

WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC  
COMMISSION (OF UNESCO)

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JOINT WMO/IOC TECHNICAL COMMISSION FOR  
OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)  
EXPERT TEAM ON MARINE CLIMATOLOGY

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ETMC-II/Doc. 6.1  
(16.III.2007)

SECOND SESSION

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ITEM 6.1

GENEVA, SWITZERLAND, 26 TO 27 MARCH 2007

Original: ENGLISH

**REVIEW OF CONTRIBUTIONS AND REQUIREMENTS OF THE WORLD CLIMATE PROGRAMME  
AND OTHER CLIMATE RELATED PROGRAMMES**

**Requirements for and provision of marine climatological data and services**

*(Submitted by Ms Elanor Gowland and Mr Reinhard Zöllner)*

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**Summary and purpose of document**

This document provides information on the current state of the Marine Climatological Summaries Scheme (MCSS), and possible changes to meet the requirement for and provision of marine climatological data and services.

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**ACTION PROPOSED**

The Expert Team on Marine Climatology is invited to:

- (a) Review the results from the MCSS questionnaire distributed in 2005;
- (b) Agree on a revision to the MCSS set-up, such as through the proposed formation of a Task Team on Marine and Oceanographic Climatological Summaries (TT-MOCS);
- (c) Discuss the interaction with other JCOMM groups and the integration of meteorological, oceanographical and ice climatologies; and
- (d) Define the Terms of Reference and suggestions for work to be undertaken by the Task Team, as necessary.

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**Appendices:** A. Questionnaire summary by Miroslaw Mietus (English)  
B. Initial ideas for draft ToR for TT-MOCS (English)

## DISCUSSION

### 1. Marine Climatological Summaries Scheme questionnaire

1.1 An outcome from the First Session of the Expert Team on Marine Climatology (ETMC-I, Gdynia, Poland, 7-10 July 2004), was an action to determine the current and potential use of the Marine Climatological Summary charts and tables. The questionnaire was compiled by Professor Mirosław Mietus, Dr Reinhard Zöllner and Miss Eleanor Gowland, and circulated amongst the Contributing Members by the WMO Secretariat.

1.2 There were responses from over seventeen countries and these are fully summarised in Appendix A to this document. The key points from the answers we received were as follows:

- The MCSS is not well known, with less than 50% of respondents aware of them, and nearly two-thirds asking for further information;
- The replies reflected that the participants taking part in the survey, were that they were not satisfied with the summaries in their current form, and suggestions were made on ways that the data displays could be improved, including changes to the list of climate parameters, new products, areal coverage, averaging periods and distribution methods.

### 2. Ideas for future of MCSS

2.1 The JCOMM Data Management Programme Area (DMPA) has asked the ETMC to explore the possibility of linking the marine meteorological, oceanographical and ice climatologies into one product.

2.2 In light of responses received from the MCSS questionnaire, it is essential that some of the suggestions for improvements are addressed further. Of particular importance are the methods / responsibilities for production.

2.3 The changes suggested above will impact on the *Guide to Marine Meteorological Services* (WMO-No. 471) and the *Manual on Marine Meteorological Services* (WMO-No. 558).

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Appendices: 2

**JCOMM Expert Team on Marine Climatology (ETMC)****Summary of questionnaire concerning the MCSS***Revised Draft, 23 September 2006**M. Miętus, et al.*

Background: A questionnaire concerning the Marine Climatological Summaries Scheme (MCSS) was circulated by the WMO in 2005, and over seventeen countries responded as listed in Section I. A summary appears in Section II of the responses to questions regarding the applications and benefits of the MCSS, and in Section III of suggestions for modifications to the Scheme.

**I. Countries responding to the questionnaire**

Organization	Country	Name/Job title
Deutscher Wetterdienst	Germany	Reinhard Zöllner, Marine Climatologist
Japan Meteorological Agency (JMA)	Japan	Takashi Yoshida (Mr)
Met Service Division, National Environment Agency	Singapore	Lam Keng Gaik
Hong Kong Observatory	Hong Kong, China	W.T. Wong
Danish Meteorological Institute	Denmark	Clara Kern Hansen
Swedish Meteorological and Hydrological Institute (SMHI)	Sweden	Bertii Hakansson
Instituto Nacional De Meteorologia	Spain	Justo Conde
KNMI	The Netherlands	F.B. Koek
Israel Meteorological Service	<i>Israel</i>	Matt Weiss
Marine Meteorological Subdivision, Thai Meteorological	<i>Thailand</i>	Wattana Kabua
MET EIREANN	Ireland	Evelyn Murphy
Servicio Meteorologico de la Armada Argentina	Argentina	Cristina E. Rössler
Malaysian Meteorological Department	Malaysia	Alki Bin Bahari
National Climate Center, China Meteorological Administration	P. R. China	Ren Funin
South African Weather Service	RSA	Ian Hunter
UK Hydrographic Office, Maritime Environment Information Centre	United Kingdom	K. N. Weaver
Institute of Meteorology and Water Management, Poland	Poland	Mirosław Miętus

**II. Applications, benefits**

In our institution we know about:

MCSS – 8 responded

Summaries – 8 responded

*None of these so far* – 5 responded

*We would like to receive more information* – 10 responded

The Summaries (charts) are/could be used in our institution for the purposes outlined below:

- The Summaries can provide marine climatological data in support of various marine activities.
- General large-scale climate background information
- Support when doing local/regional climate assessments
- Support model validations
- Study and analysis of the marine physical system
- To provide information to the users
- Transportation of goods, tropical cyclone monitoring, climate change
- Climate monitoring and knowledge of marine climate
- Research and assessment the role of the ocean in global processes
- Safety of navigation and environmental purposes
- Charts and statistics
- Tropical Atmospheric and Oceanic Condition Monitoring
- ENSO monitoring and prediction
- Charts – plus tables for the better populated areas in each region
- For forecast guidance, risk assessment and research purpose
- The summary charts are handy information source used to see mean state of various marine climate parameters
- Climatological investigations, marine climate monitoring
- Provide advice and support, in the form of regional climatological briefs, for the royal navy
- The summaries could be used for the seasonal forecast, we emit once a year before the rainy season

The Summaries in the current form:

*Are of benefit and should not be modified* – 0 responded

*Should be modified according to the suggestions outlined below* – 7 responded

### III. Suggested modifications to the MCSS System

In our view the benefit of the Summaries could be enhanced. We suggest the following additions:

*Method of data display (charts, statistics (data tables), graphs, other):*

- It seems that the summary in tabular form is obsolete
- Suggest to add isopleths or provide colors on the charts to show the change of climate parameters in different marine areas
- Charts with statistics including number of data points
- Until now we didn't use the summaries, so, we have nothing to say about modification
- Method of data display: charts, statistics, graphs, contour of SST, streamline of wind-wave, direction of swell, make scenario of marine meteorological parameters in each area
- Data tables
- We suggest that data display both by hard-copy and web-page
- Analysed charts of mean values in addition
- We use the above methods and we are increasingly interested in presenting information as GIS layers

Change to the list of calculated climate parameters (e.g. temperatures, wind, ms pressure); additional parameters such as:

- We don't think we have to change the climate parameters to be calculated for the publication
- Suggest to include the parameter of percentage of observations with thunderstorms
- Sea surface temperature should be included as a chart product
- Wave height

- Air and sea temperature
- Dew-point temperature
- Wind direction and speed
- Atmospheric pressure
- Cloudiness
- Specific humidity
- Salinity
- Surface current
- Humidity, waves, cloud amounts/height, visibility

New products, based on different statistical methods (analyses, grid point data, other):

- Statistics, analyses of extremes of wind speed and wave height
- Grid point data themselves can be useful products for users including researchers
- Suggest compilation of the extreme wind speed and wave height at different return periods for different marine areas.
- Analysis
- Grid point data
- 90 percentiles charts
- Linear trend's coefficient should be printed out
- We would be interested in grid point data
- No answer

Area I coverage (areas of responsibility only, global coverage additionally, other):

- Areas of responsibility only
- North-East Atlantic including Baltic Sea
- From users' point of view, summaries for divided areas are not very convenient. Nowadays, global or basin wide grid point data can be produced by each Responsible Member. Coverage of each Responsible Member should be extended to include at least one ocean basin
- Global coverage additionally
- Mediterranean sea and the eastern part of the Atlantic
- Areas of responsibility
- Global coverage additionally
- South China Sea and Malacca Strait
- May be asked to find information for any part of the worlds oceans

Averaging periods; frequency of publication (every 10 years, every 5 years, every year, other):

- The paper form publication can be issued less frequently, every 10-years for example. On the other hand, web-based graphic information can be issued more frequently, on monthly basis for example, considering of its cost-effectiveness
- Maps prepared under MCSS should be available not later than 3 years after the end of the period which they concern
- 10 years, and 5 years additionally; soon after the period, 30 year means
- Monthly averages, publication - once a year
- Every year

Ways and means of distribution (print out, CD-ROM, web page, other):

- Appropriate modern media
- Web-based graphic information such as charts and graphs is easily used by users for operational and research purposes. A demonstration web site may help the scheme to be known more widely. Although improved telecommunication, it seems premature to completely move to on-line information delivery only. Paper form publications of marine climatology are still useful as a handy information source for the users on board

- CD-ROM and web-pages
- Webpage to allow on-line access of climate parameters.
- Web and every 5 year on CD/DVD
- Digital is best, web or CD

Other suggestions:

- Continuation of production of Summaries, *inter alia* in support of marine climate monitoring
- Information regarding MCSS need to be informed and users at least once a year
- We are not familiar with MCSS and so do not want to suggest any modification but are interested in considering their potential to aid us.

*Draft*

**Terms of Reference of Task Team on Marine and Oceanographical Climatological  
Summaries  
(TT-MOCS)**

- Elaborate proposals for the modernisation of the marine climatological / oceanographical / ice summaries in accordance with the user requirements, taking into account the responses to the MCSS questionnaire; contents and ways of dissemination and distribution;
- Consider and implement additional applications of the climatological / oceanographical / ice products;
- Review and revise the organisational structures and responsibilities (establishment of appropriate centres);
- Promotion of the modernised system (through production of brochure and liaison with other JCOMM / WMO Teams).