

**NASA Land-Cover and Land-Use Change Science Team Meeting**  
**UMUC Inn and Conference Center**  
**April 4 - 6, 2007**

- Emphasis on**  
**1) Land Use, Climate, Environment and Biodiversity**  
**2) Land Use and the Carbon Cycle**

*(The format for this meeting has changed – P.I.'s assigned Review Presentations are asked where possible, to include input from other LCLUC P.I.'s working in related areas ( in some cases suggested names are provided) and to summarize the state of the science ). P.I's are asked to present their individual research results as posters.*

**DRAFT AGENDA**

***Day 1 April 4<sup>th</sup>***

***9.00 – 9.45 Programmatic Presentation***

**Gutman** - LCLUC Program Status

**Justice** - Strategic Issues for LCLUC

***9.45 – 10.15 Review Presentation (30 minutes)***

**Pielke** – Land Use and Climate Interactions

***10.15 – 10.45 Coffee Break***

***10.45 – 12.15 Review Presentations (30 minutes) Boreal Forests Session***

**Shugart** – Carbon Dynamics in Boreal Forests (*w. input from Krankina, Sun, Li*)

**Soja** – Fires and Climate Interactions in the Boreal Zone (*w. input from Csiszar, Conard*)

**Groisman** –LCLUC, climate, environment and carbon in the NEESPI Program: an update

***12.15 – 1.15 Lunch***

***1.15 – 2.15 Poster Session (See Below)***

*(Posters will be put up on Day 1 and will be available for viewing on the first two days)*

***2.15 – 2.45 Programmatic Presentation (20 minutes) – Agricultural Session***

**Sheffner** – The Agricultural Efficiency Applications Program

***2.45 – 3.15 Review Presentation (30 minutes)***

**Foley** – Agriculture, carbon and climate interactions (*w. input from Kling and Tubiello*)

***3.15 – 3.45 Coffee Break***

***3.45 – 4.05 Science Presentation (20 minutes) – LCLUC Data Session***

**Hansen M.** - Establishing a Global Forest Monitoring Capability Using Multi-Resolution and Multi-Temporal Remotely Sensed Data Sets

**4.05 – 4.50**

***Programmatic Presentation (20 minutes)***

**Masek** – MDGLS Phase II and III

***Open Discussion***

**4.50 – 5.30 Programmatic Presentation (20 minutes)**

**Irons** – LDCM Status, Report on the Science Team Meeting and Data Gap Study Status

***Open Discussion*** on LCLUC requirements from the Landsat Program

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**DAY 2 April 5<sup>th</sup>**

**9.00 – 10.00 Review Presentations (30 minutes) Arctic and Arid Lands Session**

**Romanovsky** - Climate-land cover-carbon interactions in the Arctic zone: an overview

**Sokolik** – Aerosols and land use interactions (*w. input from Munroe*)

**10.00 – 10.20 Programmatic Presentation (20 minutes) Biodiversity Session**

**W. Turner** – Land Cover, Land Use and Biodiversity

**10. 20-10.40 Coffee Break**

**10.40 – 11.10 Review Presentations (30 minutes) Biodiversity Session**

**A. Hansen** – Biodiversity, Land Use and Climate: state of the science (*w. input from Liu and Radeloff*)

**11.10 – 11.40 Open Discussion: Future Directions for LCLUC and Biodiversity Research**  
(Chair – **A. Hansen**)

**11.40 – 12.10 Review Presentations (30 minutes) Tropical Session**

**Skole** – Tropical Deforestation and carbon interactions: the state of the science (*w. input from Curran, Morton, Laporte*)

**12.10 – 1.10 Lunch**

**1.10 – 1.40 REASON: SAXTA Demonstration – Margerin**

**1.10 – 2.10 Poster Session**

(Posters will be put up on Day 1 and will be available for viewing on the first two days)

**2.10 – 2.40 Review Presentation (30 minutes)**

**Nepstad** - LBA Science: review of climate, carbon and land use interactions (*w. input from Moran, Walker, Walsh*)

## **2.40 – 5.10 Breakout Discussion Groups**

- **Land Use and Climate interactions** (Co Chairs: Pielke, Groisman)
    - **Priority Areas for Research**
    - **Obstacles to Progress**
    - **Near-term Opportunities**
    - **Recommendations**
  
  - **Land Cover and Land Use Change Data** (Co Chairs: M. Hansen, Woodcock)
    - **Priority Data Needs for LCLUC Research**
    - **Steps to Improving Data Availability and Access**
    - **Obstacles to Progress**
    - **Recommendations**
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## **Day 3 April 6<sup>th</sup>**

### **9.00 – 9.30 Programmatic Presentations (20 minutes)**

**Herold** – GOFC/GOLD Deforestation Initiative and the LCCS

### **9.30 – 10.00 Review Presentation (30 minutes)**

**B. Turner** - Landscape Vulnerability and Resilience: the state of the science

### **10.00 – 10.30 Review Presentation**

**Simard** - Recent advances in the use of microwave data for the study of land cover and land use change.

### **10.30 – 10.45 Coffee**

### **10.45 – 11.15 Programmatic Presentations**

**Saatchi** – Overview of Land Cover and Land Use Change in the North American Carbon Program (w. input from Goward, Tucker, Masek)

### **11.15 – 11.40 Breakout Discussion Report-Back (25 minutes)**

Land Use and Climate

Land Cover Products

### **11.40 – 12.20 Gutman - Meeting Summary**

**Open Discussion: Feedback from the Science Team**

### **12.20 – 12.30 Justice - Summary Actions from the Meeting**

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## **Poster Sessions**

*(Posters will be put up on Day 1 and will be available for viewing on the first two days)*

**Barnes** - United States Land Cover Land Use Change, Albedo and Radiative Forcing: Past and Potential Climate Implications

**Biggs** - Regional Biogeochemistry of Land Use Change in the Humid Tropics Detection and Modeling of the Aqueous Land Use Signal for Mesoscale Basins

**Chopping** - Quantifying Changes in Carbon Pools with Shrub Invasion of Desert Grasslands Using Multi-Angle Data from EOS Terra and Aqua

**Christensen** - Investigation of Rapid Urbanization Processes Using ASTER, MODIS, and Landsat Data

**Christman** - Disaggregating Phenological Variation from Discrete Land-Cover Change in the Rio Lerma-Chapala Watershed, Mexico

**Conard** - Wildfire Impacts on Carbon Stocks and Exchanges in Forests of Central Siberia: Quantifying Effects of Fire Intensity, Fire Severity, and Burning Conditions

**Covington** - MDGLS Phase 1 and 2

**Csiszar** - Development of an Integrated System of Ground-, Air- and Space-based Observations of Biomass Burning in Northern Eurasia

**Currán** - Effects of Logging, Plantation Conversion, Biomass Burning and Regrowth on Carbon Dynamics in Bornean Peat and Dipterocarp Forests: Implications for Global Carbon Cycle

**Dasgupta** - Multi-Sensor Approach for Monitoring Fire Risk in the Wildland Urban Interface

**Davis** - REASON Global Land Cover Facility (GLCF)

**Dickinson** - Using MODIS Data to Characterize Climate Model Land Surface Processes and the Impacts of Land Use/Cover Change on Surface Hydrological Processes

**Elvidge** - global constructed impervious surface area (ISA) density product

**Fox** - The Role of Land-Cover Change in Montane Mainland Southeast Asia in Altering Regional Hydrological Processes under a Changing Climate

**Galford** - Biogeochemical Consequences of Land-Use Transitions Along Brazil's Agricultural Frontier

**Gitelson** - Land Cover Land Use Change Effects on Surface Water Quality: Integrated MODIS and SeaWiFS Assessment of the Dnieper and Don River Basins and their Reservoirs

**Hansen A.** - Vulnerability of US National Parks to Land Use and Climate Change and Variability

**Hibbard** - *TITLE*

**Jin** - Fire-induced Changes in Albedo and the Associated Radiative Forcing: a Comparison of Boreal Canada and Australia Tropical Savannas

**Kling** - Interactive Drivers of Land-Use/Land-Cover Change in Agricultural Areas: Climate and

**Laporte** - Forest Biomass and Land-Use Change in Central Africa: Reducing Regional Carbon Cycle Uncertainty

**Lawrence** - Repeated Disturbance in the Southern Yucatan: Biogeochemical and Hydrological Feedbacks on Biomass Accumulation

**Levine** - *TITLE*

**Li** - Quantifying CO<sub>2</sub> Fluxes from Boreal Forests in Northern Eurasia: An Integrated Analysis of Flux Tower Data, Remote Sensing Data and Biogeochemical Modeling

**Lipscomb** - Urban Landscape Patterns: Impacts on Hydrologic Processes and Nitrogen Pollution

**Loughner** - How Do Changes to the Urban Environment Affect Precipitation and Air Quality?

**Loveland** - The Influence of Historical and Projected Land Use and Land Cover Changes on Land Surface Hydrology and Regional Weather and Climate Variability

**Maynard** - *TITLE*

**Morton** - Reducing Uncertainties of Carbon Emissions from Land Use-Related Fires with MODIS Data: From Local to Global Scale

**Munroe** - A Comprehensive Statistical Analysis System to Associate Local Land-Cover/Land-Use Change and Regional Aerosol Composition and Concentration

**Nair** - Investigation of Microclimatic Changes Associated with Tropical Forest Fragmentation Using Remote Sensing and Numerical Modeling

**Pidgeon** - Effects of Fire, Extreme Weather, Anthropogenic Disturbance on Avian Biodiversity in the US

**Powers** - A Regional-Scale Analysis of Regenerating Tropical Dry Forests in Costa Rica: Measurements and Models of the Linkages among Biodiversity, Ecosystem Function and Carbon Storage

**Saatchi** - Forest Woody Biomass Carbon Estimates of North America from Synergistic Analysis of MODIS, MISR, and JERS Data in Support of the North American Carbon Program

**Sheng** - Science and Forestry Satellite-based Lake Dynamics in the Tibetan Plateau in the Context of Global Change

**Simard** - Large Scale Assessment of Landscape Changes and Recovery in Forest Structure of Mangrove Wetlands Subject to Human Activities, Freshwater Diversion, and Natural Disturbances Using Enhanced SRTM Data

**Skole** – REASON TRFIC/Landsat.org

**Small** - Development and Sensitivity Analysis of High Resolution Land Surface Parameters from Satellite Data and their Use in a Mesoscale Model - LDEO Land-Manager Choices

**Smith** - A Tigris-Euphrates Watershed study

**Song** - Impacts of Land-Cover/Land-Use Change on Terrestrial Ecosystem Carbon Budget

**Sun** - Comparative Studies on Carbon Dynamics in Disturbed Forest Ecosystems: Eastern Russia and Northeastern China

**Swatantran** - Mapping Habitat for the Ivory-Billed Woodpecker and the California Spotted Owl: A Multi-Sensor Fusion Approach

**Tubiello** - Carbon, Climate and Managed Land in Ukraine: Integrating Data and Models of Land Use for NEESPI

**Ungar** – EO1: current status and global data coverage

**Vermote** – Land Long Term Data Records Current Status

**White** - Conservation or Degradation: The Impact of Land Cover Change on the "Outstanding Universal Value" of World Heritage Sites

**Wolfe** – MODIS Collection 5 Data

**Woodcock** - Quantifying the Effects of Land Use Change on Carbon Budgets in the Black Sea Region

**Zhang** - Understanding Dynamic Processes of Water Quality in Lake Erie from MODIS Time-Series Data