

Possible extreme geological events recorded in the lower reach of the Kaoping submarine canyon

Shu-Kun Hsu

Department of Earth Sciences, National Central University, Taiwan

Submarine landslides or slumps may generate turbidity currents consisting of mixture of sediment and water. In terms of turbidities, those transported sediments can memorize the historical events. The sedimentary events can be triggered by earthquakes, typhoons or other artificial activities. In 2006, the Pingtung earthquakes had triggered at least 5 submarine landslides. Those submarine landslides had induced turbidity currents and broke telecommunication cables along the channel of the Kaoping (Gaoping) canyon. After the transportation of several hundred kilometers, the sediments finally deposited in the lower reach of the channel. Similar event was happened during the 2009 Typhoon Morako. Several telecommunication cables were also broken along the channel of the Kaoping canyon. These sedimentary records due to the extreme events can be used to decrypt the historical events due to the natural hazards. In the cases of the 2006 Pingtung earthquake and the 2009 Morako typhoon, the lower reach of the Kaoping Canyon could be an ideal location to decipher the frequency and type of the natural hazards. Similar scientific work can be also considered in the middle to lower reach of the Taitung canyon.