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Tectonic episodic behavior in the Andes of Neuquen (37º-39ºS)

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The Andes located in the central Neuquén (38º-39ºS), which belong to the Southern Central Andes (35º-39ºS), have recorded a similar chronology of uplift than the neighbor Northern Patagonian Andes (39º-46ºS). Both areas have been formed trough successive phases of contraction in the Late Cretaceous, Middle Eocene and Late Miocene respectively. However, the Neuquén Andes have experienced two discrete phases of orogenic relaxation, during the Late Oligocene and Pliocene-Quaternary, which make then distinctive respect to the area located to the south. Field studies have shown new evidences of an episodic behavior of the fold and thrust belt in Neuquen, corresponding to compressive phases followed by stages of crustal collapse, at least since the Middle Cretaceous. The study of two main morphostructural units in the arc and retroarc area at 37º-39ºS, the Alto de Copahue Pino Hachado, and its continuation to the north in the Chilean Andes (Laguna de la Laja), and the Loncopué trough respectively exemplify this particular behavior. Structurals and a stratigraphics studies in those areas have given a new evolutionary framework for the Neuquén Andes.