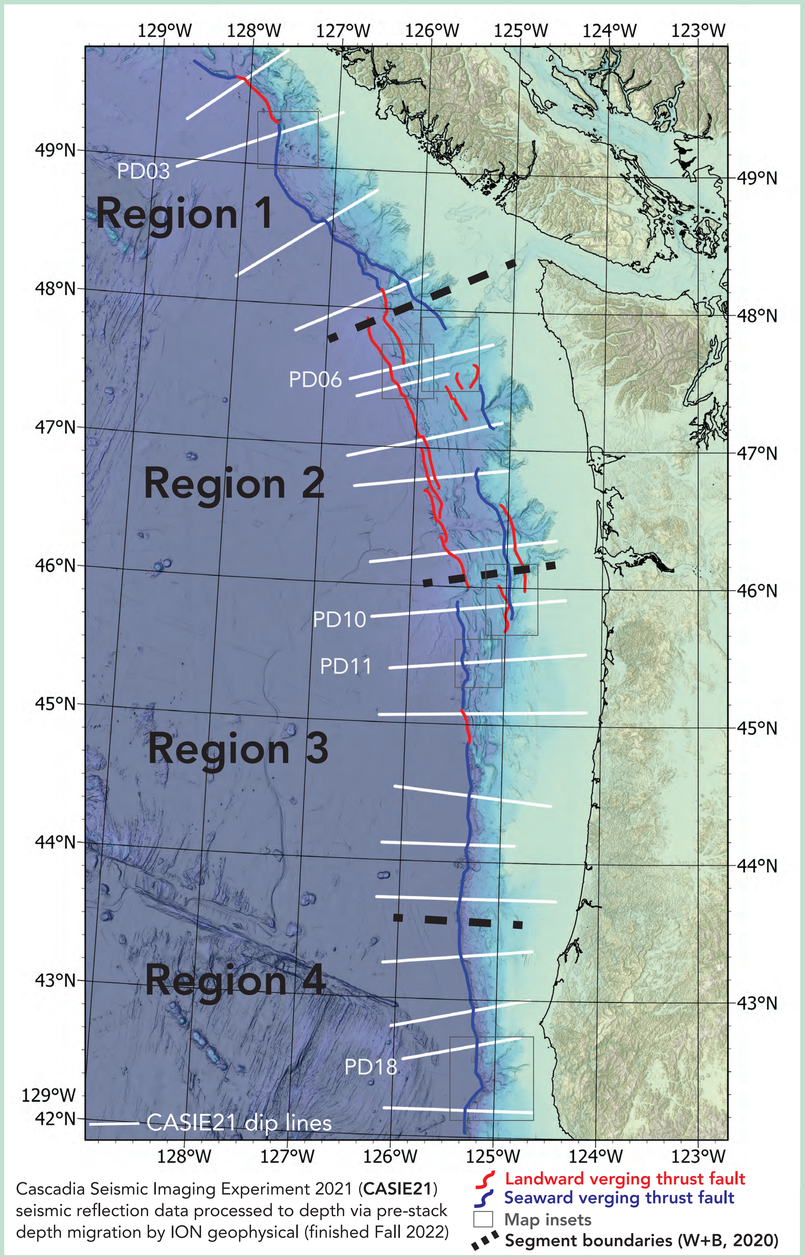
Splay fault activity in Cascadia is **discontinuous along strike**. Changes in splay fault geometry appear to be **correlated with segmentation boundaries**.

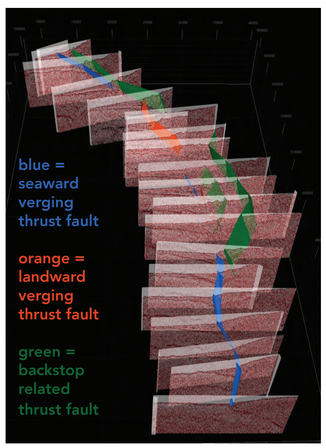


Cascadia Seismic Imaging Experiment 2021 (**CASIE21**) seismic reflection data processed to depth via pre-stack depth migration by ION geophysical (finished Fall 2022)

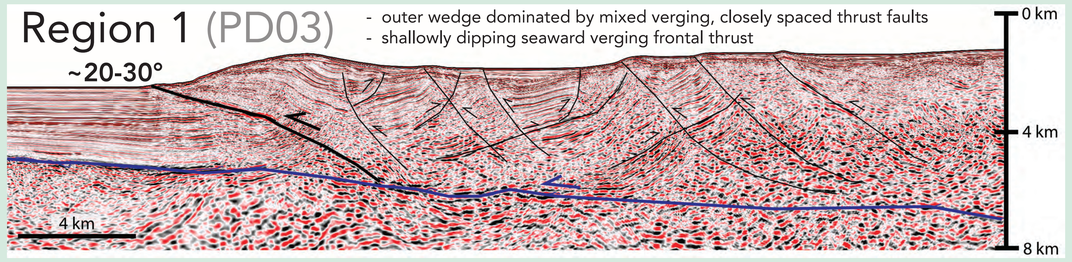
Segmentation boundaries from Watt & Brothers (2020), GMRT bathymetry from Ryan et al. (2009) (above), USGS 30m bathymetry (right)

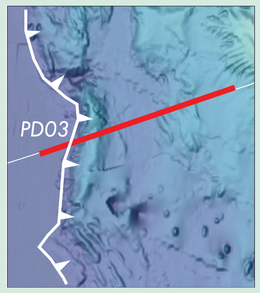
We are building **3D fault surfaces** of all active splay faults in Cascadia

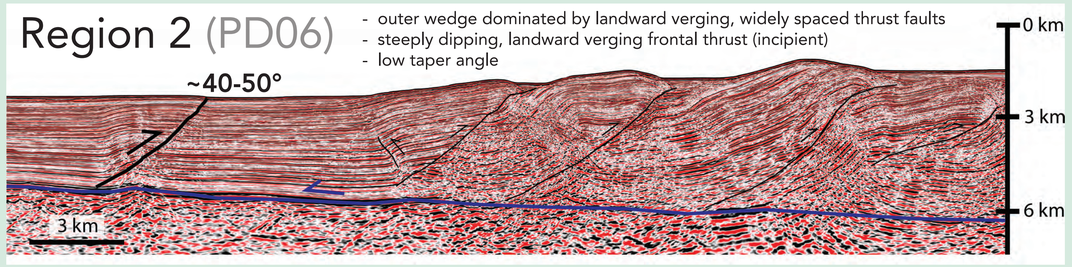
Provides realistic splay fault geometries for earthquake and tsunami modeling of Cascadia

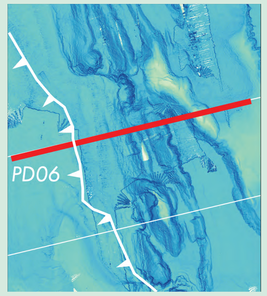


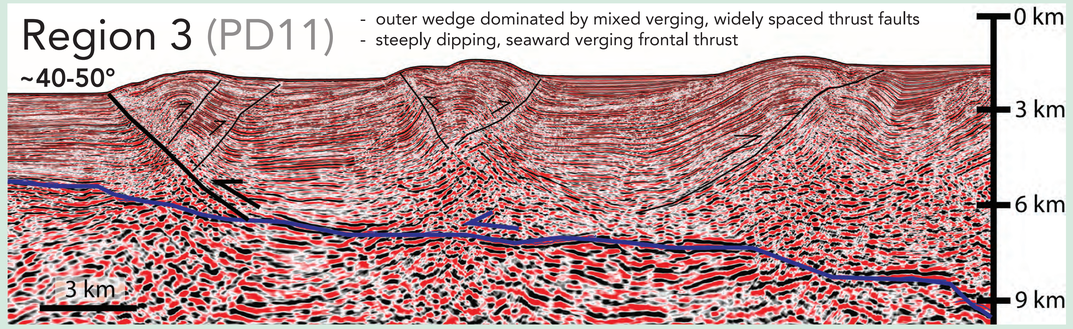
Frontal thrust faulting

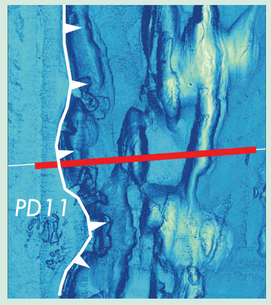


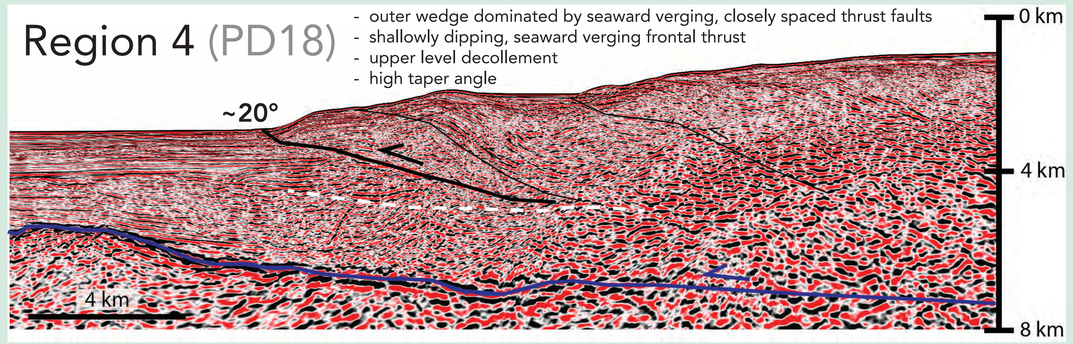


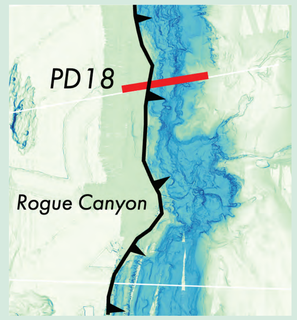




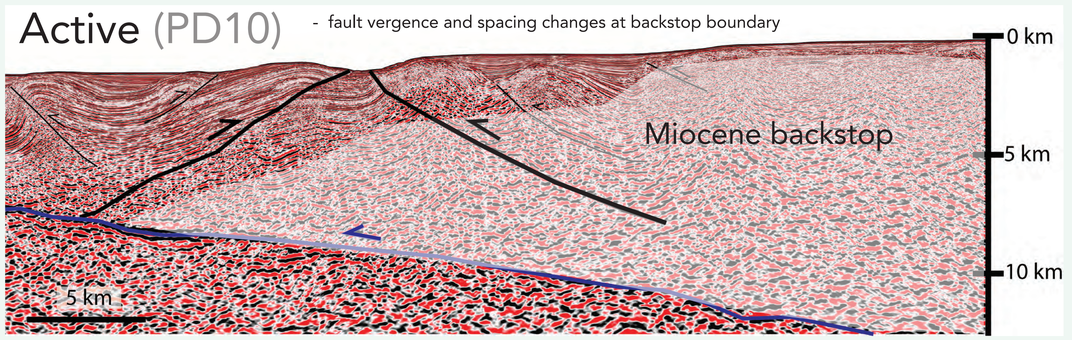


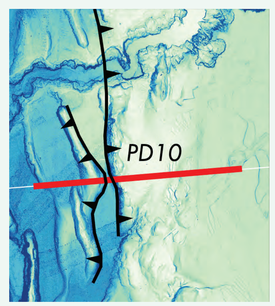


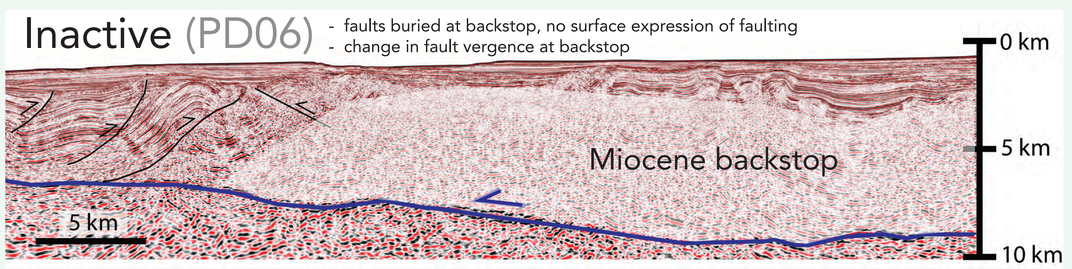


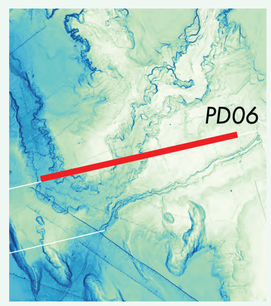


Backstop-related splay faulting









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