

REGIONAL ASSOCIATION V (SOUTH-WEST PACIFIC)

THIRTEENTH SESSION OF THE RA V MANAGEMENT GROUP

GENEVA, 29 May 2015

FINAL REPORT



WORLD METEOROLOGICAL ORGANIZATION

**THIRTEENTH SESSION OF THE RA V MANAGEMENT GROUP
(Geneva, Switzerland, 29 May 2015)**

1. ORGANIZATION OF THE SESSION

1.1 The thirteenth session of the RA V Management Group (MG-13) was held at Salle 18 of the International Conference Centre – Geneva (CICG) on Friday, 29 May 2015, during the seventeenth session of the World Meteorological Congress. Dr Andi Eka Sakya, president of RA V, opened the session at 13:30 on 29 May 2015. The Group adopted the provisional agenda as given in **Annex I**.

2. MATTERS ARISING FROM THE TWELFTH SESSION

2.1 The Group recalled that the twelfth session of the RA V Management Group (MG-12: Geneva, 23 June 2014) focused on the outcomes of the sixteenth session of Regional Association V (RA V-16), the fifteenth session of the RA V Tropical Cyclone Committee (TCC) and follow ups on the sixteenth session of Regional Association V including the nomination of membership and the development of the RA V Operating Plan 2016-2019.

2.2 The Group was informed of the outcomes of the fifteenth session of the RA V TCC including the designation of its current Chairperson, Mr Mike Bergin (Australia) to continue to lead the Committee while they are seeking for a new Chairperson of the TCC.

2.3 The Group requested the Secretariat to inform the RA V Members of the membership status agreed at the MG-12 and solicit further nominations for the vacancies by the end of July 2014. The Group also agreed that the president should finalize the membership of Leads/Vice Leads of WGs in consultation with MG members, and the newly appointed Leads/Vice Leads of WGs and the Chairperson of TCC should submit the membership of experts of Task Teams in consultation with MG members to the president of the Association for approval.

3. FOLLOW-UP TO THE SIXTEENTH SESSION OF REGIONAL ASSOCIATION V

3.1 Membership of RA V Subsidiary Bodies

3.1.1 The Group noted that the 99 nominations were received from Members including the Leads/Vice-Leads of the Working Groups and experts for the Task Team. The membership of Leads/Vice-Leads of WGs, except for the Vice-Lead of WG-INFR, was approved as the first step on 21 October 2014 by the president of the Association in consultation with RA V MG Members, and the newly appointed Leads of WGs and the Chairperson of the TCC contributed to the selection of the Vice-Lead of WG-INFR, and Task Team Leaders and experts of WGs and TCC, in consultation with the Technical Departments in the Secretariat. The proposed membership of RA V subsidiary bodies is attached in **Annex II**.

3.1.2 The Group was informed by the Permanent Representative of Malaysia with WMO that due to the rotation program within MMD, Malaysia proposed to change some of its nomination to the WGs. The Group agreed that Malaysia would submit new names for the respective WGs to the president.

3.1.3 The Group agreed that the membership would be effective until the new membership is decided by the session or president of the Association in consultation with Management Group.

3.2 RA V Work Plan of Working Groups and Tropical Cyclone Committee

3.2.1 The Group noted that the draft RA V Working Group Work Plan for 2014-2015 was prepared by the previous WG Leads and TCC Chairperson and further updated by the newly elected WG Leads and TCC Chairperson in consultation with Technical Departments in the Secretariat, and the RA V WGs/TCC activities will be conducted and evaluated based on the Work Plan. The RA V Operating Plan 2016-2019 will be developed in conjunction with the current Work Plan.

3.2.2 The Group noted that the RA V Working Group Work Plan 2014-2015 has been reviewed by the MG and approved by the president of the Association as attached in **Annex III**.

3.2.3 The Group requested the Leads/Vice-Leads of WGs and Chairperson of the TCC to facilitate successful implementation of the current RA V Work Plan in cooperation with other TT members.

3.3 RA V Operating Plan 2016-2019

3.3.1 The Group recalled that MG-11 agreed that Mr Jon Gill (Australia) would take the lead on the development of the RA V Operating Plan 2016-2019 and that MG-12 expressed its appreciation to Mr Jon Gill, Chairperson of TT-SOP for the preparation of the draft RA V Operating Plan 2016-2019, and commended the Leads of WGs, the Chairperson of the TCC, and WMO Technical Departments for providing inputs to the RA V Operating Plan 2016-2019.

3.3.2 The Group noted that the draft RA V Operating Plan 2016-2019 as part of the WMO-wide Operating Plan 2016-2019 was initially developed by the previous Leads of the WGs and Chairperson of the TCC. The Group noted that the draft RA V Operating Plan 2016-2019 has been further improved by newly elected Leads/Vice-Leads of the WGs and Chairperson of the TCC in consultation with the WMO Technical Departments. The draft Operating Plan has been aligned with the regional priorities in RA V decided by the sixteenth session of Regional Association V (RA V-16) and also with activities contained in the Pacific Islands Meteorological Strategy (PIMS) 2012-2022 as requested by the RA V-16. The draft Operating Plan 2016-2019 is attached in **Annex IV**.

3.3.3 The Group agreed to rename the TT-SOP to an ad-hoc Task Team on RA V Operating Plan 2016-2019 (RA V TT-OP 2016-2019) and recommended the Leads and Vice-Leads of WGs, and Chairperson of the TCC to serve as members of the Task Team. The Group requested Mr Jon Gill (Australia) to continue leading the RA V TT-OP 2016-2019 as the Chairperson.

3.3.4 The Group requested the Chairperson of RA V TT-OP 2016-2019 to complete the RA V Operating Plan 2016-2019 in reference to the WMO Strategic Plan 2016-2019 in cooperation with the WMO Technical Departments, and submit the RA V Operating Plan 2016-2019 to the president of RA V for approval in consultation with MG members by the beginning of the next financial period.

4. REGIONAL ACTIVITIES IN 2015

4.1 The Group reviewed the budgeted regional activities in 2012-2015 proposed by the Secretariat, as listed in **Annex V**.

4.2 The Group was informed that Regional Forum on Meteorological Services for Aviation Safety in Southeast Asia was held on 29–30 April 2015, Jakarta, Indonesia in order to identify and build a collaborative mechanism among the aviation community including the NMHSs, air traffic services and airlines for improving the aeronautical meteorological services as a contribution to the aviation safety, regularity and efficiency in the region. The Group was also pleased to note that Indonesia agreed to host the Joint RA II/RA V Workshop on WIGOS for Disaster Risk Reduction on 13-15 October 2015. The Group expressed their appreciation to the Government of Indonesia for the initiatives on the Inter-Regional activities for the implementation of the high priority WMO Programs.

4.3 The Group was informed that in response to the request from the Permanent Representative of Vanuatu with WMO, WMO organized a Post-Tropical Cyclone Pam Expert Mission to Vanuatu. The mission was conducted from 20 to 24 April 2015 to assess the current capacity and capability of the Vanuatu Meteorology and Geo-Hazards Department (VMGD) and requirements of relevant authorities in Vanuatu. The mission team was composed of the Chairperson of RA V TCC, an expert on observing infrastructures from Australia Bureau of Meteorology (BoM), the representative of RSMC Nadi/Fiji Meteorological Service and the representative of the WMO Secretariat.

4.4 The Group was informed of additional events related to WMO programmes, weather, climate and water that had been organized or to be organized during the latter part of 2015 by either WMO or WMO and its partners, in 2015 as given in [Annex VI](#).

5. REGIONAL FORUM FOR DIRECTORS OF NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES (NMHSs) IN REGIONAL ASSOCIATION V

5.1 The Group was pleased to note that the Government of Fiji agreed to host the Regional Forum for Directors of NMHSs in Regional Association V in later part of 2015.

5.2 The Group reviewed and agreed with the draft concept note of the Regional Forum as attached in [Annex VII](#). The Group was also pleased to note that the Permanent Representative of Fiji with WMO proposed to hold the Forum tentatively in 27-29 October 2015 in Nadi, Fiji. The Group requested the Secretariat to inform the Members of date as early as possible for the preparation of their participation in the Forum.

6. OTHER BUSINESS

6.1 The Group was informed of the progress in the assessment of the locations of Regional Office for Asia and the West-Pacific. The Group noted that the site visits to potential host countries had been finished and the final decision would be made by the Secretary-General later this year.

6.2 The Group noted the concerns of the Pacific Members in regard to tsunami early warning, which is not covered as part of MHEWS in the Pacific by the subsidiary bodies of RA V. The Group was informed that a concept paper will be drawn up by Mr 'Ofa Fa'Anunu, on his capacity as the Vice President of RA V and also as the Chair of the Southwest Pacific Tsunami Working Group of Intergovernmental Oceanographic Commission (IOC) and the Chair of the Pacific Meteorological Council.

7. CLOSURE OF THE SESSION

7.1 The president thanked all the participants for their fruitful discussion and expressed his satisfaction with the outcomes made in the session. He also thanked the WMO Secretariat for the arrangements for the session.

7.2 The thirteenth session of the RA V Management Group closed at 14:30 on 29 May 2015. The list of participants is attached as **Annex VIII** to this report.

THIRTEENTH SESSION OF THE RA V MANAGEMENT GROUP
(Geneva, Switzerland, 29 May 2015)

AGENDA

1. Organization of the Session
 2. Matters arising from the Twelfth Session
 3. Follow-up to the RA V-16 Session
 - 3.1 Membership of RA V Subsidiary Bodies
 - 3.2 Work Plans of Working Groups
 - 3.3 RA V Strategic Operating Plan 2016-2019
 4. Regional Activities in 2015
 5. Regional Forum for Directors of National Meteorological and Hydrological Services (NMHSs) in Regional Association V.
 6. Other Business
 7. Closure of the Session
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ANNEX II

RA V Subsidiary Body Members

TCC: Tropical Cyclone Committee for the South Pacific and South-East Indian Oceans

TCC		Name	Country
Chair		Mr Mike BERGIN	Australia
Task Team on Severe Weather Forecast and Disaster Risk Reduction including Data Processing and Forecasting System (TT-SWFD/DPFS)	TT Leader	Mr James LUNNY	New Zealand
	Expert	Mr Moleni TU'UHOLOAKI	Tonga
		Mr Tom EVANS	USA
		Mr A. Fachri RADJAB	Indonesia
		Misaeli Funaki	Fiji
Task Team on Coastal Inundation including Storm Surge (TT-CISS)	TT Leader	Dr Jamie RHOME	USA
	Expert	Mr Reginald HINGANO	Tonga
		Mr Agus Wahyu RAHARJO	Indonesia
		Terry Atalifo	Fiji

WG-HYS: Working Group on Hydrological Services

WG-HYS		Name	Country
Lead		Mr John FENWICK	New Zealand
Vice-Lead		Dr SUPRAPTO	Indonesia
		Mr Roy A. BADILLA	Philippines
Members Task Team on Training and Capacity Building in Hydrology (TT-TCB-H)	TT Leader	Mr Petrus SYARIMAN	Indonesia
	Expert	Mr PAAT	Philippines
		Mr Taaniela KULA	Tonga
		Mr Lameko ASORA	Samoa
Task Team of Hydrology Database Management (TT-HDM)	TT Leader	Ms Margaret BAUTISTA	Philippines
	Expert	Mr Roddy HENDERSON	New Zealand
		Dr Eka NUGRAHA ABDI	Indonesia
		Mr Taaniela KULA	Tonga
Task Team on Disaster Risk Reduction – Water-related	TT Leader	Mr Jeff PERKINS	Australia
	Expert	Dr Christian ZAMMIT	New Zealand

Disasters (TT-DRR-W)		Dr William Marcus PUTUHENA	Indonesia
		Mr Taaniela KULA	Tonga
		Mr 'Ofa FA'ANUNU	Tonga
Task Team on Water and Climate (TT-WC)	TT Leader	Dr Christian ZAMMIT	New Zealand
	Expert	Dr Fransisca MULYANTARI	Indonesia
		Dr Erwin E. S. MAKMUR	Indonesia
		Mr Taaniela KULA	Tonga
	Mr Mafutaga LEIOFI	Samoa	

WG-WXS: Working Group on Weather Services

WG-WXS		Name	Country
Lead		Mr Raymond TANABE	USA
Vice-Lead		Dr Landrico Ureta DALIDA Jr.	Philippines
		Mr Grahame READER	Australia
Task Team on Cost Recovery (TT-CR)	TT Leader	Mr 'Ofa FA'ANUNU	Tonga
Task Team on Quality Management(TT-QM)	TT Leader	Ms Helen TSEROS	Australia
	Expert	Mr Teck Kiong WONG	Malaysia
Task Team on Training, Competencies and Qualifications (TT-TRG)	TT Leader	Ms Lih Mei LIM	Singapore
	Expert	Dr Cynthia P. CELEBRE	Philippines
		Amit Singh	Fiji
Task Team on Weather Services Implementation(TT-IMP)	TT Leader	Dr Mohd Hisham MOHD ANIP	Malaysia
	Expert	Mr M. PRABOWO	Indonesia

WG-CLS: Working Group on Climate Services

WG-CLS		Name	Country
Lead		Dr Flaviana D. HILARIO	Philippines
Vice-Lead		Dr John Leonard McBRIDE	Singapore
		Prof Dr Edvin ALDRIAN	Indonesia
Task Team on Climate Information and Prediction	TT Leader	Mr John MARRA	USA

Services including Regional Climate Centres (RCCs) and Regional Climate Outlook Forum (RCOF) (TT-CLIPS)	Expert	Mr Raizan RAHMAT	Singapore
		Mr Simon McGREE	Australia
Task Team on Climate Data Management/Data Rescue (TT-CDM)	TT Leader	Ms Meaghan FLANNERY	Australia
	Expert	Mrs Seluvaia FINAULAH	Tonga
		Mr Howard DIAMOND	USA
Task Team on Climate Change (TT-CC)	TT Leader	Mr Muhammad Helmi ABDULLAH	Malaysia
	Expert	Ms Thelma A. CINCO	Philippines
Task Team on Use of Improved Tools for Operational Agro-meteorology including Coping with Impacts of Natural Disasters on Agriculture (TT-ITA)	TT Leader	Dr Andrew TAIT	New Zealand
	Expert	Mr Haris SYAHBUDDIN	Indonesia
Task Team on Agro-meteorological Information (TT-AIF)	TT Leader	Ms Edna L. JUANILLO	Philippines
	Expert	Mrs Nelly Florida RIAMA	Indonesia

WG-INFR: Working Group on Infrastructure

WG-INFR		Name	Country
Lead		Mr Karl MONNIK	Australia
Vice-Lead		Mr Edward TRIHADI	Indonesia
Task Team on WIGOS (TT-WIGOS)	TT Leader	Mr Karl MONNIK	Australia
Task Team on Satellite Utilization (TT-SU)	TT Leader	Ms Agnes LANE	Australia
	Expert	Mr Vicente P. PALCON, JR.	Philippines
Task Team on Regional Implementation and Operation of WIS (TT-WIS)	TT Leader	Mr Huat Aik CHOO	Singapore
	Expert	Mrs Endang PUDJIASTUTI	Indonesia
Task Team on Observations Quality Management (TT-OQM)	TT Leader	Mr Ab Llah CHE COB	Malaysia
	Expert	Mr Selusalema VITE	Tonga
Task Team on Aircraft Based Observations (to be formed only if experts are available) (TT-ABO)	TT Leader	Mr Syamsul HUDA	Indonesia
	Expert	Mr Douglas BODY	Australia

RA V Working Group Work Plan 2014-2015

Expected Result 1(ER 1):

Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate and water and related environmental predictions, information and services in response to users' needs and to enable their use in decision-making by all relevant societal sectors

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeliness				Responsible
					2014	2015	2016	2017	
RKO 1.1.1: Aviation weather services are effective and sustainable	<ul style="list-style-type: none"> Level of compliance with ICAO standards and recommended practices (SARPS) 	<ul style="list-style-type: none"> Members 	<ul style="list-style-type: none"> Timely and accurate weather forecast/warning 	<ul style="list-style-type: none"> Client survey to be done at least once a year Attachment /training at world class meteorological centre in weather analysis, forecast and warning for aeronautical purposes (military and civil aviation) 	X	X			Members
		<ul style="list-style-type: none"> Aeronautical Meteorology Programme WG Weather Services 	<ul style="list-style-type: none"> Minimal disruption of access to forecasts during peak hours/seasons. 	<ul style="list-style-type: none"> Enhance telecommunication network capacity and increase number of value-added products. 	X	X			Members
			1) RA-V TT-QM Implementation of QMS for Aviation Meteorological Service Providers	1) RA-V TT-QM <ul style="list-style-type: none"> Input into QMS survey QMS guidance (WMO webpage & forum, input into WMO/ICAO publications and COMET module) 	X	X			WG-WXS

				<ul style="list-style-type: none"> • Internal Auditor Training • 'Twinning' to mentor Members on QMS processes and audits • Lead Auditor training (international qualification) 					
			2) RA-V TT-CR Implementation of Cost Recovery for Aviation Meteorological Service Providers	2) RA-V TT-CR <ul style="list-style-type: none"> • Survey • Guidance • Assistance with cost recovery implementation 		X			WG-WXS
			3) RA-V TT-TRG Implementation of Competency Assessment for Aviation Meteorological Service Providers	3) RA-V TT-TRG <ul style="list-style-type: none"> • Survey • Guidance to assist Members • Assist Members with implementation, including Competency training in Samoa and TAF/SIGMET in Solomon Is. 	X	X			WG-WXS
RKO 1.1.2: Marine services are improved	<ul style="list-style-type: none"> • Level of satisfaction of users • Level of accuracy of marine forecasts and warnings 	<ul style="list-style-type: none"> • Members • Marine Meteorology and Oceanography Programme 	<ul style="list-style-type: none"> • Enhanced wave modelling and NWP products. 	<ul style="list-style-type: none"> • Enhanced wave modelling capability, including 3 wave models with wind inputs from NCEP-GFS and 	X	X			Members

				NAVGEN (now running operationally).					
		• WG Weather Services	• Ferry operators, port authorities and enforcement agencies obtain marine forecasts.	• Provide forecasts for marine activities • Client summary at least once a year	X	X			Members
RKO 1.1.3: Public weather services are improved	<ul style="list-style-type: none"> Level of satisfaction of users Level of accuracy of public forecasts and warnings 	• Members	• Accuracy of public forecasts and warnings is improved	• Inter-agency committee is formed to conduct research on the improvement of forecast accuracy	X	X			Members
		• Public Weather Services Programme							
		• WG Weather Services	• Forecasts are displayed at billboards located along the major expressways.	• Enhance NWP limited area model, including MMD-WRF high resolution model (1-4 KM).	X	X			Members
			• Timely and accurate weather forecast/warning	• Provide forecasts to motorists at major expressways	X	X			Members
			<ul style="list-style-type: none"> Increase value-added forecasts available online. Enhanced human capital development. 	<ul style="list-style-type: none"> Attachment /training at world class meteorological centre Client survey to be done at least once a year. 	X	X			Members
			• Weather advisory and weather briefing as		X	X			Members

				requested					
				<ul style="list-style-type: none"> • Lectures/training on meteorological courses. • Forecast for Search and Rescue (SAR) operations. 					

Expected Result 2 (ER 2):

Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate and water and related environmental elements

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeliness				Responsible
					2014	2015	2016	2017	
RKO 2.1.1: Multi-hazard early warning systems are implemented and improved	<ul style="list-style-type: none"> • Completion of Tropical Cyclone Operational Plan (TCOP) milestones • Level of success of the Severe Weather Forecast and Disaster risk reduction Demonstration Project (SWFDDP) including any western window extension • Level of implementation including coverage and number of hazards of multi-hazard early warning systems • Number and degree of integration of NMHSs into national emergency and disaster management systems 	<ul style="list-style-type: none"> • Members • World Weather Watch Programme / Data Processing and Forecasting 	<ul style="list-style-type: none"> • Disaster management agencies received advisories/warnings via various channels (SMS, telephone calls and fax) 	<ul style="list-style-type: none"> • Communicate advisories/warnings to disaster management authorities 	X	X			Members

	<ul style="list-style-type: none"> Level of cooperation and interaction between NMHSs and their marine/ocean/geophysical agency counterparts, and between WMO and IOC in supporting national and regional tsunami early warning systems Level of implementation of WMO standards for the format and content of alerts, in particular the Common Alerting Protocol (CAP) 	<ul style="list-style-type: none"> Tropical Cyclone Programme Disaster Risk Reduction Programme 							
		<ul style="list-style-type: none"> Tropical Cyclone Committee (linked to RSMT for SWFDDP) 	<ul style="list-style-type: none"> Provision of early warning disaster information to the government and stakeholders 	<ul style="list-style-type: none"> Briefing to the disaster committee Implementation of WMO standards for the format and content of alerts, in particular the Common Alerting Protocol (CAP) 	X	X			Members
RKO 2.2.1: Flood warnings are improved	<ul style="list-style-type: none"> Level of accuracy and timeliness of flood warnings 	<ul style="list-style-type: none"> Members 	<ul style="list-style-type: none"> Improved awareness of and implementation of Flood Forecasting Systems and Techniques 	<ul style="list-style-type: none"> Implementation of FFGS in the Region: Reports on regional applications; IFAS, TopNet, IFFRM, Delft-FEWS etc 	X	X			Members
		<ul style="list-style-type: none"> WG Hydrological Services 	<ul style="list-style-type: none"> More hydrological inputs are delivered to DRR communities 	<ul style="list-style-type: none"> Hydrological inputs to end-to-end multi-disaster warning systems - CIFDP 	X	X			Members
			<ul style="list-style-type: none"> Improved Quantitative Precipitation Estimates and Forecasts 	<ul style="list-style-type: none"> Joint activities with SWFDP 	X	X			Members

			<ul style="list-style-type: none"> Guidance on rainfall based flood forecasts 	<ul style="list-style-type: none"> Development of guidance material 	X	X			WG-HYS
			<ul style="list-style-type: none"> Improved understanding and awareness of seasonal predictions 	<ul style="list-style-type: none"> Evaluate accuracy of seasonal predictions for water management purposes; Improve water elements in CliDE; 	X	X			Members
			<ul style="list-style-type: none"> Benefits achieved for the water sector through the implementation of GFCS 	<ul style="list-style-type: none"> Involvement in GFCS activities Represent WG in GFCS initiatives 	X	X			Members

Expected Result 3 (ER 3):

Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, prediction and warnings to support in particular climate impact and adaptation strategies

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeliness		Responsible
					2014	2015	
RKO 3.1.1: Climate information and prediction services are improved	<ul style="list-style-type: none"> Level of accuracy of monthly/seasonal predictions Level of application of, and satisfaction with, climate services 	Priority Area <ul style="list-style-type: none"> Members 	<ul style="list-style-type: none"> Technical papers and maps of surface air temperature element published 	<ul style="list-style-type: none"> Conduct research on modelling of surface air temperature Assessment of the accuracy of dynamical seasonal climate forecast in developing countries 	X	X	Members
	<ul style="list-style-type: none"> Level of implementation of regional aspects of GFCS including 	<ul style="list-style-type: none"> World Climate Programme 	<ul style="list-style-type: none"> Seasonal outlook 	<ul style="list-style-type: none"> Monthly updates 	X	X	Members

	RCCs									
	<ul style="list-style-type: none"> Level of contribution of RA V Members to the WMO Annual Climate Summary 	<ul style="list-style-type: none"> WG Climate Services 		<ul style="list-style-type: none"> Provision of climate services to relevant agency 						Members
RKO 3.3.1: Hydrological information is improved	<ul style="list-style-type: none"> Accuracy of information, and coverage, and density, of hydrological observations 	<ul style="list-style-type: none"> Members 	<ul style="list-style-type: none"> Guidance material on the establishment of a quality assurance programme, including finance strategies 	<ul style="list-style-type: none"> Development of a guidance manual with case studies 	X	X				Members
		<ul style="list-style-type: none"> Hydrology and Water Resources Programme 	<ul style="list-style-type: none"> Guidance and training on water information systems, Neon and Delft-FEWS 	<ul style="list-style-type: none"> Workshop on improved presentation of hydrological data and information 		X				WG-HYS
		<ul style="list-style-type: none"> WG Hydrological Services 	<ul style="list-style-type: none"> Pacific HYCOS Phase II concept document 	<ul style="list-style-type: none"> Establish a sub-group of the WG to develop concept document; consultancy 	X	X				WG-HYS
			<ul style="list-style-type: none"> SEA HYCOS Phase I concept document 	<ul style="list-style-type: none"> Establish a sub-group of the WG to develop concept document; consultancy 		X				WG-HYS

Expected Result 4 (ER 4):

Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable surface-based and space-based systems for weather, climate and hydrological observations, as well as related environmental observations, based on world standards set by WMO and partner organizations

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeliness				Responsible
					2014	2015	2016	2017	

RKO 4.1.1: WIGOS is implemented in RA-V	<ul style="list-style-type: none"> Traceability of observations Availability of station metadata 	<ul style="list-style-type: none"> Members Space Programme 		<ul style="list-style-type: none"> Identify and promote opportunities to enhance the capacity of Members in RA-V to achieve traceability 	X	X	X	X	WG-INFR
	<ul style="list-style-type: none"> Regional WIGOS Implementation Plan is Developed Regional priorities for observing system development documented 	<ul style="list-style-type: none"> Global Climate Observing System World Weather Watch Programme World Climate Programme / Global Observing System World Weather Watch Programme / Instruments and Methods of Observation Programme World Weather Watch Programme / WMO Integrated Global Observing System WG Infrastructure 	<ul style="list-style-type: none"> Documented RA V user requirements and priorities for satellite data and products 	<ul style="list-style-type: none"> Follow the CBS / Space Programme guidelines for documenting Regional satellite requirements RA V Surface Observations User Requirements update 	X	X			WG-INFR
RKO 4.1.2: Observing networks	<ul style="list-style-type: none"> Level of implementation of RBSN and RBCN including GSN and GUAN 	<ul style="list-style-type: none"> Members 	<ul style="list-style-type: none"> More complete implementation of basic networks 	<ul style="list-style-type: none"> Regularly review monitoring reports and bring to the 	X	X			Members

<p>are further improved in RA-V</p>	<ul style="list-style-type: none"> • Level of implementation of hydrological networks • Level of implementation of marine observations • Progress against GOOS, GTOS and GCOS Regional Action Plans 	<ul style="list-style-type: none"> • World Weather Watch Programme • World Climate Programme / Global Observing System • Hydrology and Water Resources Programme • Marine Meteorology and Oceanography Programme • WG Infrastructure • WG Hydrological Services 	<p>(RBSN and RBCN including GSN and GUAN)</p>	<p>attention of Member countries</p> <ul style="list-style-type: none"> • Audit of external (non-NHMS) observation networks 			X	X	
<p>RKO 4.2.1: WIS is implemented in RA-V</p>	<ul style="list-style-type: none"> • Extent of participation in international exchange through the WIS / GTS • Existence of, and progress against, a regional implementation strategy for WIS / DAR services • Extent to which communication needs of members are met • Level of use of NWP products 	<ul style="list-style-type: none"> • Members • World Weather Watch Programme / WMO Information System Programme • World Climate Programme 	<ul style="list-style-type: none"> • Migration to the use of Table Driven Code Forms (TDCF) • Regional WIS Implementa 	<ul style="list-style-type: none"> • Training and support provided to Members • Prepare a draft plan, circulate for 	X				<p>WG-INFR</p> <p>WG-INFR</p>

RKO 4.3.1: Historical climatological data are preserved	accessed via WIS	e	tion Plan	review then update it and obtain endorsement					
	<ul style="list-style-type: none"> Level of availability of long period, rescued, digitized climate records with appropriate metadata 	<ul style="list-style-type: none"> Members World Climate Programme WG Climate Services 	<ul style="list-style-type: none"> Meteorological database 	<ul style="list-style-type: none"> Manage and maintain the meteorological database Contributing in Global Framework Climate Services 	X	X			Members

Expected Result 5 (ER 5):

Enhanced capabilities of Members to contribute to and draw benefits from the global research capacity for weather, climate, water and environmental science and technology development

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeliness				Responsible
					2014	2015	2016	2017	
RKO 5.3.1 Atmospheric chemistry observations and assessment meet regional needs	<ul style="list-style-type: none"> Level of implementation of GAW 	<ul style="list-style-type: none"> Members Global Atmospheric Programme 	<ul style="list-style-type: none"> 1 Global Station and 2 regional/ contributing stations 	<ul style="list-style-type: none"> Maintenance/ enhancement of Global Atmosphere Watch (GAW) stations in the country Support training and capacity building activities related to atmospheric chemistry 	X	X			Members
			<ul style="list-style-type: none"> Monthly air quality bulletin Annual air quality report 	<ul style="list-style-type: none"> Continuation/ enhancement of Global Atmosphere Watch (GAW) activities in the country Enhance the technical exchange and cooperation on 	X	X			Members

				atmospheric composition observation					
RKO 5.5.1: ENSO, IOD, monsoons and MJO predictions are improved	<ul style="list-style-type: none"> Level of understanding of these phenomena 	<ul style="list-style-type: none"> Members 	<ul style="list-style-type: none"> Accuracy (temporal and spatial) of forecasts/warnings are enhanced 	<ul style="list-style-type: none"> Perform studies on monsoons and their interactions with ENSO, IOD and MJO 	X	X			Members
	<ul style="list-style-type: none"> Level of predictive skill for these phenomena 	<ul style="list-style-type: none"> World Weather Programme 2. WG Climate Services 	<ul style="list-style-type: none"> Accuracy (temporal and spatial) of forecasts/warnings are enhanced Lead time of heavy rainfall warning is increased 	<ul style="list-style-type: none"> Conduct research on high impact weather events related to monsoons such as heavy rainfall episodes due to cold surge 	X	X			Members

Expected Result 6 (ER 6):

Enhanced capabilities of NMHSs, in particular in developing and least developed countries, to fulfill their mandates

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeline		Responsible
					2014	2015	
RKO 6.1.1: Regional and national meteorological and hydrological services are more effective	<ul style="list-style-type: none"> Extent of implementation of recommendations of SPREP review on regional meteorological services 	<ul style="list-style-type: none"> Members 	<ul style="list-style-type: none"> A set of competencies for provision of hydrological services, including technicians and professionals 	<ul style="list-style-type: none"> Establish a sub-group of the WG to develop appropriate competencies and related training requirements 	X	X	WG
	<ul style="list-style-type: none"> Availability of, and progress against, national plans for improved products and services 	<ul style="list-style-type: none"> Least Developed Countries Programme / Regional Programme (in partnership with SPREP) 	<ul style="list-style-type: none"> Technical training carried out in at least one country per year (topics to include highest priority as determined by Members) 	<ul style="list-style-type: none"> Identify Members requiring this training; seek sponsorship; undertake the training; 	X	X	Members

		<ul style="list-style-type: none"> Hydrology and Water Resources Programme / Regional Programme (in partnership with SOPAC/SOPAC) 	<ul style="list-style-type: none"> Training in quality assurance to be provided 	<ul style="list-style-type: none"> Training session based on guidance material developed under data management theme 		X	Members
			<ul style="list-style-type: none"> Catalogue of available of technology in use in the Region 	<ul style="list-style-type: none"> Survey of instrumentation in use; 		X	WG-HYS
			Reinforced communication platform for hydrological services in the region	<ul style="list-style-type: none"> Build on IWRM forum, e-mail and other platforms 		X	WG-HYS

Expected Result 7 (ER 7):

New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to increase the value of the contributions of WMO within the United Nations system, relevant international conventions and national strategies

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeliness				Responsible
					2014	2015	2016	2017	

Expected Result 8 (ER 8):

An effective and efficient Organization

Key Outcomes	Key Performance Indicators	Contributing Programmes	Deliverables	Activities	Timeliness				Responsible
					2014	2015	2016	2017	

RA V OP 2016-2019

DEPT	BRA NCH	ER	KEY OUT COM E	KEY PERFO RMANC E INDICA TOR	DELIVERAB LE	PROR GAMM E	TC	RE GIO N	LDC s, SIDS , GEN DER	ACTIVITY	Y2 01 6	Y2 01 7	Y2 01 8	Y2 01 9
DR A	RAP	1	1.1	1.1.1	1.1 1a	Enhanc ed timely and accurat e weather forecast / waring for aviation	AeMP, WXS	CAeM P	RA V	LDCs, SIDS	Aviation client survey to be done at least once a year			
											Attachment/training at world class meteorological centres in weather analysis, forecast and warning for aeronautical purposes (military and civil aviation)			
											Regional workshop to raise awareness and and improve understanding of ICAO-WMO requirements among NMHSs and various agents of aviation sectors in the Pacific region on aviation meteorological services .	✓		✓
											Assist to develop inter- agency formal agreements for aviation weather services between Fiji Meteorological Services / RSMC-Nadi and other NMHSs in the Pacific Islands (Cook Islands, Kiribati, Nauru, Niue, Samoa, Tonga, and Tuvalu).			
											Assist to develop national inter-agency formal agreements for aviation weather services between NMHSs and Civil Aviation Authorities or equivalents in the Pacific Islands (Cook Islands, Fiji, Kiribati, Nauru, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu).			
											Assist to harmonize or align legislations or equivalents of NMHSs and Civil Aviation Authorities or			

											equivalents to met ICAO-WMO requirements,				
											Resolve Asia/Pacific deficiencies as identified by ICAO in the area of SIGMET, especially in the Pacific Islands (Cook Islands, Kiribati, Nauru, Solomon, Islands, and Tonga)				
											Install equipment including hardware and software for verification of TAF in NMHSs of Pacific Islands (Fiji, Papua New Guinea, and Vanuatu).				
DR A	RAP	1	1.1	1.1.1	1.1 .1b	Implement ed QMS for aviation meteor ological service provider s	AeMP, WXS	CAeM	RA V	LDCs, SIDS	QMS guidance (WMO webpage & forum, input into WMO/ICAO publications and COMET module)	✓	✓	✓	✓
											Internal Auditor Training	✓			
											Twinning' to mentor Members on QMS processes and audits	✓	✓	✓	✓
											Lead Auditor training (international qualification)		✓		
											Assist Pacific Islands Meteorological Authorities, NMHS and Civil Aviation Authorities to enhance QMS for aviation meteorological services.	✓	✓	✓	✓
DR A	RAP	1	1.1	1.1.1	1.1 .1c	Implement ed cost recover y for aviation meteor ological service provider s	AeMP, WXS	CAeM	RA V	LDCs, SIDS	Conduct a survey on cost recovery for aviation meteorological services in RA V Members.	✓			✓
											Develop and provide guidance on cost recovery for aviation meteorological services.	✓	✓	✓	✓
											Assistance to Members with cost recovery implementation including development of policies and guidelines.	✓	✓	✓	✓
DR A	RAP	1	1.1	1.1.1	1.1 .1d	Implement ed competency assess ment for aviation meteor ological service provider s	AeMP, WXS	CAeM	RA V	LDCs, SIDS	Conduct a survey to determine current status of the implementation of competency assessment for AMO and AMF in RA V Members.	✓			✓
											Develop and provide guidance to assist Members in RA V to implement competency assessment for AMO	✓	✓	✓	✓

											and AMF.				
											Assist Members with implementation through in-countries training and visits including competency assessment training for AMO and AMF Cook Islands, Federated States of Micronesia, Kiribati, Niue, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.				
DR A	RAP	1	1.1	1.1.2	1.1.2a	Improve coordination of weather services in the Region.	PWS, WXS, TCC	CBS	RA V		Organize session of RA V WG/WXS.				
DR A	RAP	1	1.1	1.1.2	1.1.2b	Enhanced wave modelling and NWP products including access to the information.	MMOP, WXS, TCC	JCOMM	RA V	LDCs, SIDS	Enhance wave modelling capability, including 3 wave models with wind inputs from NCEP-GFS and NAVGEM (now running operationally).				
											Install equipment including hardware and software in, and/or make available tools, techniques and information to, NMHSs in Pacific Islands to predict wave heights.				
											Install equipment including hardware and software in, and/or make available tools, techniques and information to, NMHSs in Pacific Islands to predict storm surges.				
											NMHSs of RA V TCC accessing available and utilizing tools, techniques and information to predict wave heights.				
DR A	RAP	1	1.1	1.1.2	1.1.2c	Strengthened ferry operators / inter-islands boat operators, port authorities and enforcement agencies obtain marine	MMOP, WXS, TCC, PWS	JCOMM	RA V	LDCs, SIDS, Gender	Provide forecasts for marine activities				
											Client summary at least once a year				
											Strengthen relationships between NMHSs and relevant marine agencies through developing agreements or equivalents with port authorities				
											Develop and conduct public awareness and education in the Pacific Islands for inter-island boats operators and				

					forecasts.						small crafts operators on the use and interpretation of marine weather information and forecasts.				
											Installation of marine weather and climate observations equipment on ferries / inter-island shippings / boats.				
DR A	RAP	1	1.1	1.1.2	1.1.2d	Implemented QMS for marine meteorological service providers	MMOP, WXS	JCOMM	RAV	LDCs, SIDS	Provide guidance to Members on the implementation of QMS for marine meteorological services.	✓	✓		
DR A	RAP	1	1.1	1.1.2	1.1.2e	Improved accuracy of public forecasts and warnings	PWS, WXS,	CBS	RAV		Inter-agency committee is formed to conduct research on the improvement of forecast accuracy				
											Enhance NWP limited area model, including MMD-WRF high resolution model (1-4 KM).				
DR A	RAP	1	1.1	1.1.2	1.1.2f	Displayed forecasts at billboards located along the major express ways and via other means and at other locations.	PWS	CBS	RAV	LDCs, SIDS	Provide forecasts to motorists at major expressways				
											Regular dialogues between NMHSs and communities including women, children, youth, disable people, and vulnerable communities, on weather information, forecast and warnings.				
											Install TV systems/Screen display for weather presentation.				
DR A	RAP	1	1.1	1.1.2	1.1.2g	Issued timely and accurate public weather forecast / warning	PWS, WXS, TCC, DPFS	CBS	RAV		Attachment/training at world class meteorological centres				
											Public and communities' surveys to be done at least once a year.				
DR A	RAP	1	1.1	1.1.2	1.1.2h	Increased value-added public weather forecasts available online.	PWS, WXS, TCC		RAV		Weather advisory and weather briefing as requested				

DR A	RAP	1	1.1	1.1.2	1.1.2.1	Enhanced human capital development.	PWS, WXS, TCC, DPFS		RA V		Lectures/training on meteorological courses.				
											Forecast for Search and Rescue (SAR) operations.				
DR A	RAP	2	2.1	2.1.1	2.1.1a	Improved coordination of tropical cyclone warnings in Region V.	TCC	CBS	RA V		Organize session of RA V TCC.	✓		✓	
											Coordinate and provide financial support to NMHSs in RA V TCC to participate in the International Workshops on Tropical Cyclones (IWTC).			✓	
DR A	RAP	2	2.1	2.1.1	2.1.1b	Improved communities and other stakeholders safety	WWW, TCP, DRR, TCC	CBS	RA V	LDCs, SIDS, Gender	Engage with stakeholders to develop new products				
											Conduct regular community surveys				
											Regular completion of verification spread sheets by NHMs and in-country progress reports for SWFDDP				
											Regular discussions between NMHSs and local communities to help them to improve understanding of early warnings for disaster related to weather.				
											Develop weather related hazard/disaster response plans for local communities and economic sectors				
DR A	RAP	2	2.2	2.2.1	2.2.1a	Improved flood forecasting systems and techniques	HWRP, HYD, TCC	Chy, CBS	RA V	LDCs, SIDS, Gender	Implementation of FFGS in Region V				
											Reports on regional applications; IFAS, TopNet, IFFRM, Delft-FEWS etc				
											Strengthen or establish early warning systems for floods in Members of RA V.				
DR A	RAP	2	2.2	2.2.1	2.2.1b	Improved linkages with DRR community and other stakeholders.	HWRP, HYD, TCC	Chy, CBS	RA V	LDCs, SIDS, Gender	Hydrological inputs to end-to-end multi-disaster warning systems - CIFDP				
											Regular discussions between NMSs and NHSS.				
											Develop national policies for early warning systems for floods inclusive of women, girls, youth, children, disable people and the most vulnerable communities.				

											Strengthen or develop national joint programmes between NMSS, NHSs and NDMOs on public awareness and education on floods, that is inclusive of women, girls, youth, children, disable people, and vulnerable communities.				
DR A	RAP	2	2.2	2.2.1	2.2.1c	Achieved benefits for the water sector through the implementation of GFCS	WCP, CLS, HWRP, HYS	Chy, CCI	RA V		Develop and implement water sector project(s) as part of GFCS.	✓	✓	✓	✓
DR A	RAP	2	2.3	2.3.1	2.3.1	Improved drought monitoring and management capabilities.	HWRP, HYD, WCP, CLS	Chy, CCI	RA V	LDCs, SIDS, Gender	Evaluate accuracy of seasonal predictions for water management purposes;		✓		✓
		3	3.1	3.1.1	3.1.1	Improved regional coordination mechanism and climate services, and established platform(s) for coordination of climate services in Region V.	WCP, CLS	Chy, CCI	RA V	LDCs, SIDS, Gender	Organize session of RA V WG/CLS and Pacific Regional Climate Outlook Forum (RCOF). Organize annual (3rd, 4th, 5th and 6th) meetings of the Pacific Island Climate Services (PICS) Panel. Set up regional and national registration for climate services projects, programs and activities including review the structure, maintenance and use of SPREP regional database and report to WG/CLS and Pacific Meteorological Organization (PMC). Draft RA V RCC-Network implementation plan for the Pacific Islands and establish Regional Climate Centers (RCCs) in Region V. Develop strategies for climate services to reflect the implementation of GFCS at the national, local communities, and sectors' levels.		✓	✓	✓

DR A	RAP	4	4.1	4.1.1	4.1.1a	Improve regional coordination of infrastructure of NMHSs.	WWW, GCOS, INFR	CCI, CBS	RA V		Organize session of RA V WG/INFR.				
DR A	RAP	4	4.1	4.1.1	4.1.1b	Stations metadata provided to WMO regularly.	SP, GCOS, WCP, WWW, WICOS INFR	CCI, CBS	RA V		Publicize and/or develop communication strategy or MoU or equivalents to enhance and enable NMHSs to have access and to utilize facilities and expertise in Regional Instrument Centres to calibrate meteorological instrument				
											Enhance the capacity of Members in RA V to achieve traceability.				
											Monitor and detect discrepancies between current performance and the metadata lodged with WMO.				
											Implement new WIGOS metadata standards in Members of RA V.				
DR A	RAP	4	4.1	4.1.1	4.1.1c	Implemented WIGOS across Region V.	WWW, OBS, WIGOS, WCP, INFR	CBS		LDCs, SIDS	Develop national WIGOS implementation plans.				
										Organize regional workshops for managers of weather and climate observations to discuss WIGOS.					
										Assess and provide profiles of national observing systems and networks against WIGOS requirements / standards					
DR A	RAP	4	4.1	4.1.2	4.1.2a	Members in the Pacific subregion received data from new generation of geostationary meteorological satellites such as Japan's Himawari-8	SP, WWW, WIGOS, WIS, INFR, TCC	CBS	RA V	LDCs, SIDS	Assist Members in the Pacific subregion to receive data from the new generation of geostationary meteorological satellites such as Japan's Himawari-8.	✓	✓	✓	✓
										Document RA V user requirements and priorities for satellite data and products					
										Document regional satellite requirements using CBS / Space programme guidelines.					

DR A	RAP	4	4.1	4.1.2	4.1.2b	Increased availability of aircraft-based (AMDA R) observations in Region V.	SP, GCOS, WCP, WWW, AeM, INFR	CAeM, CBS	RA V		Develop, complete and implement Aircraft-Based Observations Implementation Plan for RA-V within the perspective of GANP.				
											Discuss with Pacific national and regional airlines participate in AMDAR observations programme.				
DR A	RAP	4	4.1	4.1.2	4.1.2c	Consolidated the implementation of basic networks (RBSN and RBCN including GSN and GUAN)	WWW, WCP, HWRP, MMOP, INFR, HYD	CBS	RA V		Regularly review monitoring reports and bring to the attention of Member countries.				
											Restore silent RBSN stations.				
											Access to and to be able to utilize ocean surface wind vector data, and satellite radar altimetry (wave height) data.				
											Restore silent RBCN stations and GUAN stations.				
DR A	RAP	4	4.2	4.2.1	4.2.1a	Implemented WIS across Region V.	WWW, WIS, WCP, INFR	CBS	RA V	LDCs, SIDS	Develop national WIS implementation plans or equivalents for Members of RA V based on ASBU's road map, WIS RAV Implementation Road Map				
											Implement RA V WIS implementation plan.				
											Organize regional workshops on WIS.				
DR A	RAP	4	4.2	4.2.1	4.2.1b	Enhanced capability and capacity of Members in the Pacific to understand and meet their communication needs and to participate in the international exchange of data	WWW, WIS, INFR	CBS	RA V	LDCs, SIDS	Implement RAV WIGOS implementation plan.				
											Provide training and support in WIS and other communication systems to Members of RA V.				
											Provide information and advice to Member countries on communication options				
											Implement WIS in Pacific Islands' NMHSs.				
DR A	RAP	4	4.2	4.2.2	4.2.2	Improved data processing and	WWW, DPFS, INFR	CBS	RA V	LDCs, SIDS	Install data processing and forecasting systems which are compliant with WIS in				

						forecasting system in Pacific Islands' NMHSs					Pacific Islands' NMHSs.				
DR A	RAP	4	4.3	4.3.1	4.3.1	Operationalized 70 % of GCOS stations network in Region V	WWW, GCOS, INFR	CBS, CCI	RA V		Develop regional GCOS implementation plan.				
											Implement GCOS implementation plan.				
DR A	RAP	4	4.4	4.4.1	4.4.1	Preserved historical climatological data	WCP, CLS	CCI	RA V	LDCs, SIDS	Complete digitization of paper records of climatological data in Pacific Islands.				✓
DR A	RAP	4	4.4	4.4.2	4.4.2	Maintained climate database	WCP, CLS	CBS, CCI	RA V	LDCs, SIDS	Provide training in the management and maintainance the climate database.	✓			✓
DR A	RAP	5	5.3	5.3.1	5.3.1a	Strengthened global GAW stations and regional / contributing GAW stations	GWAP		RA V		Organize GAW data to also contribute to GFCS.				
											Maintain and enhancement of 1 global GAW stations and 2 regional GAW stations				
DR A		5	5.3	5.3.1	5.3.1b	Improved sharing of information air quality in Region V.	GWAP		RA V		Support training and capacity building activities related to atmospheric chemistry				
											Enhanc GAW activities.				
											Organize technical exchange and cooperation on atmospheric composition observation				
DR A	RAP	5	5.4	5.4.1	5.4.1a	Enhanced accuracy (temporal and spatial) of forecasts and warnings.	WWRP, CLS	CBS, CCI	RA V		Conduct studies on monsoons and their interactions with ENSO, IOD and MJO.	✓			✓
DR A	RAP	5	5.4	5.4.1	5.4.1b	Increased lead time on	WWRP, HWRP, CLS,	CBS, CCI	RA V		Conduct research on high impact weather events related to				

					warning of heavy rainfall.	TCC, HYS				monsoons such as heavy rainfall episodes due to cold surge					
DR A	RAP	6	6.1	6.1.1	6.1.1a	Conducted technical training at least one country per year (topics to include highest priority as determined by Members)	HWRP, ETR		RA V	LDCs, SIDS	Identify Members requiring training; seek sponsorship; and undertake the training.				
DR A	RAP	6	6.1	6.1.1	6.1.1b	Provided training in quality assurance to NMHSs	HWRP, ETR		RA V		Conduct a training session based on guidance material developed under data management theme.				
DR A	RAP	6	6.1	6.1.1	6.1.1c	Prepared catalogue of available of technology in use in the Region.	HWRP, OBS		RA V		Use existing survey of instrumentation.				
DR A	RAP	6	6.1	6.1.1	6.1.1d	Reinforced communication platform for hydrological services in the region	HWRP, HYS		RA V		Build on IWRM forum, e-mail and other platforms				
DR A	RAP	6	6.1	6.1.1	6.1.1e	NMHSs contributed to national / regional policy settings	DRA, RMPO, CER		RA V	LDCs, SIDS	Review and update existing or develop policies, legislations or equivalents for NMHSs.				
											Review and update existing or develop strategy and implementation plans for NMHSs.				
											Provide support to NMHSs participation in policy or equivalents related national,				






											regional and international forums.				
DR A	RAP	6	6.1	6.1.1	6.1 .1f	Continued support to the Pacific Meteorological Council (PMC).	DRA, RMPO, CER		RA V	LDCs, SIDS	Co-sponsor and co-organize the 2015 and 2019 PMC meeting.				
DR A	RAP	6	6.1	6.1.1	6.1 .1g	Established regional forum / meeting for Pacific Ministers for Weather and Climate Services.	DRA, RMPO, CER		RA V	LDCs, SIDS	Co-sponsor and co-organize the 2015 and 2019 Pacific Ministers for Weather and Climate Services forums.				
DR A	RAP	6	6.1	6.1.1	6.1 .1h	Improved accessibility and capability to national tropical cyclone warnings in RA V.	TCC		RA V		Assist Pacific Island Countries NMHSs to make, transmit, communicate, and back-up system for national tropical cyclone warnings to national and local disaster management agencies.	✓	✓	✓	✓
DR A	RAP	6	6.1	6.1.1	6.1 .1i	Improved timeliness of delivery of national tropical cyclone warnings by NMHSs in RA V TCC to national and local users.	TCC		RA V		Assist Pacific Island Countries NMHSs to improve and measure timeliness of delivery of national tropical cyclone warnings to national and local users.	✓	✓	✓	✓
DR A	RAP	6	6.1	6.1.1	6.1 .1j	Increased accuracy of national tropical cyclone warnings issued by NMHSs in RA V	TCC		RA V		Assist Pacific Island Countries NMHSs to increase accuracy of national tropical cyclone warnings and improved dialogues between NMHSs, disasters management agencies and other users on national tropical cyclone warnings.	✓	✓	✓	✓

					TCC to national and local users and dialogues NMHSs												
		6.1	6.1.2	6.1.2	Increase accuracy of tropical cyclone information, accessibility, dialogues, participation of RSMCs and TCWCs in regional EWS forums.	TCC		RA V		Assist RSMC Nadi to make regional tropical cyclone information and to establish and continuing dialogues with TCWCs and NMHSs in the Pacific region on tropical cyclone warnings, and to increase accuracy of tropical cyclone information / advisories / warnings.	✓	✓	✓	✓			
DR A	RAP	6	6.3	6.3.1	6.3.1a	Provide training for NMHSs in RA V TCC in tropical cyclone forecasting.	RTC, ETR, TCC		RA V	Organize the WMO Southern Hemisphere Training Courses on Tropical Cyclones.		✓		✓			
										Provide training, and update and implement the tropical cyclone module for NMHSs of RA V TCC.	✓	✓	✓	✓			
										Organize participants from Pacific NMHSs to participate in attachment training at RSMC Nadi -TCC. at RSMC Honolulu.	✓	✓	✓	✓			
										Develop and implement competencies assessment for tropical cyclone forecasters in NMHSs of RA V TCC.	✓	✓	✓	✓			
DR A	RAP	6	6.3	6.3.1	6.3.1b	Provide training for NMHSs in RA V TCC in satellite meteorology	RTC, ETR, WXS, TCC		RA V	Organize training at WMO-CGMS Virtual Lab for Education and Training in Satellite Meteorology (centre of excellence, supported by BoM and JMA).	✓	✓	✓	✓			
DR A	RAP	6	6.3	6.3.1	6.3.1c	Provide training for NMHSs in Pacific Islands in	RTC, ETR		RA V	LDCs, SIDS	Training in project management.						
											Training in financial management.						
											Training in human resources management						

						management (human resources, project, finance, etc)												
DR A	RAP	6	6.3	6.3.1	6.3.1d	Provided training by national / regional institution and improved capacity of NMHSs in climate services.	RTC, ETR		RA V		Review international standards of qualification and competency for climate services production and delivery and potential adaptation of them for the Pacific region.	✓						
DR A	RAP	6	6.3	6.3.2	6.3.2a	Increased number of meteorologists in Pacific Island Countries	ETR, RTC, DRA, TCC		RA V	LDCs, SIDS, Gender	Support 3 to 4 staff from Pacific Island Countries NMHSs per year to the post-graduate meteorology training programme at the relevant institutions.							
											Support 3 to 4 staff from Pacific Island Countries NMHSs to the master degree programme in meteorology at the relevant institutions.							
											Support 3 to 4 students from the Pacific Island Countries to undertake University undergraduate studies in meteorology in China.							
DR A	RAP	6	6.3	6.3.2	6.3.2b	Increased number of climatologists in Pacific Island Countries	ETR, RTC, WCP, DRA, CLS		RA V	LDCs, SIDS, Gender	Support 3 to 4 staff from Pacific Island Countries NMHSs per year to the post-graduate diploma in climatology at the relevant institutions	✓	✓	✓	✓			
DR A	RAP	6	6.3	6.3.2	6.3.2c	Increased number of hydrologist in Pacific Island Countries	ETR, RTC, HWRP, DRA, HYS		RA V	LDCs, SIDS, Gender	Support 3 to 4 staff from Pacific Island Countries NHSs per year to the post-graduate degree in hydrology at relevant institutions							

DR A	RAP	6	6.3	6.3.2	6.3.2d	Met the BIP-MT requirements / standards in all existing weather and climate observers in Pacific Island Countries NMHSs	ETR, RTC, DRA, OBS, WIGOS, WIS, WXS, WCP, CLS		RA V	LDCs, SIDS, Gender	Support Pacific Islands NMHSs to ensure that all their existing and new weather and climate observers meet BIP-MT requirements.				
DR A	RAP	6	6.3	6.3.2	6.3.2e	Met the AMO requirements in all existing and new aviation weather observers	ETR, RTC, DRA, AeMP, WXS, WCP, CLS		RA V	LDCs, SIDS, Gender	Support Pacific Islands NMHSs to develop competency assessments for AMO.	✓	✓		
											Assist Pacific Island Countries NMHSs to conduct competency assessment for AMO	✓	✓	✓	✓
DR A	RAP	6	6.3	6.3.2	6.3.2f	Met the AMF requirements in all existing and new aviation weather observers	ETR, RTC, DRA, AeMP, WXS		RA V	LDCs, SIDS, Gender	Support Pacific Islands NMHSs to develop competency assessments for AMF.	✓	✓		
											Support Pacific Island Countries NMHSs to conduct competency assessment for AMF	✓	✓	✓	✓
DR A	RAP	7	7.1	7.1.2	7.1.2	Continued support to the Pacific Meteorological Desk Partnership (PMDP)	DRA		RA V		Renew Letter of agreement with SPREP to support to the operation of the PMDP.	✓			
DR A	RAP	7	7.2	7.2.3	7.2.3	Provided training by national / regional institutions and improved capacity of NMHSs in commu	RTC, ETR, WXS, TCC		RA V	LDCs, SIDS, Gender	WMO Southern Hemisphere Training Workshop on public weather services.				
											Training in communication.				
											Training in media presentations (interview and writing articles)				

					nicating weather informat ion includin g waming s to the commu nities.									
DR A	RAP	8	8.1											

	WXS	13
	CLS	7
	HYS	6
	INFR A	15
	TCC	11
	etc	8
	total	60

ANNEX V
LIST OF THE RA V REGIONAL ACTIVITIES (2012-2015)

Regional Events	Years	2012	2013	2014	2015
Session of the Association				2-7 May Jakarta, Indonesia (RA V-16)	
Regional Conference on the Management of Meteorological and Hydrological Services (RECO)				30 Apr-1 May Jakarta, Indonesia	
Regional Forum					27-29 Oct Fiji
Meeting of the Management Group (MG)		28 Jun & 2 Jul Geneva (MG-8)	15 May Geneva (MG-9)	14-15 Mar (MG-10) Jakarta, Indonesia 7 May (MG-11) Jakarta, Indonesia 23 Jun (MG-12) Geneva	29 May Geneva (MG-13)
Working Group Chairs' Meeting					26 Oct Fiji
Tropical Cyclone Committee for the South Pacific and South-East Indian Ocean (TCC)		16-20 Jul Apia, Samoa		26-30 May Port Vila, Vanuatu	
Working Group on Hydrological Services (WG-HYS)			25-29 Nov Christchurch, New Zealand		
Working Group on Climate Services (WG-CLS)					21-22 May Jakarta, Indonesia
Working Group on Weather Services (WG-WXS)				29 Jan-5 Feb Nadi, Fiji	
Working Group on Infrastructure (WG-INFR)			24-27 Apr Melbourne, Australia		13-15 Oct Indonesia (Joint RA II/V WIGOS Workshop)
Regional Workshop				3 Apr Rarotonga, Cook Islands (GFCS LDCs/SIDS)	29-30 Apr Indonesia (Aviation Safety In SE Asia)

Budget Allocation approved by Cg-XVI (ref. WMO Operating Plan 2012-2015)

Regional Association V session	2014	CHF 159,772
RA V Regional	2015	CHF 29,872
RA V Technical Conference	2013	CHF 92,132
RA V Management Group Meeting	2014	CHF 24,964
Tropical Cyclone Committee	2012	CHF 13,819
	2014	CHF 13,481
Working Group sessions	2012	CHF 16,377
	2013	

	2014	CHF 15,977
	2015	CHF 15,932
Assistance to President of RA V	2012- 2015	CHF 16,166
Regional Workshop for South- West Pacific	2012	CHF 20,472
Regional Workshop for SIDS	2012	CHF 20,472

ADDITIONAL EVENTS IN 2015

- (a) The Severe Weather Forecast and Disaster Reduction Project (SWFDDP) in-country training in Samoa was held from 9 to 13 March 2015.
 - (b) The Severe Weather Forecast and Disaster Reduction Project (SWFDDP) in-country training in Fiji was held from 20 to 24 April 2015.
 - (c) The Severe Weather Forecast and Disaster Reduction Project (SWFDDP) in-country training in Kiribati was held from 27 April to 1 May 2015.
 - (d) The Inaugural Papua New Guinea National Climate Outlook Forum (PNG NCOF) held at the Hideaway Hotel, Port Moresby, Papua New Guinea from 26 to 27 March 2015. Papua New Guinea, Kiribati and Tonga were selected through consensus during the special session of the Pacific Meteorological Council (PMC, April 2014, Cook Islands) to be pilot countries to implement the NCOFs.
 - (e) The Pacific island Climate Services (PICS) Panel had its second meeting in Apia, Samoa, from 7 to 8 May 2015.
 - (f) The Third Meeting of Pacific Meteorological Council is scheduled to be held in Nuku'alofa, Tonga, from 20 to 23 July 2015. The meeting will co-organized and co-supported by SPREP, WMO, the Government of Finland, and the Government of Canada.
 - (g) The First Pacific Ministerial Meeting on Meteorology is scheduled to be held in Nuku'alofa, in Tonga on 24 July 2015. The meeting will co-organized and co-supported by SPREP, WMO, the Government of Finland, and the Government of Canada.
 - (h) The First Pacific Islands Climate Outlook Forum (PICOF) with a special focus on the water sector is scheduled to be held in Suva, Fiji, from 12 to 16 October 2015. A Regional Write-shop is scheduled to be held in Nadi, Fiji, from 7 to 11 September 2015.
 - (i) The WMO hydrological training workshop is scheduled on November in Brisbane, Australia.
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(DRAFT) CONCEPT NOTE**REGIONAL FORUM FOR DIRECTORS OF NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES IN REGIONAL ASSOCIATION V (SOUTH-WEST PACIFIC)****INTRODUCTION**

The World Meteorological Organization (WMO) is planning to organize a Regional Forum for Directors of National Meteorological and Hydrological Services (NMHSs) in WMO Regional Association (RA) V (South-West Pacific)¹ in later part of 2015. The terms South-West Pacific and Region V are used to describe an area englobing the countries and territories encompassed in the WMO RA V.

The Regional Forum for Directors of NMHSs in Region V replaces the Regional Seminar in Region V, a 4-yearly opportunity for NMHSs in Region V to share experiences and knowledge in the development of meteorological and hydrological services.

In 2015, the Regional Forum for Directors of NMHSs in Region V will have a specific theme and WMO will work closely with the host country and in consultation with the RA V Management Group to identify the theme.

OBJECTIVES

The specific objectives of the Regional Forum are:

- Facilitate the sharing of experiences among Directors of NMHSs in Region V through discussions on a range of potential topics, among others:
 - Strategic re-thinking of improving weather and climate services relevant to socio-economic sectors and communities such as air/land/sea transports, agriculture, water resources, health, energy, disaster risk management, climate change adaptation;
 - Implementation of the WMO Priority Programmes at the country level;
 - Implementation of RA V Operational Plan (OP) 2016-2019; and
- Provide opportunity for Directors of NMHSs in Region V to contribute to WMO implementation of the following global frameworks/programmes in Region V:
 - Sendai Framework for Disaster Risk Reduction 2015-2030 and the Sendai Declaration, outcomes of the Third United Nations Conference on Disaster Risk Reduction (Sendai City of Miyagi, Japan, March 2015);
 - SAMOA Pathway, outcome of the Third United Nations Conference on Small Island Developing States (Apia, Samoa, September 2014); and
 - Program for Action for Least Developed Countries for the Decade 2011 to 2020, outcome of the Fourth United Nations Conference on Least Developed Countries (Istanbul, Turkey, May 2011).

¹ Members of RA V (23): Australia, Brunei Darussalam, Cook Islands, Fiji, French Polynesia, Indonesia, Kiribati, Malaysia, Micronesia (Federated States of), New Caledonia, New Zealand, Niue, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Timor Leste, Tonga, Tuvalu, Unites States of America, United Kingdom of Great Britain and Northern Ireland, and Vanuatu

FOCUS

The Regional Forum could be focused on one or more of the four priorities in the Region V for the period 2016–2019, with particular emphasis on the aviation safety in the Region:

- Maintenance and improvement of observations and telecommunications networks at the regional and national levels through completion of the implementation of WIS and WIGOS;
- Delivery of improved climate services through the establishment of the optimum network of RCCs to sustainably implement the GFCS;
- Implement effective education and training programs that build the capability of NMHSs in resource management, advocacy and outreach, and Numerical Weather Prediction (NWP) utilization; and
- Achievement by all Members of the standards required for quality management and staff competencies, with a focus on aviation and marine meteorology.

DURATION

The Regional Forum will be designed for three days.

PARTICIPANTS

The expected participants for the Regional Forum will comprise of Directors of NMHSs in RA V, and representatives from international organizations, funding partners, and private partners in the Region.

FUNDING

WMO will provide financial support for travel for one participant per Member of RA V. Limited funding is available to support the local arrangements for host country.

Travel Arrangements

WMO will organize travel arrangements for participants funded by the Organization.

LOCAL LOGISTIC AND ARRANGEMENT

The host country will arrange accommodation, local logistics, meeting venue and facilities, and provide the Information Note for the participants.

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