Issues for Consideration

Chris Justice

LCLUC Program Scientist

LCLUC Research Funding Areas

- **Detection and Monitoring** (Regional > Global Mapping, Monitoring, Characterization (and the associated method development) - often linked to GOFC-GOLD goals or Regional Initiatives – strong data set generation and distribution component
- **Regional Case Studies** (Processes/Drivers)
- **Impacts of LCLUC** (Regional - often linked to Regional Programs or Thematic areas (e.g. Urban), often partnered with other NASA or Interagency Programs – (e.g. Hydrology, Carbon)
- **Impacts of Climate and Global Change on LCLUC** (Regional, Thematic – linked to other programs often including modeling component)
- **Projections and Modeling** of future changes – hindcasting/intercomparisons
- LCLUC Land Use, Social System **Vulnerability and Adaptation**
- LCLUC **Synthesis Studies**
    - Case Studies/Process Studies (developing some general rules or new concepts)
    - Data Synthesis (assessing patterns or trends – Assessments)
- **International Partnering** – US Collaborating PI on large internal projects

with an emphasis in integrating physical and social science

Where did this come from ?

- IGBP/IHDP – international science program
  - strategy documents LUCC, IGBP DIS (1990's still relevant)
- USGCRP > US CCSP > USGCRP (interagency global and climate change)
  - Strategic Plan
  - LULCC goals and implementation Plan
  - Coordination for US contributions to IPCC
  - Recent Adaptation and Climate Services focus
- International Observations Requirements
  - GOFC/GOLD - Global Observing Systems
  - GEOSS - Applications > Science (evolving)
  - CEOS – response to GCOS – response to UN FCCC
- NASA Earth Science Strategic Plan – Carbon…. Focus area
- NAS Studies - USGCRP/NASA supported
- Feedback from the LCLUC Science Community

Areas Needing Attention

- **LCLUC Funding**
  - Increasing demand – flat funding
  - Continued program leverage needed (ROSES)
  - Improving the process of proposing / reviewing
  - Narrower calls as a means to reduce number of submitted proposals?
- **Links to the NASA Applications Program ?**
  - Societal relevance > research to operations?
- **Expectations from LCLUC PI's**
  - Publications
  - Help strengthen the NASA program and the community
    - Review Presentations - Review articles
    - Information / Outreach - Web site / Brochure
    - Help Program Management in program promotion
    - Education – mentoring NIPS, ESSF

The NASA LCLUC Program

An Interdisciplinary Approach to Studying Land-Cover and Land-Use Change

Copies Available on Request

Areas Needing Attention

- **Observations**
  - Moderate Resolution Data
    - Opening the other archives
    - Landsat Data Gap > Real Constellation
    - LSI and all the others
    - LDCM / Sentinel 2 - synergy
    - Beyond Landsat 8 !
    - Higher order products requirements
  - VIIRS / Sentinel 3 – synergy
  - Decadal Survey and LCLUC
  - Fine Resolution Data Buys ?
  - GCOS >UNFCCC ECVs Landcover/Change, Fire

Areas Needing Attention

- **USGCRP** - Land use in the next phase
  - Increasing importance of Land Use
- **International Dimension**
  - GLP participation
  - Land Use, Deforestation and Carbon Cycle
    - GEO Forest carbon tracking – national demonstrators
    - UN REDD+ MRV methodologies
    - Money, Confusion, Grandstanding, Quality Control

LCLUC Website Redevelopment
&
Program Information Outreach

New LCLUC Website Homepage

Temporary link:
http://webster2.iluci.org

Land-Cover / Land-Use Change Program

Home | Program Information | Meetings | People | Projects | Data & Information | Education | LCLUC Hotspots

Science Themes

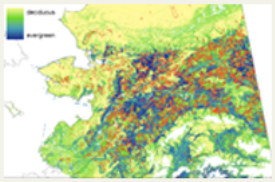
- Detection and Monitoring of LCLUC
- Carbon and Biogeochemical Cycle Impacts
- Water and Energy Cycle Impacts
- Predictive Land Use Modeling
- Climate Variability and Change
- Ecosystems and Biodiversity Impacts
- Synthesis Studies
- Vulnerability, Adaptation
- Observations and Data
- Drivers of Change

Program Highlights

Quantifying Changes in Northern High Latitude Ecosystems and Associated Feedbacks to the Climate System

Scott Goetz - Woods Hole Research Center & University of Maryland

Read the full report



Welcome to LCLUC (DRAFT SITE)

Welcome to the NASA Land-Cover and Land-Use Change (LCLUC) Program website. LCLUC is an interdisciplinary science program in the Earth Science Division of the Science Mission Directorate. LCLUC is part of the Carbon Cycle and Ecosystems Focus Area with links to the some programs in other Focus Areas.

What's New

- A new global land parameter database derived from AMSR-E multi-frequency microwave remote sensing released
- The Global Geo-Referenced Field Photo Library released
- New Global Land/Water Mask Released
- NASA and USGS complete the Global Land Survey 2005 dataset
- NSF enhanced support for interdisciplinary research using multi-scale modeling
- NASA Cooperative Agreement Notice (CAN): Global Climate Change Education: Research Experiences, Modeling & Data
- The Earth Observer
- 2010 NASA Terrestrial Ecology Science Team Meeting

Science Highlights

Scientists Uncover Ecological Impacts of Invasive Species

Recent Publications

Article on Arctic Research of the Composition of the Troposphere from Aircraft and Satellites (ARCTAS)

Amber Soja - NASA Langley Research Center

Links To Our Partners

Land Measurements Portal	ESA Sentinel-2
MODIS Land Progam	CBERS
USGS	Indian Space Research Program
ScanEx	Global Land Cover Facility

LCLUC Science Team Meeting Schedule

Date	Location
08/28/2010	Tartu, Estonia
04/20/2010	Bethesda North Marriott, Bethesda, MD
09/15/2009	Almaty, Kazakhstan
03/31/2009	Bethesda North Marriott, Bethesda, MD
01/12/2009	Khon Kaen, Thailand

Newest | Prev | Next | Oldest

Related Program Meeting Calendar

Job Opportunities

- The Land Environment and Atmospheric Dynamics (LEAD) Program Postdoctoral Position

Fellowships

- Graduate teaching and research fellowships in Enviornmental Science, U of Toledo
- Ph.D. Research Assistantship in Land Use and Water Resources, Montana State
- Post Doctoral Research Associate in Hydroecology of Desert Streams, University of Washington
- Call for proposals: Global Climate Change Education: Research Experiences, Modeling & Data

Solicitations

International Global Programs

GEO | GLP | GOFC-GOLD | iLEAPS

International Regional Programs

NEESPI | CARPE | MAIRS | NACP | USGCRP LULCC

Landsat Program Updates

Landsat | GLS | LDCM

Privacy | Security | Disclaimer | Accessibility

LCLUC is a NASA program.
Responsible official: Garik Gutman.
Website manager: Mary LeeAnn King.

This site is hosted by the University of Maryland.
UNIVERSITY OF MARYLAND

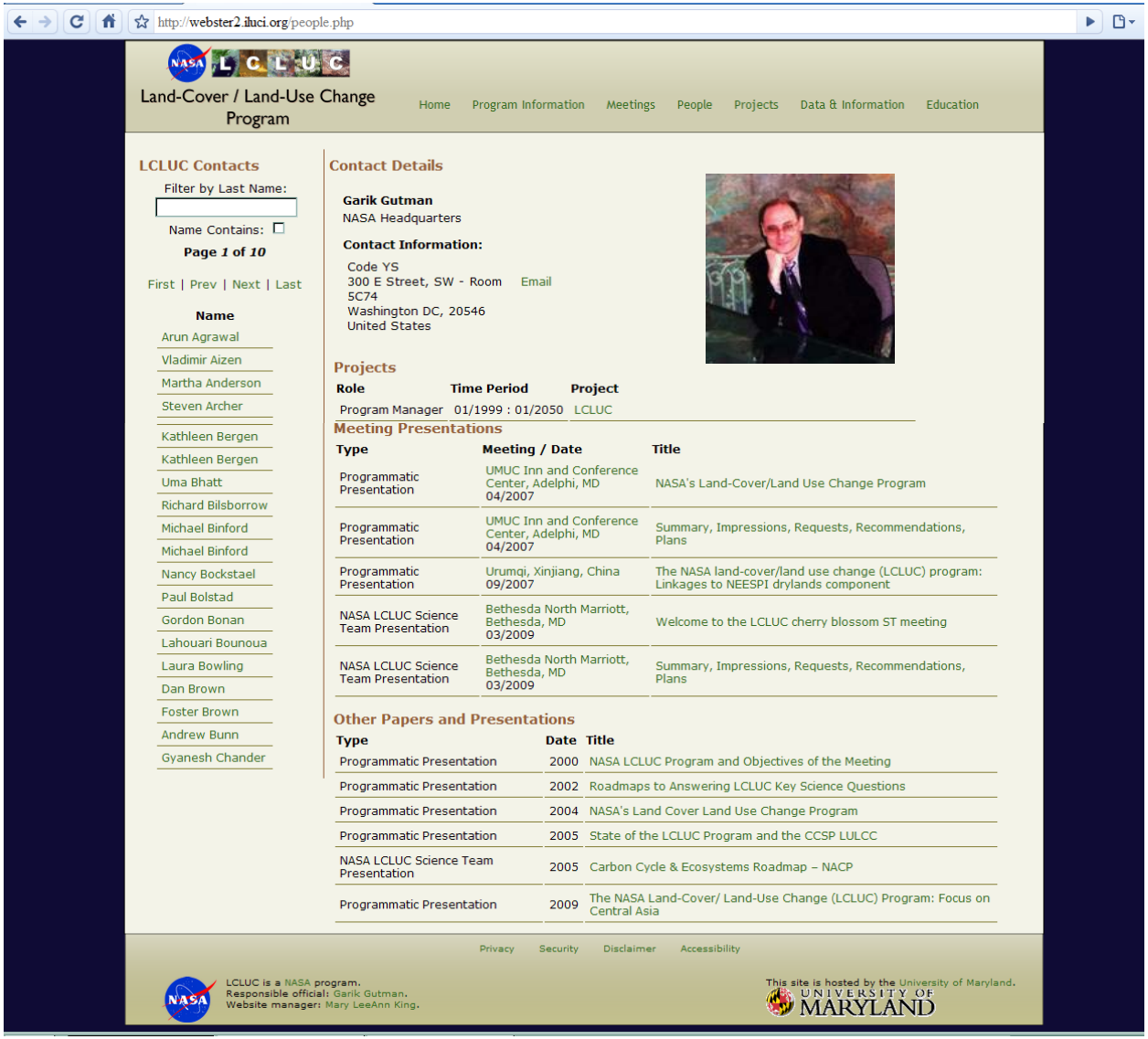
LCLUC People

What we have…

- Role in current & past projects
- LCLUC Presentations

What we need…

- Complete/updated contact info?
- Publications?
- Awards?



LCLUC Projects

What we have…

- PI, Co-I & collaborator contact information
- Annual progress reports

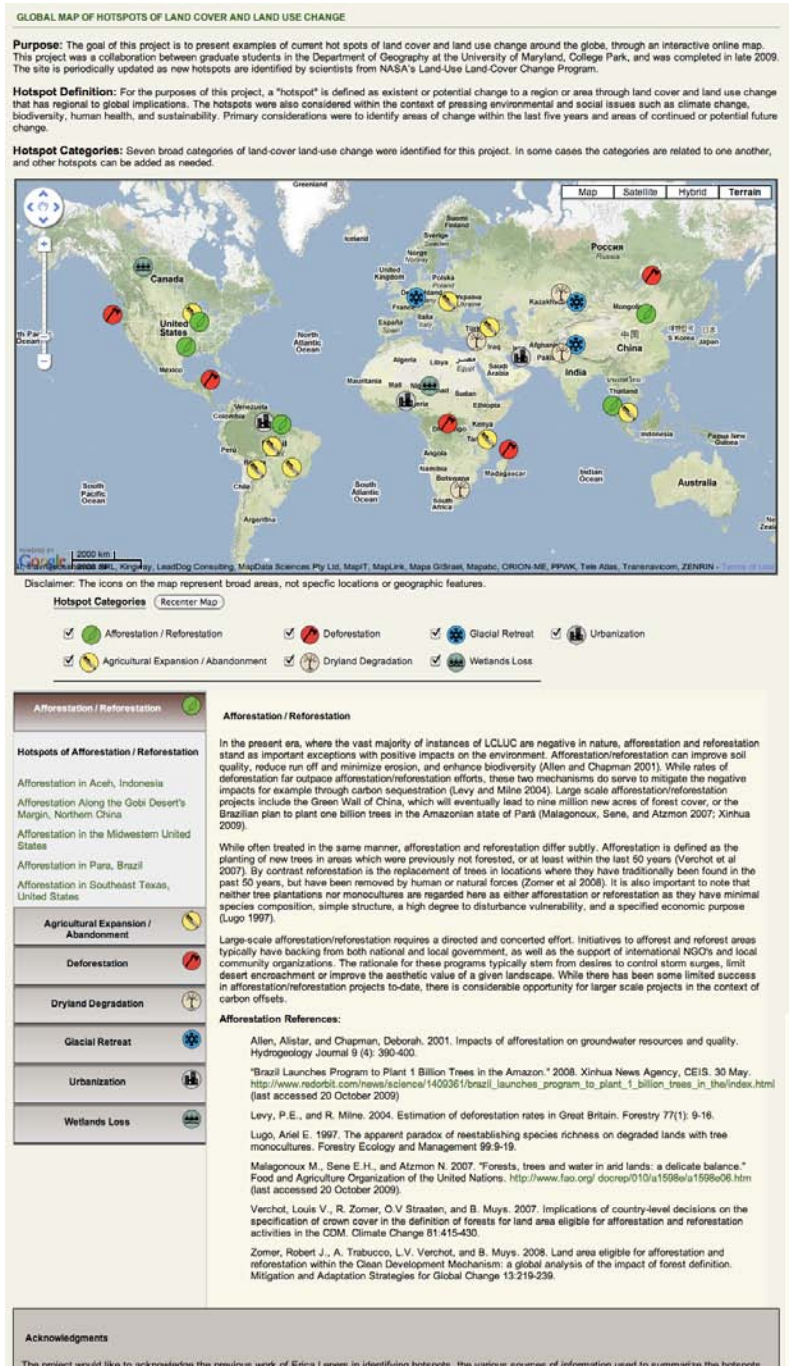
What we need…

- Other funded team members?
  - Contact info
  - Publications/ awards
  - Role/ academic status
- Impact explanation
- No cost extension?
- Publications?
- Awards?

You can find the LCLUC information form here:
ftp://ftp.iluci.org/LCLUC/LCLUCMeetings

A New LCLUC Outreach Initiative

- **Hotspots of LCLUC** (areas of rapid LC/LU change) – beyond Lepers et al.
  - Identifying areas of rapid land cover change
- Started as a UMD class project – Map / Poster
  - Highlighted areas (not global systematic)
  - Web site
- LCLUC Projects often include hotspot topics and areas



UMD GEOG615 Class Project: LCLUC Hotspots

Temporary link: http://webster2.iluci.org/hotspots
Permanent link: http://lcluc.umd.edu/hotspots

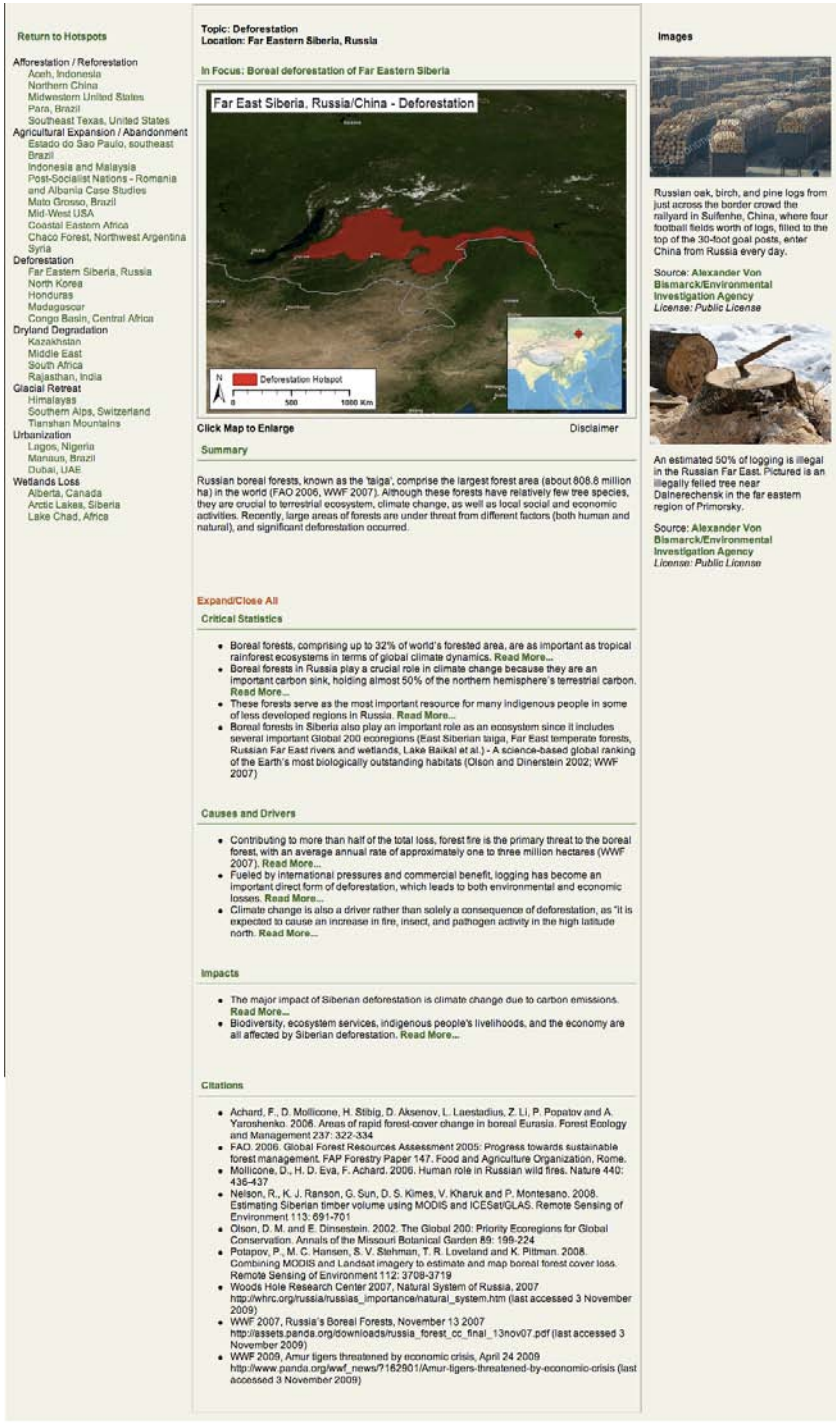
The primary hotspot page is map-based providing a visual sense of where change is occurring.

Summaries of the categories, along with a list of identified sites are provided below the map

Detail for individual Hotspots

A detailed map of the affected region is accompanied by photos illustrating some of the issues.

Details for each site are presented in categories including: 1) Critical Statistics; 2) Causes and Drivers; 3) Impacts; and 4) Future Directions along with relevant citations.



LCLUC Hot Spots

- Will be a New Component of the LCLUC Web Page
- Contributions will be requested from LCLUC PI's (supervised grad students can do this !)
- Template provided for each 'location'
  - Quantification of rates
  - Description of primary causes
  - Description of impacts

Potential Global LCLUC Hotspots for inclusion on the Web Site

- India Reforestation - Atul
- China's New Cities – Anne Marie – Peilei
- Rubber Southeast Asia – Jeff
- Peri-urban Southeast Asia (?)
- Aquaculture – Southeast Asia (?)
- E. Europe - Farmland abandonment – Radelov /Prishchepov
- Others