



COMDTINST 3140.2D
3 DEC 1994

COMMANDANT INSTRUCTION 3140.2D

Subj: Marine Weather Observation and Reporting

1. PURPOSE. This Instruction sets forth the policy for observing and reporting weather information from Coast Guard cutters, and provides information for obtaining weather instruments and publications.
2. DIRECTIVES AFFECTED. Commandant Instruction 3140.2C is cancelled.
3. PROGRAM OBJECTIVES. This program is established to assist the National Weather Service (NWS) and the Naval Oceanography Command in collecting marine weather data to support public and national defense needs.
4. DISCUSSION. The National Weather Service has statutory responsibility for providing weather forecasts for public use. Under the authority of 14 USC 147, the Coast Guard cooperates with NWS by reporting marine weather observations. These observations are often the only marine information available to weather forecasting facilities and, as such, are critical to accurate weather analysis and forecasting. Real time reports of observed marine weather conditions are used several times daily as part of the marine and land forecasting scheme. Completed logs are used for preparation of marine climatology atlases and various marine research activities. The U.S. Navy uses marine weather data to provide environmental forecasts and services in support of fleet operations. As part of those services, the Navy provides weather forecasts (WEAX) and Optimum Track Ship Routing (OTSR) to Coast Guard cutters upon request.
5. PROCEDURES.
 - a. Units Affected. For purposes of this Instruction, cutters responsible for making marine weather observations are designated as Category One or Category Two as follows:

5. a. (1) Category One: This category consists of all WAGB, WHEC, WMEC, and WLB class cutters with a radioman assigned and which have radioteletype or radiotelegraph capability.
- (2) Category Two: This category consists of cutters of other classes which may be designated by area or district commanders to make weather reports.
- b. Observations and Transmission of Reports.
 - (1) All cutters shall make and report weather observations at least four (4) times daily at 0000, 0600, 1200 and 1800 GMT when underway. Vessels in coastal waters (out to about 100 miles) should make weather reports at three hourly intervals starting at 0000 GMT. Where possible all reports should be transmitted on the report hour, or a few minutes before, to assure making the NWS computer model runs. Reporting times may be altered at the discretion of the operational commander to meet mission requirements or special requests of the Navy or the National Weather Service.
 - (2) All cutters shall send weather reports by PRIORITY precedence message via radioteletype or radiotelegraph. Radiotelephone shall be used only when teletype or telegraph are not available. Weather reports may be sent in the World Meteorological Organization (WMO) ship synoptic code format (same as on NOAA Form 72-1A) over the radiotelephone by pronouncing the numbers of the code phonetically. Radio call sign should always precede the weather message, except when SPREP or STORM prefixes are used (see pp. 1-9 and 1-10 of National Weather Service Observing Handbook No. 1.) Reports shall not be transmitted when the commanding officer or other authority determines that transmission may compromise a mission such as law enforcement. However, it is important to resume reporting weather as soon as possible with most recent observations taking precedence over older ones.
 - (3) Category One cutters shall address weather observation messages to "OBS METEO WASH DC". Vessels using Navy weather forecast (WEAX) or Optimum Track Ship Routing (OTSR) services shall also include the servicing Naval Oceanography Command Center as an action addressee in order to provide updated position and weather input.
 - (4) Category One cutters engaged in certain operations should conceal their position or movements. In such cases, weather messages shall be sent "UNCLAS EFTO" to the appropriate AIG only. The National Weather Service does not have a capability for handling encrypted traffic. AIGs are as follows:
 - (a) AIG 7608 - for ships operating in the North Pacific, South Pacific, Indian Ocean and all areas south of 60 degrees South. This AIG includes:
FLENUMOCEANCEN Monterey CA NAVWESTOCEANCEN Pearl Harbor
HI NAVOCEANCOMCEN Guam

5. b. (4) (b) AIG 7641 - for ships operating in the North Atlantic, South Atlantic, Baltic Sea, Red Sea, Mediterranean Sea and areas north of 60 degrees North. This AIG includes: FLENUMOCEANCEN Monterey CA
NAVEASTOCEANCEN Norfolk VA NAVOCEANCOMCEN Rota SP
- (5) All cutters under Naval operational control shall transmit weather reports in accordance with Navy instructions and directives as specified in the appropriate operation order. Cutters shall record all weather observations made while under Naval OPCON on the designated NOAA form (see paragraph 5.c.) and mail completed forms to their servicing Port Meteorological Officer (PMO) on return to port (enclosure 3).
- c. Recording and Logging Procedures.
 - (1) Category One and Category Two cutters shall record observed weather on NOAA Form 72-1 series (presently 72-1A) SHIP'S WEATHER OBSERVATIONS. Detailed instructions and coding information for this form are contained in the National Weather Service Observing Handbook No. 1 Marine Surface Weather Observations (NWSOH No.1) which may be obtained from the nearest Port Meteorological Office listed in enclosure (3). NOAA Form 72-4A WEATHER REPORT FOR IMMEDIATE RADIO TRANSMISSION is used to send the weather observations to the radio operator. Examples of these forms are contained in enclosure (1).
 - (2) Weather observation forms (NOAA form 72-1 (series)) which contain one or more observations shall be mailed to the servicing Port Meteorological Officer (enclosure 3) at the end of each month or upon return to port if the deployment exceeds 30 days.
- d. Precision Instrument Allowance
 - (1) Category One cutters with a radioman assigned routinely or with a radioman assigned by the operational commander for an extended mission shall maintain a Navy class "C" basic meteorological allowance. The class "C" allowance is outlined in the NAVAIR ALLOWANCE LIST, METEOROLOGICAL EQUIPMENT FOR NAVY METEOROLOGICAL UNITS, SECTION L, NAVAIR 00-35QL-22; available from: Commanding Officer, Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120 This publication also specifies the procedures for obtaining the materials. Enclosure (2) lists the class "C" allowance and differentiates between the materials which are provided by the Navy and those which are procured from Coast Guard funds. The cutter's initial outfitting is chargeable to OG-46 allotments for Marine Science Activities support. Replenishment of allowance is the responsibility of the unit and should be charged to OG-30 accounts.

5. d. (2) Instruments, such as barometers, shall be ordered by individual vessels. Assistance on installation and calibration may be obtained from the nearest PMO, or assistance may be obtained from the nearest Navy weather unit. Barometers shall be calibrated before the beginning of each deployment of over 20 days or every six months, or at any time there is a suspected malfunction in the instrument.
 - (3) Material listed on enclosure (2) which is provided by the Navy shall be returned to the Navy upon decommissioning of the vessel or change in allowance.
 - (4) Category Two cutters shall maintain the meteorological equipment specified in the appropriate cutter class allowance list. These allowance lists generally authorize sufficient instrumentation to allow routine weather observations.
6. ACTION.
- a. Commanding Officers of Category One cutters shall maintain a Navy class "C" meteorological allowance and make observations and reports as required by this Instruction.
 - b. Commanding Officers of Category Two cutters shall make and report weather observations in accordance with this Instruction when so directed by area or district commanders.
 - c. Special Requests.
 - (1) Commanding Officers of units which receive special requests from the National Weather Service are urged to comply to the extent that operations and resources permit.
 - (2) All such requests shall be reported to the concerned area and district commanders for information purposes.
 - (3) Any requests believed to be beyond the scope or intention of this instruction shall be forwarded with recommendations to the Commandant (G-OIO) via the cognizant Area and District Commander.
 - d. Area and District Commanders shall:
 - (1) Coordinate with appropriate NWS regional offices in designating special weather reporting requirements for cutters.
 - (2) Provide assistance to cutters to maintain an effective program of marine weather reporting.

7. FORMS AVAILABILITY AND ASSISTANCE. All cutters may obtain assistance in ordering forms, manuals, maintenance and calibration of equipment and any questions on meteorological training and procedures from the PMO; the nearest Naval Oceanography Command Center/Facility or from any Navy Weather Unit. Areas of responsibility of the Naval Oceanography Command Centers are given in enclosure (4). The Navy maintains a Meteorological and Oceanographic Equipment Program (MOEP) through which commands may receive assistance in equipment repair. MOEP areas of responsibility are shown in enclosure (5). Requests for MOEP assistance shall be submitted to the servicing Naval Oceanography Command Center/ Facility. In cases where the PMO or MOEP is unable to provide technical assistance, requests for technical service to repair, maintain or calibrate instruments should be addressed to Commandant (G-EOE) via the district and area, and contain the following information:
- a. Nomenclature of equipment for which assistance is requested.
 - b. Specific nature of technical difficulty.
 - c. Availability of spare parts and test equipment; if required.
 - d. PMO and/or MOEP unable to provide assistance.

/s/ N.C. VENZKE
Chief, Office of Operations

- Encl: (1) NOAA Forms 72-1A and 72-4A; examples
(2) Class "C" Meteorological Allowance
(3) National Weather Service Port Meteorological Officers
(4) Naval Oceanography Command Center Areas of Responsibility
(5) MOEP Areas of Responsibility

CLASS "C" METEOROLOGICAL MATERIAL
(From NAVAIR 00-35QL-22 Rev. August 1979)

1. Class "C": allowance items not requiring U.S. Coast Guard reimbursement initially or upon replenishment.

	FSN	NOMENCLATURE	QUANTITY	UNIT OF ISSUE
a.	2RH6660005929002HX (NOTE: Furnished on a one-for-one replenishment basis)	Wind Measuring Set-Portable, AN/PMQ-3(), complete with carry- ing case, spare vane tail and detector. WT 15.0 CU 2.0	1	EA
b.	2RH6685006003777HX (NOTE: Furnished on a one-for-one replenishment basis)	Barometer-Precision Aneroid ML-448/UM, Mounting Base not included, WT 7.3 CU 1.0	1	EA
c.	0I08500015000	Pub-International Cloud Atlas. Abridged NW 50-1D-509	1	EA
d.	0I08500016500	Chart, Cloud Code NW 50-1G-521	1	EA
f.	0I08500034500	Publication, Density Altitude Computer Technical Manual	1	EA
e.	0I08500028010	Publication-Weather Radar Observations NW50-IP-2	1	EA
g.	0I08500039000	Pub-Aneroid Barometer Navy Aero 1936, overhaul instructions AN 50-30FR-11	1	EA
h.	0I08500047000	Publication, Aerological Calcu- lators, Computers and Evaluators, Operation and care of	1	EA
i.	0I08500049500	Publication, Electric Psychrometer ML-450A/MU operation, service and overhaul instructions NW 50-30 FR- 529	1	EA

**CLASS "C" METEOROLOGICAL MATERIAL
(From NAVAIR 00-35QL-22 Rev. August 1979) (con't.)**

	FSW	NOMENCLATURE	QUANTITY	UNIT OF ISSUE
j.	0I08500050000	Publication, Electric Psychrometer ML-450A/UM operation instructions with psychrometric charts NW 50-30 FR-530	1	EA
k.	0I08500057500	Publication, Aneroid Barometer, ML-448/UM, operation and main- tenance instructions. Bendix NW 50-30ML 448-501	1	EA
l.	0I08500058000	Pub-Aneroid Barometer, ML-448/ UM, overhaul instructions Bendix NW 50-30 ML 448 502	1	EA
m.	0I08500058500	Pub-Aneroid Barometer ML-448/UM, Illustrated Parts Breakdown. Bendix NW 50-30ML 448-503	1	EA
n.	0I08500093500	Pub-Mariners Worldwide Climatic Guide to Tropical Storms at Sea NA 50-1C-61	1	EA
o.	0I08000076500	Pub-AN/PMQ-3C Wind Measuring Set, operation and service instructions NA 50-30PMQ3C-1	1	EA
p.	0I08000106530	Pub-Section L Meteorological Allowances NA 00-35 QL-22	1	EA
q.	1I01080006020	Form-Ship Weather Obs Sheet	2	HD
r.	0I01080314005	Form-Navy AIREP Flight log NOM 3140/1	2	PD

CLASS "C" METEOROLOGICAL MATERIAL
(From NAVAIR 00-35QL-22 Rev. August 1979) (con't.)

	FSN	NOMENCLATURE	QUANTITY	UNIT OF ISSUE
s.	0I01080314040	Form-Surface Weather Obs. (Ship) NWSC 3140/8	2	PD
t.	0I01080314045	Form-NAVWEASERVCOM Ship Code Card NWSC 3140/9	1	EA
u.	0I06911200100	Pub-ASW Oceanographic Support Product Manual, Vol. 1 DIRNAV- OCEANMETINST C3160.4	1	EA
v.	0I0691120Q200	Pub-ASW Oceanographic Support Product Manual Vol. 2 (Confidential) DIRNAVOCEANMETINST C3160.4	1	EA

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CLASS "C" METEOROLOGICAL MATERIAL
(From NAVAIR 00-35QL-22 August 1979) (cont)

2. Class "C" allowance items requiring U.S. Coast Guard reimbursement both initially and upon replenishment.

FSN	NOMENCLATURE	QUANTITY	UNIT OF ISSUE	UNIT COST	TOTAL COST
a. 9Y 61350012001020	Battery, Dry C 11, Size D, for ML-450A/UM Electric Psychrometer	As required	PG	\$3.22	\$ 3.22
b. 9G6240002465060	Lamp Electric Psychrometer F/W ML-450A/UM	1	EA	\$.42	\$.42
c. 9G 6685005154219	Tube-Thermometer replacement, Minus 20 to plus 120 Deg. F. WT 0.3 cu 0.1	As required	EA	\$6.00	\$ 6.00
d. 1RM6685005154220HX	Thermometer-Standard Air Minus 20 to plus 120 Deg F Mounted on stainless steel back WT 0.05 cu 0.1	6	EA	\$9.00	\$54.00
e. 1RM6605005534645 HX	Computer-True Wind, CP-264/U for computing true wind direction and speed while underway. WT 0.5 cu 0.1	3	EA	\$9.80	\$29.40
f. 9G 6685005624440	Handle, Sling Psychrometer	1	EA	\$3.07	\$ 3.07
g. 9Z 5355005763551	Cursor-Psychrometric Computer for CP-165A/UM WT 0.1 cu 0.01	1	EA	\$24.29	\$24.29
h. 9G 6685005908759	Psychrometer-Electric ML-450A/UM, portable, complete with case and spare tube set, powered by 3 size D batteries which are not included. WT 4.0 cu 1.0	1	EA	\$95.23	\$95.23

CLASS "C" METEOROLOGICAL MATERIAL
 (From NAVAIR 00-35QL-22 August 1979) (con't)

	FSN	NOMENCLATURE	QUANTITY	UNIT OF ISSUE	UNIT COST	TOTAL COST
i.	9G 6685005913824	Tube Set, Pycrometer, Matche thermometers for ML-450A/UM, straight type tube. WT 0.5 cu 0.1	As required	SE	\$20.00	\$20.00
j.	1H 7530000977971	Paper-Facsimile recorder F/W ALDEN 519 6 per Box 04855-A2- 19MTEA	As required	HD	\$48.00	\$48.00
k.	9G 6685006027209	Computer-Psychrometric Cp-165A/UM, circular plastic slide rule WT 0.5 cu 0.5	1	EA	\$24.00	\$24.00
l.	9G 9390006637004	Wicking-Muslin, 3 inch length, for use with sling psychrometer 50 per box	1	BX	\$.21	\$.21
m.	9G 6660006753399	Base-Anerold Barometer Mounting for ML-448/UM WT 3.0 cu 1.0	1	EA	\$58.85	\$58.85
n.	9D 8465006826854	Goggles, Darkness Adaptation	As required	PR	\$ 2.07	\$ 2.07
o.	9G 6660007401790	Air Intake-Plastic replacement, for Electric Psychrometer ML -450A/UM	As required	EA	\$ 3.40	\$ 3.40
p.	9G 6660009838752	Psychrometer	1	EA	\$13.56	\$13.56
q.	9G 6660009550872	Computer-Density Altitude CP-718/UM WT 0.3 cu 0.2	1	EA	\$ 8.97	\$ 8.97

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CLASS "C" METEOROLOGICAL MATERIAL
(From NAVAIR 00-35QL-22 August 1979) (con't)

			UNIT OF ISSUE	UNIT COST	TOTAL COST
r.	FSN 9G 4140006105169	NOMENCLATURE Fan, ML-450A/UM Axial WT 0.30 cu 0.01	As required EA	\$17.23	\$17.23
s.	IRM6660008016393	Indicator-Wind Portable, 2 scales 0 to 9 KTS and 0 to 58 KTS	1 EA	\$10.50	\$10.50

NATIONAL WEATHER SERVICE PORT METEOROLOGICAL OFFICERS

The Port Meteorological Officers visit ships enlisted in the Voluntary Observing Ship (VOS) Program.

- They
- (1) check and calibrate barometers and other meteorological instruments aboard ships.
 - (2) assist captains and mates with problems regarding weather observations, preparation of weather maps at sea, and interpretation of forecasts, conduct observer training, and
 - (3) supply meteorological manuals and forms to ships.

In addition, they provide some meteorological equipment to ships enrolled in the Voluntary Observing Ship (VOS) Program.

Sources of Marine Information and Forecasts

Ships in the NWS Voluntary Observing Ship Program are entered into a data bank which puts each ship on the mailing list for the Mariners Weather Log, a quarterly magazine on marine weather; quarterly distribution of Pilot Charts for the appropriate ocean, and the weekly Notice to Mariners so that navigational charts may be kept up to date.

On the initial outfitting of a newly recruited vessel, they receive:

1. National Weather Service Observing Handbook No. 1, Marine Surface Weather Observations
2. Radio Stations Accepting Ship's Weather and Oceanographic Observations
3. Selected Worldwide Marine Weather Broadcasts
4. Ship's Code Card for encoding/decoding weather reports
5. All of the necessary forms and pre-addressed envelopes to the servicing PMO
6. Various Defense Mapping Agency and Naval Oceanographic Command forms and publications
7. Sea water temperature thermometer and dip for measuring surface water temperature.
8. True wind plotting board and calculator for calculating true wind speed and direction from a moving vessel.

Enclosure (3) to COMDTINST 3140.2D

ADDRESSES OF NATIONAL WEATHER SERVICE PORT METEOROLOGICAL
OFFICES
ATLANTIC PORTS

Mr. Robert Baskerville, PMO
National Weather Service, NOAA
30 Rockefeller Plaza
New York, New York 10112
212-399-5569 (FTS 662-5569)

Mr. Anthony Ripppo, PMO
National Weather Service, NOAA
2005 T Custom House
300 South Ferry Street
Terminal Island, California 90
213-548-2539 (FTS 796-2539)

Mr. Joseph Takach, PMO
National Weather Service, NOAA

GULF OF MEXICO PORTS

Building 51
Newark International Airport
Newark, New Jersey 07114
201-624-0890 (FTS 341-6188)

Port Meteorological Office
National Weather Service, NOAA
1120 Old Spanish Trail
Slidell, Louisiana 70458

Mr. Earle Ray Brown, Jr., PMO
National Weather Service, NOAA
Norfolk International Airport
Norfolk, Virginia 23518
804-441-6326 (FTS 827-6326)

504-649-0429
(FTS 682-6891)

Mr. Julius Soileau, PMO
National Weather Service, NOAA
Route 6, Box 1048

Mr. Peter Connors, PMO
National Weather Service, NOAA
1600 Port Boulevard
Miami, Florida 33132
305-358-6027

Alvin, Texas 77511
713-228-2527 (FTS 526-5834)

GREAT LAKES PORTS

Mr. Richard Rasmussen, PMO
National Weather Service, NOAA
Jacksonville International Airport
Box 18367
Jacksonville, Florida 32229
904-757-1370

Mr. George Smith, PMO
National Weather Service, NOAA
Hopkins International Airport
Cleveland, Ohio 44135
216-267-0069 (FTS 293-4949)

REPUBLIC OF PANAMA

PACIFIC PORTS

Mr. Donald Olson, PMO
National Weather Service, NOAA
7600 Sand Point Way, N.E.
BIN C15700
Seattle, Washington 98115
206-527-6100 (FTS 446-6100)

Mr. Robert Melrose, PMO
National Weather Service, NOAA
Box 1301
APO Miami, Florida 34005
(Local: Ft. Davis, Republic
of Panama Telephone 43-1565)

NATIONAL WEATHER SERVICE

Mr. James Mullick, PMO
National Weather Service, NOAA
Metro Oakland International
Airport
P. O. Box 6249
Oakland, California 94614
415-273-6257 (FTS 536-6257)

Mr. Jerome W. Nickerson
Marine Observations Program Lead
National Weather Service, NOAA
8060 13th Street
Silver Spring, Maryland 20910
301-427-7724

Note: PMO list updated in each Mariners' Weather Log

Enclosure (3) to COMDTINST 3140.2D

OTHER NATIONAL WEATHER SERVICE MARINE FACILITIES

The following National Weather Service offices will provide a marine weather briefing and a barometer check by telephone. They will also comply with, or relay, requests for forms or services to the closest Port Meteorological Officer.

ATLANTIC COASTAL AREA

National Weather Service Office Federal Building P.O. Box 3563 Portland, ME 04104 207-773-0352 (FTS 8-833-3552)	National Weather Service Office International Airport Box 19367 Jacksonville, FL 32229 904-757-1370 (FTS 8-946-3620)
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National Weather Service Forecast Office Logan International Airport East Boston, MA 02128 617-567-4670 (FTS 8-223-1354)	National Weather Service Office 4245 Southern Blvd. West Palm Beach, FL 33406 305-694-3633 (FTS 8-350-7229)
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CARIBBEAN AREA

National Weather Service Office Ignor I. Sikorsky Municipal Airport Stratford, CT 06497 203-379-4328 (FTS 8-643-4898)	National Weather Service Forecast Office Isla Verde International Airport San Juan, PR 00913 809-791-0376
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National Weather Service
Forecast Office
Federal Bldg., Room 9258
600 Arch Street
Philadelphia, PA 19106
215-365-2170

GULF COAST AREA

National Weather Service Office
Federal Building, Room 312
2301 First Street
Ft. Myers, FL 33901
913-332-4220

National Weather Service Office

Baltimore-Washington
International Airport
Baltimore, MD 21240
301-922-2177

National Weather Service Office
1409 24 Street, S.E.
Ruskin, FL 33570
813-645-2323 (FTS 8-826-2271)

National Weather Service Office
RFD 6, Box 50
Wilmington, NC 28405
919-763-8331 (FTS 8-763-4975)

National Weather Service Office
P.O. Box 4116
Pensacola, FL 32506
904-455-6211 (FTS 9-496-5276)

National Weather Service Office
International Airport
Charleston, SC 29411
803-744-0303 (FTS 8-677-4395)

National Weather Service Office
P.O. Box 8903
Mobile, AL 70807
205-694-6625

National Weather Service Office
P.O. Box 7207
Savannah, Ga 31408
912-964-1507 (FTS 8-248-4445)

National Weather Service Office
Ryan Airport
Baton Rouge, La 70807
504-357-9743 (FTS 8-697-0303)

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National Weather Service office
P.O. Box 5423
Lake Charles, LA 70606
318-477-5285 (FTS 8-687-7220)

National Weather Service
Forecast Office
Box 27, 701 C Street
Anchorage, AK 99513
907-271-5105

National Weather Service Office
International Airport
R.R. #2, Box 900
Corpus Christi, TX 78410
512-289-0898 (FTS 8-734-3337)
National Weather Service Office
Brownsville, TX 78520
512-542-2438 (FTS 8-734-8217)

National Weather Service
Box 37
Kodiak, AK 99619
907-487-2102 or 907-486-3694
PACIFIC AREA

National Weather Service
Meteorological Observatory

PACIFIC COASTAL AREA

National Weather Service Officer
Lindbergh Field
2980 Pacific Highway
San Diego, CA 92101
714-293-5678 (FTS 8-895-5678)

Route 8
Agana, Guam
Marianas Islands 96910
355-5924

National Weather Service
Forecast Office
Honolulu International Airport
Honolulu, HI 96813

National Weather Service Office
P.O. Box 1447
Eureka, CA 95501
707-443-6484 or 707-442-2171

808-836-1831

National Weather Service
Pacific Region Headquarters
300 Ala Moana Blvd., Rm. 4410

National Weather Service Office
Route 1 Box 941
Warrenton, OR 97146
503-861-2722

Honolulu, HI 96813
808-546-5688

National Weather Service
Forecast Office
5420 N.E. Marine Drive
Portland, OR 97218
503-281-2618 (FTS 8-423-2340)

ALASKAN AREA

National Weather Service Office
Box 5113, Star Route 5
Juneau, AK 99801
907-586-7491

National Weather Service Office
Box 427
Valdez, AK 99686
907-835-4505

Enclosure (4) to COMDTINST 3140.2D
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