

Caspian Sea geohazard areas (Russian sector)

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High-resolution seismic data shows distinct zonation of North and Middle Caspian sea (Russian sector). In the north are situated shelf plains with plenty of gas-saturated layers and numerous paleochannels, which are geohazards that affects exploration constructions. Southward, the shelf break and slope form Mangyshlag Threshold with paleodelta complexes, creep and great fan system with big channels. On channel levees there are several fields of modern sediment waves. These geomorphologic forms are evidences of solifluction and active hydrodynamics (both bottom-currents and turbidity flows in channels), which are hazardous for pipelines. Western slope of the Central Basin has undulating relief; the whole sequence has a form of wedge and is situated between the shelf break and the steep step down to abyssal plain. Recent research has shown that the wedge is a long-living (700kyr) field of sediment waves with 4 generations of waves, interbedded with deep marine sediments (parallel or transparent acoustic pattern). Modeling of plastic deformation shows that wedge of sediment waves is stable, nevertheless the slope has second "break" with steeper angle ($2-3^{\circ}$ vs 1.5°), where occurs modern micro-slumping activity. All these distinct zones of different geological environments are connected with different geohazards. As a result, the map of geohazards has been obtained.

