

**Joint NASA LCLUC Science Team Meeting and  
GOFC-GOLD/NERIN, NEESPI, MAIRS Workshop**

**Monitoring land cover, land use and fire in agricultural  
and arid regions of Northern Eurasia**

September 15-20, 2009

National Center of Space Research and Technologies, National Space Agency,  
Almaty, KAZAKHSTAN

The growth of human population, increasing demand for agricultural production and concerns about food security in the world are among the reasons for growing interest in developing land monitoring based on satellite remote sensing. The arid regions are also very sensitive to global climate change and all vegetation there depends strongly on weather conditions and water availability. Land cover, land use change, state of agriculture and various natural/ artificial phenomena such as fire, drought, flooding, soil erosion by water and wind are the objects of research using the remote sensing. Remotely sensed observations and analysis play an important role in quantifying changes in these phenomena and informing land management decisions.

The meeting is organized around 4 major themes (land cover, land use/agriculture, water resources and fire) with the goal to review the availability of satellite data, products, and processing methods for land monitoring in temperate and arid regions of Northern Eurasia.

An additional focus for the workshop is the definition of requirements for land cover and land use characterization that address the needs of users in the arid regions and the community of scientists working on regional environmental issues. Participants will evaluate the Land Cover Classification System (LCCS) as a tool for harmonization of available land cover products and a basis for developing map legends for the region.

Presentations and discussions at the workshop will give an overview of recent research accomplishments and formulate future research and applications development needs. The workshop will explore opportunities for coordination and collaboration among research teams and ongoing projects aimed at improved observations of agriculture, land-cover, land-use, water resources and fire in the temperate and arid regions of Northern Eurasia. English-Russian translation will be provided.

The workshop is hosted by the National Center of Space Research and Technologies of the Kazakhstan National Space Agency (<http://www.spaceres.kz/>). For additional information about the workshop contact:

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## AGENDA OUTLINE (preliminary)

*people named in italics to lead the planning of sessions and/or present*

Sept. 15 – Participants arrival (from Bishkek, etc.)

### **Day 1 . Sept 16 (Wednesday)**

Session 1. Introductions and opening comments

Welcome - Local Host (Zhumabek Zhantaev – to be confirmed)

Presentation of the Workshop Objectives – Olga Krankina

International and National Program presentations

International - GOFC-GOLD NERIN, NASA LCLUC, NEESPI, MAIRS

National Programs – Kazakhstan (Lev Spivak), Russia (Loupian), China, Mongolia (Tsolmon), Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan (Orlovsky?)

Coffee Break

Science Keynote Address – The Regional Context for Land Cover Land Use Studies (the geography of the region and recent trends in land use and land cover change and their causes and implications) – (I.V. Severskij – to be confirmed)

Lunch

Session 2 Agricultural Land Use (Science key-note presentation, talks and discussion) – *Chris Justice, Nadiya Muratova, Alexey Terekhov, Anatoly Gitelson et al.*

Coffee Break

Session 2 continues

Official Dinner

### **Day 2 Sept. 17 (Thursday)**

Session 3. Land Cover Monitoring and Validation (Science key-note presentation, talks and discussion) *Curtis Woodcock, Sergey Bartalev, Jiaguo Qi et al.*

Coffee Break

Session 3. Continues

Lunch

Almaty city tour

Dinner

Training sessions:

1. LCCS Overview and training (FAO rep);

**Day 3 Sept 18 (Friday)** Field trip (demonstration and discussion of different types of landuse in South Kazakhstan).

**Day 4. Sept. 19 (Saturday)**

Parallel Sessions:

Session 4. Fire Science and Monitoring (Science key-note presentation, talks and discussion) *Evgeny Loupian, Tatiana Loboda, Chris Justice et al.*

Session 5. Water Resources (Science key-note presentation, talks and discussion) *Alex Shiklomanov, Mutlu Ozdogan, Jiaguo Qi*

Coffee Break

Parallel Sessions 4 and 5 continue

Lunch

Session 6 Panel on Regional Research Priorities (5 min comments from regional experts)

Discussion in break-out groups on Land Cover Land Use Change, Fire, Agriculture, Water Resources (or other topics identified at the meeting) and plans for formation of a regional network in Central Asia

Coffee

Reports from break-out groups, general discussion on 4 themes of the meeting

Summary Presentations on future plans and funding opportunities (*Gutman, Ailikun, Justice*)

Wrap-up – Gutman

**Close of Workshop 5.30**

**Day 5. Sept. 20 (Sunday)**

**1. Training Sessions**

- Geospatial applications in land-use/land-cover change processes in Central Asia (Mutlu Ozdogan)
- Landsat data availability, access and applications (Peder Nelson?)
- Fire: MODIS Rapid Response System and use of MODIS science products (including ordering through LP DAAC (Tatiana Loboda)
- Methods for assessment of rangeland degradation (Jiaguo Qi)

**2. Optional Field Visit (land use in montane regions)**