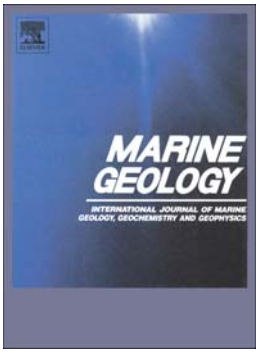

Frequent sediment density flows during 2006 to 2015, triggered by competing seismic and weather events: Observations from subsea cable breaks off southern Taiwan

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Frequent sediment density flows during 2006 to 2015, triggered by competing seismic and weather events: observations from subsea cable breaks off southern Taiwan.

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Key Words

Cable breaks, turbidity currents, hyperpycnal plumes, earthquakes, typhoons, Taiwan

Abstract

At least 17 subsea telecommunications cables cross the Gaoping Canyon and Manila Trench system in the Strait of Luzon between Taiwan and the Philippines. There, cable breaks record rapid (5-16 ms^{-1}), long run-out (>300 km) sediment density flows triggered by earthquakes and typhoons. Four major cable-breaking events have occurred in the last decade. In 2006, the Pingtung M_L = 7.0 earthquakes formed up to 3 individual flows, some of which ran-out for up to 460 km. In 2009,