



Workshop participants in small group discussion. Credit: Robert O'Sullivan, Winrock

MOVING CLIMATE SERVICES FORWARD: A SYSTEMS PERSPECTIVE

CIS LEARNING AGENDA WORKSHOP REPORT

Climate information services (CIS) have the potential to support sustainable and resilient development by providing information that can enhance agricultural production, mitigate harvest losses, protect and increase incomes, and improve food security. In countries where agricultural communities are particularly vulnerable to the risks and impacts of climate change and variability, National Meteorological and Hydrological Services (NMHS) have a key role to play in providing accurate, relevant and timely climate information, and partnering with a range of on the ground actors to disseminate useful information.

However, the CIS landscape is complex and involves a range of stakeholders who must be integrated through a holistic systems approach for CIS to be produced and delivered effectively. USAID, the World Meteorological Organization (WMO), and the World Bank held a workshop on November 27th, 2018 to bring together members of the CIS community from NMHS, academia, donors and funders, practitioners, and private sector to identify best practices, provide recommendations for how to improve CIS, and build consensus on a way forward for CIS.

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The workshop centered around four themes:

1. Positioning **user needs and perspectives** at the center of climate services design, delivery, and feedback;
2. The **role of the private sector** in climate services;
3. Assessing **NMHS capacity** to deliver climate services and **evaluating the effectiveness** of climate services on the ground;
4. **Donor coordination** around country-led codesign of climate services, and tracking progress of use and delivery goals.

SPEAKERS:

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Climate Change Director, World Bank

TEGAN BLAINE
Senior Climate Advisor, USAID

PAUL EGERTON
Representative to the UN, WMO

ELIOT LEVINE
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CIS IN CONTEXT

The 2014 Paris Agreement, the 2018 Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C, the 2018 United Nations Environment Program (UNEP) Emissions Gap Report, and the WMO Greenhouse Gas Bulletin demonstrate the need to drastically reduce emissions. Even with steep reductions, the world needs to become more resilient and adapt to a changing climate. CIS is an important component of countries’ efforts to address climate-related risks and build resilience of livelihoods, income, and food security. To open the workshop, speakers elaborated on their respective institutions’ commitment to invest in CIS to improve climate resilience.

The World Bank has invested 1 billion USD in weather and climate services, focusing largely on hardware but also seeking to build institutional capacity to use and disseminate CIS. The World Bank, WMO, and USAID all recognized the importance for cross-sectoral partnerships and the need for a portfolio of investments to improve CIS. Speakers expressed the need to jointly program and scale up CIS to improve the cost-effectiveness of CIS generation and production. This can be achieved by bringing together end users and providers and building their capacity, as well as by developing business models and pursuing market opportunities for CIS.

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DEBUNKING THE ‘END’ IN ‘END USERS’: USER-CENTERED CLIMATE INFORMATION SERVICES

A systems approach does not put users at the end of a linear transmission of information. Instead, it positions users as part of an interconnected ecosystem that is localized and connected to broader information collection and dissemination processes. Speakers discussed [how to better serve users of CIS](#), including the importance of identifying who uses CIS, identifying and understanding those users’ needs, and choosing tools carefully to control for bias in doing so. Critical knowledge gaps still remain, such as effective means of learning about users and their needs, as well as methods to scale user-centered design and co-production methodologies for CIS. Barriers also exist in understanding demand, social/cultural dynamics (e.g., decision-making power, gender, trust, indigenous

knowledge), and infrastructure gaps.

Representatives from the Learning Agenda for Climate Information Services presented a new approach for end-user engagement in CIS design and evaluation through [participatory systems mapping, analysis, and development](#). The process works to bring together all stakeholders in the CIS system, including farmers, NMHS, media broadcasters, and other intermediaries to collaboratively map the system actors and identify blockages to information flows in the system. Ultimately, this approach allows participants to build consensus around practical solutions to address the blockages and improve the effectiveness of the system. The approach has been piloted in Senegal and Niger.

The World Bank shared their user-centered approaches in a 1.2 million USD investment in hydromet CIS in Caribbean and Pacific countries under the Pilot Program for Climate Resilience (PPCR). The Global Framework for Climate Services ([GFCS](#)) National Frameworks for Climate Services ([NFCSSs](#)) program was also presented, which is a product of WMO's regional climate outlook forums ([RCOFs](#)). The WMO outlined their belief that this is the best-available channel for supporting CIS and integrating them with other climate issues to support CIS implementation.

Presentations:

- Clark University: [Identifying Climate Information Services Users and Their Needs](#)
- CRS and Practical Action: [Participatory Method to Amplify End User Voices in CIS Systems](#)
- WMO: [Global Framework for Climate Services – User Interface](#)
- World Bank: [Study on Pathways for Transforming Weather, Water and Climate Services](#)

HOW PUBLIC-PRIVATE COLLABORATION CAN INCREASE CLIMATE AND WEATHER SERVICES

Public-Private Engagement (PPE) in production and transmission of CIS has received increased attention. The panelists explored dynamics behind private sector engagement in CIS in the African context, opportunities for establishing 'win-win' partnerships, and the principle of 'leaving no one behind'.

Private sector involvement is a major focus for the WMO, whose presentation of their [PPE Policy Framework](#) outlined the intention of creating a level-playing field for NMHSs and private sector and outlining equitable 'rules of engagement'. Acknowledging that NMHSs can be entrenched in traditional ways of operation, the World Bank emphasized the need for transformative investments that recognize and respond to the capacity of the recipients to oversee these transformations. The session discussed common missteps, including the often short-term nature of donor projects, poor coordination among donors, and lack of benefactor capacity to absorb large investments, leading to inefficient and short-lived impacts. Investment in observation systems needs to be balanced with a focus on building capacity and ownership of these transformations.

The private sector has a role to play in improving CIS outcomes, especially as it relates to supporting agriculture and health extension services given the specialized needs of these services. Yet, involving

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the private sector introduces important issues for consideration, such as data access and exchange, revenue-sharing between NMHS and the private sector, and the extent to which the NMHS should manage infrastructure, climate records, and warning services. A range of tools and resources to address these issues were shared during the workshop's Knowledge Café.

Presentations:

- World Bank: [Building Better Partnerships to Improve Hydromet Service Delivery](#)
- Winrock International: [Market Assessment and Business Models Review: Potential for PPP](#)

KNOWLEDGE CAFÉ

During the “Knowledge Café” section of the workshop, participants learned about a number of tools, resources, good practices, and evaluation methodologies for CIS. These include:

- [The World Bank Climate Change Knowledge Portal](#): hub of information, data and reports about climate change around the world. (Presenter: Ana Bucher, World Bank)
- [E-Platform on Weather and Climate Services for Resilient Development](#): guide to practitioners and policy makers that serves as an introduction to weather and climate services. (Presenter: Kazi Fateha Ahmed, World Bank)
- [NMHS Capacity Assessment Metrics](#): recommendations from a project working with NMHSs to identify capacity gaps in delivering CIS and priority interventions aimed at bridging gaps. (Presenters: Malgosia Madajewicz, Columbia University and Mark Tadross, Climate Systems Analysis Group)
- [NMHS Financial Planning Tool](#): helps NMHSs understand existing resource gaps, advocate for adequate public sector resources, and create a strategy to earn additional revenue. (Presenters: Cathy Phiri and Robert O’Sullivan, Winrock International)
- [Evidence, Good Practice, and Gaps: Can CIS Serve Farmers’ Needs at Scale](#) (Presenter: Jim Hansen, Columbia University)
- [Innovations in Building Meaningful CIS Evaluations](#) (Presenter: Ed Carr, Clark University)
- [Overview of GFCS Partners Advisory Committee Resources](#) (Presenter: Erica Allis, GFCS/WMO)

IMPLICATIONS AND PRIORITY AREAS FOR POLICY, RESEARCH AND INVESTMENTS

Adaptation to climate variability and change is an urgent issue requiring partnerships and joint action at scale. There is a pressing need to better integrate development and climate agendas, incorporating adaptation and mitigation action across different sectors and local, national, regional, and global levels. During this session, small groups discussed key questions and reported outcomes back to the plenary. Questions and key insights from the small groups included:

What are the priority knowledge gaps and actions moving forward?

- Scaling up pilot projects and good practices, such as user-centered design, to national and regional levels.
- Ensuring climate information is driven by demand and is context specific.

- Institutionalizing feedback loops to improve accountability, relevance, and performance of CIS.
- Rigorous evaluation of CIS interventions to build evidence of the economic benefits of investing in CIS and reducing loss and damage.
- Clearly defining the role and purpose of NMHSs, identifying where their role ends and where it is appropriate and effective for CSOs, NGOs and other implementing organizations to enter.
- Empowering and building the capacity of end users to identify and define their needs and engage with CIS providers to ensure their needs are central to design and delivery.
- Managing knowledge effectively by coordinating and centralizing portals and platforms to support access to and uptake of data and tools.

What should agencies like USAID, the World Bank and the WMO consider and prioritize for future programming?

- Identify and respond to opportunities for cross-fertilization across sectors and countries and explore how to bundle the delivery of CIS with other services, such as agricultural, financial, and social services.
- NMHSs are a priority source of reliable weather, water, and climate data. They require support to remove structural, financial, and technical barriers, as well as support to strengthen advocacy and leadership at high levels of government, and respond to end-user needs.
- Focus on longer term interventions, with time, financial space, and flexibility to pivot and adapt interventions based on evidence; funds should allow for iterative follow-up and impact assessment, and implementing partners should be empowered to report challenges openly.
- Bring producers and users of CIS together for effective co-design of CIS, organize actors on the demand side of CIS who don't yet have standard 'rules of engagement' or convening practices, and build an effective voice for farmers.
- Increase the focus on policy interventions alongside technical and capacity building efforts.
- Align donor-driven program strategies with national development plans as well as with other donor institutions.
- Conduct economic analyses to develop a more robust base of evidence of the value of CIS.
- Develop communities of practice that are multi-annual and work together on both the supply and demand side.

SCALING UP SUPPORT TO COUNTRIES AND REGIONS ON CLIMATE AND HYDROMET INVESTMENT NEEDS: INSIGHTS FROM USAID, WMO, WORLD BANK, AND MALI NMHS

The workshop concluded with a moderated question and answer session reflecting on the day's discussions.

Urgency of strengthening CIS: panelist highlighted the need for authoritative and quality CIS to support adaptation in communities affected by climate variability and change. NMHS require financing to be able to meet these critical needs, and it will not be possible to build

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capacity across NMHS without it. The Green Climate Fund is a key way for NMHS to access funding for capacity building purposes. NMHS must also advocate for themselves to influence state budgetary allocation by effectively communicating their value within governments.

Integration of CIS with the broader development agenda: the thirteenth Sustainable Development Goal (SDG) is focused on climate change and connected to other goals relating to food security, conflict, climate security and migration. Panelists discussed the importance of the CIS community in identifying what information and tools are required by governments to support their progress toward SDGs and other development priorities.

Key role of trust among CIS actors: panelists emphasized that farmers need to be able to trust climate information, and other government departments need to be able to trust NMHS. Building this trust requires consistent, quality information, effective communication, and good relationships between stakeholders to clearly define roles, needs, and capacities of CIS producers and users.

Opportunity for private sector engagement: panelists discussed the potential for the private sector to assist in meeting CIS needs, while acknowledging important issues that NMHS and governments must consider, such as the role of climate information as a public good used for sustainable development; the public's right to access basic climate information; and revenue sharing between NMHS and the private sector. In Mali, the NMHS generates revenue by selling climate information to government agencies, such as aviation and agriculture. Given many NMHS are not able to produce information adapted to the full range of sectors, there may be an opportunity for the private sector to play a role in providing tailored information to sectors that NMHS cannot reach, such as insurance.

The workshop concluded with panelists reflecting on the context-specific and complex nature of CIS. The legal mandates of NMHS vary from country to country, as do the risks, needs, and vulnerabilities of communities. The production and delivery of CIS involves multiple processes including interpretation, access, and application, with numerous factors affecting each of these processes. Ultimately, systems thinking is vital across all these themes and is key for taking CIS forward in a way that best serves the public.

The Learning Agenda on Climate Services in sub-Saharan Africa generates new information, evidence, and learning on the effective and sustainable production, delivery, and use of climate information to improve rural agricultural livelihood decision-making and outcomes. The program began in October 2016. More information can be found at: climatelinks.org/projects/learningagendaonclimateservices

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