

Development of an Integrated Assessment Model linking Biodiversity and Socio-Economic Drivers, and its Social Application

Principal Investigator: Osamu SAITO, Hiroya YAMANO, Katsue FUKAMACHI, Shizuka HASHIMOTO, Takehito YOSHIDA

Institution: Institute for Global Environmental Strategies (IGES)
2108-11 Kamiyamaguchi, Hayama, Kanagawa, 240-0115, JAPAN

E-mail: o-saito@iges.or.jp

Cooperated by: National Institute for Environmental Studies, The University of Tokyo, Kyoto University

[Abstract]

Key Words: Integrated assessment model, Biodiversity, Ecosystem services, Value-behavior-culture, Agent-based model, land management, lifestyle, indirect driver, social transformation

The objective of this study is to identify the process and methods for developing an integrated assessment model which can consider biodiversity, climate change, and other socio-economic drivers in an integrated manner for future scenario analysis, and quantitatively estimate the impacts of response options for climate change mitigation and adaptation, and biodiversity conservation and restoration under different future scenarios. In addition, this integrated assessment model will be applied at the national and local scales. The study's aims and components work together to make a full-fledged research project which is expected to promote regional circulating ecological spheres and a sustainable society in Japan based on scientifically verifiable scenario analysis by simultaneously pursuing problem solving at both national and local levels. The study consists of five themes:

Theme 1 - Development of an integrated assessment model of a social-ecological system;

Theme 2 - Development of future scenarios and combination of response options;

Theme 3 - Interaction between value-behavior-culture and biodiversity;

Theme 4 - National scale scenario analysis by the integrated assessment model and its social application; and

Theme 5 - Local scale scenario analysis by the integrated assessment model and its social application.

The study will contribute to not only national and local biodiversity policy making in Japan, but also assessments by IPBES and IPCC, TNFD, SDGs and Kunming-Montreal Global Biodiversity Framework, and post-SDGs global goals.