



MY CLIMATE RISK FIFTH GENERAL ASSEMBLY REPORT OCT-NOV 2024

Publication No: 07/2024

My Climate Risk



Bibliographic information

This report should be cited as: Montoya, C., Rodrigues, R., Shepherd, T., van der Wel, N. 2024. WCRP (World Climate Research Programme) My Climate Risk Fifth General Assembly Report, 10–11/2024, online format. Publication No: 07/2024

Contact information

All enquiries regarding this report should be directed to wcrp@wmo.int or: World Climate Research Programme c/o World Meteorological Organization 7 bis, Avenue de la Paix, Case Postale 2300, CH-1211 Geneva 2 Switzerland

Cover image credit: Created with Canva Al tool.

Copyright notice

This report is published by the World Climate Research Programme (WCRP) under a Creative Commons Attribution 3.0 IGO License (CC BY 3.0 IGO, www.creativecommons.org/licenses/by/3.0/igo) and thereunder made available for reuse for any purpose, subject to the license's terms, including proper attribution.

Authorship and publisher's notice

This report was authored by the WCRP My Climate Risk Lighthouse Activity Authors: Carlos Montoya (WCRP Secretariat), Regina Rodrigues (My Climate Risk Chair), Ted Shepherd (My Climate Risk Chair), and Narelle van der Wel (WCRP Secretariat)

The My Climate Risk Lighthouse Activity aims to develop and mainstream a 'bottom-up' approach to regional climate risk, which starts with the requirements of decision-makers. By developing a new framework for assessing and explaining regional climate risk using all the available sources of climate information, climate information will be made meaningful at the local scale. More information is available at: www.wcrp-climate.org/my-climate-risk

WCRP is co-sponsored by the World Meteorological Organization (WMO), the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the International Science Council (ISC), see www.wmo.int, www.ioc-unesco.org and <u>Homepage – International Science Council – International Science Council</u>

Disclaimer

The designations employed in WCRP publications and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of either the World Climate Research Programme (WCRP) or its Sponsor Organizations – the World Meteorological Organization (WMO), the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the International Science Council (ISC) – concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The findings, interpretations and conclusions expressed in WCRP publications with named authors are those of the authors alone and do not necessarily reflect those of WCRP, of its Sponsor Organizations – the World Meteorological Organization (WMO), the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the International Science Council (ISC) – or of their members.

Recommendations of WCRP groups and activities shall have no status within WCRP and its Sponsor Organizations until they have been approved by the Joint Scientific Committee (JSC) of WCRP. The recommendations must be concurred with by the Chair of the JSC before being submitted to the designated constituent body or bodies.

This document is not an official publication of the World Meteorological Organization (WMO) and has been issued without formal editing. The views expressed herein do not necessarily have the endorsement of WMO or its Members.

Any potential mention of specific companies or products does not imply that they are endorsed or recommended by WMO in preference to others of a similar nature which are not mentioned or advertised.

TABLE OF CONTENTS:

1. INTRODUCTION	4
2. UPDATE FROM THE CO-CHAIRS	5
3. MY CLIMATE RISK HUBS	7
3.1 Hub: University of the West Indies (Mona, Jamaica)	8
3.2 Hub: Faculty of Physics, University of Belgrade (Belgrade, Serbia)	10
3.3 Hub: Centro de Estudios Avanzados en Zonas Áridas - CEAZA (Chile)	11
4. EDUCATION WORKING GROUP (EWG)	13
5. EARLY CAREER RESEARCHERS (ECR)	13
6. DISCUSSION TOPICS	14
6.1 Scientific communication with decision makers, communities and other	
stakeholders: Community engagement and local knowledge	14
6.2 Interdisciplinary approaches and challenges	16
6.3 Institutional barriers and opportunities	17
6.4 Climate risk impacts on agriculture and health	18
6.5 AI integration with climate models	
6.6 Coordination and communication across hubs	
7. CONCLUSION.	21
ANNEX 1: LIST OF PARTICIPANTS	24
ANNEX 2: LIST OF ACRONYMS	27

1. INTRODUCTION

This report presents a summary of the fifth My Climate Risk (MCR) General Assembly, highlighting recent progress and future challenges and opportunities in the development of this Lighthouse Activity (LHA). The General Assembly brought together members of the MCR Scientific Steering Group, representatives of the MCR regional hubs, and invited guests, providing a platform to exchange ideas and help identify and evolve strategic priorities. We were happy to welcome new hubs in Jamaica, Serbia and Chile. In addition, Rania Ahmed Shafik Abdelazim from the International Organization for Migration (IOM) joined MCR as an ex-officio member. This slow but steady growth in the MCR community exemplifies MCR's commitment to a bottom-up approach to climate risk assessment, promoting local communities of practice and facilitating the integration of scientific knowledge into decision-making in different regions around the world, especially in the Global South.

The General Assembly consisted of three sessions, which took place on October 21st and 22nd and November 1st, 2024. We have been experimenting with a number of different formats for these online meetings, which for MCR replace traditional in-person SSG meetings. A major challenge is that formal presentations (with slides) can be deadening in an online format. This, together with the usual challenge of presentations over-running and leaving little time for discussion (which happens at in-person meetings too), motivated us to try a new, streamlined format this time. As before, the General Assembly consisted of separate sessions targeting the Americas, Africa-Europe, and Asia-Pacific timezones, which were 'parallel' in the sense that most participants only attended one of the sessions. Differently from before, the sessions were limited to two hours each, with no formal presentations. Instead, there were pre-recorded video presentations and/or slide decks from the co-Chairs, MCR cross-cutting groups, and the new hubs, which participants were asked to view beforehand. The sessions themselves were thus devoted entirely to discussion. Following brief introductions, each session began with a slow tour-de-table, with each participant asked to raise one or two points they felt were particularly pertinent within the MCR context, in each case followed by a brief Q&A. After this deliberately unstructured discussion (which generally took around one hour), there was a general discussion about wider points arising from the pre-recorded presentations. The different sessions were recorded so that participants could watch the other sessions if they wished. The initial feedback from the

participants was that this new format worked very well, so we are inclined to follow something along these lines in the future.

This report includes summaries of the pre-recorded presentations, together with a synthesis across the three sessions of the main points arising from the discussions, loosely grouped into convenient sub-headings (the discussions themselves were not so structured). Photo montages of the participants in the three sessions are provided at the end of the report, along with the list of participants and a list of acronyms.

2. UPDATE FROM THE CO-CHAIRS

The two MCR Co-Chairs (Regina Rodrigues and Ted Shepherd) reported on the outcomes of the 2024 WCRP Joint Scientific Committee (JSC) meeting, including the MCR budget for 2025. The budgeting followed a new process whereby each WCRP core activity (core projects and LHAs) submits a budget request well in advance of the next fiscal year, divided into the four categories of Baseline Funding, Strategic Funding, Capacity Building, and Operational Activities. For 2025 MCR received an allocation of CHF 47.5k, which is more than a 50% increase on previous budgets. It consists of CHF 15k for Baseline Funding, CHF 15k for Strategic Funding (for a workshop to be held in the run-up to COP30, to be organized by Regina, Julia and Fiona), CHF 10k for Capacity Building (for a Training School to be run by the IITM hub in Pune, India), and CHF 7.5k for Operational Activities (for translation and admin support). We will need to prepare a similar budget request for 2026 quite soon.

There were no specific actions on MCR from the JSC meeting. However, it was noted that Regina will be leading the WCRP involvement in COP30, in Brazil; a WCRP-wide collaboration platform to support the LHAs is being considered; and the Climate Intervention LHA is asked to consider ethical concerns from other activities within WCRP. Regina and Ted had sent a letter to the JSC about the Global North dominance within the WCRP, which appears to have prompted the formation of a WCRP Global South inclusion Task Team to study the issue and suggest ways forward. The MCR community will be strongly engaged in the Task Team, but it is a WCRP Task Team.

Regina and Ted described the two overarching aims of MCR, which are: (i) to develop robust methodologies for bottom-up approaches to climate risk assessment, and get them accepted by the scientific community; and (ii) to build and nurture our communities of practice (which does not just involve our regional hubs – our 'mother trees' – but also researchers elsewhere). On the first aim, MCR is achieving this in the following ways:

a. Influencing pedagogy (through the Education Working Group - EWG, and links to the WCRP Academy; see further discussion in Section 4)

b. Specific training courses (e.g. through the interdisciplinary training of the Walker Institute and its <u>linked projects with three hubs</u> – the RSS, the HUC and AGRHYMET – as well as through the <u>Walker Academy</u> (e.g., Engaging with Decisionmakers interdisciplinary training arm) and through the <u>COP Climate Action Studio</u>

c. Collaborations with groups needing such methodologies across multiple sites (through the ECR Group, which is currently working with the Red Cross/Red Crescent Climate Centre as well as the BASE Initiative; see further discussion in Section 5)

d. A special issue of a journal, to promote the MCR approach (Ted is taking the lead on this)

MCR is achieving the second aim in the following ways:

a. In-person meetings involving subsets of MCR members, taking advantage of opportunities where they arise (see example immediately below)

b. Local workshops and training schools (in addition to the IITM-led MCR Training School mentioned earlier, APARC is planning a Training School in Senegal in 2025 in which Amadou and Ted are involved, which will provide an opportunity to catalyze an MCR hub in Senegal, and there is a MCR Summer School which Ros (Walker) and Abdou (AGRHYMET) are planning in Ghana for the Summer 2025 to build key skills in MCR science-based processes for AGRHYMET and its stakeholders)

c. Online hub-to-hub collaborations (yet to materialize)

d. Various connecting 'mycorrhizae' (e.g. EWG, ECR group, the new Philosophy Working Group, the <u>MCR Interdisciplinary Learning Group</u>), which also allow the engagement in MCR of participants who are not connected to a hub.

e. More administrative support and/or alternative methods of coordination (as briefly mentioned above)

To illustrate point a, Aglaé Jézéquel from LMD/IPSL led the organization of a workshop on climate ethics in Paris on October 16–18, 2024. That allowed several from the MCR community to come from overseas. We took advantage of that opportunity to organize a <u>small MCR meeting with Vincent Lam in Bern</u> (October 14–15) to discuss links with philosophy of science, something we have been discussing within MCR for some time. As a result, we have formed an MCR Philosophy Working Group which is starting with a monthly Reading Group.

3. MY CLIMATE RISK HUBS

At the time of the General Assembly there were 19 MCR hubs, as outlined in the map and table below. The three new hubs, added since the last General Assembly, are described in the following subsections.



	Hub Host Institution	Focal Point
1	Ateneo de Manila University (Manila, Philippines)	Daniel Ratilla
2	Australian Bureau of Meteorology (Melbourne, Australia)	Mitchell Black
3	Centre Régional AGRHYMET (Niamey, Niger)	Abdou Ali
4	Centro de Estudios Avanzados en Zonas Áridas (CEAZA), Chile	Boris Dewitte
5	<u>Climate Futures, Norwegian Research Centre</u> (NORCE) (Bergen, Norway)	Jesse Schrage
6	Faculty of Physics, University of Belgrade (Belgrade, Serbia)	Milica Tosic and Vladimir Djurdjevic
7	Himalayan University Consortium (HUC) (Kathmandu, Nepal)	Chi Huyen Truong (Shachi)
8	HKUST (The Hong Kong University of Science and	Alexis Lau

	Technology, Hong Kong)	
9	IGAD Climate Prediction and Applications Centre (ICPAC) (Nairobi, Kenya)	Masilin Gudoshava
10	Indian Institute of Tropical Meteorology (IITM) (Pune, India)	Roxy Mathew Koll and Aditi Modi
11	<u>National Scientific and Technical Research Council</u> (CONICET) (Buenos Aires, Argentina)	Anna Sörensson
12	Royal Scientific Society (RSS) (Amman, Jordan)	lain Stewart
13	South African Environmental Observation Network (SAEON) (Pretoria, South Africa)	Nicole du Plessis and Jennifer Veitch
14	Universidad Veracruzana (Veracruz, Mexico)	Carolina Ochoa-Martinez
15	University of Cape Town (Cape Town, South Africa)	Chris Jack
16	University of Manitoba (Winnipeg, Canada)	Julienne Stroeve and Jennifer Lukovich
17	University of Tsukuba (Tsukuba, Japan)	Van Doan
18	University of the West Indies (Kingston, Jamaica)	Tannecia Stephenson
19	Walker Institute, University of Reading (Reading, UK)	Ros Cornforth

3.1 Hub: University of the West Indies (Mona, Jamaica)

The new Hub in Jamaica is coordinated by Professor Tannecia Stephenson of the Department of Physics at the Mona campus of the University of the West Indies. This Hub integrates several institutions with expertise in climate research in the Caribbean and is focused on creating models and tools that enable a deep understanding of the region's specific climate risks, as well as training for informed decision-making in vulnerable sectors.

Participating institutions include the Climate Studies Group at Mona (CSGM), established in 1994 to study the Caribbean climate and the oceanic and atmospheric factors influencing it. CSGM's work aims to understand the mechanisms behind climate patterns and extremes and their impacts on tourism, agriculture, water, and health. They develop models and tools that provide seasonal and annual climate forecasts, raise global warming awareness, and offer climate information for capacity building, planning, and policy. Findings show increased precipitation variability, warm extremes, hurricane frequency, and rising sea levels, with future projections indicating even warmer, drier conditions and higher sea levels, impacting health, agriculture, and island vulnerability. CSGM tools include SMASH, which simulates storm and hurricane

advection, and ACCEPT, a tool for water availability and other climate data for various locations and crops, benefiting farmers and agricultural institutions.

The Caribbean Climate Modelling Consortium (CCMC) will also be part of the Hub and works with colleagues in Cuba. Its goal is to provide accurate and relevant climate information at a regional scale for the Caribbean islands, both for the present and for future projections. Its research agenda addresses topics such as climate dynamics, meteorology, water, energy, agriculture, tourism, health, adaptation, and mitigation.



Strengthening partnerships for a climate resilient zone in the Caribbean

In addition, the Hub is linked to the Global Institute for Climate-Smart and Resilient Development (GICSRD), a virtual institute launched in 2021 that promotes excellence in university teaching and professional development through workshops, webinars and collaborative programs. GICSRD aims to support the formulation of climate resilience policies and strategies, facilitating the creation of a Caribbean zone adapted and resilient to climate change.

In the context of My Climate Risk, the University of the West Indies team hopes to collaborate with other MCR hubs and contribute its more than 20 years of experience in climate research and training. Through this collaboration, they aim to strengthen the provision of climate information in critical sectors of the region and improve planning and adaptation tools, supporting a coordinated and effective response to climate challenges in the Caribbean.

3.2 Hub: Faculty of Physics, University of Belgrade (Belgrade, Serbia)

The new My Climate Risk Hub at the Faculty of Physics of the University of Belgrade has its roots in the Department of Astronomy and Meteorology, founded in 1880 at the Faculty of Philosophy. In 1946. the meteorological-climatological group was established, and in 1990 the Faculty of Physics was established as an independent institution, focused on national and regional climate studies, primarily in Serbia and South-Eastern Europe. The Hub is dedicated to researching the impacts of climate change and extreme events, promoting an interdisciplinary approach to support research and adaptation strategies in other sectors, and carries out educational work to raise awareness of climate science.



Faculty of Physics University of Belgrade

Among its initiatives is the Digital Climate Atlas of Serbia, which aims to support the climate adaptation process in Serbia. This atlas is designed to be useful to a wide variety of users, from government agencies to experienced researchers. As part of the project "Advancing Medium and Long-Term Adaptation Planning in Serbia," the atlas also supports sectors such as education and professional consulting in climate communication and decision-making.

The Hub offers an eight-month mentoring program to support early career researchers, giving them the opportunity to integrate climate change issues into

their future work. Participants have published articles in peer-reviewed journals and on the Serbian portal Klima101, a site dedicated to climate science communication for the public.

Members of the Hub have conducted research in diverse areas, such as the impact of climate change on ski tourism, biodiversity of fish in rivers, expansion of jackal populations, land management and reforestation, stability of infrastructure against floods, wind and solar energy, public health, and traffic safety in extreme weather conditions. Other studies address topics such as the urban heat island effect, changes in extreme precipitation events, human rights under future climate scenarios, maize and grassland production, and wildfire risks. They have also worked on climate communication at events such as the "Climate Picnic" workshop.

For future activities, the Hub plans to advance studies of high-impact regional extreme events in Southeastern Europe. With the support of a grant from the European Climate Foundation, they hope to conduct an attribution study of the heatwave event that hit this region in July 2024, which will allow for a better understanding of the effects of climate change in this part of Europe.

3.3 Hub: Centro de Estudios Avanzados en Zonas Áridas - CEAZA (Chile)

MCR's new Hub in Chile is hosted at the Center for Advanced Studies in Arid Zones (CEAZA), a regional scientific and technological research center founded in 2003 and dedicated to addressing environmental issues in the Coquimbo Region in central Chile. CEAZA focuses on generating scientific knowledge to support regional decision-making and co-developing climate change adaptation strategies, especially for the agriculture and fisheries sectors.

Its main research areas range from studies in meteorology to marine ecosystems, with a track record of 465 ISI publications in the last five years. Since 2014, CEAZA has maintained 57 meteorological stations and, since 2012, a real-time ocean and meteorological monitoring buoy. Since 2022, it has maintained a deep buoy called COSMOS.

CEAZA's decision to become an MCR Hub responds to the vulnerability of the Coquimbo region, exposed to climate hazards and variability, including coastal upwelling, which presents unique challenges for global climate modelling. The region is key to Chile's economy due to its diversity of ecosystem services and resources, including tourism, mining, agriculture and cultural heritage. MCR's objectives align closely with the mission of CEAZA, which has a long history of collaborating with local actors to meet the demand for effective adaptive strategies.



Meetings with local fishermen and officials to start gathering information on major events

As a Hub, CEAZA hopes to foster transregional collaborations, to support national socioeconomic development and the policy-making process. CEAZA carries out activities that include the development of physical narratives from global climate models and downscaling experiments (based on the CLAP project, 2021–2030, supported by the UN Decade of Ocean Science), the assessment of risk perception in local communities through workshops and surveys, the analysis of past climate events (such as ENSO, storms and tsunamis), and the incorporation of ancestral knowledge.

In recent months, between July and September 2024, meetings have been held with local fishermen and officials to establish a dynamic of interaction and collect information on significant climate events (such as the El Niño phenomenon) since 1980.

4. EDUCATION WORKING GROUP (EWG)

My Climate Risk's EWG, led by Vandana Singh, was established in late 2022 and seeks to provide a space for the MCR community to share learnings about working with communities and knowledge gaps they may identify in their work. Its goals include improving the communication of climate science through educational approaches that can serve both future scientists and the public, and finding effective ways to disseminate knowledge within and outside MCR.

The EWG, composed of members from diverse regions of the world, has organized quarterly meetings and works through a shared document. Its main event so far has been a series of webinars on climate science and colonialism, where they explored how colonial legacies influence climate science and its policies. The group is currently working on transforming these sessions into educational modules for high school and undergraduate students, with a respectful approach to local cultures and knowledge. The first module, in collaboration with the Himalayan University Consortium and the Walker Institute, will be ready for pilot testing soon.

In addition, the EWG plans to develop events in 2025 around topics such as transdisciplinarity in science and climate education, in collaboration with the Manila Hub. They are also in talks with other hubs to hold events on "green colonialism" and climate interventions. In parallel, they are working on developing their own website, which will centralize their educational resources.

The group has identified several challenges, such as the difficulty of coordinating meetings due to time differences, the time constraints of its members, and the need to balance medium and long term work with immediate impact responses to the climate crisis. To improve its initiatives and representativeness, the EWG invited all participants to complete a survey sent during the GA Sessions with their comments and suggestions.

5. EARLY CAREER RESEARCHERS (ECR)

The MCR Early Career Researchers (ECR) group aims to provide a networking space for early- to mid-career researchers (ECRs), especially those not directly affiliated with a Hub. Currently, the group is coordinated by Fiona Spuler (University of Reading) and Julia Mindlin (University of Leipzig), although it is

visualized that this role will pass to other members in the future. The group seeks to foster discussions on methodologies, ideas, and experiences in climate research, promoting interdisciplinary learning and collaboration. Furthermore, the ECR group strives to influence the My Climate Risk agenda from a researcher-in-training perspective and to generate spaces for dialogue with senior researchers.

To support ECRs and expand their reach, the group has opened a new communication platform on Slack. They recently conducted a re-evaluation of their priorities and set some future plans, inviting new researchers from all hubs to join.

Among its main activities, the group has held monthly meetings that have proven to be useful for exchanging experiences and building a community within MCR. In the future, they plan to continue these meetings, but with an expanded focus that will include inviting external speakers to share methods for developing local and participatory climate information. They have also proposed initiating collaborative projects focused on tool development, writing scientific papers, and building communities of practice on MCR-related topics.

Emerging projects include the development of climate narrative tools and the study of loss and damage in collaboration with the BASE initiative. In addition, the group is co-organizing a pre-COP30 workshop to develop project ideas in preparation for COP. The group also coordinates its activities with the EWG.

6. **DISCUSSION TOPICS**

6.1 Scientific communication with decision makers, communities and other stakeholders: Community engagement and local knowledge

During the three sessions of the General Assembly, the relevance of strengthening scientific communication and fostering the active participation of communities in the formulation of strategies to address climate risk was highlighted. Participants underlined the importance of the co-creation of knowledge and the implementation of participatory approaches as essential mechanisms to ensure that climate solutions respond to the specific needs in each context. A prominent example was shared by the HUC Hub, which worked on building climate policies in Pakistan, involving provincial governments, researchers, and representatives of the industrial sector. This experience showed the usefulness of approaches based on local demands and the need to

align science with regional priorities. Similarly, the ICPAC Hub in East Africa highlighted recent advances in early warning systems, emphasizing the importance of adapting climate messages to make them accessible and relevant to affected communities.



In different regions, the need to translate complex scientific information into practical and accessible tools for decision-makers and communities was highlighted. Guest participants from the anticipated Senegal Hub shared the experience of working with farmers and water resource managers to provide them with useful climate information, which will allow them to make informed decisions in their processes of adaptation to climate change. At the SAEON Hub in South Africa, a co-design workshop brought together end users and data providers with the aim of developing more effective observation systems, based on the needs of the users.

The recognition of local knowledge and cultural diversity was a recurring theme in the discussions. The IITM Hub in India highlighted the incorporation of traditional practices and local wisdom in its training workshops for early-stage researchers, integrating them with modern climate observation tools. Similarly, the RSS Hub in Jordan emphasized the importance of linking technical knowledge with local cultural realities and highlighted its collaboration with media institutes to ensure that messages on climate risks are clear and culturally relevant.

Despite these advances, persistent challenges were identified that hinder effective communication and the use of local knowledge. Among them, the scarcity of high-resolution local data and the difficulties in securing sustainable funding to enable its collection were noted. Several participants also underlined the importance of building long-term relationships of trust between scientists, communities and other key actors, avoiding extractive practices and promoting inclusive dialogue.

The sessions also highlighted innovative proposals to strengthen community participation and scientific communication. In Serbia, a project was presented that used a thematic "escape room" on climate change, designed to engage young people from various disciplines and foster an interdisciplinary understanding of climate risks. In Nepal, a collaborative learning event was organized that brought together scientists, journalists and artists, promoting a transdisciplinary approach adapted to the cultural specificities of the communities involved. The hubs demonstrated a shared commitment to integrating local and scientific knowledge, addressing structural challenges through innovative solutions.

6.2 Interdisciplinary approaches and challenges

The development of interdisciplinary approaches to addressing climate change was a central theme throughout the event's three sessions. Participants agreed that integrating disciplines is essential to understanding climate risks holistically and developing effective solutions but also pointed out numerous challenges associated with this approach.

In Jordan, the RSS Hub highlighted its efforts to foster a culture of cross-sectoral research among its working groups. This process involved overcoming traditional barriers between disciplines such as climatology, water management

and social sciences. One of the most relevant projects in this line was the collaboration with local municipalities in the creation of urban observatories, which allowed combining climate models with local knowledge to improve urban planning.

In the African-European session, the hubs mentioned initiatives focused on collaboration between physical and social scientists. Efforts were established towards marine observation projects that combine scientific data with educational programs for high school students. In Kenya, the need to include cultural perspectives in early warning systems was emphasized, ensuring that climate warnings are effectively understood and used by local communities.

The Serbian Hub presented an innovative example of interdisciplinary integration through a mentoring program that brought together PhD students from disciplines as diverse as biology, political science and linguistics. This approach allowed for the exploration of innovative perspectives on climate impacts.

However, significant challenges were also identified. One of the recurring problems was the difficulty of establishing a common language between disciplines. This topic was widely discussed during the workshop organized by the Philosophy Working Group, which explored the epistemological foundations of the interdisciplinary approach. From a practical perspective, several hubs pointed out that limited funding and the traditional structure of academic institutions remain significant barriers to interdisciplinary collaboration.

Finally, the crucial role of teaching methods and training the next generation of researchers in interdisciplinary approaches was discussed. The ECR group highlighted the importance of training young scientists to work at the intersection of disciplines, while the education group noted that educational materials should be designed to reflect the complexity of climate change, integrating diverse perspectives and values.

6.3 Institutional barriers and opportunities

The sessions highlighted how traditional structures of academic and government institutions, focused on disciplinary approaches and conventional productivity metrics, can limit interdisciplinary collaboration and effective climate action. These barriers hinder the integration of scientific and local knowledge, as well as the implementation of contextualized solutions.

A recurring concern was the lack of sustainable funding for essential projects, such as local data collection and long-term observations. In addition, unequal access to high-resolution climate data was discussed, restricting the ability to design strategies tailored to local realities.

Despite these challenges, the hubs identified significant opportunities. Inter-institutional and regional collaboration, along with the use of workshops, were highlighted as strategies to align scientific priorities with local needs and foster information exchange across sectors. The hubs also underlined the importance of creating workspaces that allow for innovative and flexible approaches, as well as raising awareness among policymakers about the importance of investing in local capacities and reliable data.

MCR is a space to continue making progress in overcoming these barriers, and while institutional barriers represent a considerable challenge, the opportunities to overcome them through strategic partnerships, collaborative approaches and adequate financing offer a promising path towards more effective climate solutions.

6.4 Climate risk impacts on agriculture and health

The sessions underlined that climate risks, such as droughts, floods and extreme temperatures or events, are having severe and increasingly frequent impacts on agriculture and human health. These effects not only threaten food security, but also exacerbate public health problems, especially in vulnerable communities.

In the agricultural sector, it was highlighted how extreme weather events are reducing crop productivity and affecting farmers' livelihoods. Difficulties in accessing accurate and locally adapted climate information exacerbate these problems, limiting the ability of communities to implement effective adaptation measures.

In the area of health, risks related to the increase in diseases linked to climate change, such as vector-borne diseases, respiratory diseases and mental health problems, were addressed. The hubs noted the importance of integrating climate impacts into public health systems, especially in areas with limited infrastructure.

The discussions emphasized the need to strengthen collaboration between the agriculture, health and climate change sectors to improve resilience and reduce vulnerability in most vulnerable and already affected communities.

6.5 Al integration with climate models

The integration of artificial intelligence (AI) into climate models was highlighted as a key tool to improve the accuracy of predictions and support decision-making in complex contexts by the Hong Kong (HKUST), Japan (Tsukuba), India (IITM) and South Africa (SAEON) hubs. During the sessions, applications of AI were explored in areas such as optimizing observation systems, identifying specific risks and improving predictions of extreme events such as heavy rains and droughts.

The hubs discussed how AI can address data gaps, especially in regions with limited coverage of climate observations, allowing for more efficient analysis tailored to local realities. However, the importance of complementing these



tools with high-quality data and long-term observations is necessary to ensure that solutions are representative and reliable.

A central challenge identified was the dependence on advanced technological infrastructure and trained personnel to implement AI-based solutions, which represents a significant barrier in some contexts. In addition, the need to

develop ethical and transparent models that incorporate principles of climate justice and equity was stressed, ensuring that the use of AI does not exclude or harm the most vulnerable communities.

6.6 Coordination and communication across hubs

During the sessions, the importance of strengthening coordination and communication between the hubs to maximize the impact of climate change initiatives was highlighted. Although each Hub operates in specific local contexts, it was stressed that the exchange of knowledge, experiences and resources can enrich the strategies developed and improve the effectiveness of climate actions.

Participants discussed how regular meetings and joint events, such as webinars and thematic workshops, have been key tools to foster dialogue and collaboration. In addition, the hubs recognized the value of creating spaces to share innovative practices, identify common challenges and coordinate responses at global and regional levels.

However, challenges were also identified, including differences in approach between hubs, diversity of languages and cultures, and limitations in technological infrastructure to facilitate communication. Despite this, it was proposed to enhance the use of virtual platforms and forums to overcome these barriers and ensure a more fluid interaction between our various communities of practice. In this context WCRP's Secretariat is working on establishing an internal communication platform to facilitate collaboration between the MCR hubs and other projects in the future.

A central point discussed was the need to promote cross-disciplinary collaborations that integrate disciplines and sectors, and that take advantage of the diversity of experiences of each Hub. The importance of maintaining the bottom-up character of the initiatives was also highlighted, ensuring that global actions reflect the local priorities and needs of each Hub.

7. CONCLUSION

The fifth My Climate Risk General Assembly showed significant progress in the expansion and consolidation of this LHA. The incorporation of three new hubs in Jamaica, Serbia and Chile underlines the commitment to a bottom-up vision, promoting local communities of practice that integrate scientific knowledge and regional needs. In addition, the event highlighted the efforts of the EWG and the Early Career Researchers (ECR) group, which are essential to strengthening the impact of MCR at a global level.

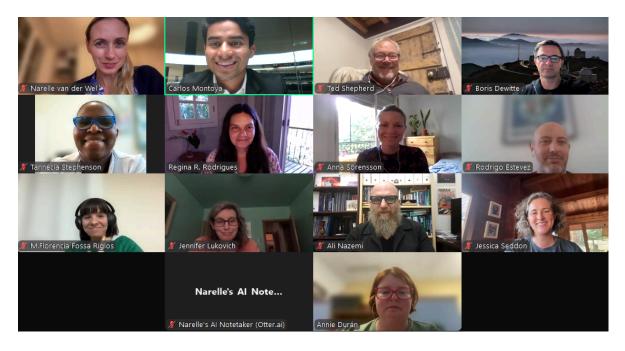
The topics addressed during the sessions reflect the key challenges and opportunities for climate action. Aspects such as effective scientific communication, interdisciplinary integration, the impact of climate risks on agriculture and health, and the incorporation of artificial intelligence in climate models were proposed and discussed by the participants. In each case, the importance of linking technological and scientific solutions with local realities was highlighted, maximizing the relevance and applicability of research and work.

A central point of all three sessions was the need to strengthen coordination and communication between hubs, recognizing that the exchange of knowledge, resources and experiences enriches global and local strategies. Transregional collaboration and a focus on building strong networks were pointed out as essential pillars to overcome institutional barriers and foster innovative practices. In this respect, the participants stressed the need to improve administrative support and explore alternative methods of coordination that facilitate connectivity and knowledge exchange, such as current networking efforts led by the EWG, the ECR group, and interdisciplinary collaborations, including the Philosophy Working Group. These efforts, together with the growing participation of hubs in the Global South, reinforce MCR's mission to build inclusive, collaborative and contextualized climate responses.

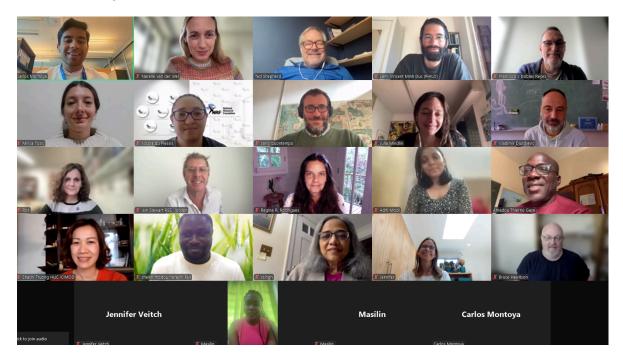
Asia - Pacific Session:



Americas Session:



Africa - Europe Session:



ANNEX 1: LIST OF PARTICIPANTS

Name	Role in MCR	Affiliation/Organization
Aditi Modi	Hub	Indian Institute of Tropical Meteorology (IITM)
Ali Nazemi	ExOfficio (GEWEX)	Concordia University, Montreal, Canada
Alexis Lau	Hub	HKUST
Amadou Thierno Gaye	Scientific Steering Group	École Supérieure Polytechnique (ESP) Université, Senegal
Anna Sörensson	Scientific Steering Group and Hub	National Scientific and Technical Research Council, Argentina
Ana María Durán Quesada	Scientific Steering Group	University of Costa Rica, Costa Rica
Boris Dewitte	Hub	CEAZA, Chile
Bruce Hewitson	ExOfficio (RIfS)	University of Cape Town, South Africa
Carlos Montoya	WCRP Secretariat	WMO - WCRP Secretariat
Carlo Buontempo	ExOfficio (Copernicus Climate Change Service)	ECMWF
Cheikh Modou Noreyni Fall	Guest	University Cheikh Anta Diop, Senegal
Daniel Ratilla	Hub	Ateneo de Manila University, Philippines
Francisco J. Doblas Reyes	Scientific Steering Group	Barcelona Supercomputing Center - Centro Nacional de Supercomputación, Spain

lain Stewart	Hub	Royal Scientific Society, Jordan
Ivy Ferrer	Hub	Ateneo de Manila University, Philippines
Jennifer Lukovich	Hub	University of Manitoba, Winnipeg, Canada
Jennifer Veitch	Hub	South African Environmental Observation Network (SAEON), South Africa
Jessica Seddon	Hub	Yale University, USA
Julia Mindlin	ECR Group Leader	University of Leipzig, Germany
Karen McKinnon	Scientific Steering Group	UCLA, USA
C. Kendra Gotangco Gonzales	Scientific Steering Group	Ateneo de Manila University, Philippines / Australian National University, Australia
Vincent Minh Duc Lam	Philosophy Working Group Leader	University of Bern, Switzerland
M. Florencia Fossa Riglos	Hub	National Scientific and Technical Research Council (Buenos Aires, Argentina)
Masilin Gudoshava	Scientific Steering Group and Hub	IGAD Climate Prediction and Applications Centre (ICPAC), Kenya
Mitch Black	Hub	Bureau of Meteorology, Australia
Milica Tosic	Hub	University of Belgrade, Serbia
Narelle van der Wel	WCRP Secretariat	WMO - WCRP Secretariat

Nicole du Plessis	Hub	South African Environmental Observation Network (SAEON), South Africa
Regina R. Rodrigues	Chair	Universidade Federal de Santa Catarina, Brazil
Rodrigo Estevez	Hub	University Santo Tomas, Chile
Ros Cornforth	Hub	Walker Institute, University of Reading, UK
Sandeep Sahany	Guest	CCRS, Singapore
Shachi Truong	Scientific Steering Group and Hub	ICIMOD, Kathmandu, Nepal
Shipra Jain	ExOfficio (WWRP)	University College London, UK
Sugata Narsey	Scientific Steering Group and Hub	Australian Bureau of Meteorology
Tannecia Stephenson	Hub	University of the West Indies, Jamaica
Ted Shepherd	Chair	University of Reading, UK and Forschungszentrum Jülich, Germany
TheaTurkington	Guest	CCRS, Singapore
Van Doan	Hub	University of Tsukuba, Japan
Vladimir Djurdjevic	Hub	University of Belgrade, Serbia
Vandana Singh	Scientific Steering Group and EWG Leader	Framingham State University, USA

ANNEX 2: LIST OF ACRONYMS

Acronym	Full Form	
ACCEPT	Agricultural Climate Change Evaluation and Planning Tool	
CEAZA	Centro de Estudios Avanzados en Zonas Áridas	
CSGM	GM Climate Studies Group at Mona	
CLAP	Climate and Adaptive Planning Project	
ССМС	CCMC Caribbean Climate Modelling Consortium	
COP30	30th Conference of the Parties (United Nations Climate Change Conference)	
ECR	Early Career Researchers	
ENSO	El Niño-Southern Oscillation	
GA	General Assembly	
GICSRD	GICSRD Global Institute for Climate-Smart and Resilient Development	
IOM	IOM International Organization for Migration	
MCR	MCR My Climate Risk	
SMASH	Storm and Hurricane Advection Simulation Hub	
WCRP	World Climate Research Programme	
EWG	Education Working Group	