



# WORLD CLIMATE RESEARCH PROGRAMME

*Extraordinary Session of the WCRP Joint Scientific Committee (JSC-41B)*

## 3. Lighthouse Science Plans

My Climate Risk



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# My Climate Risk



## Vision

The new science that is envisaged within MCR is not around models, or observations, or process understanding, but on how they are all used together within a context of deep uncertainty.



## 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.



## 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.

Whilst any application of the framework will inevitably be specific and tailored to local concerns, the framework itself will be generic, hence flexible and applicable across a number of region types and intended to become a much-needed scientific support for the development of climate services (**Labs**)

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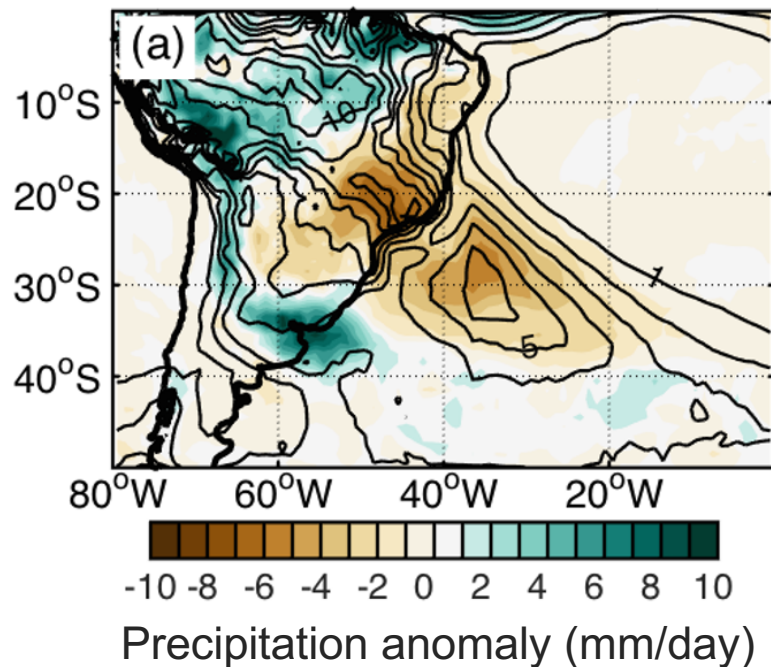
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## Practical Example

Unprecedented drought in SA during austral summer



↓ **RISK**

Energy company needs to know how often extremes like this are likely to happen in the next 2 decades

Water supply company needs to know the same thing, except for the next 5 decades

The farmers need to know if the next season will be as extreme

How can we help a researcher to answer these questions?

Which protocol to use, who to talk with, etc...



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## Team

Member	Country	Representing	Career Stage
Regina Rodrigues (Co-chair)	Brazil	CLIVAR	EMCR
Ted Shepherd (Co-chair)	UK	–	SCR
Lisa Alexander	Australia	JSC	SCR
Jens H. Christensen	Denmark	JSC	SCR
Mat Collins	UK	CLIVAR	SCR
Francisco Doblas-Reyes	Spain	ESMOC	SCR
Francina Dominguez	USA	GEWEX	EMCR
Harry Hendon	Australia	SPARC	SCR
Daniela Jacob	Germany	RfS	SCR
Gaby Langendijk	Germany	ESMOC	EMCR
Douglas Maraun	Austria	ESMOC	EMCR
Ali Nazemi	Canada	GEWEX	EMCR
Susann Tegtmeier	Canada	ESMOC	EMCR
Lin Wang	China	SPARC	EMCR

## Demographics

- ✓ Balanced gender (6/8) and career stage (7/7)
- ✓ All homes represented, except CliC
- ✓ **But...**

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✓ Very poor regional representation

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# 1. Progress towards developing Science Plan



## Start

Science plan development team formalized and Co-chairs identified

(Late October)



## Meetings

Whole group met to discuss greatest challenges & potential structures

(2 & 9 November)



## Tasks

Subgroups of 3-4 members worked in parallel on the draft science plan template

(by 20 November)



## First Draft Science Plan

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# 1. Progress towards developing Science Plan

## Challenges



### Complexity

The non-hazard aspects of risk represent a huge and very complex scope, beyond WCRP expertise



### Overlapping

The coordination with the other LHAs and homes, especially RfS, given the significant potential overlap in scope



### Demand

Making progress, given the ever-increasing demands on people's time, in particular during the COVID-19 pandemic

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# 1. Progress towards developing Science Plan

## Proposed Solutions



### Complexity

- ✓ *Not* partnering at a high level with other bodies to tackle the entire climate risk landscape (unwieldy, too top-down)
- ✓ Working in specific risk applications with end users using a bottom-up approach (**Labs**)



### Overlapping

- ✓ Drawing on all relevant parts of WCRP; filling gaps; building on what is already working well
- ✓ Having all parts of WCRP represented on the MCR science plan development team



### Demand

- ✓ Following a realistic and practical approach, along the lines of E.F. Schumacher's "small is beautiful" concept
- ✓ Distinguishing between what needs to be done, in terms of research in general, and the role of the WCRP within that (these are different)

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## 2. Partners – internal and external to WCRP

### Internal

- ✓ Regional Information for Society + other homes
- ✓ Explaining and Predicting Earth System Change
- ✓ Digital Earths
- ✓ WCRP regional research fora

### External

- ✓ WMO, GCOS, WWRP, FE, CSP, WASP, WHO, FAO, UNESCO
- ✓ Other partnerships should be established at more of a grass-roots level given the highly focused approach (**Labs**)

From Vincent et al. (2020 Nature Clim. Change, doi: 10.1038/s41558-020-00910-w):

"...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."

### 3. Resource requirements – early thoughts

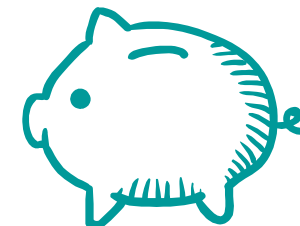
#### Internal

- ✓ Secretariat support
- ✓ Support for workshops
- ✓ Support for EMCR



#### External

- ✓ Science councils
- ✓ Support for regional representatives; this is a real challenge





## 4. Draft Timeline and Roadmap: Science Plans and LHA Launch



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## 5. Discussion

### Challenges

Are we missing any challenges?

### Solutions

Are the proposed solutions reasonable?

### Structure

What is the right structure?



### Regional Representation

How to foster *global* regional participation?

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