

Recent progress in understanding the hydro-climate system of the Andes: Physical processes and resources for Andean populations

Chat, Tuesday, 05 May, 14h – 15h45

14h. Introduction: Jhan Carlo Espinoza, Wouter Buytaert, Katja Trachte and Germán Poveda

Sub-session 1: Climatology and atmospheric sciences

Chair: K. Trachte and JC. Espinoza.

14:05 Block 1

1. **(Invited) The GEWEX High Mountain Activities and Its Relevance to the Andean Region - Peter van Oevelen**

14:10 Block 2

2. **Environmental change effects on canopy water fluxes of a tropical mountain rain forest in the Andes of Ecuador - Jörg Böndix**
3. **Observed local drivers of rainfall variability and changes in the Rio Santa Basin, Tropical Andes of Peru - Cornelia Klein^(ECS)**
4. **Laboratory of Atmospheric Microphysics and Radiation (LAMAR): a set of sensors for the study of extreme meteorological events in the Central Andes of Peru - Daniel Martínez**

14:20 Block 3

5. **Atmospheric physics and microphysics research project in the Central Peruvian Andes. A multilateral approach - Yamina Silva**
6. **Spatio-temporal temperature and precipitation patterns in the southern Peruvian Andes - insights from the Climandes project - Christoph Spirig**
7. **Long-term variability of central Andes precipitation in the IPSL- CM6A-LR model: origin and causes - Julián Villamayor^(ECS)**

14:30 Block 4

8. **The annual and diurnal cycles of precipitation over an Equatorial Andean valley and its transition to the Amazon Basin: A case at the Antizana region – Jean Carlos Ruiz**
9. **Precipitation diurnal cycle and associated valley wind circulations over an Andean glacier region (Antizana, Ecuador) – Clémentine Junquas**

- 10. The coastal El Niño-Event of 2017 in Ecuador and Peru - a weather Radar analysis - Rütger Rollenbeck**
- 11. Agro-climatic observations in Huaraz, Peru – first insights from water, energy and carbon dioxide flux measurements - Lorenz Hänen**

14:40 Block 5

- 12. Climate change impacts on biomes and aridity in Peru - Jose Augusto Zevallos Ruiz**
- 13. Atmospheric mechanisms controlling extreme winter precipitation in the Altiplano - Hans Segura**
- 14. High Resolution WRF Regional Climate Modeling for the Andes- Amazon Transition Region: Model Validation Early Results - Juan Pablo Sierra**
- 15. Characterising extreme rainfall over mountain regions with a network of tipping bucket rain gauges and GPM satellite data - Wouter Buytaert**

14:50 Block 6

- 16. Paleoclimatic reconstruction during the Little Ice Age in the Llanganuco basin, Cordillera Blanca (Peru) - Joshua Iparraguirre Ayala**
- 17. Past climate and environmental changes in the Central Andes of NW Argentina recorded in Laguna Comedero sediments - Paula Vignoni**

Sub-session 2: Hydrology and water resources

Chair: G. Poveda and W. Buytaert.

14:55 Block 7

- 18. Functionning of the Katari-Lago Menor Basin aquifer, Lake Titicaca- Bolivia, inferred from geophysical, hydrogeological and geochemical data - Céline Duwig**
- 19. Monthly semi-distributed hydrological model at national scale in Peru - Harold Llaucha^(ECS)**
- 20. High Andean Wetlands, climate change and ecosystem services – What do we know? - Marco Otto^(ECS)**
- 21. Future water supply and demand in the Peruvian Andes: assessment and implications - Andrew J. Wade**

15:10 Block 8

- 22. Implementation of a flood forecasting system in a transboundary river basin, Peru – Ecuador - Karen León**
- 23. Spatio-temporal variability of droughts in Peruvian Andes and associated risks related to ENSO – Fiorella Vega**
- 24. Integrating Climate and Socio-Economic Scenarios in a Hydrological Model for the Santa River Basin, Peru - Claudia Teutsch**
- 25. A relationship between repiquetes, rainfall and circulation low-level wind regimes over the Andean-Amazon river basin – Manuel Figueroa**

15:20 Block 9

- 26. ANDES: The first system for flash flood monitoring and forecasting in Peru – Waldo Lavado**
- 27. The vulnerability of water availability in Peru due to climate change: A probabilistic Budyko analysis – Adrian Huerta**
- 28. Snow-Hydrological modeling using remote sensing data in Vilcanota basin, Peru - Eber Risco**
- 29. Present and future water security under socioeconomic and climate changes in the Vilcanota-Urubamba basin - Andres Goyburo**

15:30 Block 10

- 30. RAHU Project: Assessing water security and climate change adaptation strategies in the glaciated Vilcanota-Urubamba river basin – Pedro Rau**
- 31. Exploring nature-based adaptation options for improved water security in the deglaciating Andes of Peru - Fabian Drenkhan**
- 32. Investigating the interactions between Forest Cover Change and Hydroclimatic patterns in the Bolivian Amazon basin over the last 30 years – Sly Wongchuig-Correa**

15:40 General discussion and conclusions