

Forest Carbon Tracking (FCT)

Co-Chairs:

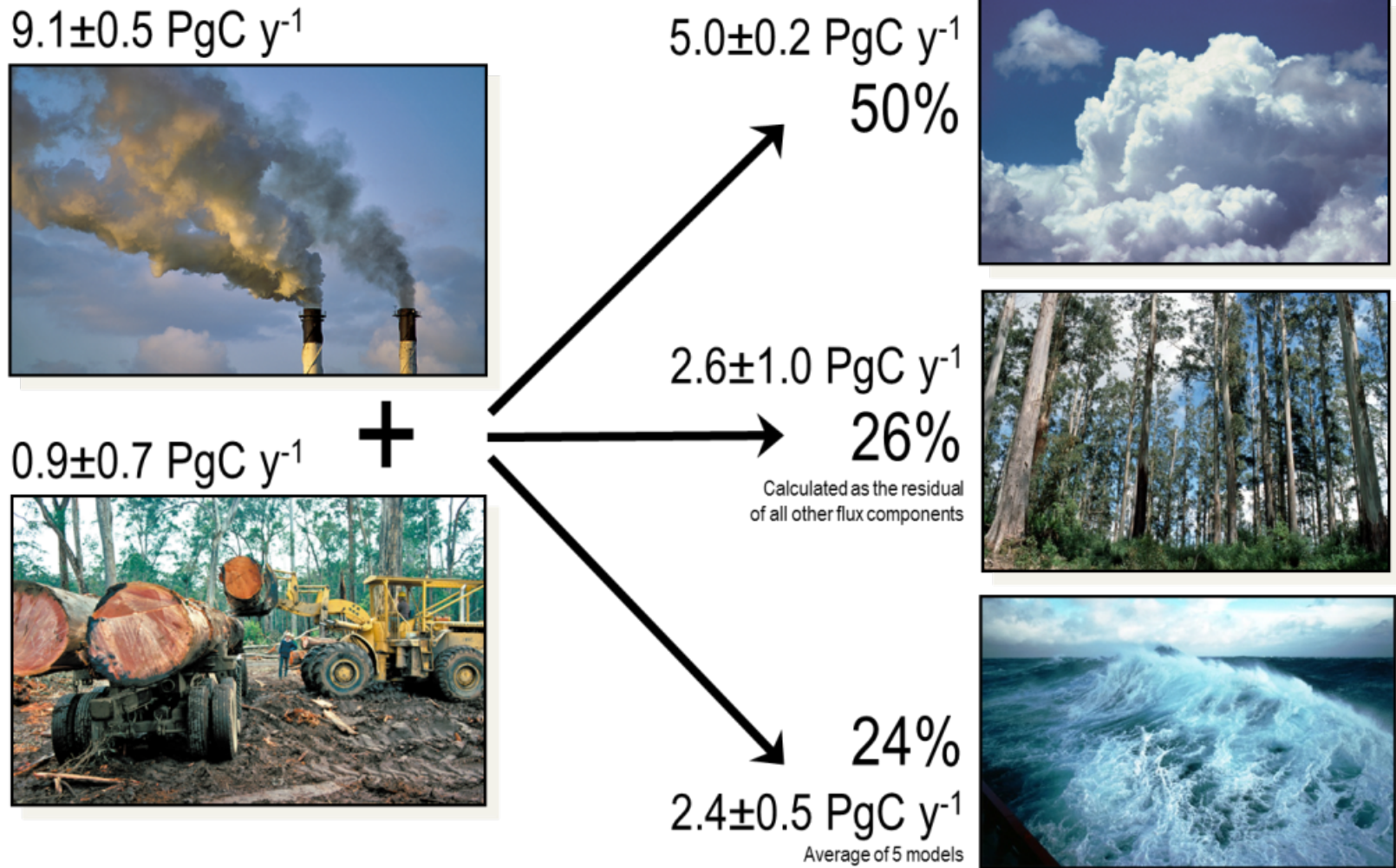
Yoshiaki Yamagata

**National Institute for Environmental
Studies(NIES), Japan**

Miriam Baltuck

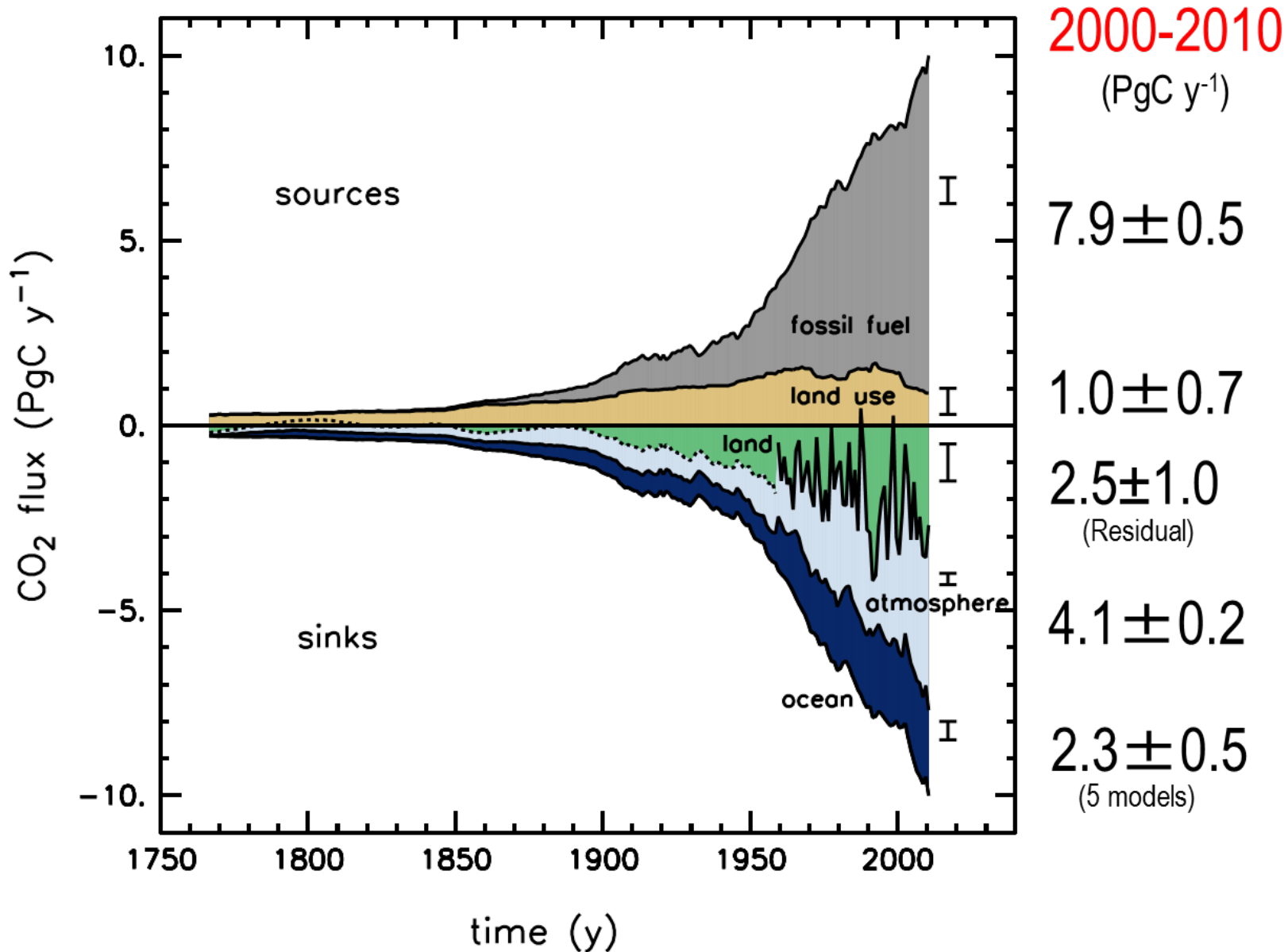
**The Commonwealth Scientific and Industrial
Research Organisation (CSIRO), Australia**

Fate of Anthropogenic CO₂ Emissions (2010)



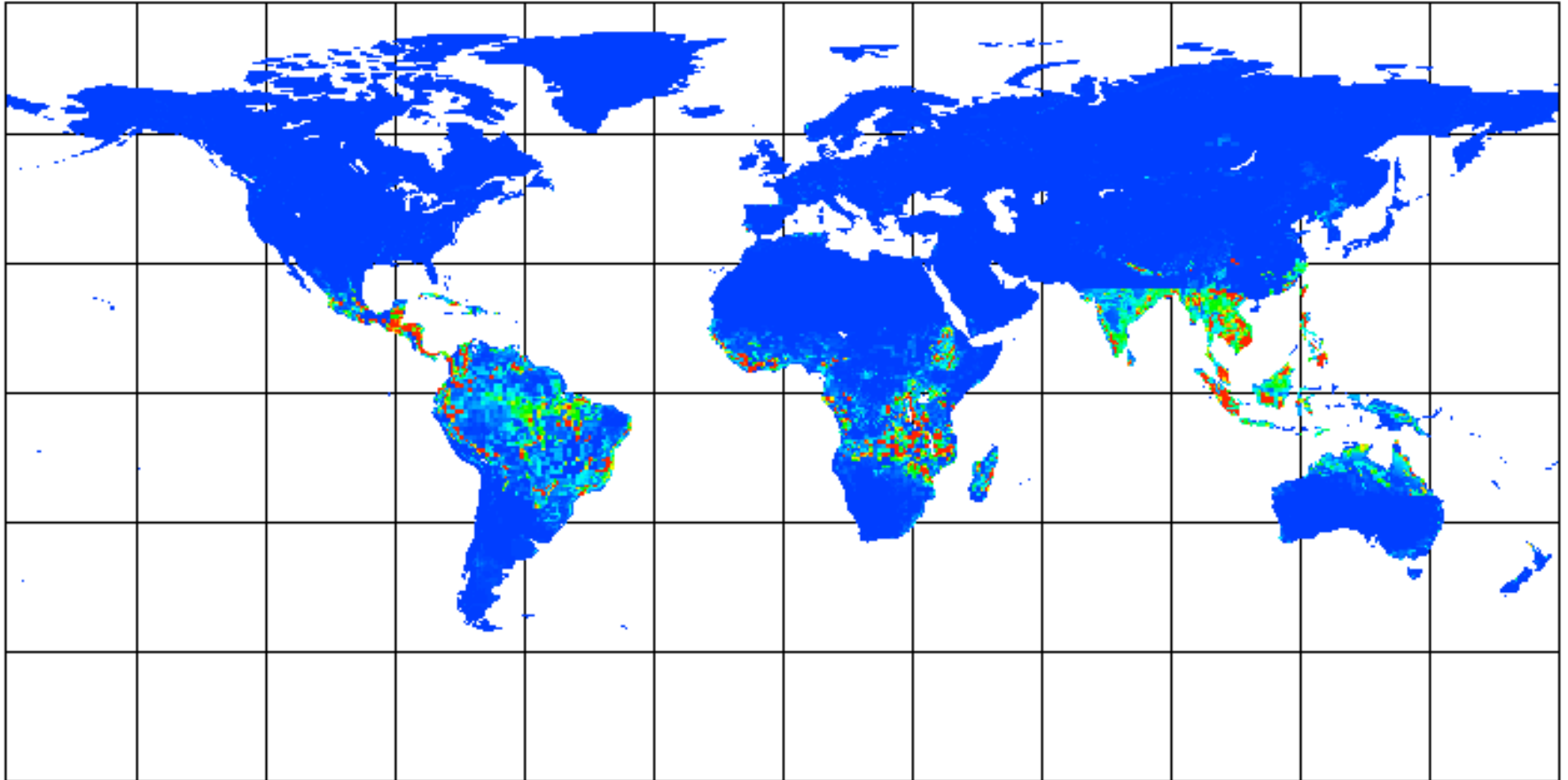
Global Carbon Project 2010; Updated from Le Quéré et al. 2009, Nature Geoscience; Canadell et al. 2007, PNAS

Human Perturbation of the Global Carbon Budget



CO2 emission from deforestation, 1990s

LUC emission: 1990s



Huge emissions from tropics

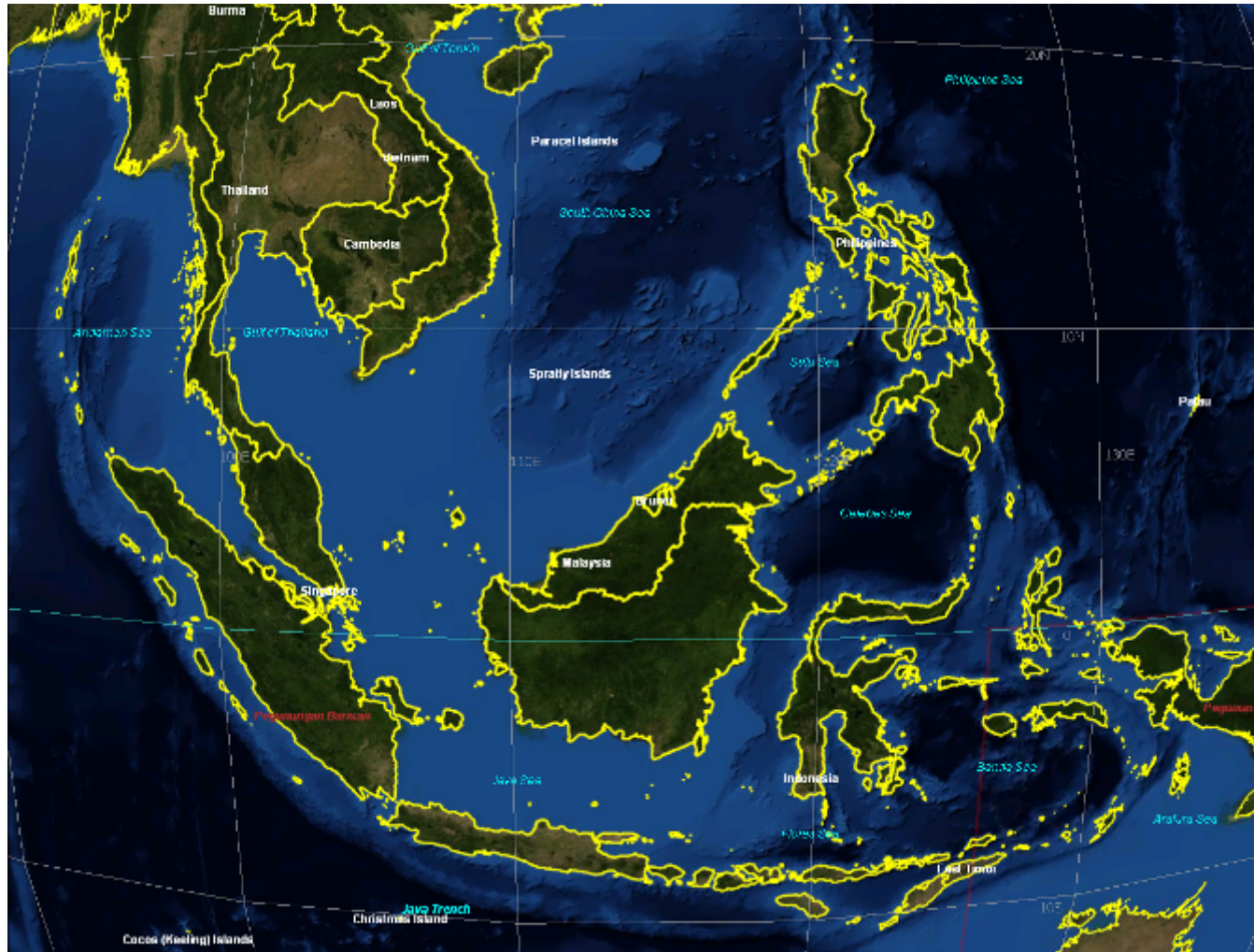
GEO task on “Forest Carbon Tracking”

Ultimate Goal:

Establishment of a network of national systems and associated regional test-sites, using satellite data and methodologies, to demonstrate forest-change monitoring capability, in support of climate policy needs

Initial Focus Areas

- SE Asia -



Agendas for discussion

- Global Forest Observations Initiative (GFOI) was proposed as the first task to commit to an operational contribution
- FCT conduct research activities responding to the policy demands: Rio+20
 - 1) Monitoring, Reporting and Verification (MRV) to support the UNFCCC/REDD+ development
 - 2) Consideration of the tradeoff between global forest carbon management and other social benefits.

Session program (part 1)

Overview of GEO FCT and GFOI

Miriam Baltuck (CSIRO, DCCEE, Australia), Co-Chair

Overview of the GFOI Space Data Coordination

Ake Rosenqvist (soloEO, Japan)

Overview of REDD+ activities in Malaysia

Hamdan bin Omar (FRIM, Malaysia)

Overview of REDD+ activities in Indonesia

Orbita Roswintiarti (LAPAN, Indonesia)

Overview of REDD+ activities in Vietnam

Nguyen Phu Hung (Forest inventory and planning institute, Vietnam)

Overview of National Carbon Project

CS Jha (FED, NRSC, India)

Session program (part 2)

Stability of GAMMA-NAUGHT and THE PALSAR based FOREST MRV SYSTEM

Masanobu Shimada, Manabu Watanabe, Takeshi Motooka, Tomohiro Shiraishi, Rajesh Thapa (Japan Aerospace Exploration Agency (JAXA), Japan)

Systematic collection of in-situ data for validation of remotely sensed information for regional forest carbon monitoring

Kenlo Nasahara (Univ. Tsukuba, Japan)

Research of forest carbon monitoring methodologies for REDD+

Tamotsu Sato (Forestry and Forest Products Research Institute (FFPRI), Japan)

Estimate on large scale carbon dynamics in tropical peatland-forest

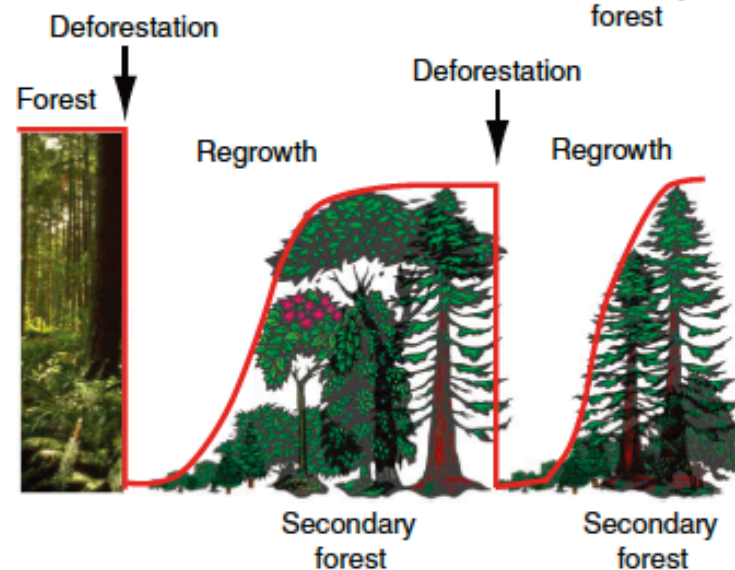
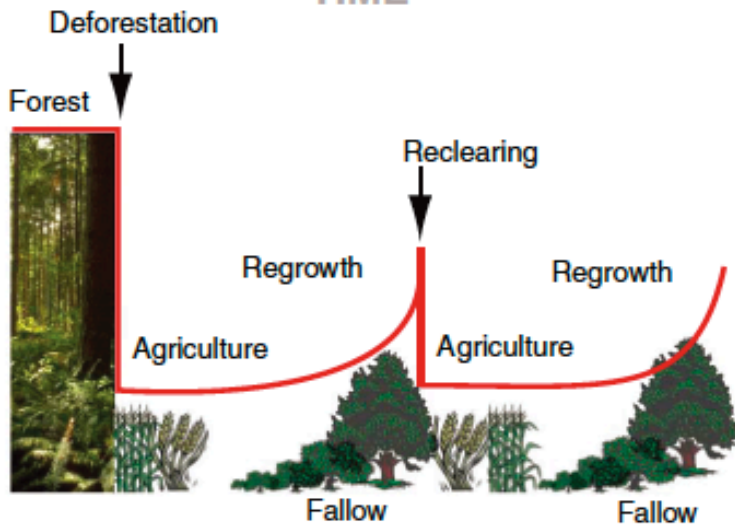
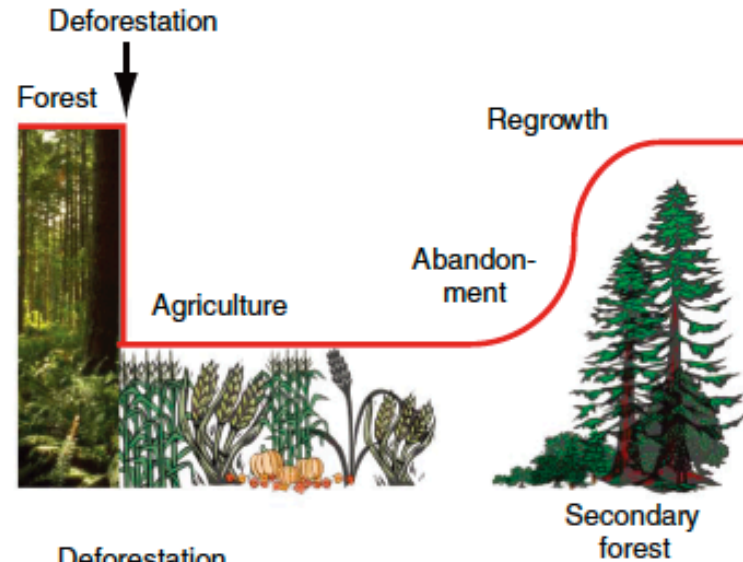
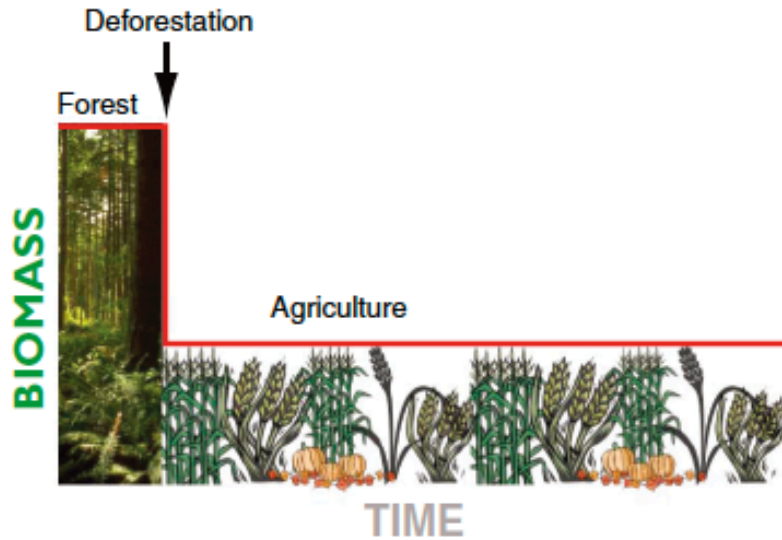
Mitsuru Osaki and Kazuyo Hirose (Hokkaido Univ.)

Integrating ground observation, satellite remote sensing, and terrestrial ecosystem model for future forest carbon monitoring systems

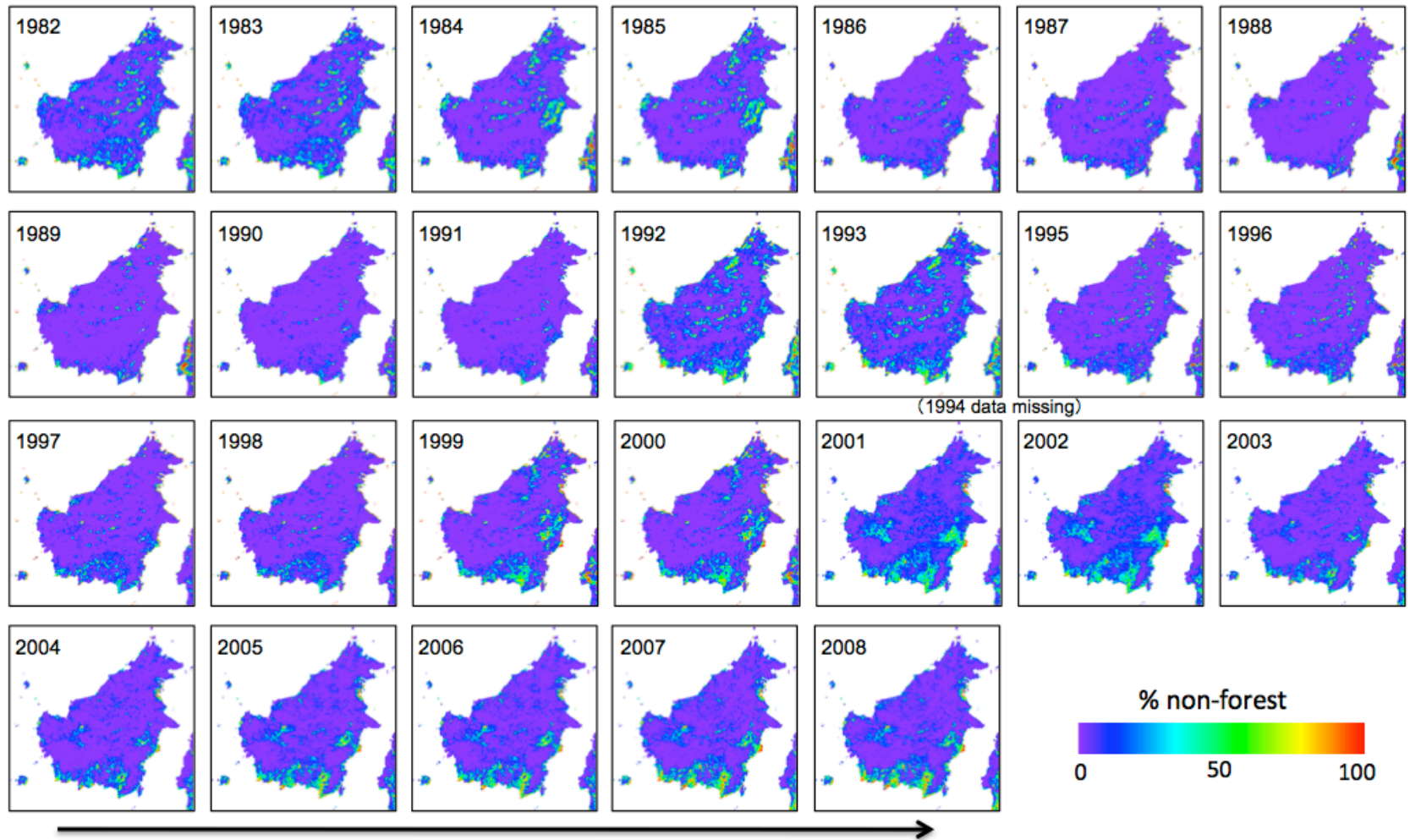
Nobuko Saigusa, Akihiko Ito, and Yoshiki Yamagata (NIES, Japan)

Session summary and discussion lead by Co-chairs for FCT toward sustainability science

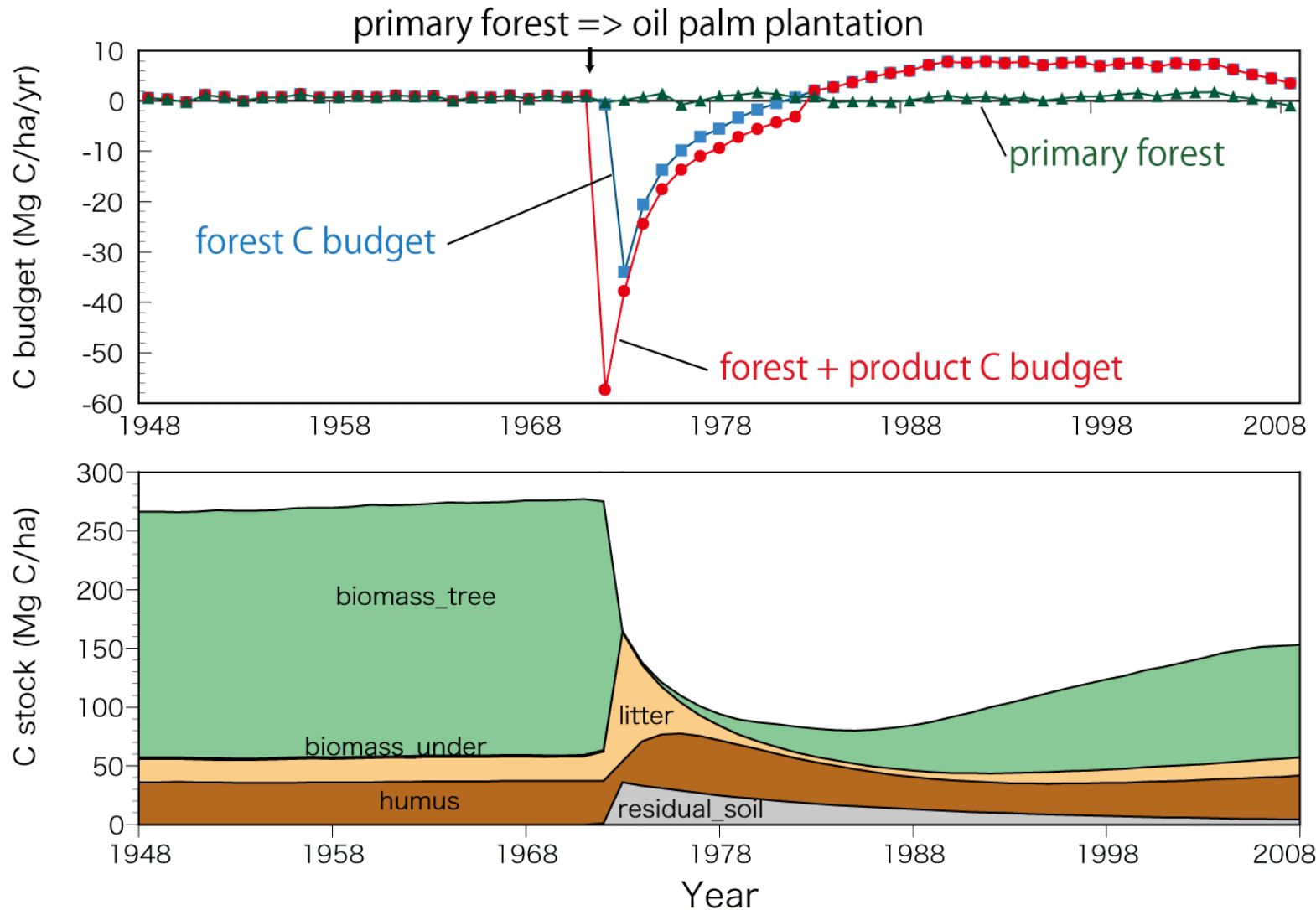
Forest Carbon Accounting combining Remote Sensing and Ecosystem Model



Forest Carbon Accounting combining Remote Sensing and Ecosystem Model

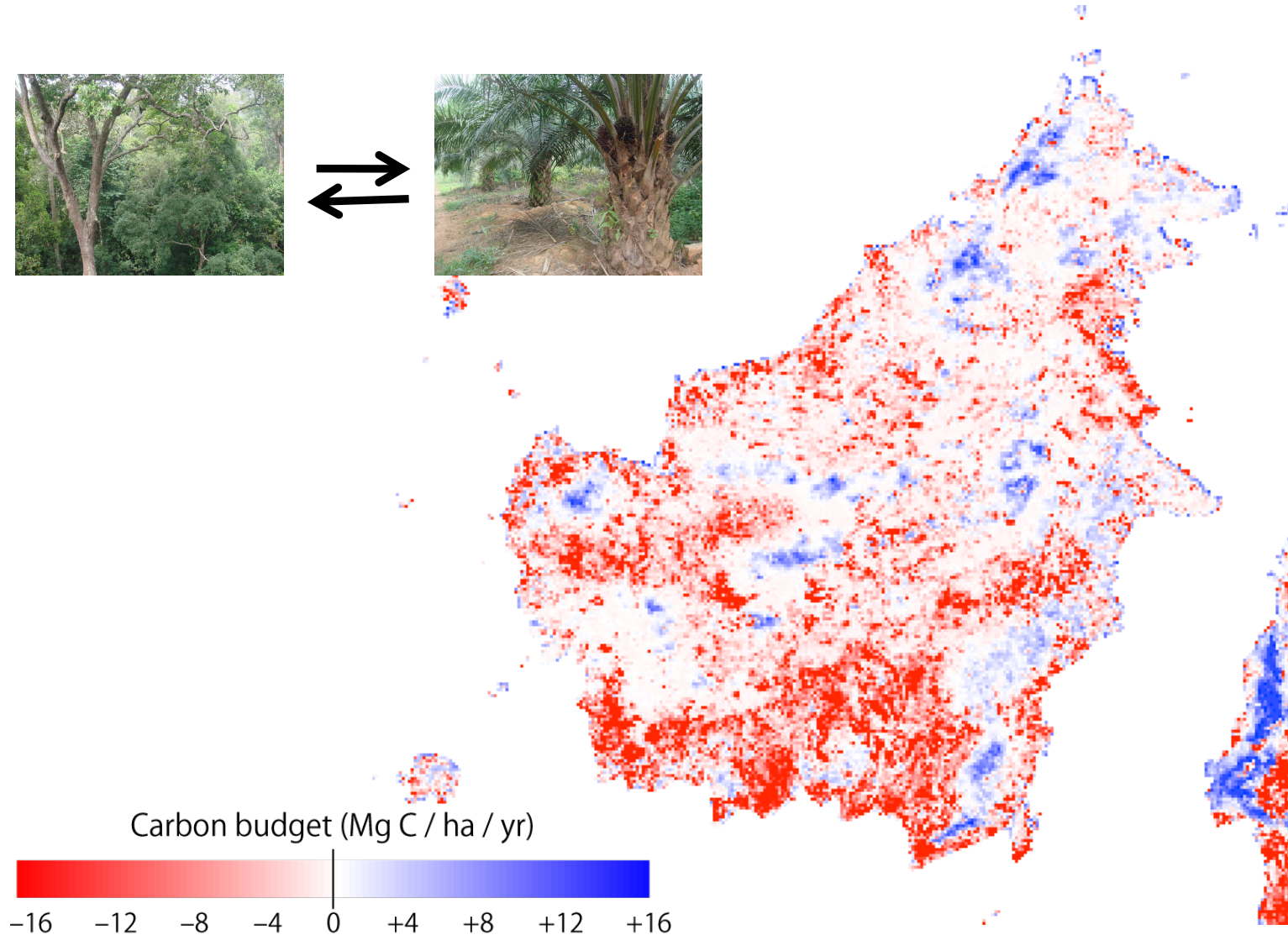


Forest Carbon Accounting combining Remote Sensing and Ecosystem Model



(Adachi et al. 2011)

Forest Carbon Accounting combining Remote Sensing and Ecosystem Model



Emissions from Decomposition in Tropical Peatlands

Decomposition



355 Mt y⁻¹ to 855 Mt y⁻¹ (2006)

Fire



Minimum:

469 Mt y⁻¹ CO₂ (2000–2006)

Maximum:

1,400 Mt y⁻¹ CO₂ (1997–2006)

Minimum: 637 Mt y⁻¹ CO₂ (2000–2006)
Maximum: 2,255 Mt y⁻¹ CO₂ (1997–2006)

→ 3-10% of FF emissions