

## Abstract Details

**Session title:** C08/C13a - Tropical Glaciers: History, Mass Changes, Climate Forcing and Impacts

**Session type:** IACS (Cryosphere)

**Symposium:** C08/C13

**Presentation number:** IUGG19-4455

### ★ Abstract title:

Deglaciation in the semi-arid Andes of Chile (32°-33° S) – results from geochronology and geomorphological mapping

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Reconstructing the evolution of the glacial landscape of the semi-arid Andes (32°-33° S) during phases of Holocene deglaciation is key to understand the responses of the cryosphere during warmer periods such as the current one. Despite having geomorphological records with good degrees of preservation, few studies have addressed the changes of the Andes during the glacial-paraglacial transition.

In this presentation, we investigate and compare geomorphological mappings of three glacial sub-basins of the Central Andes of Chile: Juncal Norte (32° S, glacier terminus at ~3000 m asl.), Loma Larga (33° S, terminus at ~3000 m asl.), and Nieves Negras (33° S, terminus at ~3000 m asl.). The ablation zones of Loma Larga and Nieves Negras glaciers have an extensive mantle of debris, which suggests a process of ablation *in situ* rather than retreat of the glacier tongue. Both glaciers show a morphology of internal collapse in their debris-covered section. On the other hand, Juncal Norte glacier has lateral moraines with ice cores, where the differential ablation has triggered backwasting and downwasting processes. The presence of ice-cored lateral moraines indicates greater activity of processes in the lateral sections.

For the first time in this part of the Andes, we used <sup>36</sup>Cl terrestrial cosmogenic nuclides (TCN) for dating deglaciation geomorphology. We present first results and assess the potential of this terrestrial cosmogenic nuclide for future glacial geomorphologic applications in the area. We complement our <sup>36</sup>Cl data with <sup>14</sup>C ages that suggest that glaciers advanced before ~2500 and then before ~850/1000 years BP.