Second International Workshop for Port Meteorological Officers

Teruko Manabe
World Meteorological Organization

Second International Workshop for Port Meteorological Officers

- Background of the workshop
- WMO regulatory and guidance material for PMO
- Discussion at SOT-I

Series of PMO workshops

- Intentional Seminar/Workshop for PMOs (London, U.K., September 1993)
- First Regional Workshop for PMOs from countries of RAIII (Valparaiso, Chile, 1997)
- Second Regional Workshop for PMOs from countries of RA II/RA V(Melbourne, Australia, November 1999)
- Third Regional Workshop for PMOs from countries of RA I (Cape Town, South Africa, November 2000)

- Second International Workshop for PMOs (London, U.K. July 2003)

- Congress urged Members to make every effort to recruit more ships, to improve data quality and timeliness, to strengthen their PMO networks, and to submit data and metadata from their VOS as quickly as possible to the Global Collecting Centres, according to the agreed procedures and formats (Cg-XIII (1999)I, Cg-XIV(2003))

GOALS

- Assist National Meteorological Services in maritime countries to further develop and improve efficiency and quality of their PMO services

- Exchange of experience, ideas and technique, both with other NMSs with well-established PMO services and also with use representatives at operational and management level

OBJECTIVES

- Review a variety of background information essential to PMO services, including the requirements of shipping for meteorological data and services and existing and future marine telecommunications facilities
- Review the role of PMOs
- Examine existing PMO services and practices world-wide
- Provide updated information on new techniques and requirements

PMO

- representative of the national meteorological services
- contact with local maritime authorities and the maritime community

- contribute to the effectiveness and efficiency of the WMO VOS Scheme.
- provide support/services to mariners

WMO Technical Regulations

- are designed:
  - (a) To facilitate co-operation in meteorology and hydrology between Members;
  - (b) To meet, in the most effective manner, specific needs in the various field of application of meteorology and operational hydrology in the international sphere; and
  - (c) To ensure adequate uniformity and standardization in the practices and procedures employed in archiving (a) and (b) above

WMO regulatory

1. Basic documents
(a) Basic documents WMO-No. 15
(b) Agreements and Working Arrangements with Other International Organizations (WMO-No. 60)
(c) Technical Regulations WMO-No. 49
(d) Annexes to the Technical Regulations:
    (i) International Cloud Atlas, Volume I (WMO-No. 407)
    (ii) Manual on Codes (WMO-No. 306)
    (iii) Manual on the Global Telecommunication System (WMO-No. 386)
    (iv) Manual on the Global Data-processing System (WMO-No. 485)
    (v) Manual on the Global Observing System (WMO-No. 544)
    (vi) Manual on Marine Meteorological Services (WMO-No. 558)

2. Operational publications

(a) Meteorological Services of the World (WMO-No. 2)
(b) Composition of WMO (WMO-No. 5)
(c) Weather Reporting (WMO-No. 9)
    (i) Volume A – Observing stations
    (ii) Volume B – Data processing
    (iii) Volume C1 – Catalogue of meteorological bulletins
    (iv) Volume C2 – Transmissions of schedules
    (iv) Volume D – Information for shipping
(d) International List of Selected, Supplementary and Auxiliary Ships (WMO-No. 47)
(e) Compendium of Training Facilities for Meteorology and Operational Hydrology (WMO-No. 240)
(f) Climatological normals (CLINO) for the period 1961-1990 (WMO-No. 847)

4. WMO Guides

(a) Guide to Meteorological Instruments and Methods of Observation WMO-No. 8

(b) Guide to Climatological Practices (WMO-No. 100)

(c) Guide to Agricultural Meteorological Practices (WMO-No. 134)

(d) Guide to Hydrological Practices (WMO-No. 168)

(e) Guide on the Global Data-processing System (WMO-No. 305)

(f) Guide to Marine Meteorological Services (WMO-No. 471)

(g) Guide on the Global Observing System (WMO-No. 488)

(h) Guide on the Automation of Data-processing Centres (WMO-No. 636)

(i) Guide to Wave Analysis and Forecasting (WMO-No. 702)

(j) Guide on Meteorological Observation and Information Distribution Systems at Aerodromes (WMO-No. 731)

(k) Guide to Practices for Meteorological Offices Serving Aviation

(l) Guide to the Applications of Marine Climatology (WMO-No. 781)

(m) Guide to the Preservation and Management of Climatological Data

(n) Guide on World Weather Watch Data Management (WMO-No. 788)

(o) Guide to Public Weather Services' Practices (WMO-No. 834)

- Technical Regulations (WMO-No.49)
  - (C.1.) 4.3 PMO services shall include at least those specified in 2.2.3 of Part III of Volume I of the Manual on Global Observing System (WMO-No.544)
  - Detailed guidance is given in the Guide to Marine Meteorological Services (WMO-No.471)

Manual on the Global Observing System (WMO-No.544)

- 2.2.3 Sea stations
- 2.2.3.2 Since mobile ships are one of the main course of surface observations observations over the oceans, Members shall recruit as many ships as possible that traverse data-sparse areas an regularly follow routes through areas of particular interest.
- 2.2.3.5 Each Member shall arrange for the recruitment of ships that are on the national register of that Member as mobile sea stations

Manual on the Global Observing System (WMO-No.544)

- 2.2.3.9 Port meteorological officers should maintain liaison with the owners of local agents of ships of all nationalities, with a view to enlisting the ships' co-operation in furnishing reports, provided that the the ship's basic instructions for making and reporting observations are not modifies by such action

- NOTE: Fur instructions on duties of port meteorological officers,see Guide to Marine Meteorological Service (WMP-No471)

- Duties of PMOs are described in Chapter 5 (para5.4.1) and 6(para 6.9, annex 6.G) of the Guide to Marine Meteorological Services (WMO-No.471)
  - PMO fulfils a highly important role in the liaison between NMSs and the shipping community, Their functions are truly international in nature- wherever s hip may find itself in the world, it must be served as a meteorological observing station and also must be also be obtain the information about the marine meteorological services available in the country, region, and abroad. International coordination is arranged by WMO

- The necessary training of PMOs is described in the Manual on Marine Meteorological Services (WMO-No.558), Volume I, Part IV, Section 3.

Guidelines for Organizing PMO Activities
ANNEX 6.G to the Guide to Marine Meteorological Services (WMO-No.471)

- The functions of a PMO cover five broad areas:
  - (a) Recruitment of ships to take part in the Voluntary Observing Ships' Scheme;
  - (b) Regular liaison with recruited ships to ensure the highest standard of observations;
  - (c) Collection of completed ships’ meteorological logbooks;
  - (d) Act as an interface between the meteorological service and the marine community;
  - (e)In large ports act as a focus for the provision of meteorological services in the port.

Guidelines for Organizing PMO Activities ANNEX 6.G to the Guide to Marine Meteorological Services (WMO-No.471)

- Personnel requirements

  – Each maritime Member of WMO should appoint PMOs having maritime experience, at its main ports. His maritime experience enables him to communicate effectively with the ship's master and other officers. He should also have experience in, and knowledge of, meteorology, theoretical as well as practical. Knowledge of the English language would be an advantage, as most ships' officers whose mother tongue is not English are able to express themselves in this language. The necessary training of PMOs is described in the Manual on MMS, Part IV, Section 3.

Meteorological Training for PMOs

Manual on Marine Meteorological Services (WMO-No.558)
Volume I, Part IV

- Principles
- Principle 1: The meteorological training of a PMO is aimed at keeping up to date his knowledge of the principles and organization of meteorological forecasting for the marine environment, the use of marine meteorological instruments and methods observing on board ship, the use of codes and meteorological long-books as well as the procedures for recording and transmitting observations

- Principle 2: The training programme of a PMO includes arrangements for keeping the PMO continuously informed of the latest relevant publications, magazines and other material available nationally and internationally for meteorological Observing tasks.

Meteorological Training for PMOs

Manual on Marine Meteorological Services (WMO-No.558)
Volume I, Part IV

- Procedures

- Regular courses for the training of port meteorological officers in their duties should be provided nationally
  - Visit to one or more ports well-established PMO services may be considered as part of the training course

- Information regarding the main objectives and organization of international scientific co-operative investigations and experiments which include the use of voluntary observing ships should be part of the updated training of port meteorological officers.

Guidelines for Organizing PMO Activities
ANNEX 6.G to the Guide to Marine Meteorological Services (WMO-No.471)

- Location of the office of a port meteorological officer

  – The office of the PMO should preferably be situated in the centre of the harbour area. This allows the maximum of ships to be visited, and facilitates the visits of voluntary ships' observers to the PMO's office and access to meteorological information. The PMO will need appropriate transport for instruments and supplies to ships as required.

INSTRUCTIONS FOR THE GUIDANCE OF PORT METEOROLOGICAL OFFICERS

contents

1 Introduction
2 General description of marine meteorological work
3 A national voluntary observing fleet
4 Recruitment of observing ships
5 Trawlers
6 Instrumental equipment of observing ships
7 Stationery and literature supplied to selected and supplementary ships
8 Visits, inspection and maintenance of instrumental equipment
9 Muster of instruments and supply of stationery to ships that are long absent from the national Meteorological Service
10 Withdrawal of instruments
11 Collection of ship's returns
12 Radio weather messages and information for shipping, fishing and small craft

APPENDIX 1 Suggested list of instruments issued to ships
APPENDIX 2 Checking precision aneroids aboard ships

FOCAL POINTS

Argo - Global Array of Profiling Floats Focal Points

ASAP - Automated Shipboard Aerological Programme Focal Points

DBCP - Data Buoy Cooperation Panel Focal Points

GMDSS - National Contact Points for the WMO GMDSS Marine Broadcast System

JCOMM - JCOMM Focal Points

PMOs - Useful PMO (Port Meteorological Officer) Contacts

SI Services - Sea Ice Services Focal Points

SOOP - Ships-of-Opportunity Programme Implementation Panel (SOOPIP)

VOS - Voluntary Observing Ship Focal Points

VOSClim - Voluntary Observing Ship Climate Project Focal Points

Wave Programme - WMO Wave Programme Focal Points

- VOS focal points (47 Members):
- Argentina, Australia, Bangladesh, , Brazil, Bulgaria, Canada, China, Croatia, Cuba, Denmark, Ecuador, Finland, France, Germany,Greece, Hong Kong China, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Kenya, DPR of Korea, Republic of Korea, Latvia, Lithuania, Malaysia, Netherlands, New Zealand, Norway, Pakistan, Philippines, Poland, Portugal, Russian Federation, Saudi Arabia, Serbia and Montenegro, Singapore, South Africa, Spain, Sweden, Tanzania, Thailand, United Kingdom, USA

- PMO
- Argentina , Australia(4), Canada (3 locations (5)), Croatia (2), Denmark (3), France(7), Germany (5 locations (7)),Greece, Hong Kong China , Iceland, India(6), Indonesia (6), Ireland(5), Japan (4), Kenya(1), Malaysia (4), Netherlands(1), New Zealand(1), Norway(2), Philippines(8), Poland(1), Republic of Korea (2), Russian Federation, Saudi Arabia, Singapore, South Africa (2), Tanzania(1), Thailand, United Kingdom (8), USA (17 locations (18))

Port Meteorological Officers

Argentina	1
Australia	4
Canada	3 (5)
Croatia	2
Denmark	3
France	7
Germany	5 (7)
Greece	1
Hong Kong, China	1
Iceland	1
India	6
Indonesia	6
Ireland	5
Japan	4
Kenya	1
Malaysia	4
Netherlands	1

New Zealand	1
Norway	2
Philippines	8
Poland	1
Republic of Korea	2
Russian Federation	1
Saudi Arabia	1
Singapore	1
South Africa	2
Tanzania	1
Thailand	1
United Kingdom	8
USA	17 (18)

Discussion at the SOT-I (Goa, Feb-Mar.2002)

- The international PMO network is critical to the maintenance and future enhancement of the VOS, and also of the other components of the SOT.
- It is important to keep a list of “useful PMO contacts worldwide” updated.
- Mergers of VOS scheme, SOOP and ASAP in the use of PMOs as a common mechanism for ship greeting, equipment and consumables management, and the training of shipboard personnel. (only one “metocean” person visiting a ship)
- Revision of the WMO guidance materia for PMOs to include extensive guidance relating to both SOOP and ASAP operations.

Second International workshop for PMO

- General introduction
- Communications Session
  - GMDSS, SafetyNET Service, NAVTEX Services,
  - Inmarsat and Data communications
- Special Applications
  - Value of marine met observations for forecasters
  - VOSClim, EUCOS
- Expectations and Standards for PMO Services