

REGIONAL ASSOCIATION II (ASIA)

THIRD SESSION OF THE RA II MANAGEMENT GROUP

GENEVA, 27 MAY 2011

FINAL REPORT



WORLD METEOROLOGICAL ORGANIZATION

THIRD SESSION OF THE RA II MANAGEMENT GROUP

(Geneva, Friday, 27 May 2011)

1. ORGANIZATION OF THE SESSION

1.1 The third session of the RA II Management Group (MG-3) was held at the Geneva International Conference Centre (CICG) on Friday, 27 May 2011 during the Sixteenth World Meteorological Congress (Cg-XVI). The list of participants is attached as Annex I to this report.

1.2 Prof. Victor E. Chub, president of RA II opened the session at 13:40 hours on 27 May 2011. He extended a warm welcome to all participants and thanked the members for accepting his invitation to attend the meeting. He also thanked the Secretariat for the arrangements made for this session. The president congratulated the new EC members-elect and looked forward to working together as the new team of RA II Management Group. Dr T. Toya, Regional Director for Asia and the South-West Pacific, also welcomed the participants and expressed his appreciation to the Management Group for its substantial contribution to the work of the Association, and wished that the MG-3 session make various decisions for the preparation of the fifteenth session of RA II.

1.3 The Management Group adopted the agenda of the session, which is given in Annex II to this report.

2. MATTERS ARISING FROM THE SECOND SESSION OF THE MANAGEMENT GROUP

2.1 The MG-3 recalled that the second session of the RA II Management Group (MG-2: June 2010) focused mainly on the implementation of the Strategic Plan for the Enhancement of NMHSs in RA II (2009-2011) and the development of its Action Plan, the review of the work of RA II subsidiary bodies including three pilot projects established during the fourteenth session of RA II (XIV-RA II) (Tashkent, Uzbekistan, December 2008), the organization of the Fifth RA II Technical Conference and the preparation for the Sixteenth Congress (Cg-XVI). The Group agreed that the follow-up to XIV-RA II, including the development of the Strategic Action Plan 2012-2015; and the progress on the work of RA II subsidiary bodies including pilot projects; and the preparation for the fifteenth session of RA II are the main issues for the MG-3 session, which should be discussed under relevant agenda items 3.1-3.3.

2.2 The Group was briefed on the recent development with the initiation of a Capacity Development Project in DRR in Southeast Asia, which was built on the outcomes of the preliminary survey of the NMHSs and their stakeholders in six countries in Southeast Asia including Cambodia, Lao PDR, Thailand and Viet Nam in RA II (the other two are: Indonesia and Philippines in RA V) carried out through a partnership with WMO/UNISDR and the World Bank. The proposed project entitled "Strengthening Regional Cooperation for Development and Sustainability of Meteorological, Hydrological and Climate Services to support Disaster Risk Reduction and Adaptation in Southeast Asia" aims at improving institutional and operational cooperation of the NMHSs with socio-economic sectors. Under the crosscutting framework of the DRR Programme of WMO, the implementation of the project would engage and leverage technical capacities and network of all relevant WMO technical and scientific programmes. A proposal was submitted to donors for funding in May 2011.

2.3 The Group reviewed the plan for the budgeted regional events of RA II during the fifteenth financial period (2008-2011) as given in Annex III. It was pleased to note that the Fifth Technical Conference was successfully held in Daegu, Republic of Korea from 29 November to 3 December 2010 with the regular budget allocation and extra-budgetary

contributions from Japan and the Republic of Korea, and that the Working Group on Hydrological Forecasts and Assessments (WGH) was also held in Seoul, Republic of Korea in November 2010. The Group further noted that the Working Group on Climate Services, Adaptation and Agrometeorology, Sub-group on Climate Applications and Services (WGCAA-CAS) and the Working Group on Disaster Risk Reduction and Service Delivery (WGDRS) were held in Daegu as parallel sessions during the Technical Conference. MG-3 agreed that a meeting of the Working Group on WMO Integrated Observing System and WMO Information System (WG-IOS/WIS) be held in late 2011 with the regular budget allocation.

3. FOLLOW-UP TO THE FOURTEENTH SESSION OF REGIONAL ASSOCIATION II (XIV-RA II)

3.1 *Implementation of the Strategic Plan for the Enhancement of National Meteorological and Hydrological Services (NMHSs) in Regional Association II (Asia) (2009-2011) and Development of the Strategic Action Plan*

3.1.1 The MG-3 reviewed the progress on RA II strategic planning. It recalled that the MG-1 (June 2009) agreed to prioritize the 201 deliverables identified in the RA II Strategic Plan (2009-2011) when considering the Strategic Action Plan by selecting 100-120 realistic deliverables for implementation and monitoring. The Task Team on Strategic Planning composed of Mr X. Xu (China); Dr B.Y. Lee (Hong Kong, China: Chairperson); Mr L.S. Lee (Hong Kong, China); Ms M. Jabbari (IR of Iran); Mr N. Hasegawa (Japan); Dr W.-T. Yun (Republic of Korea); and Ms M. Nazarova (Uzbekistan) identified 110 priority deliverables under 32 Regional Expected Results, which was submitted to MG-2 (June 2010). The MG-2, in referring to the RA V approach to develop its Strategic Operating Plan (SOP) for 2012-2015, by mapping the deliverables under Regional Expected Results in the RA V Strategic Plan 2010-2011 into the new five Strategic Thrusts and eight Expected Results of the draft WMO Strategic Plan 2012-2015, agreed to take a similar approach for developing the RA II Action Plan for 2012-2015.

3.1.2 The MG-3 was pleased to note that the Task Team has identified 100 priority deliverables, which were mapped into the eight Expected Results of the draft WMO Strategic Plan 2012-2015, for the RA II Action Plan, and that the draft Key Performance Indicators/Targets (KPIs/KPTs) were updated, and additional Activities for deliverables were proposed, such as training courses, workshops, mission visits and exchange of practical knowledge among Members. It also recalled that the Fifth Technical Conference agreed that, with reference to the WMO framework for results-based strategic planning for 2012-2015, Regional Key Outcomes (RKO) should be formulated based on the RA II Expected Results to complete the Action Plan; and considered that the Action Plan should be called "RA II Strategic Operating Plan (SOP)" for the period 2012-2015, in alignment with the period of the next WMO Strategic Plan (2012-2015).

3.1.3 The Management Group extended its appreciation to the Task Team on Strategic Planning headed by Dr B.Y. Lee and Mr L.S. Lee for their significant work in the development of RA II Strategic Operating Plan (SOP), and expressed the views that the proposed activities of RA II SOP should be action-oriented, by which means the implementation progress could be monitored and problems identified, and also that there is a need for support to the Members who have difficulties in achieving set goals. The Task Team and other RA II WG experts were invited to identify areas of region-specific problems and requirements (e.g., melting glacier in Nepal), which should be reflected in the WMO Strategic Operating Plan.

3.1.4 In this connection, the Group further noted that the Task Team developed a new RA II Survey Questionnaire (2010-2011) for monitoring the progress in the implementation of RA II Strategic Plan 2009-2011. All the deliverables in the draft Action Plan were incorporated into the Questionnaire as capability indicators. Two new sections on

“Hydrological forecasts and assessments” and “Partnership” were added to the Questionnaire. The MG-3 recognized that the survey of the basic capability of NMHSs in RA II was carried out in January-May 2011. The Group reviewed the preliminary analysis of the survey results, as given in Annex IV, received from 19 out of 35 Members (response rate: 19/35 = 54%).

3.1.5 The MG-3 expressed its full satisfaction of the overall improvement of weather, climate and hydrological services by Members of RA II (e.g., in speed of GTS connection to Regional Telecommunication Hub(s)) but also showed a great concern about the number of Members who did not respond. In view of the great success of the same survey in 2008 (response rate was 100% = 35/35), the Management Group requested the Secretariat to remind the Members who did not respond of the need to complete the RA II survey by the extended deadline of 15 July 2011. The president requested the MG and the Task Team members and the Secretariat to further work on the formulation of Regional Key Outcomes (RKO) and finalize the RA II SOP 2012-2015 before the next Management Group session.

3.2 *Review of the work of RA II subsidiary bodies including pilot projects*

3.2.1 The MG-3 reviewed reports of some RA II subsidiary bodies, i.e., the Sub-group on WMO Information System of WG-IOS/WIS; Sub-group on Climate Applications and Services of WGCAA; Working Group on Disaster Risk Reduction and Service Delivery (WGDRS); and Sub-group on Service Delivery of WGDRS. The Group also noted with satisfaction the progress in the work of the three pilot projects established at XIV-RA II as well as the two pilot projects established at XIII-RA II (Hong Kong, China, December 2004). A summary of progress reports on RA II subsidiary bodies and that on pilot projects are given in Annex V and Annex VI, respectively.

3.2.2 Noting that the pilot project on the provision of city-specific NWP products to developing countries via the Internet has been implemented successfully for several years on a trial basis to the satisfaction of the participating Members, the Management Group agreed to declare the pilot project as operational. It further noted that a ceremonial event is planned by Hong Kong, China in July 2011, with the providers of the city-specific NWP products, to officially put the project into operation.

3.2.3 The MG-3 expressed its sympathies for the passing away of Prof. I. Shiklomanov (Russian Federation), Chairperson of the Working Group on Hydrological Forecasts and Assessments (WGH), and endorsed that Dr S. Kim (Republic of Korea), Vice-chairperson of WGH, serve as Chairperson of WGH and Hydrological Adviser to the president.

3.3 *Preparation for the fifteenth session of Regional Association II (XV-RA II)*

3.3.1 The MG-3 noted with appreciation that the Government of the State of Qatar indicated its interest in hosting XV-RA II in Doha in December 2012. The Permanent Representative of Qatar with WMO also indicated its willingness to host the next Management Group session in Doha in February/March 2012 to facilitate detailed discussions on the organization of XV-RA II.

3.3.2 In view of the fact that only this offer from Qatar has been received to host the next session, the Management Group agreed in principle to hold the XV-RA II session in Doha, Qatar in December 2012 (seven days including a one-day holiday) as well as a two-day RA II Regional Seminar prior to the session. The president requested the Secretariat to enquire whether some other potential Members are willing to offer to host the session. MG-3 agreed that, if no other Members indicate their willingness, in further consultation with the Management Group, the president would decide on the date and place of the session.

4. OTHER BUSINESS

4.1 The MG-3 was pleased to note that side meetings on “the JMA emergency responses to the massive earthquake affecting Japan on the 11th of March 2011” and on “the 2010 Pakistan floods” were held on 20 May and 27 May 2011, respectively, during Cg-XVI. The Group commended the extensive efforts of JMA and PMD in maintaining and strengthening their meteorological, hydrological and seismological services during and after the emergency situation.

4.2 The MG-3 endorsed the decision of the president on the designation of Mr A.M.H. Isa (Bahrain) and Dr S.M.S. Mohalfi (Saudi Arabia) to look after the interest of RA II and act on his behalf during the absence of the president and vice-president from Cg-XVI from 28 May to 3 June 2011 and the sixty-third session of the Executive Council (EC-LXIII) from 6 to 8 June 2011.

5. CLOSURE OF THE SESSION

5.1 The third session of the RA II Management Group closed at 14:50 on 27 May 2011.

WORLD METEOROLOGICAL ORGANIZATION

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LIST OF PARTICIPANTS

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WORLD METEOROLOGICAL ORGANIZATION



THIRD SESSION OF THE RA II MANAGEMENT GROUP (MG)
(Geneva, 27 May 2011)

AGENDA

1. Organization of the Session
2. Matters arising from the second session of the Management Group
3. Follow-up to the fourteenth session of Regional Association II (XIV-RA II)
 - 3.1 Implementation of the Strategic Plan for the Enhancement of National Meteorological and Hydrological Services (NMHSs) in Regional Association II (Asia) (2009-2011) and Development of the Strategic Action Plan
 - 3.2 Review of the work of RA II subsidiary bodies including pilot projects
 - 3.3 Preparation for the fifteenth session of Regional Association II (XV-RA II)
4. Other business
5. Closure of the Session



**BUDGETED REGIONAL EVENTS
DURING THE FIFTEENTH FINANCIAL PERIOD
(2008-2011)**

Regional Events \ Years	2008	2009	2010	2011
Fourteenth Session of the Association	5-11.XII.2008 Tashkent, Uzbekistan			
Meeting of Advisory Working Group <i>/Management Group*</i>	18-20.II.2008 Jeddah and 25.VI.2008 Geneva	10.VI.2009 Geneva	16.VI.2010 Geneva	27.V.2011 Geneva
Session of <i>WGs on WMO Integrated Observing System and WMO Information System (WG-IOS/WIS*) and Disaster Risk Reduction and Service Delivery (WGDRS*)</i>			1-3.XII.2010 Daegu, Republic of Korea	X
Session of WG on Climate Matters <i>(WG* on Climate Services, Adaptation and Agrometeorology [SG on Climate Applications and Services])</i>	7-8.VIII.2008 Tokyo, Japan		30.XI-2.XII. 2010 Daegu, Republic of Korea	
Session of <i>WG on Hydrological Forecasts and Assessments (WGH*)</i>			23-26.XI.2010 Seoul, Republic of Korea	
Technical Conference on Management of Meteorological and Hydrological Services			29.XI-3.XII. 2010 Daegu, Republic of Korea	
Regional Seminar on Alternative Service Delivery and NMHSs Administration	3-4.XII.2008 Tashkent, Uzbekistan			

* established by XIV-RA II

PRELIMINARY RESULTS OF RA II SURVEY 2010-2011

1. Background

1.1 At its fourteenth session held in Tashkent, Uzbekistan, in December 2008, Regional Association (RA) II adopted the Strategic Plan for the Enhancement of National Meteorological and Hydrological Services (NMHSs) in RA II (Asia) (2009-2011), which was developed based on the survey results on the basic capabilities of NMHSs in RA II during 2005-2008.

1.2 To facilitate the development of the Strategic Action Plan for 2012-2015, the Association carried out a revised survey on the basic capability of NMHSs in the Region in 2010-2011. The survey questionnaire consisted of 12 main topics including management, observing systems, telecommunications, forecasting system, natural disaster prevention and mitigation, climate services, Aeronautical meteorological services, hydrological services and partnership.

2. Preliminary results

2.1 As of 15 May, 19 out of 35 Members responded the survey. The analysis of the survey results is therefore limited and preliminary. Some findings are summarized as follows:

- (a) *Management* – Most Members have legal basis for the provision of meteorological services, but yet more than 50 per cent of Members do not implement cost-recovery for the services. Close cooperation with academia, media and private sector is well maintained.
- (b) *Observing systems* – Operational observation networks were enhanced in most Members. More than 70 per cent of Members operate ground stations to receive high-resolution geostationary satellite images.
- (c) *Telecommunications* – Speeds of GTS for more than 80 per cent of Members are now category III (over 64 kbps) and about 50 per cent are benefited from WMO Information System (WIS) in terms of data exchange.
- (d) *Data-processing and forecasting system* – About 60 per cent of Members are operating NWP system, and almost all Members use and interpret NWP products. However a nowcasting system for high impact weather warning has not yet been applied in many Members.
- (e) *Natural disaster prevention and mitigation* – Most Members have links with national disaster managers. Given that yet about 60 per cent of Members have a public education programme, more efforts have to be made for better communication with the public.
- (f) *Climate services* – Almost all Members responded that they provide climatological information for the sustainable use in conservation of natural resources, but only about 60 per cent of Members explicitly provide monthly and/or seasonal climate predictions.
- (g) *Aeronautical meteorological services* – About 90 per cent of Members are designated as the meteorological authority for aviation services but quality management systems and cost-recovery of services are not yet implemented in many Members.
- (h) *Hydrological services* – Efforts for expanding the spatial and temporal coverage of hydrological observation networks have been made in many Members. More than 70 per cent of Members provide services on flood and flash flood warnings, but services on

landslide and debris flow warnings are not provided in many Members. Improvements of adaptation capacity of water resources system in a changing climate are relatively less paid attention.

- (i) *Public weather services* – About 80 per cent of Members operate a Website for real-time weather forecasts and warnings. In the meantime 60 and 40 per cent of Members are operating automatic telephone answering system and TV weather forecast programme, respectively.
- (j) *Partnership* – Cooperation with other service providers in the provision of specific weather services or advice may need more enhancement. Less than 30 per cent of Members collect and distribute automated meteorological observations from aircraft. About 50 and 30 per cent of Members join RA II pilot project on enhanced use of city-specific NWP products and Aeronautical Meteorology Programme, respectively.

2.2 The results of the 2010-2011 survey indicate overall improvement of weather, climate and hydrological services by Members in RA II and also identify priorities for regional activities. Final analysis with inputs from all Members is expected to give further informative results to develop key issues in the Region.

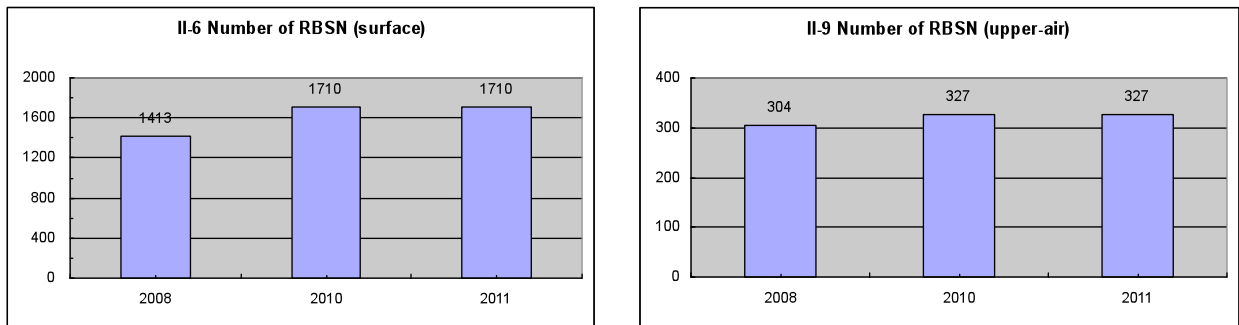


Figure 1. Total number of operational Regional Basic Synoptic Network (left) surface and (right) upper-air stations of the RA II members.

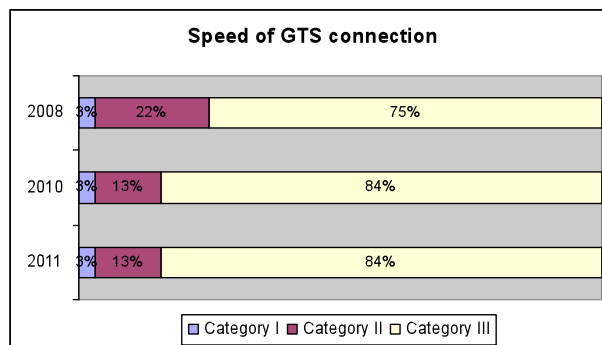


Figure 2. Distribution of the speed of GTS connections to RTHs in terms of Category I (below 9.6 kbps), II (9.6 to 64 kbps) and III (over 64 kbps).

PROGRESS REPORTS OF RA II SUBSIDIARY BODIES

**1. WORKING GROUP ON WMO INTEGRATED OBSERVING SYSTEM AND WMO INFORMATION SYSTEM (WG-IOS/WIS):
SUB-GROUP ON WMO INFORMATION SYSTEM (SG-WIS)**Summary

1.1 Regrettably some of 6 Theme Leaders have not necessarily been active in their TORs. Active fields are inclined to the ones collaborated with CBS OPAG-ISS Expert Teams. Main activities for the last 2 years are: updating the status on GTS in RA II (RMTN) on an annual basis; monitoring and promoting the migration to TDCF; WIS missionary work (e.g., WIS workshop, provision of WIS information and advice on WIS designation procedures); and a questionnaire in Regional WIS requirements. Achievable plans within 2 years are: an evolutionary reform of WIS VPN Pilot Project; finalizing Regional WIS requirements based on the questionnaire; and initial operation of WIS.

WIS Centres

1.2 GISCs Beijing and Tokyo with their internal DCPCs and DCPC Hong Kong, China (WWIS) are officially designated by Cg-XVI. It is planned that GISCs Beijing and Tokyo formally start their operation around August 2011. The Discovery Access and Retrieve (DAR) services will be newly served by those GISCs employing a globally unique catalogue based on metadata available from DCPCs and NCs. DCPC Hong Kong, China and some of candidate DCPCs in RA II are also expected to start operation and to provide metadata on their products in liaison with their associated GISC.

Regional Meteorological Telecommunication Network (RMTN)

1.3 Implementation of RMTN in RA II is mostly achieved except for NMCs Baghdad, Kabul and Thimpu, which are isolated from the GTS. As the achievement rate of over 95 percent shows the improvement in migration to TCP/IP and the bandwidth requirements (more than 9.6 kbps) is satisfactory at this stage. One of remaining problems is migration to a cost-effective RMTN, taking WIS into consideration. The appropriate use of MPLS network services, satellite broadcasting and Internet VPN should be studied further.

Migration to Table-Driven Code Forms (TDCF)

1.4 The CBS-Ext.(10) agreed on the deadline of November 2014 to stop the parallel distribution of TAC and TDCF data for category 1, category 2 (satellite observations) and category 4 (marine data). Although the migration to TDCF in RA II is gradually making progress, most of Members have not prepared in handling TDCF yet. Members are encouraged to take necessary arrangements before operational exchange of TDCF, such as verification tests, advanced notification on new bulletins and coordination with the associated RTH for global distribution of the new bulletins.

WIS VPN Pilot Project in RAs II and V

1.5 Taking account of upcoming operational GISCs and DCPCs, an evolutionary reform of the Project is under consideration. Concepts of the reform should include an aspect from prototype to operational services in the user-oriented view, in addition to the current aspects of evaluating WIS-related developments and providing developing countries with an occasion to participate in WIS development. The reform is expected to be promoted smoothly under cooperation of participants, especially candidate GISCs and DCPCs in RAs II and V.

Regional WIS requirements and Recommendations

1.6 The Theme leader in Regional WIS requirements has been analyzing and summarizing the collected requirements on data exchange, management and access. The Fifth Technical Conference on Management of Meteorological and Hydrological Services in Asia recommended that WG-IOS/WIS would collect and summarize requirements of the Region on:

- (i) required GTS bandwidth considering operational exchange of NWP and satellite products;
- (ii) acceptable delay-time for urgent information such as tsunami warning messages;
- (iii) capacity building activities such as metadata workshops and training on TDCF migration.

2. WORKING GROUP ON CLIMATE SERVICES, ADAPTATION AND AGROMETEOROLOGY (WGCAA): SUB-GROUP ON CLIMATE APPLICATIONS AND SERVICES (WGCAA -CAS)

Background

2.1 The fourteenth session of WMO Regional Association II (XIV-RA II), held in Tashkent, Uzbekistan from 5 to 11 December 2008, adopted a resolution to establish the Working Group on Climate Services, Adaptation and Agrometeorology (WGCAA). The Sub-Group on Climate Applications and Services (WGCAA-CAS) was established within WGCAA and four theme leaders in (1) Climate Applications and User Liaison; (2) CLIPS including Regional Climate Centers and Regional Climate Outlook Forums; (3) Climate Monitoring, Climate Watch and Climate Change; and (4) Climate Research, and Coordinator of WGCAA-CAS were designated.

WGCAA-CAS Meeting

2.2 The first meeting of WGCAA-CAS was held in Daegu, Republic of Korea from 30 November to 2 December 2010 conjointly with the Fifth Technical Conference on Management of NMHSs in RA II. In that meeting, an action plan was decided as given in the Appendix to this Section.

Follow-up to WGCAA-CAS Meeting

2.3 WGCAA-CAS Meeting suggested the North Eurasia Climate Center (NEACC) to submit an official letter of intent to establish a Regional Climate Center (RCC) to the president of RA II. NEACC submitted an official letter and started one-year pilot phase on 1 December 2010. The president of RA II formally informed the president of the Commission for Climatology (CCI) with copy to the President of the Commission for Basic Systems (CBS) and WMO Secretary-General of NEACC's intent to become a WMO RCC as well as of the start and duration of the pilot phase. This procedure is in compliance with the recommended steps for designation of a WMO RCC.

2.4 In April 2011, a session of the Asian-Australian Monsoon Panel (AAMP), which is a WCRP CLIVAR regional panel, was held back-to-back to the Forum on Regional Climate Monitoring, Assessment and Prediction for Asia, or FOCRAII, which is an RCOF in RA II, to seek the collaboration between the operational and research communities to enhance climate services. WGCAA-CAS and AAMP are now developing a formal agreement to enhance their collaboration.

ACTION PLAN of WGCAA-CAS

General

- Members of WGCAA-CAS should keep close contact.
- WGCAA-CAS manages a list of Focal points of NMHSs in RA II and updates it every year.
- NMHSs are requested to prepare annual activity reports on such occasions as FOCRAII.
- Annual activity report of WGCAA-CAS should be produced, reported and circulated and published in website.

CLIPS including RCCs and RCOFs

RCC activities

- To support NMHSs, continued activities of RCCs are encouraged.
- Improvements of RCC products to meet NMHSs' requirements are encouraged.
- It is encouraged that RCCs contribute to information exchange not only between NMHSs and RCCs but also among NMHSs through HP and training activities.

Designation process of RCCs

Designation process of RCC should be carried out smoothly as follows:

- The designation process of RCC should be in accordance with the WMO Technical Document 'How to Establish and Run a WMO Regional Climate Centre (RCC)' (WCASP-No. 80, WMO-TD No. 1534).
- All candidates are encouraged to join the pilot phase of RA II RCC group to demonstrate their capabilities as soon as possible. BCC and TCC will help four applicants launch the pilot phase.
- IMD-NCC and NEACC are requested to submit their letters of intent to establish RCC to the president of RA II by January 2011 and send a copy to WMO Secretariat and WGCAA-CAS.
- The pilot phase period will be one to two years. Further assessment of their capabilities will be made based on their operation in the pilot phase during the period.
- After the pilot phase, WGCAA-CAS will examine the eligibility of institutions which have intention to serve as RCCs in RA II, i.e., IMD-NCC, IRIMO-NCC, NEACC and PME, and prepare a document on the result of the examination of the eligibility to be submitted to the president of RA II.

Extension of Sub-regional RCOF

- Continued activities of FOCRAII and SASCOF will be encouraged and WGCAA-CAS should be informed.
- "Joint Meeting for the Seasonal Prediction of the East Asian Winter Monsoon" is recommended to function as a WMO RA II sub-regional RCOF after obtaining consensus among the participating countries.
- Further establishment of sub-regional RCOFs is encouraged to target different sub-regions having similar climate information/outlook needs. VCP funding as well as other projects for RCOF operations may be pursued.

Climate Applications and User Liaison

- Dialogue with users is encouraged at national and regional levels using the opportunity of RCOF and National COF.
- A session of user interface is recommended to be set up in the next FOCRAII and user representatives such as agriculture and hydrology be invited to the session.
- Dialogue with users will be focused on agriculture and hydrology as a first step. For this purpose, WGCAA-CAS proposes to establish an appropriate coordination mechanism with the Sub-Group on Agrometeorology (WGCAA-AgM) and the Working Group on Hydrological Forecasts and Assessments (WGH).
- It is encouraged to exchange good practices in the application of climate information and to strengthen user-provider interaction. RCOF and RCC-homepage may be used for this purpose.
- A short document on concept of the National COF should be developed by WGCAA-CAS and the document be disseminated to NMHSs in RA II and call for pilot projects on NCOF.

Climate Monitoring, Climate Watch and Climate Change

- RCCs should support activities relevant to Climate Watch by NMHSs.
- WGCAA-CAS facilitates climate monitoring in NMHSs and lists up status reports on climate monitoring in NMHSs
- To facilitate Climate Watch activity, WGCAA-CAS considers the possibility of relevant pilot projects.
- Extreme events and climate change monitoring information is encouraged to be provided by RCCs and NMHSs.

Climate Research

- Cooperation between WGCAA-CAS and WCRP/CLIVAR regional Panels should be strengthened.
- Joint workshop with research communities at RCOF is encouraged.

3. WORKING GROUP ON DISASTER RISK REDUCTION AND SERVICE DELIVERY (WGDRS)

Background

3.1 WGDRS was newly established in XIV-RA II for the purpose of coordinating with the Executive Council Working Group on Disaster Risk Reduction and Service Delivery and with WMO technical commissions in the development of capacity for RA II Members to deliver weather-, climate- and water-related services.

3.2 The work of WGDRS, led by Mr Edwin S.T. Lai (Hong Kong, China) and supported by a team of designated experts, was developed and coordinated under the three subgroups of Disaster Risk Reduction (WGDRS-DRR); Service Delivery (WGDRS-SD); and Aeronautical Meteorological Services (WGDRS-AeM), each with its own team of theme leaders and supporting experts.

Progress up to May 2011

3.3 The WGDRS-AeM subgroup had a teleconference on 31 Oct 2009 and subsequently a first meeting in Hong Kong, China on 5 Feb 2010. The Aviation-weather Disaster Risk Reduction (ADRR) website was officially launched on 18 Apr 2011. The project serves to demonstrate to aviation stakeholders the benefits of weather information in the planning of airport operations and collaboration decision making with common situational awareness, thereby enhancing aviation safety

3.4 A small planning meeting attended by the WGDRS Chair and the subgroup coordinators was held at Daegu, Republic of Korea on 1 - 3 Dec 2010. The meeting reviewed the progress report prepared by WGDRS-AeM, and developed a draft implementation plan with reference to the draft RA II Strategic Operating Plan (2011-2015) and the Terms of Reference of the WGDRS subgroups. Subgroup coordinators would collate input from their respective theme leaders to enhance and consolidate the draft plan. The need to enhance communication effectiveness among the subgroup coordinators, the theme leaders and the supporting experts was also recognized and discussed.

3.5 At the Daegu meeting, it was agreed that the work of WGDRS would be more effective if effort was focused on a few selected DRR aspects. In this connection, a teleconference was held with the Chief of WMO DRR programme on 17 Mar 2011 to discuss the way forward.

4. WORKING GROUP ON DISASTER RISK REDUCTION AND SERVICE DELIVERY (WGDRS): SUB-GROUP ON SERVICE DELIVERY (WGDRS-SD)

Summary

4.1 The Sub-Group on Service Delivery is progressing well. The coordinator of the sub-group has been leading the project, in consultation with colleagues and the project coordination committee members. The current activities include the elaboration of criteria for dangerous agro-meteorological phenomena and preparation of the general guidance methodology for agro-meteorological provision of agricultural products insurance.

Activities

4.2 In Russia (Rosgidromet of Russia and the All-Russian Research Institute of the Agricultural Meteorology (ARRIAM)) within a framework of the Project the researches on the elaboration of criteria for dangerous agro-meteorological phenomena in order to prevent the loss of agricultural crops yield have been conducted.

4.3 The criteria have been evaluated in the regional offices of Rosgidromet, corrected and taken as a basis of the «Guidance on methodology for agro-meteorological provision of agricultural products insurance (against natural disasters) developed for various agro-climatic regions of the Russian Federation».

4.4 The Guidance includes the list of dangerous agro-meteorological phenomena, their definition, the description of criteria, the methodology for calculation, and the algorithm for carrying out an expert examination on presence/absence of dangerous agro-meteorological phenomena for various agricultural crops.

4.5 The information support (meteorological, climate, agro-meteorological and agro-climate data) and examples of drafting the expert opinion are provided.

Suggestions

4.6 It seems helpful and even crucial to exchange materials and opinions on the projects predominantly via e-mail (not Skype or telephone). The major reason for that is the frequent technical and organizational problems.

PROGRESS REPORTS ON RA II PILOT PROJECTS

1. RA II Pilot Project on the Provision of City-Specific Numerical Weather Prediction (NWP) Products to Developing Countries via the Internet

Background

1.1 The RA II Pilot Project, initiated in the Thirteenth Session of the RA II in December 2004, on the Provision of City-Specific Numerical Weather Prediction (NWP) Products to Developing Countries via the Internet, has been progressing steadily. It aims at enhancing the capacity of National Meteorological Services of developing countries in the region, with the supply of city-specific NWP products by advanced meteorological centres.

Progress up to May 2011

1.2 City-specific forecast time series products, provided by Hong Kong, China; Japan and Republic of Korea, have been launched on their respective web sites since January 2006. By May 2011, 21 RA II Members, namely, Bahrain; Bangladesh; Bhutan; Cambodia; China; Hong Kong, China; Islamic Republic of Iran; Japan; Kazakhstan; Kyrgyzstan; Lao People's Democratic Republic; Mongolia; Myanmar; Nepal; Oman; Pakistan; Republic of Korea; Thailand; Uzbekistan; Viet Nam; and Yemen have joined the project. After the recent addition of products for Bahrain, Pakistan, Thailand and, city-specific forecast time series, including surface temperature, relativity humidity, cloud coverage, precipitation, and wind speed and direction, etc, for some 210 cities are being provided to the Members via the Internet twice daily.

1.3 To facilitate participating Members to utilize and interpret the forecasts, WMO VCP training courses on "Use and Interpretation of City-specific NWP Products" were held in Hong Kong, China in 2006 and 2008. A total of 14 WMO Members attended the courses. Besides speakers from Hong Kong, China, experts from Japan and Republic of Korea were invited to deliver talks.

1.4 To facilitate participating Members to develop their own data post-processing, a simple application software was developed by the Hong Kong Observatory (HKO) for them to try out verification and post-processing using the time series data from Hong Kong, China. JMA also provided software support to the participating Members to develop their own forecast guidance using the city-specific NWP products.

1.5 A survey on this RA II Pilot Project was conducted in end 2008 and the Members indicated that the products were generally useful. The access statistics of the web sites from January 2009 to May 2011 show that all participating Members made use of the websites.

1.6 The operational NWP system of the Republic of Korea was upgraded in mid-2010 and used for generating city-specific NWP products for all participating Members.

Work in 2011

1.7 A new high-resolution non-hydrostatic model will be commissioned in Hong Kong, China to replace the existing model for generation of NWP products under the Pilot Project. It is planned that more NWP products, such as vertical wind profiles as suggested by some Members in the survey, will be generated and supplied with the new model.

1.8 The Pilot Project has been on trial for several years. As the participating Members generally indicated that the products were useful, it is planned to declare the pilot project as operational in 2011, after consulting the RA II Management Group.

World Meteorological Organization

RAII Pilot Project on City-Specific NWP Products

Hong Kong, China

Latest Run: 2011051300UTC

- Forecast Time Series: [Hong Kong, China](#)
- [Download Data](#)

- [Background Information](#)
- [Product Description](#)
- [Model Description](#)
- [Notes to User](#)
- [Copyright & Disclaimer](#)
- [Contact](#)

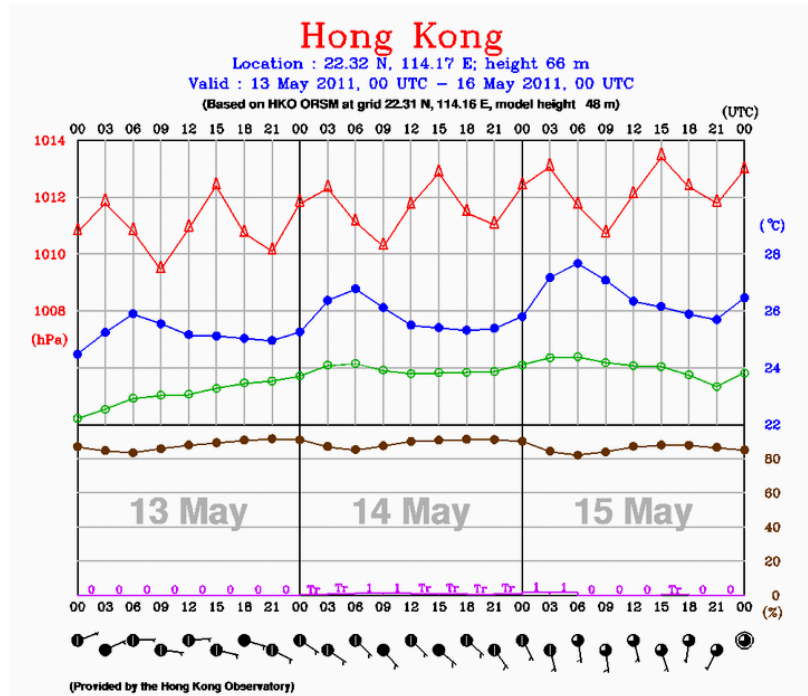
Links

- [World Meteorological Organization](#)
- [World Weather Information Service](#)
- [Severe Weather Information Centre](#)
- [HKO Website](#)

City-Specific NWP Products by Hong Kong Observatory



Hong Kong, China



Sample of the city-specific NWP products provided by the Hong Kong Observatory

2. RA II Pilot Project to Develop Support for Developing Countries in Aeronautical Meteorology Programme In Region II

Background

2.1 The Pilot Project to Develop Support for Developing Countries in Aeronautical Meteorology Programme (AeMP) was established by Regional Association II (Asia) at its thirteenth session in December 2004. The pilot project aims at developing numerical weather guidance products to the National Meteorological and Hydrological Services (NMHSs) of developing countries, and in particular Least Developed Countries (LDCs), in building their capacity in the provision of aviation weather services.

2.2 The pilot project is steered by a Coordination Group comprising experts from participating Members, including China; Cambodia; Hong Kong, China, Islamic Republic of Iran; Japan; Lao People's Democratic Republic; Mongolia; Myanmar; Nepal; and Yemen. The International Civil Aviation Organization (ICAO) and the two World Area Forecast Centres (WAFCs) were invited to participate as observers.

Progress up to May 2011

2.3 An Asian Aviation Weather Pilot Project Website (<http://www.aamets.org/>) was established by the China Meteorological Administration (CMA) and the Civil Aviation Administration of China (CAAC) in support of RA II Members, in close coordination with WMO and ICAO. The website features a suite of guidance products of numerical model output. The website became semi-operational in March 2007.

2.4 At the XIV-RA II session held in December 2008, the Regional Association established a Sub-Group on Aeronautical Meteorological Services (WGDRS-AeM), under the Working Group on

Disaster Risk Reduction and Service Delivery (WGDRS), with one of the terms of reference in promoting capacity-building activities related to the AeMP within the Region, in particular, the development and implementation of AeM-related pilot projects to assist NMHSs of developing countries in delivering aeronautical meteorological services, in particular SIGMET, TAF and flight documentation.

2.5 A number of enhancements were implemented on the Asian Aviation Weather Pilot Project Website in 2010 as follows:

- (a) Addition of SIGMET page in support of the SIGMET advisory trial of ICAO in RA II which takes place from 4 May 2011 to 31 July 2011 (Figure 1);
- (b) Provision of SIGMET assistance to Cambodia for capacity building. SIGMETs issued by China CAAC for Phnom Penh, Cambodia are provided through the AFTN and intended to be included in the Pilot Project website;
- (c) Enhancement of aeronautical meteorological products for en-route, including satellite-derived wind product (Figure 2) and additional numerical weather prediction guidance products (Figure 3); and
- (d) Upgrading of database for various data sources and hardware platform to enhance reliability.

2.6 The Pilot Project website was declared operational on 4 November 2010 in Beijing, China by Mr Jeremiah Lengoasa, Deputy Secretary-General of WMO. A "Regional Seminar on Aeronautical Meteorology Services in Asia", sponsored by CAAC and CMA, was held in Beijing, China on 11-15 April 2011. More than 40 delegates from 12 Asian countries and China participated in the Seminar.

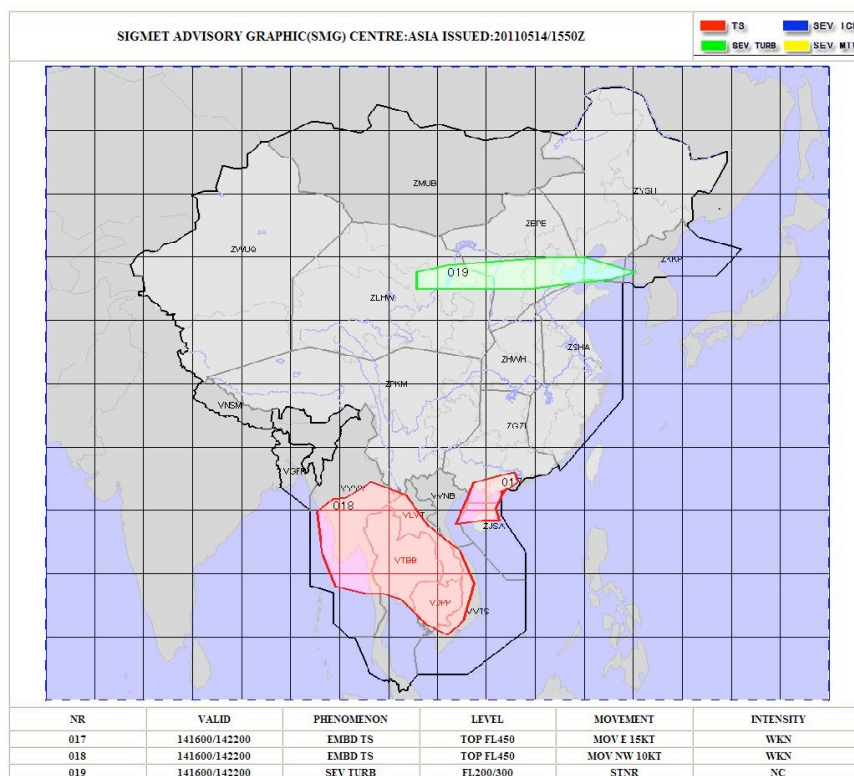


Figure 1 - Real-time SIGMET advisories for the trial in RA II

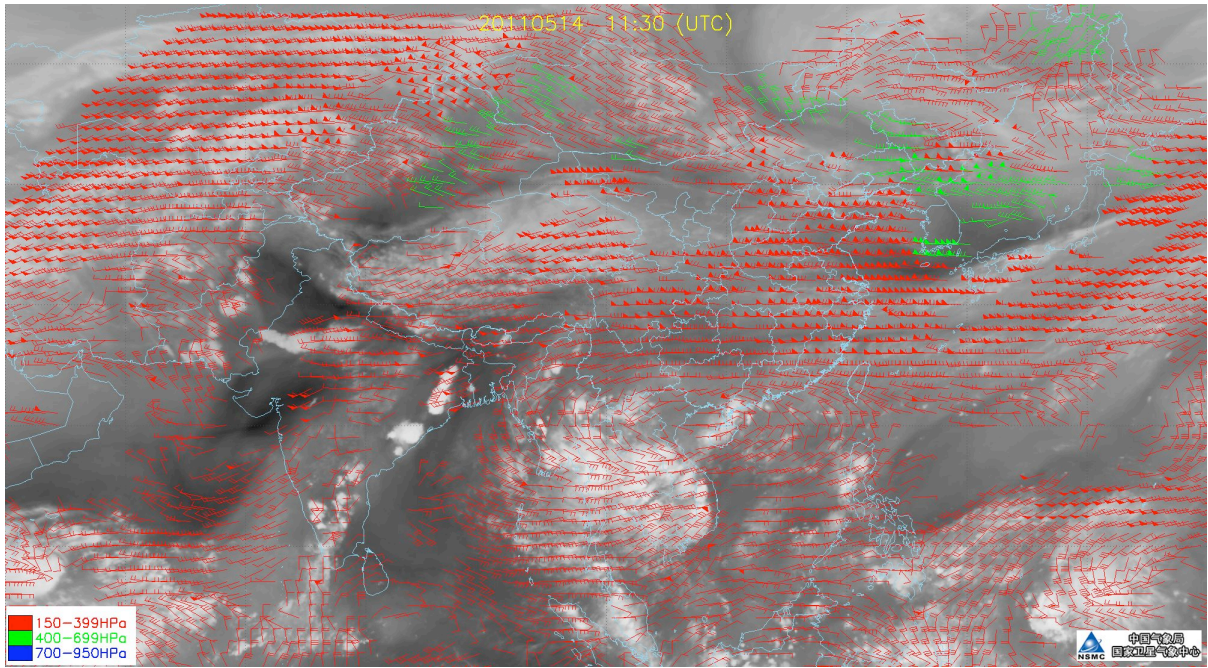


Figure 2 - Satellite-derived wind product

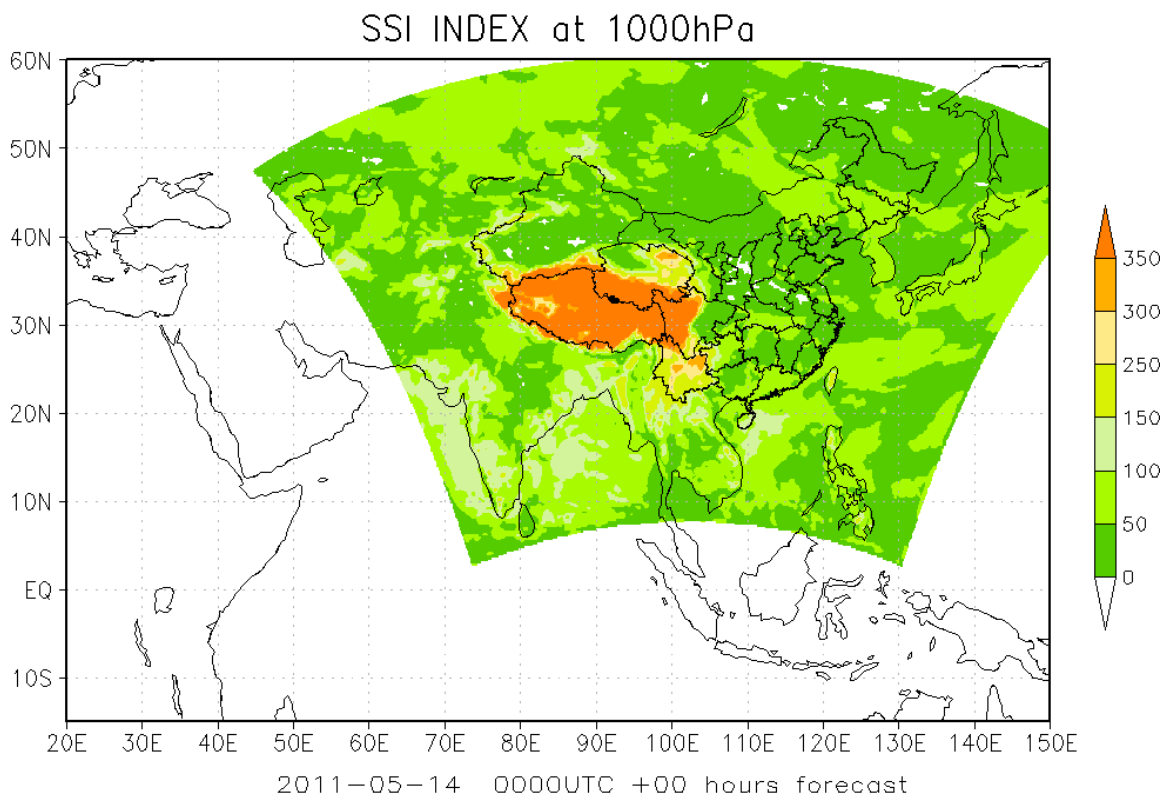


Figure 3 - Storm severity index product

3. RA II Pilot Project to Enhance the Availability and Quality Management Support for NMHSs in Surface, Climate and Upper-air Observations

Background

3.1 The Pilot Project to Enhance the Availability and Quality Management Support for NMHSs in Surface, Climate and Upper-air Observations was established at the fourteenth session of Regional Association II (Asia) in December 2008, to provide technical support to NMHSs of developing countries or least developed countries to ensure that quality assured observational data from weather, climate and upper-air stations are made available for the WWW, and the WIGOS and other relevant WMO Programmes, including the provision of relevant tools on a centralized website to meet the stated purpose, and training activities.

3.2 The Japan Meteorological Agency (JMA) was appointed as the Coordinator of the Coordinating Group of the Pilot Project at the session.

Progress up to May 2011

3.3 The mailing list (qm-obs@ml.kishou.go.jp) for the Coordinating Group has been available since the end of May 2010. The Coordinating Group members are able to send messages to all members through the mailing list for discussion about the Pilot Project.

3.4 As one of the activities of the Pilot Project, the questionnaire to assess the current status of the implementation of relevant observations, their provision and their quality management in RA II was conducted. The interim result of the survey was briefly reported to the JMA/WMO Workshop on Quality Management in Surface, Climate and Upper-air Observations in RA II (Asia).

3.5 The JMA/WMO Workshop on Quality Management in Surface, Climate and Upper-air Observations was held at the JMA Headquarters in Tokyo, Japan, from 27 July to 30 July 2010. Twenty-two experts from 20 NMHSs participated, including WMO representatives. The workshop identified a number of issues regarding the implementation and operation of surface, climate and upper-air observations, and noted that, among various factors, the most important ones affecting data quality in RA II are calibration and maintenance of the instruments. The workshop confirmed the importance of full utilization of RICs and promotion of capacity building, establishment of calibration laboratories within each NMHS for enhancement of data quality and availability in RA II. All materials of the workshop are available at the JMA website (http://www.jma.go.jp/jma/en/Activities/qmws_2010/qmws_2010.html).

Work in 2011

3.6 The Pilot Project should aim to realize the set of recommendations developed by the JMA/WMO Workshop on Quality Management in Surface, Climate and Upper-air Observations.

3.7 The results of the questionnaire conducted in 2010 would be thoroughly analyzed and reported in written form to share with the members of the Pilot Project, for future reference.

3.8 Exchange practices of the observations and their quality management in different NMHSs would be promoted through the vital information sharing of the Pilot Project Coordinating Group. Existing quality control/assurance procedures developed by Members would be collected by the Coordinator to be shared among Members.

3.9 Questionnaire on meteorological instruments, calibration and training in RA II would be conducted to gather necessary information on capability of calibrations of the RA II Members as well as their needs of RIC's services including provision of training materials and training events to the Members. This survey would be implemented by the cooperation of RIC Tsukuba and RIC Beijing together with RRC(s) in RA II.

4. RA II Pilot Project to Develop Support for NMHSs in Numerical Weather Prediction

Background

4.1 The Pilot Project to Develop Support for NMHSs in Numerical Weather Prediction (NWP) was established by Regional Association II (Asia) at its fourteenth session in December 2008. The pilot project aims at developing a consortium comprising NWP operators and product providers to support and assist National Meteorological and Hydrological Services (NMHSs) in their full use of NWP products and in the development of NWP activities suited to their circumstances, in their provision of weather services, including forecasts and warnings.

4.2 The pilot project is steered by a Coordination Group comprising experts from participating Members, with two experts of Hong Kong, China and Republic of Korea serving as co-coordinators.

Work up to May 2011

4.3 Questionnaire returns from Members of the Coordination Group were analyzed with a view to identifying the requirements on NWP application and research. Based on the results of the analysis, one or more community models for the RA II NWP consortium, which may be named the "Asian Consortium for NWP Forecasts" (ACNF), would be identified in the first phase of the project (2010 to 2012). Documentation, source code and tutorial of the use of the community model(s) would be provided through a website of ACNF.

4.4 In the first phase of the project, the ACNF website would also provide the existing NWP products from RA II Members, plus enhanced NWP products such as more frequently updated prognostic weather charts (every 3-6 hours), forecasts of tropical cyclone movement, intensity and wind distribution, as well as forecast charts of severe weather guidance.

4.5 In the second phase of the project (2013 to 2015), more advanced research and development topics would be covered in the ACNF website, such as tuning of the community NWP model(s), data assimilation, interpretation and applications of products from ensemble prediction systems (EPS).

5. RA II Pilot Project to Develop Support for NMHSs in Satellite Data, Products and Training (Second Phase: September 2010 – August 2011)

Background

5.1 The fourteenth session of WMO Regional Association II (XIV-RA II), held in Tashkent, Uzbekistan in December 2008, adopted a resolution to establish a pilot project for the development of support for National Meteorological and Hydrological Services (NMHSs) in the areas of satellite data, products and training. After the session, the WMO Secretariat invited WMO Members to join the Pilot Project Coordinating Group, whose members as of 30 April 2011 were: Japan (co-coordinator); Republic of Korea (co-coordinator); Bahrain; China; Hong Kong, China; India; Kyrgyzstan; Maldives; Oman; Pakistan; Russian Federation; Uzbekistan; Viet Nam; and, as an observer, EUMETSAT.

Mission

5.2 The project was established as a kind of self-help effort for NMHSs in RA II to make satellite-related information flow better. The major focus of the initiative is to facilitate the timely provision of satellite-related information by satellite operators themselves to users, i.e., NMHSs in RA II, especially developing countries including LDCs. As there are also other ongoing activities such as the Virtual Laboratory (VL), there is a need to create synergy and greater benefits with a lower level of exertion while avoiding duplication of effort.

Accomplishments

5.3 Accomplishments in the second phase of the RA II Pilot Project from September 2010 through August 2011 can be summarized as follows:

(1) Issuance of newsletters quarterly for RA II Members:

Vol. 2/No. 1, December 2010

Vol. 2/No. 2, May 2011

Contents have included:

- Information on access to satellite imagery, data and products including application products
- Outlines of currently available or planned training activities
- News on meteorological satellites
- News on new services
- Brief progress reports on the Pilot Project
- Introduction to the activities of other RAs and WMO VL activities

(2) Enhancement of RA II Pilot Project web pages on the WMO Space Programme (WMOSP) website hosted by WMOSP (<http://www.wmo.ch/pages/prog/sat/RAII-PilotProject.html>):

As initial content, the page includes:

- Introduction to RA II Pilot Project
- Newsletter archives

The following content will also be added:

- Information on access to satellite imagery, data, products and training
- RA II Pilot Project questionnaire relating to the availability and use of satellite data and products

(3) Enhancement of a mailing list for RA II Members and another one for Coordinating Group members

(4) Alignment of Pilot Project activities with Virtual Lab activities to optimize assistance to NMHSs in RA II

- Ongoing liaison with the WMO Secretariat and the VL Secretariat (EUMETSAT) for information sharing in order to optimize assistance to NMHSs while avoiding duplication of effort.

(5) The First Coordinating Group Meeting was held from 21 to 22 February 2011 at the JMA Headquarters in Tokyo, Japan. In attendance were representatives from six meteorological satellite operators and from eight satellite data user NMHSs and from the WMO Space Programme and WMO Regional Office for Asia and the South-West Pacific. Pilot actions were agreed towards improved and harmonized information of the users on the availability and characteristics of satellite products.
