

POSSIBLE PALEO-TYPHOON PROXY RECORDED IN MAAR LAKE HUGUANGYAN, SOUTH CHINA

1Jia-qi,L.; 2 Negendank,J.F.W.; 2 Mingram, J.; 2Schettler,J.; 1Hou-yuan,L.; 1Zhao-yan,G. 1Xiang-jun,L.; 1Wen-ran,W. 1Institute of Geology and Geophysics,Chinese Academy of Science, China2 GeoForschungsZentrum Potsdam, Germany

Maar lake Huguangyan (110°17'E/21°9'N) is located in Leizhou peninsula as one of important landing area of typhoon from west-north Pacific. Maar lake is closed basin with flat bottom and has stable source area. Generally, quartz is not major component in maar lake sediment because of basaltic pyroclastic ring. However, most of minerals large than 185 micron in the deep lake sediment is quartz. Most of the quartz may come from out of catchment area and be transported by strong wind.

Based on the study of morphological feature of quartz and Sedimentology, the flux of quartz larger than 185 micron 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 or the typhoon landing in local area. The time series analysis of the proxy and meteorological data of typhoon demonstrates that the major periodicity of typhoon activity is about 10 year, and may be related to the change of Sun activity. Both the proxy and meteorological data of typhoon show that the typhoon activity is increasing as the global warming.