# Absheron Allochthon: Evidence for South Caspian Seafloor Deformation in Response to Climatically Driven Hydrate Dissociation

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Quaternary submarine slumps have been studied worldwide due to their proposed relationship with the dissociation of gas hydrates and subsequent climate impacts. Massive dissociation of gas hydrates would likely occur when sea level is at a minimum, causing pressure on the hydrate reservoir within submarine sediments to also be at a minimum. The Khvalyn transgression in the Caspian Sea (top right) represents a ~100 m rise in sea level, which would create conditions favorable for the expansion of the gas hydrate reservoir by increasing the area which falls into the P/T conditions required for gas hydrates to form. The Yenotavian regression immediately following the Khvalyn transgression represents a ~100 m drop in sea level, which would potentially destabilize a large portion of the gas hydrate reservoir. Although the exact age is still debated, this major fluctuation in sea level is thought to have occurred at 70 – 15 ka. The calculated emplacement time for the AA of 35 – 42 ka falls within this age range for the Yenotavian regression, suggesting that the AA (bottom right) could have been caused by the dissociation of gas hydrates. Furthermore, if the AA can be correlated to interpreted submarine slides and slumps reported by Abdullayev (2000), then the AA could represent a component of one of the largest submarine slump complexes worldwide.