United Nations Educational, Scientific and Cultural Organization

International Hydrological Programme

Flanders State of the Art

CliMWaR Project Kick-off

24 October 2018

Room IX
UNESCO HQ, Paris, France

CliMWaR

Programme

10:30 – 11:00	**Welcome Coffee**
11:00 – 11:30	***Opening Session*** **Moderator:** Mr. Anil Mishra, UNESCO-IHP **Welcome Words:** - Mr. Abou Amani, UNESCO-IHP - Mr Gert Verreet, Flemish Government, Department Economy Science and Innovation (EWI), Belgium **Introductory presentation of the CliMWaR Project:** Mr. Koen Verbist, UNESCO-IHP
11:30 – 12:30	***Breakout session 1*** **Pillar 1: Improved climate services for flood and drought risk management** **Group 1**: National and regional drought monitoring and early warning strengthened **Chair**: Eric Wood (UPrinceton) and Justin Sheffield (USouthampton) **Group 2**:The African Drought Atlas developed **Chair**: Jorge Nuñez (CAZALAC) and Abou Ali (Agrhymet) **Group 3**: Pilot experiences implemented using a Climate Risk Informed Decision Analysis (CRIDA) **Chair**: John Matthews (AGWA) and Ad Jeuken (Deltares) **Pillar 3: Strengthen national drought and flood risk management strategies and policies** **Group 4**: **Chair:** Elma Montaña (IAI) and Jan Cools (Antwerpen University) - Development of a background document on current drought risk management - Working group on proactive flood and drought policies - High level meeting on drought and flood risk management policies
12:30 - 14:00	**Lunch break**
14:00 – 15:00	***Breakout session 2*** **Pillar 2: Training of multiple stakeholders to strengthen capacities on climate services** **Group 5**: Capacity building on the tailored Flood and Drought Management Tools **Chair**: Eric Wood (UPrinceton) and Justin Sheffield (USouthampton) **Group 6**: Capacity building on remote sensing for hydrological monitoring and modelling **Chair**: Nevil Quinn (UWE) and Sven Gilliams (VITO)

	Group 7: Capacity building on the CRIDA approach for pilot watersheds in Africa and LAC **Chair**: John Matthews (AGWA) and Monique Berendsen (Ministry of Infrastructure and Water, The Netherlands) **Pillar 4: Engagement with local communities through a participatory approach and citizen science to monitor floods and droughts** **Group 8**: **Chair**: Magali Garcia (UMSA) and Veronica Gonzalez (LINKS) - Tool development to strengthen communications with final stakeholder - Promote a citizen-science participatory approach in flood and drought risk management
15:00 – 16:00	***Closing session*** **Moderator:** Mr. Koen Verbist, UNESCO-IHP *Presentation of breakout session outcomes* *Update of the list of activities of the CliMWaR Project* *Designation of focal points for the activities of the CliMWaR Project* *Establishment of the CliMWaR Project Advisory Group* *Identifying new proposals for follow-up projects starting 2020*
16:00 – 16:30	**Coffee Break**

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Proposed Activities 2018-2020

Pillar 1: Improved climate services for flood and drought risk management

Group 1: Support national/regional flood and drought monitoring and early warning systems

Deliverable N°1.1.1 National drought monitoring and early warning capacities strengthened

1.1.1A Support of national drought monitoring systems in LAC

At the subregional and national level, a more detailed type of climate services is needed. These involve national or subregional observatories, where local information sources can be integrated relevant for local stakeholders. As these observatories are tailored to local needs, they are independent, but connected entities that aim at providing monitoring and early warning capacities that can be integrated into national flood and drought management strategies and policies. These local level observatories also have the capability to ingest the climate services provided by the regional Flood and Drought Monitors, to ensure connectivity between both levels.

In Latin America and the Caribbean, two national observatories in Chile and Peru were developed during the MWAR-LAC project that have been operating independently since the project finalized in 2016, indicating the sustainability of these systems and the adoption by national governments.

Based on these two examples, **targeted actions are needed to provide support** to these existing and emerging observatories in the region. Activities will be implemented further in the Chilean Agroclimatic Observatory[1], the Peruvian National Drought Observatory[2], the Midsummer Drought Observatory[3], and in additionally interested Member States.

1.1.1B Support of national drought monitoring systems in Africa

In Africa, similar needs were identified during the regional workshop on 'Climate Change risk, Vulnerability Assessment and Early Warning for Africa', held on 13-16 June 2017 at the AGRHYMET Regional Center in Niamey, Niger. As a pilot case study, a **regional drought observatory will be developed at AGRHYMET** for Western Africa, incorporating all products developed at the centre as part of the Permanent Interstate Committee for Drought control in the Sahel (CILSS) and complementing with international data sources. A regional training will complement that effort to engage actors from other parts of the region to prepare extension to other subregions in a later stage.

1.1.1C Develop Guidelines for Water-related Risk Vulnerability Atlas

The development of a water-related vulnerability atlas is a crucial part in integrated drought (and flood) risk management, as it allows to identify those communities that are most

[1] http://www.climatedatalibrary.cl/IMP-DGIR/maproom/
[2] http://ons.snirh.gob.pe/Peru/maproom/
[3] http://www.climatedatalibrary.cl/CAZALAC/maproom/Canicula/index.html

vulnerable to these hazards to tailor adequate management and policy solutions for these communities. This involves both the identification of the exposure to water-related hazards, but also the sensitivity to the impact of these hazards, which are mostly socio-economic in nature.

The project will support the development of **guidelines** to develop such a (Drought) Vulnerability Atlas, in collaboration with the Category-2 centres CAZALAC and the Regional Center for Water Security at the Mexican Institute of Water Technology (IMTA), that have developed pilot experiences for Chile and Mexico respectively. This will provide a template for application in other interested member states. Extension of the framework to an African pilot country will be evaluated with local partners and stakeholders during the inception meeting.

Deliverable N°1.1.2 Regional flood and drought monitors strengthened

1.1.2A Developing tailored flood and drought monitoring and early warning systems

At the regional level, the flood and drought monitors for Africa, Latin America and the Caribbean will be further developed to bring them in line with the needs at the national level for real-time floods and droughts monitoring and early warning system. For both regions, this requires **tailoring of the current system** to allow local uptake and ownership. In particular, the project will consider improving the spatial resolution and integrate actively available national data sources where available. The Monitor will also integrate climate change models as an integral component of the Monitor, to allow projected scenarios for each location in Africa, Latin America and the Caribbean.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area:

Group 2: The African Drought Atlas developed

Deliverable N°1.2.1 The African Drought Atlas developed

During the regional workshop on 'Climate Change risk, Vulnerability Assessment and Early Warning for Africa', held on 13-16 June 2017 at the AGRHYMET, the need was identified to develop a **drought frequency atlas** for the continent. This activity is an expansion of the earlier work realized in Latin America and the Caribbean as part of the MWAR-LAC project, and benefits from the developed tools and methodologies.

1..2.1A Training of African partners on the African Drought Atlas

During the project, a **workshop** will be implemented involving the different subregions of Africa to train national counterparts in the use of the Regional Frequency Analysis using L-Moments (RFA-LM) and to jointly develop their national drought atlases.

1..2.1B Publication of the African Drought Atlas

As a final product of this training, the African Drought Atlas will be published as a **UNESCO publication**.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area:

Group 3: Pilot experiences implemented using CRIDA

Deliverable N°1.2.2 Pilot experiences implemented using a Climate Risk Informed Decision Analysis (CRIDA)

To assess how climate change can further aggravate the effects of water-related hazards, a specific analysis tool needs to be developed that supports decision-makers on the probability of adverse events to occur under climate change uncertainty. A recent methodology developed is the Climate Risk Informed Decision Analysis (CRIDA) that provides a framework for a bottom-up approach to include uncertain climate change information into decision-making. Preliminary work has been performed in the Project 'The Impact of Glacier Retreat in the Andes', which resulted in a methodological tool for a climate stress test for vulnerable watersheds.

1..2.2A Development of appropriate tools and manuals for CRIDA

As part of this project, the toolset will be further consolidated in collaboration with project partners at CAZALAC, the Global Alliance for Water Adaptation (AGWA), Deltares and the Category 2 Institute for Water Education (IHE).

1.2.2B Development of case studies on CRIDA in pilot watersheds

The second component involves the development of case studies showcasing the methodology of CRIDA and a dedicated CRIDA manual to give a hands-on pathway how to perform a stress test for catchments.

A third component involves training for catchments in Latin America, the Caribbean and Africa, and will be described in that section.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area:

Pillar 3: Strengthen national drought and flood risk management strategies and policies

Deliverable N°3.1.1: Flood and drought preparedness strategies and policies reviewed

Group 4: ***Strengthen national drought and flood risk management strategies and policies***

3.1.1A Development of a background document on current drought risk management

As a first step in this process, a background document will be developed that identifies the current national drought and flood policies in pilot countries of Africa, Latin America and the Caribbean.

3.1.1B Working group on proactive flood and drought policies (Conference)

In a second step, a technical policy panel will be invited to discuss potential improvements in current policies, taking into account the climate services developed during the project to move away from crisis management towards risk management as promoted in the Sendai framework for disaster risk reduction. This will take the form of an international Conference on Drought Management plans. Synergies can be sought with the ITT conference on Water Security and Climate Change conference, to be held in 2019 in Brazil or with the IDMP programme.

3.1.1C High level meeting on drought and flood risk management policies

Finally, a High Level Ministerial meetings will be held in September 2019 in Saint-Kitts and Nevis for the Caribbean and in 2020 in Zimbabwe for the SADC countries, on national drought and flood risk management strategies and policies to discuss current strategies, and identify opportunities to move towards proactive drought and flood risk management.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area:

Pillar 2: Multiple stakeholders trained to strengthen capacities on climate services

Deliverable N°2.1.1: Key capacities will be trained to enhance resilience to climate hazards

Group 5: Capacity building on the tailored Flood and Drought Management Tools

Training is needed to prepare the technology transfer of the Flood and Drought Monitor for pilot countries from Latin America and the Caribbean and the African Region, in collaboration with Princeton and Southampton University.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area:

Group 6: Capacity building on remote sensing for hydrological monitoring and modelling

Climate services are heavily reliant on remote sensing data and products, but also tools are needed for their processing to become relevant in a climate services framework. For this purpose, a regional training will be supported on the use of open-source technology to manage remote sensing information for water resources management. This course will be co-organized with support from the Category 2 Center for Hydroinformatics (CIH), the NASA Applied Remote Sensing Training (ARSET) Programme, and with the involvement of co-funding partners. As a result of this training a hands-on manual will be produced for further dissemination and training purposes in both regions.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area:

Group 7: Capacity building on the CRIDA approach for pilot watersheds in Africa and LAC

Based on the tools developed under the CRIDA framework, two training workshops will be held with pilot countries in the region to transfer the methodology and initiate pilot implementations of the CRIDA approach in collaboration with the trained stakeholders in their countries. One workshop will be held in Latin America and one workshop will be held in Africa in collaboration with AGWA, ICIWaRM, Deltares and IHE Delft.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area:

Pillar 4: Engagement with local communities through a participatory approach and citizen science to monitor floods and droughts

Group 8: Engagement with local communities through a participatory approach to monitor floods and droughts

Deliverable N°4.1.1: Communication of climate services to final stakeholders improved

4.1.1A Tool development to strengthen communications with final stakeholder

In order to ensure the uptake and interaction of the climate services with the final stakeholders, novel communication networks will be evaluated to interact with vulnerable communities in at least two pilot countries. These involve both low tech as well as high-tech solutions, depending on local needs and capacities. In countries where smartphone penetration is low, climate services can be broadcast through existing low-tech community radio communications, to ensure dissemination of this information to the stakeholders. For more general usage, a smart phone application will be developed that provides continuous updates on the monitoring of floods and droughts in the region of interest, as well as updates regarding upcoming hydrometeorological hazards that are forecast by the Monitors, such as extreme discharge levels, extreme precipitation and extreme temperature.

4.1.1B Promote a citizen-science participatory approach in flood and drought risk management

Active involvement of local stakeholders can be promoted through a participatory 'citizen science' approach in pilot basins to gather hydrometeorological observations to improve the capacities of climate services to provide locally calibrated information. As a case study, in one watershed local communities will be actively involved to monitor hydrometeorological variables through a participatory approach. Cofunding for this activity will be provided through the Climate Adaptation Fund.

Comments on the proposed activities:

Synergies with on-going activities and potential partnerships:

Proposals for additional activities under the same focal area: