New WCRP Home on

“Earth System Modelling and Observational Capabilities”

S. Tegtmeier

University of Saskatchewan, Canada

F.J. Doblas-Reyes, J.-N. Thépaut, J. Meehl, M. Rixen and many others
The situation so far ...

Models, data and observations within the WCRP family

WDAC
WCRP Data Advisory Council

ETCCDI
CCI/WCRP/JCOMM Expert Team on Climate Change Detection and Indices

Data and Modelling panels of the core projects, e.g., OMDP and GSOP

WMAC
WCRP Modelling Advisory Council

WGCM
Working Group on Coupled Modelling

WGNE
Working Group on Numerical Experimentation

WGSIP
Working Group on Subseasonal to Interdecadal Prediction

S2S
Subseasonal-to-Seasonal Prediction Project

Coordination?
Interactions?
Overlap?
Earth-System Approach?
New topics (AI)?

And others ...
New model-data home

Vision
Address overall coordination mechanism across all model, data and observations activities within the programme through one home

Challenges
Buy-in from the community, efficient links to other homes, efficient links to LHAs

The way forward
Decision at the last WCRP JSC meeting (41B) to start the establishment of the new model-data home in 2021
Goals and outcomes

1. Research
   • Seamless and value-chain model-data-observation approach
   • Across Earth system components, fundamental and applied disciplines, time and spatial scales, infrastructures
   • Optimise model development
   • Formulate observational requirements to monitor, understand and predict the climate system

2. Methodological aspects
   • Integrated modelling and data infrastructures
   • Data policy, protocols and standards
Goals and outcomes

3. Access and communication
   - Share best practices, data, knowledge, opportunities
   - Efficient communication across WCRP constituencies, communities, external partners and stakeholders
   - Particular attention to engagement, equal access and inclusion of the ‘global south’

4. Strategies
   - Identify stakeholders, scientific ambition and resourcing needs
   - Develop a risk mapping and mitigation measures
   - Remove fragmentation, duplications and suboptimal aspects in the programme
Potential Structure

Scientific Steering Group
Ex-officio from other homes, LHAs, and partners

WGCM
WGNE
WGSIP
TIRA
ObsPanel
Obs4MIPs
CMIP?
DAOS?
S2S?
CORDEX?
New Topics?
Data Science?

Broader stakeholders like UNFCCC, IPCC, GFCS (C3S), IOC-UNESCO, ISC, WMO, NMHSs, Regional Climate Centres, etc.
Set up **Interim SSG** (co-leads from data and modelling communities)
- Model and data councils
- Representatives from working groups and partners

Set the home's **governance**
- Draft zero order draft business plan on terms of reference, governance, structure, timeline and partners

**Kick-off event** and other workshops
- Organise a kick-off event in the second half of 2021

International **Project Office**
- Prepare the solicitation of bids for IPO
- Jointly with WCRP Secretariat and JSC leadership

**Next SSG** will take over
- Update and revise governance
- Set specific research priorities with the home’s constituencies
- Establish the external partnership arrangements
**Challenges**

**Scientific communities**
- Adopt a common ground, ensure buy-in and merge communities

**Existing groups and activities**
- Keep current successful activities with their own priorities and momentum intact
- How to ensure successful collaboration with existing model and data panels?

Define high-level **contributions and research priorities**
- E.g., understanding and reduction of systematic errors in Earth system models
- Future role of data science and machine learning
- Will be defined by working groups and partners
- Take into account value-chain and seamless approach

And more ...