

Poster.7: . **Effects of climate change on drought events on the Salar de Atacama**

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Abstract

Andean wetlands support a unique biological diversity with a high level of endemism. The Salar de Atacama (SA) is in an arid zone of Chile, where surface water and rainfall are scarce, considering the climate projections for the region, it is necessary to generate climate information at a local scale.

Projections of minimum (Tn), maximum temperature (Tx) and precipitation (pp) were made through statistical downscaling using 13 GCM under the RCP4.5 and RCP8.5 scenarios for the medium future (2046 - 2065), whose results were used to estimate potential evapotranspiration (PET) using Hargreaves and Samani equation. Standardized Precipitation Index (SPI) was estimated to analyze drought events.

Results indicate increases of Tn and Tx of up to 4°C (6°C) for the mean future according to RCP4.5 (RCP8.5) with respect to the historical period (1980 - 2005), in turn, the Tx presented increases of up to 2°C for both scenarios. The pp projections indicated increases in the Altiplano zone and decreases for the rest of the area exceeding 80% towards the coast.

The models used project increases in the ETP for the Peine, Linzor, Chiu-Chiu and El Loa Calama Ad stations. close to the SA, in addition to increases in the intensity of drought events with respect to the observed period (1980 - 2020) according to SPI-6 and SPI-12.

Considering drought estimates for the future, it is important to integrate future changes in land use planning, water management and adaptation plans.