

# REPORT OF THE MEETING OF RA I WORKING GROUP ON IMPROVED WEATHER FORECASTING, NATURAL DISASTER RISK REDUCTION, SERVICE DELIVERY AND COMMUNICATION

The purpose of the meeting of the “RA I Working Group on Improved Weather Forecasting, Natural Disaster Reduction, Service Delivery and Communication” was to develop Terms of Reference and a Work Plan of the Working Group for the period  
2016 - 2019

*Nairobi, Kenya,  
15 - 17 December  
2015*



# **REPORT OF THE MEETING OF RA I WORKING GROUP ON IMPROVED WEATHER FORECASTING, NATURAL DISASTER RISK REDUCTION, SERVICE DELIVERY AND COMMUNICATION**

**NAIROBI, KENYA, 15 - 17 DECEMBER 2015**

## **Introduction**

At the 16th Session of the Regional Association (RA I, Africa), Praia, Cabo Verde, 3 to 9 February 2015, the Association decided to align the working mechanisms of RA I to the Strategic Thrusts and Expected Results of the WMO Strategic Plan. For that purpose, the Association decided to establish several subsidiary bodies among which included the “Working Group on Improved Weather Forecasting, Natural Disaster Reduction, Service Delivery and Communication”.

The first Meeting of the Working Group was held in Nairobi, Kenya from 15 to 17 December 2015. All the members of the Working Group attended. They were also joined by representatives from the WMO Secretariat and the Kenya Meteorological Department (KMD). The Chairman of the Working Group, Mr John Mungai (KMD) chaired the meeting.

The list of the participants is attached as Annex I.

### **1. Opening of the Meeting**

The meeting was opened by the representative of the Permanent Representative of Kenya with WMO, Mr. Samuel M. Mwangi. Mr Mwangi welcomed all the participants to the meeting. He expressed the pleasure of the Government of Kenya, through the KMD to host the important meeting and assured the participants of the support of KMD during the meeting. He further informed the meeting that the PR himself would join the meeting at a later time.

### **2. Organization of the Session**

The Provisional Agenda of the meeting was adopted without change (Annex II). Annex III provides the programme of the meeting.

### **3. Chairman’s perspectives**

The Chairman explained the purpose of the meeting and underlined the importance of the Working Group in assisting RA I implement its decisions as regards the technical areas the WG covered. He pointed out that the meeting would provide a fitting forum to enable the members of the Working Group reflect on their Terms of Reference that would define the mandate of the Working Group. The WG would further agree on a Work Plan of specific actions to take in discharging the mandate that was entrusted to them. The Chairman based his intervention on the Workshop Concept Paper.

## 4. Discussions

In order to facilitate discussion, the technical programmes of WMO related to the areas covered by the Working Group had prepared documents for the meeting. These documents are available online and may be accessed by clicking on [this link](#)<sup>1</sup>. In addition to the documents, the participants made presentations on their areas of expertise, which added to the discussion. The meeting deliberated on the issues and the following salient points were recognized as ones to guide the Meeting in determining the development of their TORs and in developing a Work Plan.

### **4.1 Improvement of Weather Forecasting in RA I**

4.1.1 The Meeting noted that improvement in Weather Forecasting in RA I was essentially achieved through the Severe Weather Forecasting Demonstration Project (SWFDP). SWFDP uses a cascading process whereby Global Numerical Weather Prediction Centres provide high value Numerical Weather Prediction (NWP) outputs to Regional Centres. The Regional Centres use these products to provide guidance on severe weather activities to NMHSs, thus allowing them to fine-tune the information for their users and to issue timely warning services.

4.1.2 In Southern Africa, 16 NMHSs participate with the support of the following Regional centres: RSMC Pretoria, and RSMC-TC La Reunion and of the Global centres: ECMWF, UKMO, and NOAA/NCEP. In Eastern Africa, 7 NMHSs participate with support of Regional centres: RSMC Nairobi, and RFSC Dar-es-Salaam and from and of Global centres: ECMWF, UKMO, DWD and NOAA/NCEP. Initiatives to implement SWFDP in Western Africa had started and in this connection, the “Technical Planning Workshop for the Development of SWFDP in West Africa” was held in Dakar, Senegal (1-2 November 2015).

4.1.3 The experience of the SWFDP in the Region had highlighted the deficiency of Internet connectivity in most countries of RA-I. In addition, the lack of resources, both human and financial, provided a challenge to the improvement of weather forecasting in the Region. There was therefore a need to address the issue of Internet Connectivity.

### **4.2 Improvement of Disaster Risk Reduction in RA I**

4.2.1 The Meeting agreed that improvement of DRR in RA I would be guided, to a large extent, by the Sendai Framework for DRR 2015-2030. It noted that the Sendai Framework for DRR was adopted by 187 countries at the Third United Nations World Conference on Disaster Risk Reduction (WCDRR) held in Sendai, Japan, (14 - 18 March 2015).

The new Framework addresses four priorities for action:

- a. Understanding disaster risk;
- b. Strengthening disaster risk governance to manage disaster risk;
- c. Investing in DRR for resilience; and,

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<sup>1</sup> [https://www.wmo.int/pages/prog/amp/pwsp/RAI\\_WG\\_IWF\\_NDR\\_SDC.htm](https://www.wmo.int/pages/prog/amp/pwsp/RAI_WG_IWF_NDR_SDC.htm)

- d. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction;

4.2.2 The meeting further noted that WMO had several initiatives that support the development and strengthening of early warning systems, such as the documentation of good practices, development of guidelines and training materials, and national and regional capacity development/demonstration projects, promoting the establishment and strengthening of institutional collaboration for MHEWS supported by Standard Operating Procedures (SOP) that could facilitate the efficient and effective interaction between and among various key stakeholders on MHEWS. In this regard, WMO had responded to requests made by the Tanzania & Mauritius Governments to assist them in developing and strengthening their SOP relating to their early warning systems and the related interactions between the NMHS and the Civil Protection Authorities.

4.2.3 The Meeting agreed that its TORs in DRR would be underpinned by the Sendai Framework for DRR

#### **4.3 *Improvement of Service Delivery and Communication in RA I***

4.3.1 The meeting noted that WMO, through its Public Weather Services (PWS) programme, had implemented many projects in Africa in the areas of development or improvement of multiple channels of dissemination of weather forecasts and warnings. This had recently been achieved through the implementation of the PWS component of the SWFDP in southern and Eastern Africa. The projects were in the areas of TV weather studios, websites, internet, and implementation of the Common alerting Protocol (CAP).

4.3.2 The meeting noted that the Seventeenth Session of Congress (Cg-17) had called upon Regional Associations to strongly encourage Members to implement the WMO Strategy for Service Delivery (SSD) following the path provided in its Implementation Plan, which included to:

- (i) Review progress in the Implementation of the WMO Strategy for Service Delivery and its Implementation Plan in RA 1 and take action to ensure that Members:
  - a. complete the online Service Delivery Survey developed from the Service Delivery Progress Model (SDPM) of the Strategy; and
  - b. Prepare their national action plans for advancing to higher levels of service delivery as defined in the SDPM;
- (ii) Implement the Strategy and other initiatives related to Public Weather Services in RA 1 as follows:
  - a. Developing skills within NMHSs to enable them provide impact-based forecasting and warning services;

- b. The implementation of the Common Alerting Protocol (CAP) standard in the communication of warnings;
- c. Advancing capacities of Members to assess and communicate the social and economic benefits (SEBs) of their services to their respective governments and to other decision makers;
- d. Improving the delivery of PWS services to the public through the improvement of dissemination and communication skills as well as communication channels such as websites, use of social media and mobile technology;
- e. Enhancing participation of Members in the World Weather Information Service (WWIS) website in providing official weather forecasts; and
- f. Promoting the adoption by Members of the Competency Framework for PWS Forecasters and Advisors

#### **4.4 *Improvement of Marine Services in RA I***

4.4.1 The Meeting considered the decisions of Cg-17 in which it had urged Members to strengthen their marine meteorological and oceanographic services in support of safety of life and property at sea as required under the International Convention for the Safety of Life at Sea (SOLAS).

4.4.2 The meeting agreed that the strategic issues related to the enhancement of the provision of marine services in RA I were:

- a. Enhancement of observing platforms within the region for the relevant Metareas (Indian and Atlantic oceans);
- b. Improvement of impact-based marine services: identification of user needs and a way forward
- c. Implementation of WMO Marine Weather Forecaster Competency Framework in RA 1.
- d. Coastal forecast downscaling as a cross-cutting issue of Services and Forecasting Systems Program Area (SFSPA) that deals with emerging and future capabilities

## **5. Terms of Reference (TORs) for the Working Group on Improved Weather Forecasting, Natural Disaster Reduction, Service Delivery and Communication**

The Meeting agreed on draft Terms of Reference (TORs) to be considered for approval by the RA I Management Group (see Annex IV)

## **6. The Work Plan**

The Meeting agreed on a work plan as presented in the “Draft Work Plan for the Working Group on Improved Weather Forecasting, Natural Disaster Reduction, Service Delivery and Communication for the period” (see Annex V)

## **7. Recommendations**

The meeting agreed on a few recommendations as follows:

- 7.1 Each of the technical areas of the Working Group will have a focal point as follows:
  - Improvement of forecasting in RA I: Quentin Mokoyo Yoka Congo;
  - Improvement of marine services in RA I: Boris Anato, Benin;
  - Improvement of DRR in RA I: Mr Diallo Mamadou Adama , Mali; and
  - Improvement of service delivery and communication in RA I: Dr Kudzotsa Innocent, Zimbabwe
- 7.2 The Working Group will create a Whatsapp group to assist them keep in contact easily.
- 7.3 The Working Group will conduct virtual meetings at least twice a year. The Chairman will convene such meetings. It requested WMO to consider organizing another meeting May 2017 in Algeria.
- 7.4 The Working Group will work closely with the relevant technical programmes of the Secretariat
- 7.5 The meeting recommend participation of at least two experts at the meeting on Tropical Cyclone Coordination in La Reunion.

## ANNEX I

## LIST OF PARTICIPANTS

TITLE	NAME	FIRST NAME	COUNTRY	ORGANIZATION	ADDRESS	E-MAIL	TEL. NUMBER
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Mr	MUNGAI	John Gaturu	Kenya	Kenya Meteorological Department		John Mungai <jon.mungai@gmail.com>	254203867880
Mr	Korany	Mohamed	Egypt	Egyptian Meteorological Authority	Kobry El_Qobba Cairo -Egypt ,P.O.BOX : 11784	mohamed korany <m_korany2002@yahoo.com>,	(202) 6849860
Mr	Diallo	Mamadou Adama	Mali	Direction Nationale de la Meteorologie	Bamako	Mamadou Adama Diallo <madialloba@gmail.com>,	22376479196
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Mr	Boris	Anato	Benin	Direction de la Meteorologie Nationale Benin	Cotonou	Boris Polynice ANATO <boris_polynice@yahoo.fr>,	+22966431818
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Mr	Bereke	Kibet	Kenya	KMD	P.O. Box 30259, Nairobi, Kenya		
WMO SECRETARIAT							
Mr	Muchemi	Samuel	Geneva	WMO	WMO HQs, Geneva	Samuel Muchemi <smuchemi@wmo.int>	+41227308137
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World Meteorological Organization

WDS/PWS/RAI-WG/IWF-NDR-  
SD&C/ Inf. 2

**MEETING OF THE RA I WORKING GROUP ON  
IMPROVED WEATHER FORECASTING,  
NATURAL DISASTER REDUCTION, SERVICE  
DELIVERY AND COMMUNICATION**

Date: ...XI.2015

NAIROBI, KENYA, 15-17 DECEMBER 2015

Original language: English  
Agenda item: 2

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### PROVISIONAL AGENDA

- 1. OPENING OF THE SESSION**
- 2. ORGANIZATION OF THE SESSION**
  - 2.1 Adoption of the agenda
  - 2.2 The work plan
  - 2.3 Other organizational matters
  - 2.4 Introductions
- 3. REPORT BY THE CHAIRMAN OF THE WORKING GROUP**
- 4. DISCUSSIONS**
  - 4.1.1 Improvement in Weather Forecasting in RA I
  - 4.1.2 Improvement of Disaster Risk Reduction in RA I
  - 4.1.3 Improvement of Service Delivery in RA I
  - 4.1.4 Improvement of Marine services in RA I
  - 4.1.5 Improvement of Tropical cyclone coordination and DRR service in RA I (Associated)
- 5. TORs OF THE WORKING GROUP**
- 6. WORK PLAN OF THE WORKING GROUP FOR THE PERIOD 2016-2019**
- 7. RECOMMENDATIONS OF THE WORKING GROUP TO THE RA I MANAGEMENT GROUP (MG)**
- 8. CONSIDERATION OF THE DRAFT REPORT**
- 9. CLOSURE OF THE SESSION**

## ANNEX III

<b>WORLD METEOROLOGICAL ORGANIZATION</b>	<b>WDS/PWS/RAI-WG/IWF-NDR-SD&amp;C/ Inf. 2</b>	
MEETING OF THE RAI WORKING GROUP ON IMPROVED WEATHER FORECASTING, NATURAL DISASTER REDUCTION, SERVICE DELIVERY AND COMMUNICATION	Date:	24.12.2015
NAIROBI, KENYA, 15-17 DECEMBER 2015	Original language:	English
	Agenda item:	2

**PROGRAMME OF THE MEETING**

*Tuesday, 15 December 2015*

Time	Doc./Item	Item	Responsible
0845-0900		REGISTRATION	KMD
09:00-09:30		OPENING OF THE SESSION	WMO Representative KMD Representative
		ORGANIZATION OF THE SESSION	
09:30-10:00	Inf. 1 Inf. 3 Inf. 2	Documentation Plan The work plan Adoption of the agenda <ul style="list-style-type: none"> <li>• Other organizational matters</li> <li>• Introductions</li> </ul>	S. Muchemi, WMO
10:00-10:30		GROUP PHOTO AND COFFEE BREAK	
10:30-10:50		REPORT by the CHAIRMAN OF THE WORKING GROUP	J. MUNGAI
		DISCUSSIONS SESSION	
10:50-12:30	4.1.1	Improvement of Weather Forecasting in RA I	Mokoyo Yoka Quentin (Congo) and Mohamed Korany (Egypt)
12:30-14:00		LUNCH BREAK	
14:00-15:30	4.1.2	Improvement of Disaster Risk Reduction in RA I	Mamadou Adama Diallo (Mali) and Amel Benzama (Algeria)
		COFFEE BREAK	
15:30-17:00	4.1.5	Improvement of Tropical cyclone coordination and DRR service in RA I (Associated)	Mamadou Adama Diallo (Mali) and Amel Benzama (Algeria)

Wednesday, 16 December 2015

09:00–10:00	4.1.3	Improvement of Service Delivery in RA I	Innocent Kudzotsa (Zimbabwe, Rapporteur) and Chali Debele (Ethiopia)
10:00-10:30		COFFEE BREAK	
10:30-12:30	4.1.4	Improvement of Marine services in RA I	Anato Boris (Benin) and John Mungai (Kenya)
12:30-14:00		LUNCH BREAK	
14:00 –15:30	5	TORs OF THE WORKING GROUP	J. MUNGAI
15:30-16:00		COFFEE BREAK	
16:00-17:00	6	WORK PLAN OF THE WORKING GROUP FOR THE PERIOD 2016-2019	J.MUNGAI

Thursday, 17 December 2015

09:00-10:00	7	RECOMMENDATIONS OF THE WORKING GROUP TO THE RA I Management Group (MG)	J. MUNGAI
10:00–10:30		COFFEE BREAK	
10:30-12:30	8	DEVELOPMENT OF THE DRAFT REPORT	J. MUNGAI
12:30-14:00		LUNCH BREAK	
14:00-15:30	8	DEVELOPMENT OF THE DRAFT REPORT	J. MUNGAI
15:30-16:00		COFFEE BREAK	
	9	CLOSING SESSION	KMD REPRESENTATIVE

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**DRAFT TERMS OF REFERENCE (TORS) FOR THE WORKING GROUP ON  
IMPROVED WEATHER FORECASTING, NATURAL DISASTER REDUCTION,  
SERVICE DELIVERY AND COMMUNICATION**

The first Meeting of the RA I Working Group on Improved Weather Forecasting, Natural Disaster Reduction, Service Delivery and Communication (Nairobi, Kenya, 15 - 17 December 2015) agreed on draft Terms of Reference (TORS) to be considered for approval by the RA I Management Group as follows:

1. Propose to the RA I Management Group, task teams to carry out specific activities as may be appropriate;
2. Prepare a draft work plan for the Working Group to be implemented during the inter-sessional period (2016 – 2019);

*Improvement of Weather Forecasting in RA 1*

3. Take necessary action to facilitate the sharing of forecasting tools between countries of RA I as a cost effective way of improving forecasting systems in NMHSs;
4. Recommend possible actions, projects, frameworks that would facilitate access to high speed internet by NMHSs in order to enable them take advantage of high value weather information provided by Global and Regional Centers (Numerical Weather Prediction (NWP) and Ensemble Prediction System (EPS)) as well to satellite information;
6. Propose ways to increase capacity development in weather forecasting through increased training in RA I, for example training of trainers in the area of EPS-Gram interpretation with the intension that they would conduct in-country training workshops in the regions;

*Improvement of Disaster Risk Reduction in RA I*

8. Study the Sendai Framework for Disaster Reduction 2015 – 2030 and propose a strategy for its implementation in RA 1;
9. Review the working arrangements between NMHSs in RA I and their respective national and Civil Protection Authorities and the legislative frameworks within which they operate and propose, if necessary, ways for improvement;
10. Identify the service requirements of the national and Civil Protection authorities as provided by their NMHSs together with any gaps, which may exist within current frameworks.

*Improvement of Service Delivery and Communication in RA I*

11. Review progress in the Implementation of the WMO Strategy for Service Delivery and its Implementation Plan in all its components including development of multi-channel communication systems for weather forecasts and warnings in RA 1
12. Take action to encourage Members prepare their national action plans for advancing to higher levels of service delivery as defined in the Service Delivery Progress Model (SDPM) of the Strategy

*Improvement of Marine services in RA I*

13. Promote the adoption of the WMO Marine Weather Forecast Framework within the NMHSs of RA I.
14. Study the possibility of establishing a pilot project on the Coastal Inundation and Flooding Demonstration Project.
15. Propose ways to enhance capacity development in delivery of marine services in RA I
16. Propose ways of raising the visibility of NMHSs in marine service delivery within the framework of a sound Quality Management System (QMS).
17. Encourage the implementation of Global Maritime Distress and Safety Systems (GMDSS) in marine service delivery by the NMHSs.

**DRAFT WORK PLAN FOR THE WORKING GROUP ON IMPROVED WEATHER FORECASTING, NATURAL DISASTER REDUCTION, SERVICE DELIVERY AND COMMUNICATION FOR THE PERIOD 2016 - 2019**

Goal	Objectives	Activities	Action by	Time	Resources
<b>Improvement of weather forecasting in RA 1</b>					
Provide technological resources to NMHSs	Obtain the Integrated Meteorological data analysis processing and forecasting system for regional forecasting centers and NMHSs having the necessary workstation infrastructure e.g. MICAPS, (the display system developed in China)	<ul style="list-style-type: none"> <li>Identify countries and/or RSMCs where this system is required (E.g. countries having the old version of synergy)</li> <li>Work closely with DPS programme to investigate the possibility, as an RA I project proposal</li> </ul>	Mohamed Hussein Korany and Quentin Mokoko Yoka	June 2016	WMO
Enhance internet connectivity	Improve internet connectivity	<ul style="list-style-type: none"> <li>Survey to identify NMHSs needing assistance. (To possibly use a software that provides information on upload and download speeds of websites)</li> <li>Develop a proposals for NMHSs to work with internet providers to provide faster internet in exchange of advertising themselves on Met</li> </ul>	Mohamed Hussein Korany and Quentin Mokoko Yoka	May 2016	WMO

		service website			
Improving communication of model outputs	Explore possibility of using with EUMETSAT (GeoNetCast) for the transmission of model outputs via Satellite to support the SWFDP where internet is not available or is very limited	<ul style="list-style-type: none"> <li>Work with the GDPFS programme of WMO to investigate the possibility of using GeoNetCast</li> </ul>	Mohamed Hussein Korany and Quentin Mokoko Yoka	July 2016	WMO
Capacity development in Weather forecasting	Improve weather forecasting skills in RA 1	<ul style="list-style-type: none"> <li>In-country training in interpretation of EPS Grams</li> </ul>	Mohamed Hussein Korany and Quentin Mokoko Yoka	June 2016	WMO
<b>Improvement of Disaster Risk Reduction and Tropical Cyclone Coordination in RA I</b>					
Improve collaboration between NMHSs and national civil protection authorities	Identify gaps that exist in the collaboration of NMHSs with their respective civil protection authorities.	<ul style="list-style-type: none"> <li>Collaborate with Secretariat DRR Programme to organize in-country workshops to kick-start collaboration.</li> </ul>	Mamadou Adama Diallo (Mali) and Amel Benzama (Algeria)	June 2016	WMO
Implement the Sendai Framework for Disaster Reduction 2015 – 2030 in RA I	To understand the Sendai Framework in the context of RA I	<ul style="list-style-type: none"> <li>Study the Sendai Framework for Disaster Reduction 2015 – 2030 and propose a strategy for its implementation in RA 1;</li> </ul>	Mamadou Adama Diallo (Mali) and Amel Benzama (Algeria)	Dec 2016	WMO
Strengthen resilience of RA I disaster risk financing in RA I	Study the status of risk transfer initiatives in RA 1 and recommending a way forward	<ul style="list-style-type: none"> <li>Study the status of disaster risk financing Africa and suggest a way forward.</li> </ul>	Mamadou Adama Diallo (Mali) and Amel Benzama (Algeria)	Dec 2016	WMO



<b>Improvement of Service Delivery and Communication in RA I</b>					
Successful implementation of the WMO Strategy for Service Delivery	Develop an RA I Plan for implementing the Strategy	<ul style="list-style-type: none"> <li>Study the Strategy and propose a plan to implement it in RA I</li> </ul>	Innocent Kudzotsa (Zimbabwe, Rapporteur) and Chali Debele (Ethiopia)	May 2016	WMO
Improve understanding of the current service delivery practices in NMHSs	Following up on the completion of the online WMO service delivery survey.	<ul style="list-style-type: none"> <li>Work with the PWS Programme and the WMO sub-regional offices to ensure completion of the survey by all RA 1 members.</li> </ul>	Innocent Kudzotsa (Zimbabwe, Rapporteur) and Chali Debele (Ethiopia)	April 2016	WMO
Action plans for improvement of service delivery.	Development of an action plan following the completion of the survey.	<ul style="list-style-type: none"> <li>Work with the PWS Programme and the WMO sub-regional offices to ensure development of action plans by RA 1 members, possibly through in-country or regional workshops</li> </ul>	Innocent Kudzotsa (Zimbabwe, Rapporteur) and Chali Debele (Ethiopia)	Dec 2016	WMO
<b>Improvement of Marine services in RA I</b>					
Enhance Marine Research and operational forecasting in RA I	Strengthen research in Regional Marine Centres of RA I	<ul style="list-style-type: none"> <li>Work with the Marine Meteorology and Ocean Affairs programme of the Secretariat and the WMO sub-regional offices to identify the gaps in marine research and forecasting</li> <li>Development of a proposal for</li> </ul>	Anato Boris (Benin) and John Mungai (Kenya)	Dec 2016	WMO

		funding.			
Disaster risk reduction of marine hazards and delivery of impact-based marine services	Implement a Coastal Inundation and Forecasting Demonstration Project in RA I	Develop a project proposal to be brought to JCOMM-MAN e.g West Africa as a follow – up of the Spanish cooperation project – Marinemet, currently under finalization	Anato Boris (Benin) and John Mungai (Kenya)	June 2017	WMO
Capacity development in Marine services	Optimize take-up of training opportunities existing WMO/IOC marine training programs.	Recommend to JCOMM-MAN capacity development needs of RA I.	Anato Boris (Benin) and John Mungai (Kenya)	June 2016	WMO and IOC
Implementation of WMO Marine Weather Forecaster Competency Framework in RA 1.	Conduct activities to promote adoption of WMO Marine Weather Forecaster Competency Framework within RA 1	Propose activities such as workshops, in-country visits, guidelines etc to support implementation of the Framework in RA I	Anato Boris (Benin) and John Mungai (Kenya)	June 2016	WMO