

## 2019 GEWEX Hydroclimatology Panel (GHP) meeting

*Sydney October 11-12, 2019*

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The GHP meeting and the Determining Evapotranspiration (ET) workshop were held in the Climate Change Research Center (CCRC) of the University of New South Wales and was hosted by Jason Evans.

During the GHP meeting we welcomed four new members: Vidya Samadi of the University of South Carolina, Li Jia from the Lab of EO-Water RAD1 of the Chinese Academy of Sciences, Ali Nazemi of Concordia University and Andreas Prein of NCAR. Two other new Panel members could not be present in the meeting, Ivana Stiperski (University of Innsbruck) and Paola Arias (Universidad de Antioquia). After this meeting Jason Evans stepped down as co-chair of GHP after seven years of excellent leadership. Francina Dominguez has been appointed as the new co-chair of GHP. Silvina Solman has ended her service as Panel member after her second three-year term.

The GHP meeting has revised the status of the ongoing activities:

### Current Regional Hydroclimate Projects (RHP) and Cross Cut projects (CC)

After 10 years, the **HyMex RHP**, focusing on the Mediterranean Basin, will end in 2020. There are still ongoing activities on convective precipitation in Corsica and on deep water formation in the Eastern Mediterranean. The last experimental campaign will be LIAISE (Land Surface Atmosphere Interactions over the Iberian Semi-Arid Environment), with special interest on the effects of irrigation and terrain heterogeneity, from April to October 2020. The possibility of HyMeX transitioning to a GHP network was discussed.

**Baltic Earth RHP**, focusing on Earth System Science for the Baltic Sea Region, proceeds with its current main research lines, which include water oxygenation in coastal areas, marine ecosystems and climate variability and projections. Nine BEAR (Baltic Earth Assessment Reports) are being produced and there are a large number of activities planned for the coming years.

Lessons learned from both **HyMex** and **Baltic Earth** is that the model of small groups obtaining their own funds and coalescing is a durable and flexible model.

**PannEx RHP** is an Initiating RHP centered in the Pannonian Basin in Europe. The 5th workshop was held in Novi Sad in Serbia last June, and the progress of the different Task Teams is revised. A call from the European Space Agency (ESA) related to drought in the Pannonia Basin was awarded to the DryPan proposal. The PannEx chair will invite the DryPan team to report on their activities in the 6th PannEx workshop, planned for June 2020. A number of bilateral initiatives are in progress, and some papers are being published.

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The **INARCH CC**, focusing on understanding hydrological processes in alpine cold regions, has been very active. The 5th INARCH workshop is planned for Spring 2020. The initiative has a relevant role in the new WMO initiative "High Mountain Summit". There are clear links with *ANDEX*, *TPE*, the proposed CC *TEAMx* and in a later stadium to perhaps a *Western US RHP* if it comes to reality. The INARCH CC will end in 2020 and there are currently reflections on how to proceed with its legacy.

**INTENSE CC**, focusing on subdaily precipitation, has been very active in data acquisition, analysis and publishing manuscripts. The data has also been added to the Global Precipitation Climatology Center (GPCC) global repository. This activity will end in 2020.

The **Near OoC precipitation CC** is now ending its activities, with the generation of a data base with records and related climate analysis coming from different regions, especially in the Northern Hemisphere. Numerical simulations with special focus on microphysics and analysis of CMIP projections have also been performed.

## Data Centers

Steady and significant progress was reported by the **Global Precipitation Climatology Centre (GPCC)** related to precipitation data. The center provides precipitation climatology, monthly data from 1891-2018, daily data from 1982-2018 and a monitoring product. The **Global Runoff Data Centre (GRDC)**, focuses on acquisition, harmonization and storage of global historical river discharge data. With increasing data requests and new projects such as Global Freshwater Fluxes, this data center is very active. Finally, **HYDROLARE** continues gathering information on the water level of lakes and reservoirs worldwide.

## Prospective RHPs and CCs

There are currently five activities exploring the possibility of becoming a new GHP action:

**ANDEX RHP**, focusing on the Andes Mountains of South America, is in the process of amalgamating the community and obtaining international support. After the initial meeting at the end of 2017, the first workshop in October 2018 and writing workshop in April 2019, their plan is to have the first draft of the white book by the end of 2019, and then begin writing the implementation plan. They will apply for formal RHP status in 2020.

**TPE-WS** is a RHP initiative intending to explore the water sustainability in the Third Pole Environment. The team is working on the science plan, and different sub- groups have been established. They will have a proposal ready by November/ December of 2019.

**AsiaPEX RHP**, focusing on understanding Asian land precipitation, will apply for RHP status shortly. Many in-person meetings and their Kick-off Conference in Sapporo, Japan in September 2019 have been successful. They are planning a 2020 field campaign. They will have a proposal ready by November/December of 2019.

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**TEAMx CC** has applied for a Cross-Cut status. This CC focuses on multi-scale transport and exchange in the atmosphere over mountains. The team is organized and active, with a MoU, review papers and a workshop, with the goal for an intensive field campaign in 2023 focusing on the European Alps. Through links with other international groups, the idea will be to broaden the geographical scope in the future. The Panel has accepted TEAMx as a new GHP Cross-Cut project.

**Determining ET CC** is an activity focusing on advancing the understanding and determination of Evapotranspiration. Thirty-five participants from all around the world came together for a 2.5-day workshop held just before the GHP meeting. Several areas of interest have been established and a new meeting is planned in one year. The group will consider organizing as a GEWEX Cross-Cut, or alternatively a PROcess Evaluation Study (PROES), and this will be further reflected on during the coming months.