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

[A-CG43] Coastal Ecosystems - 2. Coral reefs, seagrass and macroalgal beds, and mangroves

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Coastal marine ecosystems are complex open system interacting with surrounding watersheds, outer ocean, and the atmosphere, providing a wealth of various ecosystem services to human life. Simultaneously, they are also influenced strongly and often negatively by human activities. This session, together with a companion session dedicated for the water cycle and land-ocean interactions [A-CG##], aims to provide a platform for interdisciplinary discussion covering various aspects of frontiers in coastal ecosystem sciences. This session particularly focuses shallow-water benthic communities ranging from temperate to tropical regions, such as coral reefs, seagrass and macroalgal beds, tidal wetlands, and mangroves. All these communities are characterized by intrinsically high primary production, active material cycling, and biodiversity hot spots. However, increasing human demand for coastal marine resources and industrial development concentrating on coastal regions incur the risk of rapid degradation and diminishment. Comprehensive assessment and monitoring of ecosystem functions and development of effective means for conservation and restoration are urgently needed for such communities. This session is dedicated to organizing and promoting such research and management activities by sharing state-of-the-art science and technology among ecologists, geologists, geochemists, biogeographers, etc. Field-based observational, experimental, and modeling studies concerning the following topics are especially welcome: ecosystem functions; elemental cycling; community connectivity; environmental changes such as global warming, ocean acidification, and sea-level rise; ecosystem services such as carbon sequestration, nutrient regulation, and fisheries production; regional- or global-scale comparison; long-term ecological researches.

[ACG43-P08] Characteristics of water quality in the river of the Philippines

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Terrestrial inputs is one of the key factors for degradation of coastal habitats these days, whose effect is greatly increasing by development of its drainage basin through e.g. change of the land use and population increase, causing local eutrophication and suspension. Coastal areas are also threatened by various human activities, such as mariculture, and environmental changes caused by global warming. However, those water qualities of rivers are not well investigated especially in coral triangle areas, which are the center of marine biodiversity. In this study, samples were collected both in the wet and dry seasons along the rivers to compare the site-specific characteristics of Luzon, Panay, Negros, Mindoro, and Mindanao islands of the Philippines. We analyzed nutrients, dissolved/particulated inorganic/organic carbon and nitrogen, isotopic

composition such as $\delta D / \delta^{18}O\text{-H}_2O$, $\delta^{15}N / \delta^{18}O\text{-NO}_3$, $\delta^{13}C\text{-DIC}$ and $\delta^{13}C / \delta^{15}N\text{-POM}$. Especially dissolved parameters seem to be well reflected local characteristics. Relationships between each component also allow us to estimate carbon and nitrogen dynamics.