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| WORLD METEOROLOGICAL ORGANIZATION  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  INFORMAL PLANNING MEETING  VOLUNTARY COOPERATION PROGRAMME  HAMBURG, GERMANY  15-17 APRIL 2015 |  | IPM/2015/Doc. 2  ITEM 2.1  Original: ENGLISH |

**REPORTED BILATERAL TECHNICAL COOPERATION ACTIVITIES IN 2013**

(*Submitted by WMO Members*)

Summary and Purpose of Document

This document provides information on Member bilateral cooperation activities during 2014 including VCP Coordinated Programmes.

ACTION PROPOSED

The meeting is invited to consider the information on the activities of the Members in bilateral cooperation during 2014 to inform and guide donor Members in planning their technical assistance support to VCP during 2015.

The reports provided vary significantly in detail in terms of activities and budget. The meeting may wish to consider establishing guidelines on reporting on cooperation activities and related financial investment reporting to facilitate tracking of trends over time.

**WMO Voluntary Cooperation Programme – Informal Planning Meeting 2015**

**Activity Report**

|  |  |
| --- | --- |
| **1. Country** | |
| CANADA | |
|  | |
| **2. Overall national contribution in 2014/2015** | **3. Overall estimated national contribution in 2015/2016 (in CAD)** |
| 13,023,743 CAD | Canada’s goal is to maintain the 2014/2015 national contribution. |
|  | |
| **4. List of Activities / Projects / Events in 2014/2015 related to contribution** | **5. Source of Funding (CAD):** |
| **Project 1: Contributions to WMO Trust Funds to engage scientists and technologists from developing countries** | |
| Support for the WMO Secretariat for the Global Framework for Climate Services (GFCS) to enhance global capacity, integrity and delivery of climate services. | 200,000  (Environment Canada) |
| To promote global Aircraft Meteorological Data Relay (AMDAR) development to enhance the upper air component of WMO’s Global Observing System of the World Weather Watch. | 10,000  (Environment Canada) |
| To support the Executive Council Panel of Experts on Polar Observations, Research and Services (EC-PORS) as input into the sessional meeting and workshops, to interact and communicate with other international institutions/bodies and to fund travel of experts to participate at meetings. | 50,000  (Environment Canada) |
| Contribution to the Brewer Trust Fund to assist developing countries to provide timely and accurate data to the Global Atmospheric Watch (GAW) global ozone and ultraviolet networks. | 30,000  (Environment Canada) |
| Contributed to the business of the Global Integrated Polar Prediction System Trust Fund (GIPPS) to prepare documents, interact and communicate with other international institutions and bodies, and cover the costs of material arrangements and travel expenses of committee members for official meetings. | 50,000  (Environment Canada) |
| This contribution supports an international collaborative approach on open science, by providing an initiative to WMO partners to focus and accelerate improvements in the accuracy of 1-day to 2-week weather forecasts. The contribution supported three key initiatives on international collaboration on polar prediction, sub-seasonal to seasonal prediction (supporting climate services on short time scales) and high impact weather (dealing with extreme weather) through contributions to the secretary offices, organization of meetings and publications. | 20,000  (Environment Canada) |
| **Project 2: Group on Earth Observations (GEO) activities to engage scientists and technologists from developing countries** | |
| Funds to support the GEO Secretariat. | 100,000  (Environment Canada) |
| **Project 3: Institutional Capacity Development for CNM (Haiti)** | |
| Haiti Weather System Program: Climate Services to Reduce Vulnerability in Haiti (6,500,000 over 5 years) to rehabilitate Hydro-meteorological Agencies for the delivery of quality weather, climate and hydrological services, including early warnings. | $1,200,000 (Notional Figure)  (Environment Canada) |
| **Project 4: Development of Quality Management Systems for NMHS with emphasis on aviation** | |
| Expert training provided for Spanish-speaking members of RA-III and RA-IV. A workshop was held in Argentina for Competency Assessment of Aeronautical Meteorological Personnel, with representatives from 16 countries and 25 participants. | 3,000  (Environment Canada) |
| Participated at the 4th meeting of the Task Team for QMS, to review the current status of implementation of QMS by the WMO Members and related capacity development actions undertaken by different WMO bodies. | 5,000  (Environment Canada) |
| **Miscellaneous** | |
| To implement GFCS at regional and national scales (6,138,000 over 4 years) | 1,534,500 (Notional Figure)  (Environment Canada) |
| Official Development Assistance portion of WMO assessed contribution (4%). | 91,850  (Environment Canada) |
| Contribution to the IPCC Trust Fund directed toward supporting participants from developing countries / economies in transition to travel to IPCC meetings. | 150,000  (Environment Canada) |
| The InterAmerican Institute for Global Change Research (IAI), which is an organization that supports global change research and capacity building in the Americas. Our contribution supports the operations and staff of the IAI Directorate. | 162,000  (Environment Canada) |
| Developed and delivered education and training materials and courses, and disseminated over the Internet for use by the worldwide meteorological community through the Co-operative program for Operational Meteorological Education and Training (COMET). | 550,000  (Environment Canada) |
| Participation in the scoping of WMO Global Campus Feasibility Assessment. MSC is involved in a few assessment exercises, including the identification of best practices in the development of training that require translation, and Trainer capacity Building. | 12,000  (Environment Canada) |
| Provided two used Nipher snow gauges to Spain, which is used to capture snow and measure its water content in millimetres. | 7,000  (Environment Canada) |
| Enabled the development of data archive and quality control for the Solid Precipitation Intercomparison Experiment (SPICE) at the National Centre for Atmospheric Research (NCAR), USA. | 20,000  (Environment Canada) |
| Chaired the Task Team (TT) for the Implementation of the GFCS in RA IV. This included organization of teleconferences and a face to face meeting, translation and confirmation and acceptance of a detailed work plan by the TT. | 20,000  (Environment Canada) |
| A component of the Caribbean Disaster Risk Reduction Program, whose goal is to increase the capacity of regional organizations, national governments and local communities in the Caribbean to respond to and manage natural disasters (i.e., hurricanes, floods) and to reduce their impact on the people of the region.  This project will: (1) Support civil society engagement in the implementation of a Comprehensive Disaster Management strategy, through knowledge and experience sharing with regional and national actors to prioritize vulnerable communities; (2) Establish a Disaster Risk Reduction Reference Centre in Barbados to provide technical training and expert advice and promote community resilience in the Caribbean; and (3) Provide direct community-based disaster risk reduction programming through three Red Cross National Societies (Dominica, Jamaica and Guyana) in collaboration with National Disaster Management Agencies and other partners. The project enables 45 communities (equally divided between Jamaica, Guyana and Dominica) to complete a disaster risk reduction process (risk assessment, preparedness teams, and mitigation projects). | 864,694  ($3,458,775 from 2011 – 2015)  (Canadian International Development Agency, Canadian Red Cross) |
| This project aims to reduce the impact of disasters on vulnerable populations in Southeast Asia by providing support to governments and civil society to manage and reduce disaster risk. In so doing, the project also seeks to support economic growth and maintain the development gains already made in the region. The project is establishing an Integrated Disaster Risk Management Trust Fund to support the development of innovative approaches and tools for disaster risk management. The Fund, administered by the Asian Development Bank, also aims to enhance regional cooperation and capacity for risk management.  The project provides support in three main areas: (i) reducing the risks associated with disasters and increasing the resilience of people and communities to disasters; (ii) adapting to climate change, which involves incorporating viable, adaptive strategies into existing disaster risk management initiatives; and (iii) developing disaster risk financing, including insurance. | 2,500,000  ($10,000,000 from 2013 – 2017)  (Canadian International Development Agency, Asian Development Bank) |
| The Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) aims to build the resilience of poor people to climate change in three climate change “hot spots”: basins, deltas, and semi-arid regions. CARIAA brings together consortia to explore the physical, social, economic and political dimensions of vulnerability and adaptation options. The consortia also tackle climate change over different timeframes and across different scales, from impacts on households and villages, up to regional and global policies.  In particular, they will be addressing the following common issues across the “hot spots”:   * Biophysical impacts of climate change, differentiating between areas where research on impacts has already been done and areas where there are research gaps, * Social vulnerability to climate change, reviewing how vulnerability has been addressed in the hot spots to date, and * Recent adaptation policies and initiatives, highlighting how adaptation is already taken into account in policy and practice, and key areas where adaptation policy and practice could be improved.   The studies also address useful methodologies for conducting similar background studies to inform work on climate change adaptation. | 272,911  ($1,910,379 from 2012 – 2019)  (International Development Research Centre) |
| The International Research Initiative on Adaptation to Climate Change (IRIACC) is a research programs with five projects, each a partnership between Canadian and developing country researchers are researching strategies for adapting to the impacts of climate change. Together with non-academic partners, projects are developing options to help communities in Canada and around the world cope with a changing climate. This includes reducing the risks for agricultural and indigenous communities to climate variability and extreme climate events. | 1,441,537  ($7,207,683 from 2011 – 2016)  (International Development Research Centre) |
| The Climate Change and Water Program (CCW) supports applied multidisciplinary research to improve adaptation efforts to water-related impacts of climate change. It supports research institutions in developing countries advance knowledge about water-related impacts of climate change, identify a range of options and strategies for coping with such impacts, and generate evidence that can be used to inform adaptation policy and practice. Expected outcomes include improvements in capacity to adapt to climate change and a reduction in vulnerability to water stress at multiple scales, from small communities to larger sub-regions with a large population. | 3,729,251  ($18,646,253 from 2010 – 2015)  (International Development Research Centre) |
|  | |
| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| * Environment Canada does not have a mandate to provide overseas development assistance. * The Canadian International Development Agency was subsumed under the Department of Foreign Affairs and Trade Canada (DFATD); to date, funded projects have not focused on weather or climate issues. * Overall, resource mobilization is constrained by the Government of Canada’s focus on deficit reduction. * Due to the need to focus on domestic priorities, experts may have budget and time constraints. * It has become cumbersome to receive travel approval to undertake some of the education and training activities. * A considerable amount of time is required to complete the paperwork and seek approval for grants and contributions. * Lack of mechanism to donate old monitoring equipment which is no longer used for domestic monitoring but still operational or useful for spare obsolete parts to WMO Members. | * Environment Canada will continue to emphasize with DFATD the importance of strengthening assistance related to the hydro-meteorological enterprise. This will include briefings on capacity development opportunities in the WMO, having the WMO brief them on the files, or having other international development agencies provide background on why they are engaged with the WMO. |
|  | |
| **8. Opportunities for more cooperation with other Members / organizations** | |
| The following areas have been identified as potential opportunities for more cooperation with other Members and organizations; execution is highly dependent on available resources and capacity:   * Participate in and lead capacity building/development workshops for WMO Members; * Donation of monitoring equipment to WMO Members; * Provide training on the use of instrumentation to WMO Members; * Work with industry to develop simpler and more affordable weather-related instrumentation; * Additional work on the Global Campus initiative; * Support in the ab-initio training for meteorologists; * Additional sessions on Train the Trainers workshops in the regions; * Additional capacity building / development activities related to GFCS implementation for the Sahelien countries; * Through THORPEX, accelerate improvements in the accuracy of 1-day to 2-week weather forecasts particularly related to polar prediction, sub-seasonal to seasonal prediction supporting climate services on short time scales, and high impact weather; * Extend access to a remote radar course to participants from the Bahamas, Europe and Australia; * Worldwide training in various languages on WMO Operational Table-Driven Code Forms (mainly BUFR) as part of ongoing international work toward the migration away from obsolete alphanumeric code forms for meteorological data reporting; * Assist WMO Members in completing the implementation of the Migration to Table-Driven Code Forms (MTDCF) – could be done using regionally-based migration plans that complement National migration plans and offer concrete procedures. | |

Annex1:

**Summary of China’s Contribution through WMO VCP Programme and Bilateral Arrangements in 2014**

| Item | Descriptions of Projects | | Total cost  (USD) |
| --- | --- | --- | --- |
| 1 | Study Tour | 44th China Study Tour (22 to 30 September 2015) | 49180 |
| 2 | Short-term training\* and long-term fellowships | 1. Training Course on Disaster Reduction and Relief for the Philippines (RTC-Nanjing, 16-29 May 2014) | 88468 |
| 1. Training Course on Climate Change and Climate Information Service for English-speaking Countries in Africa (RTC-Nanjing,15 April to 13 May 2014) | 116755 |
| 1. International Training Course on Tropical Cyclone Forecast(RTC-Nanjing, 15-26 May 2014) | 20273 |
| 1. International Training Course on Use of Meteorological Instruments (RTC-Nanjing, 5-16 June 2014) | 39852 |
| 1. International Training Seminar on SSOP of WMO/ESCAP Typhoon Committee (RTC-Nanjing, 9-11 June 2014) | 4918 |
| 1. Training Seminar on Management for Meteorological Officials for English-speaking Countries in Africa (RTC-Nanjing,13 June to 3 July 2014) | 95155 |
| 1. Meteorological Disaster Risk Management and Meteorological Information Service for Latin America, Caribbean and South Asia-Pacific Countries (RTC-Nanjing,10-30 September 2014) | 112649 |
| 1. International Training Course on Agrometeorology (RTC-Nanjing,19-30 September 2014) | 39852 |
| 1. Training Course on Meteorological and Seismological Forecast and Disaster Reduction for Pakistan(RTC-Nanjing,13 October-2 November 2014) | 85875 |
| 1. International Training Course on Short-term Climate Prediction Methods (RTC-Beijing, 14-25 April 2014) | 34511 |
| 1. International Training Course on Thunderstorms and Severe Convection Nowcasting (RTC-Beijing,13-23 May 2014) | 36254 |
| 1. International Training Course on Aeronautical Met. Services (RTC-Beijing,16 to 27 June 2014) | 68343 |
| 1. International Training Course on Weather Modification (RTC-Beijing, 18-29 August 2014) | 20273 |
| 1. Seminar on Meteorological Disaster Management for Senior Officials (RTC-Beijing, 15-26 September 2014) | 43224 |
| 1. International Training Course on Climate Prediction and Drought Monitoring(RTC- Beijing, 20-31October 2014) | 30950 |
| 1. Regional Training Workshop on the Application of Meteorological Satellite Products(Shanghai, 17 -18 November 2014, RTC-Beijing) | 9000 |
| 1. Pre-job Training for New Weather Forecasters for two African graduates(RTC-Beijing, 25 August to 19 December 2014) | 13711 |
| 1. Long-term WMO/China government scholarship | 523049 |
| 3 | Donation Of Instruments  and Equipment through Bilateral Arrangements | Provision 50 barographs, 100 hygrographs and 100 thermographs to the National Agency for Meteorology and Environmental Monitoring of Mongolia | 72951 |
| Provision of a set of Meteorological Virtual Studio to the Department of Meteorology and Hydrology of Myanmar | 81221 |
| Expert missions to the National Meteorological Services of Tajikistan, Kazakhstan, Pakistan and Nepal on the maintenance and technical training of Integrated CMACast and MICAPS system | 26431 |
| 4 | VCP(F) | VCP (F),GFCS Trust Fund, IPCC Trust Fund, WIS Trust Fund and THORPEX Trust Fund | 152350 |
|  | Total |  | 1,765,245 |

\*In 2014, a total number of 361 foreign experts participated in the short-term training courses organized by WMO Regional Training Centers in Nanjing and Beijing. There were 43 WMO/China joint scholarship students studying in China in 2014.

# Annex 2:

**Expected Contributions of China**

**to the WMO VCP in 2015**

1. **Study Tour**

* 45th China Study Tour will be organized for PRs or senior officials in 2015

1. **Training and Fellowships**
2. ***International Training Courses***
3. Training Course on Radar Meteorology for Developing Countries(RTC-Nanjing, 12 May to 8 June 2015)
4. International Training Course on Numerical Weather Prediction (RTC-Nanjing,18-29 May 2015)
5. Seminar on Climate Change and Climate Information Service for Developing Countries (RTC-Nanjing, 4-24 June 2015)
6. Seminar on Management for Meteorological Officials from Asia-Pacific Countries (RTC-Nanjing, 11 June to 1 July 2015)
7. International Training Course on Use of Meteorological Instruments (RTC-Nanjing,29 June to10 July 2015)
8. Seminar on Meteorological Disaster Management and Weather Information Service for Developing Countries(RTC-Nanjing, 10-30 September 2015)
9. International Training Course on Agrometeorology (RTC-Nanjing,14-25 September 2015)
10. Seminar on Meteorological and Earthquake Forecast, Mitigation and Relief for Developing Countries(RTC-Nanjing, 14 October to 3 November 2015)
11. International Training Course on Instrument Maintenance and Calibration(RTC-Nanjing, 2 - 27 November 2015)
12. International Training Course on Global Framework for Climate Services (GFCS) (RTC- Beijing,11-22 May 2015).
13. International Training Course on Aeronautical Meteorology Services (RTC- Beijing,8-19 June 2015)
14. International Training Course on the Application of Meteorological Satellite Products (RTC- Beijing,10-21 August 2015)
15. Seminar on Meteorological Disaster Management for Officials from Developing Countries (RTC- Beijing,7-18 September 2015)
16. International Training Course on Public Weather Service(October 2015)
17. Pre-job Training for New Weather Forecasters for the graduated WMO scholarship students from RTC-Nanjing (RTC-Beijing, 2015)
18. ***Provision of long-term scholarships will continue under the MoUs concluded by WMO with the Ministry of Education of China and RTC-Nanjing. Two additional long-term scholarships will be offered after the conclusion of the MoU between WMO and Hohai University.***
19. **Donation of Instruments and Equipment to developing NMHSs through bilateral arrangements or under WMO VCP programme**
    1. Donation of Integrated CMACast and MICAPS systems to one developing Member within the footprint of CMACast.
    2. On-site technical training and system maintenance of Integrated CMACast and MICPAS System in about 5 countries will be conducted.
    3. Donation of a set of distant audio and video weather forecast discussion system to DPRK(implemented)
    4. Installation of MICAPS system for Togo Meteorological Service
    5. Emergency assistance
20. **Donation of fund**
21. CHF100,000 to GFCS Trust Fund
22. USD10,000 to IPCC Trust Fund
23. USD10,000 to WMO Trust Fund for Voluntary Cooperation Program
24. USD12,000 to WMO WIGOS Fund
25. USD5,000 to WMO WIS Trust Fund

**Report to WMO IPM**

Support to the field of meteorology and development from the Government of Finland in 2014

Antti Hyvärinen

17/02/2015

# Expert Services, conducted activities 2014

*Caribbean SIDS-SHOCS2*

* Design at FMI of hardware and software for data retrieval, data quality control and meta-database solution for the needs of SIDSs NMHSs.
* Installation of SmartMet hardware and software and initial training for forecasters and technicians at ONAMET (Dominican Republic) and INSMET (Cuba). The first advance level training workshop on SmartMet for forecasters and technicians was held at FMI in Finland in early June 2014
* Preparation of a stand-alone software solution for real time management and issuing of weather warnings for use at SIDSs NMHSs (or DMAs (SmartAlert). The software will produce messages in XML format compatible with Common Alerting Protocol standard (v. 1.2). Pilot NMHSs were selected for testing the solution are Cuba, Antigua& Barbuda and Jamaica. The software is targeted to be ready for test use in the beginning of year 2015. CAP-workshops are held in December 2014 in Jamaica and in Antigua and Barbuda.
* Questionnaire issued for detailed assessment of the functioning of AWSs for all participating countries. Assessment was finalized in the end of the year 2014.
* Tender process on the TV broadcasting solution was completed in the autumn. As a result Trivis-software was ordered and shipped to Cuba. Scheduled installation time is February 2015.

*Pacific SIDS – FINPAC*

* Setup a lightning data feed directly for six PIC NHMSs (Fiji, Papua New Guinea, Samoa, Tonga, and Solomon Islands).
* Held a workshop on the usage and benefits of lightning location data and applications in different fields in Apia, Samoa during January 2014.
* Participated on Regional Consultation on Climate Service for Pacific Small Island State & Related Meetings in Rarotonga, Cook Island on 31 March – 4 April.
* Participated as an observer on drafting the ToR of the Pacific Island Climate Service (PICS) Panel.
* Participated as on observer on Preparatory Meeting for the 3rd international Conference on Small Island Developing States (SIDS) to be held in September in Samoa. Discussed on the role and visibility of GFCS and FINPAC in the SIDS meeting.
* Participated on planning session of WMO GFCS Project to be funded by Canada as representative of FINPAC, discussion on coordination between FINPAC and Canada project.
* Discussed on further funding possibilities for Pacific Island Climate services with representatives of EU, WMO, SPREP and University of the South Pacific (USP).
* NMS’s current capabilities of producing climate services were preliminarily mapped out.
* Other donors’ or external NMS’s activities in the Pacific area related to climate services were mapped out.
* Participated on media training in Cook Island Meteorological Service (CIMS)
* Participated in community level workshop in Aitutaki. User needs and ways of communication was mapped out to be utilized in further development of climate services Community Action Plan to be prepared for natural hazards drafted. Over 30 persons from Tautu community participated on the workshop.
* Gave hands-on quality management system training to the Niue and Fiji meteorological services in August 2014 by performing mock audits by ISO 9001:2008 standard.
* Gave a regional training workshop on quality management in Fiji. 8 countries were present: Cook Islands, Kiribati, Papua New Guinea, Niue, Samoa, Solomon Islands, Tonga, Tuvalu.
* Gave a Lightning Location Data Workshop in Apia, Samoa in October 2014. Countries participating were Samoa, Niue, Tuvalu, Fiji, Palau, Tonga, Solomon Islands, PNG, Vanuatu, Kiribati, Cook Islands and RMI.
* Implemented the SmartMet weather forecast production system in three NMSs (Fiji, Tonga and Papua New Guinea) and gave relevant training in the operation and maintenance of the system during August-November 2014.

*Ecuador – FINAMHI*

* A new database for INAMHI was developed in the past two years; the new database includes e.g. stations metadata.
* A workshop was held for improving the use of radar data for quantitative precipitation estimation, and continuing to support radar network planning.
* FMI’s weather information system SmartMet was installed and training was provided during a mission in INAMHI from 05-21 November.
* A workshop on CAP (Common Alerting Protocol) related to early warning system was organized on the 25-26 September 2014 at INAMHI headquarter building, with the participation of INAMHI staff and stakeholders. This workshop had the support of the World Meteorological Organization (WMO).
* Weather forecast verification system was developed for INAMHI.
* Calibration laboratory instrumentation and procedures were improved.

*Colombia – COFIMET*

* Development of the capacities in data management at IDEAM was continued. A new database for IDEAM was developed in the past two years.
* New instruments were purchased for calibrating meteorological sensors at IDEAM. A better implementation of the calibration laboratory and development of calibration protocols were realized during the project.
* The first steps to implement a routine for AWS maintenance and calibration was implemented.
* Radar experts from FMI realized a workshop on radar training.
* FMI’s weather information system SmartMet was installed and training was realized in October 2014.
* Progress was made in developing the weather forecast verification system and plan for IDEAM.
* A workshop on CAP (Common Alerting Protocol) related to early warning system was realized on the 06-07 October 2014. This workshop had the cooperation of the World Meteorological Organization (WMO).
* A working group on alerts and warnings was established at IDEAM.

*Bolivia – FINBOL*

* Data management and QC issues were trained, and guidelines for improved meteorological and hydrological databases were drafted.
* The upper-air sounding system was repaired in el Alto. Training is expected to be fullfilled in 2015
* Verification issues were trained, and the first evaluation about the forecast generated at SENAMHI based on 8 years of temperature and humidity data forecast and measurement was made.
* First contact between SENAMHI and the stakeholders related with CAP alerts has been established.
* The FMI is tailoring it’s early warning dissemination tool, the “smart alert” for use in Bolivia.

*Andean regional – PRASDES*

* In late 2013 and early 2014, CIIFEN visited the PRASDES pilot areas between Colombia and Ecuador, Bolivia and Peru and Ecuador and Peru, in order to evaluate the situation and capacities as well as identify the actors and stakeholders for project implementation.
* CIIFEN visited Finland in January 2014 in order to agree on FMI and Environment Institute of Finland’s (SYKE) role and responsibilities in PRASDES implementation.
* A workshop for Data Base implementation was held in Lima in March 2015.
* FMI’s weather information system SmartMet was installed in Colombia and Ecuador in conjunction with the COFIMET and FINAMHI –projects.

*Paraguay – FINPARA*

* The project was in the planning phase, with project estimated to begin in June 2015. Focus in the project is in strengthening the observation services of DMH by improving the quality and scope of the data, as well as on improving the hydrometeorological products and services provided by DMH to various stakeholders and end-users.

*Vietnam – PROMOSERV II*

* Introduced new approach of automatic network and service monitoring system with Nagios-software
* Lightning detection training introducing new technology to NHMS, services demonstrated with lighting detection trial period
* Calibration and maintenance procedures for AWS have been trained
* Automatic quality-control process installed and monitored

*Sudan and South Sudan – FISU*

* FMI expert mission “Hands-on training on forecasting and early warning process”
* Purchase of two servers and installation of numerical model WRF for mesoscale numerical prediction
* Hands-on training in Khartoum on configuration and operation of the WRF numerical model
* Full sponsorship on one SMA expert and co-sponsorship with WMO of another expert to participate in the Workshop on Numerical Model Verification in New Delhi, India
* Consultation to SMA and Sudanese Ministry of Environment on air quality monitoring and policies; improvement of connection between SMA and stakeholders on air quality.
* Support in the organization of Climate Outlook Forum for the Great Horn of Africa (GHACOF37)
* Sponsorship of Head of Public Relation to one week course “Improve Communication with stakeholders”
* Sponsorship of SSMD Director Mojwok Ogawi Modo to two missions in Khartoum, in the end of January and end of May.
  + In the first visit Mojwok attended the PB meeting and communicated with SMA experts for the procurement of manual observation instruments and South Sudan historical weather data from SMA.
  + In the second visit Mojwok attended the Climate Outlook Forum for the Great Horn of Africa (GHACOF37) and had the possibility of establishing/strengthening the connection with managers of neighbouring countries. In addition he could reach a final agreement of the procurement of instruments and historical data from SMA

*Bhutan – SHSB*

* One day workshop Socio-Economic Assessment of Hydro-Meteorological Services – Results for DHMS and stakeholders organized in Jan at Thimphu, Bhutan. Total number of participants was 35 where 20 were stakeholders.
  + The socio-economic study finalized in April 2014.
* Observation training organized on June 2014 in Finland
* Snow Training organized on Feb 2014 in Finland
* Forecasting training organized on Jun 2014 in Finland.
* WRF installed to DHMS in May 2014. During installation mission 3 day hands-on training organized for 3 persons and also basic training on Numerical Weather Prediction Models (total 22 participants).
* A tender was made on data management system (DMS). Training on DMS was given on Sep 2014 at RTS, Kathmandu.
* Current status and development needs of climate services assessed
* Short term and long term development plan for climate services drafted
* Facilities for Early Warning System assessed and development plan for EWS drafted
* Work with communication strategy. Discussions with Disaster Risk Management and media have started.

*Nepal – FNEP2*

* Numerical Weather Prediction (NWP) and WRF model installation and training
* Forecast verification begun in DHM. In addition the WRF model data and the monsoon season data were verified.
* Developing and releasing new climate services. Mission included the evaluation of the current status of DHM climate services and preparing a detailed plan to develop the services. Collaboration with ICI Bhutan and and Pilot Program for Climate Resilience (PPCR, World Bank) was taken into account when preparing the plans.
* Given R software training and testing one month precipitation forecast to Kathmandu (March 2014 data).
* Drafted Feature Addition Plan for the DHM Observation Database
* Radar site selection survey made
* Forecaster training given in Finland in June 2014
* Instrumentation training for two Nepalese technicians given in October 2014 in Finland.
* A draft for the DHM’s communication plan guidelines was produced during a 4-day communication training for four people in November 2014.

*Hindu Kush Himalayan – HKH HYCOS*

* HKH HYCOS is a regional project lead by ICIMOD, and aims at establishing a regional data sharing platform and Early Warning System for floods in the Hindu Kush Himalayan area.
* In HKH HYCOS the FMI works as an expert in Data Quality Control issues, and acts as an observer for the MFA in the bi-annual project Meetings.
  + The FMI has written a data Quality Control Manual for HKH HYCOS, and assisted the implementation of QC procedures in the data management system

*Uzbekistan / Central Asia – FINUZ*

* Installed an AWS at Uzhydromet RTC in May 2014
* The project was concluded in June 2014 with the Final Workshop

*Kyrgyz Republic – FINKMET*

The FINKMET project was begun in January 2014. The project focuses in improving the Kyrgyzhydromet’s capacity in Data Management, Air Quality Monitoring, Strategy process, and Modern Observations and Forecasting Processes

* A present situation assessment on air quality in Kyrgyz Republic was completed in March 2014
* A General plan for an Air Quality Observation Pilot system and its technical specification was drawn
  + Procurement process for instrumentation was begun
* An expert from the Kyrgyzhydromet was sponsored to participate in the EUMETSAT training workshop in Warsaw, Poland in June 2014
* A strategic planning workshop was conducted in Helsinki in August 2014
* FMI Air Quality experts attended the International Conference on Climate Change at Issyk Kul lake organized by Kyrgyzhydromet in September 2014

*Tajikistan – FINTAJ*

The FINTAJ project was begun in January 2014. The project focuses in improving the Tajikhydromet’s capacity in Climate Change issues, Air Quality Monitoring, Strategy process, and Modern Observations and Forecasting Processes

* Introduced downscaling and bias correction methodology used to enhance the results of the global climate models, and presented data formats used in climate sciences software tools that can be applied to climate data.
* Two delegates from the Tajikhydromet attended the Bonn 2014 UNFCCC conference with the support of the FINTAJ-project.
* A present situation assessment on air quality in Tajikistan was completed in May 2014
* A General plan for an Air Quality Observation Pilot system and its technical specification was drawn
  + Procurement process for instrumentation was begun
* A strategic planning workshop was conducted in Helsinki in August 2014
* FMI Air Quality experts attended the International Conference on Climate Change at Issyk Kul lake organized by Kyrgyzhydromet in September 2014

# Other information / Secondments

# Summary 2014

Total sum of all FMI projects funded by the Ministry for Foreign Affairs of Finland in 2014 was **1,672,212.60 EUR.** In addition, The FMI has implemented other development projects for e.g. WMO-DRR Balkans, Nordic Development Fund project in Malawi, and participated in the Natural Resources Institute of Finland’s agriculture development project in Kenya - totalling 167,664.30 EUR.

# Activities in 2015

Total MFA funding for 2014 to FMI managed projects in the field of meteorology is estimated at **1,800,000 EUR.** In addition to these projects, the government of Finland is supporting several other climate change and adaptation funds, NGOs and mechanisms.

Lists of MFA projects

*Caribbean SIDS-SHOCS2*

*Pacific SIDS – FINPAC*

*Bolivia – FINBOL*

*Paraguay - FINPARA*

*Andean regional – PRASDES*

*Vietnam – PROMOSERV2*

*Sudan and South Sudan – FISU*

*Bhutan – SHSB*

*Nepal – FNEP2*

*India – CLIMOB*

*Rehabilitation of the hydrometeorological observation network for Sava river in Serbia and Bosnia and Herzegovina*

Project Proposals in planning for

* *Myanmar*
* *Indonesia*
* *Sudan and South Sudan, FISU – Phase 2*
* *Ecuador, FINAMHI – Phase 2*

**Activity Report – FRANCE**

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| **1. Country** | |
| FRANCE | |
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| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2014 (in USD)** |
| 1 788 000 USD | Unknown |
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| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| Fellowships & training courses:   * 2-week Seminar “Climatology, a step towards climates services” in coordination with WMO   Fellowship granted to climatologists from Armenia, Congo Brazzaville, Egypt, Estonia, Indonesia, Kyrgyzstan, Lao, Latvia, Nigeria, Thailand   * Fellowships granted for other short-term to long term courses at Ecole Nationale de la Météorologie (ENM) * Internships at Météo-France research center (CNRM) defined in annual action plans with Maghreb countries (Morocco, Algeria, Tunisia) in NWP   [203 000 USD] | Météo-France/ French Embassies |
| Expert missions:   * Participation of 2 experts to the Workshop on Marine forecasting held in Dakar Senegal in March 2014, supported by WMO and ACMAD * Participation of an expert to PRESAO * Lectures in meteorology given at the Institute of Technology of Cambodia * Expert missions defined in annual action plans with Maghreb countries (Morocco, Algeria, Tunisia) in marine meteorology   [79 000 USD] | Météo-France/ French Embassies |
| Contribution to AMDAR Trust Fund  [10 000 USD] |  |
| Project development:   * Integration of water and agriculture sector into adaptation to Climate Change in West Africa   Beneficiary countries/regions: Niger, Benin, Senegal, possibly extended to the 17 countries of CILLS/CEDEAO with EU fundings.  Duration: 3 years (2011-2014)   * Regional project to support the development and implementation of simple carbon strategies resilient to climate change in Africa   Beneficiary countries/regions: Benin, Kenya, Uganda, Gabon  Duration: 3 years (starting in 2013)  [1 496 000 USD] | French Ministry of Foreign Affairs/  AFD/FFEM |
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| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| * + - * Budgetary reductions impact Météo-France’s level of investment in cooperation       * Lack of human resources to attend African RCOFs (PRESAO, PRESAGG)       * Reduction of expert missions due to geopolitical context in beneficiary countries | * Twinning project with INM Tunisia if selected (supported by EU) * Restoration of Madagascar CDMS, CLYSIS, in coordination with WMO * Support to the implementation of SWFDP in Western Africa through the global NWP Center of Toulouse * Development of cooperation with Bangladesh with the support of the French Embassy * Growing interest of trainees for the 3-month course on Meteorology & Management at ENM supported by WMO |
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| **8. Opportunities for more cooperation with other members / organisations** | |
| * Opportunities for consortia between European SMN to work on EU twinning projects * Development of relationships with the French ODA Agencies, AFD (Agence Française de Développement) and Expertise France | |

**Activity Report – GCOS**

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| **1. Country – Global Climate Observing System - GCOS (Switzerland)** | |
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| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2015 (in USD)** |
| 35,000 USD | 83,000 USD |
|  | |
| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| **2014** |  |
| 1. Provision of Radiosondes and Balloons for the operations of the GUAN station at Yerevan, Armenia | Japan |
| 1. Ongoing support + technical visit for the upgrade of the Climate stations and centralized processing in Madagascar | GCOS Trust Fund |
| **2015** |  |
| 1. Provision of Radiosondes and Balloons for the operations of the GUAN station at Yerevan, Armenia. | Japan |
| 1. Consultant in Africa (50% over 1 year), based in Zimbabwe, working on GCM projects in the region, issues with Climate data and specific visits/assessment of the observations networks in Mali and Chad. | Greece |
| 1. Repair, maintenance and training for the local engineers, for the Hydrogen Generator located at Harare, Zimbabwe. | Germany |
| 1. Repair, maintenance and training for the local engineers, for the Hydrogen Generator located at Gan, Maldives | UK (Direct Purchase order from Met Office not included in above financial contribution) |
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| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| Reduced funding from sponsors into GCOS Cooperation Mechanism.  Increased requests for technical and financial support from all Regions. | Working directly with Met Services (funding) and projects in the Region. |
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| **8. Opportunities for more cooperation with other members / organisations** | |
| See (7).  Better integration between projects from different application areas. A significant proportion of the costs, both set-up and ongoing operations, is for infra-structure and communications, much of which is generic for different observational systems. | |

**WMO Voluntary Cooperation Programme – Informal Planning Meeting 2015**

**Activity Report Template**

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| **1. Country** | | |
| Germany | | |
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| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2015 (in USD)** | |
| Total: 2,603,640 $  Equip & Services through WMO: 33,000 $ Equip & Services bilateral: 2,254,593 $ Fellowships & Training: 316,047 $ | [unknown] | |
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| **4. List of Activities / Projects / Events in 2014 related to contribution** | | **5. Sources of Funding (\*)** |
| In order to support NMHSs of developing countries in the introduction of regional numerical weather prediction, the DWD provided these free of charge with the **regional NWP model COSMO** and the corresponding boundary data based on forecasts of its global model GME. The DWD conducted a two-week training workshop in February 2014 enabling scientists from developing countries to implement and run the COSMO model at their home institutes. A special activity was that a DWD colleague spent one month in Niteroi/Brazil helping the staff with the use of NWP.  [ongoing] 135,000 $ | | DWD |
| **GIZ-DWD feasibility** study to analyse the technical and human resources capacities of the Weather Service of Madagascar and to assess the feasibility of the introduction of the COSMO model for operational weather forecasts and warnings.  [2014] 9,100 $ | | DWD/GIZ |
| For all seminars held at the DWD Meteorological Training and Conference Centre or at the DWD headquarters, **accommodation expenses** are reduced for participants from developing countries and countries with economies in transition. [ongoing] 9,900 $ | | DWD |
| DWD continues to offer **training programmes/fellowships in Germany at its own** offices or abroad for staff members of NMHSs of developing countries.  A special measure in 2014 was that DWD coached a holder of the Alexander von Humboldt Foundation scholarship from Ethiopia at the Climate and Environment Consultancy department (Jan-Nov 2014).  [ongoing] 62,800 $ | | DWD |
| **Data rescue**: Digitization of historical handwritten records of climate data from 1550 overseas stations of the Deutsche Seewarte (German Marine Observatory). The climate journals include data on precipitation, temperature, weather and other parameters, most of the periods 1884–1919 and 1930–1943. In 2014, 5 stations in China, Papua New Guinea and Togo have been digitized (including quality control of the data). In general, once digitized the data are made available to the home countries. [ongoing] 107,300 $ | | DWD |
| **Project „Data and Information Management for Adaptation to Climate Change” (DATACLIM) [2011–2014]**  Objective: To significantly improve the climate services of the Indonesian NMS BMKG in the field of adaptation to climate change through the introduction of a web-based information system. 220,000 $ | | DWD/GIZ (BMU) |
| Germany continued to support the **WMO RA VI Regional Dobson Calibration Centre** at Hohenpeissenberg. 52,300 $ Germany contributed to the continuous quality assurance program of the WMO by supporting the **GAWTEC** (Global Atmosphere Watch Training and Education Centre) [ongoing] 10,600 $  Two courses were financed during 2014 to provide technical assistance and training to station personnel and central facilities. (Most trainees came from countries in the WMO regions Africa, Asia and South America). 105,800 $ | | DWD  BMU / DWD |
| **SASSCAL** is a joint initiative of Angola, Botswana, Namibia, South Africa, Zambia and Germany undertaken to respond to the challenges of global change. The aim is to establish a Southern African Science Service Centre for Climate Change and Adaptive Land Management in the region.  Deutscher Wetterdienst contributes to the project through its co-operation with the National Meteorological Services (NMSs) on the improvement of climate data management. Since mid-2013, with the funds coming from BMBF, two scientists at DWD have been tasked with helping the local teams of the NMSs to install and use Climsoft, a Climate Data Management System developed in the region. Support and guidance are also given in the field of Data Rescue activities.  In addition, DWD advices SASSCAL on the possibilities of accessing climate data in general and helps it by organizing workshops and coordinating the cooperation with relevant international activities, e.g. WMO and UK Met Office.  [2012–2017] DWD’s contribution 170,000 $  Setup of weather stations and servers in Botswana and Angola 825,000 $ | | DWD / BMBF |
| **WASCAL: The West African Science Service Center on Climate Change and Adapted Land Use** is a large-scale research-focused Climate Service Center mandated to help the countries to tackle the challenges of climate change in West Africa. It was established by its member countries – Benin, Burkina Faso, Côte d‘Ivoire, The Gambia, Ghana, Mali, Niger, Nigeria, Senegal and Togo – with the support of BMBF. West African partners: the national meteorological services of Benin, Burkina Faso, Ghana, Côte d‘Ivoire, Mali and Togo.  In 2014, the evaluation of existing networks was completed for Togo, Burkina Faso and Cote d’Ivoire, Mali, Benin and Ghana. The costs for maintenance or upgrading of the stations have been evaluated. As to the densification and modernization of the networks, sites have been identified, together with the NMHSs, for 27 new weather stations in Burkina Faso, Togo and Cote d’Ivoire. As to digital data rescue, the inventory of uninterrupted stations in Togo, Burkina Faso and Cote d’Ivoire was started in 2014 [2012–2017] | | BMBF |
| In November, the **German IHP/HWRP Secretariat** organised and supported a workshop on seasonal prediction in Koblenz. 30 participants from all WMO Regions participated. The secretariat further supported a PhD student from Vietnam.  10 participants from downstream countries of the Danube, including Ukraine, were supported to participate in the meeting of Danubian hydrological cooperation in Deggendorf, Germany, in September 2014. The secretariat has started to collaborate with Jordan and Brazil towards improved data cooperation in the field of water quality. \_ 77,000 $ | | IHP/HWRP |
| **CAWa project** (Regional Research Network “Water in Central Asia”) **and the GFZ’s “Global Change Observatory”**  In the framework of the CAWa project, two training seminars have been held for specialists from Central Asian and Afghan Hydrometeorological services and research institutions:  1. Installation, Operation and Maintenance of CAWa HyMet Hydrometeorological Monitoring Stations; and  2. Operation and Maintenance of CAWa HyMet Hydrometeorological Monitoring Stations. The course materials are available as e-learning modules at the project’s e-learning platform.  As to infrastructure, one additional automated hydrometeorological monitoring station was installed in Uzbekistan in 2014 as part of the regional hydrometeorological monitoring network of the CAWa project. The station is a multi-parameter station providing meteorological information as well as data on snow characteristics and water level and river discharge information for the Maidantal river. The station was installed in cooperation with the UNDP “Climate Risk Management in Uzbekistan” programme. The modular stations may be extended to complex stations by other sensors, e.g. for early warning purposes.[2008-2017] 102,300 $ | | GFZ (AA) |
| **KfW project Ecuador:** The programme includes a component for the establishment of hydrological and meteorological stations in the province of Tungurahua. In the field of data recording and periodical evaluation, the Provincial Government cooperates with the national meteorological institute (INAHMI). 160,400 $ **[2010-2014]** | | KfW |
| **GIZ project Lebanon:** Protection of Jeita Spring: 5 weather stations were handed over to Litani River Authority. Cooperation with Council for Development and Reconstruction, Ministry of Energy and Water. [2014] 66,000 $ | | GIZ / BMZ |
| Adaptation to Climate Change in Mozambique**: “Community-based flood early warning system in the Mozambican part of the Limpopo Basin”.** INAM is involved. Financed by AusAid, UKAid and German Federal Ministry for Economic Cooperation and Development. [2013–2015] 110,000 $ | | GIZ/BMZ |
| **Southern African Development Community** (**SADC**) - Transboundary Water Management; Cooperation with national meteorological services to strengthen WMO-initiated hydro-met system (HYCOS). Special measure: A GIZ development aid colleague works for the Department of Meteorology in Botswana. [2014] ca. 230.000 $ | | GIZ/BMZ |
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| **6. Activities in 2015 will mostly cover the same areas and involve the same amounts as in 2014, intensification activity is possible in the following areas:** | | |
| - WASCAL: Workshop on “Regional Hydro-climate observation network set-up” (ReHCONS)  22-24 January 2015, Ouagadougou, Burkina Faso. The aim of the workshop was to improve the quality of the information provided by the National Meteorological and Hyd­rological Services of the member countries by connec­ting regional partners in a hydro-meteorological data collection and infrastructure network. Approximately 80 experts from National Meteoro­logical and Hydrological Services (NMHS), research institutions and West African universities participa­ted in the workshop.  Maintenance or upgrading of the existing stations is planned for 2015 as well as densification and modernization of the networks with new automatic weather stations.  Training on data rescue and paper/microfiches digitization services have been initiated with ACMAD for 2015.  -CAWa project Central Asia: In 2015, the CAWa project partners plan to install a total of 4 new stations in Afghanistan, Uzbekistan and Kazakhstan. Furthermore, additional trainings for Hydromet specialists are foreseen.  - Zambia: Climate Monitoring and Early Warning System for Weather-related Disasters: German Development Cooperation supports the establishment of an Integrated Water Resources Management Information System (IWRMIS). Funds will come from the German Energy and Climate fund. Measures: modernization and extension of rain gauging network to around 500 stations, data transmission facilities at meteorological stations, training, digitalization and quality control of historical met. data (ZMD is involved).  The establishment of the Water Management Authority (WARMA) as a recipient of IWRMIS was heavily delayed in 2014. Call for bids are underway and most contracts are close to being concluded so that the implementation of the system is supposed to start in 2015.  -Madagascar: As a result of the mission of the DWD experts to Madagascar in 2014: The Weather Service of Madagascar will submit a project application to GIZ in Q2 2015, with the objective to use the COSMO model for regional numerical weather prediction in Madagascar. | | |

**WMO Voluntary Cooperation Programme – Informal Planning Meeting 2015**

**Activity Report Template**

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| **1. Country** | |
| Hong Kong, China | |
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| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2015 (in USD)** |
| 27,200 USD | 28,000 USD |
|  | |
| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| 1. Workshop on Data Assimilation and Mesoscale Ensemble Forecasting was held on   1-5 December 2014, to introduce the latest data assimilation and mesoscale ensemble  forecasting techniques for strengthening the capacity of NMHSs in provision  of weather services, in particular the forecasting of high-impact weather events. | Government of the Hong Kong Special Administrative Region (HKSARG) |
| 1. The revamped World Weather Information Service (WWIS) website, incorporating GIS technology and some new features, was launched in June at a side event of the WMO Executive Council. A mobile version was also included to enhance user experience. |  |
| 1. Lectures on numerical weather prediction, nowcasting, public weather services and   media communication were delivered in the Regional Training Workshop under WMO  Severe Weather Forecasting Demonstration Project (SWFDP) held at Manila in June. |  |
| 1. The Asian Consortium for NWP Forecasts (ACNF) website was revamped and the forecast products were provided to the participants of the VCP workshop in addition to the existing users. |  |
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| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| Hong Kong, China welcomes additional funding from WMO to assist Members in  participating in the VCP courses and pilot projects, if required. | Hong Kong, China will continue to contribute to VCP and take forward pilot projects and relevant training/workshops to assist developing countries. |
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| **8. Opportunities for more cooperation with other members / organisations** | |
| The Workshop provided a good platform for Members to share their knowledge and experience in data assimilation and mesoscale models.  Further exchange (Item 4(I)) of experience in the implementation of data assimilation systems and operation of mesoscale models by NMHSs of Members is encouraged.  Hong Kong, China also welcomes greater participation of other Members in the pilot projects, as well as WWIS and Severe Weather Information Centre (SWIC) to develop the capacity of Members in need in the provision of public weather services. | |

**The VCP and related activities by Japan - report on 2014 and outlook for 2015**

1. **Overall Japan’s Contribution**

In 2014, through the Japan Trust Fund for Global Frameworks established in 2010 as Japan’s financial contribution to a broad range of WMO programmes and projects, Japan made a cash contribution of US$ 62,000 (after deducting 10% as WMO support cost). Also, Japan provided training courses/workshops and fellowships equivalent to US$ 318,341 during the year. In addition, Japan’s bilateral ODA projects for National Meteorological and Hydrological Services (NMHSs) of developing countries were implemented, mainly in Southeast Asia.

1. **Training Issues**

**2.1 Organization of Training Courses/Workshops**

* In March 2014, the Japan Meteorological Agency (JMA) hosted *the JMA/WMO Workshop on Effective Tropical Cyclone Warnings in Southeast Asia*. The workshop was intended to promote understanding among participating countries regarding the latest tropical cyclone (TC) analysis/forecasting and warning services, and to discuss ways to address the challenges including external assistance. It was attended by 9 experts from NMHSs in Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Thailand, the Philippines and Viet Nam as well as representatives of WMO and the Japan International Cooperation Agency (JICA), lecturers from the National Hurricane Centre (NHC), the Central Pacific Hurricane Centre (CPHC) of US National Oceanic and Atmospheric Administration’s National Weather Service (NOAA/NWS) and the Joint Typhoon Warning Centre (JTWC).
* From July to August 2014, on-the-job training for typhoon forecasters, funded by the Typhoon Committee (TC), was offered to three forecasters from Lao PDR, Malaysia and the Philippines at RSMC Tokyo - Typhoon Centre.
* From September to December 2014, JMA conducted a three-month Group Training Course *Reinforcement of Meteorological Services* with funding support from JICA. The course was attended by eight participants from eight countries (Bhutan; Cook Islands; Indonesia; Lao PDR; Mauritius; Myanmar; Sri Lanka and Vanuatu). This course aimed at reinforcement of meteorological services of the participating NMHSs by applying meteorological data/products such as numerical weather prediction, satellite images, and climate information to their services.
* In November 2014, *JMA Workshop on WMO Information System Implementation 2014* was held by the Global Information System Centre (GISC) Tokyo. The workshop was intended to promote understanding among participants regarding the WIS Competency Framework, operational guidelines for backup procedures and WIS Monitoring standards. It was attended by 18 representatives from NMHSs in Bangladesh, Cambodia, Lao PDR, Myanmar, the Philippines, Qatar, Sri Lanka, Thailand and Viet Nam, as well as presenters from GISC Offenbach (Germany), GISC Beijing (China) and the WMO Secretariat.
* Also in November 2014, JMA held a technical meeting for two experts from Thailand Meteorological Department as part of the activities of the project, Development of Regional Radar Network endorsed during the 46th TC session in February 2014.
* In fiscal year 2014, JMA’s Tokyo Climate Center held the Training Seminar on Global Warming Projection Information from 26 to 30 January 2015 at JMA Headquarters in Tokyo. The event was attended by 13 experts from NMHSs in Bangladesh, Cambodia, Hong Kong (China), Indonesia, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Nepal, the Philippines, Sri Lanka, Thailand and Viet Nam. The seminar focused on enhancing knowledge regarding global warming and related issues, and on improving individual countries' capacity for the generation of global warming projection information.

**2.2 Supports to Training Courses/Workshops**

* In February and March 2014, *Regional Training Workshop on Weather Radar Basis & Routine Maintenance and Real-Time Radar Rainfall Estimation & Forecasting* was implemented under ASEAN Sub-Committee on Meteorology and Geophysics (SCMG) framework developed by Thailand and Malaysia in collaboration through Japan-ASEAN integration Fund (JAIF). It was attended by 20 participants from NMHSs in Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand and Viet Nam as well as lecturers from JMA, JICA, Kyoto-university and Japanese radar manufacture.

**2.3 Expert Missions**

In 2014, JMA organized the following expert missions to NMHSs of developing countries for technology transfer, capacity development and/or investigation:

* Expert mission to the Philippines and Viet Nam to give advises on utilization of GISC system in April 2014
* Expert mission to Myanmar to give advises on utilization of GISC system in June 2014
* Expert mission to Myanmar to give lectures on producing Probabilistic Forecast Guidance of One-month Seasonal Forecast in June 2014
* Expert mission to the Philippines to give lectures on Wave Forecasting and Utilization of JMA’s Storm Surge models in December 2014

In addition, in April 2014, JMA dispatched a total of nine experts to the Post-Typhoon Haiyan Expert Mission to the Philippines jointly orgazied by WMO and the Typhoon Committee, and the mission to Viet Nam organized by WMO, to survey the devastated area caused by Typhoon Haiyan (Yoranda).

1. **Japan’s Official Development Assistance (ODA)**

**3.1 Grant Aid Projects**

* Grant Aid Project of *Improvement of Equipment and Facilities on Meteorological and Hydrological Services* (total: US$6 million) was launched in 2014 in Lao PDR for the enhancement of rainfall and thus river flood monitoring skills. The project provides Lao PDR with automated rain-gauge stations, automated water-level gauge stations and a Global Telecommunication System (GTS).
* Grant Aid Project of *Establishment of specialised medium range weather forecasting centre and strengthening of weather forecasting system* (total: US$26 million) was launched in 2014 in Pakistan for improvement the accuracy of weather forecasts and to disseminate forecasts and warnings speedily. The project provides Pakistan with replacement of existing meteorological radar in Islamabad, a wind profiler system and a Global Telecommunication System (GTS).

**3.2 Technical Cooperation Projects**

* Technical Cooperation Project of *Capacity Development of GLOF and Rainstorm Flood Forecasting and Early Warning in the Kingdom of Bhutan* was launched in 2013 in Bhutan. As a part of the activities of the project, JMA welcomed additional three participants from Bhutan Department of Hydro-Met Services (DHMS) to a part of JICA Group Training Course *Reinforcement of Meteorological Services.*
* Technical Cooperation Project of *Enhancing Capacity on Weather Observation, Forecasting and Warning* was launched in 2014 in the Philippines. This is for enhancement of capacity on meteorological monitoring, forecasting and warning by Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA). As a part of the activities of the project, a retired seinior official from JMA has been dispatched as a long-term expert.
* Technical Cooperation Project of *Improving of Meteorological Observation, Weather Forecasting and Dissemination* was launched in 2014 in Sri Lanka. This is for improvement the forecasting capability of the Department of Meteorology (DOM) and thereby effectively improving its capacity to minimize the impact of weather hazards. As a part of the activities of the project, a retired senior official from JMA has been dispatched as a long-term expert.
* Technical Cooperation Project of *Reinforcing Meteorological Training Function of FMS* was launched in 2014 in Fiji. As a part of the activities of the project, an ex-member of JMA has been dispatched as a long-term expert.

**4. Plans for 2015**

Himawari-8, the next generation meteorological satellite of JMA launched at 7 October 2014, is scheduled to start operation in mid-2015. All imagery derived from the satellite will be distributed to NMHSs via an Internet cloud service. Full sets of data will also be provided to researchers via archive servers operated by the Japanese Science Group on a best-effort basis. The HimawariCast Service will additionally disseminate primary sets of imagery via a communication satellite. By using the Japan Trust Fund for Global Frame Works, with WMO/DRA’s considerable assistances, JMA will provide seven sets of receiving equipment of HimawariCast to NMHSs of the Southeast Asian countries. Also, JICA will provide the system to several NMHSs in the South Pacific Islands. The on-site training for the receiving system accompanied with the installation will be conducted as well as additional trainings on the occasion of *the* *Sixth Asia/Oceania Meteorological Satellite Users’ Conference* (AOMSUC-6) to be held in Tokyo in November 2015. Also, a series of follow-up trainings for recipients of the receiving system is being planned.

In addition to the direct financial contribution to WMO activities through the Japan Trust Fund for Global Frameworks, JMA will make contribution to capacity developments of developing countries’ NMHSs, through organizing trainings/workshops and expert missions including AOMSUC-6, as well as the Group Training Course *Reinforcement of Meteorological Services* in cooperation with JICA to be held from September to December 2015. Several Japan’s ODA (Grant Aid or Technical Cooperation) Projects for developing countries’ NMHSs are being planned or planned to be implemented not only in Southeast/South Asia but also in Africa. Holding the fourth JICA-JMA-WMO meeting is under consideration to share relevant information and exchange views at the working level for the enhancement of synergies between Japan’s ODA projects and WMO activities.

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| **1. Country** | |
| Japan | |
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| **2. Overall national contribution in 2014 (estimate in US$)** | **3. Overall estimated national contribution in 2014 (in US$)** |
| VCP(F) **US$ 0**  VCP(ES) **US$ 380,341**  VCP(ES) Bilateral arrangement **unknown** | Unknown |
|  | |
| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| WMO ESCAP Typhoon Committee Trust Fund  **US$ 12,000** | Japan Trust Fund for Global Frameworks |
| GCOS Cooperation Mechanism  **CHF 50,000 (US$ 50,000)** | Japan Trust Fund for Global Frameworks |
| Group Training Course: Reinforcement of Meteorological Services (Bhutan; Cook Islands; Indonesia; Lao PDR; Mauritius; Myanmar; Sri Lanka and Vanuatu), Tokyo, Japan, September to December 2014  **JPY 9,887,000 (US$ 98,870)** | JICA |
| On-the-job training for typhoon forecasters, 2 weeks, (Lao PDR, Malaysia and the Philippines), Tokyo, Japan, July 2014 | ESCAP/WMO Typhoon Committee  World Meteorological Organization |
| JMA/WMO Workshop on Effective Tropical Cyclone Warnings in Southeast Asia (Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Thailand, the Philippines and Viet Nam; WMO, JICA, NHC, CPHC, JTWC), Tokyo, Japan, February 2014  **JPY 5,291,000 (US$ 52,910)** | JMA |
| JMA Workshop on WMO Information System Implementation 2014 (Bangladesh, Cambodia, Lao PDR, Myanmar, the Philippines, Qatar, Sri Lanka, Thailand and Viet Nam; WMO, GISC Germany, GISC China), Tokyo, Japan, November 2014.  **JPY 7,080,000 (US$ 70,800)** | JMA |
| A technical meeting on radar composite map for Thailand Meteorological Department under ESCAP/WMO Typhoon Committee, Tokyo, Japan, November 2014 | ESCAP/WMO Typhoon Committee |
| Project of Improvement of Equipment and Facilities on Meteorological and Hydrological Services (Grant Aid Project), 2014-, Lao PDR | JICA |
| Project of Establishment of specialised medium range weather forecasting centre and strengthening of weather forecasting system (Grant Aid Project), 2014-, Pakistan | JICA |
| Project of Capacity development of GLOF and Rainstorm Flood Forecasting and Early Warning in the Kingdom of Bhutan (Technical Cooperation Project), 2013-, Bhutan | JICA |
| Project of Enhancing Capacity on Weather Observation, Forecasting and Warning (Technical Cooperation Project), 2014-, the Philippines | JICA |
| Project of Improving of Meteorological Observation, Weather Forecasting and Dissemination (Technical Cooperation Project), 2014-, Sri Lanka | JICA |
| Project of Reinforcing Meteorological Training Function of FMS (Technical Cooperation Project), 2014-, Fiji | JICA |
| Regional Training Workshop on Weather Radar Basis & Routine Maintenance and Real-Time Radar Rainfall Estimation & Forecasting (Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand and Viet Nam; JICA, Kyoto-university and Japanese Radar Manufacturer), Bangkok, Thailand, February-March 2014.  **US$ 95761** | Ministry of Foreign Affairs, Japan (Japan-ASEAN Integrated Fund: JAIF) |
|  | |
| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| * Insufficient available experts to dispatch developing countries’ NMHSs for implementation of ODA technical cooperation projects * Need more regular communication between JMA and the donor agency to develop effective and efficient ODA projects * Need mechanisms to share information on developing countries’ NMHSs between JMA and the donor agency * Need more communication with recipient NMHSs to identify their needs | JMA will   * organize trainings/workshops regularly, and * promote informal discussion with the donor agency to enhance synergies between JMA’s activities, ODA projects and WMO activities. |
|  | |
| **8. Opportunities for more cooperation with other members / organizations** | |
| IPM could be a good opportunity to explore possible cooperation with other Members/organizations if more funding agencies can participate in IPM to share their activities with WMO and developed countries’ NMHSs. | |

(1 US$ = 1 CHF = 100 JPY)

**Activity Report – COUNTRY**

|  |  |
| --- | --- |
| **1. Country** | |
| New Zealand | |
|  | |
| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2015 (in USD)** |
| 222,200 USD | 220k USD |
|  | |
| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| **Observing Programme Support for Pacific Island Countries & Territories**  Provision of programme management, technical consultancy and engineering support, on a multi-lateral basis in conjunction with the US NOAA PI-GCOS support programme and the UK Met Office Pacific Fund programme (administered by SPREP from 1 April 2014). Includes technical support and advice via remote and in-country visits to Cook Islands, Kiribati, Niue, Tonga, Samoa, Tuvalu, Tokelau, Papua New Guinea, and the Solomon Islands  **US$40k** | MetService |
| **Severe Weather Forecasting and Disaster Risk Reduction Demonstration Project (SWFDDP)** – regional coordination by RSMC Wellington, including maintaining the MetConnect Pacific website. **US$43k** *[NB: upgrade to MetConnect Pacific in 2014 was funded (US$58k) by NOAA through WMO – not accounted for here].* | MetService |
| **SIDS** - Online banner placement to support the ‘Weather Together’ campaign at the third UN Conference on Small Island Developing States (SIDS) in Apia, Samoa, 1-4 Sept 2014. **NZ$7.6k** | MetService |
| **APN contributing to CAPaBLE -** Assistance to the Asia-Pacific Network for Global Change Research (APN) contributing to the Capacity Development and Enhancement for Sustainable Development in Developing Countries Programme (CAPaBLE). CAPaBLE builds and enhances scientific capacity in developing countries in the Asia-Pacific region to improve their decision-making in target areas related to climate change, water and food security, and global change that are linked directly to their sustainable development. **US$22.7k** | NZ MfE |
| **IPCC** - support for “Pacific launch” events to share Pacific-relevant information from the Working Group II and Working Group III contributions to the IPCC’s Fifth Assessment Report with Pacific island stakeholders. These outreach events were held in Fiji and Samoa in May 2014. **US$18.9k** | NZ MfE |
| Continued development of improved Pacific mean sea-level variation forecasts in cooperation. Assessment of new methodologies completed and currently being developed in to an operational system with NOAA / East-West Center, University of Hawaii, Bureau of Meteorology, CSIRO **US$15k** | NIWA |
| **ICU -** Development of new regional cyclone and water resource products from the Island Climate Outlook **US$10k** | NIWA |
| **CLiDESC** – Continued development of the CLiDESC climate services product generation tool that links to the CLIDE climate database developed for the Pacific region by the Bureau of Meteorology. **US$50k** | NIWA |
| Underpinning ad hoc advice and collegial support to Pacific Island technical staff involved in meteorological and hydrological monitoring in Fiji, Samoa, Cook Islands, Niue, Tuvalu, Micronesia, and Solomon Islands **US$15k** | NIWA |
|  | |
| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| Budget restrictions within New Zealand government agencies will continue to put pressure on funding for voluntary support programmes. | Opportunities may arise from the Finnish-Pacific Project (FINPAC), administered by SPREP.  Required upgrades to the upper air network ground stations likely to see close collaboration between relevant partners. |
|  | |
| **8. Opportunities for more cooperation with other members / organisations** | |
| MfE’s support for APN will likely continue at the same level. In addition, MfE will continue to look for other opportunities in the Pacific area.  MetService is collaborating with WMO on Pacific in-country training for the SWFDDP (April/May 2015). | |

**Activity Report – COUNTRY**

|  |  |
| --- | --- |
| **1. Country: NORWAY** | |
|  | |
|  | |
| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2015 (in USD)** |
| ~ USD 800.000 | ~ USD 900.000 |
|  | |
| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| Met. capacity building projects (supported and funded by The Norwegian Ministry of Foreign Affairs – MFA) in:   * Bangladesh – BMD ~ USD 200.000 * Myanmar – DMH ~ USD 200.000 * Vietnam – NHMS ~USD 200.000 | The Norwegian MFA |
| Oceanographic/Met capacity building project (funded by MFA) at Cuba. Budget: ~ USD 150.000. Collaboration with 3 Cubanian institutions:   * INSMET * CIP * IDO | The Norwegian MFA |
| Project “INDICE”: Capacity building in Calcutta India in empirical-statistical downscaling in collaboration with TERI and Uni Res in Dehli. | The Norwegian MFA and The Research Council of Norway |
|  |  |
|  |  |
|  | |
| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| So far mainly projects supported and funded by MFA. | Possible collaboration with Met Office (UK) on capacity building in Mozambique. |
|  | |
| **8. Opportunities for more cooperation with other members / organisations** | |
| Possible collaboration with Met Office (UK) on capacity building in Mozambique. Planning phase. | |

**WMO Voluntary Cooperation Programme – Informal Planning Meeting 2015**

**Activity Report Template**

|  |  |
| --- | --- |
| **1. Country** | |
| Republic of Korea | |
|  | |
| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2015 (in USD)** |
| **3,726,000** **USD** | **4,235,000 USD** |
|  | |
| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| **Capacity Development Program, Multi-year** Capacity Development Program on ICT for meteorological service – 15 staffs(Philippines, Sri Lanka, Bangladesh**, 93,000**$) | KOICA  \* Korea International Cooperation Agency |
| **Capacity Development Program**, **Multilateral** Capacity Development Program on ICT for meteorological service – 15 staffs(Haiti, Malaysia, Fiji, El Salvador etc, **93,000**$) | KOICA |
| **Capacity Development Program**, Training course on Weather Radar Operation and Data Utilization – 17 staffs(Indonesia, Mongolia, Ethiopia, Uganda etc, **97,000**$) | KMA  \* Korea Meteorological Administration |
| **Capacity Development Program**, Training Course on weather forecasting for operational meteorologist -10 staffs (Myanmar, Lao PDR, Kenya, Ethiopia etc., **97,000**$) | KMA |
| **Dispatching the retired meteorological experts** – 3 countries: Vietnam, Uzbekistan, Mongolia | NIPA  \* National IT Industry Promotion Agency(Korea) |
| Modernization of Forecasting and Warning System for Natural Disaster in Vietnam ('14~'16, 4,000,000$) **486,000$(’14)** | KMA |
| **Project for Disaster Risk Reduction through Installation of Meteorological Observation and Early Warning System in Ethiopia (’14~’17,** 4,000,000$) **1,000,000$(’14)** | KOICA |
| **Project for Improving Monitoring Capacity for Sand and Dust Storm (SDS) / Particulate Matter in China ('14~'16, 3,000,000$) 1,000,000$(’14)** | KOICA |
| Feasibility study for "Master plan for modernization meteorological service in Myanmar" (**200,000**$) | KMA |
| Support the TAPS(Typhoon Analysis and Prediction System) in Lao PDR (**5,000**$) | KMA |
| Establishment of Communication, Ocean, and Meteorological Satellite Analysis System in Philippines (2013-2014) | KOICA |
| **WMO-KMA Cooperation Project (ES)** – Modernization of Aviation Meteorological Center of Mongolia for Improving the aeronautical weather services (**655,000**$) | KMA |
| **WMO-KMA Cooperation Project (ES)** – Climate Data Restoration Project in Uzbekistan (2013-2015) | KMA |
| **WMO-KMA Cooperation Project (ES)** – Development of an Integrated Coastal Inundation Forecasting System in Fiji, (2012-2013) | KOICA |
| **Supporting the COMS data to 30 developing countries and Numerical Data to 30 developing countries for free** | KMA |
| **Invitation and consulting meteorological technology** – Indonesia Delegation’s Visit to KMA, Equipment and Technical Support for practical use of the COMS Data (Philippine, Sri Lanka, Lao PDR, etc.), Asia Meteorological Partnerships and Cooperation Enhancement Workshop | KMA |
|  | |
| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| Government’s ODA budget is increasing, but the meteorological ODA budget is unstable compared with other areas such as Civil Engineering, Health etc.  The most important thing for secure ODA budget from KOICA or other resource mobilization is the wiliness of the recipient countries for getting the projects, but almost recipient countries doesn’t consider the Meteorological area a high priority. | The number of requesting from developing countries for getting ODA projects is increasing, and the Korea’s budget administration understands the importance of meteorological and hydrological ODA projects. |
|  | |
| **8. Opportunities for more cooperation with other members / organizations** | |
| Because the total fund of ODA in Republic of Korea is increasing now, KMA expects the meteorological and hydrological ODA funds also increase.  KMA is cooperate with KOICA continuously, and extends the own ODA budget for immediate responding from developing country’s request.  KMA would like to continuously cooperate with WMO for supporting the developing countries, so KMA dispatched a staff to WMO for organizing and implementing the cooperate ODA projects.  KMA explains and persuades the importance of meteorology and hydrology areas with credit assistance organizations in KOREA such as EDCF, and will cooperate with the organizations.  KMA would like to cooperate with WB, ADB and AfDB. | |

**VCP report for Spain 2014-2015**

***(a) Summary report on the VCP technical cooperation activities carried out by your country in 2013 and prospects for 2014;***

Spain doesn’t carry out technical cooperation activities through VCP. All cooperation activities are bilateral or multilateral.

***(b) Brief summary of related bilateral/multilateral technical cooperation activities.***

Both activities during 2014 and prospects from 2015 in the Ibero-American Cooperation Programme are outlined in the CIMHET-XI Quito meeting declaration (2013) and the Quito action plan (2014-17) and refined and updated in the CIMHET-XII Cartagena meeting declaration (2015). The strategic alliance between AEMET and AECID (the Spanish Aid Agency) has been deepened and reinforced, securing thus most of the Capacity Development Activities until 2017. The West African Cooperation Programme follows the guidelines established in the AFRIMET meeting declaration of Boadilla (2012), although this programme has experienced some redesign and internal work both at AEMET and WMO and is expected to be actively revamped during 2015.

The Izaña Atmospheric Research Centre has continued its training and maintenance activities related to the aerosol observation network in Northern Africa, the Barcelona Dust Forecast Centre has become fully operational as WMO RMSC-ASDF and has carried organized a training workshop for its North African users and MedCOF has gained cruise speed and AEMET is supporting the participation of the North African NMHSs in this COF as well as organizing and supporting the COF itself.

**ACTIVITIES DURING 2014**

**CIMHET (Ibero-American Cooperation Programme)**

Governance, coordination, information

* Maintenance and update of [www.cimhet.org](http://www.cimhet.org) webpage
* Enhancement of coordination with RA III and CSB; side event in RA III-XVI, Asunción (Paraguay)
* Coordination with CODIA (Ibero-American Network of Water Services), Antigua (Guatemala)

GFCS-related activities

* Support to the Climate Outlook Forums of Central America and S South America.
* Support to the Regional Workshop on Climate Services at the National Level for Latin America. San José (Costa Rica) (1)
* Organization of the Regional Workshop on Drought and its effects in South America. Santa Cruz (Bolivia) (2).
* Organization of the Workshop on advanced capacities of the MCH database management system. Madrid (Spain) (3).

Education and Training activities

* Course on applications of satellite meteorology to tropical latitudes forecasting and weather watch. Antigua (Guatemala) (4).
* Course on the management of hydrometeorological automated networks for NMHSs. Santa Cruz (Bolivia) (5).
* Course on observation and forecasting of air quality for NMHSs. Antigua (Guatemala) (5).
* Training on the product use and interpretation of ECMWF NWP for DMN Chile. Santiago (Chile).
* Distance (on-line) Training course for aeronautical forecasters (COMET-Based)
* Support to the Workshop on the evaluation of the aeronautical competences of the NMHSs. Buenos Aires (Argentina).

Total trainees in 2013: 124 (plus 25 on-line)

Support to horizontal cooperation

* Spanish expert to DMH-Paraguay for consultancy on the new institutional framework.
* Support to Ibero-American experts to ONAMET-Dominican Republic and INSUVUMEH-Guatemala on the installation of the MCH database management system.
* Support to Mexican, Dominican and Venezuelan experts to attend the Workshop on calculation, interpretation and forecasts of the SPI drought Index in Costa Rica.

(1) Together with WMO-GFCS, SMN and CONAGUA

(2) With support from AECID and GWP

(3) WMO funded, participants from America, Africa and Eastern Europe

(4) With support from EUMETSAT and AECID

(5) With support from AECID

**AFRIMET (West African Cooperation Programme)**

MARINEMET project

* Different consultancy tasks in order to finish the pilot stage of the project and complete the transfer of operational duties to the countries (ongoing)
* Maintenance of the installed equipments (AWS and tide-gauges)
* Delivery of products in the webpage www.afrimet.org/marinemet/.

METAGRI OPS project

In-kind participation in the EUMETSAT Workshop on use of Satellite Products for Agrometeorology, Ouagadougou (Burkina Faso).

Other activities

Maintenance and update of the trilingual webpage of the Conference of the W African Directors of NMHSs (AFRIMET) [www.afrimet.org](http://www.afrimet.org).

**SDS-Africa and GAW-Sahara**

Cooperation activities from the Izaña Atmospheric Research Centre

* Quality assurance of SDS observations and capacity development for the AERONET Stations of Tunis-INM (Tunisia), Cairo-EMA (Egypt) and Tamanrasset GAW Station (Algeria)

Total trainees in 2014: 4

Other activities

* Currently AEMET is co-responsible for the ozonesonde program at the GAW Ushuaia (Argentina) station, providing a receiving radio/ozone sonde station. Data provided by this program, which has been run throughout 2014, are fundamental for the monitoring of the evolution of the ozone layer in the Antarctic.
* Management of the photometers network in North Africa, comprising measurements from the Canary Is. (Spain), Morocco, Algeria, Tunisia and Egypt.

**SDS-WAS regional node for North Africa, Middle East and Europe (BDFC-Barcelona Dust Forecast Center)**

AEMET, together with the Barcelona Supercomputing Center-Centro Nacional de Supercomputación (BSC-CNS) host and run this WMO Regional Meteorological Specialised Centre in Atmospheric Sand and Dust Forecasts (RMSC-ASDF), that turned operational in 2014 <http://dust.aemet.es>

BDFC provides operational forecasts on atmospheric sand and dust for North African (N the Equator), Middle East and European countries, and also develops capacity development activities such as the 4th Training Course on WMO SDS-WAS products, Casablanca (Morocco), November 2014, co-sponsored by AEMET, EUMETSAT and MeteoMaroc. (Total trainees: 13)

**CIIFEN-related activities**

AEMET keeps supporting the operations of the International Centre for Research on El Niño (CIIFEN) in Guayaquil (Ecuador), by mainly funding the fees of its International Director. Besides, AEMET held in 2014 the Chairmanship of the International Board of CIIFEN and is allowing the participation of this RCC for Western South America in the pertinent fora (such as CIMHET).

**ACMAD-related activities**

Support of 4 North African experts (from Morocco, Tunisia, Libya and Egypt) to attend the Third Session of the Mediterranean Climate Outlook Forum (MedCOF-3) in November, Antalya( Turkey). Spain (AEMET) is supporting this initiative, using the ACMAD TF in WMO to support African participation in this forum <http://medcof.aemet.es>

**PROSPECTS FOR 2015**

**CIMHET:**

ETR/Capacity Development

* Reinforcement of on-line training:
* Launch of the mixed on-line/attending BIP-M authorizing course (June 2015)
* Strategic alliance with AECID through the new Theme Knowledge Communities (CTC). AEMET is partner in two CTCs: Environment and Climate Change and Water and Sanitation. This grants AECID support to CIMHET CD activities and Conference Meetings until 2017 (included).

Resource mobilisation/GFCS related activities

* Design of regional-scope demonstration projects to be funded by the Latin American Investment Found (LAIF), EC-IADB-AECID: Data rescue, assimilation and generation of CC scenarios; early warning multi-risk systems (Central America).
* Strengthening of links with other stakeholders in cooperation, regional networks, etc.

**AFRIMET:**

Change in the programme management at AEMET in 2015. General revamp of the Programme presented in RA I-16 Cape Verde, currently on-going the redesign phase.

MARINEMET project: Completion of the demonstration stage.

* Organization of a workshop with the current stakeholders to determine a roadmap for the completion of the demonstration stage.
* Finish the configuration of computers and software and delivery to the countries, especially to the Dakar RSMC.
* System operation, currently working at AEMET HQs is expected to be transferred to Dakar RSMC in 2015.
* Finish the modellisation in port areas.
* Change the webpage design and products delivered.
* In-situ training after delivery of equipments. Workshops with end users.
* Consideration of extension of the area modelled to the Gulf of Guinea.

METAGRI OPS project

* New projects to be presented at the Afrimet-VI meeting
* Linkages to WASCAL?

HEALTHMET

* Currently linked with WMO-WHO joint office to look for synergies
* Reinforcement of synergies with SDS and HEALTHMET programmes. Workshop on health and dust together with WHO and USAid(?) for 4T 2015-1T 2016
* Linkages to WASCAL?

Other

* Organization of the AFRIMET-VI meeting for 4T 2015 (venue tbd).

**SDS-Africa and GAW Sahara:**

* After the completion of both projects, work will continue along two main lines: capacity development related to SDS-WAS and maintenance of the GAW-Sahara/AERONET current network. Funding will be provided with the Spain TF for ACMAD.
* Twinnings with GAW stations in Ushuaia (Argentina) and Tamanrasset (Algeria) are expected to continue.

**CIIFEN:**

Spain involvement in CIIFEN has evolved to a more active participation in the Scientific Board of CIIFEN, and a broader strategic alliance within the CIMHET framework and the RCC-WSA. AEMET has chaired the International Board of CIIFEN during 2014 and has transferred the chairmanship to the Ministry of Foreign Affairs of Ecuador at the IB meeting of March 2015 in Cartagena (Colombia).

**ACMAD:**

The cooperation of Spain with ACMAD is active along two main lines: SDS and GAW activities in North Africa and support to MedCOF for North African countries.

***(c) Estimated financial value of those contributions for VCP in 2013 (USD) through the VCP-Equipment and Services (VCP(ES)), Training/Fellowships and also equipment and services by bilateral/multilateral arrangements;***

**CIMHET (Ibero-American Cooperation Programme)**

Governance, coordination, information: 8,500 USD

GFCS-related activities: 32,500 USD

ETR activities: 185,000 USD

Horizontal cooperation: 15,000 USD

Total 2014: 241,000 USD

Note: This expense is directly attributable to the TF created by AEMET in WMO and estimates of AECID expenses.

**AFRIMET (West African Cooperation Programme)**

Total 2014: 8,100 USD

**SDS-Africa and GAW-Sahara**

Total 2014: 14,000 USD

BDFC Activities

Capacity Development (from ACMAD TF): 40,000 USD

Direct AEMET support to BDFC: 18,600 USD

**MedCOF** (from ACMAD TF)

Total 2014: 15,000 USD

**CIIFEN**

Total 2014: 76,206 USD

**TOTAL SPAIN 2014: 412,906 USD**

Note: These quantities are subject to final cross-check with WMO FIN.

**WMO Voluntary Cooperation Programme – Informal Planning Meeting, Hamburg, April 2015**

**UK VCP report: January-December 2014**

**1. Country:**  United Kingdom

**2. Overall national contribution in 2014 (estimate in USD)**

 ~$ \*1,427,767 \*Mainly bilateral activity

**3. Overall estimated national contribution in 2015 (in USD)**

~$ \*1,300,409

**Funding overview:**

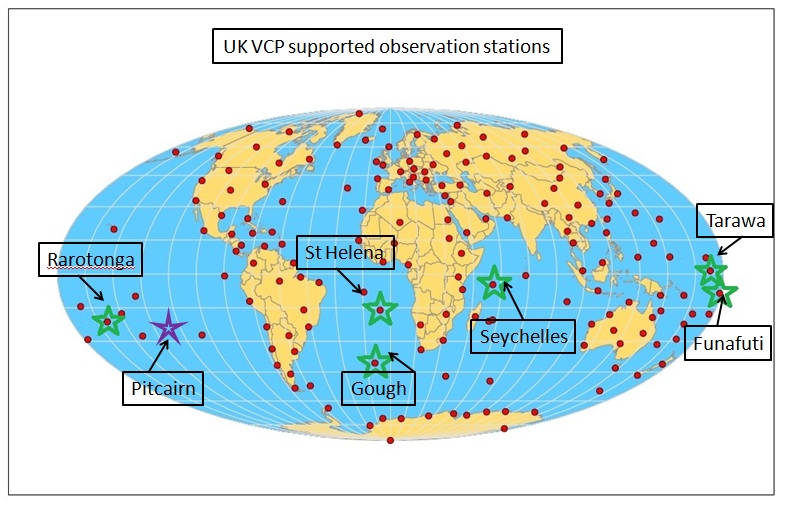
The main UK contribution to WMO VCP is funded as part of the UK Public Weather Service (PWS).

In addition, we seek to mobilise resources from other donors, where possible, in particular for match funding.

**Projects highlights from 2014**

### Project area – Observations

Records of the global climate are essential for monitoring climate change, but maintaining them requires effective observations to be taken all over the world. These observations are also highly valuable for both local and global weather forecasting. While most contributing countries can support surface observations, the upper-air component can be very expensive to maintain. Recognising this is the case for developing country National Met Services (NMSs), UK VCP works in partnership to help to support and maintain a number of remote sites.



* Continued support was provided to GUAN (GCOS Upper Air Network) stations in the Pacific (including Funafuti and Tarawa) and the GSN (GCOS Surface Network) station at Pitcairn, through our ‘Pacific Fund’. Additional support was provided to the GUAN station at Rarotonga, Cook Islands, and with agreement that consumables would be funded by UK VCP up to September 2016. Management of the fund was transferred to SPREP (Secretariat for the Pacific Regional Environmental Programme) in July ‘14 from MetService New Zealand, whilst MetService has continued to provide important technical support.
* Through provision of consumables, and the installation of a new Intermet system, UK VCP continued to support the GUAN site at Gough Island, in cooperation with SAWS (South Africa Weather Service).
* UK VCP continues to support the GUAN station at St Helena through an MOU with the St.Helena Government. A new MMS (Met. Monitoring System) was installed in March 2014. Observer training was also undertaken.
* Support for the GUAN station in the Seychelles continued with the provision of consumables. UK VCP also supported the technical assistance required for major maintenance of the hydrogen generator.
* Emergency consumables were donated to the GUAN station at Yerevan, Armenia in May 2014.
* UK VCP are in the process of providing assistance (equipment and training) to the upper air station at Gan, Maldives, in partnership with GCOS, to enable this station to get back up and running after a pause in observations.

### Project Area – Forecast Delivery

Provision of model data and products, and training of meteorologists in their interpretation and use, is another important element in which UK VCP works in partnership with developing country NMSs, in particular to assist with DRR.

* Continued support was provided to the WMO SWFDP (Severe Weather Forecasting Demonstration Project) through the delivery of Global Centre products to the Southern Africa, Eastern Africa and Pacific projects.
* Further training (NWP and PWS) assistance was also provided to the annual East Africa SWFDP workshops by a Met office forecaster and PWS Advisor. Training support to the Pacific SWFDP is also planned for 2015.
* Through UK VCP we are able to continue to provide forecast model information to African forecasters via our webpages. This includes fields from an Africa ‘cut-out’ of the Global Model (at 25km resolution, which is due to be upgraded to 17km in 2015), a 4km model over the Lake Victoria Region, and an ATD lightning product. In the very near future, model output from the extended 4km model over East Africa (covering the SWFDP-EA countries) will be available on our website (see new model domain below).
* We continue to work on an improved website/user interface during 2015 and are aiming to release this in summer 2015 to provide improved, and more interactive, access to our model products.
* A ‘cut-out’ from the Global model (25km) for the whole of Africa with ATD lightning data (15 minute) continues to be transmitted as GRIB data via satellite/ EUMETCAST. We are working with EUMETSAT in the hope of transmitting the updated Global model (17km) and 4km East Africa model data via EUMETCAST later this year.
* Following a feasibility study looking at the benefits of expanding the current Lake Victoria 4km model to a larger area across the East Africa Region, the expanded model coverage was released in 2014. Further studies to evaluate the model performance in relation to storms over East Africa are planned during 2015.
* Work is ongoing in partnership with Kenya Met Service to utilise marine buoy observations in Met Office models, including the 4km model, to help improve modelling, and forecasting information, across Lake Victoria.

Expanded domain of the Met Office 4km model over East Africa (red line). The original Lake Victoria 4km domain is within the blue boundaries.



* The annual Met Office/WMO Aviation Seminar was developed and delivered by two trainers from the Met Office College to 9 delegates at the Regional Training Centre in Doha, Qatar. The training covered AMF (Aeronautical Met. Forecaster) competency requirements and basic assessment techniques, aviation hazards, and competence assessment best practice & QMS. Considering the importance of Aviation services to NMSs, and challenges faced e.g. cost recovery, we will explore further ways to support Aviation provision by NMSs in 2015.

### Project area – Climate Data Management

The development of a sustainable, flexible and user friendly Climate Data Management System option, whilst also looking to build a user community of support and IT skills, has been the focus of UK VCP support in 2014, in particular through the development of CLIMSOFT.

* The inaugural CLIMSOFT Steering Committee meeting was held in July 2014 in Nairobi, chaired by Zimbabwe, followed by the initial Technical Advisory Group meeting. It discussed, amongst other things, the continuing requirement for the implementation of CDMS in developing country NMSs, the revised WMO Specifications document for CDMS and how it should be considered in the implementation and management of CLIMSOFT, and the roadmap for CLIMSOFT development. It agreed that open source development was the appropriate way forward for CLIMSOFT and set a target of developing the open source version of CLIMSOFT (V4) by mid 2015.
* As part of the ongoing developments, UK VCP supported the visit to the UK by the two main CLIMSOFT developers (from Kenya and Zimbabwe) to complete the requirements for V4 before starting development in 2015. This visit was also attended by SASSCAL who are also assisting with the CLIMSOFT project. The developers plan to return to the UK in April 2015 to undertake core development of V4.
* Whilst CLIMOSFT v4 is being developed, an updated and interim version (v3.2) was developed by the developers during 2014 with support from UK VCP, including the development of guides and videos (in English, French and Portuguese) for the CLIMSOFT support website.
* Support was also provided to Bhutan, Lesotho and Sudan in 2014, in partnership with WMO, to support their climate data management efforts, including visits/training by the CLIMSOFT developers.
* In conjunction with Reading University and the ‘African Maths Initiative’ in Kenya, work on R products for CLIMSOFT was supported. This work will now be incorporated into the CLIMSOFT developments in 2015.
* Continued support was provided to the E-SIAC (Statistics in Applied Climatology course) run by Reading University. This aims to help participants, many from NMSs, to develop skills in the interpretation and application of climate statistics, particularly for agriculture. This included support for updates to the course and participation of a number of students. In total 183 participants took part in the course from over 40 countries (with additional support from WMO) with good feedback.

### Project area – Media/Communications

UK VCP recognises the importance for an NMS to have the capability to effectively communicate its forecasts to the public and to key stakeholders.  This helps NMSs to fulfil one of its main Public Weather Service objectives: to protect the life and property of its citizens.  TV presentations can also give the NMS a higher profile and help to raise reputation both with the public and with the government, which in turn can help support further investment.

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Presenter training in Uganda 2014

* UK VCP continues to provide support for TV weather presentation delivery by NMSs. This includes support for TV users on our e-learning support website: <http://www.met-elearning.org/moodle_v2/>. The website provides advice and discussion forums on all aspects of the media studios including the use of “WeatherEye-PC”, the TV graphics package provided free from the Met office to developing country NMSs.
* In partnership with the WMO PWS Programme, and Uganda National Meteorological Authority, the media studio in Uganda was extensively refurbished and training delivered in May 2014. This enabled Uganda to resume broadcasting after a break of some years. Again this has been noted at high level: *“...the Minister of Information shared our presentation on her face book because of the contents in the Presentation. Also the Ministry of Disaster Preparedness in the Office of the Prime Minister has now requested me to include their email to be receiving daily TV Weather presentations”.*
* Again in partnership with the WMO PWS Programme, a new TV studio was installed and technical and presenter training provided in Burundi in September 2014. The installation and delivery in Burundi was provided entirely by regional experts from Kenya Met Service and Rwanda working in partnership with UK VCP.
* UK VCP funded regional experts from Swaziland Meteorological Service to deliver technical and presenter training in Lesotho in June 2014. They also delivered training in Mozambique in September 2014.
* UK VCP funded a technical expert from Kenya Met Service to upgrade the media studio in Comoros Island and provide training in November 2014.
* Hardware components were replaced at a number of sites including Namibia and Malawi.
* The new media studio provided to Dominica in 2013 continued to be supported remotely following installation in 2013. The studio is operating successfully and the met service has confirmed that it receives very good feedback from the government, the public and TV companies. Positive comments such as *"Good improvement"..."You all are doing a very good job....keep it up"* have been received!
* In collaboration with WMO, the Nigerian and Sierra Leonean Meteorological Services, UK VCP is assisting in the provision of TV weather service in Sierra Leone. The presentations will be created in Nigeria, sent to Sierra Leone for text to be added before being passed to the TV company. UK VCP provided a laptop to the PR of Sierra Leone in February 2015 to assist with this work. It is expected that the broadcasts will commence in the very near future.
* UK VCP plans to conduct software and presentation training in the Maldives in May 2015. A number of other NMSs who have made requests for studio equipment, training and upgrades will be reviewed, and implemented where possible, during 2015.
* As part of a larger DFID funded project on communication of weather and climate services in Kenya, UK VCP is supporting the installation of software to enhance the quality of radio broadcasts of weather and climate information in Kenya. The work began in September 2014 and is ongoing. Depending on the feedback and outcomes of this pilot project, we will potentially look to implement in partnership with other countries, in particular those who have studio equipment in place.
* UK VCP has organised the production of 4 short videos and 8 guidance sheets for WMO on how Members can effectively communicate with, and relate to, the media. They cover topics such as interview techniques for radio and TV, communicating uncertainty, handling difficult questions, press briefings, newspaper interviews and communicating climate change.

### Project area - Human Resource Development

* Four students (from Ghana, Indonesia, Malaysia and Mauritius) are being sponsored by UK VCP and WMO Education and Training Department (ETR) to undertake the “MSc in Applied Meteorology and Climate with Management” course at Reading University, having started in September 2014. It is recognised that, as well as development of scientific skills, there is also a need to support management training for NMSs, and hence the addition of management into the MSc in the last couple of years.
* Six students (from Zambia, Moldova, Gambia, Uganda, Trinidad &Tobago and Bhutan) completed the MSc course in September 2014.
* UK VCP continues to run a facilitated, online management training course, “Essentials of Management ” (EOM) each year. The last course finished in June 2014 and was completed successfully by 24 students (from 13 different developing country NMSs). More good feedback was received: *“This has really helped to refine my character and way of relating with my colleagues. The course has taught me all the skills I need to be a good manager....”*
* The current EOM course started in November 2014 and is scheduled to end in April 2015. A record number of 125 applications to participate in this course were received. 54 candidates (from 30 different NMSs) were selected to participate.
* In response to the feedback from a number of past EOM courses, UK VCP funded the development of additional training material that specifically focussed on finance and project management. This was released in August 2014 and made available as optional courses for applicants to cover in their own time.
* Under a new scheme, the WMO ETR and UK VCP support is enabling two meteorologists from Ethiopia and Tanzania to participate in the Initial Forecasting Course at the Met Office College in Exeter in April 2015. This will cover the basic meteorological knowledge in the WMO Basic Instruction Package for Meteorologists, BIP-M and enable them to gain the fundamental forecasting skills needed by new forecasting staff. Further students will look to be supported in 2015.

### Secondments

* In partnership with GCOS, UK VCP continues to fund the secondment of Mr Tim Oakley as the GCOS Implementation Manager.
* Aileen Semple began her secondment to the WMO Education and Training Programme in May 2014, supported by UK VCP.

**Activity Report – USA**

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| --- | --- |
| **1. Country** | |
| United States of America | |
|  | |
| **2. Overall national contribution in 2014 (estimate in USD)** | **3. Overall estimated national contribution in 2015 (in USD)** |
| @ $4.5 million from USNWS programs; significant (unidentified) additional contributions directly from USAID, USGS, and others | @ $6.5 million from USNWS programs; significant additional contributions directly from USAID, USGS, and others |
|  | |
| **4. List of Activities / Projects / Events in 2014 related to contribution** | **5. Sources of Funding** |
| WMO Gender Conference | VCP |
| Hispaniola Coastal Inundation (WMO) | VCP |
| CARICOF (Caribbean) | VCP |
| GFCS Compendium | VCP |
| RA IV Task Teams | VCP |
| Contributions to three Post-Thorpex Projects  South Sudan Capacity Development  AMS Support (International Day)  ESCAP (Caribbean Upper Air Maintenance)  Hurricane Attachment Program  LAPS for S Africa (Pilot project for Comms)  Tropical Cyclones Workshop  COMET  Central America River Flood Forecasting  Pacific International Training Desk  Chatty Beetle Small Unit Development  VLab  SPREP  Climate Training Workshop  Provision of International Products and Services  Tropical Training Desk  Africa Training Desk  RANET  Hurricane Handbook for Marshall Islands  Training and Translations of Flash Flood Materials  RapidCast Ground Station Expansion  Tsunami Training  Central America Flash Flood Training Workshop  Vietnam Capacity Development  ICIMOD/Himilaya | All VCP  Below: all USAID |
|  | |
| **6. Challenges in Resource Mobilization for your Activities / Projects / Events** | **7. Opportunities for Increased Activity for your Activities / Projects / Events** |
| Declining VCP budgets due to lack of new budgets from Congress and general spending reductions in the domestic sectors | USAID funding is stable—even growing; federal government finally has a budget for next year |
|  | |
| **8. Opportunities for more cooperation with other members / organisations: How about quarterly virtual meetings among major donors and WMO to discuss progress and plans?** | |
|  | |