Eko Budi Lelono, J Earth Sci Clim Change 2017, 8:8 (Suppl)
DOI: 10.4172/2157-7617-C1-030

Pleistocene climate of Indonesia

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Most researchers agree that Pleistocene is characterized by glacial and inter glacial periods which are strongly related to dry/cool and wet/warm climates. Apparently these are reflected on their pollen records. The period of dry climate (glacial climate) is characterized by abundant Gramineae pollen, whilst the period of wetter climate (interglacial climate) is indicated by an increase of coastal and mangrove palynomorphs but greatly reduced frequencies of Gramineae pollen. On the contrary, previous works on the Pleistocene sediments of Java indicated high abundance of grass pollen along this age marking drier climate condition. This paper publishes the study which is intended to evaluate paleoclimate of Java and other area of Indonesia during Pleistocene. For this purpose, some well samples from East Java and Papua were collected. Standard laboratory preparation was employed to extract pollen from the cutting samples. This study applies quantitative method which allows detail climate change interpretation. This study shows that Pleistocene of East Java is characterized by abundant grass pollen of *Monoporites annulatus* which may correspond to the period of expansion of savanna vegetation coinciding with glacial period. Moreover, it is indicated by abundant charred Gramineae cuticles which are derived from burning grass. This might have been caused by extreme heat which could relate to the volcanic activities existed in East Java. Slightly different record appears in Papua which shows repetition of dry/wet condition or low/high sea level. The moist climate related to the phase of sea level rise is marked by abundant brackish pollen which possibly represented interglacial period. It is also supported by the increase of peat swamp and freshwater palynomorphs. On the other hand, dry climate representing glacial period is defined by significant decrease of these brackish and freshwater elements.

Biography

Eko Budi Lelono has completed his PhD in 2000 from Royal Holloway, University of London, UK. Currently he is a Senior Researcher in the Exploration Division of R&D Center for Oil and Gas Technology "LEMIGAS", a government research institution under the Ministry of Energy and Mineral Resources. He has published more than 25 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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