

Meteorological Support

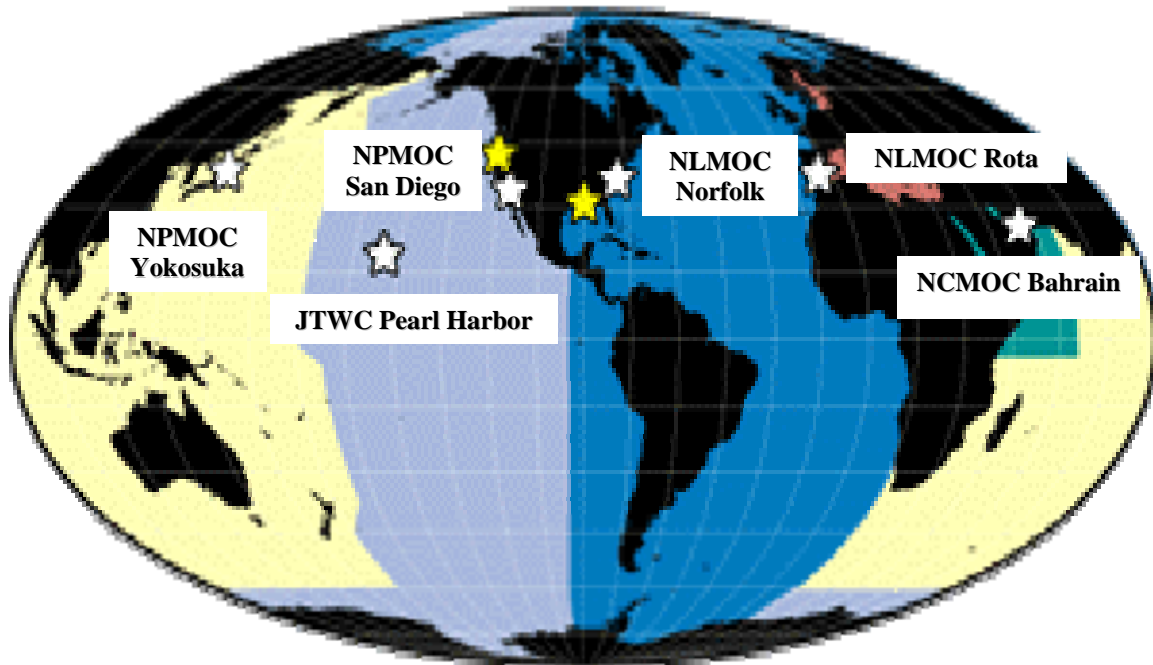
Scope. To provide an overview of Naval Meteorology and Oceanography (METOC) capabilities to support Regional and Installation EM Programs, especially in the areas of Modeling & Simulation and advance warning of weather- and water-related emergencies.

References.

- (a) Joint Publication 3-59 Joint Doctrine, Tactics, Techniques, and Procedures for Meteorology and Oceanography (METOC) Operations (23 March 1999)
- (b) OPNAV Instruction 5450.165(Series) Mission and Functions of Commander, Naval Meteorology and Oceanography Command (8 August 2001)

Preparedness. Naval Meteorology and Oceanography (METOC) commands and their associated detachments provide meteorology, climatology, forecasting, modeling, and analysis support to Regions and Installations per references (a) and (b). Commander, Naval Meteorological & Oceanographic Command (COMNAVMETOCOM) coordinates all Naval METOC activities through six Echelon Three commands located at San Diego, Pearl Harbor, Yokosuka, Bahrain, Rota, and Norfolk as shown in Figure FA-10. Detachments under the administrative control of these METOC commands are strategically located at Navy Installations worldwide in order to provide specific geographic coverage.

Figure FA-10: METOC Activities



METOC detachments should organize, train, equip, and exercise response capabilities consistent with the guidelines established in reference (b). These response capabilities

should support the concept of operations detailed within Standards 11 and 12 of Section 1 and reference (a). The employment of these response capabilities supports both the routine METOC requirements onboard the Regions and Installations and the requirements identified within the Navy Installation EM Program to conduct Modeling & Simulation services and provide advance warning of weather- and water-related emergencies in order to facilitate response and recovery from a small to moderate emergency onboard a Navy installation.

The attached table highlights specific training and equipment requirements based on a notional listing of organizational personnel.

Prevention & Mitigation. METOC detachment personnel, when requested by the ROC or EOC, will actively support the employment of Modeling & Simulation tools. These tools permit the ROC, EOC, and ICP to develop hazard models and employ these models within the decision-making process to determine the extent of the hazard(s) and direct appropriate actions (i.e. – hazard control zones, shelter-in-place orders, evacuation orders). See additional Modeling & Simulation information in Standard 11 of Section 1, especially information on the limitations of each specific modeling system.

METOC detachments provide critical input with regards to storm surge, hurricane tracks, and other weather- and water-related hazards. Recommendations from METOC detachments are critical to the employment of evacuation procedures and provide advance warning concerning the need for both shelter and safe haven operations.

Response. Designated METOC detachments operate a “WMD Package” utilizing Hazard Prediction Assessment Capability (HPAC) and Consequence Assessment Tool Set (CATS) software in order to produce forecast and analysis products in the event of a CBRNE incident.

The “WMD Package” provides four specific outputs for use by the ROC, EOC, and ICP:

- WMD Incident Local Area HPAC coverage chart (this shows how much area an agent will cover based on local observations and TAFs)
- Estimated Casualties Chart (Based on estimated population, terrain, dosage levels and meteorological data)
- Local Area Surface Analysis (with surface wind flow)
- Local Area Vertical Wind Profile. (based upon closest observed or forecasted Upper Air sounding).

METOC detachments can provide the following information immediately post-incident:

- Surface wind direction
- Surface wind speed
- Surface temperature
- Surface dew point
- Relative Humidity
- Vertical wind profile
 - Winds every 1000 feet from the surface up to 10,000 feet

METOC detachments require specific information in order to provide the most accurate model of the incident. Typical requested information includes:

- Where was the incident? (This must be specific, i.e. latitude, longitude or a specific street address or a specific intersection)
- What agent was released? What symptoms are being reported at the scene? (This must also be specific, i.e. Sarin, VX, Anthrax etc). Symptoms can help the HPAC division identify the correct agent that was used.
- How much of the agent was released? (This will probably be an estimate, but must be reported in kilograms or pounds).
- When was the agent released? (This must also be specific, at least to the nearest hour if possible)

Additional information that can be crucial to an accurate prediction of fallout or area affected includes:

- How was the agent delivered? (i.e. surface explosion, surface release, air burst, delivered from an aircraft etc)
- Was this a terrorist incident or an industrial accident?

Recovery. METOC detachment personnel continue to support designated recovery efforts until released by the Regional/Installation Commander or higher authority.

Sustainment. COMNAVMETOCCOM is responsible for the proper programming and budgeting to support all METOC operations.

Requirements Table. Table FA-18 provides a summary listing of recommended training & equipment for various positions within METOC that may be involved in a response. This table should not be considered an all-inclusive list of requirements, but rather a guide to be thoroughly examined on the basis of Regional and Installation needs. This table is **not** tiered by group designation, but is designed to list notional training and equipment required should the specific position exist.

Nothing in Table FA-18 mandates development of a specific capability, only the training and equipment required to field such a capability correctly if such a capability is required by the Regional & Installation EM Plan.

Table FA-18: METOC Representative – Training & Equipment Requirements

Requirements		ICS – Basic	ICS - Intermediate	ICS - Advanced	ICS - EOC	Task Specific Training	EOC Training	Level D PPE (based on tasks)	
		Job Position	NONE ASSIGNED						
Category 5 (On Scene)		NONE ASSIGNED							
Category 5 (ICP)		NONE ASSIGNED							
Category 5 (EOC)		NONE ASSIGNED							
METOC/Hazard Prediction*		X	R	O	R	X	X		
Legend	X = Required Training (if representative/function present onboard Installation) R = Required when assigned to specific duties O = Optional Assignment, (notable benefit to response organization if assignment made – manning dependent) + = Required Equipment * = If assigned to Region or Installation								