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[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.

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## [ACG42-P03]Carbon transport through groundwater discharge in Kesennuma Bay, Japan

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Keywords:Submarine groundwater discharge, pCO<sub>2</sub>, <sup>222</sup>Rn

Submarine groundwater discharge (SGD) is an important source of nutrients, trace metals, and carbon to coastal ecosystem. To quantify this processes in Kesennuma Bay, 24-hours mooring surveys for SGD tracers (Rn and Ra isotopes) and biogeochemical properties (nutrients, dissolved carbon and iron) were conducted during neap and spring tides in summer 2017. In this presentation, we will show results of simultaneous measurements of <sup>222</sup>Rn and pCO<sub>2</sub>. Although pCO<sub>2</sub> showed clear diurnal variation according to the photosynthesis/respiration process in both periods, excess CO<sub>2</sub> was supplied through significant groundwater discharge during the lowest tide in spring. These data will be used to quantify carbon flux from SGD and emission rate of CO<sub>2</sub> to atmosphere.