

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 Bendix**
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 Martinez**

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 Hänchen**

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 Iparraquirre 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. *Functioning 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 Llauca^(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