
[JJ] Evening Poster | H (Human Geosciences) | H-SC Social Earth Sciences & Civil/Urban System Sciences

[H-SC05]CCUS (Carbon Dioxide Capture, Utilization, and Storage) for Climate Mitigation

convener: Masao Sorai (Institute for Geo-Resources and Environment, National Institute of Advanced Industrial Science and Technology), Ziqiu Xue (Research Institute of Innovative Tech for the Earth), Masaatsu Aichi (東京大学大学院新領域創成科学研究科)

Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

The prevention of the global warming, which is the urgent challenge facing the world, requires the full-out efforts of science and technology. This session focuses on the CCUS (Carbon Dioxide Capture, Utilization, and Storage) as one of the useful countermeasures for the CO₂ emission reduction. It not only targets various scientific phenomenon caused by the capture and storage of CO₂, CO₂ utilization, and CO₂-EOR/EGR, but also discusses the latest R&D developments of each method for the environmental impact assessment, safety assessment, the measuring, monitoring and verification (MMV), and public acceptance.

The main theme is the recognition of key issues toward the practical use of CCUS, in addition to the deepening of our knowledge about the CO₂ behavior on the underground.

[HSC05-P10] Structure, Diversity, and Carbon Stock of Woody Plants after Agriculture Abandonment in Wetland

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Bang Kachao green space, the most important urban forest near Bangkok, the capital of Thailand, is the wetland on the alluvial plain of the Chao Phraya River. After the agriculture abandonment, various plants are succeeding and growing in Bang Kachao green space. This research aimed to assess the structure, diversity, and carbon stock of woody plants in three sub-districts — Bang Yo (BY), Bang Ko Bua (BKB), and Bang Krasop (BKS) sub-district. Four sample plots, 40 x 40 m-sizes, were established in each sub-district. The results found that vertical structure of woody plants had three layers in BY and BKB and two layers in BKS. The Shannon diversity index (H) of woody trees and saplings among BY, BKB, and BKS were non-significant different. The H and density of seedlings in BY and BKB were significantly ($p < 0.05$) higher than in BKS. The density of saplings in BY and BKB was significantly ($p < 0.05$) higher than in BKS, besides, height and diameter at 1.30 m above ground of saplings in BKS were significantly ($p < 0.05$) higher than in BY and BKB. Moreover, the biomass and carbon stock of woody plants in BY and BKB were significantly ($p < 0.05$) higher than in BKS. These may be caused by the different tidal current whereas the tidal current in BKS is following the tidal current of Chao Phraya River but the tidal current in BY and BKB are controlled by the floodgates. These can be the information of woody plant during succession following agriculture abandonment and can be used for further urban forest management in this wetland.