## Grand Design of Mangrove Habitat Dynamics and the Key Factors

\*Toyohiko Miyagi<sup>1</sup>, Shigeyuki Baba<sup>2</sup>, Tomomi Inoue<sup>3</sup>, Yasuo Akaji<sup>3</sup>, Gakugun Chou<sup>3</sup>, Keita Furukawa<sup>4</sup>

1. NIES, Tohoku-Gakuin University, 2. ISME, 3. NIES, 4. PEMSEA

The mangrove ecosystem develops as the forests sites at the upper half of the tidal zone. This means that the forest systems may have a mitigation role of sea impacts and the habitat may suffer the negative impact such as the habitat degradation by the sea-level rise. The forest ecosystems might be has the double role.

Under such circumstances, accumulation of the scientific knowledge for concrete evaluation of the coast protection function by a mangrove ecosystem serves as pressing need. Mapping for grasping the actual distribution and condition of a mangrove concretely is indispensable infrastructure improvement. In our team, maintenance of map information is promoted as the foundation for grasping quantitatively the effect of the climate change adaptation measure which a mangrove ecosystem has. The mangrove habitat distribution traced and transfer to polygon in 1/25000 scale from World Imagery of ArcGIS. The environmental relations such as landform, land use, land cover, tide, ocean-current data also are compiling by 0.5 degree grid.

Keywords: Mangrove distribution, Climatic change, Green infrastructure, Direct sensing