Report on GHP
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2016 GEWEX SSG meeting

Zurich, Switzerland

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1 Overview

- Successful and lively panel
- The successful initialization and running of various cross-cut projects is a unique contribution to GEWEX
- It is regrettable that co-chair J. Polcher is stepping down given substantial progress achieved. Continued interactions with possible new activities within WGRC would be useful for GHP.

2 The objectives

- The GHP aims to understand and predict continental to local-scale hydroclimates for hydrologic applications.
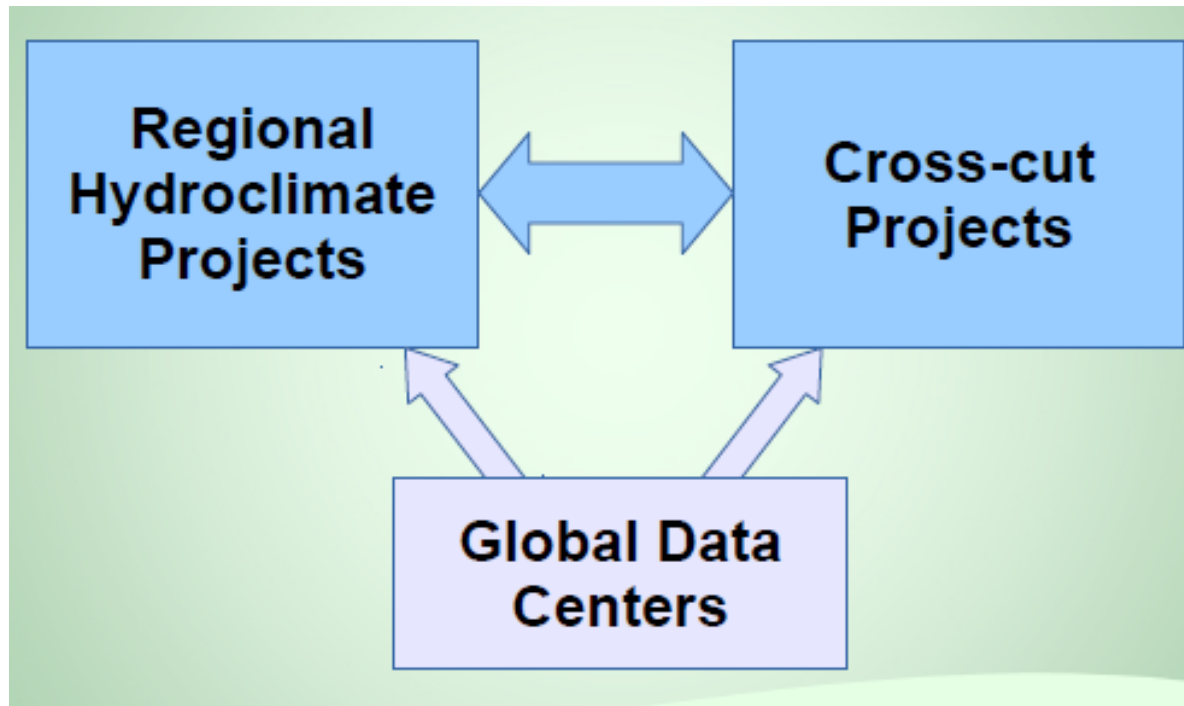
3 Status

- RHPs
  - NEESSPI (recently closed)
  - CCRN
  - MAHASRI (closing)
  - HyMex (full maturity)
- Cross-cut project
  - INTENSE (Sub-daily precipitation): Question, how will the data be made available after the project ends?
  - Cold/Shoulder Season Precipitation Near 0°C, a bit inactive
  - INARCH, very active

4 Future

- RHPs
  - OzEWEX
  - HyVic
  - Proposed: BalticEarth, RELAMPAGO. Need more communication, white paper?
  - Pannex, well featured, fits very well, science relevant to GEWEX, international committee nominated; more interactions with GLASS and GDAP for that region should be further explored
- Proposed CCs
  - MOUNTerrain
  - Water management in large scale models
    - Strong endorsement from SSG: Important topic across GEWEX!
  - Seasonal hydrological prediction
  - GDAP integrated product regional evaluation.

5 Key results

- Sub-daily precipitation database (INTENSE)

- High-resolution rainfall simulation over complex terrain (MAHASRI and CCRN)

- An unprecedented cross-analysis of measurements from various platforms (Lightning, radar, aircraft, LiDAR, GPS) (HyMex)

- Meso-scale data assimilation within cloudy and precipitating systems at convective scale (HyMex)

- Trend in extreme precipitation (INTENSE), trends in consecutive dry days (HyMex)

- Hydrological change and the role of human (from natural to artificial (CCRN, HyMex).

6 Issues (1/2)

- What does GEWEX gain from regional projects?
  - From regional information into information for regions
  - Local knowledge to global scale
  - Distilling information to decision makers
  - Data availability? -> Can some of the collected data flow back in the GEWEX-related data activities (e.g. INTENSE, Extreme GC – Theme Document)
  - Potential for more intense GEWEX interactions in those RHPs (e.g. GLASS modeling in PANNEX? Encourage mobile ARM site to be installed in PANNEX, would provide stronger interface to GDAP)

6 Issues (2/2)

- Increase of GHP activities in some areas, e.g., new GHP project in Asia?
- Overlaps between cross-cutting project
- Urgency for monitoring mountainous areas
  - Database of precipitation in mountainous area?
  - more synergies between different GEWEX panels, e.g., Joint GHP-GDAP effort in database?
- Coordination with precipitation people, cooperation with HePEX and other projects...

GEWEX SSG 2017 in Sanya, China