**Submarine landslides and derived tsunamis, new challenges for the IODP**

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In 1929 an earthquake on the Grand Banks off Newfoundland triggered a submarine landslide and turbidity flow that traveled a distance of 1000 km, produced several cable breaks and generated a tsunami wave that killed 27 people. It took 23 years to realize that the cause of devastation was a submarine landslide that, according to timing of the cable breaks, moved as fast as 25 m/s. Systematic use of marine geophysics since the mid 70's, later showed that submarine landslides are widely present on all continental margins and that they can form a significant part of the sedimentary succession. These submarine landslides have fascinated researchers worldwide for their exceptional size and large run-out. As shown by the Grand Banks event, submarine landslides may also generate significant tsunamis, thus understanding the processes that initiate submarine slope failure and control post-failure evolution have significant implications for assessing offshore geohazards. Recent research has shown that despite earthquakes are one of the major mechanisms by which submarine landslides are initiated, the recurrence rate of major slope failures is apparently disconnected from the earthquake cycle. IODP has also provided evidence that large overpressures, driven by fluid flow focusing, might exist in areas of relatively low sedimentation rates, and that those are controlled by margin stratigraphic architecture. Evidence of ongoing gas hydrate dissociation is also opening new questions concerning the stability of continental margins. With regard to post-failure motion, field studies have shown that for a similar volume and slope, submarine landslides have one order of magnitude greater runout than onshore failures, in spite of reduced gravity and increased drag force. The lecture will review our current knowledge of processes governing initiation of submarine slope failure, their motion over the seafloor and long term trends in rates of submarine landsliding, including recent findings from IODP drilling.