

GEOSS Asia-Pacific Symposium
4th Parallel Session

**Summary of
Mapping Forests and Tracking Carbon**

April 15 (Tue)
Room 2

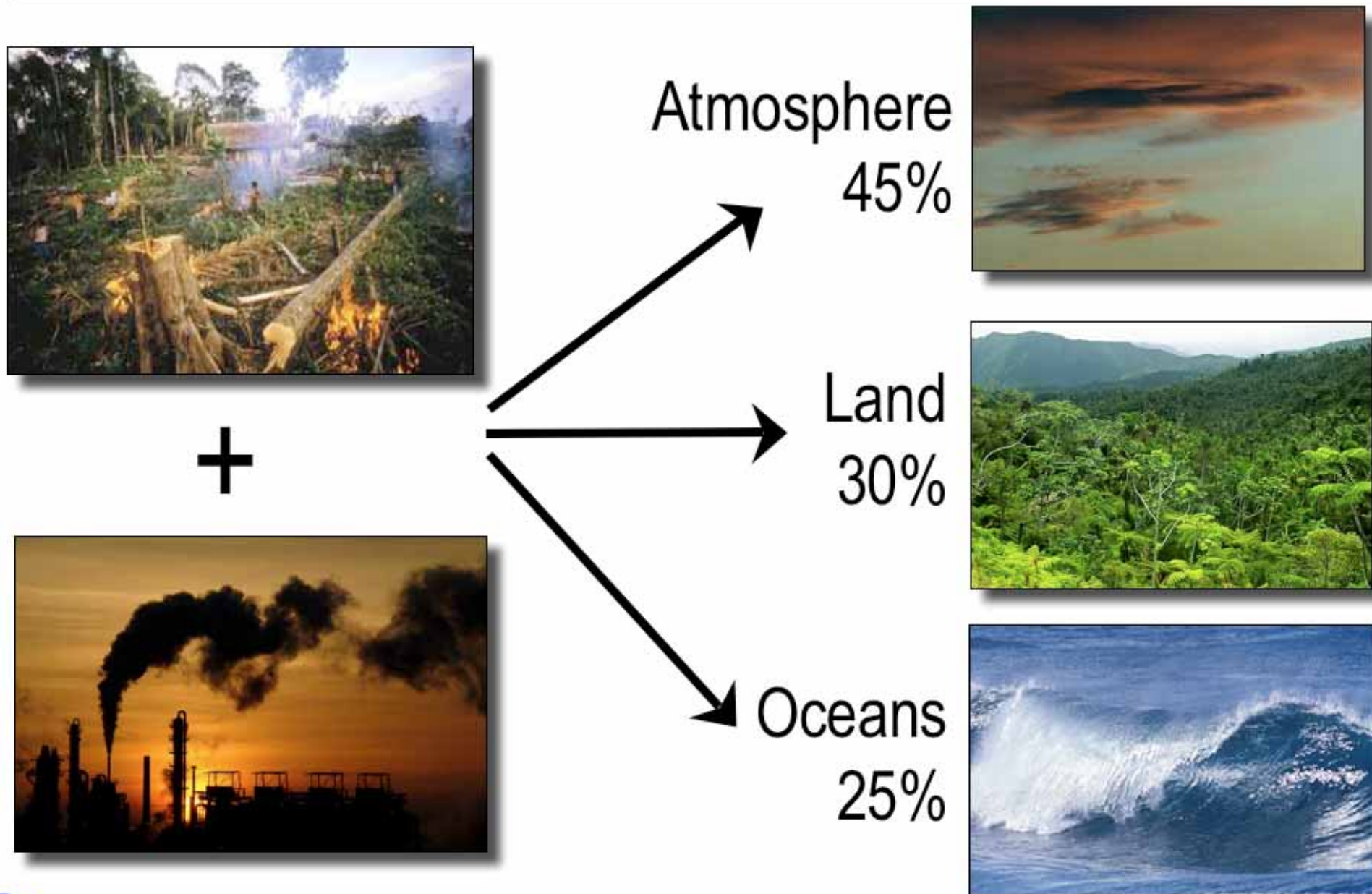
Chairs:

Yoshiki Yamagata,
National Inst. for Environmental Studies (NIES)

&

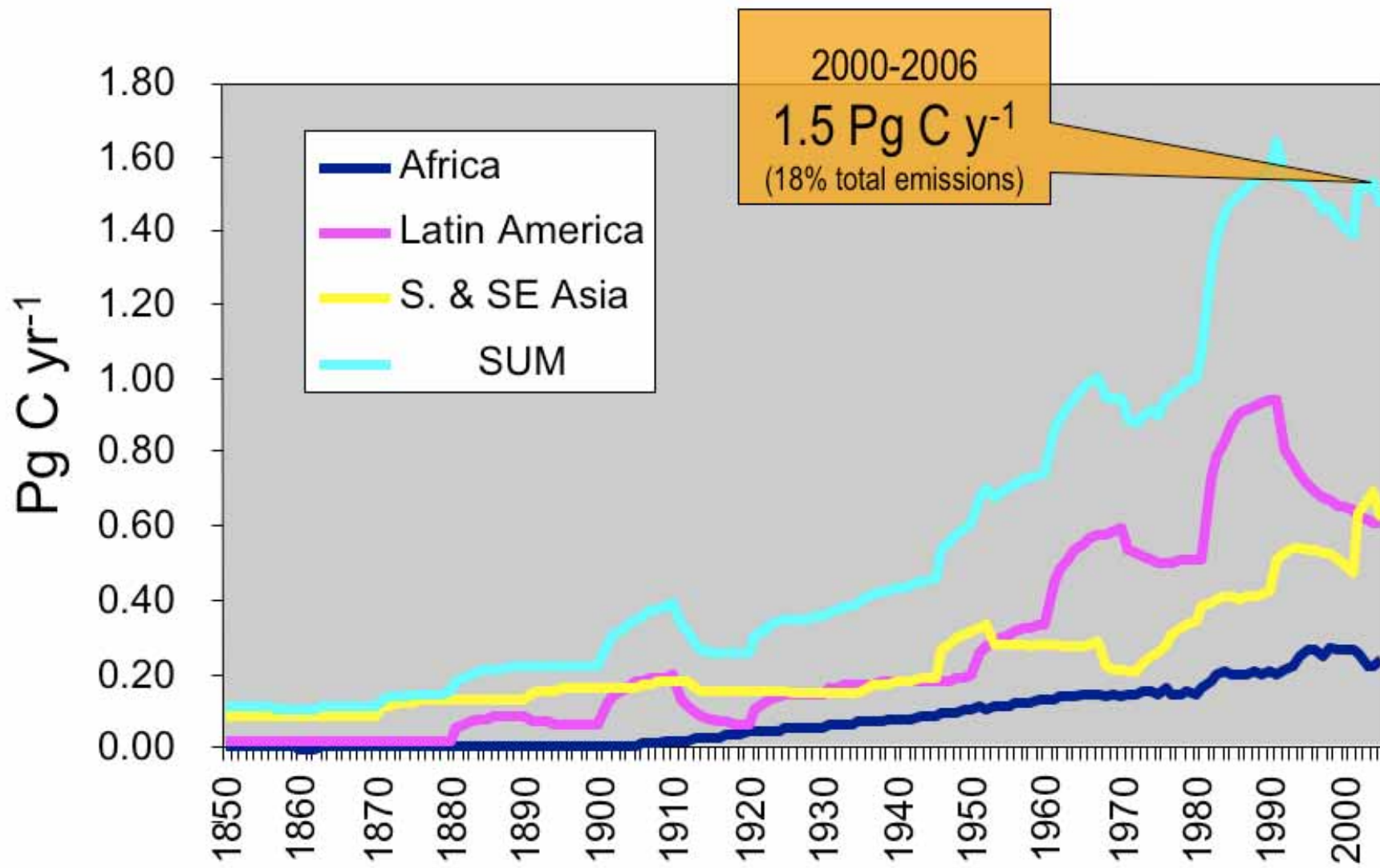
Ake Rosenqvist
European Commission JRC

Fate of Anthropogenic CO₂ Emissions



Anthropogenic C Emissions: Land Use Change

Carbon Emissions from Tropical Deforestation



Houghton, unpublished; Canadell et al. 2007, PNAS

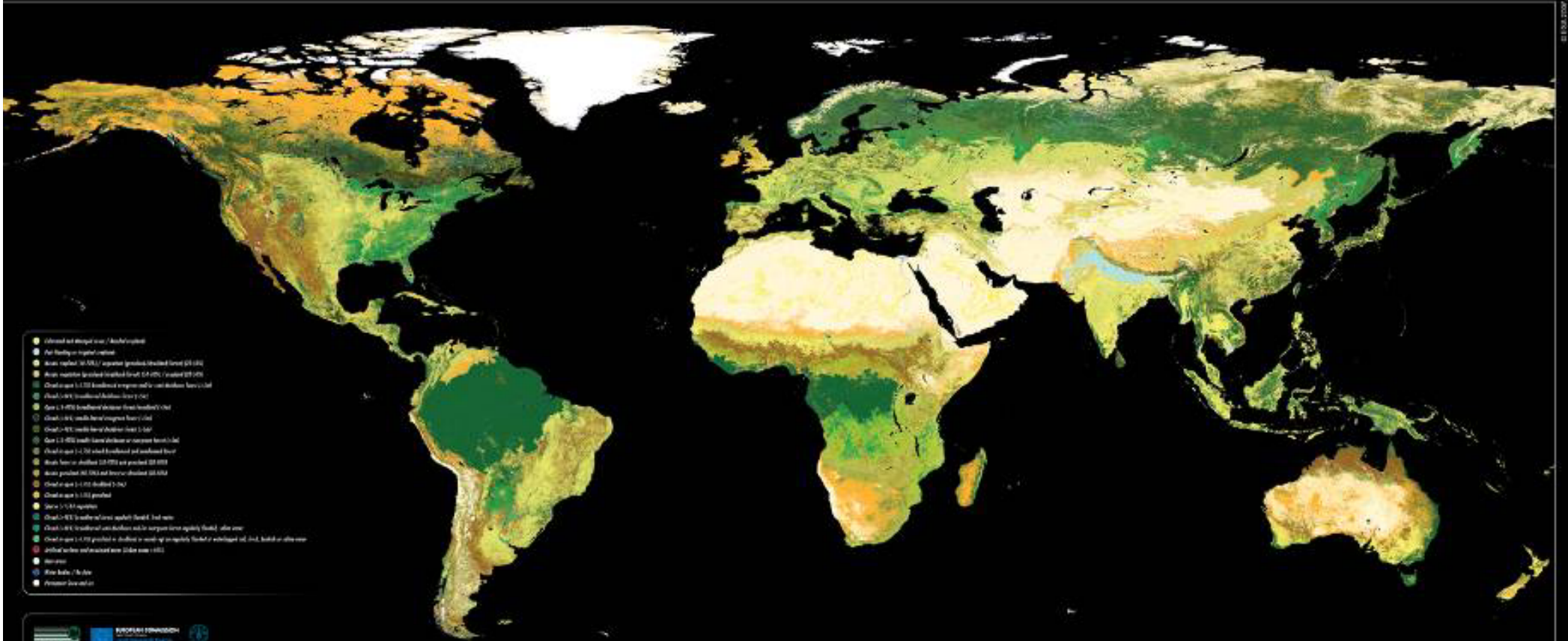
Mapping Forests and Carbon

Session overview

- ✧ 18 presentations
- ✧ 70 participants
- ✧ **GEO Workplan** Tasks Working on Forest Mapping and Carbon Tracking
- ✧ **Global Observations** - Requirements and contributions
- ✧ **Initiatives and research projects**

- ✧ And, we had hot discussions at
- ✧ **Round table**: How GEOSS could support global forest carbon measurements

GLOBCOVER (2005/6)



- Global wet tropical forest (A01) (green)
- All forests (green)
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European Space Agency
Agence spatiale européenne

ENVISAT meris 300m Land Cover 2005/2006



Beta version in review by GEO task team
Dataset release: July 2008

GOFC-GOLD



Building a global archive for forest and
land cover change monitoring

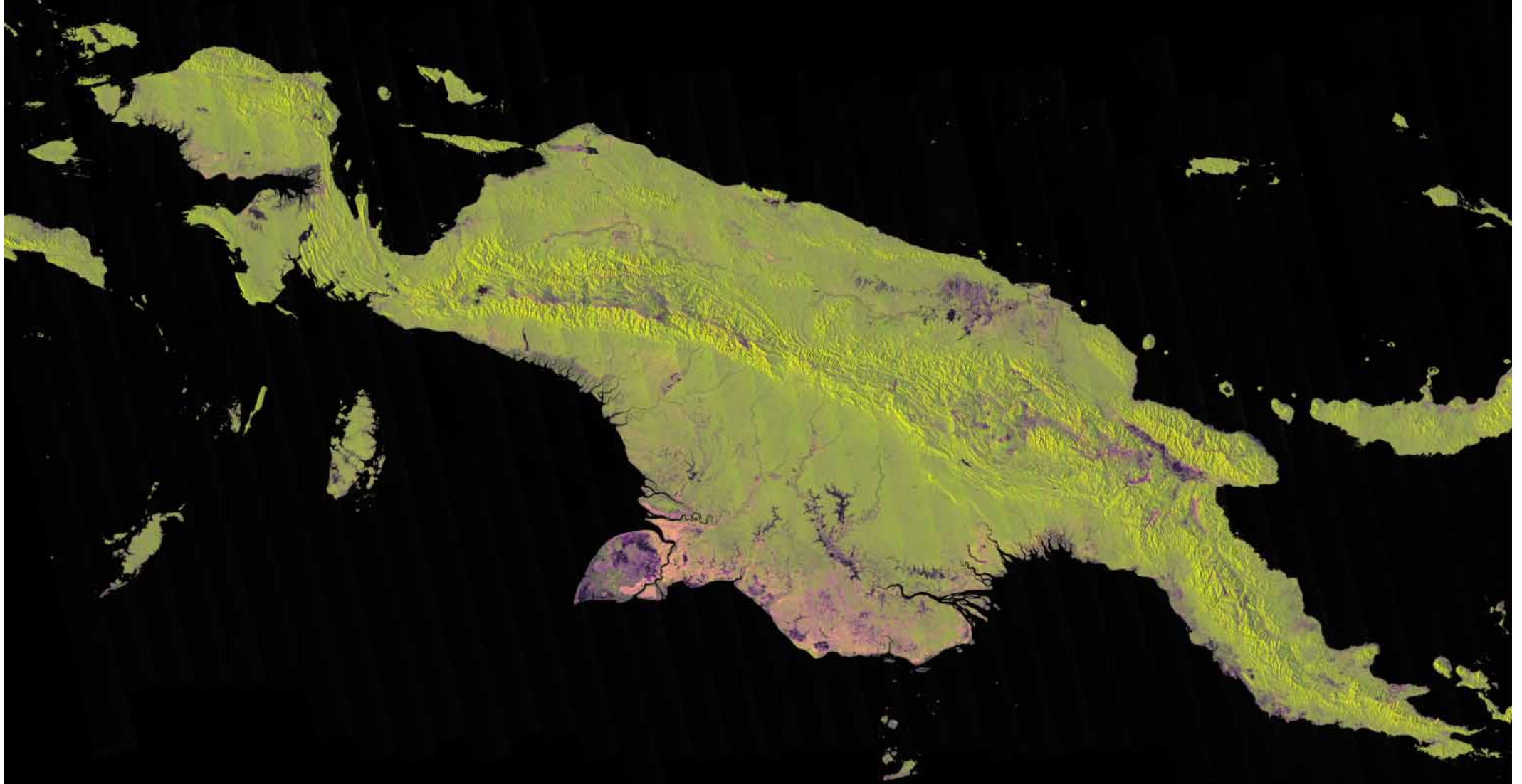
K&C JAXA/METI

Building a global archive for forest and land cover change monitoring



K&C JAXA/METI

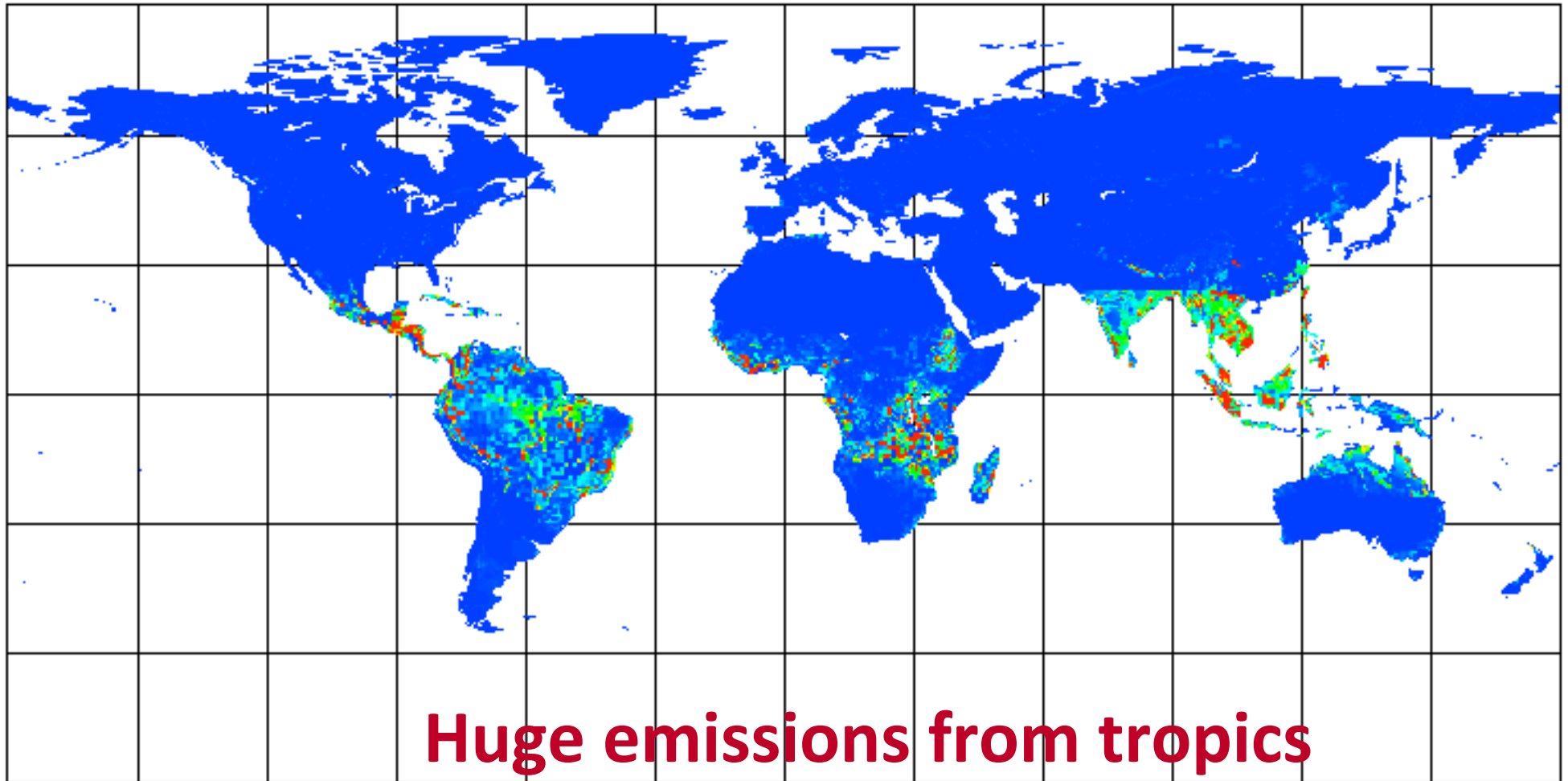
Building a global archive for forest and land cover change monitoring



K&C JAXA/METI

CO2 emission from deforestation, 1990s

LUC emission: 1990s



Huge emissions from tropics

Recommendations to GEO

- A number of activities have been initiated by GEO Members and Participating Organizations on various aspects of forest mapping and carbon measurement. Nevertheless, forest carbon mapping and tracking are still not an integrated GEOSS activity.
- Therefore, GEO should ensure the adequate coordination needed to realize a common global forest carbon observation strategy using the best possible satellite, air-borne and in-situ measurements as well as models.

❧ Forest carbon mapping and tracking by satellite (including SAR, optical and LIDAR) has the potential to provide essential information for predicting climate change and taking measures for climate change mitigation. The estimates of carbon emissions from deforestation, degradation and other land-cover changes can be improved by integrating such measurements with in-situ observations and carbon models. In particular, GEO needs to initiate GEOSS activities on coordinating systematic observation strategies for existing and future SAR instruments.

➤ These activities should build on the following existing GEOSS Tasks:

- Forest Mapping and Change Monitoring
- Global Land Cover
- Pilot Communities of Practice
- Virtual Constellations
- Key Terrestrial Observations for Climate
- Global Ecosystem Observation and Monitoring Network