

Progress on Deliverables (January-June 2012)

Introduction

1. The following document represents the first progress report on deliverables since the beginning of the full implementation phase of the WMO Monitoring and Evaluation (M&E) system. Based on the lessons learned from the pilot phase, the EC Working Group on WMO Strategic and Operational Planning (WG/SOP) recommended in its Fourth Session in February 2011 that the frequency of reports be reduced from quarterly to half-yearly.
2. The current report covers the first six months of 2012 (January-June), and is based on input received from all the Secretariat's departments.
3. The purpose is to highlight outcomes of WMO activities formulated in the 2012-2015 Operating Plan. The list is not exhaustive as the focus has been on outputs as opposed to inputs. Operational results or mandated activities have not been included.

Expenses by Expected Result (ER)

4. As indicated in Table 1, the level of expenditure across the ERs ranges from 43 to 48 percent for January-June 2012.

Table 1: Expenses by ER

ER ¹	Budget 2012-2013	Expenditure Jan-Jun 2012 ²	Expenditure / Budget
0	29,199,700	16,092,882	55%
1	9,829,700	4,588,322	47%
2	4,443,000	1,990,316	45%
3	8,956,000	3,889,004	43%
4	14,455,700	6,537,849	45%
5	9,374,000	4,407,914	47%
6	23,097,700	9,347,146	40%
7	8,344,300	3,988,077	48%
8	30,299,900	14,491,262	48%
	138,000,000	65,332,772	47%

Performance Results

5. Table 2 presents progress on deliverables per ER. For conciseness, the Key Outcomes (KOs) and Key Performance Indicators (KPIs) have not been included in the table. To provide more clarity, the outcomes have been organized by theme, such as marine meteorology, agricultural meteorology, disaster risk reduction, etc.

¹ ER 0 stands for apportioned costs

² Staff costs obligated by the end of the year

Table 2: Progress on Deliverables

Expected Result	Progress on Deliverables	Department
<p>1. Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate, water and related environmental predictions, information, warnings and services in response to users' needs, and to enable their use in decision-making by relevant societal sectors</p>	<p>Global Framework for Climate Services (GFCS)</p> <ul style="list-style-type: none"> - The Draft Implementation Plan of the GFCS, Terms of Reference and Rules of Procedure of the Intergovernmental Board on Climate Services were developed and approved by the Extraordinary Session of the World Meteorological Congress (Geneva, 29 – 31 October 2012); - Pilot Projects were conducted in Burkina Faso, Mali and Niger to draw lessons on critical elements for the establishment of Frameworks for Climate Services at national level as the national mechanisms to bridge the gap between climate information being developed by scientists, service providers and knowledge hubs on the one hand, and the practical needs of users on the other; - A communication strategy was developed to (i) advocate and continuously raise awareness about the needs, usefulness and benefits of the GFCS to Partners, Members, funding agencies and users; (ii) gradually develop sustainable partnerships and foster a sense of ownership with the lead UN Agencies and NGOs of the priority areas with the aspiration of mainstreaming the use of climate services into their working process; and (iii) motivate Members to support the framework through contributions to the GFCS Trust Fund and ongoing funding of climate infrastructure, programs and projects and of specific climate services activities nationally, regionally or globally; - A Dialogue for Climate Services Users and Providers was organized from 26 to 27 October 2012 as part of the Extraordinary Session of the World Meteorological Congress; - A publication “Climate Exchange” containing case studies on the production and application of climate services around the world was launched on the 26th of October 2012; - An Atlas of Health and Climate produced by WMO in collaboration with WHO was launched on the 29th of October 2012; - A Regional Workshop on Climate Services at the National Level for LDCs in Asia, was organized in Bangkok from 8 to 10 October 2012; - Side events on GFCS were organized at major events such as Rio +20, SBSTA 36, 6th World Water Forum, World Water Week, AMCOMET; 10th Meeting of Directors of Ibero-American NMHSs. In addition, GFCS has been featured as keynote presentation in major international conferences and events. <p>Public Weather Services (PWS):</p> <ul style="list-style-type: none"> - TV weather presenters from 12 NMHSs in developing and least developed countries were trained on communicating alerts and warnings. - Action plans were developed for implementation of the PWS component to assist with service 	<p>WDS</p>

Expected Result	Progress on Deliverables	Department
	<p>delivery to the public and other users.</p> <ul style="list-style-type: none"> - PWS guidelines were developed on strategies for use of social media by NMHSs; - More progress was made in the implementation of the Common Alert Protocol (CAP) standard for better delivery of warnings of severe weather and related hazards to the public and other users at a workshop in Montreal, Canada, attended by approx. 100 participants. An advisor was appointed, a brochure developed, and planning on another workshop started. - The proceedings of the RA VI Conference on the Social and Economic Benefits of Weather, Climate and Water Services (PWS-23/ROW-1) were published. - A training workshop for 20 participants from RA III and RA IV was conducted in Miami, USA, with a particular emphasis on service delivery and the socio-economic benefits of hurricane forecasting. - There were 40,500,000 page visits to the World Weather Information Service (WWIS) and 10,400 to the PWS in the reporting period. <p>Forecasting:</p> <ul style="list-style-type: none"> - A total of 56 participants from the meteorological services of Rwanda, Burundi and Uganda were trained under the WMO Severe Weather Forecasting Demonstration Project (SWFDP). - Important exchange on scientific advances in operational tropical cyclone forecasting and warning services took place at the 2nd WMO International Conference on Indian Ocean Tropical Cyclones and Climate Change in February in New Delhi. A report was also prepared. - Plans were developed for the launch of the SWFDP in the Bay of Bengal at a workshop in New Delhi, India. In addition, the work and deliverables for 2010-12 were reviewed and work programmes developed for 2012-14 for the Coordination Group on Forecast Verification of the Commission for Basic Systems (CBS/CG-FV), CBS OPAG on PWS and DPFS, the WMO/CBS Expert Team on Extended and Long-range Forecasting, and the SWFDP Steering Group. <p>Aviation Meteorological Services:</p> <ul style="list-style-type: none"> - Three training events on Quality Management Systems (QMS) were conducted and action plans developed in Sri Lanka (13 participants from 11 countries), Kenya (18 participants from 11 countries) and Libya (17 participants). - Eight meetings and capacity building events on volcanic ash, meteorological hazards to aviation, new meteorological services to aviation, and competency assessment were conducted in Canada (5 events with 20, 120, 25, 18, and 22 participants, respectively), Qatar (23 participants), Russia (31 participants), France (50 participants) and the United States (25 participants), with broad membership participation. Some of the outcomes included establishment of best practices for 	

Expected Result	Progress on Deliverables	Department
	<p>Volcanic Ash Advisory Centres (VAAC), development of procedures for volcanic ash events, knowledge transfer from science to operations, and improved capacity to conduct competency assessments and deal with meteorological hazards to aviation. In addition, airline pilots associations were informed of new services at the 67th Conference of the International Federation of Air Line Pilots Associations (IFALPA) in Paris.</p> <p>Marine Meteorology:</p> <ul style="list-style-type: none"> - WMO participated in activities in support of the International Maritime Organization, mainly through the Sub-committee of Radio communications and Search and Rescue (COMSAR 16 – March 2012) and at the regional level on the feasibility of the establishment of a Maritime Search and Rescue Centre in Central America (RA-IV) associated with marine safety information and other marine services. The outcomes will contribute to further implementation of the World Wide Metocean Warning Service System globally, and will fill in a gap at the sub-regional level on Search & Rescue capabilities. <p>Agricultural Meteorology:</p> <ul style="list-style-type: none"> - 2 Expert Teams of the Commission on Agricultural Meteorology (CAgM) and two conferences on agromet services were held. As a result, products from several WMO Members were disseminated to the agricultural sector. - 11 Roving Seminars in Cote d'Ivoire with a total of 416 farmers participated with a grand total of 450 persons including agricultural agents and others) representing 193 villages. - Joint WMO-FAO Training Seminar in Monrovia, Liberia In April 2012 with a total of 14 participants, with four (4) from FAO, five (5) from the Ministry of Agriculture (MOA) and five (5) from Meteo-Liberia/Ministry of Transport. - Stakeholders Meeting on Agromet and Soil Moisture Applications for South Africa was held in Pretoria, South Africa at the Agricultural Research Council - Institute for Soil, Climate and Water (ARC-ISCW) from 29 to 30 May 2012. There were 15 participants representing the South African Weather Service (3), the ARC-ISCW (5), University of Free State (1), University of KwaZulu-Natal (3), WMO (1), and George Mason University from the USA (2). 	CLW
2. Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements	<p>Forecasting:</p> <ul style="list-style-type: none"> - The 2nd SWFDP – Eastern Africa NWP/Web Developers Workshop was held in Nairobi, Kenya to evaluate progress in implementing SWFDP as well as identify gaps and develop a strategy to address them. The workshop included actual work on the development of the Regional Specialized Meteorological Centre (RSMC) Nairobi website and portal for the Eastern Africa project, and on the COSMO installation and display of products. 	WDS

Expected Result	Progress on Deliverables	Department
	<ul style="list-style-type: none"> - 23 participants benefited from the RA IV Workshop on Hurricane Forecasting and Warning and Public Weather Services held in Miami, USA, which aimed at improving understanding of the roles and procedures of forecasters in hurricane forecasting. - The past hurricane and tropical cyclone seasons were reviewed and regional coordination mechanisms updated and enhanced at the 34th Session of the RA IV Hurricane Committee and the 14th Session of the RA V Tropical Cyclone Committee, respectively. - 28 forecasters from the region under the responsibility of Typhoon Committee were trained on the outcomes of the WMO Typhoon Landfall Forecast Demonstration Project. - Plans and strategies were developed for the future improvement of the work of the Typhoon Committee and disaster risk reduction in the region under its responsibility. - 4 projects are being implemented in the framework of the Flash Flood Guidance System (Southern Africa, Black Sea and Middle East, and Mekong Basin) and 2 other are being developed (South Eastern Europe and Southern Asia) - APFM Help Desk has provided support in response to 26 requests received - A meeting was held in Lusaka, Zambia, to design and plan a demonstration project in the framework of the Flood Forecasting and Early Warning System in the Zambezi River Basin. 	CLW
<p>3. Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support in particular disaster risk reduction and climate impact and adaptation strategies</p>	<p>Disaster Risk Reduction</p> <ul style="list-style-type: none"> - WMO DRR Programme Work Plan (2012-2015) was developed through consultation with the Bureau, Presidents of Technical Commissions and Regional Associations - Book entitled “Institutional Partnerships in Multi Hazard Early Warning Systems: A compilation of Seven Good Practices and Lessons Learned” published - South East Europe Phase I project report completed and published - Caribbean Assessment report “Strengthening of Risk Assessment and Multi-hazard Early Warning Systems for Meteorological, Hydrological and Climate Hazards in the Caribbean: final report” completed and published - DRR Costa Rica Early Warning System Project initiated which will demonstrate the benefits of cooperation of the National Meteorological Service with the Disaster Risk Management Agency, the National Hydrological Service and authorities and stakeholders in the local communities for development of early warning systems - Partnership with the Centre for Research on the Epidemiology of Disasters (CRED) was established for development of an atlas and annual joint WMO/CRED reports on the impacts of meteorological-, hydrological- and climate-related hazards, with CCI and aligned with the GFCS 	DRR

Expected Result	Progress on Deliverables	Department
	<p>vision</p> <ul style="list-style-type: none"> - South East Asia proposal “Strengthening Regional Cooperation for Development and Sustainability of Meteorological, Hydrological and Climate Services to Support Disaster Risk Reduction and Adaptation in Southeast Asia” developed. - DRR focal points for CBS, CCL, JCOMM and CHy established to support implementation of the DRR Work plan - Strengthened cooperation with UNESCO-IOC through linking the tropical cyclone committees and the ICGs for Tsunami and Coastal Hazard Warning and designation of a WMO GTS/WIS focal point to the UNESCO-IOC - Strengthened cooperation with a number of socio-economic agencies such as ASEAN - Strengthened collaboration with the Conference of the Parties to UNFCCC work programme on loss and damage through the work of DRR Programme in hazard/risk analysis <p>Climate Prediction and Risk Management:</p> <ul style="list-style-type: none"> - 2 Regional Climate Centres (RCCs) are ready for WMO designation. 6 RCCs are in, or preparing for, demonstration phase. - Several Regional Climate Outlook Forums (RCOFs) were held with WMO support, and a draft guidance document on seasonal prediction and verification made available. A Global Seasonal Climate Update (GSCU) meeting was held in June, and a trial phase is underway. - A publication on 'Improving Climate Risk Management at Local Level - techniques, case studies, good practices and guidelines for WMO Members' has been published (InTech: http://www.intechopen.com/books/risk-management-current-issues-and-challenges/improving-climate-risk-management-at-local-level-techniques-case-studies-good-practices-and-guidelin). <p>Hydrology and Water:</p> <ul style="list-style-type: none"> - An agreement has been signed with the European Union for the implementation of the IGAD-HYCOS project, Phase II. WMO is executing agency of the project funded with a grant of 3.8 million euro over a duration of three years. - An agreement has been signed with the Senegal River Development Organization (OMVS) for supporting the development of Senegal-HYCOS project proposal. - WMO has kept providing support and technical guidance to the implementation of several HYCOS projects in various stages of implementation, namely, Mekong, HKH, Carib, Congo and Niger, Hydrological Cycle Observing System. - A regional workshop on hydrometry was organized by WMO in cooperation with Brazilian National 	CLW

Expected Result	Progress on Deliverables	Department
	<p>Water Agency in Manaus.</p> <ul style="list-style-type: none"> - The first RA VI Hydrology Forum was organized in Koblenz (Germany). - Discussions were held with GWP, UNESCO and other potential partners. A draft concept on drought management was prepared and regional meetings planned. - The HWRP Technical Report No. 1 (WMO-No. 1094) "Climate and Meteorological Information Requirement for Water Management" has been published <p>Climate Monitoring and Watch Systems:</p> <ul style="list-style-type: none"> - Provision and dissemination of the WMO Annual statement on the status of the global climate for 2011 which was published in March 2012; - A pilot phase on implementing a Climate Watch System was launched with the provision of regional climate advisory and guidance on the summer heat waves in South Eastern Europe with the collaboration of RCC-CM in Germany and several NMHSs; - A publication on extreme cold winter 2012 over Europe has been accomplished and planned for publication as a WCDMP series; - A substantial progress was made in the publication of the WMO decadal global climate assessment report for the period 2001-2010. 	
<p>4. Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable Earth- and space-based observation systems for weather, climate and hydrological observations, as well as related environmental and space weather observations, based on world standards set by WMO</p>	<p>WMO Integrated Global Observing System (WIGOS):</p> <ul style="list-style-type: none"> - WIGOS has hit the road running with successful preparation of a WIGOS Framework Implementation Plan (WIP) that was adopted by EC-64. - Assistance was provided to RA I, II and V in the development of their Regional WIGOS Implementation Plans, and those plans are ready for finalization/approval by the respective RA Management Groups. - The Implementation Plan for the evolution of global observing systems has been developed and submitted to CBS-XV for consideration. - Transition plan to integrate AMDAR into WWW and the respective TCs was developed by the AMDAR and submitted to CBS-XV for consideration. - Considerable work has been undertaken to implement and refine the CMA provided monitoring software to facilitate the monitoring of observations from GOS shared on the GTS. The ability to distinguish between observations not submitted and nil reports in circulation was a particular improvement. - Successful meetings of the AMDAR panel management group and a WMO AMDAR Panel Aircraft 	<p>OBS</p>

Expected Result	Progress on Deliverables	Department
	<p>Observing System Data Management Workshop were conducted.</p> <ul style="list-style-type: none"> - The marine observations programme participated in five meetings in the first half of 2012. Included was JCOMM IV, the Second International Symposium on the Effects of Climate Change on the World's Oceans, a Preparatory workshop for an International Forum of Users of Satellite Data Telecommunication Systems, the Third In-Region Capacity Building Workshop of the Data Buoy Cooperation Panel for countries of the Western Indian Ocean and a Workshop on the JCOMM/IODE Ocean Data Standards Pilot Project. It is also working with the WWW Data Monitoring system to populate the KPI details. <p>WMO Information System (WIS):</p> <ul style="list-style-type: none"> - 2012 saw WIS successfully going operational in January 2012, led by Deutscher Wetterdienst (DWD), China Meteorological Administration (CMA), and Japan Meteorological Agency (JMA) as Global Information System Centres (GISCs) along with many Data Collection or Production Centres (DCPCs). GISCs Toulouse and Exeter also came online in the period. CMA and JMA provided an interim metadata management service for centres whose associated GISCs were not yet operational. Positive feedback from national users in Japan reflects the benefits of an international service such as GISC Tokyo to national users. A very good start for WIS. - As of mid 2012, 356 centres had been identified in WIS. 102 of these had been approved by Cg XIV. The Expert Team on GISC-DCPC demonstration process has been working hard to get all approved centres endorsed as WIS compliant. 60 of the 135 identified GISCs and DCPCs have achieved this to date. - CBS expert teams have been working on identifying metrics for the WIS core network and overall health of WIS. The initial proposals were presented to CBS Management group and will be reviewed at CBS. Much work is to be done in 2012/13. Work to date has provided important updates to the manuals on WIS and the GTS and their guides to be presented to CBS. - CBS expert data management teams have met and prepared for CBS and have been working with other expert teams to progress on developing documentation for users to increase their ability in data management and data processing. Some of these will be presented to CBS as updates to the Manuals on WIS, GTS and associated guides. Good progress is being made on the development and implementation of an aviation XML. <p>Data Management Applications:</p> <ul style="list-style-type: none"> - The CCI Expert Team on Climate Data Management System identified key areas for the development of modern Climate Data Management Systems (CDMS and the list of recommended climate metadata to be handled by the new CDMSs). - A project for developing Guidelines on new CDMSs specifications with consideration of GFCS 	

Expected Result	Progress on Deliverables	Department
	<p>requirements and WIS capabilities was launched.</p> <ul style="list-style-type: none"> - CCI Experts with the secretariat assistance are developing an International Climate Assessment and Data Sets (ICA&D) based on federating existing Data Rescue initiatives worldwide. A side event on this activity is planned at the Pre-congress dialogue meeting, 26-27 October 2012. - A progress was made in the preparation for launching a West African Initiative on Data Rescue and Digitisation of climate records (WADARE). A workshop is planned to be held in November 2012, Accra, Ghana. - A concept paper for organising and international workshop on climate data requirements has been accomplished. The workshop is planned to be held in first semester of 2013. <p>Global Climate Observing System (GCOS):</p> <p>(1) GCOS Cooperation Mechanism:</p> <p>Several projects aimed at expanding and improving the GCOS Upper-Air and Surface Networks (GUAN and GSN) have continued or been launched in recent months:</p> <ul style="list-style-type: none"> - A year's supply of radiosondes for Khartoum, Sudan; and Yerevan, Armenia - Further support for the upper-air station at Rarotonga. - The project to renovate the 11 GSN stations in Madagascar is nearing completion. Despite some remaining telecommunication issues, the equipment has been installed at the first two stations by the UK Met Office and the staff from the Madagascar met service will complete the rest. - Repair and renovation of two stations in Democratic Republic of Congo and replacement of the main telecommunications link to the WMO Global Telecommunication System (GTS). - Implementation of a new modern telecommunications system in Zambia. - A contract has been awarded for the replacement of the instruments at the 4 GSN stations in Cuba. - Progress upgrading the 8 GSN stations in Angola is still slow. The new equipment has been installed at only the Luanda station. The Met Service has requested further assistance for the staff for the installation of the remaining stations. The GCOS contractor in Africa will travel to Angola again to assist in the remaining installations. <p>(2) Regional Implementation Activities</p> <ul style="list-style-type: none"> - South America: The GCOS Secretariat, in partnership with the Centro Internacional de Investigaciones para el Fenómeno El Niño (CIIFEN), organized a regional workshop at CIIFEN Headquarters in Guayaquil, Ecuador, 13-15 March 2012, to address ways to improve climate observing networks to support climate services and the development of adaptation strategies. The meeting discussed the regional priorities for integrated projects 	

Expected Result	Progress on Deliverables	Department
	<p>and the need for, and role of, climate observations within these projects. The workshop report is available on the GCOS website.</p> <ul style="list-style-type: none"> - The Climate for Development in Africa Programme: Secretariat staff have attended, and contributed to, all three Steering Committee meetings to date. The most recent Steering Committee meeting was held in Addis Ababa, Ethiopia in March 2012. ClimDev Africa is now entering its implementation phase, and the Steering Committee gave particular attention to reviewing the Programme's draft Work Plan and Budget for 2012-2014. Several projects of special relevance to GCOS have been included in the Programme, including one to renovate GSN and GUAN stations in seven African countries and one to enhance the network of geo-referenced sea level observation stations in Africa. <p>(3) Facilitating Observations for Climate Research:</p> <ul style="list-style-type: none"> - International Conference on Reanalysis: The 4th World Climate Research Programme (WCRP) International Conference on Reanalysis was held from 7-11 May 2012 in Silver Spring, USA. The Chairman of the GCOS Steering Committee, and a Steering Committee Member served on the Programme Committee for the conference and provided several talks. The conference identified a distinct need for international coordination of the input observations (<i>in-situ</i> and remotely sensed and covering atmosphere, ocean and land) for climate reanalyses. For more information visit the conference website: http://icr4.org/ <p>(4) Communication and Outreach Activities: GCOS 20th Anniversary</p> <ul style="list-style-type: none"> - The year 2012 marks the 20th anniversary of the Global Climate Observing System (GCOS), the system dedicated to ensuring provision of the observational data and information that is the foundation for decisions on climate. The GCOS Programme formally celebrated the 20th anniversary of the Global Climate Observing System on Friday, 29 June 2012, during the 64th WMO Executive Council meeting in Geneva. The celebration provided an opportunity to review the origins of the GCOS, to take stock of the accomplishments of GCOS in the first twenty years of its existence, and to think ahead about new opportunities and challenges for GCOS. <p>(5) Facilitation of new climate networks: GRUAN ICM-4 and Network Design Workshop</p> <ul style="list-style-type: none"> - The 4th Implementation and Coordination Meeting (ICM-4) of the GCOS Reference Upper-Air Network (GRUAN) was hosted by the Japan Meteorological Agency (JMA) in Tokyo, Japan, from 5-9 March 2012. The annual ICMs afford an opportunity for the Working Group on GRUAN (formerly the Working Group on Atmospheric Reference Observations; WG-ARO), the GRUAN Lead Centre, and representatives from current and prospective GRUAN sites, as well as other stakeholders, to review progress, highlight issues and plan the way 	

Expected Result	Progress on Deliverables	Department
	<p>forward for GRUAN.</p> <ul style="list-style-type: none"> - GRUAN sites will provide long-term, high-quality, error-characterized upper-air climate records to address the needs of four main scientific user communities, viz. climate change detection and attribution, satellite validation, understanding of atmospheric processes, and numerical weather prediction. The initial network, currently consisting of 15 sites, is expected to eventually expand to 35-40 sites. To carefully plan its expansion and to most effectively advance GRUAN's scientific objectives, a Network Design Workshop was held in Fürstenwalde, Germany, from 13-15 June 2012. Bringing together representatives from the four user communities, this workshop aimed to define the criteria which should guide GRUAN as expands to the full suite of sites. These criteria were captured in four white papers, which will be synthesized into a GRUAN Report later this year. <p>(6) Supporting the Framework Convention on Climate Change (UNFCCC):</p> <ul style="list-style-type: none"> - The United Nations Framework Convention on Climate Change (UNFCCC) Climate Change Conference, including the 36th sessions of Subsidiary Bodies (SBSTA & SBI), the Ad Hoc Working Group on Long-term Cooperative Action, and the 17th session of the Ad Hoc Working Group on Further Commitments for Annex I parties under the Kyoto Protocol, was held in Bonn, from 14-25 May 2012. A WMO-GCOS side event was organized on 17 May, titled 'Progress with the implementation of the Global Framework for Climate Services (GFCS)'. The Parties considered the timing of the 'GCOS improvement and assessment cycle' and concluded that a new assessment of progress and adequacy report, building on identification of needs for adaptation and provision of climate services in general, and informed by identification of uncertainties by the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment process, should be prepared by early 2015. This Third Adequacy Report would be followed by a new GCOS Implementation Plan, to be published in 2016. The Third Adequacy Report and the draft of a new implementation plan should be submitted to SBSTA43 at COP21 in 2015. <p>(7) Core Programme Activities: GCOS Domain Panels</p> <ul style="list-style-type: none"> - TOPC: The GCOS/GTOS/WCRP Terrestrial Observation Panel for Climate (TOPC) was set up to develop a balanced and integrated system of in-situ and satellite observations of the terrestrial ecosystem. The Panel focuses on identifying terrestrial observation requirements, assisting the establishment of observing networks for climate, providing guidance on observation standards and norms, facilitating access to climate data and information and its assimilation, and promoting climate studies and assessments. TOPC is jointly sponsored by GCOS, the Global Terrestrial Observing System (GTOS) of FAO, and the World Climate Research Programme (WCRP). The TOPC held its 14th Session in Geneva, Switzerland, 	

Expected Result	Progress on Deliverables	Department
	<p>from 1-2 March 2012. The meeting focussed on the status of the Global Terrestrial Networks, as well as on cross-cutting activities, such as flux measurements. This year, a significant amount of time was also spent on organisational issues concerning the terrestrial observing system component and the relation towards its sponsoring organizations. For more information, see the full meeting report: http://www-newdev.wmo.int/pages/prog/gcos/Publications/gcos-157.pdf</p> <ul style="list-style-type: none"> - AOPC: The GCOS/WCRP Atmospheric Observation Panel for Climate (AOPC) convened for its 17th Sessions in Geneva, Switzerland, from 30 April - 3 May 2012. The Panel received reports on the performance of atmospheric networks and discussed a broad range of topics, such as the availability of ECV data in international data centres, or the private-sector the involvement in greenhouse gas observations. The summary report with recommendations is available from: http://www.wmo.int/pages/prog/gcos/Publications/gcos-158.pdf. 	
<p>5. Enhanced capabilities of Members to contribute to and draw benefits from the global research capacity for weather, climate, water and the related environmental science and technology development</p>	<p>Climate Research:</p> <ul style="list-style-type: none"> - Three of the four major World Climate Research Programme (WCRP) projects further developed plans for coordinating future research concerning Stratospheric Processes and Climate (SPARC), Cryosphere and Climate (CliC) and Climate Variability and Predictability (CLIVAR), taking into consideration the latest research developments, user needs, including those identified by the Global Framework for Climate Services (GFCS), and sponsor priorities. - Significant advances were made in the coordination and enhancement of regional climate prediction and projections activities through the WCRP CORDEX project. Meetings were held in Africa and South and East Asia to develop high spatial resolution climate information, evaluate the adequacy of resulting information for decision makers in agriculture and food production, water resources management, etc. in these regions. - WCRP co-sponsored the Monsoons in a Changing Climate conference at IITM in Pune, India, in February 2012 that involved participation of representatives from NMHSs in the region. The CLIVAR Variability of the American Monsoon Systems (VAMOS) project organized a very successful workshop on climate modelling and prediction for the region. - The early results from long-term climate projections were reported at the WCRP CMIP 5 workshop and subsequently published in the open literature for use in the IPCC Fifth Assessment Report (AR5) process, and other possible science-based assessments such as biodiversity and ecosystems, fresh water resources, etc. in a changing climate. A workshop on climate model physics identified challenges and opportunities to further improve climate models by proper representation of clouds, aerosols, and convective processes.. - The second workshop on Polar Climate was convened in Toronto, Canada, to develop the climate 	<p>RES/WCRP</p>

Expected Result	Progress on Deliverables	Department
	<p>prediction component of the WMO "Polar Predictability" initiative. The second workshop on Drought was held in Frascati, Italy to discuss the development of a state-of-the-art global drought information system that can benefit the GFCS and WMO Members. The fourth WCRP Reanalysis Conference was held in Silver Spring, Maryland, USA, to coordinate the many ongoing climate data reanalysis/analysis efforts among major centres worldwide that contribute to improved observations, understanding and prediction of Earth's climate system. WCRP also co-sponsored a major conference on Climate Change and the World's Oceans in Republic of Korea.</p> <ul style="list-style-type: none"> - Throughout this performance period WCRP devoted a large amount of resources to support participation of more than 150 early career scientists and students, especially those from developing nations and regions worldwide. <p>Weather Research:</p> <ul style="list-style-type: none"> - 'Recommended Methods for Evaluating Clouds and Related Parameters' was published in April 2012. The document, prepared by members of World Weather Research's Joint Working Group on Forecast Verification Research, recommends a standard methodology for the evaluation and inter-comparison of cloud forecasts from models ranging from high-resolution Numerical Weather Prediction models to, potentially, climate simulations. - 5 new research projects (Forecast and Research in the Olympics Sochi Testbed 2014; South China Monsoon Rainfall Experiment; Integrated Nowcasting System for Central Europe, Polar Prediction Project and Sub-Seasonal to Seasonal Prediction Project) were endorsed at the 5th Session of the Joint Scientific Committee for Open Programme Areas Group – World Weather Research Programme. - 52 junior forecasters from 5 NMHSs in Southeast Asia were trained on new tropical cyclone forecasting techniques developed during the 2010 Typhoon Landfall Forecast Demonstration Project. - Two major conferences took place: the 2nd Conference on Indian Ocean Tropical Cyclones and Climate Change (New Delhi, 14-17 Feb 2012) and the International Conference on Opportunities and Challenges in Monsoon Prediction in a Changing Climate (Pune, 21-25 Feb 2012). The former was attended by 268 tropical cyclone forecasters and researchers of which 47 were graduate students and early career scientists from 15 Members of WMO. The latter brought together 350 monsoon forecasters and researchers from 21 Members of WMO, which included 150 graduate students and early career scientists. During the conferences, the experts discussed the scientific basis of the projected increase of high-impact weather events (tropical cyclones and monsoons) and the complexities inherent in combating their hazardous impacts. They also came up with recommendations which will be forwarded to the writing teams working on IPCC's AR5 due in 2014. 	RES/ARE

Expected Result	Progress on Deliverables	Department
<p>6. Enhanced capabilities of NMHSs, in particular in developing and least developed countries, to fulfil their mandates</p>	<p>Education and Training:</p> <ul style="list-style-type: none"> - Materials for courses on management of hydrological services, streamflow gauging, database management and flood forecasting and warning have been prepared or courses held. - Six students from LDCs completed a MSc in Applied Meteorology and Climate with Management at the University of Reading. - Four of the students completing BSc's in China are partaking in the CMA forecaster course to provide vocational on-the-job training prior to their return home. - A total of 30 PRs and senior figures from NMHSs in Africa participated in 2 two-week study tours and HR development workshops in Africa. - Train the Trainer course for 35 participants in RA III / IV held in August 2012 - EC Panel of Experts on Education and Training provided recommendations on RTCs, fellowship matters and general training for EC-64 consideration. - The Manual on the implementation of WMO ETR Standards in Meteorology and Hydrology, Vol 1, WMO Publication 1083 released in all six WMO languages to support the new Standards in the WMO Technical Regulations - More than 60 participants have attended training courses offered by the RTC in the People's Republic of China in support of priority areas such as agricultural meteorology, climate services, and nowcasting. - Support has been provided to assist Members participate in the aviation competency assessment workshops run in South Africa and the Russian Federation. - More than 30 fellows have been selected to undertake long term fellowships in Algeria, China, Germany, Japan, Kenya, Madagascar, the Russian Federation and the United Kingdom of Great Britain and Northern Ireland. - Six fellows have been assisted to undertake short term fellowships in the United States of America - Within the framework of the Cooperation with the International Water Office a training on the WMO "Guidelines on the Role, Operation and Management of National Hydrological Services" (WMO-No. 1003) has been conducted for the countries of the Congo Basin. <p>Resource Mobilization:</p> <ul style="list-style-type: none"> - Close cooperation with the Canadian Government and Environment Canada has led to a proposal being developed for the redevelopment of the meteorological service in Haiti. Although discussions are ongoing, this key Disaster Risk Reduction (DRR) and Capacity Building 	<p>CLW</p> <p>DRA</p>

Expected Result	Progress on Deliverables	Department
	<p>programme of work will likely include partners from developed countries.</p> <ul style="list-style-type: none"> - An EU funded project “European Commission for S.E.: Europe DRR” has kicked off. This DRR activity for members of South-Eastern Europe will assist in combating, for example, the risk of flooding and drought in this region. - Using funding streams from Greek and Norwegian Governments, multi-year GFCS aligned projects have delivered benefits to over 20 African LDC member states this year. These projects alone, to the value of over 3 million USD, are ongoing and will continue to improve the ability of these countries to fulfil their mandates. They are being managed through RMO. <p>Improved Capabilities in Management:</p> <ul style="list-style-type: none"> - 13 NMHSs in RA III have improved their capabilities of management through the common elaboration of projects in the framework of the Modernization of the Ibero-American NMHSs with the support of Spain. NMHSs in RA IV have also been given access to training activities and some managerial training (high level) through the same programme. <p>Legal Basis for the Provision of Meteorological Services:</p> <ul style="list-style-type: none"> - In RA II and IV almost all of the NMHSs have institutional status and legal basis for the provision of meteorological services. 	
<p>7. New and strengthened partnerships and cooperation activities to improve NMHSs’ performance in delivering services and to increase the value of the contributions of WMO within the United Nations system, relevant international conventions and national strategic issues</p>	<p>Participation in relevant international Meetings and Activities:</p> <ul style="list-style-type: none"> - WMO participated in the thirty-sixth session of the Subsidiary Body for Scientific and Technological Advice (SBSTA 36) of the UNFCCC in June 2012. WMO representative made a statement on developments for implementation of GFCS in the opening plenary, which attracted the attention of all Parties to the Convention on the role of NMHSs, WMO’s contribution to the adaptation process and the role of GFCS in the emerging mechanisms, such as Adaptation Committee, Green Climate Fund and Climate Technology Centres/Network under the Convention. - In addition, WMO organized a side event titled ‘Progress with the implementation of the Global Framework for Climate Services’ which was co-sponsored by GCOS. The side event included a balanced composition of speakers from WMO, GCOS, DWD, the World Bank, UNFCCC and UNCCD. It promoted the knowledge and information of the Parties on progress toward implementation of the GFCS and improved their understanding on the components of this programme. This event was featured in the Earth News Bulletin (ENB) as one of the most prominent events of the day. - WMO delegation regularly attended meetings of the Contact Group on Research and Observation as well as informal discussion on Loss and Damages associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events. The 	<p>CLW</p>

Expected Result	Progress on Deliverables	Department
	<p>delegation got an opportunity to make interventions to clarify questions raised by delegates and improve their understanding on the role and impact of the WMO programmes, mainly the World Climate Programme (WCP), WCRP and DRR in the Research Dialogue process as well as the implementation of Loss and Damages programme.</p> <ul style="list-style-type: none"> - WMO contributed to the UNFCCC documentations of SBSTA 36 on research, observations and adaptation, with the input and updated information included in the decisions. WMO was requested to report to COP 18 on the implementation of the GFCS. - D/CLPA and CCA attended the UNFCCC focal points forum for Nairobi Work Programme during the SBSTA 36. WMO's contribution and inputs were reflected on the SBSTA 36 documents. Relevant information on the UNFCCC webpages was updated. WMO's coordination resulted in participation of national delegates from NMHSs in the UNFCCC workshop on Loss and Damages and improved the recognition of their role in the provision of climate services. - 3 UN agencies (FAO, UNESCO and UNCCD) mentioned WMO reports thus promoting the Organisation's drought initiatives. They also demonstrate increased understanding of WMO member activities. - As the elected Chair of UN-Water for a 2-year period which started in February 2012, the SG has enhanced WMO's profile. The Organisation has been regularly referred to and quoted at many international, regional and national meetings and conferences. - UN-Water and UNESCO partnerships are working well. WMO has further established or renewed a range of partnerships with, for example, the International Groundwater Resources Assessment Centre (IGRAC), UNESCO, IGAD Secretariat, etc. - WMO organized one specific side event on GFCS "Improved Water resources management through the Implementation of the GFCS" during the 6th World Water Forum (Marseille, France, 12-17 March 2012). WMO delegation attended a number of other side events, panel discussions, and set a WMO booth in the exhibition. - WMO participated in the International Hydrographic Conference (23-27 April 2012) with the aim of reinforcing the work with the IHO and its interaction with the relevant UN organizations dealing with ocean related matters, in particular as they support capacity building activities associated with marine safety information and other marine services, and the globally coordinated marine broadcast system for the GMDSS. The outcomes will contribute to the implementation of the World Wide Metocean Warning Service System. 	WDS
	<p>WMO Publicity:</p> <ul style="list-style-type: none"> - 1,625,000 hits on the WMO website (www.wmo.int); 	CER

Expected Result	Progress on Deliverables	Department
	<ul style="list-style-type: none"> - 1,200,000 unique visitors to the website; - 6,859 times WMO mentioned in press articles; - 4,850 'likes' received by WMO Facebook page; - A total reach of 14,458 of Facebook page; - 2,829 followers of WMO Twitter since restarting in March 2012; - 577 retweets of WMO tweets. 	
8. An effective and efficient Organization	<p>Language, Conference, and Publishing Services:</p> <ul style="list-style-type: none"> - Conference, interpretation and translation services were provided to: EC-64 and the Financial Advisory Committee (FINAC) in June 2012; WMO Bureau (June 2012) and the 2012 Meeting of Presidents of Technical Commissions (TCs); 14 sessions of subsidiary bodies, the Audit Committee and the Intergovernmental Panel on Climate Change (IPCC), WCRP, GCOS; 31 meetings of Regional Associations (RAs), TCs, and subsidiary body meetings. - An evaluation survey addressing <i>inter alia</i> EC documentation and EC supporting services was conducted at the EC-64. Responses were largely very positive. - The cost of holding EC-64 was reduced to CHF 604 129 which represents a 33% decrease vis-à-vis the baseline average cost for EC sessions during the period 2004-2009, CHF 914 152. This decrease is largely due to considerable savings realized in three key areas: (1) in-session and pre-session translation - as WMO departments submitted their EC-64 translation requirements to LCP in a timely fashion, LCP was able to minimize the reliance on temporary and outside translators and to avoid 'last-minute' surcharges; (2) interpretation – fewer interpreters were required due to improvements in scheduling; (3) travel of permanent reps and other representatives – savings were realized on travel. - Average direct cost per 1000 words translated (temporary and outsourced translation - A,C,F,R,S) for EC-64 (2012) was CHF 203 which represents a 33% decrease vis-à-vis the baseline average cost for EC sessions during the period 2004-2009, CHF 302. This decrease is largely due to the fact that WMO departments submitted their EC-64 translation requests to LCP in a timely fashion, which allowed LCP to translate far more in-house and to better manage the flow of translations to temporary and outside translators, thus avoiding 'last-minute' surcharges. However, that the departments were able to submit their translation requests in a timely fashion prior to EC-64 may be exceptional as during early 2012 only one other CB session (JCOMM) took place, for which WMO was not required to provide translation services. <p>Issuance of WMO publications and other written material:</p>	LCP

Expected Result	Progress on Deliverables	Department
	<ul style="list-style-type: none"> - 16 numbered publications plus 22 brochures, folders, posters, etc. were produced. <p>Standardized WMO branding and the WMO visual identity:</p> <ul style="list-style-type: none"> - Standardized WMO branding and attractive designs were developed include: designs for the new WMO souvenir line and for the WMO Conference Centre (WMO coasters and WMO trays); redesign/rewriting of the visual identity; redesign of the WMO Bulletin and MeteoWorld; preparation of the GFCS documents and elaboration of GFCS visual identity; design and set up of an outdoor exhibition with Genève Tourisme; design of a new visual identity for GCOS and a commemoration brochure. 	
	<p>Strategic Planning, Monitoring and Evaluation:</p> <ul style="list-style-type: none"> - SPO organized the first meeting of the WG/SOP which considered the outlines and structures of the Strategic and Operating Plans 2016-2019 endorsed by EC-64. - Documents were developed to define the M&E System and guide implementation, including a template for data collection. - 39 staff received training on M&E - A survey was conducted on the impacts of achieved results, which indicated significant progress across the eight expected results. - The drafting of Risk Management Framework and Business Continuity Plan was initiated, as well as the review of EC Statement on the Role and Operation of NMHSs addressing the needs of the GFCS. - SPO also facilitated the appointment of members of WMO Audit Committee. 	SPO