**Extensive Mass-Wasting on Active Folds of the Caspian Sea: Geomorphology and Failure Mechanisms**

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The Absheron Suite is a Pleistocene, clastic unit deposited during the subsidence of the South Caspian Basin: successions up to 1500 m thick were rapidly deposited during incipient subduction of the rigid, oceanic basement. Deposition was contemporaneous with fold growth in the detached sedimentary cover.

The project examines the growth strata of these folds using high quality 3D seismic data from two large anticlines offshore Azerbaijan: Shah Deniz and the ACG-structure.

Growth stratal wedges onlap onto the folds' flanks and have been internally deformed since the Pleistocene by 18 mass transport complexes (MTCs). The slope failures are large, with surface areas of over 30km2 each.

Surface mapping, coherency and amplitude extractions have been used to visualise these features. We present seismic geomorphology not normally imaged in MTCs: 1)Mounded structures and sheet-like ramps are preserved on the detachment. 2)Detachments ramp up and down stratigraphy, sometimes even far down into the detachments of older, underlying failures.
3)Excellent examples of internal flow fabric and stopping structures remain preserved and are visible in seismic data.

Failures commonly emanate from faults associated with local mud volcanoes. Mapped transport direction indicators show some MTC's traveling down the fold flanks along a detachment surface in a direction 90° away from the fold axis. Many events however, show a transport direction parallel to the fold hinge. MTCs displaying the latter transport directions are interpreted as being driven by the progradation of large clinoforms from the shelf edge over the structures. The clinoforms have outpaced fold uplift and dip parallel to the fold hinge.

A triggering mechanism for the mass wasting events is not fully constrained. Many common slide triggers (gas hydrates, sea level fluctuations, earthquakes) are potentially present in the South Caspian Basin. The slides are often spatially correlated with pre-existing faults. Detachment surfaces of the MTCs are observed to be lithologically controlled and are confined to shale horizons.

As evidence for gas hydrate disassociation is limited, we prefer a priming mechanism involving overpressure build up along preferential layers during rapid burial with a triggering event that either involves seismic shaking or lake level fluctuation.