

Paleoclimate During the Last 20,000 Years in Asia-Pacific region

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YOKOYAMA Yusuke is an associate Professor appointed currently both at Atmosphere and Ocean Research Institute and Department of Earth and Planetary Science, University of Tokyo since 2008. He received his PhD in Earth Sciences from the Australian National University (1999). He was a Post Doctoral Fellow at the Nuclear Physics Department and Department of Geology, the Australian National University (1999-2000), then moved to the United States to take up the position as a Post Doctoral Chemist at the Space Sciences Laboratory, University of California at Berkeley (2000-2002) before becoming a Research Geophysicist at the US Department of Energy's Lawrence Livermore National Laboratory (2002). He then became a Senior Lecturer at Department of Earth and Planetary Science, University of Tokyo (2002-2008). Dr Yokoyama has been appointed as a senior Scientist at the Institute of Biogeochemistry at Japan Agency for Marine-Earth Science and Technology Organization (JAMSTEC) from 2005. His scientific interests are very broad but all is related to reconstruct past climate history using geochemical and geophysical measures to understand the complex climate system, which could be used for better understanding future climate change. He has published more than 90 peer review papers (including in *Nature*, *Science* and *PNAS*), editing 5 special volumes of international Journal and actively involving international scientific professional activities such as Intergrated Ocean Drilling Program (IODP) as a co-chief scientists and Inter governmental Panel on Climate Change (IPCC) as an expert reviewer as well as a member of scientific steering comity of workshop on Sea level rise and ice sheet dynamics.

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Abstract

Detailed reconstructions of deglacial (ie. last 20,000 years) environments are key components in understanding the global climate system. Although the changes can be attributed as temporal and spatial variations of influx solar radiation as first order approximation, the resulted climate changes are more complex and it requires careful and detailed studies using quantitative approaches. The Asian monsoon is an important component of the climate system, which is defined as the seasonal reversal of wind direction caused by a temperature gradient between the continent and the ocean. It brings precipitations inland hence strongly related to the human activities via agriculture and disaster preventions. Fluctuations of monsoon significantly affects Asian climate where more than 30% of world population is living. It has been revealed that the strength and weakening of monsoon strongly related to the climate changes in North Atlantic region. In my presentation, I will review recent development of paleoclimate reconstruction for the last 20,000 years with focusing on Asian Pacific region using various geological archives.

Keywords: Paleoclimate, Monsoon, Dust, last deglaciation