. Weather decision aids and exploitation tools.*

- (1) The AF provides critical and operationally significant threshold values for weather impacts on AF and air

component threat systems to the Army for inclusion into Army-developed weather effects decision aids and Central Rules Database.

(2) The AF teams with the Army to develop *operational and tactical level*-decision aids and exploitation tools. The AF assists the Army with development of *Soldier level*-decision aids and exploitation tools.

*h. Weather services hardware/software.* The AF provides a weather services software toolkit for integration with an Army command and control system (for example, an intelligence system) in the tactical environment. The AF provides the same weather services software toolkit and AF provided hardware for weather personnel use in garrison.

*i. Air Force systems development.* The AF, with Army assistance, designs systems to operate in the tactical environment and meet Army standard criteria for tactical mobility, target signature, and communications capability and accreditation.

*j. Office of the Federal Coordinator for Meteorology Liaison.* The AF provides a liaison to the Office of the Federal Coordinator for Meteorology (OFCM) to identify federal weather issues that affect both the AF and Army.

### **3-3. Communications responsibilities**

*a.* The AF funds, provides, installs, tests and evaluates, operates and maintains—

(1) AF- or Defense Information Services Agency (DISA)-provided communications capability to transmit weather data to/from the Army's tactical enterprise via theater uplink/downlink sites (for example, Global Broadcast Service uplink sites), or the Joint forces theater entry point for common-user communications.

(2) Air Force- or DISA-provided common-user communications systems (for example, Defense Information Systems Network), to transmit weather data to the Army's non-tactical enterprise in support of Army installation, garrison, airfield, and range operations.

(3) The AF-provided non-tactical specialized weather systems.

*b.* The AF will meet Army-specific security and information assurance certification/accreditation requirements for AF-provided equipment and software that are expected to operate on Army garrison/installation locations and/or on Army tactical networks.

### **3-4. Training responsibilities**

*a.* The AF trains AF personnel—

(1) On technical weather skills required to conduct weather operations and provide weather services in support of the Army.

(2) To operate and perform user-level maintenance of AF-provided weather equipment and software.

*b.* The AF trains Army—

(1) Commanders and staff of Army units with habitually aligned AF personnel on AF weather operational capabilities, concepts and limitations.

(2) Personnel to take and disseminate supplemental weather observations in support of Army operations. This training includes, but is not limited to, air traffic controllers, military intelligence, aviation support, and Special Operations Forces personnel assigned supplemental observing duties.

*c.* AF commanders validate that AF-issued operator licenses meet, or arrange training to meet, the inter-Service reciprocity requirements stated in AR 600-55.

*d.* AF provides functional area SMEs to assist Army development of instructional materials for use in Army courses and continuation training programs. This includes, but is not limited to, providing lesson plans and materials required for Army instructors to teach the roles, responsibilities and operational concepts of AF weather operations to Army personnel.

### **3-5. Administration, budget, and logistics responsibilities**

The AF funds and provides (on a non-reimbursable basis from the Army)—

*a.* Manpower (for example active and reserve component military, government civilian, contractor) to conduct weather operations and provide weather services that are the responsibility of the AF as specified in this regulation.

*b.* Travel and per-diem of non-located AF personnel conducting weather operations and providing weather services in support of the Army to the supported Army unit's location for training and non-contingency operations.

*c.* Shipment of equipment (supplemental) owned by non-located AF organizations to the supported Army unit's location for training and non-contingency operations.

*d.* Installation, test and evaluation, maintenance, spare and consumable parts of all AF-provided fixed and tactical weather equipment except as stated in paragraph 2-5p. The AF leads PSA development and provides technical assistance to Army allied support efforts.

- e.* Depot-level maintenance for AF-provided vehicles.
- f.* Standard individual equipment issued to AF personnel.
- g.* Tactical equipment to supplement Army-provided MTOE items as required (this may include individual equipment, weapons, and vehicles).
- h.* Functional area SMEs to assist Army development of instructional materials for use in Army courses and continuation training programs.
- i.* Pay (for example hazardous and special duty) and allowances except travel pay and per diem when an Army responsibility as defined in chapter 2.

## **Appendix A References**

### **Section I Required Publications**

#### **AR 600–55**

The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing) (Cited in para 3–4c.)

### **Section II Related Publications**

A related publication is a source of additional information. The user does not have to read it to understand this publication.

#### **AR 11–2**

Management Control

#### **AR 25–30**

The Army Publishing Program

#### **AR 70–1**

Army Acquisition Policy

#### **AR 71–9**

Materiel Requirements

#### **AR 95–1**

Flight Regulations

#### **AR 95–2**

Airspace, Airfields/Heliports, Flight Activities, Air Traffic Control and Navigational Aids

#### **AR 95–23**

Unmanned Aircraft System Flight Regulations

#### **AR 525–27**

Army Emergency Management Program

#### **DOD 5105–21–M–1**

Department of Defense Sensitive Compartmented Information Administrative Security Manual

#### **DODD 8000.01**

Management of Department of Defense Information Enterprise

#### **DODI 4000.19**

Interservice and Intragovernmental Support

#### **FM 1**

The Army

#### **FM 1–01**

Generating Force Support for Operations

#### **FM 1–02 (MCRP 5–12A)**

Operational Terms and Graphics

#### **FM 2–0**

Intelligence

**FM 3-0**

Operations

**FM 3-0.1**

The Modular Force

**FM 3-04.111**

Aviation Brigades

**FM 3-04.155**

Army Unmanned Aircraft System Operations

**FM 3-05**

Army Special Operations Forces

**FM 3-05.50**

Army Special Operations Forces Ranger Operations

**FM 3-05.60**

Army Special Operations Forces Aviation Operations

**FM 3-09.15**

Tactics, Techniques, and Procedures for Field Artillery Meteorology

**FM 3-35**

Army Deployment and Redeployment

**FM 3-90**

Tactics

**FM 3-90.6**

The Brigade Combat Team

**FM 5-0**

Army Planning and Orders Production

**FM 6-0**

Mission Command: Command and Control of Army Forces

**FM 6-20-10**

Tactics, Techniques, Procedures for the Targeting Process

**FM 7-0**

Training the Force

**FM 7-15**

The Army Universal Task List

**FM 17-95**

Cavalry Operations

**FM 34-81**

Weather Support for Army Tactical Forces

**FMI 2-01**

Intelligence, Surveillance, and Recognizance Synchronization

**FMI 2-01.301**

Specific Tactics, Techniques, and Procedures and Applications for Intelligence Preparation of the Battlefield

**AFPD 15-1**

Atmospheric and Space Environmental Support

**AFI 15-180**

Air Force Weather Standardization and Evaluation Program

**AFVA 15-136**

Air Force Operational Weather Squadron Areas of Responsibility - CONUS

**AFVA 15-137**

Air Force Operational Weather Squadron Areas of Responsibility - OCONUS

**AFDD 2-9.1**

Weather Operations

**AFI 15-128**

Aerospace Weather Operations - Roles and Responsibilities

**AFMAN 15-129**

Aerospace Weather Operations - Processes and Procedures

**AFI 15-182**

Weather Operations Capabilities-Based Activities

**AFMAN 15-111**

Surface Weather Observations

**AFPD 10-35**

Battlefield Airman

**AFTTP 3-1.8**

Tactical Employment of Guardian Angel and Special Tactics Forces

**CJCSI 3810.01B**

Meteorological and Oceanographic Operations

**CJCSI 3170.01F**

Joint Capabilities Integration and Development System

**JP -1**

Doctrine for the Armed Forces of the United States

**JP 1-02**

Department of Defense Dictionary of Military and Associated Terms

**JP 3-0**

Joint Operations

**JP 3-05**

Doctrine for Joint Special Operations

**JP 3-59**

Joint Publication Meteorological and Oceanographic Operations

**Section III**

**Prescribed Forms**

This section contains no entries.

**Section IV**

**Referenced Forms**

DA Form is available on the Army Publishing Directorate Web site (<http://www.apd.army.mil>). AF Form is available from the Air Force Web site at (<http://www.e-publishing.af.mil/>).

### **DA Form 2028**

Recommended Changes to Publications and Blank Forms

### **AF Form 847**

Recommendation for Change of Publication

## **Appendix B Army Services Provided to Air Force Personnel**

### **B-1. Services**

Per paragraph 2-5*l*, Army services provided to AF personnel includes but are not limited to the following:

- Accounting and Finance
- Billeting and Temporary Lodging
- Chaplain
- Chapel and Religious
- Child Development
- Contracting
- COMSEC Storage and Custodian
- Dental and Medical (provided according to existing DOD policies and AF instructions)
- Education and Schools
- Equal Opportunity Office
- Exchange and Commissary
- Family and Unaccompanied Housing
- Family Support
- Fire and Police
- Furnishing for Family and Unaccompanied Housing when applicable
- Hazardous Materials and Environmental Protection
- Inspector General
- Legal
- Library
- Mess, Field Rations and Dining
- Moral, Welfare, Recreation
- Mortuary
- Packing and Crating
- Pass and Identification
- Postal
- Public Affairs
- Recreation and Physical Training Facilities
- SSO and Personnel Security Services
- Transportation Office services (for example personal property, permanent change of station, temporary duty (TDY), tactical equipment shipment)
- Veterinary
- Youth Services

### **B-2. Exceptions**

Civilians and contractors may not be eligible for some of these services per regulation or law.

## **Glossary**

### **Section I Abbreviations**

#### **A2C2**

Army Airspace Command and Control

#### **ACOM**

Army Command

#### **ADCON**

administrative control

#### **AF**

U.S. Air Force

#### **AF/A3/5**

Air Force Operations, Plans, and Requirements

#### **AF/A30–W**

Air Force Director of Weather

#### **AFDD**

Air Force Doctrine Document

#### **AFI**

Air Force Instruction

#### **AFMAN**

Air Force Manual

#### **AFPD**

Air Force Policy Directive

#### **AFVA**

Air Force Visual Aid

#### **AMC**

U.S. Army Materiel Command area of operation (AO)

#### **AO**

area of operation

#### **AR**

Army regulation

#### **ASA(ALT)**

Assistant Secretary of the Army (Acquisition, Logistics and Technology)

#### **ASCC**

Army Service Component Command

#### **ATC**

air traffic control

#### **ATEC**

U.S. Army Test and Evaluation Command

#### **BCT**

brigade combat team

**CAB**

combat aviation brigade

**CBRNE**

chemical, biological, radiological, nuclear, high-yield explosive

**CG**

commanding general

**CIO, G-6**

Chief Information Officer, G-6

**COMSEC**

communications security

**CPX**

command post exercise

**CTA**

common table of allowance

**DCS, G-2**

Deputy Chief of Staff, G-2

**DCS, G-3/5/7**

Deputy Chief of Staff, G-3/5/7

**DISA**

Defense Information Services Agency

**DOD**

Department of Defense

**DODD**

Department of Defense Directive

**DODI**

Department of Defense Instruction

**DOTMLPF**

doctrine, organization, training, materiel, leadership and education, personnel and facilities

**DRU**

Direct Reporting Unit

**FM**

field manual

**FTX**

field training exercise

**HQ**

headquarters

**HQDA**

Headquarters, Department of the Army

**HQ USAF**

Headquarters, United States Air Force

**IP**

Interservice Publication

**IP**

Interservice Publication

**JCIDS**

Joint Capability Integration and Development Systems

**JOPES**

Joint Operational Planning and Execution System

**JP**

Joint publication

**JROC**

Joint Requirements Oversight Council

**JTR**

Joint Travel Regulation

**MEDCOM**

U.S. Army Medical Command

**METT-TC**

Mission, enemy, terrain and weather, troops and support available, time available, and civil considerations

**MRX**

mission rehearsal exercise

**MTOE**

modification table of organization and equipment

**NATO**

North Atlantic Treaty Organization

**NGB**

National Guard Bureau

**NWS**

National Weather Service

**OFCM**

Office of the Federal Coordinator for Meteorology

**O&M**

operations and maintenance

**OPCON**

operational control

**PSA**

Project Support Agreement

**R&D**

research and development

**RC**

Reserve Component

**RDT&E**

research, development, test, and evaluation

**SAF/XC**

Secretary of the Air Force, Warfighting Integration and Chief Information Officer

**SCI**

sensitive compartmented information

**SG**

surgeon general

**SME**

subject matter expert

**SOAR**

Special Operations Aviation Regiment

**SSO**

Special Security Office

**SUAS**

Small Unmanned Aircraft System

**SWO**

staff weather officer

**TACON**

tactical control

**TDA**

table of distribution and allowances

**TDY**

temporary duty

**TOC**

Tactical Operation Center

**TOE**

table of organization and equipment

**TPFDD**

time-phased force deployment database

**TRADOC**

U.S. Army Training and Doctrine Command

**UAS**

unmanned aircraft systems

**UAV**

unmanned aerial vehicle

**USACE**

U.S. Army Corps of Engineers

**USACRC**

U.S. Army Combat Readiness Center/Safety Center

**USAF**  
U.S. Air Force

## **Section II**

### **Terms**

#### **Administrative control**

(DOD) Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. Also called administrative control. (JP 1)

#### **Airfield**

(DOD) An area prepared for the accommodation (including any buildings, installations, and equipment), landing, and takeoff of aircraft. See also alternate airfield; departure airfield; landing area; landing point; landing site; main airfield; redeployment airfield. (JP 1-02)

#### **Airfield weather services**

For an installation, garrison, or tactical airfield— 1) Augmenting (supplementing/backing-up) automated systems when required or manually taking, recording, and disseminating surface weather observations; 2) Issuing, amending, and canceling forecasted and observed weather watches, warnings, and advisories; 3) Producing and amending airfield weather forecasts.

#### **Air Force personnel**

In the context of this regulation, AF provided military, civilian, and contractor personnel conducting weather operations, providing weather services, commanding/controlling weather operations/services, and operating or maintaining weather systems. Note: civilians and contractors may not provide or be eligible for some services per regulation or law

#### **Augmentation (related to automated weather observing systems)**

The process of having certified weather personnel manually add or edit data to an observation generated by a properly sited automated observing system. The two augmentation processes used are supplementing and back up.

#### **Backup**

The method of manually providing meteorological data, and/or dissemination to an automated weather observation when the primary automated method is not operational or unavailable (due to sensor or communication failures) or when unrepresentative and operationally significant.

#### **Decision**

(DOD) In an estimate of the situation, a clear and concise statement of the line of action intended to be followed by the commander as the one most favorable to the successful accomplishment of the assigned mission.

#### **Deployed**

Away from home station to conduct training or operations; in a contingency area of operations. (JP 1-02)

#### **Depot maintenance**

(DOD) That maintenance performed on materiel requiring major overhaul or a complete rebuild of parts, assemblies, subassemblies, and end-items, including the manufacture of parts, modifications, testing, and reclamation as required. Depot maintenance serves to support lower categories of maintenance by providing technical assistance and performing that maintenance beyond their responsibility. Depot maintenance provides stocks of serviceable equipment by using more extensive facilities for repair than are available in lower level maintenance activities. (JP 1-02)

#### **Direct support**

A mission requiring a force to support another specific force and authorizing it to answer directly to the supported force's request for assistance Also called direct support (JP 1-02). Direct support may be provided either by collocation of forces or via reachback. Physical collocation is Mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC) dependent.

#### **Emergency Management and Response**

Capabilities and services designed to reduce the loss of personnel and capabilities due to accidents, health threats, and natural disasters. (JP 3-0)

**Environmental services**

(DOD) The various combinations of scientific, technical, and advisory activities (including modification processes, i.e., the influence of manmade and natural factors) required to acquire, produce, and supply information on the past, present, and future states of space, atmospheric, oceanographic, and terrestrial surroundings for use in military planning and decision-making processes, or to modify those surroundings to enhance military operations. (JP 1-02)

**Garrison force**

(DOD, NATO) All units assigned to a base or area for defense, development, operation, and maintenance of facilities.

**General support**

That support which is given to the supported force as a whole and not to any particular subdivision thereof. General support is normally provided via non-located forces or intra-theater reachback. (JP 1-02)

**Habitual alignment**

A documented standing support relationship between two organizations, or personnel and an organization.

**Hydrology**

The scientific study of the waters of the earth, especially with relation to the effects of precipitation and evaporation upon the occurrence and character of water on or below the land surface. National Weather Service (NWS Glossary).

**Information**

(DOD) 1) Facts, data, or instructions in any medium or form; 2) The meaning that a human assigns to data by means of the known conventions used in their representation. (JP 1-02)

**Information technology**

Any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information by the DOD Component. The term "information technology" includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. (DODD 8000.01)

**Installation**

(DOD) A grouping of facilities, located in the same vicinity, which support particular functions. Installations may be elements of a base. See also base; base complex. (JP 1-02)

**Intelligence collection Plan**

(DOD) A plan for gathering information from all available sources to meet an intelligence requirement. Specifically, a logical plan for transforming the essential elements of information into orders or requests to sources within a required time limit. See also intelligence process. (JP 1-02)

**Maintenance (materiel)**

(DOD) 1. All action taken to retain materiel in a serviceable condition or to restore it to serviceability. It includes inspection, testing, servicing, classification as to serviceability, repair, rebuilding, and reclamation. 2. All supply and repair action taken to keep a force in condition to carry out its mission. 3. The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously used at its original or designed capacity and efficiency for its intended purpose. (JP 1-02)

**Mesoscale**

Size scale referring to weather systems smaller than synoptic-scale systems but larger than storm-scale systems. Horizontal dimensions generally range from around 50 miles to several hundred miles. Squall lines, mesoscale convective complexes, and mesoscale convective systems are examples of mesoscale weather systems. (NWS Glossary)

**Meteorological data**

(DOD) Meteorological facts pertaining to the atmosphere, such as wind, temperature, air density, and other phenomena that affect military operations. See also weather data. In the context of this regulation, synonymous with weather data. (JP 1-02)

**Microscale**

Pertaining to meteorological phenomena, such as wind circulations or cloud patterns, that are less than 2 km in horizontal extent. (NWS Glossary)

**Military requirement**

(DOD, NATO) An established need justifying the timely allocation of resources to achieve a capability to accomplish approved military objectives, missions, or tasks. Also called operational requirement. (JP 1-02)

**Mission weather services**

Production of and provision of tailored mission planning and execution forecasts and mission-tailored weather effects (for example, weather impacts) to support operational decision-making and mission execution. Conducting mission-focused meteorological overwatch (also known as, MISSIONWATCH) for the supported Army unit's area of operation (AO).

**Nowcast**

Generally, a forecast of zero to three hours, though up to six hours may be used in some cases. (NWS Glossary)

**Operational control**

(DOD) Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control (OPCON) is inherent in combatant command (command authority) and may be delegated within the command. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not include, in and of itself, authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. (JP-1)

**Operation and maintenance**

(DOD) Maintenance and repair of real property, operation of utilities, and provision of other services such as refuse collection and disposal, entomology, snow removal, and ice alleviation. Also called operations and maintenance (O&M). (JP 1-02)

**Organizational maintenance**

(DOD) That maintenance that is the responsibility of and performed by a using organization on its assigned equipment. Its phases normally consist of inspecting, servicing, lubricating, and adjusting, as well as the replacing of parts, minor assemblies, and subassemblies. (JP 1-02)

**Preventive maintenance**

(DOD) The care and servicing by personnel for the purpose of maintaining equipment and facilities in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects. (JP 1-02)

**Reachback**

The process of obtaining products, services, and applications, or forces, or equipment, or material from organizations that are not forward deployed. (JP 1-02)

**Residual forces**

(DOD) Unexpended portions of the remaining United States forces that have an immediate combat potential for continued military operations, and that have been deliberately withheld from utilization. (JP 1-02)

**Scheduled maintenance**

(DOD) Periodic prescribed inspection and/or servicing of equipment accomplished on a calendar, mileage, or hours of operation basis. See also organizational maintenance. (JP 1-02)

### **Small Unmanned Aircraft System**

UAS characterized by close range, short duration missions (for example, 1 to 2 hours). This class of UAS operates below the coordinating altitude identified in the airspace control plan. Also called SUAS. (JP 1-02)

### **Staff supervision**

As a member of the supported commander's special staff, the SWO requires Army staff guidance to fully execute those duties. A staff relationship consisting of formal guidance and assistance provided to AF SWOs by Army Chiefs of Staff, G-2/S-2s, and other staff members with Army administrative functions, interpretation of the Army guidance, staff, budget, and other issues.

### **Staff Weather Officer**

The AF senior weather representative (officer or non-commissioned officer) at each Army echelon, who serves as a member of the Army commander's special or personal staff.

### **Staff weather services**

Providing the supported Army commander weather subject matter expertise during Army Airspace Command and Control (A2C2) collection management/intelligence, surveillance, and reconnaissance synch, military decisionmaking process, plans development, and other staff and decisionmaking processes and operations. Providing oversight of weather services provided to subordinate commanders of the SWO's supported Army commanders. Integration of tailored mission planning/execution forecasts and mission-tailored weather effects (for example, weather impacts) to support operational decision-making and mission execution.

### **Supplement**

A method of manually adding meteorological information to an automated observation that is beyond the capabilities of the automated observing system to detect and/or report.

### **Synoptic scale**

The spatial scale of the migratory high and low pressure systems of the lower troposphere, with wavelengths of 1000 to 2500 km. (NWS Glossary)

### **Tactical**

Real-world or simulated deployed conditions/operations at home station, training centers, or other locations. Command post exercises (CPX), field training exercises (FTX), mission rehearsal exercises (MRX), and other exercises are considered tactical conditions/operations. (JP 1-02)

### **Tactical level of war**

(DOD) The level of war at which battles and engagements are planned and executed to achieve military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives. (JP 3-0)

### **Tactical control**

(DOD) Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Tactical control (TACON) is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. Tactical control provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets within the assigned mission or task. (JP 1)

### **Tactical Operations Center**

(DOD) A physical groupment of those elements of a general and special staff concerned with the current tactical operations and the tactical support thereof. Also called Tactical Operation Center (TOC). See also command post. (JP 1-02)

### **Task-Organizing**

(DOD) The act of designing an operating force, support staff, or logistic package of specific size and composition to meet a unique task or mission. Characteristics to examine when task-organizing the force include, but are not limited to: training, experience, equipment, sustainability, operating environment, enemy threat, and mobility. (JP 3-05)

### **Unmanned Aircraft System**

That system whose components include the necessary equipment, network, and personnel to control an unmanned

aircraft. Also called UAS (JP 1-02). Note: Unmanned aircraft may also be referred to as unmanned aerial vehicles (UAVs).

**Unmanned aerial vehicle**

A powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable and can carry a lethal or non-lethal payload. Ballistic or semi ballistic vehicles, cruise missiles and artillery projectiles are not considered unmanned aerial vehicles. (JP 1-02)

**Weather data**

See Meteorological Data.

**Weather operations**

Five core processes-collection, analysis, prediction, tailoring, and integration-to characterize the past, current, and future state of the atmosphere and space environment then enable the exploitation of this environmental information at key decision points.

**Weather services**

A specialized task performed by air and space forces to provide timely and accurate environmental information to support strategic, operational, and tactical military operations. (AFDD 1)

**Section III**

**Special Abbreviations and Terms**

This section contains no entries.

**UNCLASSIFIED**

**PIN 004536-000**