



WORLD CLIMATE RESEARCH PROGRAMME

Extraordinary Session of the WCRP Joint Scientific Committee (JSC41B)

1. Reports from GEWEX



Overall Message

GEWEX's approach: primarily through model-data integration.

GEWEX's Focus: primarily on process understanding and model improvement.

GEWEX's connection to society: develops society-relevant science at regional scale.

GEWEX's path forward: further emphasize satellite and surface-based observations (NASA, ESA, JAXA, and surface networks) in modeling and process understanding.



1. Briefly outline the nature of the review and what you hope to achieve?

Briefly outline the nature of the review and what you hope to achieve (the “outcome”); how has the CP community have been involved.

- GEWEX started a reassessment of its priorities and goals 2 years ago. A new framework was set up (Science and Applications Traceability Matrix or SATM) to reframe research questions. This has engaged all panels and SSG together.
- A draft white paper is currently circulating within the SSG for review. This articulates the SATM and lays out the science direction of GEWEX and the underlying driving questions and implementation tasks. The alignment of this with the WCRP plan, including its mapping to the LHA is also underway

What steps are you taking to carry out the review?

- Review of plan internal to GEWEX. This is currently underway
- consultation with other groups within WCRP (CPs, LHA, ...) and WWRP (WGNE, ...)
- Review of plan by external stakeholders

What stage are you at? And when will the task be complete?

- Internal review completed by next SSG
- External review will be coordinated with LHA reviews?

1. Briefly outline the nature of the review and what you hope to achieve?

- What steps are you taking to do the review?
- What stage are you at?
- When will the task be complete?
- How has the CP community have been involved?



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2. Are there any preliminary recommendations to share with the JSC?

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- Underscore the human impact on water cycle as a focus and role of high res. modelling in influence our ability to quantify this. This implies careful coordination with digital twin earth efforts
- Digital Earth will serve to monitor non-observable variables in the Earth system and one of the prime application will be water resource monitoring. It is thus important to involve from the on-set the land based sciences.

Will there be changes in structure and/or governance of the CP?

- Probably not at the high level, SSG, co-chairs and the four panels will remain
- Cont. of integration of activities both within GEWEX as with the wider WCRP (other CPs and the new LHAs, CORDEX, monsoon panel) WWRP (WGNE as well as GASS), WMO (Hydrology, GCOS, GFCS) and Future Earth (iLEAPS)

Are there any resourcing implications - e.g. increased budget requirement; additional staff.

- IGPO is in good shape, but its ability to support for meetings and new initiatives remains limited

3. Any consultations with key partners / collaborators – inside and outside of WCRP?

Have you discussed with key partners / collaborators within and outside of WCRP (e.g. Future Earth....)? Who are these groups?

- WWRP – GASS is joint panel
- WGNE – GASS and GLASS are ex officio members.
- WMO Hydrology & Cryosphere – ongoing discussion
- WMO GCOS, interaction principles with GDAP need to be defined.
- Future Earth -iLEAPS (strong connection with GLASS), Extremes activities
- START – capacity building and diversity work in close collaboration with GHP.
- USGCRP – a joint GEWEX USGCRP focus on precipitation & its prediction is emerging?

The above are the main, we interact with many partners and organizations both in context of science (eg. RHPs) or meetings and workshops.

What are your plans to entrain more participants from developing countries and Early Career Scientists (ECSs) as well as to ensure gender equity? How do you plan to improve diversity, particularly in the leadership?

- Actively been engaging with START to increase both the number of ECRs and LDC participants as well as capacity development activities
- Promote RHPs outside of the dominant regions in WCRP (PANDEX, ANDEX,).
- Actively recruit ECRs (e.g., via YESS/YHS) for panel membership, activities, networks
- Proactively seek and enhance diversity in leadership (e.g., panel co-chairs).

GEWEX Science goals

SG#1 : Determine the extent to which Earth's water cycle can be predicted.

SG#2 : Quantify the inter-relationships between Earth's energy and water cycles to advance our understanding of the system

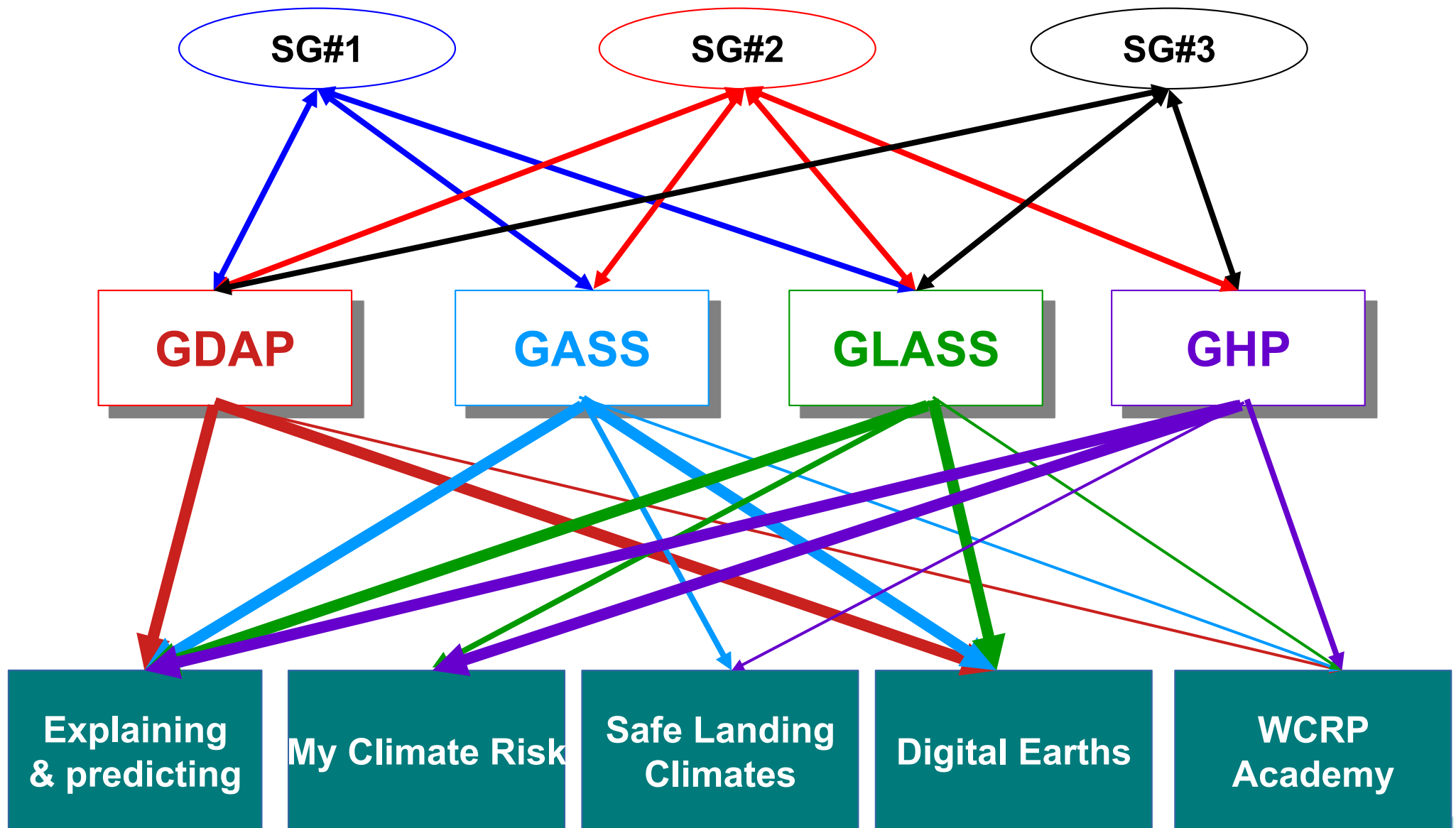
SG#3 : Quantify anthropogenic influences on the water cycle and our ability to understand and predict changes to Earth's water cycle.



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GEWEX's links to Lighthouse activities



Panel to LHAs arrows should become bidirectional over time !

Comments on new structures

- **Model-Data home** : Options 1 & 2 are the only workable in our mind. Option 2 will turn the new structure into an IPCC service. Option 1 would be more favourable to model-data integrations.
- **Regional home** : Information for regions to serve society's needs based on the climate knowledge built in WCRP. CORDEX will be the panel to link both new homes ... and other core projects.
- **Digital Earths** : this needs to be a broad and integrative effort. Over land it needs to involve other disciplines (also outside of WCRP) as the data/model integration needs to span many geophysical cycles. Regional configurations should be key milestones in this LHA.