

WGNE Conference call

24 April 2020
15 :00 – 16 :30 Geneva time

Minutes

Attendees : Carolyn Reynolds (Co-chair), Keith Williams (Co-chair), Ariane Frassoni, Caio Coelho, Charlotte DeMott, Elena Astakhova, FanglinYang, François Bouyssel, Francois Engelbrecht, Günther Zängl, Jian Sun, John McCormack, Julio Bacmeister, Marion Mittermaier, Michael Ek, Nils Wedi, Oscar Alves, Paola Salio ,Ron McTaggart-Cowan, Xubin Zeng, Michel Rixen

Apologies : Daniel Klocke

WGNE Co-chairs provided a brief introduction noting timing is somewhat unsocial for some members and appreciation to Asian colleagues for their attendance. The meeting agenda was approved.

1. Update on actions (Co-chairs)

Recommendation – Centres encouraged to submit surface weather scores to WMO-LC.

Action 1: Ariane, JWGFVR & GAW to consider verification of aerosol/air quality forecasts and propose a way forward. Ariane adopted a table provided by Australian colleagues through the JWGFVR on air quality/aerosol verification. She is arranging a teleconference with GAW colleagues to discuss verification metrics and the Aeorsol MIP protocol. Ariane suggests WGNE groups fill out the table to compile information about ongoing air quality/aerosol verification for future discussions with JWGFVR and GAW. Marion notes that JWGFVR will discuss this in an upcoming call in May and we will wait until after that for further action on this. Ongoing.

Action 2: Ariane to look into redefining period 2017-2019 for aerosol project (cf Amazonia)? Ariane proposed to extend hindcasts of S2S experiment, initially defined to 2003-2018 to 2003-2019 as well as shifting the period of 2016-2018 to 2017-2019 for the regional experiments, and the suggestion was approved. Done- Closed.

Action 3: Carolyn to develop a follow-up systematic errors survey in discussion with Daniel Klocke (GASS) & WGNE members. Will re-evaluate to potentially redirect towards coupled systems. Ongoing.

Action 4: co-chairs to provide names of WGNE members (or people in their centres) who could be involved with TC initialization review to DAOS. Nils suggests Linus Magnusson and Massimo Bonavita from ECMWF, but they may already be involved. Perhaps Masashi or the JMA person who does the intercomparison work? Could be Julian Hemming too, but co-chairs will check with JMA first. Ongoing.

Action 5: François and Carolyn to see if they can find someone to work on surface fluxes project. François to send email to WGNE members to see if it would be possible to include funding for the surface flux analysis in a Schmidt proposal 2nd phase. **Ongoing.**

Action 6: Keith to liaise with Mark Rodwell and Linus Magnusson about combining the initial tendency and initial condition proposals, taking into account WGNE feedback. **Keith has spoken to Mark and Linus. Linus' project is well advanced and we wouldn't want to delay by trying to combine the initial tendency approach. Mark also thinks they are somewhat different projects and there is little merit from combining. Done-closed.**

Action 7: Daniel Klocke, Michael Riemer and John Methven to consider upscaling proposal (**more for nowcasting and mesoscale modeling**) requirements for DYAMOND and how to interact with Stochastic physics project. **Closed.**

Action 8: Keith to send feedback on stochastic physics to Hannah Christensen. **Hannah now plans to use the DYMOND simulations. Done – Closed.**

Action 9: Julio to present longer timescale (day 5-30) bias evolution at WGNE-35. **Ongoing.**

Action 10: Masashi / Eunha to follow up with WMO TC programme to sustain effort and contributions. **Ongoing, will check with Masashi for an update.**

Action 12: Elena to consider renaming Blue Book to be broader than “Atmosphere and Ocean”. **The official title of the WGNE Blue Book was changed from Research Activities in Atmospheric and Oceanic Modelling to Research Activities in Earth System Modelling. The corresponding modifications were introduced to the WGNE site. The information about the new title was sent to all in the BlueBook maillist. Done – Closed. Elena may postpone deadline given COVID19 issues.**

Action 13: Try to get a member of JWGFVR to be on the Climate precipitation panel and vice versa. In the mean time exchange information as work progresses. **Ongoing.**

Action 14: Identify potential ocean equivalent of GASS/GLASS (perhaps COMMODORE Ocean?) and in other disciplines (hydrology, etc). **Nils reports that at the WCRP science meeting in Hamburg, January 2020, there were a lot of ocean modelling groups present, and willing to contribute and participate in setting up an 'ODCMIP' like exercise. Please see also (and contribute to) <https://sites.google.com/view/commodore-test-cases/home> (lead by INRIA, Laurent Debreu). We should find an ocean or other ex-officios from appropriate groups. Francois E. notes that scientists at the AGU ocean science meeting and CLIVAR ocean panel are very interested and willing to support WGNE's earthy system remit. We should try to get representation of CLIVAR ocean panel OMDP at WGNE in Boulder? We want both climate simulation and ocean modeling representation in WGNE and we may be able to find someone who can represent both. Mike Ek notes that GLASS represents more than terrestrial processes. SOLAS (surface ocean lower atmosphere group) might be another good group to work with. Hydrology modeling expertise ex-officio could come from GLASS. Ongoing.**

Action 15: WGNE Co-chairs to recommend extended scope of future WGNE around Earth System model development and to propose corresponding draft ToRs and Membership. **WGNE positional papers and WCRP modelling positional papers completed and circulated. Ongoing through RB discussions.**

Action 16: Mich to send WMO Cg18 Congress statement on Public Private Partnership to WGNE Members. **Done, circulated a week ago.**

Recommendation (old action 17): WGNE Members to promote accessibility to observational data sets. Should this be made a recommendation instead? Post links on WGNE web page (maybe not)? Paola can send specific campaign observation links. Should this be under another group? Or curate by processes, problems this could help? Just a very long list may not be particularly helpful. Perhaps just encourage individual centers to publicize their own data sets and encourage field project data be sent to GTS. ECMWF obs campaigns for better weather forecasts workshop presentations on line is an important existing resource on this topic. Ariane notes that the recommendation was in regards to data relevant for WGNE projects (e.g., surface flux project). Leave as a recommendation and call it done.

New Action: Ariane continues to work with CPTEC/INPE to host WGNE-36 meeting in 2021. There are uncertainties that have been introduced because of the COVID-19 crisis but they are still hoping they can host.

New Action: Co-chairs, Boulder reps, Mich: Revisit WGNE35 in Boulder in a few months to make a final decision. Some countries banning international travel many months out. NCAR closed to visitors until at least September. JWGFVR to decide soon on what to do with their planned workshop and tutorial in Brazil in November.

New Action: Members to forward the call for the CMIP Office in their network (<https://www.wcrp-climate.org/news/wcrp-news/1567-news-cmip-ipo>).

New action: co-chairs and Mich to touch base late June/early July on WGNE35 meeting and next conference call

Actions from WGNE-33

Action 15 – All members to alert their seasonal forecasting groups to S2S proposal for simulations with and without SPPT. Awaiting update on protocol. Some centers interested, others will not participate. Berner and Pegion have a pilot study approved in NCAR and NOAA models which can serve to guide a wider comparison. **Still ongoing and awaiting protocol. Carolyn will forward more information when it becomes available.**

Action 19 – Keith Williams and Mark Rodwell to draft protocol for initial tendency comparison. **Superseded by Action 6. Done.**

2. Summary of Hamburg meeting (Nils)

Nils provided a summary of the “WCRP High-level Science Questions and Flagship Workshop” held 24 — 26 February 2020 in Hamburg, Germany. He noted the five so-called ‘Lighthouse activities’ being the key outcome of the meeting which aim was to further refine the science foci related to the implementation of the new strategy:

- Explaining and predicting Earth system change (internal variability, forcing, S/N ratio, processes, home for traditional research, reanalysis, annual to decadal predictability, bio-geochemistry)
- Your climate risk (bringing climate knowledge closer to end-users, regional dimension)
- Safe landing climates (assessment of scenarios, long-term risk, connection to social sciences – eg migration)
- WCRP academy (learning, capacity building)
- Digital Earth (parallel to EU green deal – analogy to Digital Twin, better use of Earth Observations, connection between current realistic digital depiction of climate and its evolution to application domains such as hydrology, requires interaction, Q&A capability, dramatic acceleration needed – near real-time)

Mich noted that the report is available at <https://www.wcrp-climate.org/wcrp-hamburg/hamburg-report>. The WCRP community leaders have been invited to comment on the report (deadline 11 May). This will be discussed at the upcoming (on-line) JSC41 meeting week 18-22 May. Digital Earth is very relevant to WGNE. He noted the very and maybe too broad focus of the “Lighthouse 1”.

Julio wondered about the difference between the Digital Earth and an Earth System model. Nils explained that a Digital Earth would encompass not only Earth system models, but also EO, machine learning (in a way this could be some form of data assimilation). Analogy on gaming (discussed with NVIDIA).

3. Summary of Research Board meeting (Keith)

Keith provide a summary of the latest Research Board discussions, recalling the WMO Reform which restructured the previous 8 Technical Commission (TC) into 2 new ones (Infrastructure and Services), complemented by the Research Board (RB). The RB now encompasses the 3 research programmes (WWRP, GAW and WCRP), to which WGNE now reports.

The RB is developing a series of concept notes aiming to identify commonalities across the research programmes and optimal ways to interact with the TC:

- Earth system models (led by Andy Brown, most relevant to WGNE)
- Exascale and AI (led by Chiashi Muroi, also very relevant to WGNE)
- Advancing observations
- Science for Services – links to GDPFS
- Innovation in regions – and benefit to countries

Notes are in various stages of maturity, and most still require a lot of work. They will be circulated to WGNE members at some stage. An in-person RB meeting is planned in fall. WGNE move into Earth system modeling was appreciated by RB, as well and continued focus on systematic errors. He suggested an expansion on the survey to other Earth components. Regarding long time scale processes, he noted that e.g. interactive ice-sheets, carbon feedback etc could sit with WGCM, whilst WGNE would focus on the faster processes. Definition of Earth system still needs to be worked on.

Mich noted that data assimilation was part of the Earth system modeling concept note, recalling the discussions at WGNE34 where attendees expressed concerns about a too

broad remit for the future WGNE, now that it is already expanding into the Earth system model development. The current concept notes do not imply that those will result in some corresponding sub-structures. Keith clarified that the ESM document was meant to encapsulate all modeling elements, including data assimilation. There is current a suggestion to develop a group akin DAOS under the RB.

Oscar, referring to the planned expanded survey, recommended considering the coupling between components (e.g. ENSO. MJO) on top of addressing systematic errors within each of those components. Mike made a similar point regarding land-atmosphere coupling (convection, soil moisture, radiation, etc).

Nils asked whether verification would also expand similarly, e.g. into hydrology (cf IHP, JRC) as WGNE's role is also to recommend standards and goals models aim for. Marion noted the work at the UKMO in this direction (e.g. hydrology, ocean).

4. Preparation for JSC41 (Co-chairs)

Keith recalled that the JSC41 session will be entirely on-line during week 18-22 May 2020 because of COVID-19, which will make it practical for both co-chairs to attend remotely. He thanks Francois E. for offering to attend in person initially.

Michel noted that the JSC41 is still being finalized and will be circulated shortly. Time for presentations will be extremely limited, but probably only 2 slides being actually presented.

5. AOB (CMIP Office call, membership process, etc)

Mich noted that Co-chairs have forwarded a recommendation for WGNE memberships for JSC's consideration: 4 members are stepping down, 4 members being recommended for renewal and 4 new members being proposed. Decision will now be made in fall by the Research Board. Keith noted that this new process will greatly simplify co-chairs' life.

Mich noted the open call for a CMIP Project Office and invited WGNE members to advertise the call in their networks (<https://www.wcrp-climate.org/news/wcrp-news/1567-news-cmip-ipo>). He thanked Ron for joining the meeting in Montreal. Several offers are expected.

Xubin (GASS) emphasized again the need to adopt a broad Earth system approach around water and energy cycles.

It was agreed to decide around late June/early July about the next conference call and the meeting in Boulder.

Ariane provided some feedback from the WWRP High Impact Weather meeting which she attended with Ron.