



# CHAIRMAN OF THE JOINT CHIEFS OF STAFF INSTRUCTION

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CJCSI 3810.01A  
25 February 1998

## METEOROLOGICAL AND OCEANOGRAPHIC OPERATIONS

Reference: Joint Pub 3-59, 22 December 1993, "Joint Doctrine for Meteorological and Oceanographic Support"

1. Purpose. To establish policy and assign responsibilities for conducting meteorological and oceanographic (METOC) operations at unified commands and other joint activities.
2. Cancellation. CJCSI 3810.01, 10 January 1995, is canceled.
3. Applicability. This instruction applies to the Services, unified commands, Joint Staff, and other joint activities.
4. Policy
  - a. The ocean, air, and space environments affect the ability of US military forces to accomplish their mission. Military operations must adapt to the METOC conditions affecting the deployment, employment, sustainment, and redeployment of military forces.
  - b. When determining how and when to perform a mission, a commander will consider the effects of the environment and include METOC operations as an integral part of deliberate and crisis action planning across the range of military operations.
  - c. Each CINC will designate a Senior METOC Officer (SMO) to coordinate all METOC operations within the Area of Responsibility. Normally, the SMO will be assigned to a joint billet on the unified command staff to most effectively integrate METOC operations with other joint operations and to coordinate component METOC operations. Enclosure B discusses responsibilities for joint METOC operations.

d. No entity is authorized to make a non-DOD source of METOC information available over DOD communications channels (including DOD-sponsored computer networks such as SIPRNET, NIPRNET, and INTELINK) unless it is determined by Service METOC personnel responsible for supporting that entity that the source information is sufficiently timely, accurate, and reliable. If the METOC information is specific to a particular unified command, the SMO for that unified command can make the determination.

e. The United States is party to an arms control treaty known as the Convention on the Prohibition of Military or Other Hostile Use of Environmental Modification Techniques (ENMOD Treaty). Enclosure C addresses US policy with respect to environmental and weather modification.

5. Definitions. The following definitions are not included in Joint Pub 1-02 and apply to this document only.

a. METOC. Acronym for meteorological and oceanographic. An all-encompassing term used to incorporate all facets of Services' meteorological, oceanographic, and space environmental operations that provide information on the whole range of atmospheric, oceanographic, and space environmental phenomena from the bottom of the Earth's oceans to the space environment.

b. METOC Forces and/or Personnel. Personnel trained to conduct meteorological, oceanographic, or space environmental operations. This does not imply personnel are necessarily capable of performing all three types of operations.

c. METOC Information. Meteorological, oceanographic, and space environment observations, analyses, and prognostic and climatological information and products.

d. METOC Operations. Planning, development, and provision of METOC information, support, and services.

6. Effective Date. This instruction is effective upon receipt.

For the Chairman of the Joint Chiefs of Staff:

  
STEPHEN T. RIPPE  
Major General, USA  
Vice Director, Joint Staff

Enclosures:

- A -- Background
- B -- Responsibilities For Meteorological and Oceanographic Operations
- C -- Policy for Weather Modification

ENCLOSURE A

BACKGROUND

1. Because of the rapidly changing nature of the air, space, and ocean environments, most METOC information is highly perishable and must be provided in a timely manner to enable commanders to either exploit the effects of the environment on operations or to mitigate those effects on friendly forces.
2. Communications is an essential element of METOC operations. Effective METOC operations depend upon timely, reliable communications. Communications must be designed to consider the movement of forces within the joint force area of operations (AO). The communications architecture must provide required forward linkage to processed and unprocessed METOC information from theater METOC centers. In addition to Annex H (METOC Support), CINC OPLANs must include METOC operations in the communications plan.
3. The National Oceanic and Atmospheric Administration (NOAA) and the World Meteorological Organization (WMO), through foreign national METOC services, provide the basic worldwide observation network. NOAA and foreign national observations or services may be used to enhance METOC operations. However, US military METOC operations must be capable of functioning without reliance on indigenous data or support.
4. US military METOC forces conduct unique operations in support of worldwide military operations and requirements involving sea, land, air, and space forces across the spectrum of politico-military affairs. Some examples of the forces and operations requiring unique METOC support include:
  - a. An aircraft carrier battle group (CVBG), an amphibious ready group/marine expeditionary unit (ARG/MEU), or antisubmarine warfare operations.
  - b. A mobile field army or air strike force.
  - c. National-level strategic intelligence, surveillance, or reconnaissance missions.
  - d. DOD space operations and worldwide communications.
  - e. Peacetime engagement or military operations other than war (MOOTW) such as peacekeeping or peacemaking operations, disaster relief operations, counterinsurgency or counterterrorist operations, and counterdrug operations.

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ENCLOSURE B

RESPONSIBILITIES FOR  
METEOROLOGICAL AND OCEANOGRAPHIC OPERATIONS

1. The Chairman of the Joint Chiefs of Staff:

a. Defines common communications and data standards for the transmission and receipt of METOC information between the Services to ensure interoperability.

b. Coordinates with the Services, USSOCOM, and US Governmental agencies to fulfill shortfalls in METOC capabilities and meet requirements of the supported and supporting CINCs.

c. Where appropriate, reviews operation plans to ensure adequacy, coordination, and interoperability of METOC resources and activities.

d. Defines and establishes doctrine for all aspects of joint employment of METOC assets and resources.

e. Evaluates and integrates operational METOC requirements of the CINCs and coordinates Service sponsorship per CJCSI 3170.01.

f. Provides recommendations to the Services concerning METOC training required to ensure that Service components can support joint operations.

g. Serves as the focal point for coordination of METOC operational support issues in the interagency and international arenas. Provides Joint Staff representatives as the DOD member of the following interagency and international organizations:

(1) The NATO Military Committee Meteorological Group.

(2) The Canada-US Regional Planning Group Meteorological Committee.

(3) The Canada-US Military Cooperation Committee Meteorological Subcommittee.

(4) Interdepartmental Board for Cooperation of the National Oceanic and Atmospheric Administration (NOAA) with the Department of Defense

h. Plan and prepare to coordinate execution actions required to deny METOC information (to include direct readout of meteorological satellite data) to an adversary while retaining use of the information for US and allied forces. Coordinate with the CINCs, Services, and other agencies of the US Government or allied or neutral nations as needed to ensure data denial is implemented.

2. The Chief of Staff, US Army, is responsible for surface and upper air observations in direct support of Army artillery systems and in areas forward of division main command posts not covered by the Air Force as described in the

National Security Act of 1947 and Army-Air Force joint directives and agreements.

3. The Chief of Naval Operations is responsible for:

- a. METOC operations in support of all elements of the Navy.
- b. METOC products in support of the Marine Corps.
- c. Oceanographic operations in support of all elements of the Department of Defense.

4. The Chief of Staff, US Air Force, is responsible for:

- a. Meteorological operations in support of all elements of the Air Force and all Army units in accordance with the National Security Act of 1947 and Army-Air Force directives and agreements.
- b. Space environmental operations in support of all elements of the Department of Defense.

5. The Commandant of the Marine Corps is responsible for meteorological operations in support of the Marine Air-Ground Task Force (MAGTF).

6. The Services:

- a. Organize, train, and equip personnel needed to conduct METOC operations in support of joint operations. Air Force meteorological personnel will be trained to support the Army in accordance with the National Security Act of 1947 and Army-Air Force directives and agreements.

- b. Plan for the continued evolution of peacetime METOC facilities, assets, support, and services to meet mobilization needs in coordination with Federal departments, the Joint Staff, NOAA/National Weather Service, or other appropriate authorities.

- (1) Forward to the Joint Staff requests for NOAA support such as ships, aircraft, commissioned officers, METOC equipment, and map and chart printing capabilities.

- (2) Coordinate directly with NOAA requests for NOAA environmental data and information.

- c. Promote interoperability with other Services' equipment and procedures to ensure unity of effort. Where feasible, assist other Services in accomplishing METOC functions, to include coordination of research and development efforts to avoid duplication and to ensure commonality in the development of METOC capabilities.

- d. Provide, operate, and maintain the METOC assets, tactical equipment, and capabilities organic to their own organizations.

7. USCINCSOC is responsible for acquiring interoperable special operations-unique METOC equipment and providing training to special operations METOC

personnel that is beyond Service responsibility and capability. USCINCSOC is also responsible for developing doctrine, tactics, techniques, and procedures for METOC support to special operations.

8. CINCs:

a. Designate a Senior METOC Officer (SMO) to coordinate all METOC operations within the Area of Responsibility. Normally, the SMO will be assigned to a joint billet on the unified command staff to most effectively integrate METOC operations with other joint operations and to coordinate component METOC operations.

b. Assign METOC tasks to, and direct coordination among, the components to ensure unity of effort. Tailor joint METOC operations to ensure a variety of options in response to any crisis. Options must be sufficiently agile to accommodate the uncertainties associated with the transition from a peacetime posture to crisis response.

c. During the initial planning for joint operations:

(1) Designate from existing resources a Joint Force METOC Forecast Unit (JMFU) and supporting METOC forecast centers.

(2) Coordinate with individual Services and other agencies for additional support required to meet the Joint Force Commander's (JFC's) METOC requirements.

d. Ensure that interoperable communications requirements for METOC information flow are clearly stated in an OPORD or other appropriate theater document and that interoperable resources are employed to support the transmission and receipt of METOC information and tactical decision aids.

e. Ensure that oceanographic, atmospheric, and space climatological information are considered during the planning of all operations.

f. Coordinate with US diplomatic missions, senior headquarters, and other US agencies, as required, to ensure all available METOC information and systems, as well as indigenous assets, information, and services are properly considered and made available for use by the joint force.

g. Integrate METOC training, communications and data standards, support forces, and Reserve training to support deployed and deployable units.

h. Develop and disseminate to the JFC and Service components a concept of operations (CONOPS) for METOC support to joint operations.

i. Plan and prepare to execute actions required to deny METOC information (to include direct readout of meteorological satellite data) to an adversary while retaining use of the information for US and allied forces. Coordinate with the Joint Staff all aspects of any plans and action that may impact other agencies of the US Government or allied or neutral nations.

9. Joint Force Commanders:

- a. Designate a Joint METOC Officer (JMO) for the Joint Force.
- b. Use apportioned component METOC assets and resources, including the US Coast Guard, while operating under the Department of Defense, to conduct METOC operations in support of joint operations, joint training exercises, and personnel exchanges. When appropriate, direct training of joint METOC personnel.
- c. Direct and coordinate the activities of all METOC assets under operational control to ensure unity of effort in supporting assigned missions.
- d. Identify METOC requirements, as well as any known shortfalls in the METOC capabilities.
- e. Coordinate with the appropriate CINC for centralized METOC support or other additional support required to fulfill operational needs not within the assigned forces' capabilities.
- f. Coordinate with the CINC to designate the location and composition of the JMFU and its staff deployed to the AO.
- g. Ensure all supporting METOC force elements are capable of exchanging information directly and freely with each other in a timely manner to ensure consistency and accuracy of information across the operational spectrum.
- h. Ensure ocean, air, and space environments are considered during the planning of all operations and that the JF METOC officer (JMO) is included at the beginning of the planning process.
- i. Plan and prepare to execute actions required to deny METOC information to an adversary while retaining use of the information for US and allied forces.

10. Service Components:

- a. Except for the Army components, provide trained METOC personnel equipped with interoperable METOC systems to conduct METOC operations in support of joint operations.
- b. Through their respective Services:
  - (1) Provide input to assist with coordination and prioritization of research and development efforts of the individual Services to avoid duplication and ensure commonality in the development of METOC operational capabilities, as appropriate.
  - (2) Coordinate and, as directed by Service agreements or regulations, participate in the funding and procurement of METOC equipment, except for unique special operations forces METOC equipment (see paragraph 7), for the collection, processing, receipt, storage, and transmission of METOC data. This equipment should be configured in accordance with CJCS guidance to ensure interoperability, exploit existing inter-Service capabilities, and avoid unneces-

sary duplication. Where feasible, equipment should be procured from a common source to reduce costs.

c. Upon initiation of joint operations planning:

(1) Use the CINC CONOPS as guidance in developing and disseminating specific guidance for METOC operations within the Service METOC organizations.

(2) Provide component METOC support requirements to the CINC and JFC, and identify any known shortfalls in the components' ability to conduct required METOC operations.

d. Provide funding for the deployment of METOC assets and resources in support of joint training exercises and contingencies in which their component forces are participating.

e. Provide funding, METOC personnel, and equipment to participate in informal training opportunities with other component organizations.

11. The Senior METOC Officer (SMO) to the CINC:

a. Develops and executes a METOC concept of operations that is integrated with, and complements, the CINC's concept of operations.

b. Obtains METOC information requirements from all joint forces, recommends assignment of METOC tasks, and coordinates with components to ensure unity of effort.

c. In most cases the JMO will be the METOC officer supporting the designated JFC. If a METOC officer is not assigned to the JFC, the SMO advises the JFC concerning which Service component should be responsible for providing the JMO.

d. Coordinates with the JMO, the Services, and other agencies for METOC support or other additional capabilities required to fulfill operational needs that are not within the components' ability to provide.

e. Through the deliberate planning and execution cycles, ensures Annex H (METOC Support) is developed for each CINC OPORD, OPLAN, or CONPLAN, as appropriate. This annex should define roles and responsibilities within the support structure and include a general description of METOC operations that will be further developed in the CONOPS and letters of instruction.

f. Coordinates METOC communication requirements with the CINC's J-6 and components, and assists in the development of Annex K (Communications) of each CINC OPORD, OPLAN, or CONPLAN, as appropriate.

g. Coordinates space environmental support requirements with USCINCSpace and components, and assists in the development of Annex N (Space Environmental Services) of each CINC OPORD, OPLAN, or CONPLAN, as appropriate.

h. With the CINC's approval and the aid of his staff, coordinates with the US diplomatic missions, Joint Staff, and other US agencies, as required, to ensure all available METOC information and systems, as well as indigenous assets and data, are properly considered and made available, if needed, for use by the joint force. Coordination should include a review of bilateral or multilateral treaties and treaty requirements where the provision of METOC information or services is concerned, as well as any memorandums of understanding with non-DOD agencies for the same purpose. Use of in-country assets should only add to the capability resident within US military METOC operational capabilities. US military METOC assets should maintain the capability to function in a stand-alone environment without receiving indigenous assistance.

i. Coordinates with the JFC and the JFC's METOC staff, and recommends to the CINC the establishment, staffing, and initial location of a JMFU and the joint force commander's METOC staff, consistent with the scope and mission of the joint force.

j. Ensures all METOC personnel and equipment requirements are included in the Time-Phased Force Deployment Data (TPFDD) and that METOC TPFDD requirements are validated.

k. Determines if non-DOD sources of METOC information are appropriate for links via DOD channels in his/her command's AOR. No entity is authorized to make a non-DOD source of METOC information available over DOD communications channels (including DOD-sponsored computer networks such as SIPRNET, NIPRNET, and INTELINK) unless it is determined by Service METOC personnel responsible for supporting that entity that the source information is sufficiently timely, accurate, and reliable. If the METOC information is specific to a particular unified command, the SMO for that unified command can make the determination.

## 12. Joint Force METOC Officer (JMO):

a. Assembles the joint force commander's METOC staff and equipment, consisting of the personnel and resources assigned by the CINC and consistent with the scope of the joint force mission.

b. Assists the CINC SMO in determining whether a JMFU is required in the joint AO. If a JMFU is required, assists CINC SMO in establishing one within the AO upon deployment, or in conjunction with transitioning JMFU responsibilities to the AO from a central production facility outside the AO.

c. Assists the JFC and staff in developing and executing METOC operational plans and procedures.

d. Establishes and publishes information requirements and formats and coordinates METOC operations for the joint force.

e. Monitors METOC operations within the AO and coordinates with the CINC SMO concerning METOC manning, communications, and information and services requirements beyond the capabilities of assigned METOC assets. Requests additional resources through the JFC.

f. During the execution phase, coordinates with the CINC SMO on updates to Annex H to the supporting joint force OPLAN or OPORD. This annex should define the roles and responsibilities within the support structure and include a general description of METOC operations to be further defined in letters of instruction.

g. Coordinates METOC communication requirements not addressed at the theater CINC level with the CINC SMO, joint force J-6, and Service component communicators; and assists in the development of Annex K (Communications) of each JFC OPORD, OPLAN, or CONPLAN, as appropriate.

h. Coordinates with the CINC SMO, JF USSPACECOM representative, and applicable Service component representatives those space environmental support requirements not addressed at the CINC level; and assists in the development of Annex N (Space Environmental Services) of each JFC OPORD, OPLAN, or CONPLAN, as appropriate.

i. Ensures METOC requirements are included in the JFC communications connectivity allocation process within the joint force.

j. Coordinates with the CINC SMO to ensure all available METOC information and resources, as well as indigenous assets and data, are properly considered and made available for use by joint forces.

k. Coordinates with the Air Mobility Element (if deployed) or the Air Mobility Command (AMC) weather functional manager through USTRANSCOM for any METOC mission support issues regarding strategic air mobility. Coordinate with the appropriate Numbered Fleet METOC officer and Military Sealift Command for any METOC mission support issues regarding strategic sealift.

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ENCLOSURE C

US GOVERNMENT POLICY REGARDING WEATHER MODIFICATION

1. The United States is party to an arms control treaty known as the "Convention on the Prohibition of Military or other Hostile Use of Environmental Modification Techniques" (ENMOD Treaty), ratified in 1980.

a. The ENMOD Treaty states that "Each State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long lasting, or severe effects as the means of destruction, damage, or injury to any other State Party." Furthermore, "Each State Party to this Convention undertakes not to assist, encourage or induce any State, group of States or international organization to engage in activities contrary to the provisions of paragraph 1 of this article" (referring to first quotation).

b. Environmental modification techniques refer to any techniques for changing (through the deliberate manipulation of natural processes) the dynamics, composition, or structure of the earth, including its biota, lithosphere, hydrosphere, and atmosphere, or of outer space.

2. The terms "widespread," "long lasting," and "severe" will be interpreted as follows:

a. Widespread. Encompassing an area on the scale of several hundred square kilometers.

b. Long lasting. Lasting for a period of months, or approximately a season.

c. Severe. Involving serious or significant disruption or harm to human life, natural and economic resources, or other assets.

3. The United States occasionally receives requests for assistance with weather modification operations in foreign nations, some of which are proposed initially to US military commands or agencies located in those nations. In the event foreign nations or international organizations request assistance with weather modifications, they should be informed to forward their request through diplomatic channels to the Department of State. No encouragement or commitment should be indicated by the receiving military organization.

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