

Episodic tectonic uplifting / erosion and sedimentation offshore southern Taiwan, a possible target of scientific ocean drilling

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Taiwan has been known as of high uplift rate and the uplifted mountain region provides huge amount of sediments that buries carbon in the surrounding oceanic basins. The uplifting process has been episodic, suggested by several evidences, and this may be associated with episodic accretion and collision process at the eastern and western margins offshore Taiwan. If the uplift is produced as a pop-up structure between these two convergent margins, strength of the two detachment zones may play a key role to determine the uplifting amount. In southern Taiwan, part of the sediments from the retro-wedge is ponded in the ~1000-m deep Southern Longitudinal Trough, a part of the deformed Luzon fore-arc basin. Off SW Taiwan, coarser-grained sediments from the pro-wedge are delivered into the South China Sea through a few canyon winding through the accretionary wedge. The study area is ideal for study links and interplay among mountain building, erosion, sedimentation and efficiency of organic carbon burial. We will introduce outline of our potential targets of offshore scientific drilling to examine such hypothesis, based on our interpretation of seismic profiles.

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