



World Meteorological Organization
Organisation météorologique mondiale

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From:	Secretary-General	To:	Ms Christiana Figueres Executive Secretary United Nations Framework Convention on Climate Change (UNFCCC) Secretariat
Date:	16 February 2011	City:	BONN
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Dear Ms Figueres,

Subject: WMO Submission for the Work Programme on addressing the loss and damage associated with climate change impacts in developing countries

As per the decision of COP-16 session of the UNFCCC, I am pleased to send you herewith WMO's submission for the Work Programme on addressing the loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change.

As you will note, we have listed a number of workshops and expert meetings as well as technical papers and knowledge management products for the four suggested elements in the proposed work programme for 2011 and 2012.

Given the importance of this work programme for the developing countries that are vulnerable to the impacts of climate change, I suggest that while preparing the synthesis report for consideration by the Subsidiary Body for Implementation, the UNFCCC Secretariat may include another important element entitled **"Improved Climate Services for developing countries to provide better climate information and forecast products to facilitate early action to limit the loss and damage caused by climate change"** besides the four elements already listed for the work programme.

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My suggestion to add this additional element is based on the decision by the World Climate Conference-3 (WCC-3) to establish a Global Framework for Climate Services (GFCS) to strengthen the production, availability, delivery and application of climate monitoring and prediction services. Indeed the decision of WCC-3 to establish a GFCS defined the directions towards “better climate information for a better future” in order to accelerate global action on adaptation and management of climate-related risks while capitalizing on the associated opportunities. The overall objective of the Framework is to “Enable better management of climate risks due to climate variability and change and adaptation to climate change at all levels, through development and incorporation of science based climate information and prediction into planning, policy and practice.”

The report of the High Level Task Force on GFCS is expected to be formally adopted by the WMO Congress at its Sixteenth Session in Geneva in May this year. Following this, a detailed implementation plan for the GFCS will be developed by end of 2011. It will also be shared with all UN System partners since it will be a major cross-cutting initiative of the UN System Delivering as One in the area of climate.

If our suggestion to add the additional element on improved climate services is acceptable to you, we will be happy to provide a detailed submission that includes workshops and expert meetings as well as technical papers and knowledge management products under this element. However, I can already indicate that it would include activities directed towards the five components of GFCS ie, Observations and Monitoring; Research, Modelling and Prediction; Climate Services Information System; User Interface Platform and Capacity Building.

I look forward to receiving your response to this proposal and towards our continued collaboration.

Yours sincerely,

(M. Jarraud)
Secretary-General

UNFCCC Work Programme in order to consider approaches to address loss and damage associated with climate change impacts in developing countries

Submission from the World Meteorological Organization

Workshops and Expert Meetings for Element 1: Possible Development of a climate risk insurance facility to address impacts associated with severe weather events

Title of the Workshop/Expert Meeting	Specific Objective	Focus (Global/Regional)	To be organized in
Requirements of Catastrophe and Weather-Indexed Insurance Markets for Meteorological, Hydrological and Climate Services	Identification of requirements, criteria for good practices in service delivery and identification of good practices around the world	Global	2012
Training Workshop on Meteorological, Hydrological and Climate Services to support Catastrophe and Weather indexed insurance Markets	Training materials developed based on Good practices	Caribbean and Central America South east Europe South east Asia	2013 2013 2013
Meetings of World Climate Research Programme (WCRP) experts in climate modelling, data analysis, etc and scientists from the region with knowledge of local climate to determine best available climate information (regional climate projections, observed time series data, etc) to estimate risk associated with climate variability and change	Identify available climate information for a region and best practices in use of this information in estimating risk. Create a network of researchers, practitioners and stakeholders to assist countries in estimating risk on a operational basis.	Regional – first workshop in West Africa. Second workshop in Latin America	2012 2013

Technical papers, Knowledge Management Products for Element 1: Possible Development of a climate risk insurance facility to address impacts associated with severe weather events

Title	Proposed Contents	Focus (Global/Regional)	To be published in
Documentation of good practices in Delivery of Meteorological, Hydrological and Climate information and Services for Catastrophe and Weather-Indexed Insurance markets	Insurance/reinsurance and derivatives markets in a number of developed and developing countries and regional insurance facilities are being well serviced by Meteorological, Hydrological and Climate Services in a number of Sectors (Agriculture, property and casualty, government). The objective is to systematically document these cases and synthesize to develop guidelines	Global	2012-2013

Workshops and Expert Meetings for Element 2: Options for risk management and reduction; risk sharing and transfer mechanisms such as insurance, including options for micro-insurance; and resilience building, including through economic diversification

Title of the Workshop/Expert Meeting	Specific Objective	Focus (Global/Regional)	To be organized in
<p>Multi-Hazard Early warning Systems Training Workshops: With focus on institutional Coordination and Hydro-meteorological and climate related Hazards</p> <p>For model see: http://www.wmo.int/pages/prog/drr/events/MHEWSCostaRica/index_en.html</p>	<p>Targeted at Directors of agencies involved in EWS, based on training and guidelines developed from 11 document good practices in Early Warning Systems</p> <p>1. Participants will benefit from exchanging experiences with experts of other countries and active discussions conducted according to a systematic approach to EWS</p> <p>2. A document will be developed highlighting priorities of action for national Early Warning Systems (EWS) development cooperation for the region and concrete areas for regional cooperation</p>	<p>South east Asia</p> <p>South east Europe</p> <p>Southern Africa</p>	<p>2012</p> <p>2012</p> <p>2013</p>
<p>Expert Group Meeting on Hydrological Drought Indices</p>	<p>Develop Guidelines for Hydrological Drought Indices</p>	<p>Global</p>	<p>2011</p>
<p>Regional Workshops on the Assessment of Natural Disaster Impacts in Agriculture (ANADIA)</p>	<p>To assist countries in providing better information on the Assessment of Natural Disaster Impacts in Agriculture</p>	<p>Regional (Africa)</p>	<p>2012</p>
<p>Expert meeting on Extended Hydrological Prediction</p>	<p>To develop methodologies for extended hydrological predictions based on extended weather forecasts and climate outlooks</p>	<p>Global</p>	<p>2011</p>
<p>Exploratory meeting to identify methodologies and tools for establishment of standardized documentation and archival of loss and damages associated climate and weather impacts.</p>	<p>1- To meet requirements under sub-para. (g), Article 4 of the Convention regarding causes, effects, magnitude and timing of climate change and the economic and social consequences.</p> <p>2- To meet requirements under the Nairobi Work Programme work area of 'Economic Diversification', as contained in the annex to decision 2/CP. 11 to advance development and dissemination of measures, methodologies</p>	<p>National/ regional/ global</p>	<p>2011- 2012</p>

	and tools aimed at increasing economic resilience and reducing reliance on vulnerable sectors.		
Expert meeting on direct and indirect impact of extreme weather and climate events on human health towards resilience building	Develop guidance and build a multidisciplinary network to assist countries in building resilience through an integrated approach on climate risk management for the health sector	East Africa	2013
Expert meeting on developing a space-based architecture for climate monitoring	Leverage the end-to-end system that has been implemented for weather observations, analysis, modeling and forecasting, so that climate observations can be both sustained and coordinated globally into the future.	Global	2012

Technical papers, Knowledge Management Products for Element 2: Options for risk management and reduction; risk sharing and transfer mechanisms such as insurance, including options for micro-insurance; and resilience building, including through economic diversification

Title	Proposed Contents	Focus (Global/Regional)	To be published in
Guidelines on Flood Hazard mapping	Guidelines will help countries establish a multi-stakeholder mechanism to develop flood hazard maps for flood risk assessments and management	Global	2011
Climate Prediction and Agriculture	Summary of successful case studies on applying seasonal climate forecasts to the agricultural sector	Global	2011
Guidelines for Agricultural Drought Indices	Guidelines to all organizations dealing with drought management strategies on which agricultural drought indices to use	Global	2011
Guidelines for Hydrological Drought Indices	Guidelines to all organizations dealing with drought management strategies on which hydrological drought indices to use	Global	2012

Workshops and Expert Meetings for Element 3: Approaches for addressing rehabilitation measures associated with slow onset events

Title of the Workshop/Expert Meeting	Specific Objective	Focus (Global/Regional)	To be organized in
Regional workshops, coordinated through the Global Framework for Climate Services organized through the Research, Modelling and Prediction Management Committee.	To focus research and development activities on improving the climate services routinely available, and globally accessible, that will assist those threatened by slow onset disasters to recognize the symptoms of their development and take appropriate risk minimization / adaptation responses	Regional	2012 and beyond
Regional Workshop on Climate Change and Food Security in ASEAN+3	To assess the impacts of climate change on agriculture, forestry, fishery and land and water resource management in the Region; analyze Implications for food security and livelihoods in major agro-ecosystems; and identify priority areas and proper mechanisms for regional coordination & cooperation.	East and Southeast Asia	2011
Expert Team on the User Response to Climate Variability and Climate Change: Adaptation to Changing Climate at the Regional Level	<p>To review and assess the response of agricultural communities to climate change, in order to improve their capacity to cope with climate change;</p> <p>To review the integrated methodologies for the assessment of impacts, vulnerabilities and adaptation measures in order to develop the capacity of agricultural communities to cope with climate change/variability and risks management in agriculture.</p>	Global	2011
International Workshop on Climate and Oceanic Fisheries	To review the current understanding and status of marine and oceanic climate and climate variability, in particular in the South Pacific	Global/Pacific	2011

	To evaluate of the impact of 21st century climate change on oceanic fisheries		
Regional Workshop on Climate Change Adaptation for Agriculture in Near East and North Africa	To assess the impacts of climate change on agriculture and water resource management in the Region; analyze Implications for food security and livelihoods in major agro-ecosystems; and identify priority areas and proper mechanisms for regional coordination & cooperation.	Regional (South West Asia and North Africa)	2011
Expert meeting on the establishment of high quality climate data sets and related management systems	Provide recommendations on the implementation of a high quality and sustained climate data management system for global and regional climate system monitoring	Global and regional	2012
3 Regional Workshops (1week each) on Climate Data Rescue	Improve scientific and technological foundations of climate data to support climate change adaptation in developing and least developed countries	- Mediterranean Basin - Southern Africa - The Caribbean	2012 2012 2013
International Workshop on Climate Change Detection and Indices	Set up new path for developing useful and simple but high significance indices for detecting long term climate variability and change in the most vulnerable regions	Global	2012
Establishment of Regional Networks of institutions on climate change and food security	Through various regional workshops there will be development of proposals for establishing regional networks	- West Africa - South Asia - Southeast Asia - Near East and North Africa	2012 2012 2013 2013

Technical papers, Knowledge Management Products for Element 3: Approaches for addressing rehabilitation measures associated with slow onset events

Title	Proposed Contents	Focus (Global/Regional)	To be published in
Proceedings of the Regional Workshop on Climate Change and Food Security in ASEAN+3	Papers reviewing the impacts of climate change on agriculture in East and Southeast Asia along with a review of potential adaptation and mitigation strategies	Regional	2012
Proceedings of the International Workshop on Climate and Oceanic Fisheries	Papers reviewing the current understanding and status of marine and oceanic climate and climate variability and their impacts on oceanic fisheries	Global	2012
Guidelines on best practices for the implementation, and use of modern climate data management systems	Provide guidance to developing countries on modern climate data archiving systems and their implementation within the national meteorological services	Global	2013
Peer reviewed International Publication on the outcome of the international workshop on climate change detection and indices	Provide an authoritative advise and recommendations to help better assessing and detecting climate change at global, regional and sub-regional scale	Global and regional	2013
Assessment of regional sea-level change and coastal impacts	Projections, based on latest scientific knowledge, of local sea level change and its impacts	Regional - Asia, with focus on megacities at risk	2012

Workshops and Expert Meetings for Element 4: Engagement of stakeholders with relevant specialized expertise

Title of the Workshop/Expert Meeting	Specific Objective	Focus (Global/Regional)	To be organized in
Workshops on standardization of Hazard Data, Meta data, hazard analysis in floods, droughts, and other hydro- meteorological Hazards to support sectoral risk assessment	Training experts from developing countries in maintenance of high quality databases and statistical Hazard analysis for drought and flood risk assessment	Regional/national (south east Europe) (Caribbean) (South East Asia)	2011 -2012
<p>[Under the Global Framework for Climate Services]: Development of a User Platform on Climate, Food and Water: <i>A stakeholder dialogue on Climate Risk Management for the Agriculture/food security and Water Management Sectors, including related Public Health aspects.</i></p> <p>(to be co-sponsored by WMO, WCRP, the Global Environmental Change and Human Health (GECHH) project, and other relevant partners (TBD, but possibly including WHO, Global Water Partnership, World Food Programme, etc, and supported by the Joint Expert Group on climate, Food and Water.)</p>	<ul style="list-style-type: none"> • To bring together the relevant stakeholders in the water, agriculture/ food security and health sectors, the regional climate information providers, modelers, applied climate research specialists and others at the forefront of designing, developing and operationally producing user-tailored climate knowledge products; • To identify the susceptibility of the Agriculture/food security, Water Resources and Public Health sectors to climate variability and change, and the inter-relationships between these sectors through the effects of climate variability and change; • To inform stakeholders of available climate information for risk management and obtain feedback from users on, inter alia, the utility of the available products; • To identify requirements for climate products and information for application in Climate Risk Management in these sectors and important gaps (i.e. priority tools, products and services that require improvement and/or full development); and • To establish a 'User Platform' of regional stakeholders including sectoral users, the climate information providers and the research and development communities. This activity would contribute to the User 	Regional (sub-regions of Africa (potentially including one or more of Northern, Western/sub-Saharan Africa), Eastern Africa); Western Coast of South America; South Asia)	2012-2013

	Interface Platform component of the GFCS, by providing the interdisciplinary network and facilitating the communications/dialogue on climate issues needed to achieve effective climate services.		
Workshops on benefits of improved cryospheric information, products and services for risk management related to water resources, agriculture and energy.	To identify available cryospheric information, products and services currently available and accessible; identify major gaps and priorities for improved observation, monitoring and analyses to meet identified regional needs; initiate collaborative regional contributions to the Global Cryosphere Watch, including establishment of a supersite(s) in the regions to support risk management associated with weather, climate and water.	Regional : western Asia, northern Africa; Third Pole (Himalya and Tibetan Plateau	2012-2013

**Technical papers, Knowledge Management Products for Element 4: Engagement of stakeholders
with relevant specialized expertise**

Title	Proposed Contents	Focus (Global/Regional)	To be published in
Expanding and sustaining Regional Climate Outlook Forums (RCOFs) within the Climate Services Information System component of the Global Framework for Climate Services	Guidance on best practices in RCOF operations through standardized methods, tools and products; Mechanisms to promote adherence to best practices in the existing as well as new RCOFs for optimizing their outputs; Expansion of RCOFs into new regions and nurturing them in the formative stages; Including regional climate change and vulnerability assessments as well as adaptation strategy development as integral components of RCOF operations	Regional (around the world)	2010-2013
Development and implementation of National Climate Outlook Forums (NCOFs) within the Climate Services Information System component of the Global Framework for Climate Services	Concept development and guidance material to organize NCOFs, including the methods and approaches; Capacity building in climate prediction and projection on the regional scale; Best practices for NMHSs in stakeholder engagement in producing and disseminating user-targeted climate information; Implementation of showcase projects on NCOFs in a range of developing country settings	National (with global scope)	2010-2013

Development of National Climate User Platforms (NCUPs) in the implementation of GFCS	Concept development and guidance to organize NCUPs; Optimizing user interaction within the GFCS structures; Promoting common understanding on climate issues among all the climate-sensitive sectors; Training users in interpreting and using climate information and prediction products	National (with global scope)	2010-2013
User-focused Climate Outlook Forums in the implementation of GFCS	Concept development and guidance to organize user focused outlook forums in close liaison with RCOFs and NCOFs; Guidance on the use of standardized user-specific climate indices; Best practices in integrating probabilistic climate information along with other user-relevant factors in decision making; Providing user feedback to climate service providers;	Global, Regional and National	2010-2013