

Volcanoes in China

Liu Jiaqi

Institute of Geology and Geophysics, Chinese Academy of Sciences

Beijing 100029, China

liujq@mail.igcas.ac.cn

Abstract

Even no fascinating volcanic eruption occurred in China in modern times, there are many Cenozoic volcanoes and volcanic rocks distributed in the eastern continent margin and the southwestern Tibetan plateau. Most volcanic activities took central eruptions and formed volcanic cones, or overflowed eruptions along rifts and faults and formed lava flow.

The huge Changbaishan volcano had Plinian eruption. There are not only a large number of the Cenozoic volcanics, but also some active volcanoes can be found in China, such as Wudalianchi Jingbohu Changbaishan long'gang Taiwan Hainan Tengchong the West kunlun and others, of which the Changbaishan volcano is largest one which erupted several times including a large plinian eruption with VEI 7 around 1000 years ago. The last eruption occurred in Ashi volcano in the west Kunlun Mountains in May 27, 1951. Some volcanic eruptions had good historic records like Wudalianchi, Changbaishan, Tengchong and the west Kunlun, some volcanic eruptions haven't been found correct records up to now. It may be found other active volcano(s) in the other areas.

The volcanic eruptions can be roughly divided into 10 episodes from the late Cretaceous to present which corresponding to volcanic eruptive frequencies around the Pacific Ocean. The upsurges of volcanic activities were the middle Miocene and middle Quaternary. During that time the volcanic activities occurred in the Northeast China were as strong as Japan.

The dominant volcanic rocks in China are basalts, trachy-basalt and shosonite with high alkali, especially high potassium. The Changbaishan volcanoes have a series of volcanic rocks from basalts, trackyt to pantellerite and obsidian with large tephra. Almost no andesite can be found in China.

The volcanisms occurred in east China were related to east Asian continental rifting and the Pacific plate subduction, and Tibetan volcanisms resulted in collisions between Indian and Euroasian plates.