

What is GOFC-GOLD

- A coordinated international effort to ensure a systematic and continuous program of space-based and on-the-ground observations of forest and land cover
- A network of participants implementing coordinated research, demonstration and operational projects
- A vision to share data, information and knowledge to inform decision making and address user needs



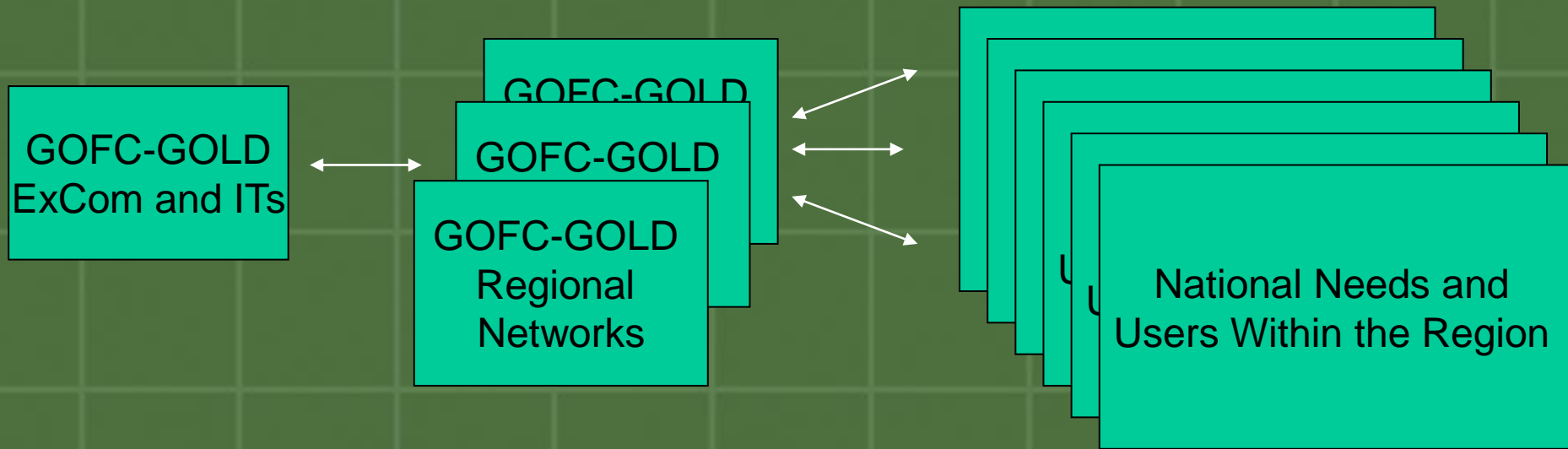
Organizational Structure

- Executive committee
 - Tony Janetos, Chair
- Two implementation teams
 - Land Cover Characteristics and Change (M. Herold and C. Woodcock)
 - Fire Monitoring and Mapping (J. Goldhammer and C. Justice)
- Working groups
 - Biomass Monitoring
 - Reducing Emissions from Deforestation and Forest Degradation (REDD)
 - Other
- Regional networks
 - Coordinators: Olga Krankina and Anja Hoffman (fire)



Regional Networks

a critical component of GOFC-GOLD
connecting ExCom, Implementation Teams, and Working
Groups with data users in the regions



Role of Regional Networks in GOFC-GOLD

- **Formulate regional requirements**
 - Observations (measurements)
 - Derived products and their accuracy
- **Facilitate regional use of remotely sensed data and products**
 - Establish regional data dissemination nodes
 - Encourage standardization and harmonization of regional products
 - Outreach workshops with regional practitioners and decision makers
 - Coordinate regional capacity building and training of users
- **Promote technology transfer and collaborations within countries and regions**

GOFC-GOLD Regional Networks are...

- **Self-organizing, self-directed and self-supported networks of**
 - Practitioners, Scientists and Organizations (Government and NGOs)
 - Within the region and with interest in the region
 - Countries
- **Varied structures, geographic and thematic scope**
- **GOFC-GOLD provides**
 - **Initial support through START (NASA)**
 - ESA, FAO, CFS
 - **Coordinators**
 - Olga Krankina / Land Cover
 - Anja Hoffmann / Fire



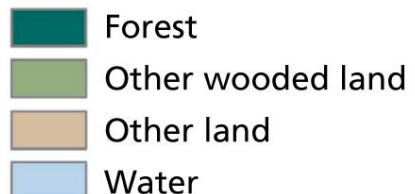
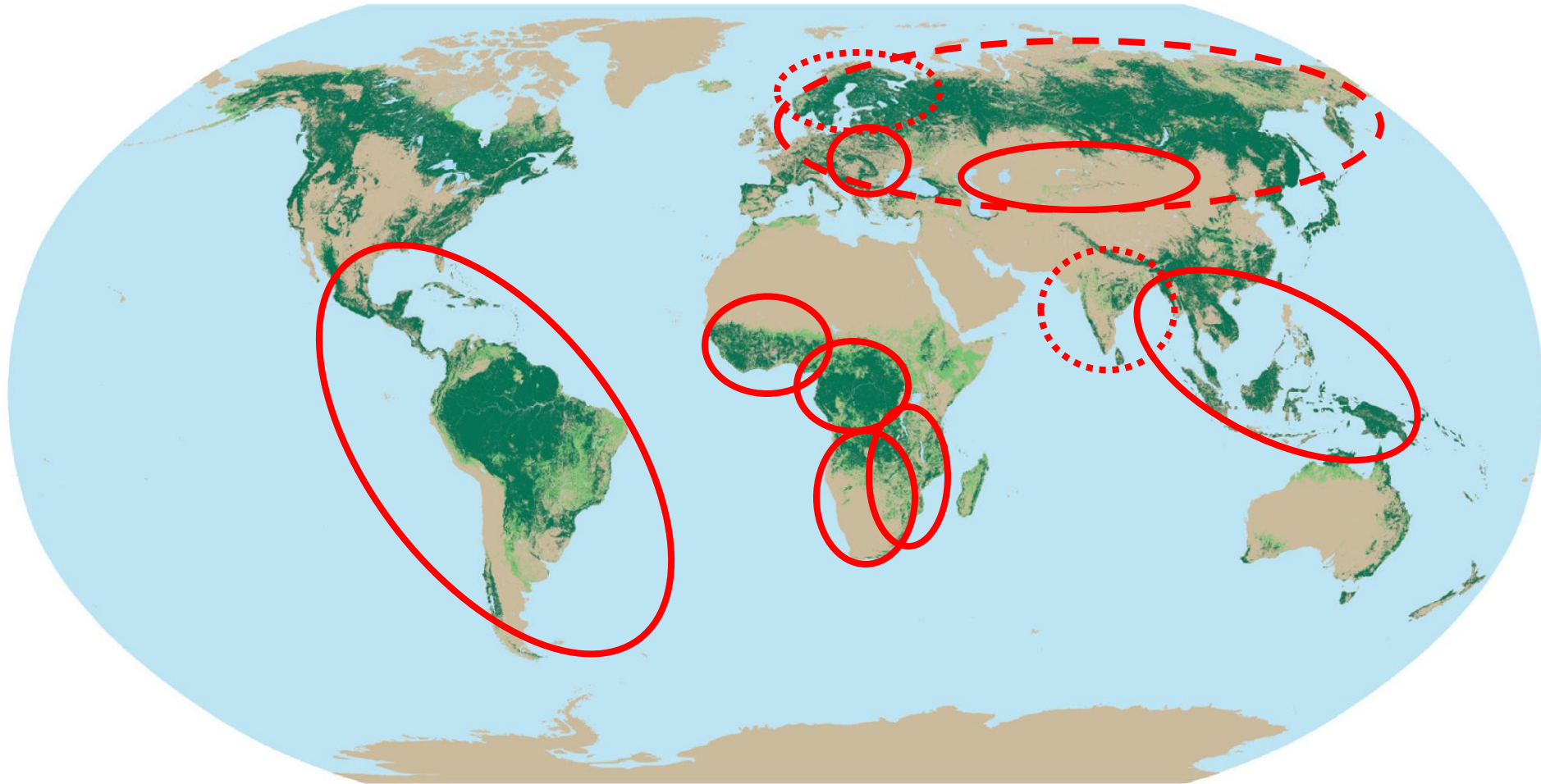
Regional Networks

at Inter-network workshop in Wageningen, April 18, 2013

1. **NERIN** – Northern Eurasia – **Olga Krankina**
2. **RedLatiF** – Latin America - Alberto Setzer / **Gerardo López Saldaña**
3. **SAFNET** – Southern Africa – **Philip Frost** / Navashni Govender
4. **Miombo** - Southern Africa – **Natasha Ribeiro**
5. **WARN** – West Africa – **Vincent von Vordzogbe**
6. **OSFAC** - Central Africa – Landing Mane
7. **SEARRIN** - South East Asia – **Thatheva Saphangthong**
8. **CARIN** – Central Asia - Nadija Muratova / **Alim Pulatov**
9. **SCERIN** – South-Central Europe - **Jana Albrechtova**
10. **BARIN** – *Baltic-Arctic* – *Gregg Taff*
11. **SARIN** – *South Asia* – *Krishna Vadrevu*



The world's forests



RedLatif MEETING

October 29th and 30th, 2012



Armando Rodriguez (Bolivia)
 Carlos Pinto (Bolivia)

Federico Gonzalez (Spain)

Gerardo Lopez (Portugal)

† Sergio Opazo (Chile)

Alberto Setzer (Brazil)

Ivan Csiszar (USA)

Hector del Valle (Argentina)

Jesus Anaya (Colombia)

Isabel Cruz (Mexico)

Eva Majias (Cuba)

Lilia Manzo (Mexico)

Paula Blanco (Argentina)

Fabiano Morelli (Brazil)

Isabel Manta (Peru)

Eliana Henriquez (Chile)

Carolina Tapia (Ecuador)

NERIN



GRANGER

Northern Eurasia Regional Information Network

NERIN Workshops

- Boreal Forest Workshop -Novosibirsk, Russia, August 2000
- Regional workshop for Western Russia-Fennoscandia -- St. Petersburg, Russia, June 2001
- Northern Eurasia Earth Science Partnership Initiative (NEESPI) workshops --



Eurasia”, September 15-21, 2009, Almaty, Kazakhstan

- **CARIN – Central Asia Regional Information Network**
- **Formulation Workshop - April 17, 2012, Sofia, Bulgaria**
- **Volga Workshop, June 17 – 22, 2012, Yoshkar-Ola**

GOFC-GOLD Networks in Northern Eurasia



MODIS 1-km true color composite: August 20-28 2004.
Shaded relief adjustment using SRTM GTOPO30 elevation data.
Produced by Mutlu Ozdogan, NASA GSFC

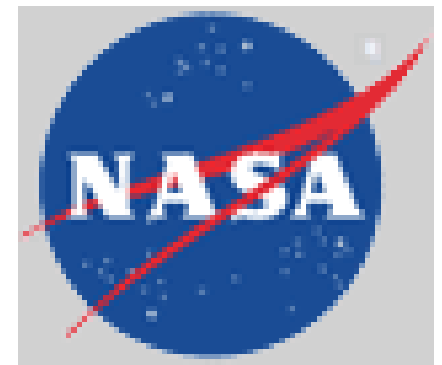
Network Activities

- Regional Workshops are the main activity
- GOFC-GOLD Regional Network Data Initiative
 - Landsat Data Archive at USGS is free!
 - Access is difficult in regions with inadequate internet
 - Disseminate Landsat data
 - Provide training in use of remotely sensed data
 - 3 Data Initiative workshops in USA (19 trainees total)
 - Data Initiative #4 – planned for May 2014
- Network Projects

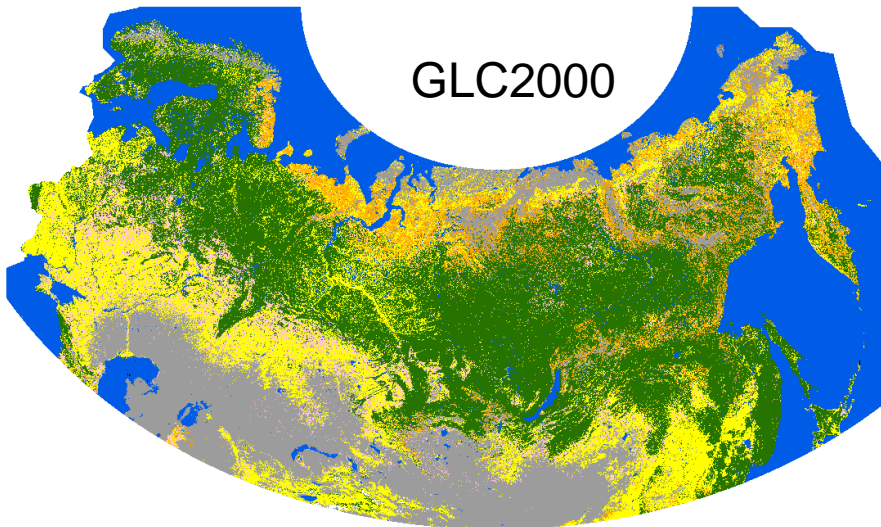


NEELDA

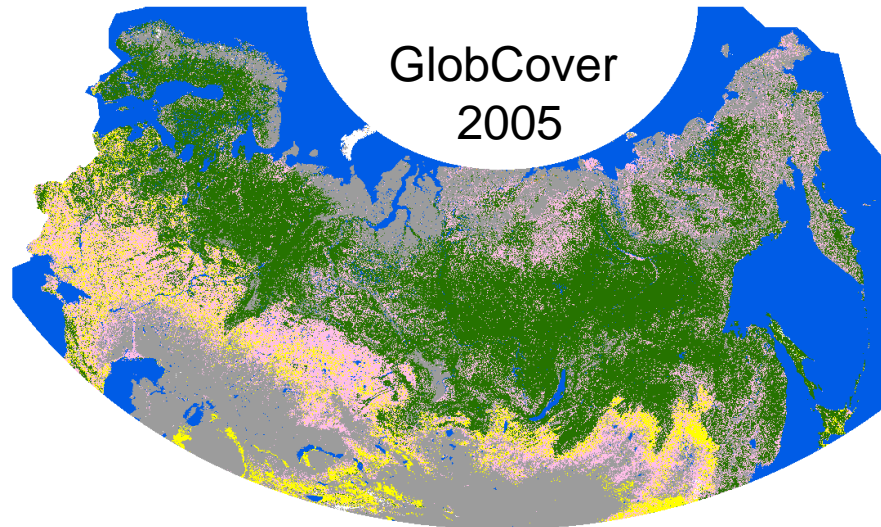
(Northern Eurasia Landcover Dynamics Analysis)



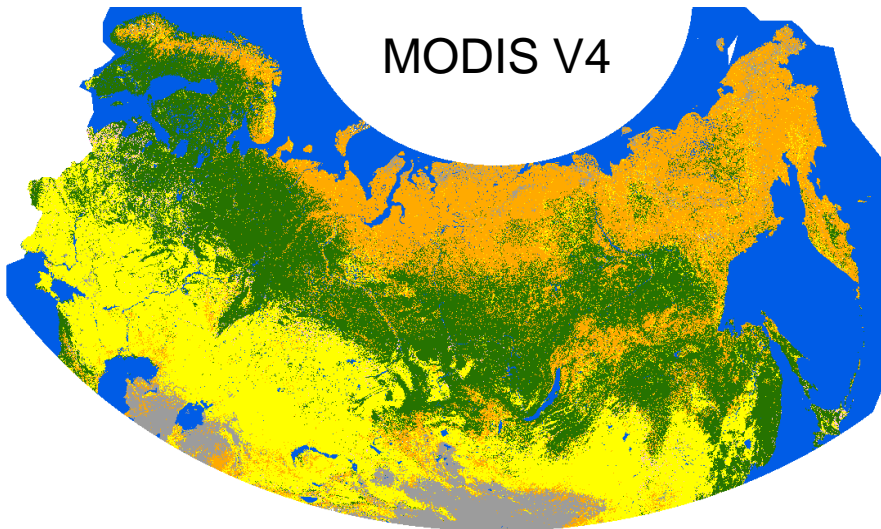
GLC2000



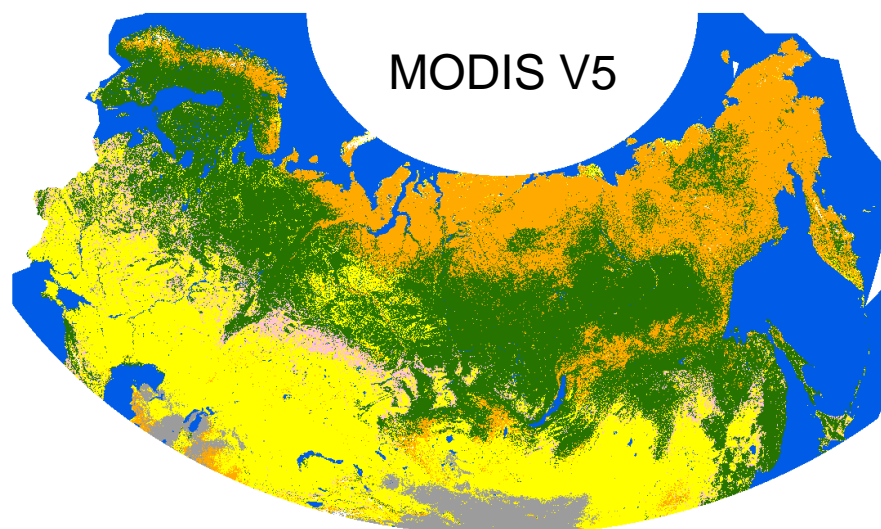
GlobCover
2005



MODIS V4



MODIS V5



Tree



Shrub



Herbaceous



Mosaic



Bare



Ice



Water

Overview

St. Petersburg

Carpathians

Komi

Chita

Priangare

Kazakhstan

Amur

Vasyugan

Sikhote-Alin

Mongolia

Yoshkar Ola

Global Land Cover

To identify specific needs and possibilities for improved mapping of land cover across boreal and temperate Northern Eurasia, we compared the performance of recent land-cover products derived from different sensors: MODIS (MODIS IGBP Land Cover Collection 4 and 5), SPOT VEGETATION (GLC-2000) and MERIS (GLOBCOVER).



What are the differences and similarities between global datasets?

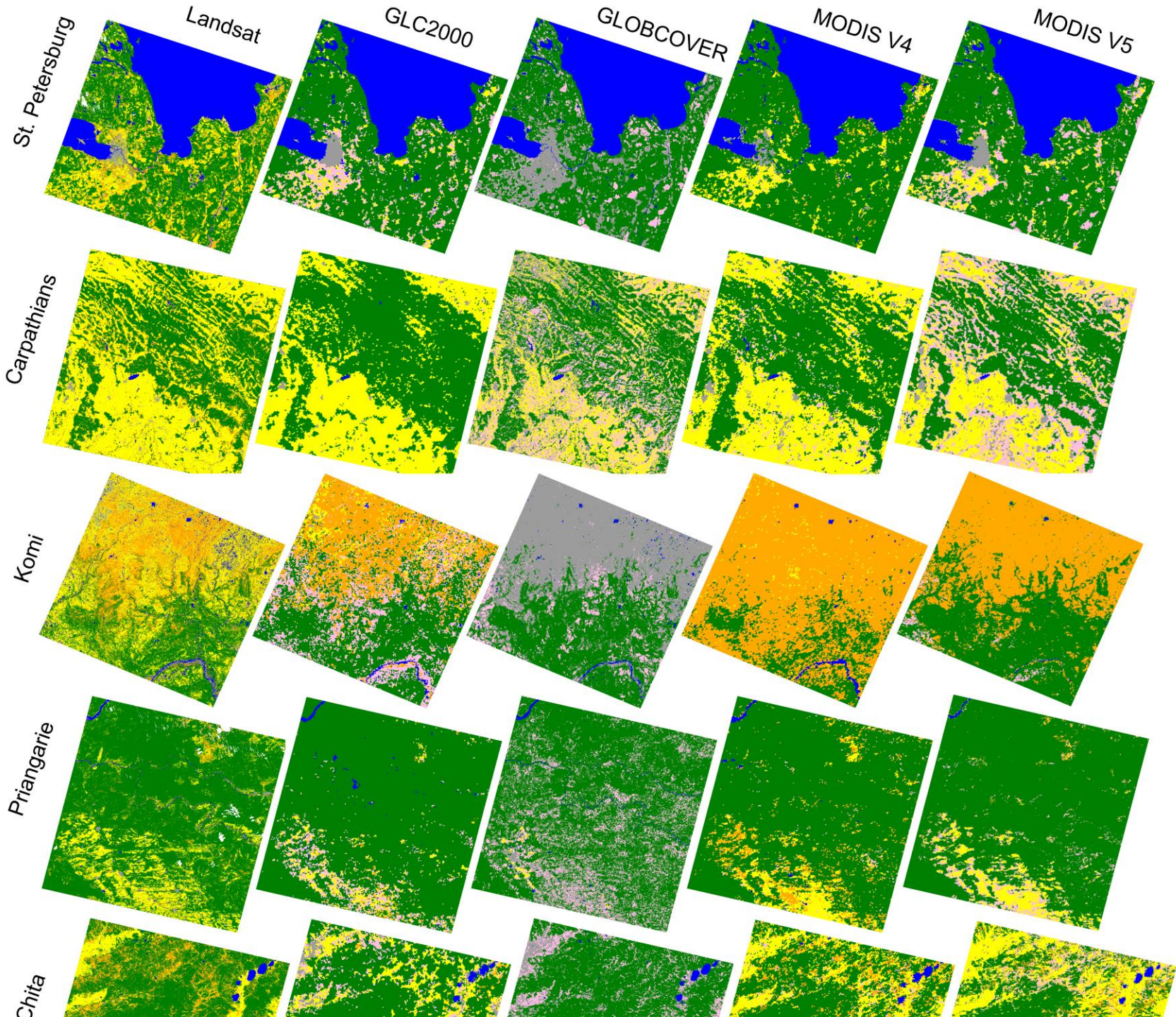
We examined the level of agreement among these data sets across the entire region. On a qualitative level, the assessment of general patterns indicates the highest degree of disagreement in transitional zones at the northern and southern fringes of boreal forest, in mountainous regions, and in areas of extensive wetlands, agricultural development, and urban land use. The quantitative analysis measured the level of disagreement between land-cover classes aggregated according to dominant life form type of vegetation (trees, shrubs, herbaceous, bare land, and permanent snow/ice).

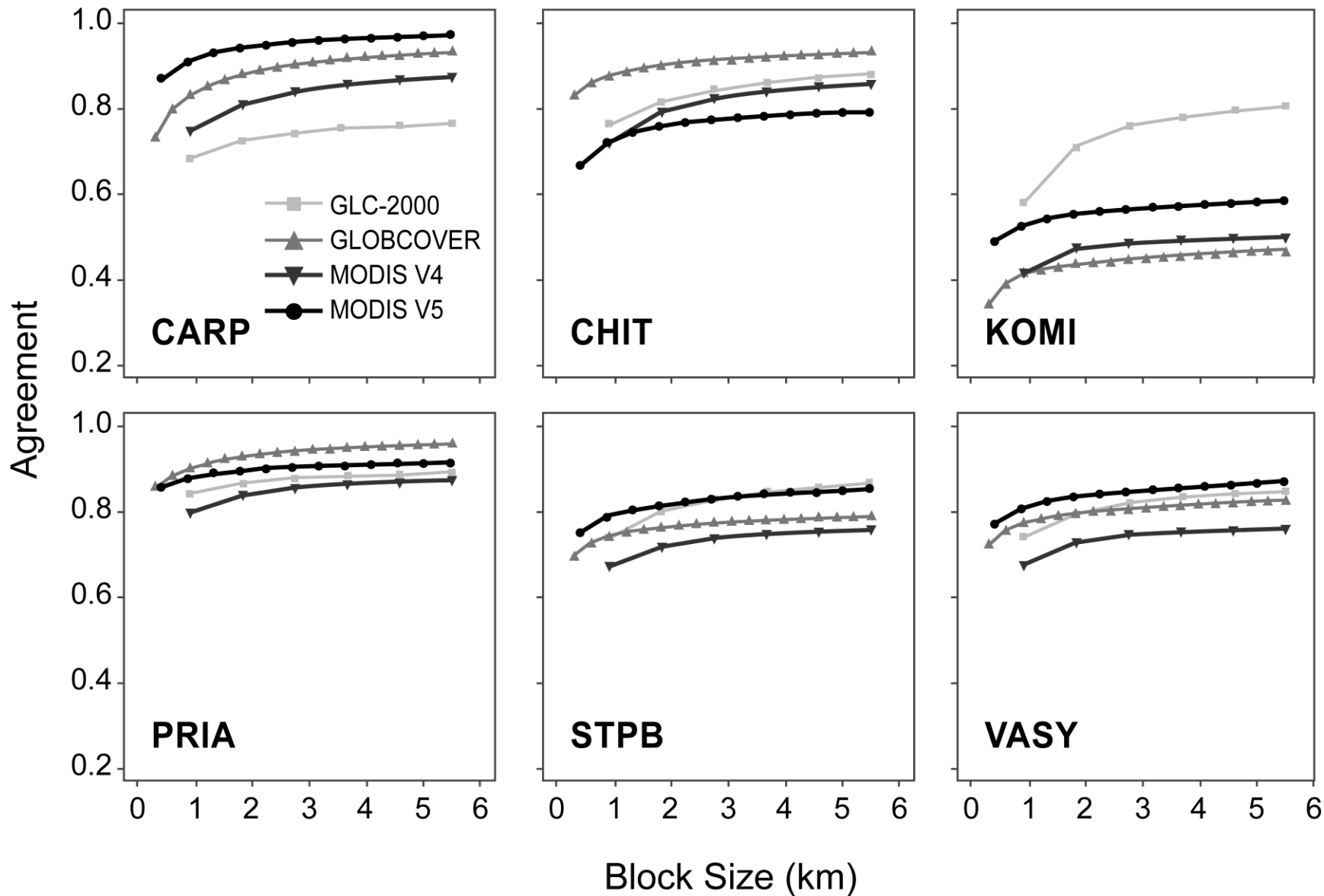
What is the accuracy of global maps at NELDA test sites?

Validation of global datasets was performed with higher resolution, Landsat-based land cover maps from [NELDA test sites](#). Fractional land cover was calculated for coarse resolution pixel and used to construct fractional error matrices. Most errors were associated with "mixed" coarse-resolution pixels (i.e. those having nearly equal percentage of multiple class types), while errors in "pure" (single class) pixels were low. In addition to actual differences in land-cover classifications, other sources of discrepancy among these land cover products include class definitions, map projections, and spatial resolution.

Dominant Live Form Types

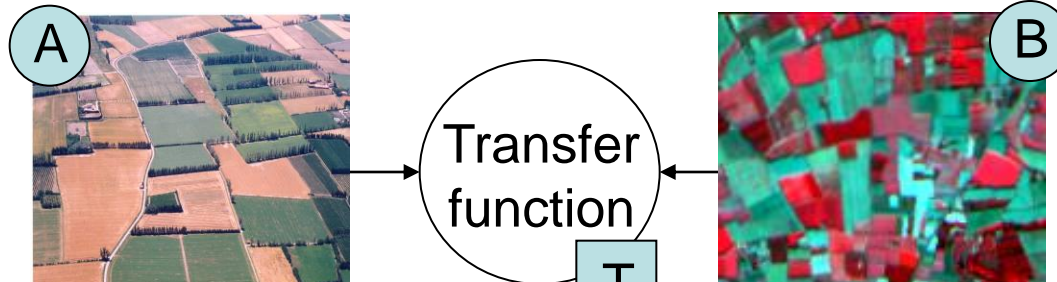
Differences in class definitions and legends between maps are a major difficulty for comparing global land





Field data

High resolution imagery



Contents lists available at SciVerse ScienceDirect

Remote Sensing of Environment

journal homepage: www.elsevier.com/locate/rse



Comparison and assessment of coarse resolution land cover maps for Northern Eurasia

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Planning the future of networks

- **All-Networks meeting (April 18, 2013)**
 - Strategic plan for future network activities and support
 - Improving quality and effectiveness of training
 - Coordination with ITs and working groups
- **Regional Network workshops in 2013**
 - SAFNET (done)
 - SCERIN
 - MIOMBO (June 22-25, 2013)
 - CARIN (November 2013)
- **Data Initiative Workshop 2014**
- **Regional Network Projects**
 - Science, applications, training, etc.
- **Regional networks need committed individuals and institutions who can lead activities of a network**



Networks

Not exactly what
we wanted ...

... but it
works ...

... the net works!



Cartoon: K. Herweg



GOFC-GOLD

GOFC-GOLD

Global Observation of Forest and Land Cover Dynamics



<http://www.fao.org/gtos/gofc-gold/index.html>

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