

Notes on the GHP Panel Meeting within the TPE-GHP Workshop Kathmandu, Nepal, 17-19 October 2017

Joan Cuxart and Jason Evans, GHP Co-Chairs

The workshop has developed successfully, with some RHPs, CCs and the Data Centers reporting their activities in front of an audience composed by GHP panel members and IGPO, the TPE attendees and the participating Nepali scientists. The first session consisted in general introductory talks on TPE/Water Cycle and GEWEX/GHP activities. Scientific talks from TPE, GHP and Nepali scientists completed the program and allowed the participants to become aware of the activities of the different parties, facilitating the dialog and interaction between them.

The Panel meeting took place in three afternoon sessions, each lasting 1.5 hours, attended by the panel members (van Lipzig, Solman, Zaitchik, Li, Prudhomme), co-chair (Cuxart), IGPO director (van Oevelen), the RHP, CC and Data Center representatives (Reckermann/Baltic Earth, Lakatos/PannEx, DeBeer/CCRN/INARCH, Looser/GRDC, Forsythe/INTENSE) and Drs. Harding, Terao and Ailikun as invited participants, since they are proposing new potential activities in GHP. Absent co-chair Jason and panel member Ferguson sent their comments by e-mail.

The general functioning of GHP was revised. It is felt that the combination of RHPs and CCs is fine but would benefit of the following recommendations:

1. Increase networking activities in all RHP/CCs, as in OzEWEX and Baltic Earth.
2. Promote activities that attract young scientists and help them build up their careers, such as summer schools, specialized workshops made by the RHP/CCs open to all, or the edition of Special issues in scientific journals, assuring this way the generation renewal of GEWEX.
3. Ask the RHPs that are essentially networking such as OzEWEX to define more precisely how they address the GEWEX Science Questions, reporting first and foremost on the progress made in scientific advancement with respect to their own science plan.
4. Reflect on how to promote passage from "initiating" to "fully working" status, analyzing if an RHP is contributing significantly to GHP/GEWEX (see the published criteria) and also what the way would be to terminate an RHP if not successful.
5. Ask the RHPs to detail more precisely the regional aspects of their activities.
6. Allow the Crosscut actions to continue after their third year if their activities are successfully running, and if the third year report asks for it and details a plan of continuation activities.

Other suggested actions, more transversal, are below with the names of responsible parties.

Action Items

- Consider organizing events taking together RHPs, perhaps organized thematically by one RHP, as long as these activities can be funded by the RHPs themselves, due to the current shortage of GEWEX funds. The first opportunity to discuss about this may be the RHP session at the GEWEX Science Conference in Canmore next May. Baltic Earth could contribute significantly initially (IGPO, GHP co-chairs, M. Reckermann).
- Explore further funding possibilities, in particular from the Chinese part. It is suggested to contact Professor Wu, through Panel member Dr. Li (IGPO).
- Increase collaboration with CORDEX in particular with respect to RHPs (S. Solman).
- Put GHP activities in relation to the UN Sustainable Development Goals (All)
- Promote activities that result in peer reviewed publications, and promote them through RHP or GEWEX websites (All).
- Have each RHP showcase extreme events that can help show relevance and increase funding opportunities; make this part of reporting (IGPO specific request and make part of annual reporting).

- Have the RHP reporting template include the progress on the RHP's own science objectives and on networking activities. ACTION: IGPO update template, keeping it concise.

The conclusions of the present meeting will be presented for approval to the SSG at its 30th meeting in early 2018. It is still to be decided if the next GHP meeting will take place at Canmore (Canada) next May, or next fall in a place to be determined.

RHPs have reported their activities to the Panel. There are two fully working RHPs. *CCRN* is near the end and reports satisfactorily. It will be followed by a similar initiative developing further their current approach and covering a larger area, called Water Futures, that will probably apply for RHP status in the next GHP meeting. *HyMeX* enters its final third part with very mature activities and proposing some spin-off activities related to semi-arid terrain, atmospheric electricity and intermediate water formation for the next years. The Panel indicates that these two RHPs may teach a lot to new RHP initiatives.

Initiating RHPs are Baltic Earth, OzEWEX and HyVic. *Baltic Earth* is active and running smoothly. The Panel appreciates that the initiative has a central place describing the data and indicates the contact persons, promoting datasharing. It applied for the status of fully working RHP, which is accorded by the Panel, and will start after formal approval by the SSG. *OzEWEX* has completed 2.5 years of the initiating status, the networking activities are excellent, but the plan and progress to address its Science Questions is not clearly stated (map main objectives, define activities and focus). The Panel proposes to extend the initiating status until next meeting. Better progress and reporting on the Science Questions are expected then to evaluate if passage to full working RHP is possible or a re-evaluation of the RHP status should be made.

Regarding *HyVic*, the Panel finds the report to be incomplete. It considers that the funded related activities HYCRISTAL and WISER are very positive steps and that their achievements should be included in the report, since they contribute to the RHP objectives. It is recommended to also connect CORDEX-related activities that the Panel is aware of. Besides, the RHP chair informs in the report that new scientific activities are starting in the region surrounding Lake Victoria, and he suggests to expand the region of interest of the RHP in consequence. It is advised that the governance structure of the RHP is updated according to these lines, incorporating representatives of the funded actions in the region. Revised science and implementation plans according to the new structure and geographical domain should be undertaken. Discussion following these lines is expected to take place during the next 2018 GHP meeting, likely indicating the way to a new RHP proposition during 2019.

The only prospective RHP is *PannEx*, on the Climate System in the Pannonian Basin. The chair, Monika Lakatos, has presented the final version of the white book, consisting in 5 Flagship Questions and 3 Crosscut Actions, the first version of the Science and Implementation Plans, that includes a 10-year calendar of actions, a well defined governance body and a funding search strategy. They ask to be given initiating status, agreed by the Panel, pending a final decision by SSG early 2018.

Panel member Silvina Solman reports on a tentative RHP for the Andes region, with provisional acronym *AndEx*, lead by Dr. Germán Poveda. A meeting between some scientists of the Andean region and some GEWEX representatives will be held in Medellin (Colombia) in early December. The basic science and societal challenges for the region fit well with the WRCP Grand Challenges, and the GEWEX Science Questions will be discussed and a white paper will be drafted.

Establishing more formal links between TPE and GEWEX has been explored. Finally Dr. Ailikun, Director of the International Programme Office of TPE and co-organizer of the meeting, in

cooperation with Panel member Xin Li, proposes that a Crosscutting action within GHP is established, with provisional title "**TPE Water Security**" and three work lines: High resolution climate modeling, land atmosphere processes and watershed hydrology. This will be subject to debate within the TPE community. There has been also a proposition of a *post-MAHASRI* activity on the Asian monsoon by Dr. Terao, for which the Panel asks for a more detailed plan and a wider proposing team, sepecially at the international level.

There are 3 active Crosscut actions. Dr. Forsythe reports for Dr. Fowler on the advances of **INTENSE** on sub-daily precipitation, which are considered very satisfactory by the Panel. The action is planned to finish by 2019 and the continuation of its activities would be considered very valuable for the community. The report by Dr. De Beer on **INARCH** on mountain hydrology for Dr. Pomeroy is also very satisfactory and the continuation of its activities is endorsed by the Panel. The Cold Shoulder Season **Precipitation Near 0°C** reports positive work although Dr. Groisman could not attend the meeting due to lack of funding. This CC has been active for 3 years and should report on its willingness to continue active or proceed to deliver a final report.

The intended Crosscut **Water Management in Models**, introduced by Dr. Harding, has been extremely well perceived by the Panel and the rest of the audience. The Panel agrees on the very high potential of the action, but asks for more concrete further steps, defining the actions proposed and the scientists involved in them. Other CCs may be proposed, but they have not been formally presented in the meeting.

Finally the three Data Centers have sent their reports. Dr. Looser, in charge of the Global Runoff Data Centre (**GRDC**), has shown the progress of the databases, including **HYDROLARE** on lakes and reservoirs, and **GPCC** on precipitation data, which is now working with daily data.

The restricted meeting ends by discussing the Panel composition, which will have to be completed since there are at least two vacancies, Dr. Jan Polcher, who left at the end of 2016, and Dr. Benjamin Zaitchik, whose term ends at the end of this year and cannot be renewed for personal reasons. The current status of the Panel is:

Co-chairs: Jason Evans (ending second term 2020), Joan Cuxart (ending first term 2020)
Panel Members: Nicole Van Lipzig (ending second term 2019), Silvina Solman (ending second term 2019), Craig Ferguson (ending first term 2017), Christel Prudhomme (ending first term 2017), Benjamin Zaitchik (ending first term 2017), Xin Li (ending first term 2018), Sylvester Danour (ending first term 2018).