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End moraine systems in the context of catastrophic and gradual processes in the Central Andes (33°-34°S)

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End moraine systems may serve as important paleoclimatic indicator in Quaternary Research. However, in the Central Andes many large-scaled debris accumulations considered as moraines previously have been reinterpreted as products of landslides and vice versa. The differentiation of glacial accumulations, which are more or less built up gradually, and landslides, caused by catastrophic process regimes, has been a major issue of controversy in many high mountain environments world-wide. Both process types may be highly interconnected as landslides also contribute significantly to the supply of surface moraine material, especially when considering avalanche fed glaciers. Run out-distances of complex rock avalanches may exceed more than 20 km and they may in turn superimpose older glacial deposits. Moreover the former Pleistocene and Postglacial glaciation reinforces the landslide dynamic (paraglacial processes).
The paper will present some paradigmatic types of end moraine complexes in relation to the glacier type, the topographical setting, the debris transfer system and the prehistorical landscape setting. Case examples will be provided from the Aconcagua South Side (Rio los Horcones, Rio las Cuevas, Rio Mendoza / Argentina), from the Aconcagua Valley (Chile) and from the Rio Maipo (Andes of Santiago, Chile).