
 [JJ] Evening Poster | H (Human Geosciences) | H-TT Technology & Techniques

[H-TT18]Development and applications of environmental traceability methods

convener:Ichiro Tayasu(Research Institute for Humanity and Nature), Takanori Nakano(Research Institute for Humanity and Nature, Inter-University Research Institute Corporation National Institutes for the Humanities), Keisuke Koba(京都大学生態学研究センター)

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Modern society uses almost all the elements present in the natural world. Although there have long been calls for the sustainable use of the resources that provide these elements and the building of human societies that are in harmony with the environment, the survival of the human race is increasingly at risk as a result of qualitative changes to the environment as a whole. Implementation by the society of methodologies for diagnosing and tracking these various elements of the natural environment and their relationships with humans are now required.

Elements transport in the spheres on the surface earth and the human society and human body. Information on the concentrations and stable isotopes of elements is powerful in tracing the transportation of materials and have been applied in studies on the atmosphere-hydrosphere circulation, ecological service, and the life, health and history of humans. We propose a session to discuss development and applications of environmental traceability methods to achieve traceable system.

Especially, we encourage to present a research based on Environmental Isotope Study, which integrates isotopic studies in various disciplines, such as geochemistry, hydrology, ecology, geology, mineralogy, anthropology, food science (identification of origins), and forensics.

[HTT18-P05]Spatial distribution of sediment loading into the Lake Biwa after typhoon 18 (Man-yi) in September, 2013

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The typhoon 18 (Man-yi) in September 16, 2013 brought the highest 24 hours rainfall ever reported in the western part of the Lake Biwa. This event likely induces massive deposition of terrigenous matters to the lake. Here we show the spatial distribution of sediment loading after the event using 23 core samples collected in 15 and 18-October, 2013. Particle size distribution, sediment color, and trace element profile were used to identify the newly deposited layer. The results indicated that highest sediment loading was observed near the mouth of Ado-river in which ca. 3 cm of fresh detritus was newly deposited. This amount corresponds ca. 30 years considering general deposition rate in this area. This result can be utilized as the base-data to assess the material input during this event, e.g., nutrient and metals, which affects changing in eco-system in the lake.