



Objectives of the Meeting

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Why do we study LCLUC ?

(land cover and land use change)

- National Land Use Policies, Economic Development and Globalization are resulting in Land Use Change
- Climate Change is/will impact land use - adaptation to climate change through land use change
- Increasing Competitive demands on land – food, feed, fuel, housing, conservation
- Land use change has impacts on
 - Biogeochemical cycling (carbon, nitrogen)
 - Land atmosphere fluxes (energy, water)
 - Environmental quality (water, air)
 - Livelihoods and well-being (food supply, disease vectors)
 - Biodiversity loss and cropland loss
- Land use will continue to change as population grows and the demand and value of land increases, land as capital

Definitions: Land Cover, Land Use, Change

- **Land Cover** – what we observe – vegetation/bare soil/buildings etc – (amenable to remote observations - land cover type, land cover parameterization, vegetation continuous fields, objects) etc
- **Land Use** – the use to which the land is put with the associated management practices (e.g. agriculture mechanized or subsistence, clear cutting, selective logging, biomass burning, afforestation, recreation, conservation) etc
 - A piece of land may have multiple uses at one time
- **Changes in Land Cover** - change in cover type (forest to pasture, cropland to woodland, agriculture to urban), change in characteristics (structure, field size, degradation, productivity, species composition) etc
- **Changes in Land Use** – change in management practices, intensification, extensification, mechanization, irrigation, abandonment, cropping system, protection, urbanization/surburbanization etc

Scientific Program Committee

- Dr. Volker Radeloff, University of Wisconsin-Madison, USA
- Dr. Krishna Vadrevu, University of Maryland College Park, USA
- Dr. Éva Konkoly-Gyuró, U. Western Hungary
- Dr. Garik Gutman, LCLUC Program Manager, NASA Headquarters, USA
- Dr. Chris Justice, University of Maryland, College Park, USA

Broad Meeting Objectives

- Strengthen collaboration between US NASA Land Cover and Land Use Change Program and Scientists from the Central Europe and Adjacent Regions
 - Better understanding of regional research priorities
 - Identify opportunities for collaboration
 - Better awareness of available data sets (NASA/NOAA/ESA etc)
 - Better understanding of on-going NASA LCLUC Research and other International Research Projects
- Provide updates from international and regional science and observation initiatives related to aspects of land cover and land use and identify opportunities for regional science participation
- Strengthen the GOFC-GOLD Network activities in Central and Eastern Europe

GOFC-GOLD

GLOBAL OBSERVATION FOR FOREST
AND LAND COVER DYNAMICS



GTOSS



GOFC-GOLD is a coordinated program of space-based and on-the-ground observations of forest and land cover for global monitoring of terrestrial resources and the study of global change

Implementation Teams

(NASA/ESA supported)

- Land Cover and Forest Cover Change
- Fire
- Biomass

Function

- Forum for users of satellite data to discuss their needs and for producers to respond through improvements to their programs
- Forum to establish and communicate observation requirements and best practices for data use (e.g. REDD Sourcebook)
- Forum for international scientists to develop and strengthen networks for data access, data sharing, and international collaboration

Focus on

- Observation requirements
- Standardized data processing and interpretation methods
- Production of improved products with accuracy assessment (validation)
- Improved access to data
- Advocacy for data continuity

Moderate Resolution LC Issues

- Monitoring LCC at scales that capture the changes (c.30m)
 - Validation using finer resolution data (e.g. 5m)
 - Characterizing Land Use at finer resolutions (< 5m)
- The Open Landsat archive has transformed moderate resolution data use – free access to Sentinel 2 data coming
- Major advances being made in time-series analysis
 - The open archive and advances in compute provide considerable new analysis opportunities
- New moderate resolution LC/LU products emerging
 - QC/Validation need to be an integral part of any product
- Increased temporal data coverage needed
 - NASA/ESA/USGS Sentinel 2 and Landsat 8 inter-use projects
- Increasingly standardized processing
 - Geo-location, Atmospheric Correction, Cloud Detection and Shadow > view shifting to interoperability between sensor data
 - Higher order moderate resolution products needed

Meeting Outline Agenda

Day 1 (Thurs Oct 17)

- Introductions
- Session-I. Regional & National Land-Use and Land-Cover Change
- Session – II. Agricultural Monitoring and Land-Use Change
- Session – III. Carbon and Water
- **Poster Introductions (5.30- 6.00)**
- Welcome dinner at the Hotel Pannónia (7.00pm)

Day 2 (Fri Oct 18)

- Session - IV. Climate change - LCLUC interactions
- Session – V. Urban LCLUC in Central and Eastern Europe
- Session - VI. LCLUC, Earth Observations (Missions, Data, Products and Applications)
- Synthesis and Discussion

Agenda Cont'd

Day 3 (Oct 18 - Saturday)

- Field trip observing LCLUC in Hungary and Austria around Lake Fertő (world heritage cultural landscape)

Day 4 (Oct 19 – Sunday)

- AM 9:00 – 12:00 Book session (closed session for the book contributors)

Day 5 (Oct 20 – Monday) 9.30 – 5.00 3-day TRAINING SESSION

- Training - Geospatial tools: Remote sensing, data, and products; Methods: Modeling and interpretation

Day 6 (Oct 21- Tuesday) 10.00 – 5.00

- Training continues

Day 7 (Oct 22- Wednesday) 10.00- 5.00

- Training continues

Acknowledgements (Thank You)

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- NASA LCLUC Program, USA
- ESA
- International START - GOFC/GOLD Program

Meeting Logistics

- International Krishna Vadrevu – Univ. Maryland
- Local: Dr. Éva Konkoly-Gyuró, (U. Western Hungary) and the Logistics Team