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Publication date:
2017

Document Version
Publisher's PDF, also known as Version of record

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Citation (APA):
Hou, X., Zhang, L., & Li, H. (2017). *60-year record of iodine-129 in Philippines terrestrial sediment revealing human nuclear activities history at low latitude area*. Abstract from 14th International Conference on Accelerator Mass Spectrometry, Ottawa, Canada.

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Global distribution of iodine-129 (^{129}I) is important to apply it as an environmental tracer and for its environmental safety assessment and management [1]. Despite a number of ^{129}I data reported throughout many regions [2,3], less is known at low latitude area. A sediment core collected from the Taal Lake in the north of Philippines was analyzed for ^{129}I and ^{127}I aiming to investigate the influence of human nuclear activities on terrestrial systems of low latitude regions. Concentrations of ^{129}I in the core ranged from $(0.5\pm0.07)\times10^5$ atoms/g in the pre-nuclear era to $(215.92\pm20.16)\times10^5$ atoms/g. Compared to other marine and terrestrial cores, levels of ^{129}I in the Taal Lake sediment were as similar as that in Mississippi river (USA), but 1-3 orders of magnitude lower than the European lakes and sea sediments [2,3]. Taking into account the factors of distance from sites of human nuclear activities, climate and geological settings of Taal Lake, the increased $^{129}\text{I}/^{127}\text{I}$ ratios indicated that the origin of ^{129}I is predominated by testing of the Pacific Proving Ground, global fallout of other nuclear testing and European nuclear reprocessing plants, which were primarily transported by air. Easterly equatorial trade wind and East Asian Winter Monsoon are important significant transportation pathways of ^{129}I to the southeast Asia. The lowest $^{129}\text{I}/^{127}\text{I}$ ratio of $(2.04\pm0.42)\times10^{-12}$ at the bottom of the sediment suggested less migration of ^{129}I from upper to deep layers and negligible influence of nuclear tests until 1956, and also imply that incursion of seawater might occur in Taal Lake. Volcanic eruption and direct geothermal fluid activity at the Taal Lake might change the sedimentation pattern and influence the retention of iodine isotopes.

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