Possible Paleo-Typhoon Proxy Recorded in Maar Lake Huguangyan, Southern China

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Huguangyan lake (110°17'E•21°9'N), a maar, is located in the tropical area of China and strongly influenced by typhoon from the Northwest Pacific Ocean. The sediment in this lake is strongly affected by water current that caused by typhoon. Based on the study of morphological feature of quartz and sedimentology, the flux of quartz can be used as the proxy to estimate paleo-typhoon activity. The flux of quartz shows in agreement with the meteorological data of the typhoon in west-north Pacific and the typhoon landing in local area. The frequency of tropical cyclone and typhoon in Northwest Pacific corresponded with sea surface temperature (SST). Both the proxy and meteorological data of typhoon show that the typhoon activity is increasing as the global warming.

According to the changes of particle size and leptokurtosis, preliminary result implies that there might be little typhoon activities during Last Glacial Maximum and Younger Dryaes, and typhoon activities might increase during the warm periods of Alleroed/Bolling and Megathermal. Global warming will cause the increase of typhoon activity in the Northwest Pacific Ocean from long-term trend. The warm periods of Alleroed/Bolling and Megathermal might be used as background to forecast the typhoon activity in local area as global warming.