

# Droughts in the Americas, regional priorities, early warning systems, and sustainable development

28 May 2025, Asunción, Paraguay (hybrid)

## Side Event of IAI CoP-33 Concept note

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In the frame of the partnership with the Inter-American Institute for Global Change Research IAI, the World Meteorological Organization (WMO) Regional Office for the Americas and the United Nations Convention to Combat Desertification (UNCCD) will organize and facilitate a side event co-organized with the IAI and Paraguay (through the Research Center for Global Change - CICAG) as host country, at the margins of the IAI CoP-33 in Asunción, Paraguay.

This event is part of a series of key regional initiatives on climate change and droughts. Organized jointly by the WMO and IAI, it will serve as a platform for discussion and collaboration. The event will align with the 33rd Conference of the Parties of the IAI (IAI CoP-33) and the meeting of the IAI Executive Council. These gatherings will provide a valuable opportunity to strengthen collaboration networks, develop joint strategies, and enhance climate governance at the regional level.

### Objective of the Side Event

Framing droughts as a cross-cutting climate challenge, the event will recognize them as one of the most severe and prolonged climate extremes—affecting agriculture, energy, transportation, and health, particularly through heatwaves. It will also explore their broader connections to desertification, aligning the discussion with global efforts, including those of the United Nations Convention to Combat Desertification (UNCCD), to enhance regional climate resilience.

The event will emphasize the critical role of early warning systems, particularly for droughts management, while highlighting the interconnections between climate, biodiversity, and health. Special attention will be given to their impact on productive sectors such as agriculture and livestock, energy and river transportation, key to Paraguay's economy, with impacts throughout the La Plata Basin region.

It aims to promote a comprehensive and coordinated approach to drought mitigation and adaptation<sup>1</sup>. Additionally, the event aligns with the United Nations' global initiative, Early Warning for All (EW4All), which seeks to ensure that every person is protected by an early warning system (EWS) by 2027.

### Specific objectives:

- Promote the Integration of EWS into National Policies: Encourage member countries to prioritize early warning systems for droughts and other hazards as part of their national adaptation strategies.
- Foster Dialogue and Regional Collaboration: Leverage partnerships across the Americas to share expertise, lessons learned, technology, and resources for developing and implementing

drought-specific EWS and developing tools to scale up nature-based solutions for climate and disaster risk reduction.

- Support Scientific Innovation: Align with the IAI's Scientific Agenda to integrate advanced observation tools, data analytics, and community-driven approaches to strengthen EWS and tackle interconnected challenges.
- Address Vulnerabilities: Focus on addressing the disproportionate impacts of droughts on developing nations in the region by ensuring equitable access to these systems.
- Address convergence of biodiversity, climate, and desertification, and their impacts on key sectors such as health, agriculture and energy through discussions on policy alignment and regional collaboration.
- Special focus on the productive sectors such as agriculture and livestock, energy and river transportation.

### Expected outcome

The event is expected to produce a Declaration to be presented at UNFCCC COP 30, and other international fora, outlining commitments to strengthen regional cooperation on early warning systems for droughts and other extreme climate events. The Declaration will emphasize an inclusive approach that acknowledges the interconnected challenges of global environmental change, the need for alignment across the three Rio environmental conventions, and the need for coordinated and resilient adaptation and mitigation strategies.

### Drought as a Cross-Cutting Issue

Droughts are among the most severe and prolonged climate extremes, affecting multiple sectors such as agriculture, energy, transportation, and health, particularly through heatwaves. The impacts of drought in vulnerable regions extend beyond water scarcity, affecting ecosystems, and human livelihoods. Given these far-reaching effects, drought should be addressed as a broad, cross-sectoral issue requiring a coordinated response.

Droughts also accelerate desertification, which directly aligns with the objectives of the United Nations Convention to Combat Desertification (UNCCD). Addressing drought as part of this broader framework ensures that mitigation and adaptation strategies are effectively coordinated to enhance regional climate resilience.

### Early warning systems (EWS)

Robust early warning systems (EWS) are essential for effective drought management, providing societies with the foresight needed to mitigate their impacts. EWS save lives, protect livelihoods, and deliver nearly ten times the return on investment by preventing economic and social losses. They also contribute to multiple Sustainable Development Goals (SDGs), including poverty reduction, food security, health and well-being, and the development of resilient, sustainable cities.

The IAI CoP-33 in Paraguay presents a pivotal opportunity to strengthen regional collaboration on drought management and extreme climate resilience through enhanced early warning systems. The IAI CoP plays a critical role in fostering collaboration among member countries, making drought management a key priority in tackling global and regional environmental challenges.

The IAI CoP can drive solutions that mitigate drought impacts, enhance resilience, and reduce inequalities—aligning regional efforts with global commitments such as the Kunming-Montreal Global Biodiversity Framework, the Paris Agreement and the 2023 Agenda for Sustainable Development. Tailored early warning systems for droughts and other climate hazards enable governments and communities to anticipate risks and take proactive measures. Integrating biodiversity conservation into climate and health strategies further enhances resilience, reducing the risks posed by climate-driven health threats.

### **The Early Warnings for All initiative**

The Early Warnings for All (EW4All) initiative aims to ensure universal protection from hazardous hydrometeorological, climatological and related environmental events through life-saving multi-hazard early warning systems, anticipatory action and resilience efforts by the end of 2027.

The EW4All initiative brings together the broader UN system, governments, civil society and development partners across the public and private sectors to enhance collaboration and accelerated action to address gaps and deliver people-centered, end-to-end multi-hazard early warning systems. Through coordination and collaboration, the initiative aims to build on and scale up existing efforts and capacities, promoting synergies among initiatives and partnerships across sectors to protect lives and livelihoods from natural hazards such as floods, heatwaves, storms and tsunamis.

The Early Warnings for All Initiative underscores the importance of integrating ecosystem health and health into EWS to address interconnected climate, biodiversity, and health challenges. For instance:

- Monitoring ecosystem degradation as an early indicator of drought risks.
- Using biodiversity data to predict the emergence of vector-borne diseases in changing climates.
- Supporting community-driven EWS for both biodiversity conservation and disaster risk reduction.

Through projects like the Climate Risk and Early Warning Systems (CREWS) initiative, support is being extended to the most vulnerable regions, such as Least Developed Countries (LDCs) and Small Island Developing States (SIDS).

## **Tentative Agenda**

**Date:** Wednesday 28<sup>th</sup> May, 2025

**Time:** from 1:30 pm to 5:00 pm hrs Paraguay Time (3.5 hours)

**Moderator:** TBD

**Participants:** invited experts, Representatives from WMO, CICAG, FACEN, IAI Parties, and the IAI team.

### **1. Opening Segment (30 minutes)**

- **Welcome Remarks** – 10 minutes
  - Speakers: Government of Paraguay, WMO, CICAG, UNCCD, IAI
- **Overview of the outcomes of the Science Diplomacy Workshop** – 20 minutes
  - Presented by IAI Representative

### **2. Climate and Sectoral Insights (45 minutes)**

- **Overview of the State of the Climate (SoC) Report for LAC 2024 – Focus on Drought Management** – 15 minutes
  - Speaker: José Marengo
- **Presentation on Regional Drought: Challenges and Opportunities** – 10 minutes
  - Regional case study – SISSA, combined with a sectoral framing (Maria de los Milagros Skansi )
- **Presentation on Early Warning Systems and the Productive Sector** – 10 minutes
  - ♣ Speaker: Osvaldo Moraes
- **Presentation on Energy Sector: Yacyretá Experience in the 2021 Drought** – 10 minutes
  - ♣ Speaker: Lucas Chamorro

### **3. Coffee Break (30 minutes)**

- 3:00 PM – 3:15 PM

### **4. Interactive Segment (60 minutes)**

- **Group Discussion: Actionable Strategies to Integrate EWS into National Policies** – 35 minutes
  - Framed by outcomes of the Science Diplomacy Workshop
- **Moderated Q&A Session** – 20 minutes
  - Highlights, clarifications, and participant engagement
- **Transition and setup time** – 5 minutes (buffer)

### **5. Closing Segment (20 minutes)**

- **Follow-up Agreements and Drafting of Declaration to UNFCCC COP 30 and closing remarks** – 15 minutes

## Background and purpose of the co-organizers

### The Conference of the Parties of the Inter-American Institute for Global Change Research (IAI)

The IAI's Conference of the Parties (CoP) consists of 19 Parties<sup>2</sup> across the Americas. As the primary decision-making body of the IAI, the CoP is critical for governance, policy establishment, and evaluation of the Institute's achievements. In accordance with Article V of the Agreement, its responsibilities include approving the IAI's Scientific Agenda, reviewing strategic plans, managing budgets, and promoting regional cooperation on global challenges. CoP participants include National Representatives, Advisory Committee members, IAI Associates, observer organizations, and the IAI Directorate. The CoP also provides a platform for **Enhancing Scientific Exchange**, fostering scientific cooperation and dialogue, integrating research and policymaking to tackle member countries' global environmental change pressing priorities.

### IAI Science Diplomacy Center (SDC-IAI)

The IAI's Science Diplomacy Center (SDC) aims to connect science, policy, and diplomacy to address global environmental change challenges across the Americas. Through training activities, strategic advising, and institutional strengthening, the SDC promotes science diplomacy as a tool for international cooperation, regional integration, and evidence-based policymaking. Its role in this workshop reinforces the importance of multi-stakeholder dialogue and the co-construction of regional solutions.

### WMO Regional Office for the Americas

The World Meteorological Organization (WMO) coordinates activities through Regional Offices to support and enhance the capabilities of the National Meteorological and Hydrological Services (NMHSs), as well to support national and regional implementation of meteorological and climatic initiatives and projects. These offices support sustainable development and early warning systems to mitigate climate-related risks.

### Research Center for Global Change (CICAG)

Established in 2022, CICAG is a collaborative university-based research initiative in Paraguay, aimed at addressing Global Environmental Change. It focuses on:

- **Addressing Priorities:** Enhancing research to tackle national and regional issues.
- **Capacity Building:** Boosting local scientific capabilities.
- **Promoting R&D&I:** Encouraging innovative research to solve complex challenges.

CICAG has organized two National Congresses on Global Change and several open-access courses, reaching over 700 participants. In 2025, it plans to launch a Global Environmental Change Master Program in collaboration with Asunción National University.

### United Nations Convention to Combat Desertification (UNCCD) – Regional Office for Latin America and the Caribbean

The UNCCD is the main international mechanism to address desertification, land degradation, and drought. In Latin America and the Caribbean, these phenomena severely impact environmental



sustainability, food security, and the well-being of rural populations, many of whom live in poverty. All countries in the region are Parties to the Convention and have developed National Action Programmes (NAPs) to address these challenges through participatory approaches. Additionally, 22 countries in the region have set voluntary Land Degradation Neutrality (LDN) targets in alignment with the Sustainable Development Goals.