[JJ] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-CG Complex & General

[A-CG42]Coastal Ecosystems - 1. Water Cycle and Land-Ocean Interactions

convener:Ryo Sugimoto(Faculty of Marine Biosciences, Fukui Prefectural University), Jun Shoji(Hiroshima University), Makoto Yamada(龍谷大学経済学部, 共同), Masahiko Fujii(Faculty of Environmental Earth Science)

Thu. May 24, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

Substances from land which are brought by river and/or submarine groundwater discharge are important for the process of biological production in coastal areas. This session focuses on land-ocean interactions through water cycle. The aim of this session is to create interdisciplinary discussions on the research of connectivity of ecosystems, water cycles in terrestrial and coastal areas, fishery resources and biodiversity. Comprehensive discussion on the mechanisms that promote productivity and biodiversity in coastal ecosystems will be made from the viewpoint of land-ocean interactions. Presentations on water-material cycle in terrestrial and coastal areas, fishery resources, biodiversity and connectivity of the ecosystems are encouraged.

A companion session proposed as "Coastal Ecosystems - 2. Coral reefs, seagrass meadows, and mangroves" focuses on benthic communities in shallow-water ecosystems such as coral reefs, seagrass meadows and mangroves and is dedicated to promote researches on comprehensive assessment and monitoring of ecosystem functions and development of effective means for conservation and restoration. Main focuses of these two sessions are different. However, there are much of information that covers both sessions. Scientists who work on the related field will be able to obtain information and share them with other scientists if they attend to both of these sessions.

[ACG42-P04]Comprehensive and quantitative assessment of nitrate dynamics in two contrasting rivers along the Sea of Japan by using nitrate dual isotopes

*Ryo Sugimoto[1], Tomoko Tsuboi[1], Motoko Fujita[2] (1.Faculty of Marine Biosciences, Fukui Prefectural University, 2.Center for Southeast Asian Studies, Kyoto University)

Keywords:Nitrate, Stable isotopes, Nitrogen saturation, Land-sea interaction

The Kita and Minami Rivers are non-urbanized adjacent rivers which are located in the central Japan facing to the Sea of Japan. Recent deposition rates of atmospheric nitrogen onto the two river basins are serious. However, export ratios and their seasonality of atmospheric nitrate versus microbial nitrate from forest soils to streams have not yet been quantified. Furthermore, influence of local nitrogen sources and internal biogeochemical processes are still unclear. To elucidate the influence of watershed properties and atmospheric N deposition on nitrate dynamics in two basins, we have conducted seasonal synoptic surveys by using the dual isotopes of nitrate. Nitrogen and oxygen isotopes of nitrate showed that nitrate remineralized through nitrification in the forest soil was likely dominant source in both basins from the stream to downstream waters. Moreover, net mass balance calculations showed nitrate supplied from the forest occupied large amounts of nitrate outflows from the two basins to the coastal sea.