

REGIONAL ASSOCIATION II (ASIA)

EIGHTH SESSION OF THE RA II MANAGEMENT GROUP

GENEVA, 18 JUNE 2014

FINAL REPORT



WORLD METEOROLOGICAL ORGANIZATION

EIGHTH SESSION OF THE RA II MANAGEMENT GROUP¹
(Geneva, Switzerland 18 June 2014)

1. ORGANIZATION OF THE SESSION

1.1 The eighth session of the RA II Management Group (MG-8) was held at the WMO Headquarters in Geneva on Wednesday, 18 June 2014, during the sixty-sixth session of the Executive Council (EC-66). The Group adopted the provisional agenda as given in **Annex I**.

2. MATTERS ARISING FROM THE SEVENTH SESSION

2.1 The Group recalled that the seventh session of the RA II Management Group (MG-7: Geneva, 12 May 2013) focused mainly on the follow up to the fifteenth session of Regional Association II (RA II-15) and the WMO Regional Seminar on Strategic Capacity Development of National Meteorological and Hydrological Services in RA II: the work structure of RA II subsidiary bodies; monitoring and evaluation of the implementation of Strategic Operating Plan 2012-2015; topics and venue of the sixth session of Technical Conference; increasing the number of RA II seats in the WMO Executive Council; location of the Regional Office for Asia and the South-West Pacific; and inputs to the WMO Strategic and Operating Plan 2016-2019.

2.2 The Group, noting that a Task Team on RA II Strategic Operating Planning (TT-SOP) was established by *the ad hoc* meeting of RA II MG in Doha during RA II-15, reaffirmed the composition of the Task Team as the following: L.S. Lee (Chair, Hong Kong, China); Xu Xianghua (China); M. Jabbari (Islamic Republic of Iran); T. Kimura (Japan); S-W Kim (Republic of Korea); and A. Al-Mannai (Qatar). The Group requested the Task Team to develop a new survey questionnaire for the implementation of SOP 2012-2015, and requested the Task Team on Strategic Planning to report the progress to MG-8.

2.3 The Group decided to organize a small group within MG to discuss, in consultation with Members and the Chairpersons of Working Groups (WGs) and Implementation and Coordination Teams (ICTs), the inputs to WMO SOP 2016-2019. The Group agreed that the small group will be led by the vice president of RA II.

2.4 The Group suggested the theme “Enhancements of Multi-Hazard Early Warning System for Disaster Risk Reduction and Aeronautical Meteorological Services to Support for Decision-Making” for the Sixth Regional Technical Conference of RA II. Such theme emphasizes the emerging issues of increasing weather-, climate- and water-related natural disasters in the Region in conjunction with upgrading of service delivery capability. The Group requested the Chairpersons of ICT-Service Delivery (SD) and ICT-Disaster Risk Reduction (DRR) to further consider the theme of the RA II Technical Conference and submit the provisional topics to the president of RA II after further discussion with other WG Chairs and Pilot Project Leads.

¹ The presentation materials and relevant documents for the MG-8 are available at the WMO web site: <http://www.wmo.int/pages/prog/dra/rap/meetings/RAIIMG8DocPlan.html>

2.5 The Group was informed that the final report of the MG-7, which was approved by the president of RA II, can be accessed from the WMO website:

<http://www.wmo.int/pages/prog/dra/rap/documents/RAII-MG7-Final-Report.pdf> .

3. REVIEW OF THE ACTIVITIES OF THE RA II SUBSIDIARY BODIES

3.1 The Group was informed of the outcomes from the WG/ICT/TT Chairs' Meeting on Implementation and Development of Strategic Operating Plan in Regional Association II (Asia), which was held in Doha, Qatar, from 27 to 28 May, 2014. The Group was pleased to note that the meeting focused on the urgent issues in RA II including: the working mechanism of the Association; work plans of WGs and ICTs; activities related to RA II WIGOS and WIS Implementation Plans; monitoring and evaluation of RA II SOP 2012-2015; WMO Strategic Plan 2016-2019 and regional Operating Plans; survey on institutional arrangements for NMHSs and identification of future priorities; future priorities of RA II and RA II Strategic Operating Plan 2016-2019; and the sixth session of Regional Conference.

3.2 The Group noted that the WG/ICT/TT Chairs identified the challenges in carrying out the activities listed in the RA II SOP 2012-2015 and provided suggestions to the Management Group for their review. The suggestions included among others: (i) it is not feasible to carry out 126 deliverables in the RA II SOP 2012-2015, and the Work Plans should retain only the concrete action items; (ii) monitoring and evaluation (M&E) for the fiscal period of 2012-2015 should be based on the Work Plans to be approved by the RA II Management Group; (iii) a survey is needed to identify current challenges and future priorities, especially for the preparation of RA II SOP 2016-2019; (iv) the Work Plans and SOP 2016-2019 should focus on specific deliverables with concrete activities for feasible implementation and M&E; (v) the mid-term progress report (2012-2014) would be presented at the sixth Regional Conference (RECO-6). The Group also commended the president of RA II for his kind efforts of hosting the meeting in Doha to facilitate the communication among the members of RA II subsidiary bodies. The final report of the meeting is available at the WMO website:

<http://www.wmo.int/pages/prog/dra/rap/meetingsRAII.php>

3.3 The Group was informed of the activities of subsidiary bodies including: RA II Working Groups on Weather Services (WG-WS), Working Group on Climate Services (WG-CS), Working Group on Hydrological Services (WG-HS) and Working Group on WIGOS/WIS (WG-WIGOS/WIS). The progressive reports and the list of accomplished or ongoing deliverables and activities under the purview of RA II subsidiary bodies since the RA II-15 are available at the WMO website:

<http://www.wmo.int/pages/prog/dra/rap/meetingsRAII.php>

4. FOLLOW-UP TO THE RA II-15 SESSION

4.1 Membership of RA II Subsidiary Bodies

4.1.1 The Group recalled that the RA II-15 approved a new working mechanism for effective implementation of the Regional Strategic Operating Plan by establishing a Management Group, four Working Groups (WGs) with themes, two Implementation and Coordination Teams (ICTs) to handle cross-cutting activities as well as Pilot Projects. The Group further recalled that RA II-15 approved the selection of the Chairpersons of Working

Group on Hydrological Services (WG-HS), Implementation and Coordination Team on Service Delivery (ICT-SD) and Implementation and Coordination Team on Disaster Risk Reduction (ICT-DRR), and co-coordinators of Expert Groups of the four WGs.

4.1.2 The Group also recalled that the MG-7 approved the Chairs of WGs and the overseeing MG members for the WGs and ICTs. The membership of RA II subsidiary body including Theme Leaders and experts were selected in consultation with the co-coordinators of Expert Groups of the four WGs and ICT-SD, Technical Departments in the Secretariat, and MG members, and approved by the president of RA II.

4.1.3 The Group noted the challenges raised by the WG/ICT/TT Chairs' Meeting held in Doha in May 2014 regarding the selection of several Theme Leaders. Recalling the importance of the theme on Socio-economic impact of Agro-meteorological information of WG-CS to RA II, the Group noted with appreciation the intent of Dr Rathore (India) to nominate a Theme Leader to this WG. The Group also supported the intention of the Chair of WG-HS to nominate experts to lead the themes of WG-HS on Improved Accuracy of Hydrologic and Sediment Observations including Space-Based Technologies, and Sediment Disasters and Mass Movements since the Theme Leaders had not been selected.

4.1.4 The Group also noted that the overseeing MG members for the WG-CS and WG-WIGOS/WIS were replaced by Mr Nishide, PR of the Japan Meteorological Agency and Dr Ko, PR of the Korea Meteorological Administration, respectively, who are the newly elected acting EC members decided by the EC-66. The structure and membership of the RA II subsidiary bodies are attached as **Annex II** to this document.

4.1.5 The Group also approved the proposal submitted by the Chair of WG-WIGOS/WIS in consultation with the WG members that one of the co-coordinators of EG-WIGOS nominated by the Chair of WG-WIGOS/WIS be appointed as the RA II focal point for Radio Frequency Coordination under WIGOS in conjunction with CBS.

4.1.6 Mr David Thomas, Chief of Information and Telecommunication System Division (ITSD) in WMO informed the Group of the importance of the role of a focal point on Radio Frequency Coordination for RA II as given in **Annex III**. Dr Wenjian Zhang, Director of Observing and Information Systems Department in WMO also highlighted the critical reliance of space based observations on spectrum, especially those natural frequencies, and recalled that interference to or the loss of access to any of these frequencies will lead directly to loss of observations on which NMHSs are so dependent. Dr Zhang further pointed out that Mr David Thomas is the WMO Secretariat focal point for Radio Frequency matters and encouraged Members to feel free to contact him.

4.2 Monitoring and Evaluation of the Implementation of SOP 2012-2015

4.2.1 The Group was informed of the outcomes from the RA II WG/ICT/TT Chairs Meeting including the work plan for monitoring and evaluation to measure the performance of implementation of RA II SOP 2012-2015 proposed by the Chairperson of Task Team on RA II Strategic Operating Planning, and supported the following: (i) monitoring and evaluation (M&E) will be conducted for the fiscal period of 2012-2015 based on the Work Plans approved by the Management Group; (ii) methodology of M&E will be discussed in consultation with EC WG-SOP, and the Chairperson of TT-SOP will take the lead if a survey is conducted for M&E; (iii) mid-term progress report (2012-2014) will be presented at the sixth Regional Conference

(RECO-6); and (iv) RA II Pilot Projects currently in operation will be included in the RA II SOP 2012-2015.

4.3 Work Plans of Working Groups and Implementation and Coordination Teams

4.3.1 The Group was informed of the presentations made by the Chairs of WGs and ICTs on Work Plans for 2014-2016, discussions on strengths and weaknesses of current work plans, and proposals for possible improvements through coordination at the WG/ICT/TT Chairs' meeting. The Group agreed that it is not feasible to carry out 126 deliverables with more than 200 activities listed in the RA II SOP 2012-2015, and requested that the Work Plans should retain only the concrete action items including the pilot projects established in RA II-15 to be implemented especially for the monitoring and evaluation purposes. The Group noted with satisfaction that the Chairs of WGs and ICTs identified the concrete action items, which have been conducted or planned to be conducted for the period 2012-2015 as given in **Annex IV**.

4.3.2 The Group supported the proposed Work Plans submitted by the Chairs of WGs and ICTs as given in **Annex V** and requested the Chairs of WGs and ICTs to further improve the Work Plans in cooperation with the Technical Departments in the Secretariat and submit to the president of RA II for approval.

4.4 The Sixth Session of Regional Conference in RA II

4.4.1 The Group recalled that the theme of the sixth session of Regional Conference (RECO-6) in RA II is to emphasize the emerging issues in the Region regarding the Multi-Hazard Early Warning System for Disaster Risk Reduction and the Aeronautical Meteorological Services Enhancements in conjunction with upgrading of service delivery capability.

4.4.2 The Group was pleased to note the proposals submitted to the president of RA II by the Chairs of ICT-SD and ICT-DRR on the theme and topics of the RECO-6 after further discussion and consultation with other WG Chairs and Pilot Project Leads, and recommended the following theme for RECO-6: *Multi-Hazard Early Warning System for Disaster Risk Management and Aviation Safety*. The Group also recommended that the topics may include emerging issues of increasing weather-, climate- and water-related natural disasters in the Region in conjunction with upgrading of service delivery capability.

4.4.3 The Group was pleased to note that the State of Qatar offered to host the RECO-6, and the Group appreciated the Government of Qatar for their kind offer. The Group also agreed on the tentative meeting schedule in December 2014, and requested the Secretariat to finalize the dates in consultation with the host country and inform the members as early as possible for the preparation of their participation in the RECO-6. The Secretariat also informed the Group that the title of "Regional Conference" is used for the Regional Associations, instead of "Technical Conference" used for the Technical Commissions.

5. SURVEY ON INSTITUTIONAL ARRANGEMENTS FOR NMHSs AND IDENTIFICATION OF FUTURE PRIORITIES

5.1 The Group was informed about the planned survey on Institutional Arrangement for NMHSs and Identification of the Challenges and Future Priorities in RA II. The objective of

survey is to collect basic information about the current institutional arrangements of hydrometeorological services in RA II, as well as the views of the RA II Members regarding the most important challenges and priorities.

5.2 The Group was also informed that the survey will be conducted electronically using Survey Monkey platform with specific focus on following thematic categories: (a) institutional arrangements; (b) management and organization; (c) operations and services; and (d) challenges and priorities. The outcomes of the survey will be further discussed during the RECO-6. The Group agreed that the outcomes of the survey would provide a useful information and clear articulation on high priority areas for the preparation of RA II Strategic Operating Plan 2016-2019.

5.3 The Group supported and endorsed the proposed survey questionnaire as given in **Annex VI** to this document, and requested the Chair of TT-SOP to take the lead in conducting the survey in close coordination with the Secretariat.

6. RA II STRATEGIC OPERATING PLAN 2016-2019

6.1 The Group noted that Cg-XVI requested the regional associations to: (a) provide regional needs and priorities that should be taken into consideration in developing the WMO Strategic Plan 2016-2019; (b) coordinate, as necessary, national contributions to regional aspects of the Plan; and (c) develop their own Operating Plans 2016-2019 in support of the implementation of the next WMO Strategic Plan.

6.2 The Group was informed of the efforts of the Chairs of WG/ICT/TT-SOP to develop the draft RA II Strategic Operating Plan 2016-2019 with concrete deliverables and activities during the WG/ICT/TT Chairs meeting as given in **Annex VII**. The Group agreed on the proposed plan submitted by the RA II WG/ICT/TT Chairs' Meeting that the small group for the development of RA II SOP 2016-2019 should include the WG/ICT/TT-SOP Chairs and be co-chaired by the vice president of RA II and the Chair of TT-SOP, and reiterated that the SOP 2016-2019 should be based on the future priorities in the Region, which would be identified by the survey and further discussion during the upcoming Regional Conference of RA II.

6.3 The Group requested the co-chairs of small group for RA II SOP 2016-2019 to further develop the RA II SOP 2016-2019 in cooperation with the Chairs of WGs and ICTs and the Technical Departments in the Secretariat.

7. LOCATION OF THE REGIONAL OFFICE FOR ASIA AND THE SOUTH-WEST PACIFIC

7.1 The Group noted that, at the request of Cg-16, the Secretariat initiated a comprehensive review of resources and location of the Regional Office for Asia and South-West Pacific with a special focus on efficient and effective management and operation of the Office.

7.2 The Group also noted that RA II-15 (Doha, Qatar, December 2012), in considering the pros and cons of the relocation of the Regional Office for the Region, recognized the advantages of the location of the Regional Office being in the Region in particular in terms of cost-effectiveness, and agreed that the president of RA II, in collaboration with the president of RA V, proceed with seeking potential candidates for hosting the Regional Office from all

Members of RA II and RA V, so as to make an assessment of the candidates using the regionally agreed criteria.

7.3 The Group further noted that, in response to the WMO circular letter addressed to RA II and RA V Members, the following Members indicated their Governments' interest in hosting the Regional Office: India; Indonesia; Philippines; Republic of Korea; Singapore; and Qatar. The Group was informed that the next circular letter requesting the detailed proposal for evaluation is under preparation for accommodating valuable comments and suggestions received from the MG members of RA II and RA V for improvements.

7.4 The Group further noted a concern echoed by Japan over the importance of sustainability of services by the host country to Regional Offices as part of major criteria for consideration during the process of reviewing hosting offers.

8. INCREASING THE NUMBER OF SEATS FOR RA II IN THE EXECUTIVE COUNCIL

8.1 The Group considered the report and specifically the proposals brought forward by Working Group on WMO Strategic and Operational Planning (EC WG-SOP) regarding the number and distribution of seats in the Executive Council including potential amendments to Article 13 of the WMO Convention and General Regulation 17 on the distribution of seats in the Executive Council [ref. EC-66/Doc. 7.3(2), available at: https://docs.google.com/a/wmo.int/file/d/0BwuikncrBvf_eIRhY2F2akZOUHc/edit].

8.2 The Group recalled the president's letter dated 24 September 2013 to the Secretary-General for consideration on the enabling of increasing RA II seats in the Council from six to seven as requested by Sixteenth Congress, and noted with satisfaction the contingency plan to increase the number of seats for RA II if the total number of seats increases in the Executive Council as proposed in the draft EC-66 document.

9. Other Business

10. CLOSURE OF THE SESSION

10.1 The president thanked all the participants for their fruitful discussion and expressed his satisfaction with the outcomes made in the session, and the list of participants is attached as **Annex VIII** to this report. He also thanked the WMO Secretariat for the arrangements for the session.

10.2 The eighth session of the RA II Management Group closed at 19:20 on 18 June 2014.

EIGHTH SESSION OF THE RA II MANAGEMENT GROUP
(Geneva, Switzerland 18 June 2014)

AGENDA

1. Organization of the Session
 2. Matters arising from the Seventh Session
 3. Review of the activities of the RA II subsidiary bodies
 4. Follow-up to the RA II-15 Session
 - 4.1 Membership of RA II Subsidiary Bodies
 - 4.2 Monitoring and Evaluation of the Implementation of SOP 2012-2015
 - 4.3 Work plans of Working Groups and Implementation and Coordination Teams
 - 4.4 The sixth session of Regional Conference in RA II
 5. Survey on institutional arrangements for NMHSs and identification of future priorities
 6. RA II Strategic Operating Plan 2016-2019
 7. Location of the Regional Office for Asia and the South-West Pacific
 8. Increasing the Number of Seats for RA II in the Executive Council
 9. Other Business
 10. Closure of the Session
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MEMBERSHIP OF SUBSIDIARY BODIES OF RA II

Chairpersons/Co-coordinators of WGs/ICTs and overseeing MG members

Working Group on Weather Services (WGWS)

(Dr Zheng)

**Mr Boon-leung Choy	(Co-Coordinator of EG-AeM) (Hong Kong, China)
Ms Marina Petrova	(Co-Coordinator of EG-AeM) (Russian Federation)
Mr Yuki Honda	(Co-Coordinator of EG-OF) (Japan)
Ms Irina Zaytseva	(Co-Coordinator of EG-OF) (Uzbekistan)
Mr Lap-shun Lee	(Co-Coordinator of EG-PWS) (Hong Kong, China)
Dr Muhammad Hanif	(Co-Coordinator of EG-PWS) (Pakistan)
Mr Alexey Lyakhov	(Co-Coordinator of EG-PWS) (Russia)

Working Group on Climate Services (WGCS)

(Mr Nishide)

**Mr Ryuji Yamada	(Co-Coordinator of EG-CS) (Japan)
Dr Ghulam Rasul	(Co-Coordinator of EG-CS) (Pakistan)
Dr N. Chattopadhyay	(Co-Coordinator of EG-AgM) (India)
Dr Alexander Kleshchenko	(Co-Coordinator of EG-AgM) (Russian Federation)

Working Group on Hydrological Services (WGHS)

*Dr Sung Kim	(Chairperson of WGHS) (Republic of Korea)
Mr Muhammad Riaz	(Vice-chairperson of WGHS) (Pakistan)

Working Group on WMO Integrated Global Observing System (WIGOS) and WMO Information System (WIS) (WG-WIGOS/WIS)

(Dr Ko)

**Mr Yongqing Chen	(Co-Coordinator of EG-WIGOS) (China)
Dr Jaegwang Won	(Co-Coordinator of EG-WIGOS) (Republic of Korea)
Ms Xiang Li	(Co-Coordinator of EG-WIS) (China)
Mr Kenji Tsunoda	(Co-Coordinator of EG-WIS) (Japan)

Implementation Coordination Team on Service Delivery (ICT-SD)

(Dr Mohalfi)

* Mr Jianjun Xue	(Chairperson of ICT-SD)(China)
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Implementation Coordination Team on Disaster Risk Reduction (ICT-DRR)

(Dr Rathore)

* Dr K.J. Ramesh	(Chairperson of ICT-DRR) (India)
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* Chairperson decided by RA II-15; ** Chairperson decided by MG-7;
() Overseeing MG Member

Working Group on Weather Services (WGWS)

Expert Group on Aeronautical Meteorological Services Delivery (EG-AeM)

EG-AeM	Name	Country
Co-Coordiators	Mr Boon-leung Choy	Hong Kong, China
	Ms Marina Petrova	Russian Federation
Theme Leader on QMS Implementation and Maintenance	Ms Jie Shao	China
Theme Leader on Competency Assessment	Mr Manoj Kumar Bhatnagar	India
Theme Leader on Meteorological Support to Air Traffic Management and Provision of SIGMETs	Mr Jun Ryuzaki	Japan

Expert Group on Operational Forecasting (EG-OF)

EG-OF	Name	Country
Co-Coordiators	Mr Yuki Honda	Japan
	Ms Irina Zaytseva	Uzbekistan
Theme Leader on Operational Forecasting Process and Support	Ms Sunitha D. Santhamma	India
	Mr Vo Van Hoa	Viet Nam
Theme Leader on Operational Predictions from sub-seasonal to longer-time scale	Mr Suhee Park	Republic of Korea
Theme Leader on Emergency Response Activities	Mr Masami Sakamoto	Japan

Expert Group on Public Weather Services Delivery (EG-PWS)

EG-PWS	Name	Country
Co-Coordiators	Mr Lap-shun Lee	Hong Kong, China
	Dr Muhammad Hanif	Pakistan
	Mr Alexey Lyakhov	Russian Federation
Theme Leader on Socio-economic Benefits of Meteorological and Hydrological Services	Mr Jinjun Pan	China
Theme Leader on Delivery of Warning Services	Mr Chuanhai Qian	China
Theme Leader on Education and Public Outreach related to PWS	Dr Seonkyun Baek	Republic of Korea

Working Group on Climate Services (WGCS)

Expert Group on Climate Services (EG-CS)

EG-CS	Name	Country
Co-Coordiators	Mr Ryuji Yamada	Japan
	Dr Ghulam Rasul	Pakistan
Theme Leader on User Liaison and Applications of Climate Information and Products for Climate Risk Management and Adaptation to Climate Change	Dr Ali Karem Kadhum	Iraq
Theme Leader on QMS Implementation and Operation of Regional Climate Centres	Mr Peiqun Zhang	China
Theme Leader on Operational Regional and National Climate Outlook Forums	Dr A. K. Srivastava	India
Theme Leader on Climate Monitoring and Climate Watch	Ms Yuliya Plotnitskaya	Uzbekistan
Theme Leader on Climate Research for Development	Ms Yuping Yan	China

Expert Group on Agrometeorology (EG-AgM)

EG-AgM	Name	Country
Co-Coordiators	Dr N. Chattopadhyay	India
	Dr Alexander Kleshchenko	Russian Federation
Theme Leader on Agrometeorological Training Needs	Ms Feruza Rakhmanova	Uzbekistan
Theme Leader on Soil Moisture Monitoring	Ms Xuefen Zhang	China
Theme Leader on Drought Preparedness and Management Strategies	Mr Mir Hazrat	Pakistan
Theme Leader on Seasonal Climate Forecast Applications for Agriculture	Mr Liuxi Mao	China
Theme Leader in Socio-economic Impact of Agrometeorological Information	TBD	TBD

Working Group on Hydrological Services (WGHS)

WGHS	Name	Country
Chairperson WGHS	Dr Sung Kim	Republic of Korea
Vice-chairperson WGHS	Mr Muhammad Riaz	Pakistan
Theme Leader on Water Resources Assessment	Ms Ge Gao	China
	Ms Hwirin Kim	Republic of Korea
Theme Leader on Flood Forecasting	Dr Sergey Borshch	Russian Federation
Theme Leader on Hydrological Aspects of Drought	Ms Irina Dergacheva	Uzbekistan
Theme Leader on Hydrological Responses to Climate Variability and Change and Promotion of the Use of Climate Information by Water Managers	Mr Guoqing Wang	China
	Dr Thuc Tran	Viet Nam
Theme Leader on Improved Accuracy of Hydrometric and Sediment Observations including Space-based Technologies	TBD	TBD
Theme Leader on Sediment Disasters and Mass Movements	TBD	TBD

Working Group on WMO Integrated Global Observing System (WIGOS) and WMO Information System (WIS) (WG-WIGOS/WIS)

Expert Group on WIGOS (EG-WIGOS)

EG-WIGOS	Name	Country
Co-Coordiators	Mr Yongqing Chen	China
	Dr Jaegwang Won	Republic of Korea
Theme Leader on Implementation and Updating of R-WIP	Mr Yoshiro Tanaka	Japan
Theme Leader on Implementation of EGOS-IP	Mr Yatian Guo	China
Theme Leader in Standard and Best Practice	Dr Seongchan Park	Republic of Korea
Theme Leader on Observational Requirements and Regional Network	Mr D. K. Malik	India
	Mr Abdulqaleq Ali Ali	Iraq
Theme Leader on Data Availability and Quality of Observations	Mr Yoshihisa Kimata	Japan
Theme Leader on Surface-based Remote Sensing for Disaster Risk Reduction	Mr Feng Li	China
	Dr Oleg Pokrovsky	Russian Federation
Theme Leader on Satellite Data, Products and Training	Mr Tomoo Ohno	Japan
	Dr Dohyeong Kim	Republic of Korea

Expert Group on WIS (EG-WIS)

EG-WIS	Name	Country
Co-Coordiators	Ms Xiang Li	China
	Mr Kenji Tsunoda	Japan
Theme Leader on Data Communication Techniques and Structure	Dr Sunghoi Huh	Republic of Korea
Theme Leader on Data Representation and Metadata	Ms Jitsuko Hasegawa	Japan
Theme Leader on WIS-GTS operations, including Early Warning	Dr Shyamlal Singh	India
	Mr Aleksandr Soloveychik	Uzbekistan
Theme Leader on Climate Data Management/Data Rescue	Mr Hongzheng Zhang	China
Theme Leader on Integrated Global Data Dissemination System	Mr Kang Gao	China

Implementation Coordination Team on Service Delivery (ICT-SD)

ICT-SD		
Chairperson	Mr Jianjun Xue	China
Members of ICT-SD	Mr Qingliang Zhou	China
	Dr Thuc Tran	Viet Nam
	Mr Mohammed Saeed Alhakimi	Yemen
	Mr Manoj Kumar Bhatnagar	India
	Dr Sergey Borshch	Russian Federation

Implementation Coordination Team on Disaster Risk Reduction (ICT-DRR)

ICT-DRR		
Chairperson	Dr K.J. Ramesh	India
Members of ICT-DRR	Mr Boon-leung Choy	Hong Kong, China
	Mr Ryuji Yamada	Japan
	Dr Sung Kim	Republic of Korea
	Mr Yongqing Chen	China

* Chairpersons of Working Groups will serve as members of ICT-DRR

**IMPORTANCE OF THE ROLE OF A FOCAL POINT ON RADIO FREQUENCY
COORDINATION FOR RA II**

by

Mr David Thomas, Chief of Information and Telecommunication System Division, WMO

- (i) RA II incorporates three very important and influential International Telecommunication Union (ITU) regional groups, namely: the Regional Commonwealth in the Field of Communications (RCC) covering Russian speaking countries; the Asia-Pacific Telecommunity (APT) covering the Asia Pacific; and the Arab Spectrum Management Group (ASMG) covering the Middle East.
- (ii) These groups prepare common and coordinated proposals on radio frequency matters for Member states and carry extensive influence on the establishment and maintenance of the ITU Radio Regulations that govern the international use of radio spectrum.
- (iii) The CBS Steering Group on Radio Frequency Coordination was well represented across all six of ITU regional groups at the last World Radiocommunication Conference (WRC-12) but has had limited representation from RCC since then, and no representation from ASMG before or since.
- (iv) Spectrum management is a very technical and highly competitive area with very significant financial and practical implications to the managers and users of spectrum arising from any change to the Radio Regulations, and they also often resent being told what to do by others outside of their member states, especially for meteorological and environmental use of spectrum.
- (v) It is critical that RCC and ASMG are well informed from WMO member representatives from RCC and ASMG states.
- (vi) The focal point and the WMO Secretariat, Chief of ITSD should work together to address this representation in APT, ASMG and RCC.

* *A publication prepared jointly by ITU and WMO, titled "Use of radio spectrum for meteorology: weather, water and climate monitoring and prediction", can be accessed at <http://www.itu.int/en/publications/ITU-R/pages/publications.aspx?parent=R-HDB-45-2008&media=electronic>.*

Revised RA II Strategic Operating Plan 2012-2015 (DRAFT)

Dept	Branch	ER	Key Outcome	Key Performance Indicators	Deliverable	Programme	Technical Commission	Region	LDCs, SIDS, Gender	Activity	Y2012	Y2013	Y2014	Y2015	Total	Status	WG	Remarks
DRA	RAP	1	1.1	1.1.1	Automatic data reception, decoding and archival; automatic data visualization; and automatic data processing	WWW	CBS	RA II		(a) provide support and/or conduct expert visit to Members in need, as necessary; (b) encourage and facilitate exchange and training on relevant know-how	x	x	x	x		ongoing	WXS	
DRA	RAP	1	1.1	1.1.2	Promotion and strengthening of the principle of free and unrestricted international exchange of data and products among Members, particularly their NMHSs	WWW	CBS	RA II		encourage and facilitate the exchange and training of relevant know-how	x	x	x	x				
DRA	RAP	1	1.2	1.2.1	Improvement or delegation of responsibilities on issuance of SIGMET	WWW, AeMP	CBS, CAeM	RA II		provide support and/or conduct expert visit to Members in need, as necessary	x	x	x	x		ongoing	CLS	
DRA	RAP	1	1.2	1.2.2	Provision of improved aeronautical meteorological services to Air Traffic Management (ATM)	AeMP	CAeM	RA II		(a) encourage Members' dialogue with ATM users and implementation of MET services in support of ATM operations; (b) provision of guidance material and advice to Members; (c) continue to conduct training workshops for Members	x	x	x	x		ongoing	WXS	
DRA	RAP	1	1.2	1.2.3	Implementation of cost recovery of aeronautical meteorological services	WWW, AeMP	CBS, CAeM	RA II		encourage and facilitate exchange and training on relevant know-how	x	x	x	x				
DRA	RAP	1	1.2	1.2.4	Implementation of WMO-No. 49 requirements for aeronautical meteorological personnel	WWW, AeMP, ETRP	CBS, CAeM	RA II		(a) provide support and/or conduct expert visit to Members in need, as necessary; (b) include a topic on AeM in Regional Seminar or emerging issues of RA II-15 to discuss the issue in depth; (c) additional training workshops on competency assessment, if required.	x	x	x	x		ongoing	WXS	
DRA	RAP	1	1.2	1.2.5	Implementation of QMS for AeM Service Providers (AEMSP)	WWW, AeMP	CBS, CAeM	RA II		(a) share the experience and lessons learned with focal points for QMS (from IR of Iran, Oman and Qatar); (b) organize regional workshops on QMS; (c) promote and coordinate twinning assistance between Members in RA II in cooperation with CAeM TT-QMS.	x	x	x	x		ongoing	WXS	
DRA	RAP	1	1.2	1.2.6	Increased accuracy, timeliness and usefulness of tropical cyclone forecasts and warnings	WWW, DPFS, TCP	CBS	RA II		promote activities of and collaborate with TC and PTC	x	x	x	x				

DRA	RAP	1	1.2	1.2.7	Establish/review legal basis for provision of services, including charging for services, as appropriate	WWW, PWSP	CBS	RA II	(a) encourage and facilitate exchange and training on relevant know-how; (b) render assistance if needed to Members	x	x	x	x						
DRA	RAP	1	1.2	1.2.8	Issuance of medium-range forecasts/warnings (1 day – 2 weeks ahead)	WWW, PWSP, DPFS	CBS	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x						
DRA	RAP	1	1.2	1.2.9	Operation of a website for real-time weather information, forecasts and warnings	WWW, PWSP, DPFS	CBS	RA II	encourage and facilitate the exchange and training of relevant know-how	x	x								
DRA	RAP	1	1.2	1.2.10	Issuance of marine forecasts/warnings for coastal waters including sea state and wave/swell	WWW, MMOP	CBS, JCOMM	RA II	encourage and facilitate the exchange and training of relevant know-how	x	x	x	x						
DRA	RAP	1	1.2	1.2.11	Provision of agrometeorological services to the user community by promoting practical applications of technological advances in the agrometeorology domain	WWW, AgMP, ETRP	CBS, CAgM	RA II	(a) encourage and facilitate exchange and training on relevant know-how; (b) conduct mission visit(s) to Members in developing countries or least developed countries	x	x	x	x			ongoing	CLS		
DRA	RAP	1	1.2	1.2.12	Demonstrated socio-economic benefits (SEB) of weather, climate and water services	WWW, PWSP	CBS	RA II	(a) encourage and facilitate exchange and training on relevant know-how; (b) develop guidance on methodologies for assessing SEB of weather, climate and water services; (c) develop a web-based SEB guidance platform	x	x	x	x			ongoing	WXS		
DRA	RAP	2	2.1	2.1.1	Improvement in hydrological warnings capability through enhanced and effective cooperation with other NMHSs	WWW, HWRP, DRR	CBS, CHy	RA II	(a) use WMO Flood Forecasting Initiative as platform; (b) organize training course for Members	x	x	x	x			ongoing	HYS	DRR	
DRA	RAP	2	2.1	2.1.2	Improvement in adaptation capacity of water resources systems in a changing climate	WWW, HWRP, WCP	CBS, CHy, CCI	RA II	improve on requirements for climate information for water managers	x	x	x	x			ongoing	HYS		
DRA	RAP	2	2.1	2.1.3	Improvement in capacity for water-related disaster management (Hydrological extremes)	WWW, HWRP, DRR	CBS, CHy	RA II	organize a workshop on the provision of input and support to disaster management	x	x	x	x			ongoing	HYS	DRR	
DRA	RAP	2	2.1	2.1.4	Issuance of storm surge warnings	WWW, DRR, MMOP, TCP	CBS	RA II	(a) use Coastal Flood Inundation Demonstration Project (CFIDP) to improve on capacity for coastal flood forecasting and management (including deltas and estuaries); (b) encourage and facilitate exchange and training on relevant know-how	x	x	x	x				HYS		
DRA	RAP	2	2.1	2.1.5	Provision of support for combating marine pollution	WWW, HWRP	CBS, JCOMM	RA II	(a) encourage Members to provide water quality information of rivers discharging into the oceans; (b) encourage and facilitate exchange and training on relevant know-how	x	x								
DRA	RAP	2	2.1	2.1.6	Provision of support for search and rescue operations	WWW, DRR	CBS	RA II	encourage and facilitate exchange and training on relevant know-how	x	x								

DRA	RAP	2	2.1	2.1.7	Implementation of instrumentation (e.g., DART) for real-time monitoring of storm surge or tsunami	WWW, TCP	CBS, CIMO	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x						
DRA	RAP	2	2.1	2.1.8	Early warning system for frost formation and heat waves	WWW	CBS	RA II	encourage and facilitate the exchange and training of relevant know-how	x	x	x	x						
DRA	RAP	2	2.1	2.1.9	Established/strengthened links with national disaster managers	DRR	-	RA II	provide support and/or conduct expert visit to Members in need, if necessary	x	x								
DRA	RAP	2	2.1	2.1.10	Development/implementation of a public education programme	ETRP, PWSP	CBS	RA II	encourage and facilitate exchange and training on relevant know-how	x	x					ongoing	WXS	ICT-SD	
DRA	RAP	2	2.2	2.2.1	Reliability of quality control procedures applied on data collected from hydrological stations	WWW, HWRP	CBS, CHy, CIMO	RA II	(a) assess the performance of hydrometric instruments and techniques of observations; (b) prepare documentation for the intercomparison of instruments and methods of observations	x	x					ongoing	HYS		
DRA	RAP	2	2.2	2.2.2	Hydrometric measurements with quality and accuracy	WWW, HWRP	CBS, CHy, CIMO	RA II	(a) provide guidance on the use of appropriate instrumentation and methods of observation in diverse conditions;	x	x					ongoing	HYS		
DRA	RAP	2	2.2	2.2.3	Calculation of runoff with quality and accuracy	WWW, HWRP	CBS, CHy	RA II	(a) focus on the development of rating curve; (b) detect trends and variability in selected river basins in the region; (c) provide guidelines for calculating runoff data accuracy	x	x					ongoing	HYS		
DRA	RAP	2	2.2	2.2.4	Measurement of changes in river flow in snow/glacier-fed rivers (to assess effect of climate change and climate variability)	WWW, HWRP	CBS, CHy, CIMO	RA II	(a) improve the measurement to include the use of remote sensing; (b) implement snow and glacier observations and assess impacts on mountain water resources; (c) collate comprehensive information on the regional status of glaciers and glacial runoff in RA II (in collaboration with IGOS – Cryosphere and CliC)	x	x					ongoing	HYS		
DRA	RAP	2	2.2	2.2.5	Issuance of flood, flash and urban flood warnings and constantly improving upon them	WWW, HWRP, DRR	CBS, CHy	RA II	(a) develop user-oriented flood forecasting products; (b) conduct mission visit(s) to Members in developing countries or least developed countries	x	x	x	x			ongoing	HYS	DRR	
DRA	RAP	2	2.2	2.2.6	Issuance of landslide/debris flow warnings and constantly improving upon them	WWW, HWRP, DRR	CBS, CHy	RA II	(a) collect and disseminate guidance materials and manuals on the assessment of rainfall/flood induced mass movement hazards; (b) assess sedimentation rates in major reservoirs; (c) develop early warning methodologies including documentation of best practices; (d) engage in hazard mapping of sediment-related disasters	x	x	x	x			ongoing	HYS		
DRA	RAP	2	2.3	2.3.1	Monitoring and warning systems for drought	WWW, HWRP	CBS, CHy, CIMO	RA II	(a) develop indicators for the determination of the onset of hydrological droughts; (b) prepare guidance for the	x	x	x	x			ongoing	HYS	CLS	

DRA	RAP	4	4.1	4.1.9	Integration of Observing Systems for supporting Disaster Risk Reduction and aviation services	WWW	CBS	RA II	(a) standardize RBSN/RBCN stations;(b) develop integrated weather radar product for severe weather monitoring at the sub-regional level;(c) develop integrated surface-based and space-based operational products;(d) organize training and workshops on standard data management procedure	x	x	x	x			ongoing	WIGO S/WIS	
DRA	RAP	4	4.1	4.1.10	Enhanced temporal and spatial coverage of weather measurements	WWW	CBS	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x					
DRA	RAP	4	4.1	4.1.11	Maintenance/enhancement of the following stations in the Region: (a) operational Regional Basic Synoptic Network (RBSN) surface stations (b) automatic weather stations (AWSs) (c) rainfall stations (d) operational RBSN upper-air stations (e) operational Regional Basic Climatological Network (RBCN) stations (f) operational tide gauges	WWW, WCP, MMOP	CBS, CCI, JCOMM	RA II	(a) collect and share standard and best practices documents from RA II Members; (b) survey and share status on QC/QA procedures and site management; (c) encourage the collection of metadata on observing systems; (d) enhance the service, support and standard of Regional Instrument Centre (RIC); (e) develop RIC websites and QA/QC portal; (f) encourage and facilitate exchange and training on relevant know-how	x	x	x	x			ongoing	WIGO S/WIS	
DRA	RAP	4	4.1	4.1.12	Maintenance/enhancement of operational weather radar stations in the Region	WWW	CBS	RA II	(a) develop strategic plan on development of the Southeast Asia radar network; (b) encourage and facilitate exchange and training on relevant know-how	x	x	x	x					
DRA	RAP	4	4.1	4.1.13	Maintenance/enhancement of ground station(s) in the Region to receive high-resolution images from geostationary meteorological satellites	WWW, SP	CBS	RA II	(a) continue implementation of the RA II Pilot Project to Develop Support for NMHSs in Satellite Data, Products and Training; (b) encourage and facilitate exchange and training on relevant know-how	x	x	x	x			ongoing	WIGO S/WIS	
DRA	RAP	4	4.1	4.1.14	Growth in spatial and temporal coverage of hydrological observation networks	HWR, WWW	CHY, CBS	RA II	maintain stations with long hydrological records for climate services	x	x	x	x			ongoing	HYS	
DRA	RAP	4	4.1	4.1.15	Maintaining/recruiting more voluntary observing ships (VOS) for meteorological, oceanographic and/or upper-air observations	WWW, MMOP	CBS, JCOMM	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x					
DRA	RAP	4	4.1	4.1.16	Operation of AWSs on green technology (including use of renewable energy such as solar and wind power), for sustainable development	WWW	CBS	RA II	organize training courses for Members	x	x	x	x					

DRA	RAP	4	4.2	4.2.1	Regional WIS implementation plan for RA II [is developed]	WWW	CBS	RA II	(a) mobilize one or two experts of "Local Secondment" for development of Regional WIS Implementation Plan; (b) continue identification of WIS requirements of Members; (c) arrange a coordination meeting for GISCs and candidates; (d) initiate the development of AMDCN in RA II and provide guidance to Members in joining an AMDCN managed by their related GISC(s) and implementation of their connection; (e) organize training, WIS experts' visit for WIS implementation; (f) mobilize human resources	x	x					completed	WIGOS/WIS
DRA	RAP	4	4.2	4.2.2	Implementation of GISCs, DCPCs and NCs in RA II	WWW	CBS	RA II	(a) demonstrate capabilities of GISCs and DCPCs; (b) produce regional information documents on WIS; (c) organize a regional and national workshop for potential DCPCs and NCs;	x	x	x	x			ongoing	WIGOS/WIS
DRA	RAP	4	4.2	4.2.3	Assessment of the implementation of WIS in RA II	WWW	CBS	RA II	carry out a survey to monitor the status of WIS Centres and AMDCN development/implementation		x	x	x			ongoing	WIGOS/WIS
DRA	RAP	4	4.2	4.2.4	Reform of VPN Pilot Project in RA II and RA V	WWW	CBS	RA II	(a) coordinate new themes and share workloads; (b) develop and evaluate new WIS applications; (c) provide evaluated techniques and applications to operational WIS centers; (d) expand project participants	x	x	x	x			ongoing	WIGOS/WIS
DRA	RAP	4	4.2	4.2.5	Improvement of the Regional Meteorological Telecommunication Network (RMTN) to meet the minimum required bandwidth of 128 kbps	WWW	CBS	RA II	(a) encourage the migration from analogue to digital circuits in the Middle-East and Central Asia; (b) continue annual survey in the RMTN status;	x	x	x	x			ongoing	WIGOS/WIS
DRA	RAP	4	4.2	4.2.6	Solution of isolated NMCs from the GTS	WWW	CBS	RA II	(a) encourage and facilitate exchange on relevant know-how; (b) render assistance to NMCs Baghdad, Kabul and Thimpu;	x	x	x	x			ongoing	WIGOS/WIS
DRA	RAP	4	4.2	4.2.7	Connection to the Internet by broadband VPN	WWW	CBS	RA II	provide assistance	x	x	x	x			ongoing	WIGOS/WIS
DRA	RAP	4	4.2	4.2.8	Shift from the costly radiofacsimile broadcast of meteorological and oceanographic information in chart form to more economical modern communication means	WWW	CBS	RA II	(a) encourage and facilitate exchange on relevant know-how; (b) render assistance if needed to Members who wish to involve the operators and users in modernizing the service	x	x					ongoing	WIGOS/WIS
DRA	RAP	4	4.2	4.2.9	Revision of Volume II (Regional Aspects) of Manual on the GTS (1991 edition)	WWW	CBS	RA II	(a) designate a new Theme Leader in Regional GTS Manual; (b) review comprehensively overall contents with data and reform the current Volume II	x	x					ongoing	WIGOS/WIS

DRA	RAP	4	4.2	4.2.10	Data catalogue is implemented by DCPCs and NCs	WWW	CBS	RA II	(a) review and complement the initial catalogue for DCPCs and NCs;(b) develop a system to update data catalogue with relevant centres	x	x	x	x			ongoing	WIGO S/WIS		
DRA	RAP	4	4.2	4.2.11	Validation checking and Maintaining Data catalogue in the area of responsibility by the related GISCS(s)	WWW	CBS	RA II	review and check the updated data catalogue to maintain its reliability in the area of responsibility	x	x	x	x			ongoing	WIGO S/WIS		
DRA	RAP	4	4.2	4.2.12	A regional contingency plan (step-by-step migration) is developed.	WWW	CBS	RA II	(a) provide RTHs' plan for assisting NCs in their responsibility area that have difficulties in migration; (b) develop a regional plan by compiling plans of Members and RTHs	x	x	x				ongoing	WIGO S/WIS		
DRA	RAP	4	4.3	4.3.1	Maintenance/enhancement of operational GCOS surface and upper-air stations in the Region	WCP, GCOS, WWW	CCI, CBS	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x						
DRA	RAP	4	4.3	4.3.2	Improved observations for climate services	WCP, GCOS, WWW	CCI, CBS	RA II	(a) enhance capacities of RA II RICs; (b) develop the RA II operational climate database; (c) organize RIC training workshop for the Members	x	x	x	x			ongoing	CLS	WIGOS	
DRA	RAP	4	4.3	4.3.3	Increased availability of rescued and digitized climate data	WCP, WWW	CCI, CBS	RA II	(a) encourage and facilitate exchange and training on relevant know-how; (b) render assistance to NMHSs for DARE projects	x	x	x	x			ongoing	CLS	WIS	
DRA	RAP	5	5.1	5.1.1	Enhanced regional or sub-regional climate research capacity			RA II	promote the cooperation between EG-CS and WCRP/CLIVAR regional Panels and hold joint workshop with research communities at RCOF	x	x	x	x			ongoing	CLS		
DRA	RAP	5	5.2	5.2.1	Advanced research capability on high-impact weather	WWRP	CAS	RA II	continue the research within THORPEX and promote activities of Asian Regional Committee of the Program	x	x	x	x						
DRA	RAP	5	5.2	5.2.2	Efficient and effective technical transfer from research to operation for high-impact weather prediction	WWRP, DPFS	CAS, CBS	RA II	initiate and implement new Research Development Project (RDP) in the Region	x	x	x	x						
DRA	RAP	5	5.3	5.3.1	Maintenance/enhancement of Global Atmospheric Watch (GAW) stations in the Region	GAW	CAS	RA II	(a) establish a regional panel of experts to take care of this task; (b) support training and capacity building activities related to atmospheric chemistry; (c) enhance the technical exchange and cooperation on atmospheric composition observation in the region; (d) enhance the station audit of GAW systems in the region	x	x	x	x						

DRA	RAP	5	5.4	5.4.1	Enhancement of sand and dust monitoring and forecasting	WWRP, GAW, DPFS	CAS, CBS	RA II	(a) enhance the ability of partner research experts to deliver timely and quality forecasts of sand and dust storms under the WMO Sand and Dust Storm Warning and Assessment System (SDS-WAS). (b) organize workshops and form task team in the Region to provide guidance to relevant NMHSs; (c) examine data policies and exchange observational sand and dust data; (d) enhance the quality check and conduct intercomparison	x	x	x	x			ongoing	WIGO S/WIS
DRA	RAP	5	5.4	5.4.2	Increased research capability related to EPS and its application	WWRP, DPFS	CAS, CBS	RA II	make trial use of GIFS-TIGGE products and support activities related to EPS techniques.	x	x	x	x				
DRA	RAP	5	5.5	5.5.1	Improvement in ENSO, IOD, monsoons and MJO predictions	WCP	CCI	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x			ongoing	CLS
DRA	RAP	6	6.1	6.1.1	Enhanced importance and relevance of NMHSs in regional and national agenda	TCOP, RP, LDCP	-	RA II	organize a regional LDC coordination Meeting and national workshops for strategic plan in RA II	x	x	x	x			ongoing	MG
DRA	RAP	6	6.2	6.2.1	Improved operation of an automatic telephone answering system for weather information, forecasts and warnings	TCOP, LDCP	CBS	RA II	(a) develop necessary capability to deliver frequently updated and accurate information (b) encourage and facilitate exchange and training on relevant know-how	x	x	x					
DRA	RAP	6	6.2	6.2.2	Improved Website for the delivery and display of their services and products with new technology	TCOP, LDCP	CBS	RA II	(a) encourage and facilitate exchange and training on relevant know-how (b) render assistance if needed to Members	x	x	x					
DRA	RAP	6	6.2	6.2.3	Verification of the accuracy of public forecasts	PWSP	CBS	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x				
DRA	RAP	6	6.2	6.2.4	Feedback from the public through opinion surveys, user groups, etc.	PWSP	CBS	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x				
DRA	RAP	6	6.2	6.2.5	Verification of aviation forecasts (including TAF) and warnings using a WMO-recommended set of methods	AeMP	CAeM	RA II	(a) encourage and facilitate exchange and training on relevant know-how (b) implement pilot project to develop support for NMHSs in aviation forecast verification	x	x	x	x				
DRA	RAP	6	6.2	6.2.6	Feedback from aviation users through opinion surveys, user groups, etc.	AeMP	CAeM	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x				
DRA	RAP	6	6.2	6.2.7	Feedback from marine users through opinion surveys, user groups, etc.	MMOP	JCOMM	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x				
DRA	RAP	6	6.3	6.3.1	Maintenance of highly-qualified staff with specialized training in NMHSs	ETRP	EC Panel on ET	RA II	encourage and facilitate exchange and training on relevant know-how	x	x	x	x				
DRA	RAP	6	6.3	6.3.2	Maintenance/implementation of a structured training plan for professional, technical and supporting staff	ETRP	EC Panel on ET	RA II	(a) encourage and facilitate exchange on relevant know-how;(b) conduct mission visit(s) to Members in developing countries or	x	x	x	x				

DRA	RAP	8	8.1	8.1.3	Monitoring and evaluation of the implementation of RA II SOP	RP	-	RA II	(a) develop the new format of the survey; (b) carry out survey on the capability of NMHSs; (c) analyze and evaluate the survey results and report to RA II-16; (d) contribute to development/updating of WMO Country Profile Database (CPDB) and best utilize CPDB for information exchange and monitoring of the progress	x		x	x					ongoing	MG	TT-SOP
DRA	RAP	8	8.2	8.2.1	Increased efficiency and cost-effectiveness of RAP office in the Region	RP	-	RA II	(a) assess pros and cons of office relocation; (b) obtain approval from RA II and RA V	x	x	x	x					ongoing	MG	
DRA	RAP	8	8.2	8.2.2	Information on RA II activities available on WMO web site	RP	-	RA II	post information on RA II activities on WMO web site within 1 week once the information is available	x	x							ongoing	MG	
DRA	RAP	8	8.3	8.3.1	(Implementation and) Completion of activities of the subsidiary bodies in line with Regional Operating Plan	RP	-	RA II	(a) establish effective working structure; (b) publish annual progress reports; (c) enhance responsibilities/functions of the Management Group	x	x	x	x					ongoing	MG	
Note on Color Code:																				
					Ongoing activities of Working Group on Weather															
					Ongoing activities of Working Group on Climate Services															
					Ongoing activities of Working Group on Hydrology															
					Ongoing activities of Working Group on WIGOS/WIS															
					Ongoing activities of Working Group on ICT-SD															
					Ongoing activities of Management Group															
					Inter changeable Activities															
					Completed Activities															

WORK PLAN OF THE WMO REGIONAL ASSOCIATION II (ASIA)

Working Group on Weather Services (WG-WS)

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Hong Kong Observatory**

Introduction

- I. At RA II-15, approval was given to the setting up of Regional Association II (RA II) Working Group on Weather Services (WGWS) with the following terms of reference:
 - (a) To coordinate and support the work of the expert teams in Aeronautical Meteorology Programme in the Region in cooperation with the Commission for Aeronautical Meteorology (CAeM)
 - (b) To coordinate all activities related to the GDPFS, including the Emergency Response Activities (ERA), and PWS in the Region in cooperation with the Commission for Basic System (CBS)

- II. That the Working Group should be composed of three expert groups, with terms of references, as follows:
 - (c) Expert Group on Aeronautical Meteorological Service Delivery (EG-AeM):
 - (i) To coordinate and support the implementation and maintenance of a ISO 9000-based quality management system for the services to international air navigation, in particular to coordinate urgent assistance, e.g., in the form of twinning/mentoring arrangements, to NMHSs not yet implementing quality management system, in light of the fact that following the deadline of 15 November 2012, ICAO provisions concerning the implementation of quality management for aeronautical meteorological services were upgraded from "ICAO Recommendations" to that of "ICAO Standards";
 - (ii) To coordinate and support the implementation of competency assessment for aeronautical meteorological personnel (forecasters and observers);
 - (iii) To coordinate and support the development and implementation of meteorological services to air traffic management and SIGMET provision;

- (d) Expert Group on Operational Forecasting (EG-OF):
- (i) To inform RA II Members of technical and scientific developments relating to the forecasting process, and to advise on the implementation of new techniques; and to coordinate organizational and planning aspects of the GDPFS including the requirements, procedures and practices for designating and maintaining GDPFS Centres in the Region;
 - (ii) To monitor the performance of the GDPFS in the Region and review compliance of its Centres against the designated criteria, which include, amongst others, standardized verification of Numerical Weather Prediction (NWP) products, as part of the WMO Quality Management Framework;
 - (iii) To coordinate existing and new requirements stated by RA II Members for GDPFS products, and for the production of analyzed and forecast data by the RA II GDPFS Centres on all time scales, including on education and training materials;
 - (iv) To promote the integrated use of Ensemble Prediction Systems (EPS), high resolution NWP, radar and satellite-based products into core operational forecasting, and the exchange, use and interpretation of meteorological products;
 - (v) To coordinate within RA II the operational production of forecasts of subseasonal to longer time-scales, on the basis of the emerging requirements from Regional Climate Centres (RCCs), Regional Climate Outlook Forums (RCOFs) and NMHSs, and in the context of the Climate Services Information System (CSIS) of the Global Framework for Climate Services (GFCS);
 - (vi) To monitor the provision of products and services by designated RA II GDPFS Centres within the framework of the Emergency Response Activities (ERA) Programme, and advise on evolving requirements for ERA operational systems and services;
 - (vii) To coordinate, monitor and facilitate the implementation of the Severe Weather Forecasting Demonstration Project (SWFDP) in RA II;
- (e) Expert Group on Public Weather Service Delivery (EG-PWS):
- (i) To coordinate all activities related to PWS in the Region in cooperation with the Commission for Basic Systems (CBS);
 - (ii) To mainstream Service Delivery as contained in “The WMO Strategy for Service Delivery” and its Implementation Plan, as a main priority in the work of the PWS and in guiding its future development in the Region;

- (iii) To facilitate the implementation of the Strategy to address specific aspects of PWS through activities such as conducting socio-economic studies and evaluations, improving media relations, and designing and implementing pilot and demonstration projects related to PWS delivery;
- (iv) To coordinate the contribution of PWS to such high priority areas as the Global Framework for Climate Services (GFCS) with particular focus on the User Interface Platform; the WIGOS and WIS; disaster reduction and mitigation; and capacity development;
- (v) To assist NMHSs strengthen their capabilities to ensure efficient and effective preparation and delivery of warning services through the national PWS programmes and channels by embedding early warning systems within an operational end-to-end service delivery framework;
- (vi) To encourage stronger dialogue between NMHSs and development partners and users (e.g., media, health, emergency management) in areas relevant to PWS;
- (vii) To encourage and provide guidance to Members to assert the authority of NMHSs as the sole providers of official high-impact weather warnings;
- (viii) To collaborate with development partners and other WMO entities to assist NMHSs in the identification and assessment of societal, economic and environmental impacts and benefits of hydrometeorological services;
- (ix) To promote and support the education and training of the public and other users of forecasts and warnings products and services on their use and interpretation, including uncertainty information;
- (x) To inform Members of, and evaluate, technical and scientific developments relating to the formulation, content, presentation, and dissemination of weather information, as well as the inclusion of information on the impacts of weather phenomena and the corresponding advice, and coordinate the related recommendations for application by Members;
- (xi) To establish education and training requirements related to the PWS delivery, in accordance with the competency requirements established by CBS;
- (xii) To improve procedures for the exchange of severe weather warnings between neighbouring countries;
- (xiii) To monitor progress on the implementation of the current WMO Strategic Plan on matters related to PWS in the Region;

III. Membership of WGWS:

Expert Group on Aeronautical Meteorological Services Delivery (EG-AeM)

EG-AeM		
Co-Coordiators	Mr Boon-leung Choy blchoy@hko.gov.hk	Hong Kong, China
	Ms Marina Petrova petrovamv@mail.ru	Russian Federation
Theme Leader in QMS Implementation and Maintenance	Ms Jie Shao shaojie888@vip.sina.com	China
Theme Leader in Competency Assessment	Mr Manoj Kumar Bhatnagar Bhatnagarmk1@gmail.com	India
Theme Leader in Meteorological Support to Air Traffic Management and Provision of SIGMETs	Mr Jun Ryuzaki jryuzaki@met.kishou.go.jp	Japan

Expert Group on Operational Forecasting (EG-OF)

EG-OF		
Co-Coordiators	Mr Yuki Honda honda.yuuki@met.kishou.go.jp	Japan
	Ms Irina Zaytseva zaytseva@meteo.uz	Uzbekistan
Theme Leader in Operational Forecasting Process and Support	Ms Sunitha D. Santhamma s.sunitha@imd.gov.in	India
	Mr Vo Van Hoa vovanhoa@nchmf.gov.vn	Viet Nam
Theme Leader in Operational Predictions from sub-seasonal to longer-time scale	Mr Suhee Park suhee@korea.kr	Republic of Korea
Theme Leader in Emergency Response Activities	Mr Masami Sakamoto sakamoto-a@met.kishou.go.jp	Japan

Expert Group on Public Weather Services Delivery (EG-PWS)

EG-PWS		
Co-Coordinator	Mr Lap-shun Lee lslee@hko.gov.hk	Hong Kong, China
	Dr Muhammad Hanif hanifwxc@hotmail.com	Pakistan
	Mr Alexey Lyakhov lkhv@hmn.ru	Russian Federation
Theme Leader in Socio-economic Benefits of Meteorological and Hydrological Services	Mr Jinjun Pan panjinjun@cma.gov.cn	China
Theme Leader in Delivery of Warning Services	Mr Chuanhai Qian chqian@cma.gov.cn	China
Theme Leader in Education and Public Outreach related to PWS	Dr Seonkyun Baek sun@kma.go.kr	Republic of Korea

IV. The work plans of EG-AeM, EG-OF and EG-PWS of WSGS are as follows:

Work Plan of EG-AeM

Task #	Reference	Task	Key Deliverable	Activity	2013	2014	2015	2016	Responsible	Status
AeM-1	EG-AeM (ToR(i))	Conduct a survey on the current implementation status of and challenges in maintaining QMS (RKO: 1.2.5)	Survey report on current implementation status of and challenges in maintaining QMS in RA II	Carry out a survey on the current implementation status of and challenges in maintaining QMS of each member		X			Co-coordinators and Theme Leader in QMS Implementation and Maintenance	
AeM-2	EG-AeM (ToR(i))	RA II workshop(s) on implementation and/or maintenance of QMS (RKO: 1.2.5, 6.3.3)	RA II workshop(s) on implementation and/or maintenance of QMS	Hold workshop(s), with the advice from QMS-TT, on implementation or maintenance or both depending on the outcome of the survey		X	X		Co-coordinators and Theme Leader in QMS Implementation and Maintenance	
AeM-3	EG-AeM (ToR(ii))	Conduct a survey on the current implementation levels and maintaining the Competency Assessment programme. (RKO: 1.2.4)	a) Survey report on current implementation levels. b) Identified challenges in implementation of Competency Assessment and maintenance of Competency of AMP in RA II. c) Means to overcome the challenges identified	a) Carry out a survey on the current implementation levels of Competency Assessment in the RA II b) Identify the challenges in implementing the programme and maintaining the competency of AMP in RA II. c) Device means to overcome the challenges identified.		X	X	X	Co-coordinators, Theme Leader in Competency Assessment, Regional Training Centers and Volunteer Experts	

AeM-4	EG-AeM (ToR(ii))	Workshop on Competency Assessment of AMP (RKO 1.2.4)	Enhanced awareness of members on Competency Assessment	Conduct Workshop on Competency Assessment of AMP for the members of the region.		X	X		Co-coordinators, Theme Leader in Competency Assessment, Regional Training Centers and Volunteer Experts	
AeM-5	EG-AeM (ToR(ii))	Development of guidance material (RKO 1.2.4)	Guidance material on Competency Assessment of AMP for the members of the RA II region	Identify the good practices and cases to demonstrate the implementation schedule and develop a guidance material for use by the members of the region		X	X		Co-coordinators, Theme Leader in Competency Assessment and Volunteer Experts	
AeM-6	EG-AeM (ToR(iii))	Conducting a survey on current status of MET support to ATM (RKO: 1.2.2)	Survey on current status of MET support to ATM in each member	Carry out a survey annually on the status of implementation and planning in each member	X	X	X	X	Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance	
AeM-7	EG-AeM (ToR(iii))	Development of a portal web site for information sharing (RKO: 1.2.2)	Portal web-site on MET support to ATM in RA II	a) Develop a portal web-site which can be accessed via internet b) Update relevant information on MET/ATM, including best practices		X			Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance	
AeM-8	EG-AeM (ToR(iii))	RAII workshop for MET/ATM improvement (RKO: 1.2.2)	RA II workshop for MET/ATM improvement	a) Hold a workshop on MET support to ATM b) Conjoint work with relevant ICAO and WMO groups, such as ICAO APAC MET/R TF, WMO ET-M&M			X		Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance	

AeM-9	EG-AeM (ToR(iii))	Development of RA II guidelines on the establishment of MET support to ATM (RKO: 1.2.2)	RA II guidelines on the establishment of MET support to ATM	a) Develop RAIL guidelines with reflecting outcomes of the workshop b) Consider necessary coordination with relevant ICAO and WMO groups, such as ICAO APAC MET/R TF, WMO ET-M&M				X	Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance
AeM-10	EG-AeM (ToR(iii))	Survey on current status and issues on issuance of SIGMET information (RKO: 1.2.1)	Survey on current status of SIGMET issuance in each member	a) Carry out a survey annually on the status of implementation and planning in each member	X	X	X	X	Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance
AeM-11	EG-AeM (ToR(iii))	Development of a portal web site for information sharing (RKO: 1.2.1)	Portal web-site on SIGMET issuance in RA II	a) Develop a portal web-site which can be accessed via internet b) Update relevant information on SIGMET issuance, including best practices		X			Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance
AeM-12	EG-AeM (ToR(iii))	RA II workshop for SIGMET improvement (RKO: 1.2.1)	RA II workshop for SIGMET improvement	a) Hold a workshop on SIGMET issuance b) Conjoint work with relevant ICAO groups, such as ICAO APAC MET/H TF, ICAO METWSG		X			Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance

AeM-13	EG-AeM (ToR(iii))	Development of RA II guideline for issuance of SIGMET (RKO: 1.2.1)	RA II guidelines on the SIGMET issuance	a) Develop RA II guidelines with reflecting outcomes of the workshop b) Consider necessary coordination with relevant ICAO groups, such as ICAO APAC MET/H TF, ICAO METWSG			X		Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance	
AeM-14	EG-AeM (ToR(iii))	Provide input to relevant ICAO groups, e.g. ICAO APAC MET/H TF, ICAO METWSG (RKO: 1.2.1)	Input to ICAO groups for their consideration of ICAO regional/global guidelines on SIGMET issuance	a) Provide input to ICAO groups b) Consider further coordination				X	Co-ordinators and Theme Leader in MET support to ATM and SIGMET issuance	

Work Plan of EG-OF

Task #	Reference	Task	Key Deliverable	Activity	2013	2014	2015	2016	Responsible	Status
OF-1	EG-OF (ToR(iv))	Monitoring of the provision of products and services by designated RA II GDPFS Centres within the framework of the	a) Improve the provision measures for the products and services by designated RSMCs for the registered RA II members	Carry out email / fax tests to improve reachability for the registered NMHSs and organizations in RA II.	X	X	X	X	RSMCs in RA-II, and Theme Leader in Emergency Response Activities	On going
OF-2	EG-OF (ToR(iv))	Emergency Response Activities (ERA). (RKO ² : N/A)	b) Explore of potential registration of non-registered member states.	Carry out questionnaires for non-registered RA II members.		X	X		Theme Leader in Emergency Response Activities and WMO Secretariat	
OF-3	EG-OF (ToR(iv))	Advising on evolving requirements for ERA operational systems and services (RKO ¹ : N/A)	a) Provide better understanding of the standard products and the joint statement of ERA.	Provide registered RA II members and related organizations with a concise guidance for the standard products and the joint statement of ERA.		X	X		Theme Leader in Emergency Response Activities and WMO Secretariat	
OF-4	EG-OF (ToR(iv))		b) Monitor of the user requests for ERA to improve the activity.	Carry out user request survey using questionnaires for registered members and potential users			X	X	Theme Leader in Emergency Response Activities and WMO Secretariat	

² The co-coordinator of EG-OF advised that there were no pertinent items on the list related to the activities. He was looking forward to have relevant items included under RKO 3.1 of the RA II Strategic Operating Plan in future.

Work Plan of EG-PWS

Task #	Reference	Task	Key Deliverable	Activity	2013	2014	2015	2016	Responsible	Status
PWS-1	EG-PWS (ToR(iii). (ix))	Identification of Useful Meteorological and Hydrological Products for Public Weather Service Delivery (RKO: 1.2.12, 2.1.10)	Meteorological and hydrological Products	Development of Products (2014). Identify dissemination procedure (2015). Development and maintenance of portal (2016)		X	X	X	Co-coordinators	
				Case studies of best practices on socio-economics benefits of service delivery by NMHS		X	X		Theme Leader in Socio-economic Benefits of Meteorological and Hydrological Services	
				A multilayered sustainable system for dissemination of early warnings			X	X	Theme Leader in Delivery of Warning Services	
				Identification of material for vulnerable communities education and awareness (2015), Developing the outlines of material for WMO consideration (2016)			X	X	Theme Leader in Education and Public Outreach related to PWS	
PWS-2	EG-PWS (ToR(iii))	Demonstration of socio-economic benefits (SEB) of weather, climate and water services (RKO: 1.2.12)	Guidance on methodologies for assessing SEB of weather, climate and water services	Develop guidance on methodologies for assessing SEB of weather, climate and water services		X	X	X	Co-coordinators, Theme Leader and Volunteer Experts in Socio-economic Benefits of Meteorological and Hydrological Services	

				Develop a web-based SEB guidance platform				X	Co-coordinators, Theme Leader and Volunteer Experts in Socio-economic Benefits of Meteorological and Hydrological Services	
PWS-3	EG-PWS (ToR(vi))	Establish strategy for communication with stakeholders and regional organizations (RKO: 7.2.1)	a) Enhanced visibility of activities and priorities of NMHS; b) A communication strategy/ guideline with stakeholders and with regional organizations	Draft a communication strategy/guideline with stakeholders and with regional organizations		X	X	X	Co-coordinators, Theme Leader in Delivery of Warning Services and Volunteer Experts under EG-PWS	
				Finalize and publish the strategy/guideline				X	Co-coordinators, Theme Leader in Delivery of Warning Services and Volunteer Experts under EG-PWS	
PWS-4	EG-PWS (ToR(ix))	Development of a guideline for development and implementation of public education programme (RKO: 2.1.10)	Guideline for development and implementation of public education programme	Draft a guideline for development and implementation of public education programme		X	X	X	Co-coordinators, Theme Leader and Volunteer Experts in Education and Public Outreach related to PWS	

				Finalize and publish the guideline				X	Co-coordinators, Theme Leader and Volunteer Experts in Education and Public Outreach related to PWS	
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Work Plan of RA II-15 Pilot Projects

Task #	Reference	Task	Key Deliverable	Activity	2013	2014	2015	2016	Responsible	Status
PP-1	RAII-PP-NWP (RA II-14 Resolution 6 and RA II-15 Resolution 14)	Invite experts from RA II and beyond to provide face-to-face training and hands-on practices on NWP modelling and data assimilation	Training workshop for RA II members (under the framework of WMO Voluntary Cooperation Programme) on data assimilation and mesoscale ensemble forecasting	a) Organize RA II training workshop on data assimilation and mesoscale ensemble forecasting b) Promote data and technical exchange between participants		X			KMA HKO	
		Facilitate the sharing of experience and expertise between RA II members on NWP, data assimilation and ensemble prediction system.	a) Survey result on the usefulness of the ACNF website in NWP development and applications b) Enhancement of the web-based portal "Asian Consortium for NWP Forecasts (ACNF)" to include resources and support on post-processing of NWP and ensemble prediction system products as well as data assimilation techniques.	a) Conduct survey to collect users' feedback on the usefulness of the ACNF website in NWP development and applications b) Enhance ACNF web portal based on users' feedback c) Consolidate training materials and source codes from RA II training workshop and put online for subsequent reference and discussions		X	X			
PP-2	RAII-PP-AMDAR (RA II-15 Resolution 14)	Understand RA II Members' readiness to collect and apply AMDAR data	Survey report on RA II Members' readiness to collect and apply AMDAR data	a) Identify contact points of RA II Members b) Conduct on-line survey		X			CMA CAAC HKO	

	16) (RKO 7.1.2)	Invite experts from WMO ET-ABO and other experts to provide face-to-face training on establishment of AMDAR programme and application of AMDAR data	RA II workshop on the establishment of a national AMDAR programme and application of AMDAR data to enhance weather forecasting and warning services	a) Conduct a workshop for RA II Members		X (Late 2014 or early 2015)			In preparation
		Facilitate the sharing of experience in the collection and application of AMDAR data	On-line discussion forum with active participation of RA II Members and an Internet webpage to showcase the benefit of AMDAR data in weather forecasting and warning service	a) Set up an Internet webpage and a discussion forum b) Consolidate training materials and feedbacks and put them on the discussion forum for subsequent reference c) Invite contact points of RA II Members, members of WMO ET-ABO, and other interested parties to join the forum		X (Late 2014 or early 2015)			

PP-3	RAII-PP-MWF (RA II-15 Resolution 17)	<p>a) Identifying reliable sources of NWP products and means of post-processing to support NMHSs in provision of medium range forecasts.</p> <p>b) Understand current capacity and limitations in RA II Members in provision of medium range forecasts using NWP model products;</p>	<p>Survey report on RA II Members' status on using NWP model products, post-processing techniques and provision of medium range weather forecasts.</p>	<p>a) Identify contact points of RA II Members</p> <p>b) Conduct survey (on-line or submission of survey form through email)</p>		X	X (Early 2015)		HKO KMA	
		<p>a) Assist NMHSs in applying NWP products and post-processing methods to generate medium range forecast, in compliance with the needs of NMHSs to be supported;</p> <p>b) Identify methods and assist NMHSs in verification and</p>	<p>Web page with resources on NWP products and post-processing tools for access by RA II Members</p>	<p>a) Set up web page / online resources</p> <p>b) Engage contact points of RA II Member to actively participate in the development and exchange of knowledge through online forum / knowledge-based portal.</p> <p>c) Explore means to disseminate model-based official weather forecasts via WWIS website</p>			X (to mid 2016)			

		validation of NWP-based weather forecasts;							
		To promote sharing of experience in NWP product application, post-processing techniques among Members of RA II especially developing country Members;	Where possible, training workshop on use of NWP products and post-processing techniques in provision of medium range weather forecasts. Establishment of project website for sharing of experience.	a) Where possible, conduct training workshop for RA II Members b) Arrange trial dissemination of NWP-based official weather forecasts in the medium range on WWIS. c) Consolidate training materials and feedbacks on project website for RAII Members' reference and for promoting on-going development in RA II Members				X (late 2016)	
PP-4	RAII-PP-WARNING (RA II-15 Resolution 18)	Understand current situation and identify issues on data format for tropical cyclone warnings/advisories among RA II Members	Survey report on data format of tropical cyclone warnings/advisories currently in use by RA II Members	a) Identify contact points of RA II Members b) Conduct on-line surveys c) Analyze results		X	X		HKO

		Identify a possible solution to arrive at a common data format for tropical cyclone warnings/advisories for RA II Members	Report on feasibility of converting RA II Members' tropical cyclone warnings/advisories into common data format	<ul style="list-style-type: none"> a) Identify a suitable common data format for use in tropical cyclone warnings/advisories b) Propose technical solution in converting RA II Members' tropical cyclone warnings/advisories into the common data format 				X		
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WORK PLAN OF THE WMO REGIONAL ASSOCIATION II (ASIA)

Working Group on Climate Services (WG-CS)

Ryuji Yamada
Japan Meteorological Agency

Task #	Reference	Task	Key Deliverable	Activity	2014	2015	2016	Responsible TL/Co-coordinator	Status
CS-01	ToR a-i	To foster, promote and advise on the implementation of the Global Framework for Climate Services (GFCS), particularly its Climate Services Information System (CSIS) and User Interface Platform (UIP) in the Region, including through pilot projects	Launching Pilot Projects in NMHS for Delivery of Climate Services	▶To motivate the NMHSs for undertaking the pilot projects in developing countries	x	x	x	Kadhun/Rasul Volunteer experts in User Liaison and Applications of Climate Information and Products for Climate Risk Management and Adaptation to Climate Change	
				▶To advise on using improved tools and/or software	x	x	x		
				▶To guide for better composition and efficient delivery	x	x	x		
CS-02	ToR a-ii	To assist and advise the president of RA II on all matters relevant to implementation and operation of Regional Climate Centres (RCCs) in the Region	Cooperation with existing RCCs and new candidates	▶To develop close coordination with existing RCCs and to maintain RA II RCC portal website	x	x	x	Zhang/Yamada Volunteer Experts in QMS Implementation and Operation of Regional Climate Centres	
				▶To encourage and advise new candidate members to establish RCCs	x	x	x		
				▶To evaluate the implementation report of RCC candidates for formal designation as RCCs after completion of their demonstration phase in collaboration with CCI/CBS Expert Team on RCCs	x	x	x		
				▶To submit a progress report to co-coordinators of the EG-CS by the end of every year	x	x	x		

CS-03	ToR a-iii	To promote the use of Global Producing Centre for Long-range Forecasts (GPC) and RCC products in national climate services	Linkage with Global and Regional Climate Information Producers	▶To review a survey questionnaire for GPCs and RCCs conducted on the occasion of WMO workshop on long-range forecast (Nov. 2013) and to develop a list of GPC/RCC products for use of NMHSs	x			Zhang/Yamada	
				▶To establish a link with relevant climate products provided by GPCs/RCCs on the RAII RCC website	x	x	x	Volunteer Experts in QMS Implementation and Operation of Regional Climate Centres	
				▶To submit a progress report to co-coordinators of the EG-CS by the end of every year	x	x	x		
CS-04	ToR a-iv	To seek cooperation with relevant regional bodies and organizations on issues related to implementing user-targeted climate services for key sectors (for example, agriculture, water resources, health), including to foster and promote best practices in establishing national frameworks for climate services	Implementation of User-Targeted Climate Service	▶To review and summarize activities and best practices relevant to the implementation of user-targeted climate services by NMHSs in the region	x			Kadhun/Rasul	
				▶To identify the key stakeholders at national scale	x			Volunteer experts in User Liaison and Applications of Climate Information and Products for Climate Risk Management and Adaptation to Climate Change	
				▶To explore the nature of climate information required	x	x	x		
				▶To encourage NMHSs to devise a strategic framework for information production and delivery	x	x	x		
				▶To develop a feedback system for stakeholders response/confidence	x	x	x		
				▶To establish user-provider interface	x	x	x		
				▶To share the best practices and success stories from the Region	x				
				▶To submit a progress report to co-coordinators of the EG-CS by the end of every year	x	x	x		
CS-05	ToR a-v	To identify the optimal means of meeting regional and national needs for climate information, products and services for Climate Risk Management and Adaptation	Climate Risk Management and Adaptation	▶To review and summarize activities relevant to climate services for climate risk management and adaptation by NMHSs in the region	x			Kadhun/Rasul	
				▶To conduct Climate Risk Vulnerability Assessment	x	x	x	Volunteer experts in User Liaison and Applications of Climate Information and Products for Climate	

				▶To mitigate the risk through management practices	x	x	x	Risk Management and Adaptation to Climate Change	
				▶To recommend adaptation strategies both structural and non-structural	x	x	x		
CS-06	ToR a-vi	To promote best practices in and to advise on implementation of new Regional Climate Outlook Forums	Implementation and Enhancement of Regional Climate Outlook Forum	▶To enhance coordination with Regional Climate Outlook Forums such as FOCRAII, SASCOF, NEACOF and EASCOF	x	x	x	Zhang/Yamada Volunteer experts in Operational Regional and National Climate Outlook Forums	
				▶To develop and keep updating links to materials used at RCOFs on the RA II RCC portal website	x	x	x		
				▶To promote establishment of new sub-regional Climate Outlook Forums	x	x	x		
				▶To submit a progress report to co-coordinators of the EG-CS by the end of every year	x	x	x		
CS-07	ToR a-vii	To promote best practices in climate system monitoring and operational climate watch initiatives	Enhanced Climate System Monitoring and Climate Watch Systems	▶To review and summarize activities relevant to climate system monitoring and climate watch by NMHSs in the region	x			Plotnitskaya/Yamada Volunteer experts in Climate Monitoring and Climate Watch	
				▶To build on successful showcases in/outside the region in producing useful climate watches	x	x	x		
				▶To recommend best practices for the region in climate system monitoring and climate watches at national and regional levels		x	x		
				▶To promote best practices in climate system monitoring and climate watches and to encourage RCOFs to raise the issues	x	x	x		
				▶To submit a progress report to co-coordinators of the EG-CS by the end of every year	x	x	x		

CS-08	ToR a-viii	To promote regionally coordinated capacity development activities in support of climate services	Promotion of Capacity Development Activities	▶To review and summarize the current capacity development activities in the region	x			All TLs/Yamada	
				▶To facilitate training events at WMO recognized institutes	x	x	x		
				▶To submit a progress report to co-coordinators of the EG-CS by the end of every year	x	x	x		
CS-09	ToR a-ix	To promote and advise on research initiatives required to improve operational production of climate products	Research Initiatives on Climate Products	▶To initiate research on basic climate service parameters	x			Yan/Rasul Volunteer experts in Climate Research for Development	
				▶To supervise for improvement of climate products in line with user's requirements	x	x	x		
				▶To associate with partner institutions for delivery of climate products	x	x	x		
				▶To promote the cooperation between EG-CS and WCRP/CLIVAR regional panels and hold joint workshop with research communities on the occasion of RCOF	x	x	x		
				▶To submit a progress report to co-coordinators of the EG-CS by the end of every year	x	x	x		

Work Plan of EG-AgM

Task #	Reference	Task	Key Deliverable	Activity	2014	2015	2016	Responsible	Status
AGM-01	ToR i-ii	Addressing Agrometeorological Training Needs in RA II	<ul style="list-style-type: none"> • Identification of actual needs in agrometeorological experts and staff as well as training needs in RA II. 	<ul style="list-style-type: none"> • Carry out an analysis of the status of agrometeorological personnel in the countries-members RA II 	+			TL in Agro-meteorological Training Needs	
				<ul style="list-style-type: none"> • Assess the availability of educational institutions and training programs in the field of agrometeorology and integrating it with various institutions for imparting training in the countries-members RA II 	+			TL in Agro-meteorological Training Needs	
				<ul style="list-style-type: none"> • Assess agrometeorological training needs like availability of tools & infrastructure for onsite and virtual training and identifying resource persons/institutions for providing training in different aspects of operational agricultural meteorology in the countries-members RA II 	+			TL in Agro-meteorological Training Needs	
			<ul style="list-style-type: none"> • Recommendations on the establishment of Agrometeorological Advisory Services in RAll countries 	Preparation of effective syllabus for different training programs for countries under RA-II region	+	+		Co-coordinators and TL in Agrometeorological Training needs.	
				<ul style="list-style-type: none"> • Hold an expert group meeting (EG-AgM) to discuss the establishment of Agrometeorological Advisory Services in the countries-members RA II 		+		TL in Agro-meteorological Training Needs	
				<ul style="list-style-type: none"> • Prepare a brief report on the status of agrometeorological training in the countries-members RA II for submission to Secretariat RA II 			+	Co-coordinators, TL in Agro-meteorological Training Needs	

AGM-02	ToR iii	Promotion of soil moisture monitoring methods, its usage and forecasting of soil moisture conditions in the countries-members RA II	<ul style="list-style-type: none"> Assessment of current methods of soil moisture monitoring and prediction in the countries-members RA II Recommendations on the improvement and enhancement of soil moisture monitoring 	<ul style="list-style-type: none"> Carry out an analysis on the status of standard methods of soil moisture measurement , assessment of optimum network of soil moisture stations in the countries-members RA II 	+			TL in Soil Moisture Monitoring	
				<ul style="list-style-type: none"> Assess the utilization of alternative methods of soil moisture measurement such as satellite data// 	+			TL in Soil Moisture Monitoring	
				Quantification of soil moisture data, use of soil moisture data in seasonal climate forecast models, irrigation scheduling through water balance techniques	+			TL in Soil Moisture Monitoring	
				<ul style="list-style-type: none"> Determine the gaps in soil moisture monitoring in the countries-members RA II and recommendations on its improvement 		+		TL in Soil Moisture Monitoring	
				<ul style="list-style-type: none"> Make a report and submit to Secretariat RA II 			+	Co-coordinators, TL in Soil Moisture Monitoring	
AGM-03	ToR iv	Promotion and extension of drought preparedness, management strategies and impact assessment in the Region	<ul style="list-style-type: none"> Assessment of implementation of drought preparedness and management strategies at microlevel and its impact assessment in the countries-members RA II 	<ul style="list-style-type: none"> Carry out an analysis of availability and the status of drought monitoring centers in the countries-members RA II 				TL in Drought Preparedness and Management Strategies	
				Development of recommended crop contingency planning, development of advance drought monitoring indices, undertake studies on impact of climate change / variability in drought climatology and development of operational models for risk management during drought in the countries-members RA II.	+	+			

			<ul style="list-style-type: none"> Recommendations on the enhancement of drought monitoring and drought preparedness in the countries-members RA II 	<ul style="list-style-type: none"> Determine the gaps and limits in implementation of drought preparedness and management strategies 					
				<ul style="list-style-type: none"> Assess the availability or the status of development and implementation of national drought policies as encouraged by HMNDP Declaration in the countries-members RA II 	+	+		TL in Drought Preparedness and Management Strategies	
				<ul style="list-style-type: none"> Prepare recommendations on the implementation of national drought policies based on the experience of other countries and proposals of HMNDP 		+		TL in Drought Preparedness and Management Strategies	
				<ul style="list-style-type: none"> Prepare a brief report for submission to Secretariat RA II 			+	Co-coordinators, TL in Drought Preparedness and Management Strategies	
AGM-04	ToR v	Promotion of operational use of seasonal and interannual climate forecast applications to agriculture in the Region	<ul style="list-style-type: none"> Assessment of operational use of seasonal to interannual climate forecast , early warning systems and applications in agriculture in the countries-members RA II Recommendations on the improvement of the presentation of forecasts and extreme events to agricultural community along with Decision support system 	<ul style="list-style-type: none"> Carry out an analysis on the status of seasonal to interannual climate forecast and early warning systems in the countries-members RA II Determine the gaps and advances in operational use of climate forecasts applications by agricultural users/ incorporation of forecast results into agricultural planning and practice 	+			TL in Seasonal Climate Forecast Applications for Agrometeorology	
				<ul style="list-style-type: none"> Generation of Climate risk management tools like Climatic risk matrices, Stochastic Weather generator, Crop simulation models etc. 	+	+		Co-coordinators and Theme Leader in Seasonal Climate Forecast Applications for Agriculture	

				<ul style="list-style-type: none"> Assess the application of GFCS results in the Region and promote the examples of successful applications on the national level 		+		TL in Seasonal Climate Forecast Applications for Agrometeorology	
				<ul style="list-style-type: none"> Prepare recommendations on the improvement of forecast results presentation to the users of agrometeorological information 		+		TL in Seasonal Climate Forecast Applications for Agrometeorology	
				<ul style="list-style-type: none"> Prepare a brief report for submission to Secretariat RA II 			+	Co-coordinators, TL in Seasonal Climate Forecast Applications for Agrometeorology	
AGM-05		Socio-economic Impact of Agrometeorological Information	Identification of effective communication methods for interactions with farmers, awareness programs, economic impact analysis	<ul style="list-style-type: none"> Carry out an analysis of the status of agrometeorological dissemination, awareness programs and economic impact studies in the countries-members RA II 	+		+	Co-coordinators, TL in Socio-economic Impact of Agrometeorological Information	
			<ul style="list-style-type: none"> Recommendations on the various awareness programmes, use of ICT in agriculture information dissemination and framing guide lines to conduct economic impact assessment studies.in the countries-members RA II 	Prepare guidelines for conducting awareness programs, study of economic impact assessment and recommendations for effective information dissemination.			+		
				<ul style="list-style-type: none"> Prepare a brief report for submission to Secretariat RA II 				+	

WORK PLAN OF THE WMO REGIONAL ASSOCIATION II (ASIA)

Working Group on WMO Integrated Global Observing System (WIGOS) and WMO Information System (WIS) (WG-WIGOS/WIS)

Yongqing Chen
China Meteorological Administration

Introduction

Cg-XVI decided to implement WIGOS and approved the Resolution 50 (Cg-XVI) – Implementation of the WMO Integrated Global Observing Systems, by which the regional associations were requested: (1) to develop their regional WIGOS implementation plans; (2) to coordinate WIGOS implementation activities with the WMO Information System in their operating plans and work programmes; and (3) to promote capacity-building and outreach activities to assist Members in the implementation of WIGOS.

In order to implement WIGOS in RA II, the Regional WIGOS Implementation Plan for the Region RA II (R-WIP-II) was developed by Working Group on WMO Integrated Observing System and WMO Information System (WG-IOS/WIS) and approved by the RA II-15 session which was held in Qatar from Dec.13 to 18, 2012, and was adopted as Resolution 4.4/1 (RA II-15).

R-WIP-II is laid out in seven chapters that identify and describe the various activity areas to be addressed within this Region, which is corresponding to the following ten areas described in WIGOS Framework Implementation Plan

- (a) Management of WIGOS implementation;
- (b) Collaboration with WMO and co-sponsored observing systems;
- (c) Design, planning and optimized evolution;
- (d) Integrated Observing System operation and maintenance;
- (e) Integrated Quality Management;
- (f) Standardization, system interoperability and data compatibility;
- (g) The WIGOS Operational Information Resource;
- (h) Data and metadata management, delivery and archival;
- (i) Capacity development;
- (j) Communication and outreach.

The 32 key implementation activities that are required for the Regional WIGOS implementation within the timeframe from 2012 to 2015 were outlined in the key implementation Plan, which identifies deliverables, timelines, responsibilities, costs and risks, and whether the activity requires regional and/or national implementation. Most of the activities in the table will be implemented through seven RAI WIGOS projects under the initiative of key regional players.

Cg-XVI noted that WMO information system (WIS) has moved from a development stage into an operational stage and WIS activities in 2012–2015 should be:

- (a) Complete WIS implementation across all WMO Centres;
- (b) Capacity-building to ensure support of all WMO Members;
- (c) Leverage WIS advantages for all WMO Programmes;
- (d) Take advantage of WIS in all WMO Data Management.

RA II-15 session reviewed the draft RA II Regional WIS Implementation Plan (R2-WIS-IP) and agreed that fully implementing WIS in the Region was an essential step toward the efficient implementation of WIGOS, GFCS and other priority areas. The major activities are as follows,

- (a) Improving the knowledge and capabilities of Members to benefit from WIS functionality, in particular least developed countries, developing countries and small island states through regional workshops and information sessions;
- (b) Implementation of WIS at all NMHS as National Centres (NCs);
- (c) Implementation of remaining candidate Global Information System Centre (GISCs);
- (d) Implementation of more Data Collection or Production Centre (DCPCs), i.e. WIS interfaces at WMO Programmes' centres.

RA II-15 session agreed that the aim of the RII-WIS-IP was to have WIS implemented in all RA II Members' centers before the Seventeenth World Meteorological Congress (Cg-XVII) in 2015.

Implementation of R-WIP-II and R2-WIS-IP will be supported by all the Members of the Region, and be guided, supervised and monitored by the Management Group of RA II, with periodic reports from appropriate subsidiary bodies in charge of WIGOS and WIS, which has responsibility for tracking execution of these activities and projects.

In the fifteenth session of Regional Association II which was held in Doha, Qatar, from 13 to 19 December 2012, the Regional Association II Working Group on WMO Integrated Global Observing System and WMO Information System (WG-WIGOS/WIS) was re-established to bear the responsibility of facilitate the accomplishing of missions of WIGOS and WIS.

Working Group Structure

WG-WIGOS/WIS consists of two expert groups, which are Expert Group on WMO Integrated Global Observing System (EG-WIGOS) and Expert Group on WMO Information System (EG-WIS) respectively.

The Working Group on the WMO Integrated Global Observing System and WMO Information System (WG-WIGOS/WIS) is composed of the following core members,

- (a) The chair of the Working Group;
- (b) The co-coordinators of the Expert Group on WIGOS (EG-WIGOS), with theme leaders to be proposed by the co-coordinators of EG-WIGOS and decided by the Management Group;
- (c) The co-coordinators of the Expert Group on WIS (EG-WIS), with theme leaders to be proposed by the co-coordinators of EG-WIS and decided by the Management Group;
- (d) Chairs of task teams as decided by the Management Group, when necessary;

The chair of WG-WIGOS/WIS is requested to

- (a) Submit to the Management Group within three months a Working Group work programme and action plan for the period 2012–2015 with due account of the deliverables outlined in the RA II Strategic Operating Plan;
- (b) Submit proposals to the Management Group for establishment of task teams, including terms of reference, as necessary, to facilitate successful implementation of the RA II Strategic Operating Plan in the area of responsibility of the Working Group;
- (c) Submit an annual progress report to the president of the Association and WMO Secretariat in due time before Executive Council sessions;
- (d) Submit a final report to the president of the Association at least three months before the sixteenth session of the Association.

Terms of Reference

Regional Association II Working Group on WMO Integrated Global Observing System and WMO Information System (WG-WIGOS/WIS) has the following terms of reference,

(a) To monitor and coordinate the implementation of WIGOS and WIS in the Region; propose measures for improvements, especially for overcoming gaps, deficiencies and inconsistencies in the implementation of these systems; and promote active involvement of the Members of the Region in the implementation of these systems;

(b) To advise on and provide overall technical guidance, assistance and support to the Members of the Region for the implementation of WIGOS and WIS at the regional and national levels;

(c) To promote capacity-development and outreach activities to assist Members in the implementation of WIGOS and WIS;

(d) To liaise with the relevant RA II Working Groups on matters related to WIGOS and WIS implementation;

(e) To advise the president of the Association on matters concerning the implementation of WIGOS and WIS in the Region;

(f) To provide the president of the Association with recommendations for presentation under appropriate agenda items in sessions of technical commissions, joint sessions of the presidents of technical commissions and presidents of regional associations, and the Executive Council.

Expert Group on WMO Integrated Global Observing System (EG-WIGOS) has the following terms of reference:

(a) To coordinate planning and implementation of WIGOS in the Region, in accordance with the Regional WIGOS Implementation Plan, taking into account needs and priorities specified by the RA II Strategic Operating Plan;

(b) To coordinate the development and implementation on the national WIGOS Implementation Plans;

(c) To monitor the progress made in the implementation and operation of WIGOS component observing systems in the Region; advise on possible improvements and priorities for appropriate actions and the need for external support, where required, according to the technical guidance of the technical commissions as represented in the EGOS-IP and other observation system implementation plans in order to evolve and implement observing systems in the Region;

(d) To assess and continuously monitor regional observational requirements, identify regional gaps and identify capacity development projects within the Region to address those gaps;

(e) To support an effective implementation of the EGOS-IP in the Region;

(f) To keep abreast of new developments in WMO observing systems and cosponsored systems and to make recommendations for their implementation in the Region;

(g) To keep under review regional practices and guidelines relevant to observing networks and instruments and methods of observation, and to foster an efficient collaborative network of Regional Instrument Centres in the Region;

(h) To coordinate relevant activities with the regional groupings involved in observations to ensure consistency of approach and integration in respect of observing networks, procedures and monitoring;

(i) To act as lead for the Regional Association, working with Members, to maintain regulatory material related to regional aspects of WIGOS and WIS;

(j) To advise the president of the Association and the chair of the Working Group on the proposed composition and changes to the Regional Basic Synoptic Network and Regional Basic Climatological Network

The Expert Group on WMO Information System (EG-WIS) has the following terms of reference:

(a) To monitor the progress made in the implementation and operation of WIS in the Region and advises on possible improvements and priorities for appropriate actions to be carried out under the respective WMO Programmes and cosponsored Programmes;

(b) To keep abreast of new developments in WIS, promote the relevant WIS support to all WMO Programmes, and make recommendations, in compliance with relevant WMO Technical Regulations, for WIS implementation in the Region as regards communication techniques, communication structure, data management, data and metadata representation and relevant monitoring activities;

(c) To keep under constant review the Regional Meteorological Telecommunication Network and its implementation, as the WIS component for time-critical and operation-critical exchange, identify shortcomings and recommend appropriate measures for remedial action in the Region;

(d) To provide guidance to the Members of the Region in capacity-building for information and outreach relevant to improving WIS;

Membership of Working Group

An Expert Group is composed of Co-Coordiators, Theme Leaders and volunteer experts. The Theme Leaders are expected to lead the activities in their respective theme areas in close coordination with the Members in the Region, monitoring the key performance indicators/targets concerned, and reporting progress of development and implementation to the Expert Group Co-Coordiators concerned.

The members of WG-WIGOS/WIS is as follows,

Chairperson: Mr Yongqing Chen (China)

Expert Group on WIGOS (EG-WIGOS)

EG-WIGOS			
Co-Coordiators		Mr Yongqing Chen chenyq@cma.gov.cn	China
		Dr Jaegwang Won Ecotus37@korea.kr	Republic of Korea
Theme Area in Implementation and Updating of R-WIP	Theme Leader	Mr Yoshiro Tanaka yoshiro.tanaka@met.kishou.go.jp	Japan
	Volunteer Expert	Dr Sarantuya Ganjuur sar_od@yahoo.com	Mongolia
Theme Leader in Implementation of EGOS-IP		Mr Yatian Guo guoyt@cma.gov.cn	China
Theme Area in Standard and Best Practice	Theme Leader	Dr Seongchan Park scpark@korea.kr	Republic of Korea
	Volunteer Experts	Mr Xiaolei He hxlaoc@cma.gov.cn	China
		Dr Hyeongyo Jeong flood@korea.kr	Republic of Korea
Theme Area in Observational Requirements and Regional Network	Theme Leader	Mr D. K. Malik dk_malik@hotmail.com	India
		Mr Abdulqaleq Ali Ali imoobservation@yahoo.com	Iraq

	Volunteer Experts	Ms Jianxia Guo gjxaoc@cma.gov.cn	China
		Mr Jiankai Wang wjkaoc@cma.gov.cn	China
		Mr Ibrahim N. Lawend ibrahim_lawend@yahoo.com	Iraq
		Dr Andrey Dubovetskiy dubovetsky@cao-rhms.ru	Russian Federation
Theme Area in Data Availability and Quality of Observations	Theme Leader	Mr Yoshihisa Kimata kimata@met.kishou.go.jp	Japan
	Volunteer Experts	Mr Haihe Liang lhhaoc@cma.gov.cn	China
		Mr Hesam Sajdeh hesam.sajdeh@gmail.com	I. R. of Iran
Theme Area in Surface-based Remote Sensing for Disaster Risk Reduction	Theme Leader	Mr Feng Li liflif04@cma.gov.cn	China
		Dr Oleg Pokrovsky pokrov_06@mail.ru	Russian Federation
	Volunteer Experts	Ms Ann Goryunova uzhymet@meteo.uz	Uzbekistan
		Dr Wattana Kanbua wattkan@gmail.com	Thailand
Theme Area in Satellite Data, Products and Training	Theme Leader	Mr Tomoo Ohno tom.ohno@met.kishou.go.jp	Japan
		Dr Dohyeong Kim dkim@kma.go.kr	Republic of Korea
	Volunteer Experts i	Ms Jian Liu liujian@cma.gov.cn	China
		Mr Ashok Sharma aksimd@hotmail.com	India

Expert Group on WIS (EG-WIS)

EG-WIS			
Co-Coordinator		Ms Xiang Li lixiang@cma.gov.cn	China
		Mr Kenji Tsunoda tsunoda@met.kishou.go.jp	Japan
Theme Area in Data Communication Techniques and Structure	Theme Leader	Dr Sunghoi Huh shhuh@korea.kr	Republic of Korea
	Volunteer Experts	Mr Hongliang Lang langhl@cma.gov.cn	China
		Mr Kenji Kosuge k-kosuge@met.kishou.go.jp	Japan
		Mr Talgat Usmanov usmanovt@gmail.com	Kazakhstan

Theme Area in Data Representation and Metadata	Theme Leader	Ms Jitsuko Hasegawa j-hasegawa@met.kishou.go.jp	Japan
	Volunteer Experts	Ms Ting Zhu zhuting@cma.gov.cn	China
		Mr Sung Soo Do ssdo@korea.kr	Republic of Korea
		Mr Wanchalearm Petsuwan wpetsuwan@hotmail.com	Thailand
Theme Area in WIS-GTS operations, including Early Warning	Theme Leader	Dr Shyamlal Singh sl.singh@imd.gov.in	India
		Mr Aleksandr Soloveychik uzhymet@meteo.uz	Uzbekistan
	Volunteer Experts	Mr Fudi Wang wangfd@cma.gov.cn	China
		Mr Yoritsugi Ohno yoritsugi.oono-a@met.kishou.go.jp	Japan
		Mr Khudulmur Sodov mtt@magicnet.mn	Mongolia
Mr Nicolai Mikhailov nodc@meteo.ru	Russian Federation		
Theme Area in Climate Data Management/Data Rescue	Theme Leader	Mr Hongzheng Zhang zhanghz@cma.gov.cn	China
	Volunteer Expert	Mr Tarik Sufian Al-Hammadi tarikahamadi@yahoo.com	Yemen
Theme Area in Integrated Global Data Dissemination System	Theme Leader	Mr Kang Gao gaokang@cma.gov.cn	China
	Volunteer Expert	Mr Ruslan Ermatov ermatov@meteo.ktnet.kg	Kyrgyzstan

Work Plan

This work plan is developed mainly based on the deliverables outlined in the RA II Strategic Operating Plan, the terms of reference of the Working Group and Expert Groups, and the projects listed in the R-WIP-II and R2-WIS-IP, and would like to outline the main tasks which will be carried out by the working group before the next session and key deliverable, activity, expected accomplishing time and responsibility. Most of activities in below table will be implemented through the RII WIGOS projects and RA II members under the initiative of key regional players. The theme leaders of EG-WIGOS and EG-WIS have responsibility to track and promote the execution of these activities and projects.

The work plan for each of EG-WIGOS and EG-WIS is developed and will be carried out separately, and the co-coordinators of the expert group will be responsible for coordinating and supervising activities of their own expert group, meanwhile, co-coordinators should provide yearly progress report or other reports if necessary to the chair-person of the working group.

Each theme leader in the expert groups, supported by volunteer experts if available, will bear responsibility for one or several activities in the plan which is relevant to his or her theme area and will submit report to co-coordinators of the expert group as required. The work plans of EG-WIGOS and EG-WIS are as follows:

Work Plan 2014-2016: RA-II EG on WIGOS

Task #	Reference	Task	Key Deliverable	Activity	2014	2015	2016	Responsible	Status
WIGOS-01	ToR a-i	Update of R-WIP-II	A new version of R-WIP-II is developed SOP ER 4.1.7	• Carry out a survey on the comments and new project proposal	X			TL in Implementation and Updating of R-WIP(Mr Yoshiro Tanaka) and volunteer expert (Dr Sarantuya Ganjuur)	
				• Draft a new version of R-WIP-II		X		TL in Implementation and Updating of R-WIP and volunteer expert (Dr Sarantuya Ganjuur)	
				• Hold an expert meeting to finalize the new version of R-WIP-II (Version 2.0)		X		Co-coordinator (Mr. Chen Yongqing, Dr Jaegwang Won)	
				• Submit a progress report to the co-coordinators of the EG by the end of every year	X	X	X	TL in Implementation and Updating of R-WIP	
WIGOS-02	ToR a-v R-WIP-II-PJ- I	Monitoring of progress on Implementation of EGOS-IP in RA II	<ul style="list-style-type: none"> • A list of RA II EGOS National Focal Points, • Prioritized actions listed in the EGOS-IP, • Portal to share progress EGOS IP implementation in RA II. SOP ER 4.1.8~9	• Draft a letter and the format for national progress report on EGOS-IP to request RA II Members to appoint National Focal Points and submit EGOS National Reports annually				TL in Implementation of EGOS-IP(Mr Yatian Guo) and the project coordinator	
				• Identify gaps and prioritize actions listed in EGOS-IP through reviewing the progress of EGOS-IP in RA II	X			TL in Implementation of EGOS-IP and the project coordinator	

				<ul style="list-style-type: none"> • Develop a Portal to share the progress of EGOS-IP Implementation of RA II Members 		X		TL in Implementation of EGOS-IP and the project coordinator	
				<ul style="list-style-type: none"> • Keep abreast of new developments in WMO observing systems and cosponsored systems and to make recommendations for their implementation in the Region • Submit a progress report to the co-coordinators of the EG by the end of every year 	X	X	X	TL in Implementation of EGOS-IP and the project coordinator	
WIGOS-03	ToR a-ix R-WIP- II-PJ- II	Development of a RA II standard and best practice portal	A portal on standards and best practices SOP ER 4.1.8~9, 4.1.16	<ul style="list-style-type: none"> • Carry out a survey on the status of national level standardization efforts • Develop a proto-type portal system 	X			TL in Standard and Best Practice(Dr Seongchan Park)	
				<ul style="list-style-type: none"> • Collect and share standard and best practices documents from RA II Members • Specify mechanisms, procedures for regular monitoring and updating of the portal 	X	X		TL in Standard and Best Practice and volunteer experts (Mr Xiaolei He, Dr Hyeongyo Jeong,B. Obama,and D. Cameron)	
				<ul style="list-style-type: none"> • Hold an experts meeting to review the portal and standard and best practices 		X		TL in Standard and Best Practice	
				<ul style="list-style-type: none"> • Establish and maintain the portal 		X	x	TL in Standard and Best Practice	
				<ul style="list-style-type: none"> • Submit a progress report to the co-coordinators of the EG by the end of every year 	X	X	X	TL in Standard and Best Practice	

WIGOS-04	ToR a-iv R-WIP- II-PJ- III.1	Integration of Surface-based Remote Sensing Observations in the East Asia	<ul style="list-style-type: none"> • Establishment of collaborative working mechanism toward integrated surface-based remote sensing observations in the East Asia for operational monitoring and forecasting severe weather. • Solutions to identify issues to be solved for integration of surface-based remote sensing observations at sub-regional level and their solutions. <p>SOP ER 4.1.12, 7.1.1</p>	<ul style="list-style-type: none"> • Develop a plan for offline Exchange of surface-based remote sensing datasets/products in accordance with project III.1 of R-WIP-II 	X			TL in Surface-based Remote Sensing for Disaster Risk Reduction(Mr Feng Li and Dr Oleg Pokrovsky), project coordinator, and volunteer experts (Ms Ann Goryunova,Dr Wattana Kanbua)	
				<ul style="list-style-type: none"> • Develop sub-regional radar composite maps meeting their own operational requirements 	X			TL in Surface-based Remote Sensing for Disaster Risk Reduction, project coordinator and volunteer experts	
				<ul style="list-style-type: none"> • Develop a draft for feasible and optimal design of integration of surface-based remote sensing observations 		X		TL in Surface-based Remote Sensing for Disaster Risk Reduction and project coordinator	
				<ul style="list-style-type: none"> • Submit a progress report to the co-coordinators of the EG by the end of every year 	X	X	X	TL in Surface-based Remote Sensing for Disaster Risk Reduction	
WIGOS-05	ToR a-iv R-WIP- II-PJ- III.2	Capacity Building in Radar Techniques in the Southeast Asia	<ul style="list-style-type: none"> • National reports in the Southeast Asia toward operational rainfall estimation/forecasting based on radar data, • Regional strategic plan on development of the radar network. 	<ul style="list-style-type: none"> • Develop and update national reports toward operational rainfall estimation/forecasting based on radar data by Thailand , Malaysia and other ASEAN members in accordance with project III.2 of R-WIP-II 	X	X	X	TL in Surface-based Remote Sensing for Disaster Risk Reduction(Mr Feng Li and Dr Oleg Pokrovsky), project coordinator and volunteer experts (Ms Ann	

			SOP ER 4.1.12, 7.1.1				Goryunova,Dr Wattana Kanbua)	
				• Develop a regional strategic plan on radar which identifies common technical issues and necessary actions to be taken.		X		TL in Surface-based Remote Sensing for Disaster Risk Reduction, project coordinator and volunteer experts
				• Submit a progress report to the co-coordinators of the EG by the end of every year	X	X	X	TL in Surface-based Remote Sensing for Disaster Risk Reduction
WIGOS-06	ToR a-vii R-WIP-II-PJ- iv	Improve Data Availability and Quality of Observations	<ul style="list-style-type: none"> • Provision of technical support for instrument maintenance and calibration by experts from RICs. • Holding a RIC's training workshop for RA II Members. • Development of training materials (to be prepared for publication as an IMOP technical document). • Obtaining ISO/IEC 17025 certification. • Portal Website to share 	<ul style="list-style-type: none"> • Check data quality of RA II stations and identify and requests RA II Members to identify technical issues • Submit a status and proposal report to the next WG meeting 	X	X		TL in Data Availability and Quality of Observations (Mr Yoshihisa Kimata),Project coordinator and volunteer experts(Mr Haihe Liang and Mr Hesam Sajdeh)
				<ul style="list-style-type: none"> • Organize a training workshop on calibration and maintenance of meteorological instruments in RA II according to needs of the Members. 				TL in Data Availability and Quality of Observations, Project coordinator and volunteer experts

		<p>outcomes of this project.</p> <ul style="list-style-type: none"> • Report on status on QC/QA procedures and site management in RA II. • Report on status on meteorological instruments, calibration and training in Regional Association II. <p>SOP ER 2.2.1~2, 4.1.1~6</p>	<ul style="list-style-type: none"> • Survey on status on QA/QC procedures and site managements for the network of RBCN/RBSN stations, and report the results. 	X	X	TL in Data Availability and Quality of Observations, Project coordinator and volunteer experts	
			<ul style="list-style-type: none"> • Organize a training workshop to improve understanding of calibration and maintenance of meteorological instruments according to needs of RA II Members • Organize a workshop to improve understanding of QA/QC procedures and site managements for the network of RBCN/RBSN stations according to needs of RA II Members. 		X	TL in Data Availability and Quality of Observations	
			<ul style="list-style-type: none"> • Develop training materials on calibration and maintenance of instruments 	X		TL in Data Availability and Quality of Observations, Project coordinator and volunteer experts	
			<ul style="list-style-type: none"> • Develop RIC's Websites 	X		TL in Data Availability and Quality of Observations and Project coordinator	
			<ul style="list-style-type: none"> • Carry out an intercomparison between RIC-Tsukuba and RIC-Beijing, 	X		TL in Data Availability and Quality of Observations and Project coordinator	

				<ul style="list-style-type: none"> • Submit a progress report to the co-coordinators of the EG by the end of every year 		X		TL in Data Availability and Quality of Observations	
WIGOS-07	ToR a-ii R-WIP- II-PJ- VI	Satellite Data, Products and Training	<ul style="list-style-type: none"> • Reports on requirements of NMHSs regarding satellite imagery, data and products, • Improvement on access to information on satellite data/products • Improvement on capacity in use of satellite data/products and facilitation of training datasets and toolboxes 	<ul style="list-style-type: none"> • Survey and identify the requirements of NMHSs of developing countries, regarding satellite imagery, data and products, use the results to update the RRR user requirements database and to fine tune the EGOS-IP 		X		TL in Satellite Data, Products and Training (Mr Tomoo Ohno and Dr Dohyeong Kim), project coordinator and volunteer experts (Ms Jian Liu and Mr Ashok Sharma)	
				<ul style="list-style-type: none"> • Facilitate the timely provision of satellite-related information by satellite operators themselves to users via the project web page, newsletters, etc. 	X	X	X	TL in Satellite Data, Products and Training, project coordinator and volunteer experts	
				<ul style="list-style-type: none"> • Optimize assistance to NMHSs in RA II and coordinating training activities on use of satellite data/products aligning with VLab activities 		x	x	TL in Satellite Data, Products and Training, project coordinator and volunteer experts	
				<ul style="list-style-type: none"> • Submit a progress report to the co-coordinators of the EG by the end of every year 	X	X	X	TL in Satellite Data, Products and Training	
WIGOS-08	ToR a-ii R-WIP- II-PJ- v	Develop a Sand and Dust Storm Warning Advisory and Assessment System (SDS-	<p>The systematic NRT monitoring of sand and dust storm in SDS-WAS Asia Node</p> <p>SOP ER 4.1.5~6</p>	<ul style="list-style-type: none"> • Develop a plan for the data exchange of the Sand and Dust Storm data • Establish an ad-hoc working group for parameters and data format exchanged 	X			Project coordinator	

		WAS) in Asia Node		<ul style="list-style-type: none"> • Develop a portal with a function for sharing the observation data and announce it to the Node members 		X		Project coordinator	
				<ul style="list-style-type: none"> • Submit a progress report to the co-coordinators of the EG by the end of every year 	X	X	X	Project coordinator	
WIGOS-09	ToR a-x	Update of the Regional Basic Synoptic Network(RBSN) and Regional Basic Climatological Network (RBCN)	Update version of RBSN and RBCN SOP ER 4.1.5~6, 10~11, 14	<ul style="list-style-type: none"> • Monitor the changes and proposals to RBSN and RBCN by members • Assess and continuously monitor regional observational requirements, identify regional gaps and identify capacity development projects within the Region to address those gaps. 	X	X	X	TL in Observational Requirements and Regional Network(Mr D. K. Malik and Mr Abdulqaleq Ali Ali) and volunteer experts (Ms Jianxia Guo,Mr Jiankai Wang,Mr Ibrahim N. Lawend,Dr Andrey Dubovetskiy)	
				<ul style="list-style-type: none"> • Develop an update version of RBSN and RBCN to the WG on WIGOS/WIS meeting 		X		TL in Observational Requirements and Regional Network and volunteer experts	
				<ul style="list-style-type: none"> • Submit a progress report to the co-coordinators of the EG by the end of every year 	X	X	X	TL in Observational Requirements and Regional Network	

Work Plan 2014-2016: RA-II EG on WIS

Task #	Reference	Task	Key Deliverable	Activity	2014	2015	2016	Responsible	Status
WIS-01	ToR b-i and b-ii	Development of RA-II WIS Implementation Plan (RA-II WIS-IP)	RA-II WIS-IP	<ul style="list-style-type: none"> Summarize the previous working progress and outcome of RA-II WIS-IP Establish the Task Team for reorganizing and finalizing the RA-II WIS-IP Reorganize and compile the draft of RA-II WIS-IP Collect comments for the draft of RA-II WIS-IP from RAI members and WMO Secretariat Finalize and submit the first version of RA-II WIS-IP to Chair of WIGOS/WIS and WMO secretariat 				Co-coordinators	The RA-II WIS-IP has been submitted and then approved by the president of RA II.
				<ul style="list-style-type: none"> Hold an experts meeting to review the first version of RA-II WIS-IP and discuss the progress made in the implementation and operation of WIS in the Region 	-		X	Co-coordinators, TMs and volunteer experts of ET-WIS	
				<ul style="list-style-type: none"> Keep develop, update and review RA-II WIS-IP, submit revised version to the president of RA-II and the RA II office in WMO Secretariat every year 	X	X	X	Co-coordinators	
WIS-02	ToR a-ii, a-iii and a-iv	Constant review the Regional Meteorological Telecommunication Network (RMTN) and its implementation	Status and Plans of RMTN in RA II	<ul style="list-style-type: none"> Collect the status and plans of implementation of the RMTN from RA II members Analyze the feedback and make recommendations Draft the status report of RMTN in RA II annually 	X	X	X	TL and volunteer experts in WIS-GTS operations, including Early Warning	

WIS-03	ToR a-ii , a-iii and a-iv	Constant review the status report of Data Communication Techniques and structure in RA-II	Status report of Data Communication Techniques and structure in RA-II annually	<ul style="list-style-type: none"> • Keep review the organizational and technical aspects of the WIS data communication structure, and especially of the GTS in RA-II • Formulate recommendations for the further development and upgrading of the RMTN and of the regional data communication structure of WIS • Draft the status report of Data Communication Techniques and structure in RA-II annually 	X	X	X	TL and volunteer experts in Data Communication Techniques and Structure	
			Amendments of Volume II of the manual on the GTS in RA-II	<ul style="list-style-type: none"> • Keep review, develop and update the Volume-II of the Manual on the GTS • Consider harmonization with Manual on WIS • Make draft recommendation of the amendments 			X	TL and volunteer experts in Data Communication Techniques and Structure	
WIS-04	ToR a-ii and a-iv	Constant review the status of inter-programme data representation matters and the status of implementation of the WIS DAR metadata catalogue	Status Report of Data Representation and Metadata in RA II	<ul style="list-style-type: none"> • Collect the status and progress on the inter-programme data representation matters, including migration to Table Driven Code Forms and regional codes, and the WIS DAR metadata catalogue and migration from WMO Catalogue of Meteorological Bulletins (Volume C1) to DAR metadata from RA II members • Analyze the feedback and make recommendations • Draft the status report of Data Representation and Metadata in RA II annually 	X	X	X	TL and volunteer experts in Data Representation and Metadata	

WIS-05	ToR a-ii , a-iii and a-iv	Constant review WIS service and WIS monitoring developing activities and implementation in RA II	Status Report of the implementaion of WIS service and WIS monitoring in RA II	<ul style="list-style-type: none"> • Support the regional activity for the WIS Application Pilot Project in Regions II and V including promoting further participation of National Meteorological and Hydrological Services in the Region • Review WIS monitoring developing activities and implementation in the Region, including the real-time and non real-time WWW monitoring activities pertaining to the GTS in the Region • Review the definition of regional requirements for data exchange, management and access of WMO programmes • Draft the status report of the implementation of WIS service and WIS monitoring in RA II annually 	X	X	X	TL and volunteer experts in WIS-GTS operations, including Early Warning	
WIS-06	ToR a-ii and a-iv	Constant review the status and progress on the Climate Data Management/Data Rescue in RA II	Status Report of the Climate Data Management/D ata Rescue in RA II	<ul style="list-style-type: none"> • Collect the status and plans of implementing Modern Climate Data Management Systems (CDMSs) and the progress in interfacing CDMS with WIS from RA II members • Collect the plans and progress on national, multinational and regional DAta Rescue (DARE) projects from RA II members • Analyze the feedback • Draft the status report of the Climate Data Management/Data Rescue in RA II annually 	X	X	X	TL and volunteer experts in Climate Data Management/Dat a Rescue	

WIS-07	ToR a-ii , a-iii and a-iv	Constant review the IGDDS Implementation Plan and advise Region Members on regional activities	Status Report on IGDDS in RA II	<ul style="list-style-type: none"> • Review the IGDDS Implementation Plan and advise Region Members on regional activities that will contribute to enhance access to satellite data, products and services • Collect the status of requirements for access to satellite data, products and services from RA II members • Analyze the feedback and coordinate with other Regional IGDDS Rapporteurs on relevant IGDDS activities • Draft the Status Report on IGDDS in RA II annually 	X	X	X	TL and volunteer experts in IGDDS	
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WORK PLAN OF THE WMO REGIONAL ASSOCIATION II (ASIA)

Implementation Coordination Team on Service Delivery (ICT-SD)

Jianjun Xue
China Meteorological Administration

Introduction

The Sixteenth World Meteorological Congress (Geneva, May–June 2011) approved the WMO Strategy for Service Delivery, and requested regional associations to make full use of the Strategy in developing specific plans appropriate to their own Regions, and engaging in regional partnerships.

The fifteenth session of Regional Association II (Doha, 13–19 December 2012) decided to establish the Regional Association II Implementation Coordination Team on Service Delivery (ICT-SD) in support of the development of capacity for RA II Members to deliver weather-, climate- and water-related services (Resolution 1 of RA II-15).

Following the WMO Strategy for Service Delivery and the Strategic Operating Plan for the Enhancement of National Meteorological and Hydrological Services (NMHSs) in Regional Association II (Asia) 2012–2015, this RA II ICT-SD Work Plan aims at facilitating the implementation of the WMO Strategy for Service Delivery and providing guidance to RA II Members on enhancing capacity and effectiveness of user-oriented and user-engaged service delivery.

Terms of Reference

- (a) To facilitate the implementation of “The WMO Strategy for Service Delivery” as laid out in its Implementation Plan to guide all aspects of Service Delivery in the Association, including pilot and demonstration projects, and twinning arrangements between NMHSs in the Region;
- (b) To provide guidance to RA II Members on strengthening partnerships at the national to international levels, including between providers of weather-, climate- and water related products and services and users in the public and private sectors: the media; academia; social and economic sciences; international and intergovernmental agencies; and non-governmental organizations;
- (c) To provide guidance to RA II Members in capacity-building for information and outreach relevant to improving service delivery;
- (d) To recommend strategies and priorities for research and development as well as infrastructure relevant to, and enabling, effective service delivery in the Region;
- (e) To assess the effectiveness of programmes in improving services down to the end user level, and advise on corrective steps where necessary;
- (f) To keep under review education and training requirements related to service delivery.

Membership of Working Group

Chairperson	Mr Jianjun Xue	China
Members of ICT-SD	Mr Qingliang Zhou	China
	Dr Thuc Tran	Viet Nam
	Mr Mohammed Saeed Alhakimi	Yemen
	Mr Manoj Kumar Bhatnagar	India
	Dr Sergey Borshch	Russian Federation

Work Plan

Task	Reference	Task	Key Deliverable	Activity	2014	2015	2016	Responsible
ICT-SD-01	RA-II 15 report	Enhancement of Training in Service Delivery	Facilitating Training in Service Delivery to the Public and to the decision-making sectors	• Provide suggestions on service delivery training topics and recommend experts to PWS for the development and implement of public education programmes	X	X		Chairperson and members
				• Collect and share best practices of training in Service Delivery to the decision-making sectors from RA II Members	X	X		members
				• Hold the Session of ICT-SD to exchange good experience of training in service delivery		X		Chairperson
ICT-SD-02	RA-II 15 report	Guidance in the implementation of “The WMO Strategy for Service Delivery”	Facilitating the formation of service-oriented cultures and the improvement of service idea, service product and service tools as well in the RA-II members	<ul style="list-style-type: none"> • Provide suggestions on the development of standard template on Evaluation User Needs • Collect and share best practices of user-engaged service delivery from RA-II Members 	X	X	X	members
ICT-SD-03	RA-II15 report	Guidance in the communication with stakeholders and regional organizations	Enhanced visibility of activities and priorities of WMO and NMHSs through established strategy for communication with stakeholders and regional organizations	<ul style="list-style-type: none"> • Develop a communication strategy/guideline with stakeholders including academia and with regional organizations • Encourage and facilitate exchange and training on relevant know-how 	X	X	X	members

WORK PLAN OF THE WMO REGIONAL ASSOCIATION II (ASIA)

Implementation Coordination Team on Disaster Risk Reduction (ICT-DRR)

K.J. Ramesh
India Meteorological Department

- **Development of Requirements**

1. Promotion and strengthening of the principle of free and unrestricted international exchange of data and products among RA- II member NMHSs - Regional Key Outcome No. 1.1.2 of the RA-II Operating Plan 2012-15 [**Seeking very kind Action by RA-II President's Secretariat to arrange for full, unrestricted and unlimited access to ECMWF Data, Products through authorized web access of ECMWFs Meteorological Archival and Retrieval System (MARS) to major NMHSs, like India and others, to customize country specific DRR products for multi hazard early warning over RA II region in a coordinated manner**]

Activities proposed include

- i) Take up needs assessment of country specific DRR products for various multi hazards experienced - Through Circulation of Questionnaire
- ii) Organize efforts for Design and develop operational software tools, including GIS/Remote Sensing interfaces, using ECMWF-MARS and other regional data and forecast products from India, China, Japan, Korea etc. for capturing the physical, dynamical and synoptic features associate with various country specific multi hazards somas to enhance overall early warning - Through engaging professional hiring of appropriate services from expert global consultant groups in a time bound manner not exceeding 6-month consultancy for which ICT DRR Chair would prepare draft RFP in consultation with other WG chairs
- iii) Organize performance evaluation of developed operational tools, as per ii) above, fully involving NMHSs for the past severely affected multi hazards - Through Consultation and coordination with RA II Presidents Secretariat
- iv) Develop and implement training and capacity building of NMHSs forecast teams in operational utilization of DRR Multi Hazard Early Warning tools for successfully forecasting various high impact weather phenomena - ICT DRR Chair in consultation with other WG Chairs shall prepare draft plan for consideration of RA II Presidents Secretariat

- **Operational enhancement of Regional Warning Capability at RSMC level for West Pacific and Indian Ocean basins**

1. Efforts for further increase in accuracy, timeliness and usefulness of tropical cyclone track, intensity and landfall forecasts - Regional Key Outcome No. 1.2.6 of the RA-II Operating Plan 2012-15 [**Seeking very kind Action by RA-II President's Secretariat to arrange for hiring of instrumented aircraft based dropsonde observations from airborne platform owning groups in USA, Germany, NERC-UK, EU etc. through WMO at Government of India's cost over Bay of Bengal during November months so as to improve initial state 3-D structure of cyclonic circulation systems using advanced meso scale data assimilation-forecast systems**]

- **Issuance of improved Marine Forecasts/Warnings for coastal waters/zones including sea state and wave/swell Regional Key Outcome No. 1.2.10 of the RA-II Operating Plan 2012-15 [Seeking very kind Action by RA-II President's Secretariat to arrange for daily products operationally generated by Indian National Centre for Ocean Information Services (INCOIS) at least for Indian Ocean region for which India would extend all support in planning and execution of training and capacity building of NMHSs forecast teams in operational utilization of INCOIS generated Marine Forecast Products with appropriate funding support from WMO]**

SURVEY QUESTIONNAIRE

**Questionnaire on
Institutional Arrangements for NMHSs and Identification of
Regional Challenges and Priorities in RA II (Asia)**

This Questionnaire has been prepared by the RA II Task Team on Strategic Operating Planning (TT-SOP) which reports to the RA II Management Group.

The main objective of the Questionnaire is to collect basic information about the current institutional arrangements of hydrometeorological services in RA II, as well as the views of the RA II Members regarding the most important challenges and priorities. The information collected will help the Management Group and Secretariat to prepare a detailed RA II strategic operating plan for 2016 to 2019 and the corresponding work plans.

Your inputs to this survey are extremely important. You are kindly requested to prepare your response at your earliest possibility, preferably, before 31 August **2014**.

You have to provide the reply on-line version at: (Survey Link: WWW :.....).

On behalf of the RA II Management Group, thank you very much for your participation in the Survey!

Questionnaire

* Required

Country *

Name and position of the person responding to the Questionnaire *

I. Institutional arrangements

Basic information about national institutions, their position in the administration, legislation and regulation

1.1 Exact Title of the National Meteorological or Hydrometeorological Service (NM(H)S) *
Please provide the title in the local language and the translation in English

1.2 Title of the parent organization *
(Ministry, Agency, etc)

1.3 What is the legal status of the NMHS *
(e.g., Agency, Department, State owned enterprise, etc)

1.4 Is the NM(H)S responsible for operational hydrology *

Yes

No

1.5 If your answer on the preceding question is "No", please provide the name of the National Hydrological Service
(When responsibility in the fields of operational hydrology and water-resources assessment activities is shared among different institutions, or a National Hydrological Service as such does not exist, NHS is normally understood as the institution from which the Hydrological Adviser has been designated.)

1.6 Is the NM(H)S responsible for the provision of meteorological services for aviation *
(Select the appropriate answer from the list below)

the Service is the Meteorological Authority (as per ICAO Annex 3) and also the met service provider for aviation

the Service is not the Meteorological Authority (as per ICAO Annex 3) but it is the met service provider for aviation

the Service is neither the Meteorological Authority (as per ICAO Annex 3) nor the met service provider for aviation

the Service is not the Meteorological Authority (as per ICAO Annex 3) but partially involved in met service provision for aviation

1.7 In your country, is there a law/act, decree/order or other legislative act on meteorology (or hydrometeorology, or similar) *

none

law/act

decree/order

Other:

1.8 Provide the title of the primary legislative act that determines the functions of your Service*

1.9 Please indicate any other regulatory framework applicable to the functions of your Service * (at the level of Ministry; LoAs or MoUs with other agencies, etc. Limit your answers to major ones, e.g., agreement with Civil Protection agency for warning information, etc.)

II. NM(H)S management and organizational questions

2.1 NM(H)S Staff: what is the total staff of your organization (full time equivalent) *

Total

Male

Female

2.2 NM(H)S Staff: if available - what is the average age of the staff

2.3 NM(H)S Staff: number of staff with higher education degree (i.e., university or higher)

2.4 NM(H)S Staff - trends: please indicate the trend of the staffing figures during the recent 3-5 years *

steadily decreasing

no significant year-to-year change

steadily increasing

Other:

2.5 NM(H)S Budget: what is the total budget of your organization (e.g., year 2013-14 or 2014-15); please indicate the currency first

2.6 NM(H)S Budget: main sources of funding *

government

commercial activities

cost recovery (e.g., for provision of aviation services)

Other:

2.7 NM(H)S Budget: what percentage of the budget comes from non-government budget

2.8 NM(H)S Budget: trends: please indicate the trend of the government component of the budget during the recent 3-5 years *

steadily decreasing

no significant year-to-year change

steadily increasing

Other:

2.9 NM(H)S Budget: alternative sources please indicate sources of funding for improving the hydrometeorological infrastructure, etc

projects funded by international agencies

projects funded by national agencies

research projects

Other:

2.10 NM(H)S - Areas of Responsibility *

(Major areas including all activities, e.g. "Meteorology" includes observations, data processing, forecasting etc.)

Meteorology

Hydrology

- Climate
- Air/Water quality
- Oceanography
- Tsunami
- Disaster Risk Reduction/Management
- Seismology
- Other:

2.11 NM(H)S - Business model *

(Please select a model that is closest to your mode of operation and funding)

- Government or state owned, providing Public Weather Service (PWS) or other services to the state or to the public only (commercial activities not allowed)
- Government agency with commercial activities
- Private company
- Other:

2.12 NM(H)S Quality Management: is there a Quality Management (QMS) programme in place as part of your management practices *

- yes
- no

2.13 NM(H)S Quality Management: status of QMS implementation *

- QMS implemented for the whole NMHS
- QMS implemented for aviation branch
- none
- Other:

2.14 NM(H)S development Planning: is there a development/strategic plan covering the next 3-5 years in place *

- yes
- no

2.15 NM(H)S development Planning: if the answer of the question above is "yes", please indicate the main priority areas in your plan *

- Enhancing the monitoring infrastructure
- Improving the management and institutional arrangements
- Improving operational forecasts including the warning products

- Enhanced climate services (implementation of the GFCS)
- Extending services to new user sectors
- Improved IT (including better use of web services and social media)
- Automation of the observing networks
- Implementation of WIS
- Implementation of WIGOS
- Development and implementation of new commercial services/products
- Training, education and capacity building of staff
- Research & development
- Other:

III. Operations and Services

Information about main service areas

3.1 NM(H)S - Types of services provided *

- Public Weather Services (PWS)
- Warning services
- Climate services
- Aviation services
- Marine Services
- Agro-meteorological services
- Hydrological services
- Tailored services to specific economic sectors
- Air/water quality
- Tsunami services
- Earthquake
- Volcano Services
- Other:

3.2 NM(H)S - Current level of service provision for different type of services *

(This is a self-assessment question; please express your assessment in the specified grades to the best of your knowledge)

	N/A	poor (not meeting stated requirements by the government or users)	partly satisfactory (meeting some of the requirements)	satisfactory (meeting most of the requirements)	advanced (exceeding the requirements and utilizing innovative services)
PWS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Warning Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agro-meteorological Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydrological Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	N/A	poor (not meeting stated requirements by the government or users)	partly satisfactory (meeting some of the requirements)	satisfactory (meeting most of the requirements)	advanced (exceeding the requirements and utilizing innovative services)
Tailored Services to specific economic sectors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Air/Water quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tsunami Services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Earthquake and/or Volcano Services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other, as specified in the preceding question					

3.3 NM(H)S - Current level of capability across a number of research and development areas*
 (This is a self-assessment question; please express your assessment in the specified grades to the best of your knowledge)

	N/A	poor (not meeting stated requirements by the government or users)	partly satisfactory (meeting some of the requirements)	satisfactory (meeting most of the requirements)	advanced (exceeding the requirements and utilizing innovative services)
Early Warning Services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Marine Meteorology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Change	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Extremes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hydrological Services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Aviation Meteorology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other, as specified in the preceding question					

3.4 NM(H)S - Monitoring and infrastructure - Indicate areas where you consider your NM(H)S lacking adequate equipment and infrastructure or there has been deterioration during the recent years

- Surface observations (Land)
- Surface observations (Ocean)
- Upper-air observations

- Weather radar observations
- Hydrological observations
- Agro-meteorological observations
- Automation of the observing networks
- Telecommunication facilities (national)
- Telecommunication facilities (international)
- Data management systems
- IT (web site, etc.)
- Other:

3.5 Is your forecasting branch sufficiently staffed to operate on 24/7/365 basis *

- Yes
- No

3.6 Has your NM(H)S implemented an Early Warning System (EWS) *

(It is expected that all NM(H)Ss provide some type of warning services. This question refers to the implementation of a EWS that is recognized part of the national regulatory framework on disaster risk management)

- Yes
- No

IV. Your inputs to identify the main Priorities for RA II for the period (2016-2019)

4.1 To what extent are the following issues likely to be a challenges for the NMHS in 2016 – 2019: *

	1 - no challenge	2 - slight challenge	3 – moderate challenge	4 – moderate to serious challenge	5 – serious challenge
Budget - anticipated cuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Staff - anticipated cuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of qualified personnel in some areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visibility towards the decision makers needs to be improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adequacy of the existing observing systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adequacy of telecommunication facilities and capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	1 - no challenge	2 - slight challenge	3 – moderate challenge	4 – moderate to serious challenge	5 – serious challenge
Adequacy of of NWP modeling capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adequacy of climate services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adequacy of EWS and services for DRR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relationship with private sector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduction/maintenance of QMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.2 Provide some more details on the major challenges for your organization and how do you plan to cope with it

4.3 In meeting the challenges specified above, please list up to six priority areas to be addressed in the RA II work programme for the next period.

Priorities could be related to major WMO Programmes, such as GFCS, or to institutional, financial or capacity issues.

Priority 1

Priority 2

Priority 3

Priority 4

Priority 5

Priority 6

4.4 Is your NM(H)S in the position to provide experts to support the work of RA II subsidiary bodies (working groups; and implementation and Coordination Teams) during the period 2016 - 2019 *

(The support to WGs and ICTs includes participation in limited number of meetings, but also collaboration with other experts through electronic means. An expert nominated to participate in the work of RA II subsidiary bodies should be provided with some amount of time to carry out the work assigned to him/her by the respective subsidiary body.)

- yes, including support for participation in meetings
- yes, provided that there is financial support from WMO for participation in meetings
- yes, but only for work through electronic means (forum, e-mail, Webex, etc)
- no, we have no possibility to allocate staff to support regional activities
- Other:

4.5 What are the main reasons for not be able to support the work of the RA II WGs or ICTs

- Insufficient staff resources - our experts are too busy with our own tasks and programmes
- RA II work is not important for us
- our experts have language problem
- we have no information about RA II WGs and ICTs
- we have no budget to support the travel to attend meetings
- Other:

4.6 What type of outcomes of the work of the RA II subsidiary bodies would be most useful to you *

	1 - not very useful	2 - useful	3 - very useful
Organizing regional capacity development events (workshops, conferences, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing guidance material on the implementation of the priority programmes and projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monitoring the performance of the NMHSs to identify capacity gaps and proposing relevant measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developing regional implementation plans for priority areas (such as, WIS, WIGOS, GFCS, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assisting Members or sub-regions to set up implementation projects and bridge technological gaps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Be able to provide expertise on request by Members in need on "ad-hoc" basis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Establish on-line forums to discuss issues and provide advice to NMHSs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.7 What kind of support would your NMHS wish to see from the other Members in RA II? E.g., twinning projects (in which areas?), training possibilities, exchange of experts, assistance in developing and/or enhancing regulation and procedures, technical support

4.8 What kind of support would your NMHS wish to see from the Secretariat?

4.9 Please share any other views not covered above, related to the improvement of regional cooperation and the performance of your NMHS

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RA II STRATEGOC PERATING PLAN 2016-2019

Dept	Branch	ER	Key Outcome	Key Performance Indicator	Deliverable	Programme	Technical Commission	Region	LDCs, SIDS, Gender	Activity	Y2016	Y2017	Y2018	Y2019	Total
DRA	RAP	1	1.1	1.1.1				RA II							
DRA	RAP	1	1.1	1.1.2				RA II							
DRA	RAP														
DRA	RAP	1	1.2	1.2.1				RA II							
DRA	RAP	1	1.2	1.2.2				RA II							
DRA	RAP	1	1.2	1.2.3				RA II							
DRA	RAP	1	1.2	1.2.4				RA II							
DRA	RAP	1	1.2	1.2.5				RA II							
DRA	RAP							RA II							
DRA	RAP	1	1.2	1.2.6				RA II							
DRA	RAP	1	1.2	1.2.7				RA II							
DRA	RAP	1	1.2	1.2.8				RA II							
DRA	RAP	1	1.2	1.2.9				RA II							
DRA	RAP	1	1.2	1.2.10				RA II							
DRA	RAP	1	1.2	1.2.11				RA II							
DRA	RAP	1	1.2	1.2.12				RA II							
DRA	RAP														
DRA	RAP	2	2.1	2.1.1				RA II							
DRA	RAP	2	2.1	2.1.2				RA II							
DRA	RAP	2	2.1	2.1.3				RA II							
DRA	RAP	2	2.1	2.1.4				RA II							
DRA	RAP	2	2.1	2.1.5				RA II							
DRA	RAP	2	2.1	2.1.6				RA II							
DRA	RAP	2	2.1	2.1.7				RA II							
DRA	RAP	2	2.1	2.1.8				RA II							
DRA	RAP	2	2.1	2.1.9				RA II							
DRA	RAP	2	2.1	2.1.10				RA II							
DRA	RAP														

DRA	RAP								submit a progress report to co-coordinators of the EG-CS by the end of every year	x				
DRA	RAP	3	3.1	3.1.3	Promoted the use of Global Producing Centre for Long-range Forecasts (GPC) and RCC products in national climate services to link with Global and Regional Climate Information Producers			RA II	establish a link with relevant climate products provided by GPCs/RCCs on the RAll RCC website	x				
DRA	RAP							RA II	submit a progress report to co-coordinators of the EG-CS by the end of every year	x				
DRA	RAP	3	3.1	3.1.4	Implemented User-Targeted Climate Service to seek cooperation with relevant regional bodies and organizations on issues related to implementing user-targeted climate services for key sectors (for example, agriculture, water resources, health), including t			RA II	explore the nature of climate information required	x				
DRA	RAP							RA II	encourage NMHSs to devise a strategic framework for information production and delivery	x				
DRA	RAP							RA II	develop a feedback system for stakeholders response/confidence	x				
DRA	RAP							RA II	establish user-provider interface	x				
DRA	RAP								submit a progress report to co-coordinators of the EG-CS by the end of every year	x				
DRA	RAP	3	3.1	3.1.5	Identified the optimal means of meeting regional and national needs for climate information, products and services for Climate Risk Management and Adaptation			RA II	conduct Climate Risk Vulnerability Assessment	x				

DRA	RAP							RA II	mitigate the risk through management practices	x									
DRA	RAP							RA II	recommend adaptation strategies both structural and non-structural	x									
DRA	RAP	3	3.1	3.1.6	Promoted best practices in and to advise on implementation of new Regional Climate Outlook Forums			RA II	enhance coordination with Regional Climate Outlook Forums such as FOCRAII, SASCOF, NEACOF and EASCOF	x									
DRA	RAP							RA II	develop and keep updating links to materials used at RCOFs on the RA II RCC portal website	x									
DRA	RAP							RA II	promote establishment of new sub-regional Climate Outlook Forums	x									
DRA	RAP								submit a progress report to co-coordinators of the EG-CS by the end of every year	x									
DRA	RAP	3	3.1	3.1.7	Enhanced and promoted best practices in climate system monitoring and operational climate watch initiatives			RA II	build on successful showcases in/outside the region in producing useful climate watches	x									
DRA	RAP							RA II	recommend best practices for the region in climate system monitoring and climate watches at national and regional levels	x									
DRA	RAP							RA II	promote best practices in climate system monitoring and climate watches and to encourage RCOFs to raise the issues	x									
DRA	RAP							RA II	submit a progress report to co-coordinators of the EG-CS by the end of every year	x									
DRA	RAP	3	3.1	3.1.8	Promoted regionally coordinated capacity development activities in support of climate services			RA II	facilitate training events at WMO recognized institutes	x									
DRA	RAP							RA II	submit a progress report to co-coordinators of the EG-CS by the end of every year	x									

DRA	RAP	3	3.4	3.4.4	Identified an effective communication methods for interactions with farmers, awareness programs, economic impact analysis			RA II	Carry out an analysis of the status of agrometeorological dissemination, awareness programs and economic impact studies in the countries-members RA II	x				
DRA	RAP	3	3.4	3.4.5	Prepared recommendations on the various awareness programs, use of ICT in agriculture information dissemination and framing guide lines to conduct economic impact assessment studies.in the RA II Member countries			RA II	Prepare a brief report for submission to Secretariat RA II	x				
DRA	RAP													
DRA	RAP													
DRA	RAP													
DRA	RAP	4	4.1	4.1.7	Developed a new version of R-WIP-II			RA II	Submit a progress report to the co-coordinators of the EG by the end of every year	x				
DRA	RAP	4	4.1	4.1.9	Developed and maintained a portal to share progress EGOS IP implementation in RA II.			RA II	Keep abreast of new developments in WMO observing systems and cosponsored systems and to make recommendations for their implementation in the Region Submit a progress report to the co-coordinators of the EG by the end of every year	x				
DRA	RAP	4	4.1	4.1.16	Developed a portal on RA II standards and best practices			RA II	Establish and maintain the portal	x				
DRA	RAP							RA II	Submit a progress report to the co-coordinators of the EG by the end of every year	x				
DRA	RAP	4	4.1	4.1.12	Identified the issues to be solved for integration of surface-based remote sensing observations at sub-regional level and their solutions.			RA II	Submit a progress report to the co-coordinators of the EG by the end of every year	x				

DRA	RAP	4	4.1		Enhanced National reports in the Southeast Asia toward operational rainfall estimation/forecasting based on radar data			RA II		Develop and update national reports toward operational rainfall estimation/forecasting based on radar data by Thailand , Malaysia and other ASEAN members in accordance with project III.2 of R-WIP-II	X				
DRA	RAP	4	4.1		Developed regional strategic plan on development of the radar network.			RA II		Submit a progress report to the co-coordinators of the EG by the end of every year	X				
DRA	RAP	4	4.1	4.1.7	Improved access to information on satellite data/products			RA II		Facilitate the timely provision of satellite-related information by satellite operators themselves to users via the project web page, newsletters, etc.	X				
DRA	RAP	4	4.1	4.1.8	Improveed capacity in use of satellite data/products and facilitation of training datasets and too			RA II		Optimize assistance to NMHSs in RA II and coordinating training activities on use of satellite data/products aligning with VLab activities	x				
DRA	RAP							RA II		Submit a progress report to the co-coordinators of the EG by the end of every year	X				
DRA	RAP							RA II		Submit a progress report to the co-coordinators of the EG by the end of every year	X				
DRA	RAP	4	4.1	4.1.9	Updated the Regional Basic Synoptic Network(RBSN) and Regional Basic Climatological Network (RBCN SOP ER 4.1.5-6, 10-11, 14			RA II		Monitor the changes and proposals to RBSN and RBCN by members Assess and continuously monitor regional observational requirements, identify regional gaps and identify capacity development projects within the Region to address those gaps.	X				
DRA	RAP							RA II		Submit a progress report to the co-coordinators of the EG by the end of every year	X				
DRA	RAP	4	4.2	4.2.1	Developed RA-II WIS Implementation Plan (RA-II WIS-IP)			RA II		Hold an experts meeting to review the first version of RA-II WIS-IP and discuss the progress made in the implementation and operation of WIS in the Region	X				

DRA	RAP	4	4.2	4.2.2				RA II	Keep develop, update and review RA-II WIS-IP, submit revised version to the president of RA-II and the RA II office in WMO Secretariat every year	X				
DRA	RAP	4	4.2	4.2.3	Reviewed status and plan of the Regional Meteorological Telecommunication Network (RMTN) and its implementation			RA II	Collect the status and plans of implementation of the RMTN from RA II members Analyze the feedback and make recommendations Draft the status report of RMTN in RA II annually	X				
DRA	RAP	4	4.2	4.2.4	Reviewed the status report of Data Communication Techniques and structure in RA-II			RA II	Keep review the organizational and technical aspects of the WIS data communication structure, and especially of the GTS in RA-II Formulate recommendations for the further development and upgrading of the RMTN and of the regional data communication str	X				
DRA	RAP	4	4.2	4.2.5	Amended the Volume II of the manual on the GTS in RA-II			RA II	Keep review, develop and update the Volume-II of the Manual on the GTS Consider harmonization with Mnual on WIS Make draft recomendnation of the amendments	X				
DRA	RAP	4	4.2	4.2.6	Reviewed the status report of inter-programme data representation matters and the status of implementation of the WIS DAR metadata catalogue			RA II	Collect the status and progress on the inter-programme data representation matters, including migration to Table Driven Code Forms and regional codes, and the WIS DAR metadata catalogue and migration from WMO Catalogue of Meteorological Bulletins (Vol	X				

DRA	RAP	4	4.2	4.2.7	Reviewed the status report of the implementation of WIS service and WIS monitoring in RA II				RA II	Support the regional activity for the WIS Application Pilot Project in Regions II and V including promoting further participation of National Meteorological and Hydrological Services in the Region Review WIS monitoring developing activities and implem	X					
DRA	RAP	4	4.2	4.2.8	Reviewed the status report of the Climate Data Management/Data Rescue in RA II				RA II	Collect the status and plans of implementing Modern Climate Data Management Systems (CDMSs) and the progress in interfacing CDMS with WIS from RA II members Collect the plans and progress on national, multinational and regional DATA Rescue (DARE) proj	X					
DRA	RAP	4	4.2	4.2.9	Reviewed the status of IGDDS Implementation Plan and advised Region Members on regional activities in RA II				RA II	Review the IGDDS Implementation Plan and advise Region Members on regional activities that will contribute to enhance access to satellite data, products and services Collect the status of requirements for access to satellite data, products and service	X					
DRA	RAP	4	4.3	4.3.1												
DRA	RAP	4	4.3	4.3.2												
DRA	RAP	4	4.3	4.3.3												
DRA	RAP	5	5.1	5.1.1												
DRA	RAP	5	5.2	5.2.1												
DRA	RAP	5	5.2	5.2.2												
DRA	RAP	5	5.3	5.3.1												
DRA	RAP	5	5.4	5.4.1												
DRA	RAP	5	5.4	5.4.2												
DRA	RAP	5	5.5	5.5.1												
DRA	RAP	6	6.1	6.1.1												
DRA	RAP	6	6.2	6.2.1												

DRA	RAP	6	6.2	6.2.2										
DRA	RAP	6	6.2	6.2.3										
DRA	RAP	6	6.2	6.2.4										
DRA	RAP	6	6.2	6.2.5										
DRA	RAP	6	6.2	6.2.6										
DRA	RAP	6	6.2	6.2.7										
DRA	RAP	6	6.3	6.3.1										
DRA	RAP	6	6.3	6.3.2										
DRA	RAP	6	6.3	6.3.3										
DRA	RAP	6	6.3	6.3.4										
DRA	RAP	6	6.3	6.3.5										
DRA	RAP	6	6.4	6.4.1										
DRA	RAP	6	6.4	6.4.2										
DRA	RAP	6	6.4	6.4.3										
DRA	RAP	6	6.4	6.4.4										
DRA	RAP	6	6.4	6.4.5										
DRA	RAP	7	7.1	7.1.1										
DRA	RAP	7	7.1	7.1.2										
DRA	RAP	7	7.1	7.1.3										
DRA	RAP	7	7.2	7.2.1										
DRA	RAP	8	8.1	8.1.1										
DRA	RAP	8	8.1	8.1.2										
DRA	RAP	8	8.1	8.1.3										
DRA	RAP	8	8.2	8.2.1										
DRA	RAP	8	8.2	8.2.2										
DRA	RAP	8	8.3	8.3.1										

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