World Meteorological Organization
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The User Interface Platform (UIP) of The Global Platform for Climate Services

Health and Disaster Risk Reduction within the Global Framework for Climate Services

Consultation Report

WHO Headquarters - Geneva
14-16 November 2011

International Federation of Red Cross and Red Crescent Societies

ISDR

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Acknowledgements

Finally, the organizers are grateful to all the panelists and experts for their valuable presentations to participants from government, non-governmental organizations, and United Nations agencies. We would like to recognize their hard work and thank them for their worthy contributions to the discussions towards the design of climate services which serve society.

Report prepared by Tamara Avellan (WMO), Joy Guillemot (WHO) and Silvia Llosa (UNISDR).

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I. Introduction

The Interagency consultation meeting on the User Interface Platform (UIP), Health and Disaster Risk Reduction sectors of the Global Framework for Climate Services (GFCS) was held from 14-16 November 2011 at the World Health Organization, in Geneva, Switzerland. The Programme is presented in Annex 1 of this report. The list of participants at the meeting is attached as Annex 2.

The vision for the User Interface Platform for the Health and Disaster Risk Reduction sectors is 'To enhance the applications of climate information and products in the health and disaster risk reduction sectors through improved interactions between climate service providers and user sectors at the global, regional and national levels.

The meeting was organized by the World Meteorological Organization (WMO) and the World Health Organization (WHO), the International Federation of the Red Cross (IFRC) and the UN International Strategy for Disaster Reduction (UNISDR), to extend partnerships and to develop recommendations for the implementation of the GFCS-UIP to address the needs of these communities of practice. The concept note for the meeting, identifying the objectives and specific outcomes expected from the discussions, is shown in Annex 3.

The meeting was co-chaired by Youcef Ait Chellouch (UNISDR, Nairobi Kenya) and Steven Connor (CIPHA, USA).

II. Meeting Opening

Figure 1: Opening key note speakers; (L-R) Maria Neira (WHO), Jerry Lengosa (WMO), Diarmid-Campbell Lendrum (WHO), Mohhamed Muktier (IFRC), Jonathan Abrahams (WHO)

The key note speakers highlighted the historic importance of the involvement of the international community in the successful implementation of the Global Framework for Climate Services. They underlined collaborations and interactions in this matter beyond classical and traditional roles and responsibilities as the essential ingredient for the way forward.

The opening key note speech by Jerry Lengoasa can be found in Annex 2.

III. Session II: Meeting Overview

After a quick tour de table of the participants (see Annex 3), the meeting chairs, Stephen Connor and Youcef Ait-Chellouch, briefly presented the meeting structure. The expected outcome of the meeting was restated (see also Annex 5 Concept Note for Health and DRR consultation):

'*Identification of concrete projects on health and DRR to be included in the draft implementation plan, as part of the UIP of the GFCS to advance the use of climate information in decision making in the health sector and DRR decision making across sectors*'

Filipe Lúcio, Head of the GFCS office at the WMO Secretariat, gave an overview on the process being made since the creation of the office in June 2011. Several consultation meetings in the other pillars have been carried out as well for the User Interface Platform with the water and agriculture communities. In general, all participants strongly engaged with the ideas and principles of the GFCS and showed signs of commitments with the support of their respective institutions. Mr Lúcio further presented the process to be followed in the development of GFCS up to the Extraordinary Session of the WMO's Congress in October 2012 (Figure 2).

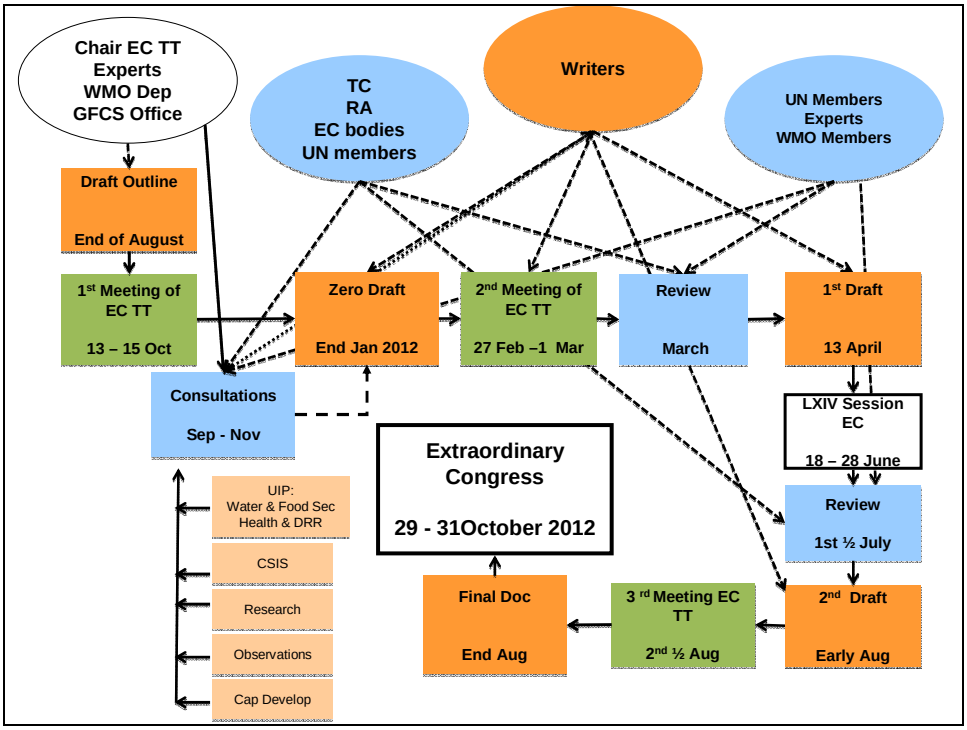


Figure 2: Overview of the process of the development of the GFCS

Geoffrey Love, Director of the Climate and Water Department at WMO, presented the intended content of the User Interface Platform (UIP) of the GFCS (Figure 3) and its interlinkage with the other pillars of the Framework. He pointed to three main goals of the UIP:

1. Establish process to bring people together to continuously monitor the requirements for climate services
2. Monitor the user satisfaction with the overall performance of the GFCS
3. Provide education and training for climate service users

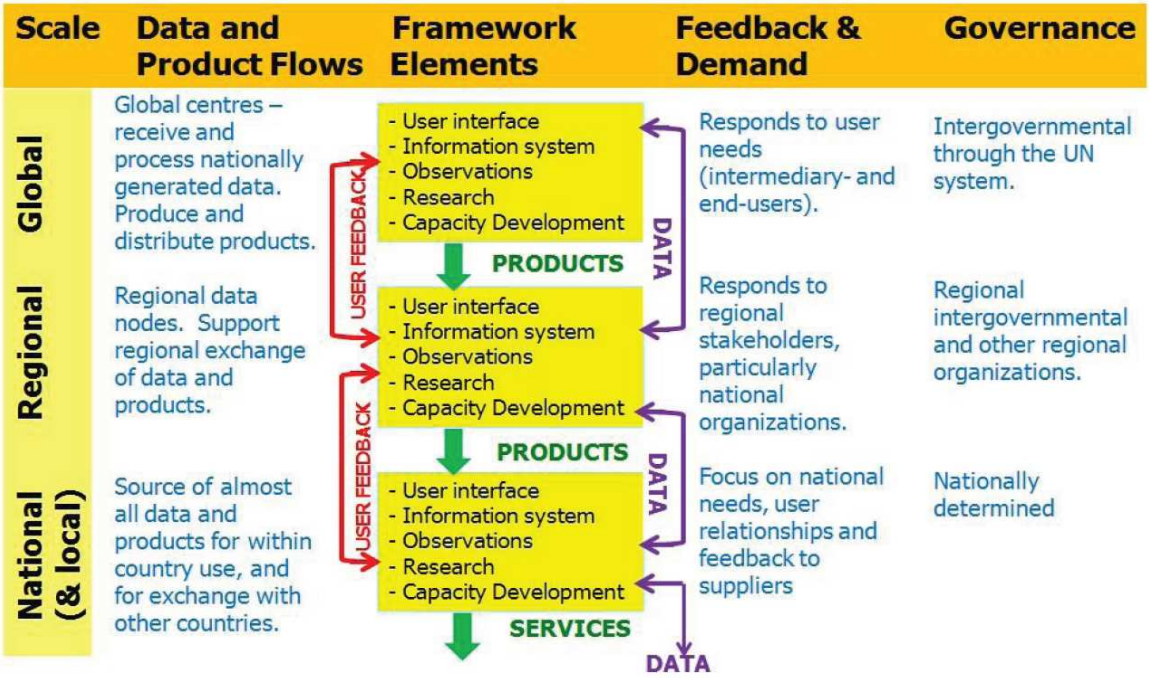


Figure 3: General idea of elements that could form the elements of the UIP

IV. Session III: Experience in the Use of Climate Services

Seven presentations were made regarding the experience in climate services for health and disaster risk reduction. Two presentations were made on health by WHO (Joy Guillemot) and IRI (Simon Mason), and four presentations on disaster risk reduction by IFRC (Mohammed Mukhier), UNISDR Africa Regional Office (Youcef Ait Chellouch), UN-ISDR (John Harding) and WFP (Krishna Krishnamurthy). The session closed with a presentation by WMO (Geoff Love) on WMO initiatives and partnerships for the provision of climate services for health and DRR.

A. Experience & Recommendations for Climate Services for Health

i. Experiences from the Health Sector – Status and gaps (Joy Guillemot, WHO)

Major health concerns are related to climatic and environmental changes. This presentation described some of the key issues that the active community of practice, including WHO, has developed over the last 10 years. This body of work, experience, and policy recommendations is the starting point for informing a Health UIP. Fundamental are the 5 recommendations for climate services to support health made at the WCC3:

a) Full engagement of the public health community, through the WHO, in the establishment of a GFCS in order to enable the inclusion of climate information in public health decision making.
b) Research and training opportunities, designed to build capacity and provide evidence for policy and practice, should be developed through effective collaboration across relevant disciplines.
c) Invest in a public service platform within WMO member and partner institutions to encourage cross-sectoral interaction including cooperation on the establishment of observing and monitoring networks, the development of decision-support tools and systems and the development of 'one stop' advisory services for the health sector that will strengthen health surveillance and response systems.
d) The sharing of data, information and capacity (at local, regional and global scales) is necessary for improving health monitoring and surveillance systems to achieve "the most elementary public health adaptation" […]especially for least developed countries
e) Existing programs, initiatives and organizations working in climate and health should jointly prioritize the development of the GFCS as it relates to health. Institutional mechanisms that link outputs & responsible actors to the recommendations above are required and a clear framework for activities is essential.

The vision is to have a climate informed and climate resilient health sector; where climate services are mainstreamed a public health service: and the provision of good health becomes a goal of other sectors, not only the formal health sector.

Decisions, data and services
Climate information can help enhance the management of health risks across multiple time frames. The health sector can use weather & short term climate information to inform operational decisions. It can use mid-term climate information and seasonal annual forecasts for health planning, preparedness. And it can use long term climate information to better orient health infrastructure and policy planning & investment.

Many climate services for health have been developed over the past decade. One example is the Heat health action plans in Europe (see also Session IV: Panel Discussions on Experience of Health & DRR). This project showed that climate services for health are more than just products, and need to be jointly developed and be linked to national policies within the health sector.

There are many limitations to the current experience in making climate informed health decisions, such as limited climate and health information, limited knowledge of the sensitivity of certain diseases to environmental conditions. Recommendations to enhance the use of CS and CI for health include:

- develop tailored services: that are joint efforts of NMSs and health organizations
- improve existing data:
- Improve the access and use of data in a systematic manner
- incorporate other data, such as air quality, into health forecast services
- Invest in multidisciplinary initiatives: commitment from all levels to make decisions

Partnerships:

The health community is a very broad and vast nexus of health care and public health actors. Many actors are involved in the delivery of both, such as NGOs, government, media, research. It will be important for the UIP to map stakeholders and respond to their specific needs. In addition, non-health sector partners are also essential for health, as water, agriculture, and DRR are responsible to goods and services which determine good human health (Figure 4).

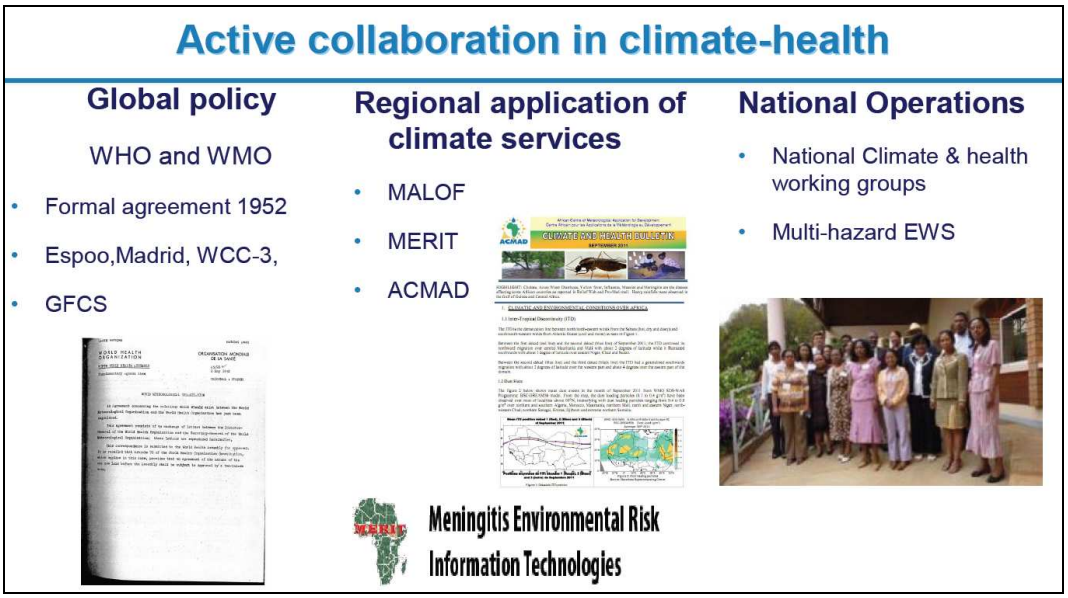


Figure 4: Examples of Climate and Health partnerships

The complexity and challenge of partnerships often come down to end users often not knowing what kind of climate information exists and what they could use, and what they do need. Another challenge is that the health sector invests relatively little in health surveillance, early warning and prevention, so this is a weak area that CS are trying to partner with. Health data is recognized to be weaker than meteorological data, with quality issues, data gaps that are difficult to fill. However, partnerships can help bridge some of these gaps.

Future partnerships can learn from the many recommendation and lessons learnt already established, will be driven by expanding needs and uses for information, as well as technological changes. Partnerships for health need to consider the many end users and range of diversity of health management issues sensitive to climate.

As well as recognize the many technical and institutional challenges (lack of technical skill ...) which exist (Figure 5).

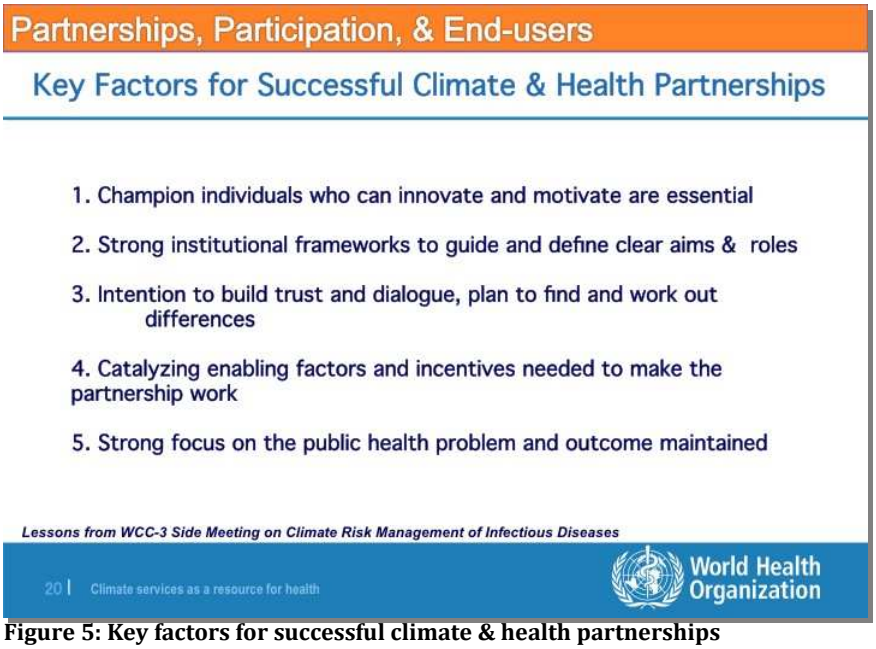


Figure 5: Key factors for successful climate & health partnerships

ii. <u>Experiences in working with the health community (Simon Mason, IRI)</u>

The key of climate and health partners working together is the translation of climate information to what is important for the health community. Often the information that the health community has is incomplete to answer a question, like malaria suitability. And likewise, the climate community has incomplete information to answer the question too. Many of the questions we are now asking about the impact of climate on health can only be answered together. There are risks of misinterpretation by just handing over data.

Data gaps exist – mostly on the health side – but also on the climate side.
Higher resolution information on the climate can be obtained with a technique of blending.

Key messages were:

1. Normal vs. abnormal climate conditions for epidemics: we are less interested in the "normal" than in the abnormal, and most interested in anomalies that can trigger outbreaks.

2. Monitoring vs. forecasting: A health anomaly (epidemic) can often occur with a significant time lag from the climate anomaly. So even without seasonal climate forecasts, you can forecast epidemics through environmental monitoring. (Ex. Malaria in Botswana). Monitoring of the weather is an important aspect of CS; it is not only about predicting the future but also monitoring the known risk conditions.

3. Model projections compared to recent trends: the timescale is very important. Example of African climate: observations of what has occurred in the last 10 years are the polar opposite of what is expected to occur. So we need to take this into consideration, and focus on addressing the timescale we are really interested in (i.e. 10-20 yrs).

4. Climate trends need to be considered in relation to their reference patterns. Looking at changes in incidence in disease, you need to consider the variability experienced in the year of the baseline. Or you may have picked an extreme year or seasonal period as the baseline year.

Conclusions:

Climate impacts on health are complex and should not be over-simplified. The health community needs information more than data, and experience shows that sharing data is no substitute for collaborative research. Monitoring of weather and environmental conditions is at least as important as forecasting. Information is needed on a range of time scale, but generally mostly less than a few years

B. Experience & Recommendations for Climate Services in DRR

i. Opportunities for strengthening climate risk services for disaster risk reduction (John Harding, UNISDR)

This presentation provided an overview of today's disaster risk reduction landscape, described how climate services contribute to reducing disaster risk and current gaps, and finally some opportunities for strengthening the provider/user inter-face.
UNISDR had three main messages:

1. Disaster risk reduction is not a sector. Applying climate services in health, water and agriculture sectors is part of disaster risk reduction.
2. Challenge is to identify those strategic opportunities for applying climate services in existing policies, plans and programs in various sectors and levels.
3. Different types of climate services (longer term climate change predictions or information on shorter term climate variations) are applicable to different types of measures to reduce risk.

The DRR landscape.
DRR is not a sector but an approach to risk management in all sectors affected by natural hazards. The common goal of DRR actors is to avoid having to respond to emergencies and to move towards development that builds resilience. The real challenge for the GFCS in engaging with DRR actors is to identify opportunities to apply climate services in existing policies at different levels.

DRR at the global level includes many frameworks and policy processes that bring global actors together. ISDR and its secretariat, UN agencies and programmes, GFDRR represent global DRR partners. The uniting framework is the Hyogo Framework for Action (HFA). There is a Biennial Global Platform and Global Assessment Report (GAR), which review progress by countries, serve to engage broader set of actors, and prioritize agendas. Preventionweb is a global communication and coordination tool coordinated by UNISDR for the ISDR system.

At the regional level, intergovernmental regional organizations with building function are predominant such as ASEAN, AUC, SADC, ECCAS, ECOWAS, SAARC, SOPAC, CEPREDENAC, CAPRADE, CDEMA. Regional progress reviews, capacity and risk assessments are carried out through ministerial conferences and emerging regional binding commitments. Joint capacity building, pooling roster of experts is carried out through regional intergovernmental organization, UN, WMO, UNDP, FAO, UNICEF, World Bank.

DRR at country level involves multiple actors in emerging national coordination mechanisms. There is a common definition of needs for DRR in development plans and commensurate funding gap (Government, PRSPs, multilaterals, bilaterals). Partners need sustainable and coherent technical assistance to be provided to national coordinating institutions, Red Cross societies and other civil society organizations, UNCTs, and others in a system wide programmatic approach.

What GFCS can provide the DRR community:
At the global level, the GFCS can focus on producing global climate prediction products, coordinating and supporting data exchange, major capacity building initiatives, and establishing and maintaining standards and protocols.

At the regional level, GFCS can support multilateral efforts to address regional needs, for example through regional policy development, knowledge and data exchange, infrastructure development, research, training and the provision of services regionally to meet agreed regional requirements.

At the national level, GFCS can focus on ensuring access to data and knowledge products, tailoring information to user requirements, ensuring effective routine use of information in planning and management along with developing sustainable capacities in these respects.

Opportunities to strengthen the provider-user interface

- Capacity building: UN, Government and local-level training of climate information users and providers to improve communication)
- Institutional/policy setting: regional and national frameworks on DRR include climate information component.
- Setting standards, monitoring progress using the HF Monitor (for climate service provisions…)
- Early warning and preparedness: engaging with disaster risk management institutions and local authorities.
- Local-level engagement: through Red Cross societies, as component of ISDR campaign on resilient cities.
- Advocacy/media: training the media, for example.
- Global agenda coordination on climate change, sustainable development, linkages with key sectors, private sector, others.

How to use existing initiatives to provide climate services?
Engage institutions already working on DRR. Preparedness and early warning systems are part of a broader DRR strategy requiring climate services (Figure 6).

Climate change flattens the tail of disaster reduction. The change in return periods for floods affect national economic planning, for example. New financial models are necessary to calculate disaster risks and to attribute value to averted economic losses.

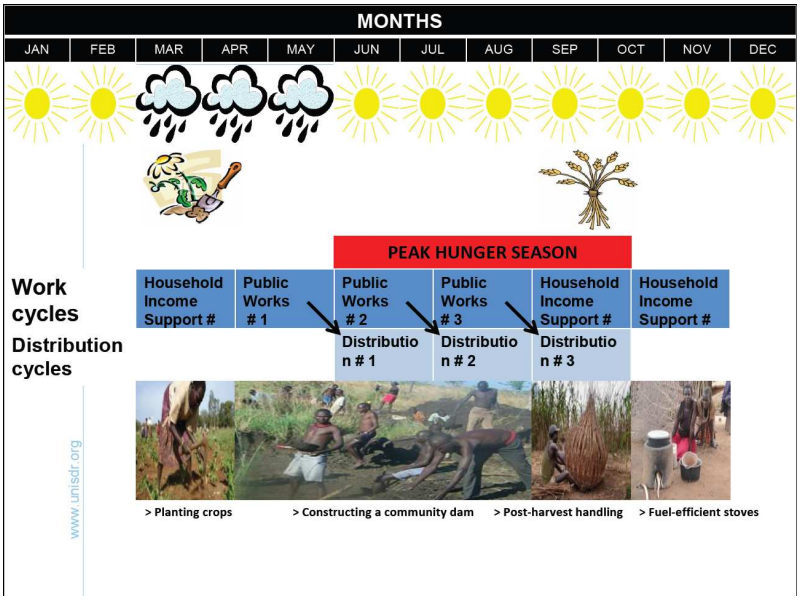


Figure 6: Knowing when to act and what to do. Disaster risk preparedness is essential to reduce the risk.

ii. <u>Recent experiences in bridging the gap between climate information providers and end-users in Africa (Youcef Ait–Chellouch, ISDR-Africa)</u>

- The aim should not be to restore to the situation before the disaster occurred but to avoid the disaster.
- Contingency planning should include mitigation measures and integrate prevention as well, since we know it will 'likely' happen. Not only respond to disasters, but also prevent them, avert them.
- Most of the tools for resource mobilization are available only when the disaster happens and not available for prevention.
- There is increased dialogue between climate/hydro and DRR actors in Africa. ISDR and DRR actors are part of COFs.
- It is necessary to translate forecasts on possible actions for different sectors (DRR, health, agriculture, energy and simulations (West Africa)).
- It is important to connect key stakeholders, including insurance companies and universities.

Experience of UNISDR Africa working with climate service provider ACMAD:
It took 3 years to understand how to work together. Active dialogue was required to translate and overcome the jargon used by the climatologists. This included the placement of a DRR staff member within ACMAD for one year to translate climate information into usable products that are risk based and usable for DRR operations (Figure 7).

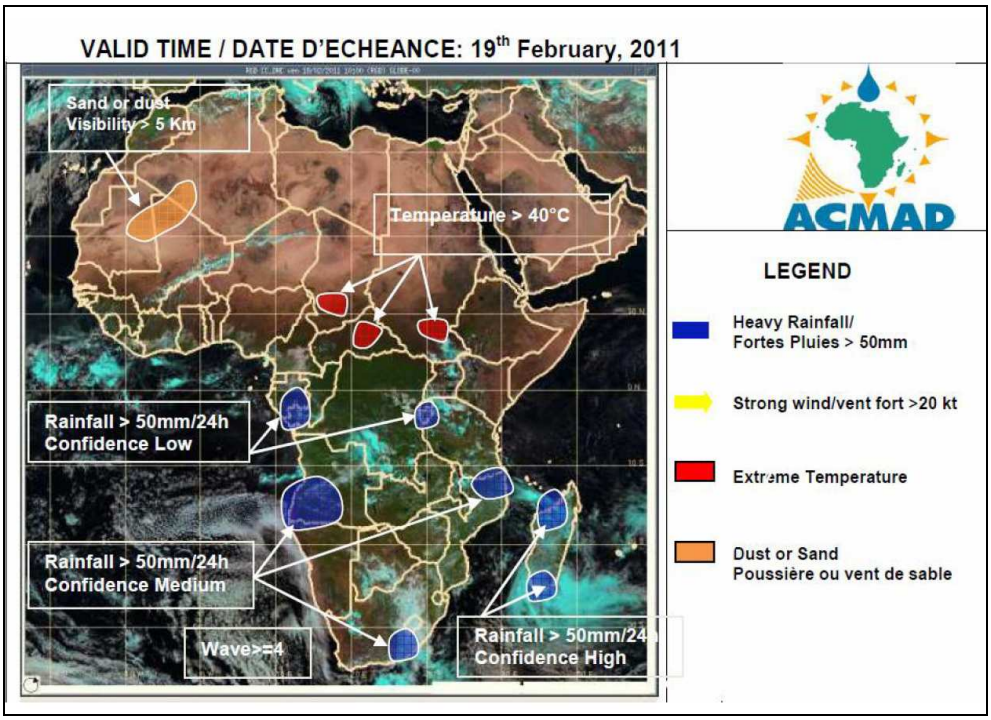


Figure 7: A risk map as a final result of a three years of dialogue between DRR managers and the regional climate center.

Good <u>lessons</u> from experience and areas to explore include,

- how to communicate late rains and cereal drying periods
- how to understand peak of rainy seasons and malaria treatment (UNICEF-ACMAD)
- how to identify and communicate beginning of rainy season and rain distribution inside the season

- issue of downscaling

Key lessons of using climate information for DRR action

- Outside of the community of experts many people cannot access the forecasts;
- Many people who access the forecasts can't understand them;
- Many people who understand the forecasts do not trust them;
- Many people who understand and trust the forecast do not know what to do with them;
- Many who know what to do after receiving a forecast lack the resources to act

Communication is the major problem, not technology. Communication is vital to build trust, because if people don't trust the provider, they will not take appropriate action on warnings.

To a climatologist	What it means to a disaster manager…
location	vulnerability
magnitude	expected loss
lead time	range of plausible actions
probability	subjective decision

Conclusion:

GFCS provides an opportunity to bring together development and humanitarian actors.

Adaptation for both climate variability and change is about reducing vulnerability and building the resilience of communities at risk. There is a need to better involve environment, agriculture and water resource managers in DRR/CCA institutional frameworks. ISDR will continue to build partnerships and space for dialogue to address climate risk as part of sustainable development, and so as to avoid that climate disasters wipe out years of challenging development progress. Partners should advocate for "no-regret investments" to build resilience and adapt to CC, as the IPCC Special Report *Managing the Risk of Extreme Events and Disasters to Advance Adaptation* states. Moreover, databases on disaster loss should be established to help build evidence of climate change impacts.

iii. Experiences from the humanitarian and emergency response communities – status and gaps (Krishna Krishnamurth, WFP)

. WFP is a user, producer and translator of climate information. In 2010 WFP supported 100 million people with necessary food aid.

3 examples of activities that use climate information are EWS for food security, social protection, and humanitarian operations.

There are a variety of activities that support food security:

- GHA (Great Horn of Africa) food security outlook takes climate forecasts 6 months in advance (Figure 8).
- ITCZ projections and 7-day precipitation data used to plan logistical operations in Darfur.
- Risk transfer and safety nets: Climate info trigger scale up of food security safety net based on weather index. WFP and WB support Government of Ethiopia through the LEAP project
- Multi hazard EW: HEWS web

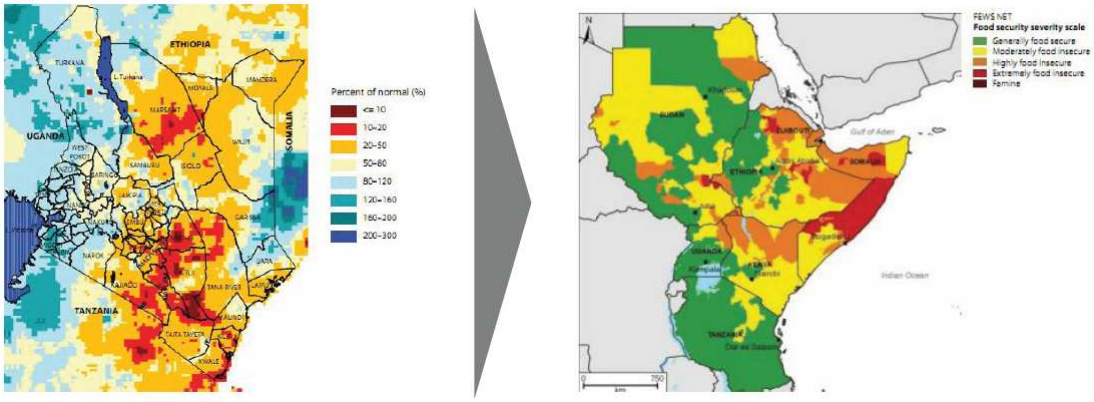


Figure 8: Translation of climate forecasts into food security forecast during food security outlook forums

5 key challenges for DRR:

- setting standards on how to communicate what information is necessary for action
- enhancing inter-operability: reliable information and can be used in a easy way with other services
- communicate limitations for operations
- reaching the most vulnerable! Something we need to stress!
- additional resources to make sure climate services are better integrated into other sectors

Conclusions:

- partnerships are crucial
- Climate information needs to be better linked to risk management
- integrated information platform needed
- user interface must be improved
- limitations in climate information, such as downscaling, should be addressed

C. WMO initiatives and partnerships for the provision of climate services for the health and DRR communities

Presentation by Geoffrey Love, WMO

This presentation described the WMO mechanisms to deliver its mandate, and engage with and partner with various stakeholders, at different levels.

DRR Related Activities:
All commissions have DRR related activities. The Implementation of the Hyogo Framework has brought met services and disaster risk managers together at the country level. High level of collaboration with ISDR system, humanitarian response managers and WMO Members.

Health Related Activities:
NMS are working to provide a range of health-related "public good services" – such as heat-health early warnings. Heat-Health collaborative works to develop guidance. There are Climate and Health Working Groups in several African countries linking ministries of health and met. AEMET (dengue fever in Panama)

We need to embed CS activities in ongoing processes, which can minimize the costs by building on what is happening already, and strengthen existing partnerships. WMO has traditionally worked

with the NMS, as well as a range of other partners. However, the increasing complexity of the climate system, and related weather, is likely to expand partnerships.

V. Session IV: Panel Discussions on Experience of Health & DRR with Climate Services and Partnerships

Issues and questions for panelists

1. How is the health services/disaster risk reduction community impacted by meteorological related hazards and conditions (what are the main risks)?
   a. Briefly describe some of the programmes that you are familiar with that use (or plan to use) weather and climate information.
2. What is the current level of interaction of practitioners with producers of weather and climate information?
   a. What are their sources of weather and climate data
   b. How is the dialogue between providers and users established and maintained
3. To what extent has meteorological information influenced the processes and decision-making in the DRR/Health community?
   a. Do your programmes provide weather and/or climate data to end users (potential disaster victims (DRR), potential disease victims (health)) or do your programmes only target higher-lever users
   b. What is the route for climate and weather information to end users in the areas served by your programmes
2. What are the major hurdles for the use of meteorological information?
3. What are the new and developing opportunities for using meteorological?

A. Panel discussion with experts in the health sector

Health panelists represented two Ministries of Health, two WHO country offices, and two NGOs that described their experiences implementing climate informed health programs and policies. Panelists discussed:

- Three models of Climate and Health Working groups in Ethiopia, Kenya, and Madagascar, which convene both health and NSM actors for research on climate sensitive diseases.
- Two WHO supported Early Warning Systems for Heat- Health EWS in Macedonia, and Malaria EWS in Kenyan Highlands.
- Climate Sensitive Water and Sanitation programmes

i. Climate and Health Working Groups

(1) Madagascar

Dr Raoelina Rajaona Nirina Yolande (MINSANPF-Madagascar and Voahanginirina Ramiandrisoa (NMS-Madagascar)

The CHWG-Madagascar was established in 2008, with the support of WMO. To enhance the weather and climate information to the health service sector in Madagascar.

The CHWG is multidisciplinary and inter-ministerial, with two national focal points from each the Ministry of Health and National Met Service. Other partners include veterinary partners: WHO, Institute Pasteur-Madagascar, USAID, UNICEF, Roll Back Malaria Partnership, UNDP) in collaboration with international partners the IRI-Columbia, HCF, GEO, other research institutions.

The working group prioritizes three diseases Rift Valley Fever, Malaria, and Plague, and aims to strengthening the competence on climate information for health sector; provide institutional strengthening, and the network of weather and climate observations; operational research, and monitoring and evaluation.

Major Challenges:

- Political and economic crisis hampered engagement and implementation
- Continuity and impact depends on sustainability of funding after the pilot phase.
- Disseminating and effective use of information for health workers/ users
- Insufficient motivation of local health personnel and volunteer Met observers
- Time management of the joint work

Recommendations from Madagascar for future health and climate collaboration

Success Factors

- Gaining political commitment from WMO and the 2 Ministries both Health and Met is essential to facilitate future work.
- Appointing TWO focal points for each side improves coordination
- Developing a clear policy document and action plan outlining roles and strategies is important for both sides to clearly understand the partnership.
- Sustainability can be enhanced through effective monitoring and evaluation of actions, training personnel to increase understanding and buy-in, and maintaining strong partnerships that can help access and provide
- Financial and technical support (i.e. WMO and IRI)

(2) Climate and Health Working Group - Ethiopia (CHWG-E)

Mr. Abere Mihretie (Anti-Malaria Association)

The CHWG was created to mobilize responsible and legalized agencies to work together on appropriate use of climate information for protecting people from climate-related health problems.

National Partners in the CHWG include the Federal Ministry of Health, NMA, and local academic and public health institutes. Have resulted in the EFMoH & NMA being awarded ($500,000) for the establishment of the CHWG. National partnerships have expanded through the Climate change Forum, CPHE, and Earth day. International Partners include: Health and Climate Foundation (HCF), IRI-Columbia, MERIT, WMO, KOICA,WHO, ACMAD, South Dakota State University (SDSU); ClimDev-Africa, ACPC

These partnerships have allowed the CHWG to review the status climate and health information especially on malaria, meningitis and acute watery diarrhea; Review the status of early warning system in the country especially usage of climate information for early epidemic detection and control; Fostering Research on climate sensitive diseases; Develop information sharing system; Capacity Building to provide training to 100 Ethiopians, in how to use Google Earth/and Maps, Introductory Climate & health, GIS/Arc Reader, IRI Summer Institute in use of climate information , and awareness raising of over 300 Ethiopians.

The CHWG has hosted International Conferences & Workshops on Climate and Health attended by over 300 people, (Science & Technical meeting on Climate & Health, MERIT, African 10 years on) and is seen as a key partner and forum for national interests in climate and health.

Despite the successes, challenges encountered include:

- Weak understanding of climate information not only among the community, but staff within the government requires continuous training of those involved.
- Big ambition in Ethiopia and low response for funding and Partners
- For the purposes in Ethiopia the free WHO tool OpenHealth Mapper was not usable, and a more advanced but at-cost software
- Overstretched and passive involvement of MoH, calls for patience and commitment to the tasks
- Technological limitations, in slow band-width internet.
- Data limitation: poor Documentation and data in the health sector

Recommendations from Ethiopia for future health and climate collaboration

Climate services can help in a range of activities from EWS to preventive services at the community level. However, joined up actions do work and make a difference but require both sectors to be committed.

1. Solutions to public health problems, that involve CS must be demand driven by health actors.
2. NMS and CS for health must be open-minded and flexible enough to accommodate the demand-driven approach to climate information.
   They should also work hard to mobilize the health community to be able to use its produced information. And adapt their systems for providing CS in the way that all community needed information be provided free of charge to the user.
3. Health authorities (ie MoH) should explicitly commit themselves to working through the NMS to acquire climate and environmental information, and responsible to train their staff how to use it.
4. Effective Collaboration and partnership at all level should be enhanced
5. Training & education should be enhanced
6. International partners should be driven by the community need
7. Investments in environmental management to support/protect health
8. Knowledge Attitude and Practice (KAP) Surveys can be helpful to identifying perceptions and needs for the use of climate information by health actors.

(3) Kenya Climate and Health Working Group

Mr James Sang (MoH Kenya)

C&H collaboration began in Kenya following the El Nino triggered malaria outbreak in 1997-1998 to implement and identify opportunities to develop EWS and models. In 2008, with support from WMO/IGAT/IRI a Kenya Climate and Health Working Group extended work of the IGAT climate prediction centre and Kenya Malaria working group. Particularly applying knowledge of health sensitivity and climate variability, by combining climate and met information for operational purposes (i.e. prediction and MEWS), sharing information, and helping communities to deal with epidemics.

Recommendations from Kenya for Future Health Early Warning Systems

- Gaps in knowledge about how climate impacts health need to be addressed.
- Animal health authorities are also needed to manage human health risks. Lesson from Rift Valley Fever management is that new partners need to be involved.
- For governments to mainstream climate into health policy and action planning Advocacy and Publicity is needed. The WG is helpful to increase awareness and share knowledge with policy makers.
- A big mismatch still exists between availability of early warning and early action taken. Investment is needed to increase awareness and use of climate alert mechanisms by health workers.
- Although Regional Climate Outlook Forums (RCOFs) via IGAT Collaboration have successfully convened a joint climate and health expert group to interpret climate science, national expert group is needed to inform the national (downscaled) seasonal outlooks for both climate and health.
- Cross border disease transmission is a reality. Surveillance, guidance and systems needed to better identify and manage cross-border risks (ie Dengue Fever in the Somalia-Kenya border zone)
- Start with one disease and expand to address others. Ie Kenya started with Malaria, has expanded to look at Rift Valley Fever, Dengue, and proposes Yellow Fever.
- Review the performance of the use of previous climate or seasonal weather forecasts in the health sector in, and provide guidance on where to improve based on actual use and experience.
- Communication has to happen down to the communities, and not stop with advisory to governments at the national level. Risk mapping to identify who is at greatest risk linked to messages through the media of what specific high-risk communities need to do – is effective.

ii. Health Early Warning Systems

(1) Kenya Malaria Early Warning System

Solomon Nzioka (WHO Kenya)

A WHO/UNDP/GEF project is being implemented to strengthen the surveillance, test the model of epidemic relation to climate conditions, strengthen the response to the EWS alerts, and build general capacity to mange this complex risk.

Lessons and Recommendations from Kenya for future Early Warning Systems

- EWS must be specifically designed to reflect local conditions. One single early warning system for the whole highland zone does not work across three zones with different environmental conditions (Trans-NZIOIA, Nandi Kericho, and Kisii)
- The quality, timeliness, and quality of health data must be assessed before developing EWS, to be realistic.
- Met partners must understand that gaps exist in epidemiological data, clinical data and lab data. It is also possible for epidemiological data and lab data differ from each other (for example when malaria is diagnosed and treated as malaria, but is fever of another origin.) Health data may exist but not be readily accessible.
- Joint initiatives can overcome the barrier that Met data is often not accessible or understandable to health partners.

(2) Macedonian Heat-Warning System

Mrs. Spasenovska (WHO Macedonia)

A Heat Health Warning System was established in Macedonia in 2008, with support from the German Government and WHO.

It aims to establish the heat early warning system; and improve coordination and capacity building; Communication plan-public and media; Protection of vulnerable groups; Action sheet for the different heat – wave levels and set of protocols.

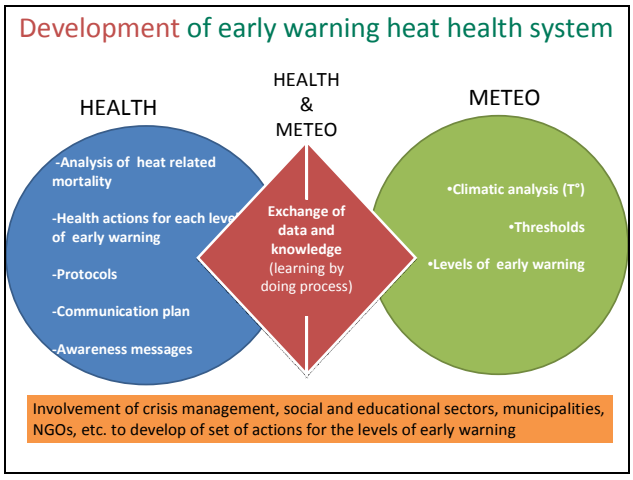


Figure 9 Macedonia Heat-Health Early Warning System

Challenges encountered, that could be facilitated by GFCS implementation at the National Level.

- Political: partnership and platform for cooperation
- Financial: early warning system was established as part of the pilot project, and needs to be sustained.
- Technical: lack of knowledge, identification of input data, thresholds development methods, linkage to health conditions
- Institutional: lack of clear definition of roles and responsibilities

- Operational: lack of experts and trained professionals
- Sustainability: National health adaptation strategy

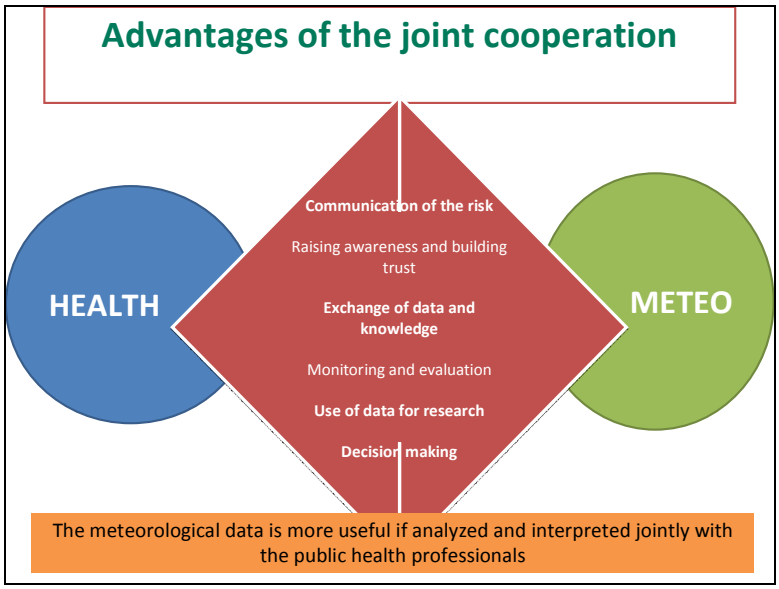


Figure 10 Advantages of Health and Met Collaboration

Recommendations from Macedonia for future Health EWS

- Early warning forecasting works only if a proper preparedness and response plan is available
- Guidance for the definition of criteria for triggering heat–health interventions has to be in place;
- Clear SOP must be developed for who should do what when climate triggers occur.
- Threshold indicators for action has to be jointly agreed;
- Monitoring and Evaluation is essential, everyone must be involved
- Climate information and predictions must be incorporated into a well-integrated public health information system and decision-making approach in order to create sustained and measurable benefits –joint analysis proof to have a success
- Heat wave experience to be used for development of other early warning systems e.g. floods, draughts, windstorms etc (interest from WHO EURO side)

iii. Climate and Water and Sanitation Programs

Mr. Robert Frazer (IFRC)

Recommendation for future action in climate and health from perspective of National Red Cross Societies

- CC will have an increasing impact on people who are most vulnerable, least informed, least prepared to deal with health crisis, both in acute and chronic context. Focus should remain on most vulnerable.

- Coordination and awareness – focus needs to be at national and subnational level where health problems are managed and communities are vulnerable, and not too much on the international level. Awareness of risks and what to do at national, sub-national and community level needs investment.

- Tailored communication and risk information must cater to different audiences and end-users. There are many different user-groups within health or who need to know about health risks and will have different responses.

- Commitment and enthusiasm by key agents is not enough. There will be increasing impacts that require financial resources, and other resources to scale up – significantly and be prepared for the health related crises that will become increasingly noticeable. Diseases, malaria, diarrheal diseases (cholera) moving into areas it has not been known in.

B. Panel discussion with experts in the field of disaster risk reduction

The DRR panel participants represented two academic institutions that facilitate climate services for DRR (IRI and HFG), two major humanitarian partners (IFRC and WFP), and a Regional Climate Center from Africa (ACMAD). Panelists were Mrs. Vismann (Humanitarian Futures Programme), Mr. Mason (IRI), Mr. Perera (IFRC –Malaysia), Mr. Khan (ACMAD) and Mr Krishanmurth (WFP).

(1) Humanitarian Futures Programme, King's College London (Emma Visman)
GFCS needs to involve a wide range of users from the humanitarian, development and DRR communities. A current HFP project brings together meteorologists, humanitarian actors, development policy makers and university representatives in Senegal and Kenya. The project includes vulnerability and capacity assessments, workshops, community pilots, evaluation and a technical consultation in preparation for 2012 rainy season. The project succeeded in providing access and understanding on appropriate meteorological and climate applications and the resources and approaches for each of these. The information is being used for drought early warning.

Recommendations from HFP for GFCS implementation

- Integrate DRR approach into ongoing work rather than create separate projects.
- Collaborate with complementary science-policy initiatives in other disciplines (such as seismic risk)
- Focus on providing services: People don't want to be asked again what climate info they want because asked too many times; they want action.
- Formally recognize and resource a new mandate for NMA. Resources need to be long term.
- Allow range of users access to platform and enable them to inform the research agenda.
- Build spaces to exchange learning, considering that communities are better at identifying mechanisms to disseminate info.

(2) Collaboration of Red Cross and Climate Science and Research at IRI (Simon Mason)

A primary lesson from the IRI experience as an international partner supporting national counterparts such as the Red Cross to access, use, and interpret climate information, is that relationships take time and trust to build and be effective. Effectively linking climate science with operational actors goes beyond meetings, but calls for joint action and shared desks that can build trust and refine products to meet user needs. The IRI has several activities to help this process of joining-up.

1) **Online Map room** designed for the Red Cross, with attention given to user needs and design principles

2) **Virtual Help Desk –** this email-based service connects experts and field staff to provide guidance and assist users to appropriately interpret available information.

3) El Nino alerts - developed in 2008, and continues to provide an alert to regions and some basic guidance on what they should do.

4) **Internship program** to send Masters students to work with Red Cross field offices and Met Offices.

5) **Joint staff based at IRI – working for Red Cross**

Capacity building and understanding doesn't happen overnight or by short meetings, but shared desks. Staff exchange and joint staff can be important liaisons between agencies and communities.

Recommendations from IRI for DRR and climate service partnerships

- Be realistic about the amount of time it takes to build trust and make the partnerships work.
- Services to provide interpretation are critical. It is too cumbersome for local disaster risk managers to interpret climate information when it comes from global sources and has to be nationally validated.
- If the information is not in multiple languages it can't be used because English is limited at the national level.
- Joint processes, joint-desks and collaborative actions achieve results over time.

(3) Perspectives from the ground. Red Cross Societies, Koala Lumpur (Susil Perera)

The Maproom and periodical bulletin are very useful but it is still necessary to visit national websites. An important problem is that most of the climate information is in English and at RC society level most actors do not speak English.

It would be useful for the GFCS to promote the joint development of a tool that integrates climate change concerns with vulnerability and capacity assessments.

In Sri Lanka the national disaster management agency has the mandate to coordinate actors; it would therefore be useful to have a DRR or humanitarian representative in the met office.

(4) African Center of Meteorological Applications for Development (ACMAD), (Cheikh Kain)

ACMAD's goal is to promote development through use of climatic info. It develops weather and climate products, such as flood forecasts, downscaling to national level for NMS trainings, bulletins for decadal and monthly watch including for health. The hydrometeorology service is based in Yemen, and basin authorities share info. It organise some of the African climate outlook forums, which bring civil society, health and agriculture representatives together. ACMAD is developing an adaptation project in four regions of Africa for early warning for health, food security, water, sea-level rise, extreme events. The entry points for the projects are NMS, which brought ACMAD to other stakeholders. It is currently identifying pilot projects to develop, and has began with Ethiopia health early warning (described earlier) and a Niger damn early warning project. ACMAD collaborates with local pastoralists organizations in Chad, Niger and Mali to exchange knowledge (traditional and scientific). Translators are required.

Some additional points raised in discussion:

- National platforms for disaster risk reduction can be useful because they increasingly bring private sector actors and others.
- Need to strengthen monitoring of climate service use. Need to review who forecasted what, what action taken, and was the action taken appropriate?
- Need to make economic case to ministers for climate services for DRR. How do policy makers use the info? How do we show this?
- Need to support modernization of met services with WMO. It is difficult to develop business plans, hard to do cost recovery: airports are happy to pay for weather info but others struggle. Grants won't work long term so must show that it makes economic sense for

national governments to pay for met services. UNICEF data available for disasters could be an example. Need more development partners like UNDP, development banks, FAO, etc.

- Insurance companies also need to be included in the discussion. They are interested in early warning and joint action where lives and capital are protected.
- Met services need to be shown how to make themselves relevant, where their info and capacities can help so that they will be valued by policy makers and eventually supported by them. Might have a separate GFCS consultation with financial sector in which multilateral banks would be included.

C. Summary of Panels

Significant experience exists in both the health and DRR communities in collaborating with meteorological and climate service partners. Learning-by-doing approaches have proved useful and should continue. This is an iterative process, and review of progress is needed to evaluate experiences, document and share best practices, models and methods. Some mechanisms exist that can capture such experience, but there is a need and window of opportunity for the GFCS UIP to further support.

VI. Session V/VI: Breakout Sessions on Health & DRR

The consultation meeting was divided into two breakout sessions - one for health and the other for DRR partners - to discuss separately the following:

Working Group Guidance

Objective:
To identify areas where health and disaster risk reduction community organizations have strategic plans that call for climate services as an input to proposed activities.

Background work:

- Briefly review the ways climate services are provided in your community of interest (Health or DRR) at the global, regional and national levels;
- Identify the key areas where improvement is needed to foster closer interactions between climate service providers and users;
- Discuss and recommend appropriate mechanisms for improving interactions with users;
- Provide advice and guidance on how to best build capacity to implement the User Interface Platform in the developing world.

Looking ahead to specific activities:
Identify, describe and propose 3-4 case studies that could be/are planned to be undertaken to show the benefits of working with the GFCS, linking existing and planned mechanisms/activities and, if necessary, proposing new linkage mechanisms at the global, regional and national levels;

Necessary Criteria for Projects
What criteria would you propose be applied to projects/activities in determining whether or not they would make a good fit to be part of a GFCS Implementation Plan;

A. Feedback from the Health Working Group

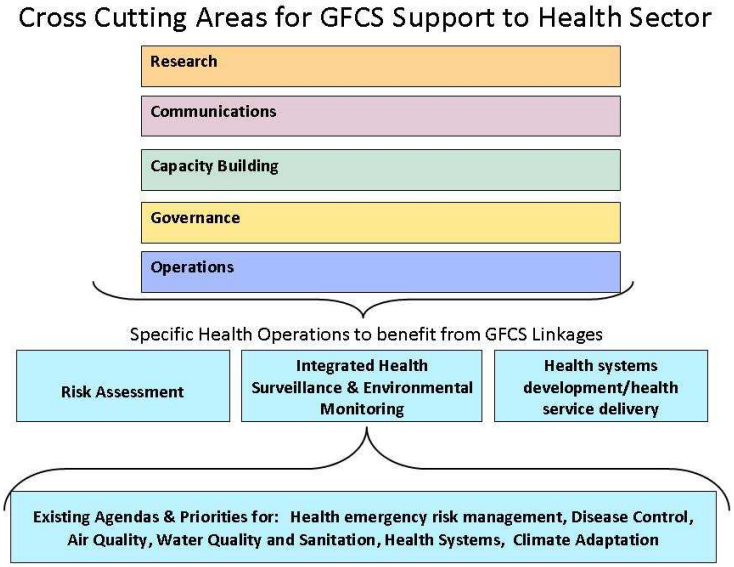
Health Background Work
A background report was prepared in advance of the consultation to review how climate services are provided and used by the health community (2) key identified needs and recommendations for improved partnerships, information, and capacity building.

Health and CS Looking Ahead:
The health experts and WHO feel strongly that needs have already been identified in this area of work, and sufficient experience gained through partnerships over the past 10 years, allows the health community to move beyond pilot projects to develop strategic programmes for climate services for health. Therefore, the Health Working Group identified priority areas for such an initiative.

Future activities should build upon current activities, partnerships, and collaborations, as well as work to address the many identified gaps and needs to improve the access, use, and understanding of climate services and how they can be used for health.

The proposed framework of action for Health within GFCS, describes two sets of issues.
First, there are cross cutting support issues required for the operationalization of CS for Health, such as research, governance, capacity development and communications, operations. Secondly, the three core areas of health implementation of risk assessment, surveillance, and health service delivery, (as

executed through agendas for specific health issues) which require cross cutting support from the GFCS, and CS at the national level.



1. Research and M&E (process and achievement evaluation of interventions)

General Recommendations

- Existing research agendas have established priority knowledge needs for climate and health, and gaps where collaboration between the communities of practice could push this forward
- Evaluation of EWS and models is needed to understand what has been developed, what is working, and establish standard evaluation criteria
- Develop case studies on the benefit of working with climate services.
- Encourage social science monitoring of readiness, perceptions, and utility of end-users.
- Systematic analysis of capacity and approaches in C&H, i.e. of the CHWGs and systematic and differential experience and operating conditions. Or Heat-Wave plans.
- Identify mechanisms to engage dialogue with resource managers, economists, and Inter-disciplinary work which can build in the cost-benefit work
- Projects which already represent the criteria of a GFCS implementing initiative, should be identified and endorsed

Essential Tasks for GFCS to deliver on the recommended areas for research

1. NMS supporting evidence for Policy Making
2. Provide a forum for the development of standard terminology used between the collaborating sectors
3. GFCS establish monitoring standards for new interventions, and the development of indicators, particularly related to economic costs-damages-and benefits. *Endorse this approach with donors to enforce economic monitoring.*
4. Support research which can facilitate and build the economic and political case for the application of climate services.

2. Communications: Risk, Awareness, Explicit trust mechanisms, Advocacy

General Recommendations

- Making the case for the value and contribution of CS to the achievement of government targets and strategies,(ie. Economic growth, MDGs, health) and effectively communicate success and cost-effectiveness.

- Recognition and support of national champions who are required to filter, translate, build up local leadership and trust between communities for the effectiveness of GFCS
- Recognize and support the need for tailored communication strategies to respond to differing political and technical needs, which vary significantly from country to country.
- Guidance and tailoring of risk communication to the user community, (i.e uncertainty, language, etc.)
- Identify and promote best-practices for building trust between communities of practices, in order to create an enabling environment for facilitate cross-fertilization, exchange of staff, data and effective joint work.
- Recognition of the heterogeneity of societies and cultural differences in information demands, engagement of community (need rec. s of how to bring to community level).
- Recognizing and incorporating language needs, as part of the end-to-end service delivery guidance, ensuring information products are available in local languages
- Enhance the better use, capture and transfer of local information (including indigenous knowledge)
- Encourage general awareness, and the culture of climate and weather information.
- Focus on delivery of clear messages, developed alongside the end-user community to match the jargon and technical needs.

Essential Tasks for GFCS to deliver on the recommended areas for communication:

1. Encourage the need to identify key individuals/national focal points to take responsibility for the accurate translations of key documents.
2. Build the Argument for the use of CS for health (and the GFCS) at different levels, based on what is already known and possible.
3. Generate a list of experts, focal points and experienced champions in C&H applications
4. Building (linking) CS reporting mechanisms into the MDG reporting/tracking processes, (i.e. focusing achievements on how climate services ensure goals are met).
5. Engage the identified representatives

3. Capacity

General Recommendations

Resource Capacities: Support the sustainable financial capacity

Technical/professional capacity

- Support the technical/professional capacity development to incorporate climate relevant issues into standard epidemiological training, and vice versa to incorporate health (sectoral relevance) into the training of meteorological professionals.
- Support develop of services which have the capacity to translate, analyse, and interpret data (often preexisting) to meet health decision needs, and ensure dialogue regarding the implications and uncertainty of that information.

Institutional Capacity

- All climate services for health, should be designed with clear roles and responsibilities of actors, to produce, provide, analyze, apply, and act upon available information to support strong Institutional frameworks to work together.

Essential Tasks for GFCS to deliver on the recommended areas for capacity development

1. Galvanize and inform the donor community on the GFCS implementation and advocate the needs of the health community for the collaboration between sectors to utilize climate information to manage risks and adapt.
2. The ToR of the capacity development functions of the GFCS incorporate the health community capacity requirements and associated resource needs.

3. Will support the capacity of national health and met authorities to collaboratively work together to conduct: risk assessments, research, and risk management within health service delivery.

They may do so through the following activities:

4. ***Kits for Institutional Capacity Development:*** *Provide a range of examples and models of national institutional structures, which meet established requirements to provide CS for Health, and facilitate the development of national structures.*
5. ***Kits for Technical Capacity:*** *Provide guidance and templates for capacity building in C&H by developing standard models, for technical skills and institutional models, SOPs. For the implementation of risk assessment, management, and research.*
6. *Mobilization of resources to provide and receive funding and training, ie seed funding/scholarship for education and training programs.*

4. Governance

General Recommendations for governance

- Strengthen and encourage the leadership shown within countries and regional orgs across health and climate communities.
- Encourage senior leadership engagement (leveraging Ministry weight by marketing success stories and evidence).) Finding ways to ensure political will and sustainability of programs.
- Promote identified (and evaluated) mechanisms for multi-sectoral collaboration, (ie Climate & Health Working Groups)
- Exploration of Thematic Platforms/health commission
- Need to learn from previous experience in partnerships to not reinvent the wheel in all aspects of the plan.
- Identify the ongoing health and development policy processes, where GFCS should be present to advocate and inform on the applicability and role of CS in meeting development objectives.

Essential Tasks for GFCS to deliver on Governance

- Use senior levels in UN and other international systems to empower leaders to promote and drive climate services for health. ie participation & access to WHO governance processes. (ie GFCS to feed into the WHA)
- Requirement of GFCS to ensure sustainable funding to meet sectoral needs for CS. Facilitate access to donors, to ensure sustainable initiatives, or structure funding with incentives to mainstream and integrate service components into ongoing policy/practice.
- GFCS should serve as a convening and coordinating body, should bring partners together at global and regional levels, and also endorse the kind of convening and coordinating that should happen at the national level.
- Articulate and create an enabling environment by establishing requirements and mechanisms to enable national implementation and leadership of the GFCS
- Establish a mechanism to ensure Ministries are obliged to feedback on progress and needs – once initial programs within GFCS are launched. Potentially an international mandate for ministerial collaboration.

Potential Criteria to be used to identify projects:

- Protect vulnerable populations
- Addresses major gap identified at regional and/or national levels
- Addresses climate sensitive health condition of public health priority
- Engages a range of health, DRR, and meteorological stakeholders in partnership with the aim of protecting health and wellbeing
- Includes effective Monitoring and evaluation, and accountability

- Has a risk communication function
- Has articulated capacity building targets
- Cost effective
- Builds evidence
- Includes sustainability or mainstreaming plan

B. Views from the experts in the DRR sector

DRR Discussion on Background:
Climate services reach disaster risk managers in several ways:

- Dedicated products: for example, IRI-IFRC website, helpdesk, bulletins, staff and intern exchanges.
- Nat Met Services to user: WFP overlays other data on climate projection maps to preposition supplies and resources. All info received from met services with rare exceptions of satellite data.
- Directly from Met Service to community with some training, such as reading gauges
- Through regional climate centres, which are particularly useful for cross-border hazards like river floods; Information from the centres disseminated to Red Cross societies.
- Through Climate Outlook Forums, which in Africa, for example, include disaster risk managers
- Regional blocks like African Union and ECOWAS are also taking a coordination role but not comprehensive at this point.

Key areas for improvement:

- Ensure inclusion of NGOs, which usually don't have access to climate scientists and are not invited to meetings on climate topics.
- Enhance feedback mechanisms so that climate service providers know how the information they provide is used for decision making.
- Ensure level of climate info matches level of action to be undertaken.
- Framework for providing weather info *could be* same as for providing climate info. In quickly approaching hazards met office sometimes takes over dissemination of info; if more time available it goes through DRM office.
    - Both types of info are relevant for DRR.
    - Climate info also needs to go to others beyond preparedness actors.

Recommendations:

- Governments to establish a gateway for weather and climate information services.
- Build on existing institutions to develop a framework for communication of climate services to community level.
- Improve implementation of WMO standards so that there is only one recognized, reliable source of climate information.
- Develop MoUs with partners even if information is free.

Capacity building needs:

- Need to build the capacity of climate service providers so that they understand the needs of DRR actors and communities, and can speak the same language
- Need to build capacity of users of climate services so that they understand the applications available and the applications' limitations

DRR and climate services looking ahead:

Existing initiatives that could be developed further:

- Projects that build capacity of climate service providers (to provide relevant info) and of users, reach the community level and include disaster risk reduction actors, such as the Early Warning-Early Action workshops in Africa
- Training of women on climate services, interpretation and strategies to mitigate flooding (Bangladesh)
- Climate Outlook Forums (global)
- Bring together traditional and scientific knowledge (Chad)

Generalizing from existing initiatives:

- Must reach the most vulnerable (/most at risk/most underserved).
- Must integrate user perspective.
- Must demonstrate that services are cost effective.
- Must develop indicators for all different levels, timescales.

Local:

- Make ensure weather and climate info users have ***access*** to info and ***know how to use it*** for decision making.
- Consortium approach should be encouraged.

National

- Build capacity at national level to communicate, linking with national coordination mechanism, using formalized agreements. Indicator would be coordination of multiple-level trainings.
- Create opportunities for cross-fertilization such as secondments/staff exchange among climate info providers and users.
- Strengthen all partners and ensure all partners linked in. Build on existing national structures and coordination clusters.
- Monitoring: regular feedback mechanism that assesses what was communicated, how communicated, what action taken, and based on standard indicators. Ensure system brings info up and down.

VII. Session VII: Recommendations for an operational strategy for the GFCS UIP implementation in the short term (2013-2017)

A. Health Breakout Group Recommendations & Conclusions

(1) GFCS for health will only be successful if demand from the health community is increased. Therefore communication, advocacy, and linkages to enhance existing health tasks and agendas, should be priority work areas.

(2) Health Ownership and leadership is required to gain legitimacy, quality control, and mainstream climate services as a core public health service to adapt to climate change. Therefore, issues of governance, coordination, and partnerships should be formally addressed for the implementation of the GFCS.

(3) Building on existing health and climate initiatives is vital. Therefore, identifying partners, and bringing experienced actors together in a network, as well as activities to take stock and address currently identified gaps in research, partnerships, funding, and organization should be priorities.

B. DRR Breakout Group Recommendations & Conclusions

(1) Develop a national framework for climate services
Building on existing institutions for disaster risk management (DRM), support the establishment of national institutional mechanisms for provision and communication of relevant climate services to communities most at risk from hydro-meteorological disasters, and feedback to providers of climate services

(2) Mapping of information provision
Identify what services are already available at each geographical level; who are the climate service providers at each geographical level; and what are the existing channels for communicating information to end-users?

(3) Capacity building of providers and users
Strengthen the capacity of national-level and final end-users (community-level) to access and make use of climate services as input for decision-making, and of climate service providers to identify end-user needs (towards user-driven research and applications)

VIII. Conclusions

The GFCS process was recognized as an opportunity for climate, health, DRR and other partners to systematically work together toward common goals. The initiative of WMO to encourage sectoral partners to take the lead for the sectoral inputs for health and DRR was recognized. The consultation closed with appreciation from key partners on the opportunity provided by WMO to hear and consider the experience and needs of the health and DRR communities in the use of climate services.

WMO provided additional information on expected process forward to develop the GFCS, and the UIP. WMO explained this consultation represents the network of reviewers to the outcomes to ensure contributed comments and ideas have been included, and that each agency will be well positioned to implement the GFCS because it takes ownership in its development and design.

It was noted that the GFCS will contribute to ongoing processes, such as the AMCEN process, Libreville Process, to raise awareness of the GFCS. Partners will be supported for purposes of advocating the GFCS among the health and DRR communities.

Although this consultation is at the early stages of a process, it was considered a successful and constructive discussion to orient the GFCS in the right direction.

IX. Annexes

Annex 1 Meeting Agenda

Vision

To enhance the applications of climate information and products in the health and disaster risk reduction sectors through improved interactions between climate service providers and user sectors at the global, regional and national levels.

MONDAY, 14 NOVEMBER 2011

SESSION I:	**OPENING SESSION**
0900 hrs	Brief words of welcome from representatives of the hosting organizations WMO Jerry Lengosa (Deputy Secretary General) WHO Dr. Maria Neira (Director Public Health & the Environment) ISDR John Harding IFRC Mohammed Mukhier (Head, CP&DRR)
SESSION II:	**Meeting Overview** Co-Chairs: Glenn McGregor (Health) and Youcef Ait-Chellouch (DRR)
0930 hrs	Tour de Table
0945 hrs	Meeting structure, expected outcomes and review of agenda *Meeting Co-Chairs*
1030 hrs	Coffee Break
1100 hrs	The Global Framework for Climate Services and its development process *Filipe Lúcio, WMO*
1130 hrs	The User Interface Platform and its interaction with other components of the GFCS (Observation, Research, Information Systems, Capacity Building, etc.) *Geoff Love, WMO*
1150 hrs	Questions and open discussion
1230 hrs	Lunch
SESSION III:	**Experiences in the use of climate services CoChairs: Steven Connor (CIPHA, USA) (Health) and Youcef AitChellouch (UNISDR, Kenya) (DRR)**
1400 hrs	Experiences from the IFRC – status and gaps 'Experiences from the Disaster Risk Reduction community – status and gaps' *Mohammed Mukhier, IFRC* 'Opportunities for Strengthening Climate Risk Services for Disaster Risk Reduction' *John Harding, ISDR*

'Recent Experiences in Bridging the Gap between Climate Information Providers and End-Users in Africa'
Youcef Ait-Chellouch, IFRC

1440 hrs Experiences from the humanitarian and emergency response communities – status and gaps
Krishna Krishnamurth, WFP

1515 hrs Coffee Break

1530 hrs Experiences from the health community – status and gaps
Joy Guillemot/Diarmid Campbell-Lendrum, WHO

1550 hrs Experiences in working with the health community
Simon Mason, IRI

1630 hrs WMO initiatives and partnerships for the provision of climate services for the health and DRR communities
Geoff Love, WMO

1650 hrs Open discussion

1730 hrs Adjournment

TUESDAY, 15 NOVEMBER 2011

SESSION IV: Panel discussion
(Chair: Youcef Ait-Chellouch (DRR))

0900 hrs Panel discussion on Health
Margarita Spasenovska, WHO Climate change health DRR Skopje, Mazedonia
Dr. Yolande Wilna, MoH, Working Group health, Madagascar
James Sang, MoH in Kenya, epidemic response to Malaria, Chair of health and climate working group Kenya, Chair of Climate outlook forum
Salomon Nzioka, Kenya, WHO country Office, coordinating Climate and Health adaptation
Robert Frazer, IFRC, Water: focal point climate change, sanitation and water
Abere Mihretie, Anti Malaria Association Ethiopia, Climate Health Working Group

1030 hrs Coffee Break

1100 hrs Panel discussion on DRR
Emma Visman, Humanitarian Futures Programme
Simon Mason, IRI
Cesil Perera, IFRC, Kuala Lumpur
Cher Khan: ACMAD
Krishna Krishnamurth, WFP

1230 hrs Lunch

SESSION V: Breakout Sessions
(Chair: DRR (John Harding) and Health (Steven Connor))

1400 hrs	Introduction to breakout sessions *Geoff Love, WMO*
1430 hrs	Breakout session to identify general sectoral/thematic implementation activities
	Coffee Breaks at discretion of chairs
1700 hrs	Adjournment

WEDNESDAY, 16 NOVEMBER 2011

SESSION VI:	**Reports from breakout sessions** (Chair: Solomon Nzioka)

0900 hrs	Health Group, reporting back by Katy Carmichael (UK-HPA)
0930 hrs	Disaster Risk Reduction Group reporting back by Silvia Llosa (UN- ISDR)
1000 hrs	Open discussion
1100 hrs	Coffee break
1130 hrs	Second Round of Breakout Groups to identify specific sectoral/thematic implementation activities
1330 hrs	Lunch

SESSION VII:	**Recommendation for the development of an operational strategy for the UIP implementation in GFCS in the short term (2013-2017)** (Chair: Solomon Nzioka)

1400 hrs	Second Round of Breakout Groups to identify specific sectoral/thematic implementation activities cont.'d
1500 hrs	Recommendations from the Health community
1530 hrs	Recommendations from the DRR community (reporting by Arame Tall - IFRC Climate Center)
1600 hrs	Coffee Break
1630 hrs	General Discussion
1700 hrs	Conclusion *Filipe Lúcio, WMO* *Diarmid Campbell-Lendrum, WHO*
1730 hrs	Closure of the meeting *Youcef Ait-Chellouch (DRR)*

Annex 2 Opening statement Deputy Secretary General of WMO

OPENING STATEMENT AT THE CONSULTATION MEETING WITH HEALTH AND DISASTER RISK REDUCTION STAKEHOLDERS WITHIN THE USER INTERFACE PLATFORM OF THE GLOBAL FRAMEWORK FOR CLIMATE SERVICES

by

Jerry. Lengoasa
Deputy Secretary-General
World Meteorological Organization
(Geneva, 14 November 2011)
….
Mr Matthias Schmale, Under-Secretary General of the International Federation of Red Cross/Red Crescent Societies
Mr Andrew Maskrey, Senior Coordinator for the Global Assessment Report

Distinguished guests
Dear colleagues
Ladies and Gentlemen

On behalf of the World Meteorological Organization (WMO) and my own, it is my pleasure and honor to address you on the occasion of this Consultation Meeting with the Health and Disaster Risk Reduction Stakeholders within the User Interface Platform of the Global Framework for Climate Services.
This meeting takes place at a critical moment in the process for the development of the Framework, which was set in motion with the engagement from the first of November of nearly 100 experts from more than 30 countries in the drafting of the implementation plan and governance of the GFCS. Some of you are among the experts now drafting the various components of the implementation plan and the governance mechanism of the GFCS. I would like to seize this opportunity to thank partner organizations and Members for putting forward you nominations, a clear demonstration of commitment and support to the GFCS.
The development of the implementation plan of the GFCS can not be a mere intellectual exercise of experts. It must be informed by the needs and requirements of the various stakeholders who are involved in the production and use of climate service, so that the Framework is a true reflection of their aspirations. With this in mind consultations have been held under the main pillars of the GFCS, User Interface Platform (Agriculture, Food Security and Water), Observations and Monitoring, Climate Services Information Systems and Capacity Development and today we have the one on Health and Disaster Risk Reduction. These consultations involve a broad range of stakeholders including governments, UN and International Agencies, regional organizations and specific communities of practitioners and experts. They address key issues related to the production, availability, delivery and application of climate services in the four priority areas of the GFCS (agriculture, water, health and disaster risk reduction) with a view to provide concrete recommendation in terms of processes and activities that need to be taken into account in the development of the User Interface Platform for the Health and DRR communities of the implementation plan in support of better application of climate services in these user. The process for consultation is open and ongoing as we can not accommodate all stakeholders in one consultation. Efforts are being made to use every possible opportunity to engage stakeholders, through side events, meetings, etc.

Dear Colleagues, Ladies and Gentlemen,
It is generally recognised that climate is critical for planning and sustainable development within your sectors and for the lives and livelihoods of people. In particular climate extremes cause loss of

lives, increase disease burden and cause significant socio-economic impacts, especially in developing countries. Despite this recognition, there are significant gaps between the needs for climate services and their current provision, particularly in climate-vulnerable developing countries, such as early warning systems for the spread of vector and water-borne diseases, droughts, etc that really go 'the last mile' and reach the affected population. However, present capabilities to provide climate services are not delivering their full potential benefits. To address this shortcoming, new mechanisms are required.

The User Interface Platform envisaged under the GFCS is one such mechanism aimed at bridging the gap between climate information providers and users to ensure that current and future knowledge on climate services provides its full benefits for those who need climate services. It will help better understanding of user requirements, supporting the development of specific applications and tools, among other activities, to facilitate improved decision making, climate risk management and adaptation in climate sensitive sectors, such as the health and disaster risk reduction.

We have ahead of us a unique opportunity to identify, based on our experiences and institutional requirements, the type of activities that would be required as part of the Global Framework for Climate Services to implement a User Interface Platform that would effectively advance the production and application of climate services. This effort should build on the current initiatives that are ongoing, involving the meteorological and climatological communities as well as the health and disaster risk reduction communities. I am informed that some concrete examples will be reviewed in your discussion in the next two days.

As we embark on this initiative, it is important to remind ourselves that a key to the long-term success of the GFCS rests in our ability to engage all the stakeholders and offer scope and space for them to play a role. Your communities will have to take a lead in the implementation of the User Interface Platform for health and disaster risk reduction. As a collective initiative, we all need to work together, each playing its role towards the final goal of establishing an effective Framework, which will make a difference from the global to the national levels.

There are very high expectations on the outcomes of this meeting and so, I would like to wish you a very successful and fruitful meeting.

Thank you

Annex 3 Submission from Health and Climate Foundation (?)

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Annex 5 Concept Note for Health and DRR consultation

Consultation Workshop on User Interface Platform for Health and Disaster Risk Reduction Sectors within the Global Framework for Climate Services

Concept Note

Background

In 2009, Heads of States and Governments, Ministers and Heads of Delegation representing more than 150 countries, 34 United Nations Organizations and 36 Governmental and non-Governmental international organizations present at the Third World Climate Conference (WCC – 3) unanimously adopted a Declaration establishing the Global Framework for Climate Services (GFCS) to strengthen the production, availability, delivery and application of science-based climate prediction and services.

Acting on WCC-3 Declaration, a taskforce of high-level independent advisors was appointed through an intergovernmental process to prepare a report, including recommendations on the proposed elements of the GFCS and the next steps for its implementation. In its report released in May 2011[1], the high-level taskforce (HLT) stressed that: (i) climate is a critical factor in sustainable development and in the lives and livelihoods of all people, particularly climate extremes that cause loss of lives and significant socio-economic impacts worldwide, but overwhelmingly in developing countries; (ii) where they exist, needs-based climate services are extremely effective in helping countries, businesses, organizations and governments to manage their risks and take advantage of the opportunities associated with the climate, and (iii) there is a significant gap between the needs for climate services and their current provision, particularly in places that need them most: climate-vulnerable developing countries. Present capabilities to provide climate services do not exploit all that we know about climate, fall far short of meeting present and future needs, and are not delivering their full potential benefits.

Figure 1. Drought whose impact can be minimized by the use of climate services

The Sixteenth Session of the World Meteorological Congress (May 2011) endorsed the broad thrust of the HLT report, and set in motion a process for the development of a draft implementation plan for GFCS.

The GFCS is envisaged as a set of national, regional and international arrangements that will coordinate the activities and build on existing efforts to provide climate services that are truly focused on meeting user needs. To be useful, climate information and services must be tailored to meet the needs of the users. The HLT identified agriculture, water, health sectors as well as disaster risk reduction (DRR) within all sectors as priority areas for which climate services are to developed. Existing climate services are not well focused on user needs across these areas and the level of interaction among providers and various users is inadequate.

The User Interface Platform

The structure of the GFCS proposed by the high-level taskforce includes five pillars (User Interface Platform; Climate Services Information System; Observations and Monitoring; Research, Modeling and Prediction; and Capacity building).

The User Interface Platform (UIP) is essentially concerned with bridging the gap between climate information providers and users. It is intended to clarify user requirements; improve climate services including through sector- and user-specific applications of climate information and service delivery tools; develop and implement standards and good practices for the interaction between providers and users; promote mutual sharing of information and knowledge including on providers' and users' capabilities and strengths; improve user understanding of climate products and information; collect and act on feedback from users for continual product improvement; and inevitably to facilitate improved decision-making or climate risk management and adaptation in sectors and activities that are influenced by climate variability and change. The UIP also facilitates user liaison/engagement with the other components of GFCS, as required.

Context

The meteorological community has a long-standing collaboration with national stakeholders

[1] The High-level Taskforce report is available at : http://www.wmo.int/hlt-gfcs/downloads/HLT_book_full.pdf

in health, DRR, and other sectors for the development of early warning systems (EWS), with engagement of development and humanitarian agencies working in these areas. The Bangladesh Cyclone Preparedness Programme developed with the collaboration of the United Nations Development Programme and the International Federation of Red Cross/Red Crescent Societies and the establishment of Climate and Health Working Groups in Africa to initiate and build on the collaboration between the health and climate communities are among such examples. However, issues such as the understanding of meteorological warnings and information continue to pose hurdles that limit effective use. Beyond EWS many other applications such as risk assessment sectoral planning and financial risk transfer were identified as areas that would require enhanced climate services for improved multi-sectoral decision making. Constraints such as these will be addressed through the implementation of the UIP of the GFCS.

On the other hand, recent advances in the understanding of the climate system, aided by advances in computing and telecommunications allow, today, the production of climate services for time scales ranging from months to seasons to decades and longer time scales. These emerging services offer great opportunities for improved planning/risk management among many socio-economic sectors. The UIP aims to ensure the realization of the full benefit of this progress within the climate services.

Purpose of the consultation workshops

The agriculture, water, health and DRR sectors were identified as key priority sectors by the high-level taskforce for the implementation of the GFCS.

The proposed consultation workshop is targeted at key UN and international agencies and selected experts from the health sector and DRR community. It is intended to facilitate discussion of critical issues related to the production, availability, delivery and application of user-targeted climate services in these sectors with a view to develop a detailed set of recommendations relating to the development of the UIP to be considered for inclusion within the draft implementation plan of the GFCS.

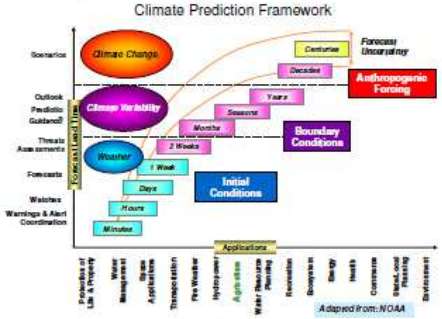

Figure 2. Framework for climate prediction and linkage with decision making

Specific objectives

- Review the current status of, and critical needs for climate services in the health sector and DRR community at global, regional and national levels;
- Identify decision making processes (including segmentation of the associated user groups), and the climate information required to assist these, in the health sector and DRR community;
- Assess the current status of interactions of the climate service providers with the health sector and DRR community and identify the major areas for improvement;
- Identify capacity development needs to advance the access, interpretation and use of climate information in the health sector and DRR community, including the aspects of uncertainly;
- Identify criteria for selection of high priority projects to address major gaps at regional and national levels in the health sector and DRR community to be considered in the implementation plan of the GFCS.

Expected Outcome

Identification of concrete projects on health and DRR to be included in the draft implementation plan, as part of the UIP of the GFCS to advance the use of climate information in decision making in the health sector and DRR decision making across sectors.

Organization of the Consultation Workshops

It is proposed that the workshop be co-hosted by the leading organizations dealing with health, DRR and climate services, namely IFRC, UN-ISDR, WHO and WMO. The tentative dates of 14 to 16 November 2011 are proposed.

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