WWRP SSC-13

Synthesis and Discussion of Streams 1-3

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WEATHER CLIMATE WATER
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Major Topics

Societal Challenges:

- HI-Weather
- Water
- Urbanization
- New technologies

Connections across WMO:

- strengthening existing linkages
- activities to forge new ties
- toward an earth-system perspective of weather

Evolution and Legacy:

- How do we build on successes, particularly data?
- Objective evaluation of projects?
- What does WWRP emphasize beyond 2023?

Internal structure and operation of WWRP

- Status and gaps
- Capacity and nimble augmentations of expertise
- Meetings and Finances

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Connections Across WMO:

Strengthening existing linkages:

- GEWEX and S2S (WCRP)
- Air quality and aerosols (GAW/GURME)
- Technical Commissions: GDPFS pilot and AvRDP Phase II
- W2W: prediction uncertainty

Activities to forge new ties:

- Technical Commissions: GDPFS pilot on tropical cyclones
- TEAMx (WWRP and GEWEX) – should link to COORDE

Toward an Earth-system perspective of weather:

- CoastPredict (HIW)
- Data assimilation for Earth-system model development (WCRP/GAW/WGNE)
- Integrated space-based observations for seamless nowcasting-forecasting, land-atmosphere coupling (GDPFS regional applications)
- S2S: Coupled data assimilation; coupled reanalysis (WCRP)
- PPP: ocean-cryosphere-atmosphere exchange; integration of observations and models (WCRP)

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Messages for WGNE

- **General appreciation that WGNE activities are valuable and have links throughout WWRP and the wider Research Board.**

- **Encouragement to continue to link to field campaigns.**

- **Consider strengthened links to DAOS e.g. around use of machine learning in DA, use of DA beyond initialization (for evaluation, etc.), etc..**

- **Systematic errors survey was very useful – needs extending to other components of the ESM.**

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Evolution and Legacy:

How do we build on successes?:

- Continuation of S2S and TIGGE databases: purpose, cost and coordination
- Where can we turn our expertise on best practices into action? Where do we add value?
- Creating path to operations for experimental observations: how?
- How can RB guide and support our future activities?

Objective Evaluation:

- PPP is doing this: should all of WWRP or all core projects?

WWRP beyond 2023: Earliest thoughts (we have to start at some point, why not now?)

- More-integrated Earth-system approach
- Build on RB Concept Notes' topics?
- Work with GAW/WCRP for future plans to address need for more synergy from RB
- Realize the S-GDPFS for innovations in regions: identify "success points": a small number of meaningful actions for real change and tech transfer
- Entrepreneurial approach and project focus: proposals to mobilize resources

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Internal Structure and Operation of WWRP:

Status and gaps:

- The WGs and CPs are generally seeking more connections: stretched thin?
- We have greatly increased SSC membership in key areas: do we need targeted augmentation in WGs? (Financial limitations)
- Observations, AI and NWP: improved (DAOS/PDEF/NMR meeting) and still challenging
- Co-design with social scientists and physical scientists: user-driven and convergent research
- Expertise in coupled modeling and prediction: how much do we need? (WGNE)

Increasing Capacity:

- Nimble augmentation of expertise
- Engaging early-career scientists more closely in projects
- Role of Secretariat in membership and assisting with funding opportunities?
- Role of Joint Projects, Endorsed Projects and FDP/RDPs to strengthen capacity?

Meetings and Finances:

- More continuous engagement is possible now: how does that change our work?
- Greater importance of mixed-format/hybrid meetings? Indefinitely?
- Impact of reduced budgets

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Thank you
Merci

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