



World Meteorological Organization
Organisation météorologique mondiale

Secrétariat

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Weather • Climate • Water
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Our ref.: OBS/WIGOS/OSD/MAR/RMIC-2

GENEVA, 19 November 2015

Annexes: 3 (available in English only)

Subject: Second JCOMM Marine Instrument Workshop for WMO Regional Association IV with focus on wave measurements from moored buoys, Gulfport, Mississippi, USA, 29 February to 2 March 2016

Action required: To nominate one or more participants to the Training Workshop and submit the Nomination/Registration form as soon as possible but not later than **15 December 2015**

Dear Sir/Madam,

You will recall that the WMO-IOC Regional Marine Instrument Centre for the Regional Association IV (RMIC/RA IV) was established by the World Meteorological Organization (WMO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO through WMO Congress Resolution 9 (Cg-XVI) and IOC Resolution XXVI-9. RMIC/RA IV holds activities in support of the Observation Programme Area (OPA), under the auspices of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM).

In accordance with its Terms of Reference (JCOMM-III Recommendation 1), the goals of the RMIC/RA IV are: (i) to assist WMO Members/IOC Member States within its Region in calibrating their national meteorological standards and related oceanographic monitoring instruments according to the RMIC capabilities; (ii) to organize technology information exchange workshops; and (iii) to organize marine instrument inter-laboratory comparisons.

To: Permanent Representatives of Members of Regional Association III (AMS-497)
Permanent Representatives of Members of Regional Association IV (AMN-565)
Permanent Representative of China with WMO
Permanent Representative of Morocco with WMO

cc: Executive Secretary, IOC)
Co-presidents of JCOMM)
President and vice-president of Regional Association IV)
RA IV Focal Point on Education and Training)
Chairperson, RA IV Task Team on WIS/WIGOS) (for information)
Action addressees of IOC Member States of WMO Regional)
Association IV (limited distribution))

RMIC/RA IV is therefore organizing a JCOMM Marine Instrument Workshop for RA IV with focus on wave measurements from moored buoys, in Gulfport, Mississippi, USA, from 29 February to 2 March 2016. The objectives of the Workshop will be to: (i) enhance the Members/Member States capability with regard to laboratory intercomparison; (ii) facilitate the calibration and maintenance of marine instruments (wave observations in particular); (iii) improve the data quality control of marine observations; and (iv) establish an information sharing platform.

As a Member of Regional Association IV, you are kindly invited to nominate one or more experts to attend this Workshop. Enclosed you will find in Annex I general information about the Workshop, in Annex II the provisional programme, and in Annex III the Nomination/Registration Form. The annexes are available in English only. The Workshop will be conducted in English.

It is hoped that the costs of participation of your experts will be borne by the Government of your country. If, however, it is not possible for the Government to meet all of the expenses for their attendance, WMO is prepared to consider, upon request, providing financial support for this purpose to selected experts from developing countries, which may consist of travel costs (most economic air fare according to the most direct route) and per diem. However, in view of the limited funds available to support this Workshop, I urge you to consider the possibility of meeting at least part of the costs involved. A selection committee will be set-up with a view to selecting, from all the nominations received, the most qualified experts in the area of marine instrumentation. The selection committee will deliberate by 15 January 2016 and will then communicate immediately its decision to the selected experts.

In order to clarify WMO's insurance coverage for non-staff members, I should like to draw your attention to the following:

"In the case of non-staff members of the Organization who are authorized to travel at its expense and/or who are receiving a daily subsistence allowance, the WMO accepts limited responsibility for compensation in the event of death, illness or injury attributable to attendance at meetings or the performance of services on behalf of the Organization. These persons are therefore fully responsible for any expenses incurred as a result of events which are not attributable to attendance at meetings or the performance of services on behalf of the Organization and for arranging such life, health and other forms of insurance as they consider appropriate."

With a view to enhancing future collaborations between the RMICs, we would also welcome nominations from the Permanent Representatives of China (RMIC for the Asia Pacific Region) and Morocco (candidate RMIC for Regional Association I) with WMO for their marine instrumentation experts to attend the Workshop.

I would appreciate it if you would kindly notify the WMO Secretariat (echarpentier@wmo.int), as soon as possible but preferably **not later than 15 December 2015**, whether you will be able to nominate an expert from your country to attend the Workshop, and if so, to please return the completed Nomination/Registration Form, indicating whether any financial assistance will be required for travel and/or per diem.

Yours faithfully,



(J. Lengoasa)
for the Secretary-General

WORLD METEOROLOGICAL ORGANIZATION

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OBS/WIGOS/OSD/MAR/RMIC, ANNEX I

SECOND JCOMM MARINE INSTRUMENT WORKSHOP FOR WMO REGIONAL ASSOCIATION IV WITH FOCUS ON WAVE MEASUREMENTS FROM MOORED BUOYS

(Gulfport and Stennis Space Centre, Mississippi, USA, 29 February–2 March 2016)

GENERAL INFORMATION

Background

The WMO-IOC Regional Marine Instrument Center for WMO Regional Association IV (North America, Central America, and the Caribbean) (RMIC/RA IV) was established by the World Meteorological Organization (WMO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO through WMO Resolution 9 (Cg-XVI) and IOC Resolution XXVI-9.

The First WIGOS/JCOMM Workshop on Marine Instrumentation for the Regional Association IV was held 13-15 April 2010 at Stennis Space Center, Mississippi, United States (see www.jcomm.info/rmic1).

The Workshop organizer and participants

The Second JCOMM Marine Instrumentation Workshop for RA IV will be organized by the RMIC/RA IV in Gulfport, Mississippi, USA, from 29 February to 2 March 2016. It will focus on wave measurements from moored buoys.

The expected participants of the Workshop are scientists, experts, researchers, engineers and government managers from the Member countries of WMO and IOC of North America, Central America, and the Caribbean, involved in the implementation of *in situ* marine meteorological and oceanographic observing instruments, systems and networks in support of WMO and IOC applications.

Objectives

The Workshop will particularly highlight the best practices, standards, methods, procedure, and data processing for the calibration of marine instruments, aiming at improving the participants' capacity for applying wave measuring instruments. Information on the theory behind the practices will also be provided. It is anticipated that a primary outcome for the Workshop is to improve the data quality of ocean observation in the Region.

The Workshop will also serve as a platform for the further cooperation between WMO Members and IOC Member States and RMICs on issues related to observing instruments, metrology systems, observation standards, and intercomparison activities. The Workshop will be conducted with hands-on exercises, exchanges of best practices, and discussions for future collaboration to improve the way wave observations are made.

Venue

The Workshop will be held in Gulfport, and at the NASA Infinity Science Center, in Mississippi, USA. The NDBC will provide participants with information on travel and local lodging but participants will have to make their own reservations.

Programme for the Workshop

Detailed draft preliminary programme for the Workshop is provided in Annex II.

Working Language

The Workshop will be conducted in English.

Coordinator and Liaison

Mr Shannon McArthur and Ms Jennifer Lewis are the leading points of contact for this event.

Their e-mail addresses are: Shannon.McArthur@noaa.gov and Jennifer.Lewis@noaa.gov

Support to participants from developing countries

Some limited funding will be provided to support participation of selected experts from RA-IV and other developing countries. A selection committee will be formed to select candidates for participating at the workshop.

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OBS/WIGOS/OSD/MAR/RMIC, ANNEX II

**SECOND JCOMM MARINE INSTRUMENT WORKSHOP
FOR WMO REGIONAL ASSOCIATION IV
WITH FOCUS ON WAVE MEASUREMENTS FROM MOORED BUOYS**

(Gulfport and Stennis Space Centre, Mississippi, USA, 29 February–2 March 2016)

PROVISIONAL PROGRAMME

Note: All times are US Central Standard Time (CST) (UTC -6:00)

Sunday, 28 February, 18:30h-20:30h: Icebreaker and early-registration at Island View Resort Hotel

Monday, 29 February at the University of Southern Mississippi (USM)

08:00	Transportation leaves Island View Resort Hotel for University of Southern Mississippi (USM)
08:30	Opening and Welcome and Logistics
09:00	Ocean observations and JCOMM contribution to the WMO Integrated Global Observing System (WIGOS) framework implementation, Etienne Charpentier, WMO Secretariat
10:00	Global Ocean Observing System (GOOS): Tom Gross, IOC of UNESCO Secretariat
10:30	JCOMM Pilot Project - Wave Measurement Evaluation and Testing (PP-WET): Bob Jensen, USA, or Val Swail, Environment Canada

Break 11:00h-11:15h

11:15	JCOMM Wave Observation and Measurement: Champika Gallage, JCOMM
11:45	Ocean waves: theory, measurement and best practice, Richard Bouchard

Lunch 12:15h–13:30h

13:30	Establishing and Maintaining a Regional Ocean Wave Observing System, US IOOS RA
14:15	Considerations in Formulating a National Wave Observing Plan: A User's Perspective, Robert Jensen, US Army Corps of Engineers

Break 14:45 h-15:00h

15:00	Initiatives in US & International Ocean Observation Standards, Zdenka Willis, US IOOS
15:45	Data Management: Quality Control, Dissemination, and Archive of Wave Observations, Rex Hervey, NDBC
16:30	WIGOS Metadata Standards, Joe Swaykos, NDBC
17:00	Monday scheduled events conclude. Return Transportation to the Hotel

17:15h–18:15	China, US, Morocco delegates hold RMIC General Discussion (Invitation Only)
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Tuesday, 1 March at the University of Southern Mississippi (USM)

08:00 Transportation from the Hotel to the USM

08:30 National Presentations

National presentations should:

- Identify requirements for ocean data in your country, focusing on waves, but can address other variables
- Assess status of the observing system compared to the requirements, identify gaps, including in terms of data coverage, quality, data access; assess potential impact of addressing the gaps
- Indicate standards being used in your country for the following areas:
Ocean measurements and instrument practices
Data access
Data distribution
Quality management
- If your country participated in the First Region IV RMIC Workshop, you are invited to share significant changes to the national presentation of that time, or any contributions that Workshop may have made to ocean observing in your country.

Lunch 12:30h-13:30h

13:30 NDBC buoy technology and operations, Stephen Cucullu, NDBC
Wave Buoy technologies – Hosted by Joe Swaykos, NDBC
Datawell, Operator: University of New Hampshire, Doug Vandemark and/or
vendor, Mark Bushnell
Fugro OCEANOR
AxyS, Operator: Environment Canada and/or vendor Chad McIsaac
Ocean Power Technologies.
Evans-Hamilton
Possible:
LimnoTech: Operator: Upper – Great Lakes Observing System (UGLOS)
and/or vendor LimnoTech
University of Maine Ocean Observing System (UMOOS): Operator &
Developer: Neil Pettigrew
University of Southern Mississippi –GCOOS: Operator & Developer: Steve
Howden
Woods Hole Oceanographic Institute – Operator and developer: J. Tom Farrar

17:00 Transportation from USM to the Hotel

19:00 Evening: Social/Dinner

Wednesday, 2 March at Stennis Space Center

07:30h – Transportation leaves Hotel for Stennis Space Center

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| 08:30 | Introduction to RMIC for North America, Central America and the Caribbean,
Karen Grissom, NDBC |
| 09:00 | Discussion of calibration of wave sensors, Regina Moore, NDBC &
Rodney Riley, NDBC |
| 11:00 | Wrap-up & Solicit ideas for next Region IV Marine Instrument Workshop,
Joe Swaykos, NDBC |

Lunch 12:00h-13:00h

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| 13:00 | Tour Stennis Space Center & Infinity – Angela Strong, NDBC |
| 17:00 | Transportation leaves Stennis Space Center for Hotel and Airport |
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OBS/WIGOS/OSD/MAR/RMIC, ANNEX III

**SECOND JCOMM MARINE INSTRUMENT WORKSHOP
FOR WMO REGIONAL ASSOCIATION IV
WITH FOCUS ON WAVE MEASUREMENTS FROM MOORED BUOYS**

(Gulfport and Stennis Space Centre, Mississippi, USA, 29 February–2 March 2016)

NOMINATION / REGISTRATION FORM

NOTE TO THE NOMINATED PARTICIPANTS: PLEASE COMPLETE ALL THE QUESTIONS IN THIS FORM. PLEASE WRITE CLEARLY, AND SUBMIT IT, PREFERABLY, IN ELECTRONIC FORMAT.

The Government of proposes the nomination of the following expert to participate in the Workshop

Family name		Dr / Mr / Ms
First name		
Date of birth		
Job title		
Education background and graduation level		
Address		
Tel. number(s)		
Fax number(s)		
E-mail(s) (please write clearly)		
Job responsibilities		
Financial assistance is requested for: travel <input type="checkbox"/> per diem <input type="checkbox"/>		
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QUESTIONS TO THE EXPERT NOMINATED FOR THE WORKSHOP.
1) What do you expect from this Workshop?
2) Are you involved in the making of marine meteorological or oceanographic observations, and if yes, at what level (if for wave observations, please also say so)?
3) Explain how the technology information received will help your country to further develop its marine meteorological or oceanographic observation activities
4) Do you have any questions or concerns?
5) Other comments or remarks

PLEASE NOTE, ONLY THE NOMINATION/REGISTRATION FORMS SIGNED BY THE PERMANENT REPRESENTATIVE (PR) OF YOUR COUNTRY WITH WMO OR THE IOC ACTION ADDRESSEE(S) OF YOUR COUNTRY, WILL BE CONSIDERED.

Name of PR with WMO or IOC Action Addressee:

Signature and date:

Please return the completed form, by fax and/or e-mail attachment, to the WMO Secretariat before **15 December 2015**, addressed by email to echarpentier@wmo.int or by fax to (+41 22) 730 8021.