

## CHAPTER 14

# ADMINISTRATION AND TRAINING

Command effectiveness is directly related to the efficiency of command administrative functions and command training programs; the command that handles their day-to-day administrative duties and training evolutions efficiently will excel.

This chapter will deal with just a few of the many administrative details and training initiatives that the senior petty officer and chief petty officer should be familiar with.

We will first discuss command administrative functions, followed by command training functions.

### ADMINISTRATIVE FUNCTIONS

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**LEARNING OBJECTIVES:** Prepare monthly records transmittal forms, monthly bathythermograph observations records (when required), annual meteorological station and description reports, and, as required, special incident reports.

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This section will introduce three administrative functions, the first being a monthly requirement, the second an annual requirement, and the third, as the situation warrants. The first two topics are covered in the *U.S. Navy Oceanographic and Meteorological Support System Manual*, NAVMETOCCOMINST 3140.1, and the third in the instruction, *Special Incident Reporting (OPREP-3 and UNIT SITREP) Procedures*, NAVMETOCCOMINST 3100.2.

### METEOROLOGICAL RECORDS TRANSMITTAL

The monthly meteorological records transmittal should include meteorological information and, if required, bathythermographic information.

#### Meteorological Information

Only the original copy of observation records will be forwarded. Ensure the records are neat, legible, and in chronological order. Geographical positions *will not* be deleted in order to make the records unclassified.

Classified observations will be forwarded in accordance with OPNAVINST 5510.1.

Use CNMOC Form 3140/6, Meteorological Records Transmittal Form (Report Symbol 3140-6), in preparing your package. See figure 14-1. Instructions for completing the form and for packaging are found on the back of the form. The form further specifies all enclosures. Mail the package between the first and fifth of the following month to:

Officer-in-Charge  
FLENUMMETOCDET  
Federal Building  
Asheville, NC 28801-2696

**NOTE:** A new digital transmittal form will go into effect during 1995. This form, CNMOC Form 3140/2DF, will replace the current CNMOC Form 3140/6.

Copies of all weather records are to be retained for a minimum of 6 months.

### Bathythermograph Observation Records

Forward the original copy of the Bathythermograph Log (Report Symbol 3140-1), CNMOC Form 3167/2 (see fig. 14-2), between the first and fifth of the following month as follows:

Classified log sheets are to be forwarded in accordance with OPNAVINST 5510.1 to:

Commanding Officer  
Naval Oceanographic Office  
ATTN: Code N3412  
Stennis Space Center, MS 39522-5001

Unclassified log sheets are to be forwarded to:

National Oceanographic Data Center  
1825 Connecticut Ave., N.W.  
Washington, DC 20235

Ensure all entries of date/time, position, and declassification instructions are included, as appropriate.

# NAVAL OCEANOGRAPHY COMMAND

## METEOROLOGICAL RECORDS

### TRANSMITTAL FORM



FROM: ACTIVITY & ADDRESS	TO: OFFICER IN CHARGE NAVAL OCEANOGRAPHY COMMAND DETACHMENT FEDERAL BUILDING ASHEVILLE, NC 28801	DATE:  DAILY HOURS OF SURFACE OBSERVATIONS:
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**METEOROLOGICAL RECORDS SUBMITTED**

SURFACE OBSERVATIONS		(X)	AUTOGRAPHS		(X)
NOC Form 3141/1 (Airways)			GMC - 29 (Wind Speed/Direction Chart)		
NOC Form 3141/2 (Ship)			Barograph		
NOC Form 3140.11 (METAR)			Other:		
TOTAL # OF UPPER AIR OBSERVATIONS			RADIOSONDE ELEMENTS & COMPUTERS		
WINDS ALOFT	(#)	RADIOSONDE	(#)		
0000 UTC		0000 UTC		Thermistor:	
0600 UTC		0600 UTC		Temperature Computer:	
1200 UTC		1200 UTC		Hygristor:	
1800 UTC		1800 UTC		Radioonde Tape:	
Other:		Other:		Balloon Size	
Other:			Other:		
TYPE OF GROUND EQUIPMENT			(X)	OBSERVATIONS PROCESSING	
GMD - 1				Manual Computation	
OL - 192				Computer Derived:	
TMQ - 5				ZAPS	
SMQ - 1/SMQ -3				Z - 120	
Buckers				Z - 248	
UMQ -12 (MRS)				RIA (Radioonde Initial Analysis)	
Other:				Other:	

**UPPER AIR OBSERVATIONS**

MANUAL OBSERVATIONS		(X)	COMPUTER ASSISTED OBSERVATIONS		(X)
Recorder Records			Recorder Records		
Recorder Calibration			Radioonde Calibration Charts		
Radioonde Calibration Charts			Computer Paper Printouts		
Angular Tapes (RAWIN)			Computer Tapes		
Manual Computations			Computer Worksheets		
DOD WPC 9-31 (Adiabatic Charts)			ZAPS Diskettes		
OPNAV Form 3140-14 (Wind Loft)			RIA Diskettes		
RAOB Computation Sheets					
Wind Aloft Computation Sheets					
Other:					
Other:					
UMQ - 12 (MRS) OBSERVATIONS		(X)	REMARKS:		
Computer Printout					
Diskettes					
Other:					

The environmental records forwarded herewith have been checked for accuracy, completeness, and legibility; they are forwarded IAW NAVOCEANCOMINST 3140.1

SUBMITTED:	DATE:	APPROVED:
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Note: This form supersedes all previous meteorological records transmittal forms.

NOC 3140/6 (11/88) 0108-LF-006

Figure 14-1.-CNMOC Form 3140/6, Meteorological Records Transmittal Form.

# BATHYTHERMOGRAPH LOG

Prepared by the COMMANDER, NAVAL OCEANOGRAPHY COMMAND  
 and the NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 in accordance with specifications established by the  
 INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)  
 and WORLD METEOROLOGICAL ORGANIZATION (WMO)

FOR NAVY AIRCRAFT USE

FOR NAVY SHIP USE

SHIP TYPE		HULL NUMBER		YR	MON	Z	T
B	A						
1	2	3	4	5	6	7	12
							13-14
							15
							22

SODN TYPE		SODN NMBR		SORTIE NUMBER		YR	MON	Z	T
B	A								
1	2	3	4	5	6	7	8	11	12
									13-14
									15
									22

I. REFERENCE INFORMATION

PLATFORM	TYPE	NAME	DESIGNATOR
COUNTRY		INSTITUTION	
CRUISE NUMBER	PROJECT		
STATION NUMBER	OBSERVATION NUMBER	INSTRUMENT	

II. OPTIONAL ENVIRONMENTAL INFORMATION

DEPTH 1 TO BOTTOM (METERS)	WIND DIR		SPEED		SEA LEVEL PRESSURE			AIR TEMP ± DRY BULB		AIR TEMP ± WET BULB						
	u	d	d	f	f	P	P	P	S <sub>n</sub>	T	T	T	S <sub>n</sub>	T	T	T
SEA TEMP °C		WAVE PER		SWELL HT		SOLAR RADIATION		PRECIP		TRANS						
T <sub>w</sub>	T <sub>w</sub>	T <sub>w</sub>	INSTR	P <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	H <sub>w</sub>	d <sub>w</sub>	d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	H <sub>w</sub>	LANGMIN	R	R	METERS

I. REFERENCE INFORMATION

STATION NUMBER	OBSERVATION NUMBER	INSTRUMENT

II. OPTIONAL ENVIRONMENTAL INFORMATION

DEPTH 1 TO BOTTOM (METERS)	WIND DIR		SPEED		SEA LEVEL PRESSURE			AIR TEMP ± DRY BULB		AIR TEMP ± WET BULB						
	u	d	d	f	f	P	P	P	S <sub>n</sub>	T	T	T	S <sub>n</sub>	T	T	T
SEA TEMP °C		WAVE PER		SWELL HT		SOLAR RADIATION		PRECIP		TRANS						
T <sub>w</sub>	T <sub>w</sub>	T <sub>w</sub>	INSTR	P <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	H <sub>w</sub>	d <sub>w</sub>	d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	H <sub>w</sub>	LANGMIN	R	R	METERS

I. REFERENCE INFORMATION

STATION NUMBER	OBSERVATION NUMBER	INSTRUMENT

II. OPTIONAL ENVIRONMENTAL INFORMATION

DEPTH 1 TO BOTTOM (METERS)	WIND DIR		SPEED		SEA LEVEL PRESSURE			AIR TEMP ± DRY BULB		AIR TEMP ± WET BULB						
	u	d	d	f	f	P	P	P	S <sub>n</sub>	T	T	T	S <sub>n</sub>	T	T	T
SEA TEMP °C		WAVE PER		SWELL HT		SOLAR RADIATION		PRECIP		TRANS						
T <sub>w</sub>	T <sub>w</sub>	T <sub>w</sub>	INSTR	P <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	H <sub>w</sub>	d <sub>w</sub>	d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	H <sub>w</sub>	LANGMIN	R	R	METERS

REMARKS:

III. RADIO MESSAGE INFORMATION  
 a. METRIC Coding Example

1	2	3	4	5	6
M <sub>1</sub> M <sub>1</sub> M <sub>1</sub> M <sub>1</sub>	DATE (GMT) DAY MONTH YR	TIME (GMT) HOUR MIN	QUAD LATITUDE DEG MIN	LONGITUDE DEG MIN	INDICATOR GROUP
J J X X	Y Y M M J	G G g g /	G <sub>c</sub> L <sub>a</sub> L <sub>a</sub> L <sub>a</sub> L <sub>a</sub>	L <sub>o</sub> L <sub>o</sub> L <sub>o</sub> L <sub>o</sub> L <sub>o</sub>	8 8 8 8 8
16 17	18 - 21	23 - 27	28 - 32	BATHYTHERMOGRAPH TRACE READINGS	
DEPTH TEMP Z <sub>0</sub> Z <sub>0</sub> T <sub>0</sub> T <sub>0</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>
0 0	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>
Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>
Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>
38 - 42	43 - 47	48 - 52	53 - 57	56 - 62	63 - 67

b. ENGLISH Coding Example

1	2	3	4	5	6
M <sub>1</sub> M <sub>1</sub> M <sub>1</sub> M <sub>1</sub>	DATE (GMT) DAY MONTH YR	TIME (GMT) HOUR MIN	QUAD LATITUDE DEG MIN	LONGITUDE DEG MIN	INDICATOR GROUP
J J X X	Y Y M M J	G G g g /	*C L <sub>a</sub> L <sub>a</sub> L <sub>a</sub> L <sub>a</sub>	L <sub>o</sub> L <sub>o</sub> L <sub>o</sub> L <sub>o</sub> L <sub>o</sub>	8 8 8 8 8
16 17	18 - 21	23 - 27	28 - 32	BATHYTHERMOGRAPH TRACE READINGS	
DEPTH TEMP Z <sub>0</sub> Z <sub>0</sub> T <sub>0</sub> T <sub>0</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>	DEPTH TEMP Z Z T <sub>z</sub> T <sub>z</sub>
0 0	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>
Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>
Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>	Z Z T <sub>z</sub> T <sub>z</sub>
38 - 42	43 - 47	48 - 52	53 - 57	56 - 62	63 - 67

Figure 14-2.—CNMOC Form 3167/2, Bathythermograph Log.

14-3





appropriate in the event of special incidents that may attract national and/or high-level U.S. Navy interest, and in addition, other incidents that are of interest to the Commander, Naval Meteorology and Oceanography Command (CNMOC).

### **Mission Impairment**

Incidents impairing mission performance are reported as a Unit Situation Report (UNIT SITEEP) in the format of CNMOC 3100.2, while certain weather-related incidents are reported in accordance with enclosure (1) of the instruction (UNIT SITREP Weather-Related Accidents/Incidents). COMNAVMETOCCOM interest is in incidents causing significant and extended mission impairment that is not adequately covered by the CASREP System.

### **Weather-Related Accidents/Incidents**

We will now briefly discuss required actions in the event of weather-related accidents/incidents.

**PURPOSE.**— To notify the chain of command of weather-related/high seas accidents/incidents involving ships, aircraft, personnel, facilities, or other resources that may generate press interest, or become the subject of formal inquiries.

**REPORTING CRITERIA.**— A UNIT SITREP is required when accidents/incidents are weather-related or potentially so. Reports are *not desired* when accident/incidents are *clearly not weather-related*.

For amplifying instructions for the proper procedures for submitting accurate and timely OPREP-3'S and UNITS SITREPs, refer to CNMOC 3100.2, as well as the instruction, *Special Incident Reporting*, OPNAVINST 3100.6.

The remaining portions of this chapter will deal with training functions associated with all METOC activities.

## **TRAINING FUNCTIONS**

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**LEARNING OBJECTIVES:** Describe instrument ground school training for naval aviators and naval flight officers. Explain the requirement to update command local area forecaster handbooks. Review the *U.S. Navy Oceanographic and Meteorological Support System Manual*, METOC technical bulletins, METOC OPORDs, and climatology publications for possible data inclusion in pre-deployment briefings.

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In the following sections we will discuss the training functions for which the METOCs are responsible.

### **INSTRUMENT GROUND SCHOOL**

All METOCCENs, METOCFACs, and METOCDETs with aviation units are required to annually conduct Instrument Ground School for all naval aviators and naval flight officers.

Instruction, at a minimum, should include meteorological parameters, pilot reporting procedures, code formats, briefing forms, OPARS forms and procedures, NATOPS requirements, and severe weather warnings.

For further discussion of minimum content of Instrument Ground School, refer to the instruction, *NATOPS General Flight and Operating Instructions*, OPNAVINST 3710.7, chapter 13.

### **LOCAL AREA FORECASTER HANDBOOKS**

One of the first publications that all newly reporting forecasters should review upon reporting to a new command is the Local Area Forecaster's Handbook. These handbooks are an invaluable source in anticipating local meteorological and oceanographic phenomena.

The instruction, *Local Area and Area of Responsibility (AOR) Forecaster's Handbooks*, NAVMETOCCOMINST 3140.2, states the requirements for maintenance of Forecaster's Handbooks and basic guidance on their form and content.

There is a continuing need to update Forecaster's Handbooks. Each command should have a program in place that continually verifies local thumb rules, as well as a program to develop new forecasting techniques. For this reason, all Forecaster's Handbooks are to be reviewed and updated at least annually.

The Naval Oceanographic Office is now in the process of assembling and publishing a compendium of all Forecaster's Handbooks developed by NAVMETOCCOM and USMC activities in compact disc-read only memory (CD-ROM).

For further discussion of the need and content of the Forecaster's Handbooks, refer to NAVMETOCCOMINST 3140.2.

The forecaster will find there are a multitude of details involved in the planning and execution of underway evolutions, as well as in the everyday operation of METGCCOM activities. In the following

section we will discuss various sources of information, and factors to be considered and acted upon.

## **PUBLICATION REVIEW**

When preparing for operations or exercises the forecaster should review all available METOC publications to assess the environmental impact on the area of interest.

### **Review of the U.S. Navy Oceanographic and Meteorological Support System Manual, NAVMETOCCOMINST 3140.1**

It is a good practice to review the *U.S. Navy Oceanographic and Meteorological Support System Manual* at the earliest time prior to any operation or exercise, if for no other reason, to jog your memory for potential sources of support.

### **Review of METOC Technical Bulletins**

COMNAVMETOCCOM, NAVOCEANO, and the National Weather Service to name just a few commands and organizations, promulgate on a nonroutine basis bulletins that may be of benefit in the planning and execution of operations. It is incumbent on the forecaster to review these bulletins and publications for possible application in upcoming operations.

### **Review of METOC OPORDs**

It is critical that the OA division be involved at the earliest in the drafting, planning, and execution of exercise OPORDs. Weather guard assignments, planned intended movements (PIMs), and required METOC services are just a few of many considerations that will be covered in the OPTASK METOC section of an OPORD.

### **Review of Climatology**

As discussed earlier in this manual, climatology plays a critical role in operational planning. The various players will want to know at the earliest opportunity what type of weather conditions can be expected. Chapters 10 and 13 of this text deal with climatology and its various sources. The *U.S. Navy Oceanographic and Meteorological Support System Manual*, NAVMETOCCOMINST 3140.1, contains a chapter on climatology support services for planning and research.

In planning for a future exercise, it helps to glean information from previous deployments. The next section will deal with this subject.

## **METEOROLOGICAL AND OCEANOGRAPHIC (METOC) POST-DEPLOYMENT REPORTS**

The instruction, *Oceanographic Post Deployment Reports*, NAVMETOCCOMINST 3140.23, requires a post-deployment report be prepared to describe meteorological and oceanographic conditions encountered (and quality of support received) after a major deployment by ships with permanently assigned METOC personnel.

### **Content**

At a minimum, METOC post-deployment reports should contain an overview of the following:

- Environmental support received
- Unique METOC conditions experienced
- Services provided to other units
- Problems encountered
- Any new procedures attempted

Enclosure (1) to NAVMETOCCOMINST3140.23 provides an outline to be followed in preparing the report. A daily log will ease preparation of the report.

### **Discussion**

The instruction, *Meteorological and Oceanographic Post-Deployment Reports*, NAVMETOCCOMINST 3140.23, has been coordinated with Commander-in-Chief, Pacific Fleet (CINCPACFLT), Commander-in-Chief, Atlantic Fleet (CINCLANTFLT), and Commander-in-Chief, U.S. Navy, Europe (CINCUSNAVEUR).

**CLASSIFICATION.**— Normally, METOC post-deployment reports are unclassified. However, if necessary, a confidential enclosure may be included. Secret enclosures are discouraged, but may be included if deemed germane.

**TIMELINESS.**— Post-deployment reports should be submitted via the ship's commanding officer *within 6 weeks* of the end of the deployment.

In this day of regular introduction of new and more sophisticated METOC equipment, platform sensors, and

weapon's systems, it becomes more and more crucial that our personnel receive top-notch training. In the following section we will discuss the Naval Meteorology and Oceanography Command Training Program.

## **THE COMMAND TRAINING AND CERTIFICATION PROGRAM**

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*LEARNING OBJECTIVES:* Be familiar with the Naval Meteorology and Oceanography Command Training and Certification Program, as well as the instructions guiding the technical inspections of afloat units.

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The instruction, *Naval Meteorology and Oceanography Command Training and Certification Program*, NAVMETOCCOMINST 1500.2, sets forth policy, assigns responsibility, and establishes procedures for the training and certification of Naval Meteorology and Oceanography command personnel.

### **APPLICABILITY**

NAVMETOCCOMINST 1500.2 is applicable to all officer and enlisted personnel assigned to NAVMETOCCOM activities, Marine Corps weather service activities, the Naval Meteorology and Oceanography Reserve Program, and civilian personnel assigned to NAVMETOCCOM activities providing meteorological and oceanographic services to the fleet. This instruction has the concurrence of the Commandant of the Marine Corps and the Commander, Naval Reserve Force.

### **RESPONSIBILITIES**

Commanding officers, officers-in-charge, and chief petty officer/petty officer/staff noncommissioned officers-in-charge of all NAVMETOCCOM and Marine Corps weather service activities are responsible to perform the following:

- Increase the military and professional knowledge of their personnel by developing and implementing local training programs, obtain training media, and use the available pipeline and service schools.
- Designate a training officer/petty officer to assist the executive officer or officer-in-charge in the administration of a training program.

- Establish a Planning Board for Training (PBFT).
- Establish and maintain both short- and long-range training programs.
- Maintain current training folders for each enlisted member, and ensure prompt entries are made.
- *Conspicuously* post and update Personnel Qualification Standards (PQS) and training progress charts.
- Ensure that general military training (GMT) is implemented.
- Establish and maintain a PQS program in accordance with current instructions and directives.
- Prepare job qualification requirements (JQRs) to augment PQS as necessary for site unique watchstation requirements.
- Ensure and document certification for personnel who have completed JQRs and specified PQS requirements.
- Provide leadership training incorporating NAVLEAD principles.
- Budget for, and send personnel to pertinent training on a temporary assigned duty (TAD) basis.

Refer to NAVMETOCCOMINST 1500.2 for a detailed discussion of the requirements and command responsibilities of local training programs.

### **TECHNICAL INSPECTIONS OF AFLOAT UNITS**

The last topic to be discussed in this manual will be that of technical inspections of afloat units.

We all cringe when the division officer passes the word that the weather office will be inspected. But if you consider the inspection as a learning and sharing experience, it won't be quite so painful. The intent of these inspections is not to put your office on report, but to assist the office in identifying any shortcomings, if any, as well as to identify and acknowledge those areas in which the office excels.

The responsibility for technical inspections of afloat units lies with the respective fleet commanders in chief in your AOR.

## **Applicability**

The respective fleet commanders in chief instructions regarding inspection of afloat units contain recommended inspection guide lists. These guide lists should be used by the inspecting officer to ensure standardization. Advance preparation of these guide lists by those units being inspected is not required, but an advance review of the areas will be of benefit to facilitate inspection of the units' operation and administration.

## **Action**

When requested by inspection authorities, COMNAVMETOCOM will direct regional activities to provide METOC officers to serve as inspecting officers.

## **SUMMARY**

In this chapter, we first discussed command administrative functions. Those administrative

functions addressed were the monthly Meteorological Records Transmittal Form, including Bathythermograph Observation Records, when required. Facets of the annual Meteorological Station and Description Report were then discussed. The last topic discussed under administrative functions was that of Special Incident (OPREP-3 and UNIT SITREP) Procedures, with background information, purpose, and reporting criteria addressed. The remaining portion of this chapter dealt with command training functions. We discussed the intent and the requirement for Instrument Ground School. Next, was a discussion on the requirement for the preparation of local area forecaster's handbooks and their value. We then presented various publications and documents that should be reviewed by METOC personnel prior to operations/exercises, including, the *U.S. Navy Oceanographic and Meteorological Support System Manual*, various METOC bulletins, OPODs, and climatology publications. Finally, we discussed the Naval Meteorology and Oceanography Command training and certification program, and the technical inspections of afloat units.

