Ecosystem monitoring: vision from Global Land Project

Global Land Project **GLP**
joint IGBP/IHDP core project
succeeding GCTE and LUCC
launched in 2006

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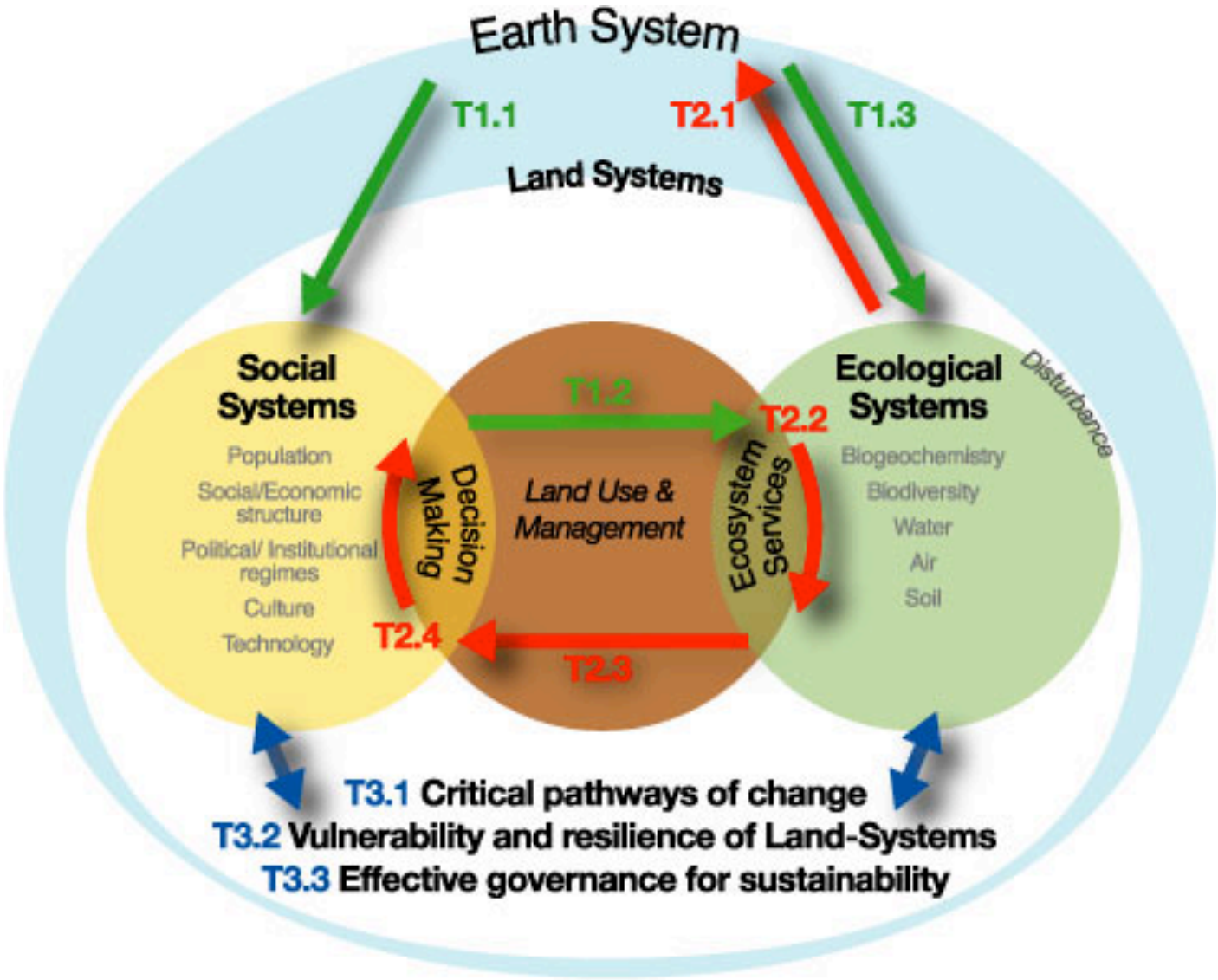
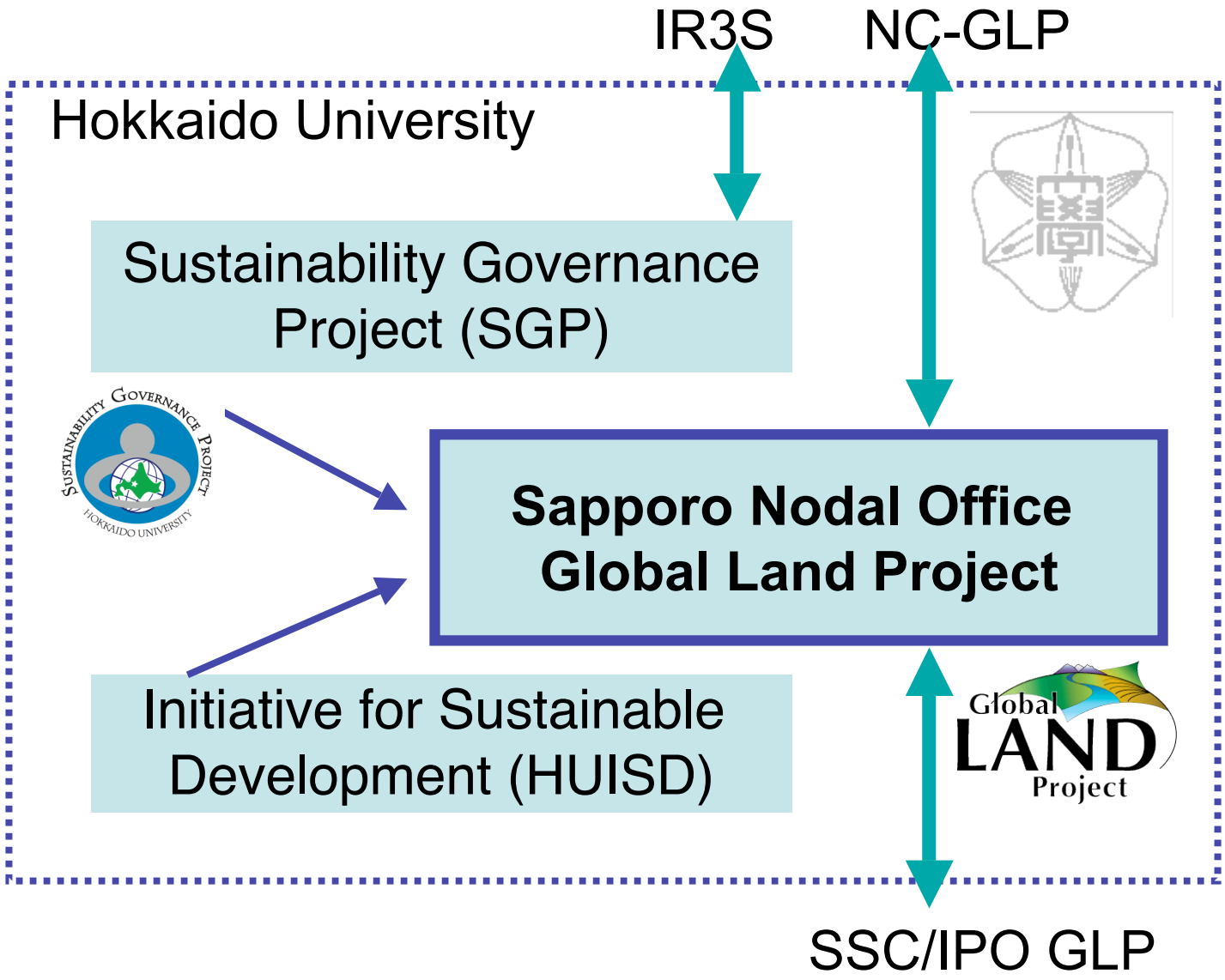
- GLP aims to develop research network for integrated understanding of land systems.
- Observation network of ecosystem services, Including geochemical flux and biodiversity, provides key information for GLP.
- This comment would outline GLP facilities, particularly Sapporo Nodal Office, for research side counterpart structure of integrated observation networks in the Asia-Pacific region.

Global Land Project
Science Plan

downloadable at
http://www.globallandproject.org/


Earth System
T1.1
T2.1
T1.3
Land Systems
Social Systems
Population
Social/Economic structure
Political/ Institutional regimes
Culture
Technology
Decision Making
T1.2
Land Use & Management
T2.2
Ecosystem Services
Ecological Systems
Biogeochemistry
Biodiversity
Water
Air
Soil
Disturbance
T2.4
T2.3
T3.1 Critical pathways of change
T3.2 Vulnerability and resilience of Land-Systems
T3.3 Effective governance for sustainability
T1. Dynamics of land-systems
T2. Consequences of land-system change
T3. Integrating analysis and modelling for land sustainability

Sapporo Nodal Office, GLP



Thematic foci of Sapporo Nodal Office

Vulnerability, resilience and sustainability

- Natural ecosystems affected by global warming
- Freshwater linkage, watershed processes
- Modeling ecological-human processes at regional scales
- Restoration and sustainable management of tropical regions
- Training, education and capacity building

Dr Ademola Braimoh
Executive Director of Sapporo Nodal Office (Nov. 2006-)

Sapporo Office Brochure →

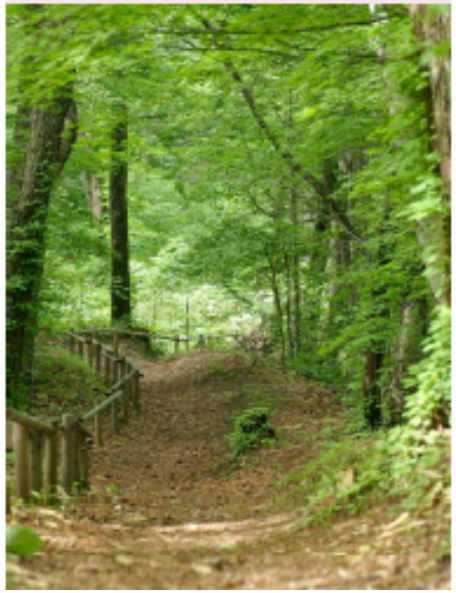
International workshops:

20 Feb 2007
26-28 Feb 2007
….

Fast-track activities

A number of fast track activities are ongoing at the Sapporo Nodal Office of the GLP.

1. Comparative/meta analyses of land systems vulnerability assessment across world regions will be made.
2. Indicators of resilience and vulnerability of land systems comprising biophysical and social variables will be developed
3. We will hold a workshop on *Governance and Land systems sustainability*. Institutions, actors and scales of land system governance will be discussed.
4. A network of ongoing international collaboration on GLP thematic issues will be established.

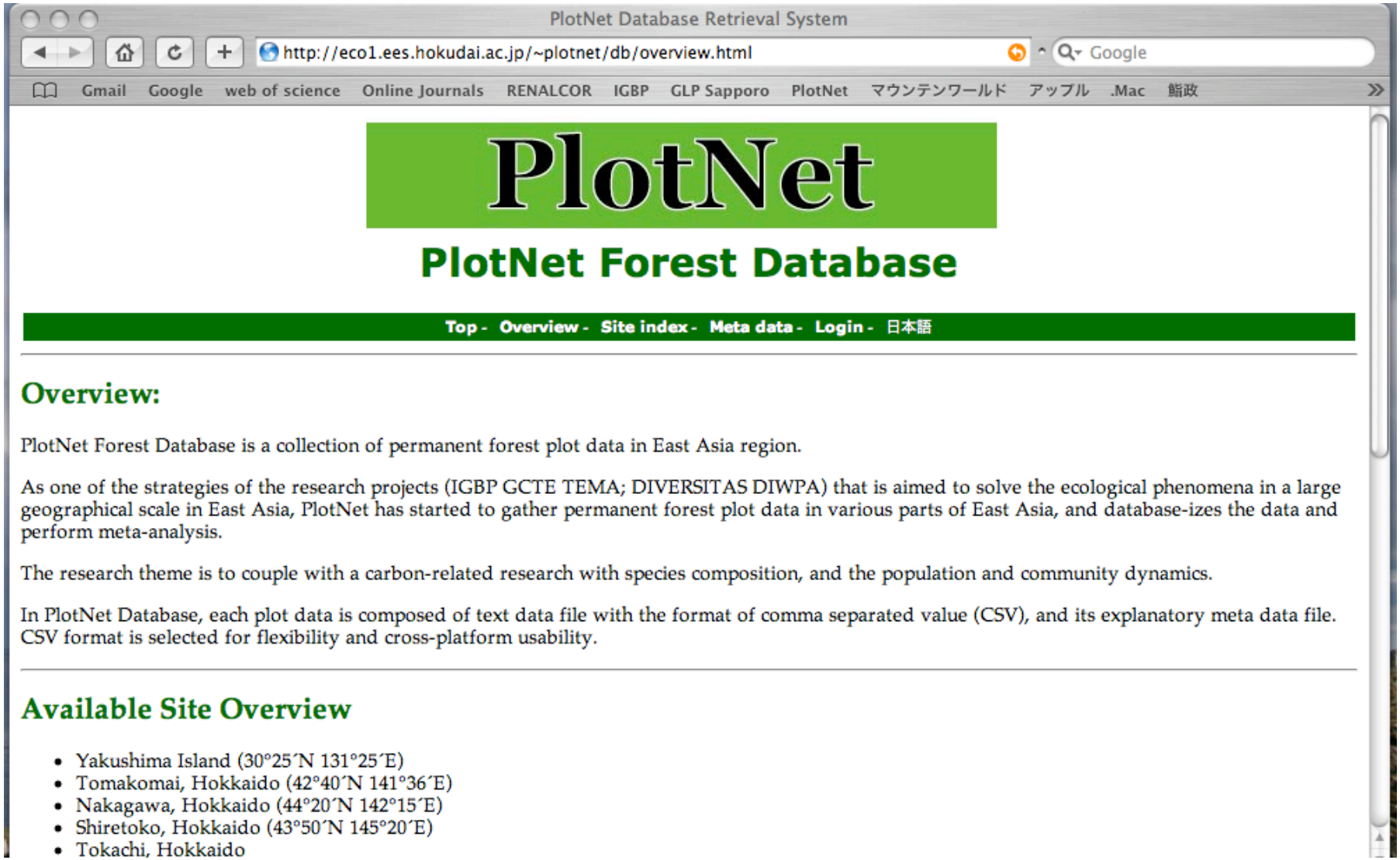


Global LAND Project

Sapporo Nodal Office

Brief Information

An example of research-based network relevant to GLP: PlotNet: database, and meta analysis of East Asian forest plots



A fast-track activity of GLP

Decreasing uncertainty in predicting biome boundary shifts

Takashi Kohyama (Sapporo, Japan)
George C. Hurtt (Durham New Hampshire, USA)
Heike Lischke (Birmensdorf, Switzerland)

1st TFM: 20 February 2007, Sapporo

Rationale

Dynamics of terrestrial ecosystems characterized by sessile plants with life-spans on the order of 10^0-10^2 years is relatively slow compared to that of pelagic ecosystems with short lived, mobile primary producers.

Relatively slow dynamics of terrestrial systems, combined with the rapid pace of contemporary climate change, suggests that complex time lags in the response of terrestrial ecosystems.

Pollen analyses suggest that the response of forest tree species to climate change since last glacial maximum is complex, and has not uniform across species.

Important issues with the goal of reducing the uncertainty in predicting the migration of terrestrial biomes:

(a) the effect of plant population processes and dispersal on migration;
(b) the effect of spatial heterogeneity, including land use, on dispersal and migration;
(c) the effect of climate change on soil conditions and through this on plant population processes; and
(d) methods to incorporate these effects into large scale models like such as DGVM's or CGCM's.

Sapporo Nodal Office GLP welcomes and supports
all of your activities along GEOSS in Asia Pacific Region