

LHA – My Climate Risk



EPESC/DCPP workshop on integrated attribution and prediction

20-24 March 2023

Regina Rodrigues (Brazil) & Ted Shepherd (UK/Germany)



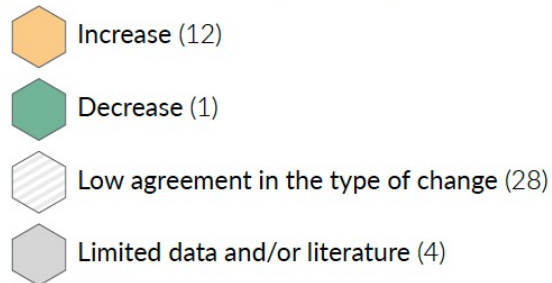
**International
Science Council**



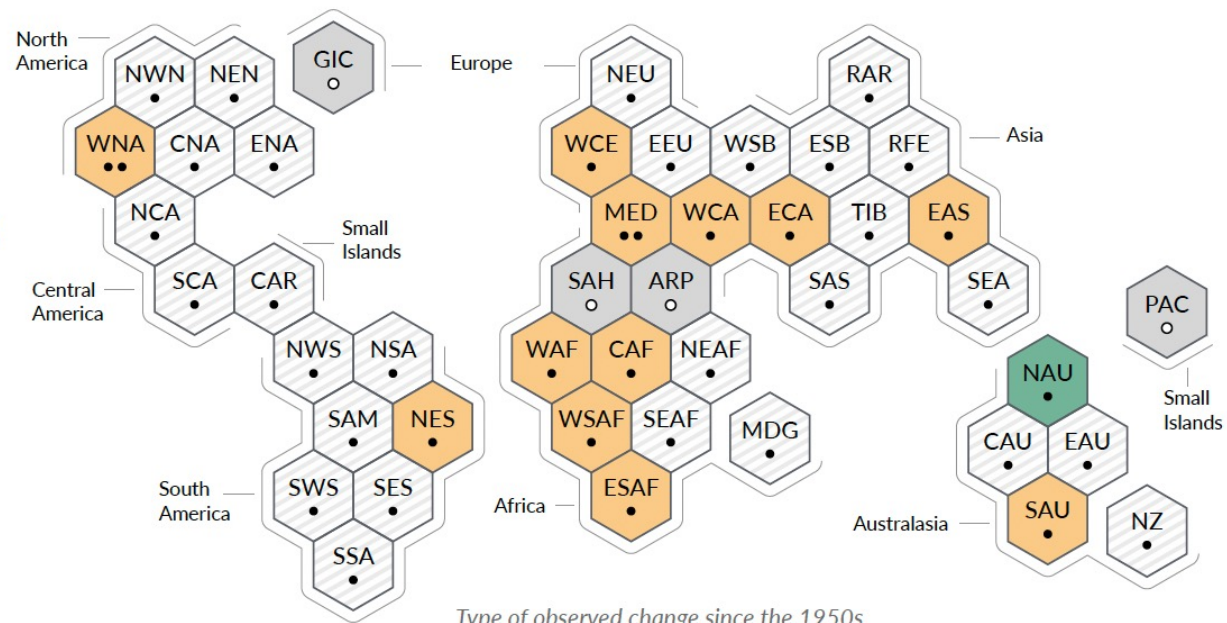
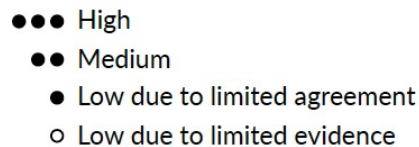
- Traditional ways of producing aggregated climate information can leave climate scientists empty-handed for many regions of the world
- Yet there can be a wealth of local climate knowledge (e.g. Chapter 10 of IPCC AR6)

c) Synthesis of assessment of observed change in **agricultural and ecological drought** and confidence in human contribution to the observed changes in the world's regions

Type of observed change in agricultural and ecological drought



Confidence in human contribution to the observed change

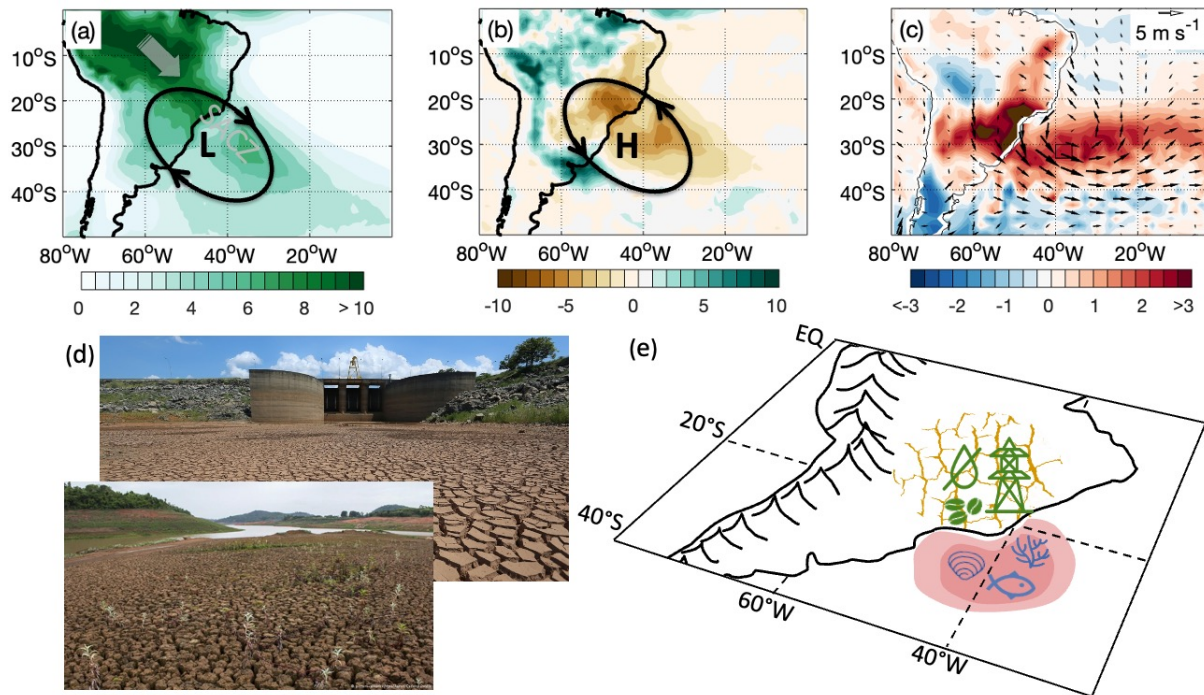


Type of observed change since the 1950s

SPM of AR6 WGI report (2021)

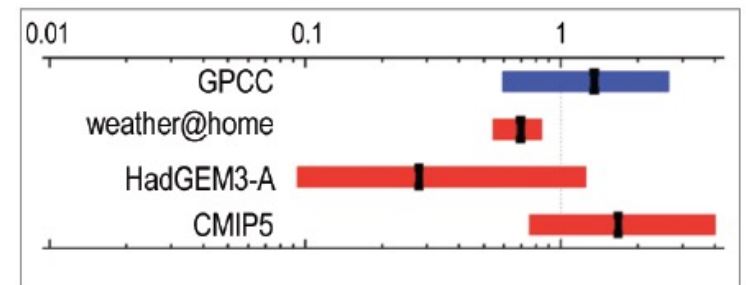
- **Example:** Anomalous anti-cyclonic circulation led to failure of 2013/14 South American monsoon
 - Caused drought and heatwaves, affected food-water-energy nexus: correlated risk

Climatological precipitation Precipitation anomaly Temperature and wind anomaly



A probabilistic attribution study found “insufficient evidence” climate change increased drought risk

Drought risk ratio relative to pre-industrial



Martins et al. (2017 BAMS)

Rodrigues & Shepherd (2022 PNAS Nexus)

We can ask: insufficient for whom?

Climate services promise better decisions but mainly focus on better data

Kieran Findlater ^{1,2} , Sophie Webber ³, Milind Kandlikar^{1,2} and Simon Donner ⁴

- “...the traditional domination of ‘hard facts’ over ‘soft values’ [is] inverted... traditional scientific inputs... become ‘soft’ in the context of the ‘hard’ value commitments that will determine the success of policies for mitigating the effects of [climate change]” (Funtowicz & Ravetz 1993 Futures)
- We should derive a conceptual framework from reality, rather than deriving ‘reality’ from a conceptual framework (paraphrase from E.F. Schumacher's *Small is Beautiful*)
 - Requires **inverting the construction of climate information**

MCR Goal: To develop and mainstream a ‘bottom-up’ approach to regional climate risk, which starts from the decision context (and the decision scale) and enables relevant climate information to be brought into that context

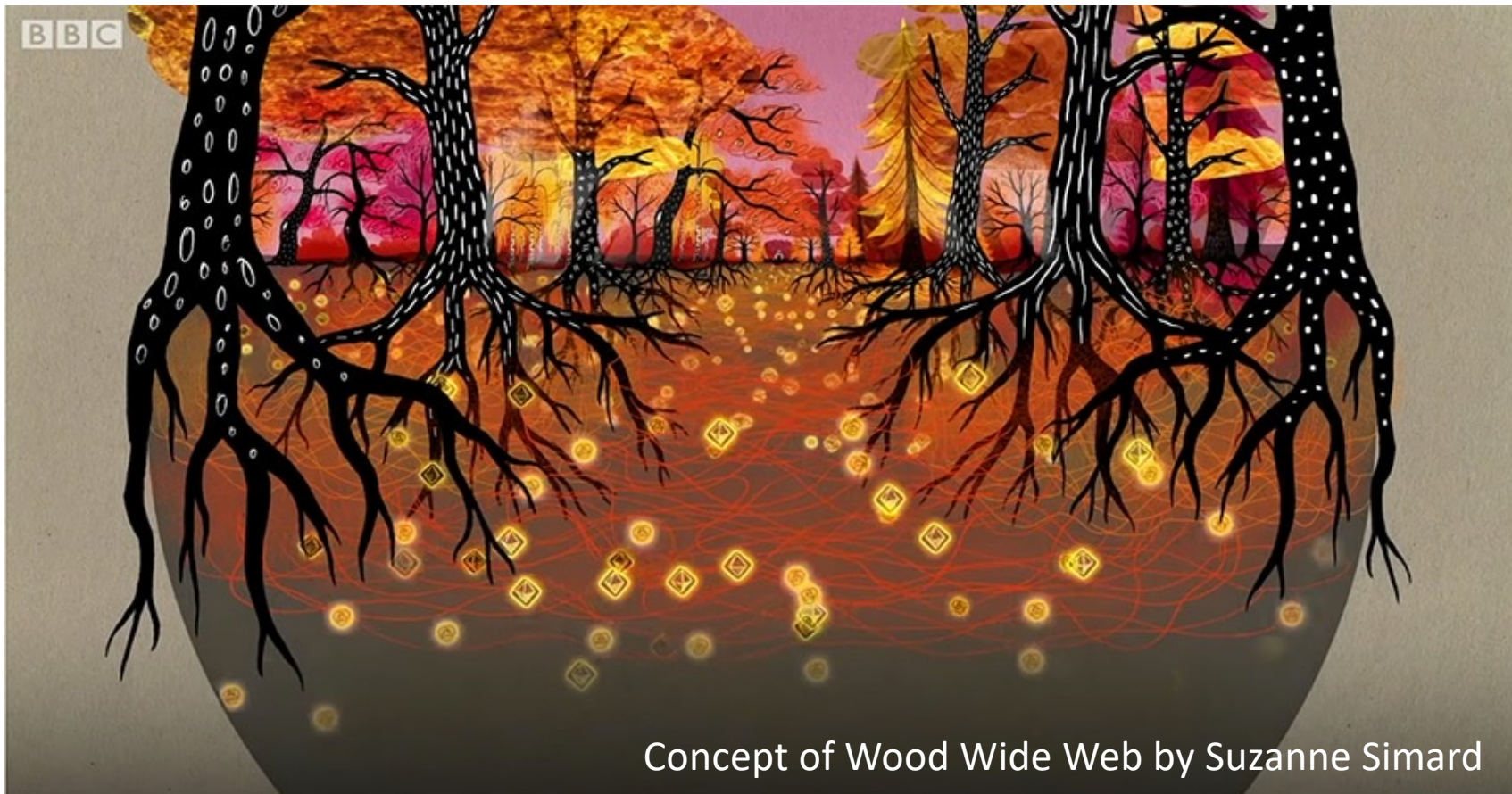
MCR Purpose: By developing a new framework for assessing and explaining the physically plausible climate drivers of regional climate risk, climate information will be made meaningful at the local scale

The challenge of equity and legitimacy

“...inequitable North–South partnerships [are] borne out of a paradigm of knowledge deficit and capacity development that runs the risk of entrenching existing inequalities....Creating frameworks that enable the establishment of equitable partnerships requires a shift in perspectives on, and processes related to, the design, implementation and evaluation of success.”

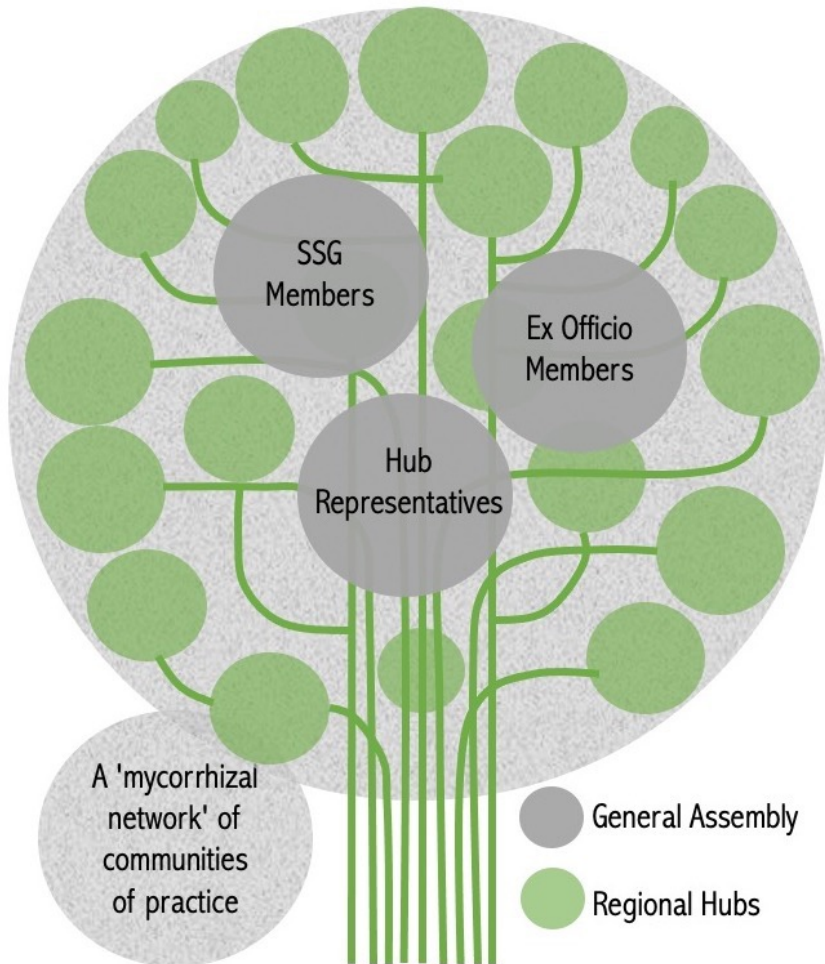
Vincent et al. (2020 *Nature Climate Change*)

MCR Vision: Foster a non-hierarchical ecosystem of labs/communities of practice; like a *mycorrhizal network*, sharing resources rather than competing for them, and anchored by 'mother trees' in the form of *regional hubs*



Concept of Wood Wide Web by Suzanne Simard

That means doing things differently

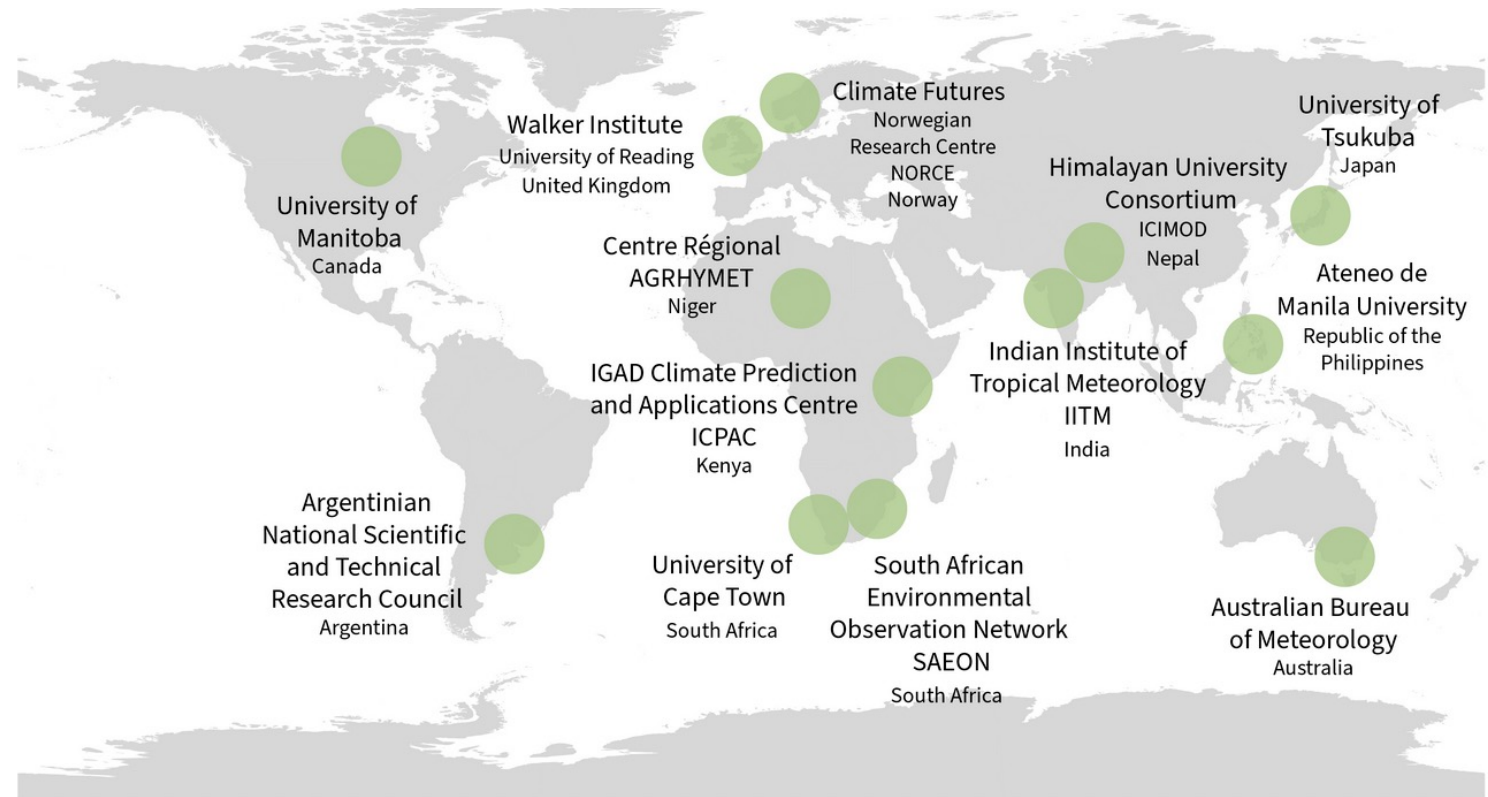


- ✓ No dominance by the Global North (let alone by the Anglo-American axis within it)
- ✓ Balance in region, gender, and career stage
- ✓ No MCR-wide in-person meetings
- ✓ No panels with formal membership
- ✓ SSG members meet together with Hub representatives in virtual General Assemblies (twice a year, with separate sessions targeting the Eastern and Western hemispheres)
- ✓ Most of the activity in MCR happens organically, emanating from the Hubs (see list of events on the MCR web site)

Network of *My Climate Risk* regional hubs

As of 20 March 2023

- ✓ Hubs need to be anchored in a local institution
- ✓ Hubs need to share the *bottom-up* approach of MCR
- ✓ Priority is to reach *regions not well represented* within WCRP
- ✓ See the MCR *website* for FAQs about hubs



Several ocean-oriented Hubs are joint with CLIVAR (with a focus on marine heat waves)

My Climate Risk SSG membership





Small is beautiful: climate-change science as if people mattered

Regina R Rodrigues, Theodore G Shepherd 

PNAS Nexus, Volume 1, Issue 1, March 2022, pgac009,

<https://doi.org/10.1093/pnasnexus/pgac009>

✓ **Grappling with complexity** of local situations...
...by expressing climate knowledge in a conditional form

✓ **The importance of simplicity** when dealing with deep uncertainty...
...through the use of physical climate storylines

✓ **Empowering local communities** to make sense of their own situation...
...by developing “intermediate technologies” that build trust and transparency

ICIMOD HUC Himalayan University Consortium



WEBINAR

Climate risk and uncertainty in India

12 May 2022 | 16:00-18:00 (IST) | Zoom

Organized by
WCRP's My Climate Risk Regional Hub
for the Hindu Kush Himalaya under the Himalayan
University Consortium (HUC), ICIMOD

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Centre for Atmospheric Sciences
Indian Institute of Technology
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Professor
Centre for Atmospheric Sciences
Indian Institute of Technology
Delhi

PANELIST



Krishna Malakar
Assistant Professor
Department of Humanities and
Social Sciences, Indian Institute
of Technology, Madras

Take-home message: For vulnerable communities, uncertainty is a way of life, not an error bar

Scan to register for the webinar



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PUBLISHING WORKSHOP

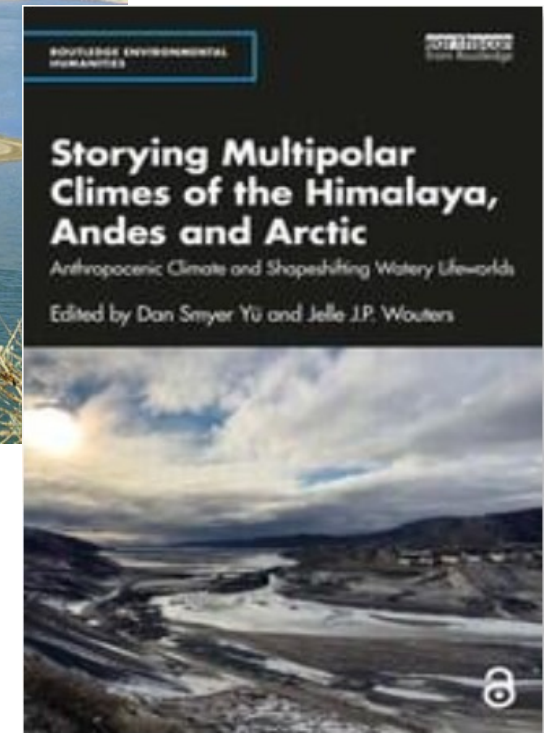
Storying climes of the Himalaya, Andes, and Arctic

Anthropogenic water bodies, multispecies vulnerability, and sustainable living

9–14 October 2021

In partnership with My Climate Risk, a lighthouse activity of World Climate Research Programme (WCRP)
hosted by Royal Thimphu College (Royal University of Bhutan) and Yunnan University

- Just published by Routledge (March 2023)
- Chapters by MCR SSG members Ted Shepherd & Chi Huyen Truong, and Vandana Singh





ATENELO DE MANILA
UNIVERSITY



The graphic features a dark blue background with a repeating pattern of small icons. Two large white rounded rectangles with blue borders contain the text for the webinar series. The left one is titled 'CLIMATE VOICES ON THE GROUND' and the right one is titled 'CLIMATE RESEARCH'. Below these are icons for a clipboard, a globe, and a megaphone. At the bottom, there is a registration link.

**CLIMATE VOICES
ON THE GROUND**

PERSPECTIVES FROM DIFFERENT SECTORS
WEBINAR SERIES

**CLIMATE
RESEARCH**

"AS IF PEOPLE MATTERED"
WEBINAR SERIES

**7 WEBINARS
FROM OCTOBER TO DECEMBER 2022**

Register at: linktr.ee/MCR_ADMU

We are developing a pair of cross-MCR, Hub-led publications arising from these two webinar series, led by the leaders of the HUC and ADMU Hubs

The recordings of these webinars are available from the ADMU My Climate Risk web site

CLIMATE RESEARCH
AS IF PEOPLE MATTERED

 **Open Climate Science**
A panel discussion on the meanings and practice of open science

FEBRUARY 15, 2023 WED 4:30-6:00 PM



FIONA SPULER,
MSc



NORALENE UY,
PHD, ENP



CHRISTOPHER D. JACK,
PHD



JOHN LEO C. ALGO,
MSc



FR. JOSE RAMON
VILLARIN, SJ

Register at: linktr.ee/MCR_ADMU



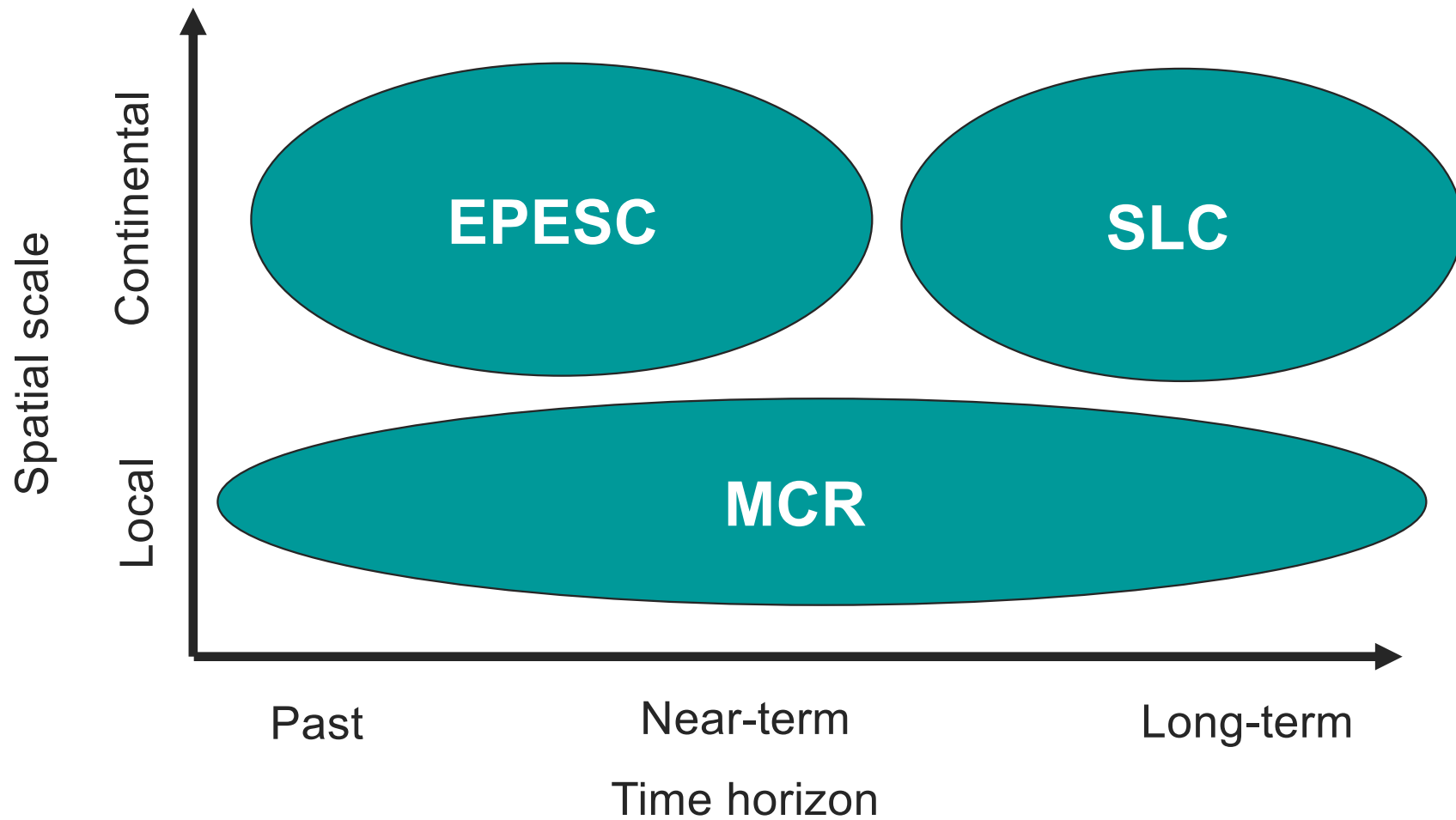
WORLD CLIMATE
RESEARCH PROGRAMME
**OPEN SCIENCE
CONFERENCE**
23 - 27 OCT. 2023 | RWANDA

Learning Lab 06

*Democratizing Climate
Science: Making it Meaningful
at Local Scales*

Organized by the MCR Hubs;
led by Anna Sörensson (leader
of the Argentina Hub)

- Although our approaches may be different, the EPESC, SLC and MCR LHAs are **very complementary** in terms of space and time scale



".... Much of climate-change science is necessarily big science. We argue that in order to make climate information useable for adaptation, it is also necessary to discover the beauty of smallness." (Rodrigues & Shepherd 2022 PNAS Nexus)

- EPESC is certainly "big science"
- EPESC-MCR interactions can focus on bridging between EPESC products and local information needs
 - Perhaps causal explanations/storylines could be a common language?
- Several MCR SSG members are from the EPESC community (e.g. Lin Wang, Paco Doblas-Reyes)
- EPESC has a strong presence in Buenos Aires, with connections to the MCR Argentinian Hub
- ???