

# **Review of the eighteen century tsunami event on southwest Taiwan**

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## Abstract

There are historical documents those hinted a disastrous tsunami on the southwestern Taiwan coast between 1781 and 1782. Interview book in Taiwan (Chen et al., 1830) one suspected event of tsunami for tens of zhang high caused one death at Jia-Teng (Mangrove) harbor in around the 4<sup>th</sup> and 5<sup>th</sup> month, the 46th year of Qianlong. The French record (Perrey, 1862) provides a vivid description of a tsunami on May 22, 1782, that inundated 3 cities and 20 villages in Formosa (Taiwan), reportedly killing >40,000. Yang (1987) considered the same event: The disastrous tsunamigenic earthquake occurred in Taiwan Strait on May 22, 1781, the earthquake and tsunami continued 1-8 hours, more than 50,000 people dead, the validity is 3, and tsunami intensity is 1. Li et al. (2015) inferred that the southwest Taiwan submarine collapse induced by earthquake is the main cause of this tsunami event. During this period, no other historical documents related to the earthquake and tsunami in Fujian Province and Taiwan (Fang, 1969; Hsu, 1983; Xie and Cai, 1987; Hsu and Li, 1996).

In this paper, we re-collected relevant historical documents and archives, re-examine this event. The results showed that there was a typhoon invasion to Taiwan on June 2, 1782 (Apr. 22, the 47<sup>th</sup> years of Qianlong). The seawater surge lasted about 10 hours in Tainan county, resulting in 134 deaths, 41 houses collapsed and 191 houses were injured. Jia-Teng (Mangrove) harbor was located at midstream of Gaoping river. The so-called 1781 or 1782 tsunami event should be rising sea levels caused by typhoons on June 2, 1782.