

Multiscale landsliding in the Nankai Trough accretionary prism

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At least three scales of submarine landslides affect the tectonically active Nankai accretionary prism. The largest scale slides are associated with subducting seamounts at the toe of the prism. Of these, the largest slide, located where the Kinan Seamount chain is subducting, is ~10-15 km wide and is cut by a complex of smaller, more recent slides. East of the Kinan collision zone, there are at least 4 smaller (4-10 km wide), recent slump scars with surficial Mass Transport Deposits (MTDs) at the toe of the prism. The MTDs are 5-8 km wide and 4-12 km long.

The outer prism is cut by several 3-5--km wide landslides that involve tens of meters of the underlying accreted material. Many of these are due to disintegration of hanging wall anticlines at the tips of accretionary thrusts. A well-studied example of these slides will be discussed in this session by Strasser *et al.* Small-scale (0.5-2 km wide) surficial slides involving only the upper few meters of young slope sediments are also present along the inner prism.

The forearc basin has several young 3-5 km wide slides that are associated with young normal faults that cut the basin sediment section. Our 3D seismic volume documents 2-3 older, buried forearc basin slides that are 3-5 km wide, 5-10 km long and 50-100m thick.

The large number of submarine slides along the Nankai accretionary prism are likely caused by major earthquakes, which are frequent along this margin. As in subaerial regions affected by earthquakes, many slides are likely initiated during one earthquake.

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