

2018 GHP Meeting within the ANDEX-GHP-INARCH Workshop

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The 2018 GEWEX Hydroclimatology Panel (GHP) Meeting, held from 24–26 October in Santiago, Chile, was organized by René Garreaud with the local support of the Center for Climate and Resilience Research and the Faculty of Physical and Mathematical Sciences at the Universidad de Chile. GHP panel members and action representatives discussed the current status of the three GHP components: Regional Hydroclimate Projects (RHPs), Crosscut actions (CCs), and Data Centers (DCs). Scientists from across South America also gathered to discuss future directions of regional research that could be unified under ANDEX, a new hydroclimate research program for the Andes led by Germán Poveda and René Garreaud. IN-ARCH presented its recent activities in alpine research catchments, clearly showing synergies with work being proposed in ANDEX. The workshop was an excellent opportunity to tighten the links between GHP, INARCH, and ANDEX.

During the meeting, the status of some ongoing activities was reviewed. Two current RHPs, the Hydrological cycle in the Mediterranean Experiment (HyMeX) and Baltic Earth, respectively studying the Mediterranean Basin and the Baltic Sea region, are progressing steadily and generating new actions for the coming years. The Changing Cold Regions Network (CCRN) has completed its run as a successful RHP, providing a solid basis for the new Global Water Futures (GWF) initiative. GWF expands the scope of CCRN to cover seven major river basins in Canada and the USA, and has been granted RHP status. PannEx, the Initiating RHP centered in the Pannonian Basin in Europe, continues to develop in the preliminary phase after finalizing its white book and science and implementation plans. Two other Initiating RHPs, the Australian Energy and Water Exchanges program (OzEWEX) in Australia and the Hydrology of Lake Victoria Basin project (HyVic) in Eastern Africa, have stalled in their progress towards full RHP status. Those involved in the projects are commended on their efforts to date, and it is hoped that they can continue in some fashion into the future. The running Crosscut projects—the International Network for Alpine Catchment Hydrology (INARCH) on mountain hydrology, the Intelligent use of climate models for adaptation to non-Stationary hydrological Extremes (INTENSE) on sub-daily precipitation, and Precipitation Near 0°C in a changing climate—report very significant advances. The current actions in global Data Centers are described for the Global Runoff Data Centre (GRDC) on river discharge data and the Global Precipitation Climatology Centre (GPCC) on precipitation data.

New initiatives are also being proposed. The Third Pole Environment (TPE), a research program focused on water, ice, air, ecology, and human processes and their interactions in the Third Pole region, may organize a joint action with GEWEX on *Water Security in the Third Pole*. This proposal may see this TPE initiative become an RHP in due course. A study of the hydroclimate of the Andean region, *ANDEX*, may take the form of an RHP in the near future. Another initiative being led from Japan is focused on the hydroclimate of monsoon regions of south and southeast Asia. The WCRP “Water for the Food Baskets of the World” Grand Challenge includes a focus over the great plains of the USA with a proposed regional climate experiment at convection permitting resolution to examine the role of agriculture in the region’s climate. This effort may also form part of a prospective RHP over the *Western USA* which continues to be discussed. The intention for this initiative is to develop into a RHP in the next year. A Crosscut on *Water Management in Models* will explore how to deal with anthropic action in numerical models and is being pursued jointly with GLASS, the GEWEX Panel on the Global Land/Atmosphere System Study. Another on *Determining Evapotranspiration* is in the early discussion stages with a workshop likely to be held in a year’s time. Other actions are being explored, but are not yet to the point of being proposed formally to the Panel.

While existing RHPs produce consistent science advances, and a number of “prospective” RHPs continue to progress toward formal RHP status, it is recognized that not all initiatives will reach full RHP status despite being successful in collaboration and capacity building activities relevant to GEWEX. It is also recognized that upon completion, RHPs often have a great network of scientists that may continue collaboration and capacity building activities, such as workshops and summer schools. In order to keep these scientific communities engaged with GEWEX, a new GHP activity, GHP Networks, is being proposed. These Networks are required to maintain collaboration and capacity building activities relevant to GEWEX science, and are offered the opportunity to be directly involved in Crosscut projects and other GEWEX initiatives.

The conclusions of the meeting will be presented for approval to the GEWEX Scientific Steering Group at its 31st meeting in early 2019.



Participants of the 2018 GEWEX Hydroclimatology Panel Meeting