

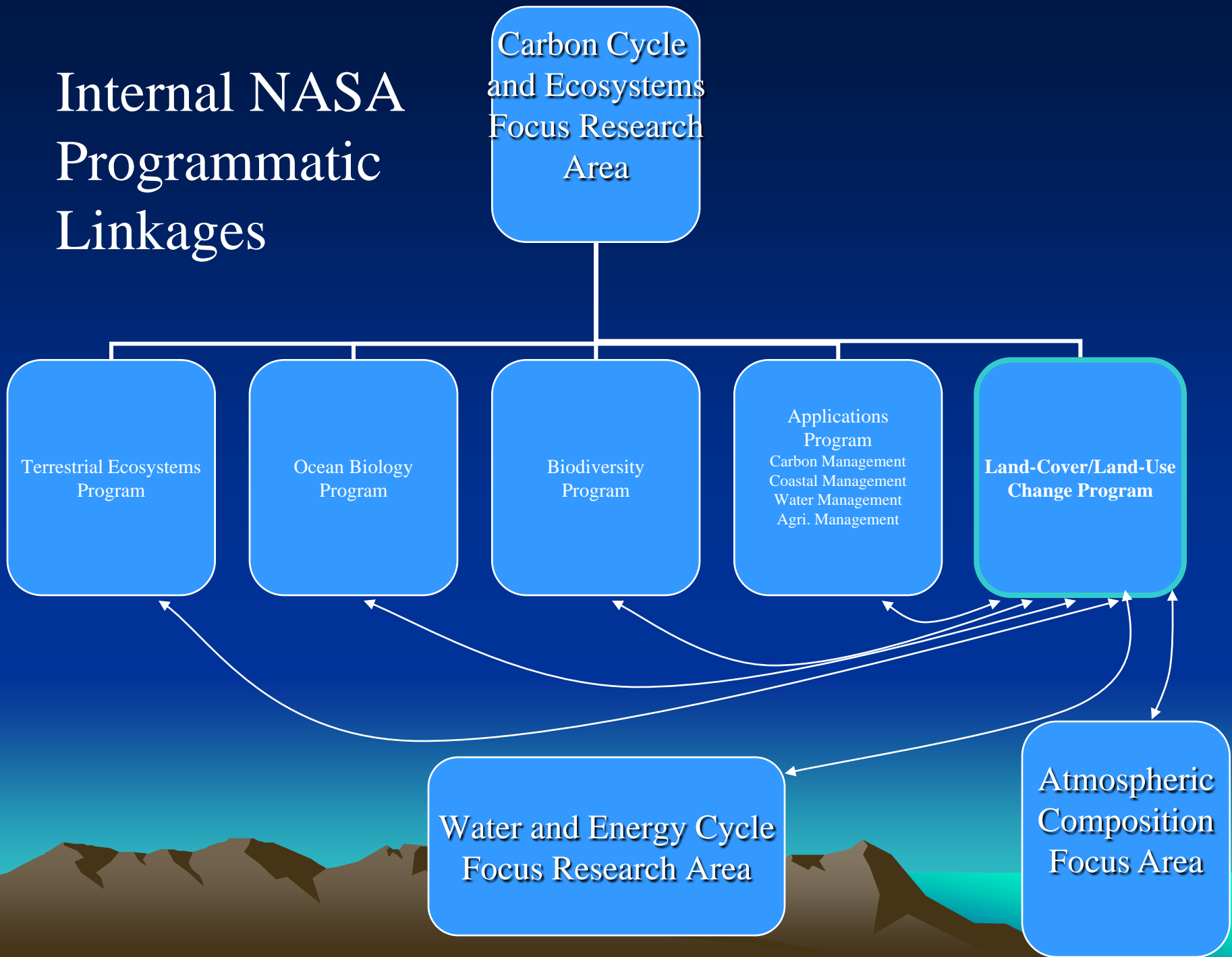
# NASA's Land-Cover/Land Use Change Program

## *Welcome to the LCLUC Cherry Blossom ST Meeting*

- **Status of the LCLUC program**
  - Internal and external linkages
  - Activities and reporting
  - Regional Initiatives
  - DB Component
  - Data issues
  - LCLUC-related projects
  - NRA's
- **Future plans**



# Internal NASA Programmatic Linkages



# External Linkages

- National
  - U.S. Climate Change Science Program LULC element)
  - USGS (Landsat-based Global Land Surveys)
- International
  - GTOS/Global Observations of Forest Cover and Land-cover Dynamics (GOFC-GOLD) – International Project Office (IPO) in Canada
  - IGBP
    - Global Land Project (GLP) – IPO in Denmark
    - Integrated Land Ecosystem-Atmosphere Processes Study (iLEAPS) – IPO in Finland
    - Northern Eurasia Earth Science Partnership Initiative (NEESPI) – IPO in Finland
    - Monsoon Asia Integrated Regional Study (MAIRS) – IPO in China



# Assembling the LCLUC Team

Science Team consists of LCLUC research funded through various elements in NASA programs but administered under LCLUC Program

- LCLUC Program
- EOS Program
- IDS Program
- Carbon Cycle Program
- Water Cycle Program
- ACCESS/MEASURES
- Students Fellowship Program
- New Investigator Program



# LCLUC Program Make-up



- Total ~60 projects
  - LCLUC Monitoring/Modeling
  - LCLUC/Carbon Cycle
  - LCLUC/Water Cycle
  - LCLUC/Climate, Environment, Biodiversity

# LCLUC Science Team Meetings

National Spring  
“Cherry Blossom”  
Washington, DC  
area



International Fall  
2008 (shifted to Jan'09)  
Khon Kaen, Thailand



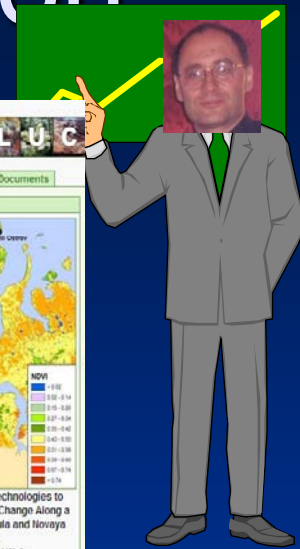
2009 September  
Almaty, Kazakhstan

# ST Meetings' Objectives

- program status
- feedback from the PI's
- identifying programmatic gaps, discussing new directions
- Format: less oral talks (mostly joint topical reviews), more discussions
- International: enhancing linkages with international programs and regional networks



# Reporting and Communication



- The Web site: <http://lcluc.hq.nasa.gov>
  - Project Abstracts
  - Progress reports
  - Presentations
  - **Project update: 1 slide (bullets + visual)**
  - **Posters as ppt presentations!**
  - Lists of publications and references
  - Project metadata and data set links
- Sensitive info - to me by separate e-mail
- Submit these materials to Kelly on an ongoing basis to ensure accurate reflection of all the great work you are doing
- PI's are encouraged to host their own websites to showcase their results in more detail and to make their data sets available- provide links.
- Announcements, events, job ops, news
- Forthcoming meetings
- Outreach (discoveries, journal covers, LCLUCers in the news, books)

LCLUC is a NASA program. Responsible official: Garik Gutzman. Website manager: Kelley O'Neil.
 This site is hosted by the University of Maryland.
 Many of the documents on this site are in Adobe PDF format.

Row ID	Project Publications	
0	Publication Type: <input type="text"/>	
	Authors: <input type="text"/>	
	Title: <input type="text"/>	
	Journal: <input type="text"/>	Year: <input type="text"/> Vol(iss): <input type="text"/> Pages: <input type="text"/>





Submit Form

## LCLUC Project and Data Set Information Form

Fields in Red are Required

### Information about the Project

**Grant Number:**

**Project Title:**

**Project Call:** Earth Observing System

**Science Theme:** Detection and Monitoring

**Regional Initiative:** Large Scale Biosphere-Atmosphere Experiment in Amazonia

**Project Start Date (mm/yyyy):**

**Project End Date (mm/yyyy):**

**No-cost Extension Until (mm/yyyy):**

Abstract:



Submit Form

## Information about the Project Members

Project Members (add as many as necessary)

+ Add Another Member

- Remove Last Entry

Row ID	Name	Role
0	Name: <input type="text"/> Title: <input type="text"/>	<input type="radio"/> PI <input type="radio"/> Co-PI <input type="radio"/> Co-Investigator <input type="radio"/> Collaborator <input type="radio"/> Non-US Collaborator <input type="radio"/> Fellow <input type="radio"/> NIPs <input type="radio"/> Other Specify if Other: <input type="text"/>
	Dept: <input type="text"/> Inst: <input type="text"/>	
	Email: <input type="text"/> Phone: <input type="text"/>	
	Address 1: <input type="text"/>	
	Address 2: <input type="text"/>	
	City: <input type="text"/> State: <input type="text"/>	
	Zip/Country Code: <input type="text"/> Country: <input type="text"/>	
	Personal Website: <input type="text"/>	

# LCLUC Education

- Each PI will provide
  - information on MS and Ph.D. students graduating during and after the project
  - Thesis title, dates
- Statistics on LCLUC educational “products” will be collected
- Students achievements (awards, discoveries)
- All this info together with recent selections from NASA Student Fellowship solicitation will be listed on the LCLUC web site

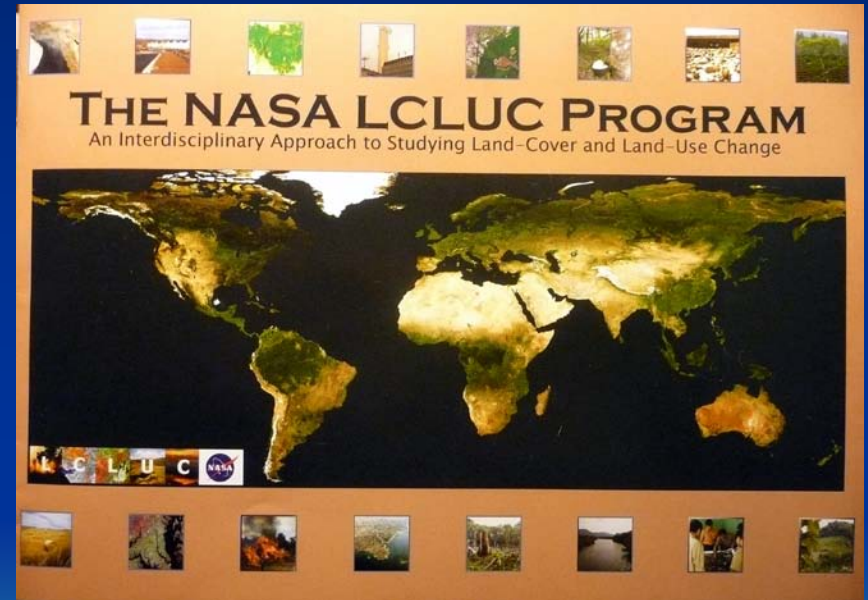
### Information about Funded Students

Funded Students/Researchers Both Past and Present  
(add as many as necessary)

Row ID	Name	Academic Level
0	Name: _____ Graduation Year: _____ Thesis Title: _____ Publications: _____ Awards: _____	<input type="radio"/> Postdoc <input type="radio"/> Graduate <input type="radio"/> Undergraduate <input type="radio"/> Other Specify if Other: <input type="text"/>
1	Name: _____ Graduation Year: _____ Thesis Title: _____ Publications: _____ Awards: _____	<input type="radio"/> Postdoc <input type="radio"/> Graduate <input type="radio"/> Undergraduate <input type="radio"/> Other Specify if Other: <input type="text"/>
2	Name: _____ Graduation Year: _____ Thesis Title: _____ Publications: _____ Awards: _____	<input type="radio"/> Postdoc <input type="radio"/> Graduate <input type="radio"/> Undergraduate <input type="radio"/> Other Specify if Other: <input type="text"/>

# Kudos

- To Kelley and Tres to incorporate the new “information engine” on the website
- To Lydia for developing the new brochure



# Support of Regional Initiatives

- LBA: Regional Field Campaign in Amazon
- CARPE: Central African Regional Project on the Environment in Congo Basin (with US AID)
- MAIRS
- NEESPI
- Next: South Asia to supplement MAIRS
- Next: South America (non-Amazon programs)





A world map with a blue background and green landmasses. Numerous yellow circles with black outlines are scattered across the map, representing various locations. Two white circles are overlaid on the map: a large one in the upper half and a smaller one in the lower half. The text 'NEESPI' is centered in the upper circle, and 'MAIRS' is centered in the lower circle.

**NEESPI**

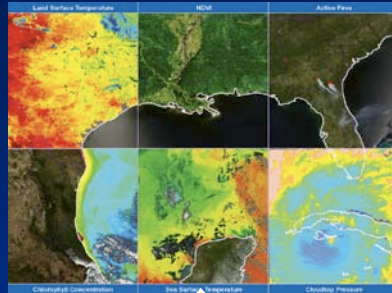
**MAIRS**



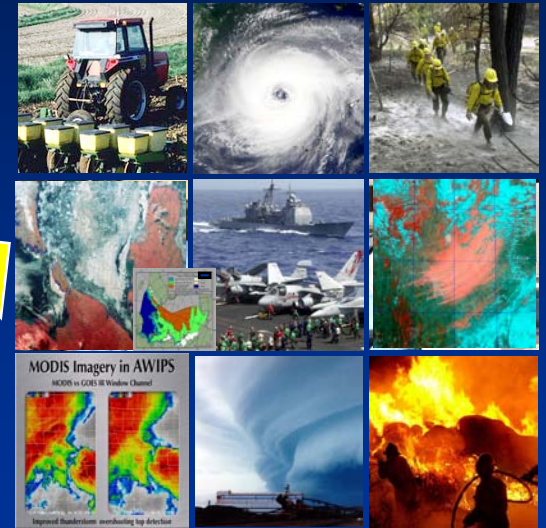
# Direct Readout Component

14 L2 DB Science Algorithms and Data Tools

165 DR Ground Stations



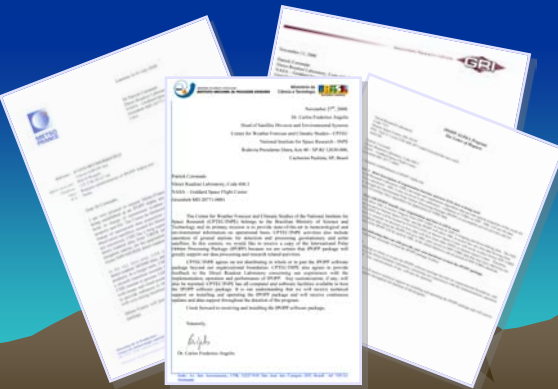
10 Operational Applications



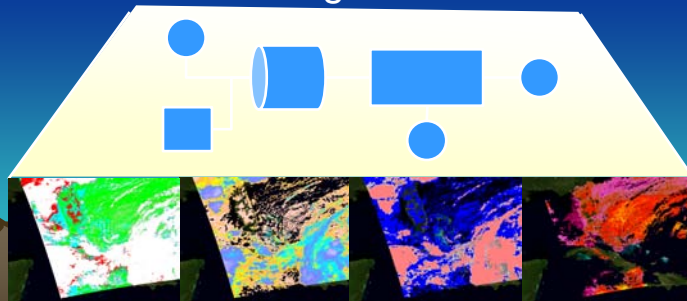
Discipline-based Steering Committees for Applications

NASA's DB Program

International Collaborations



Real-time Science Processing Framework

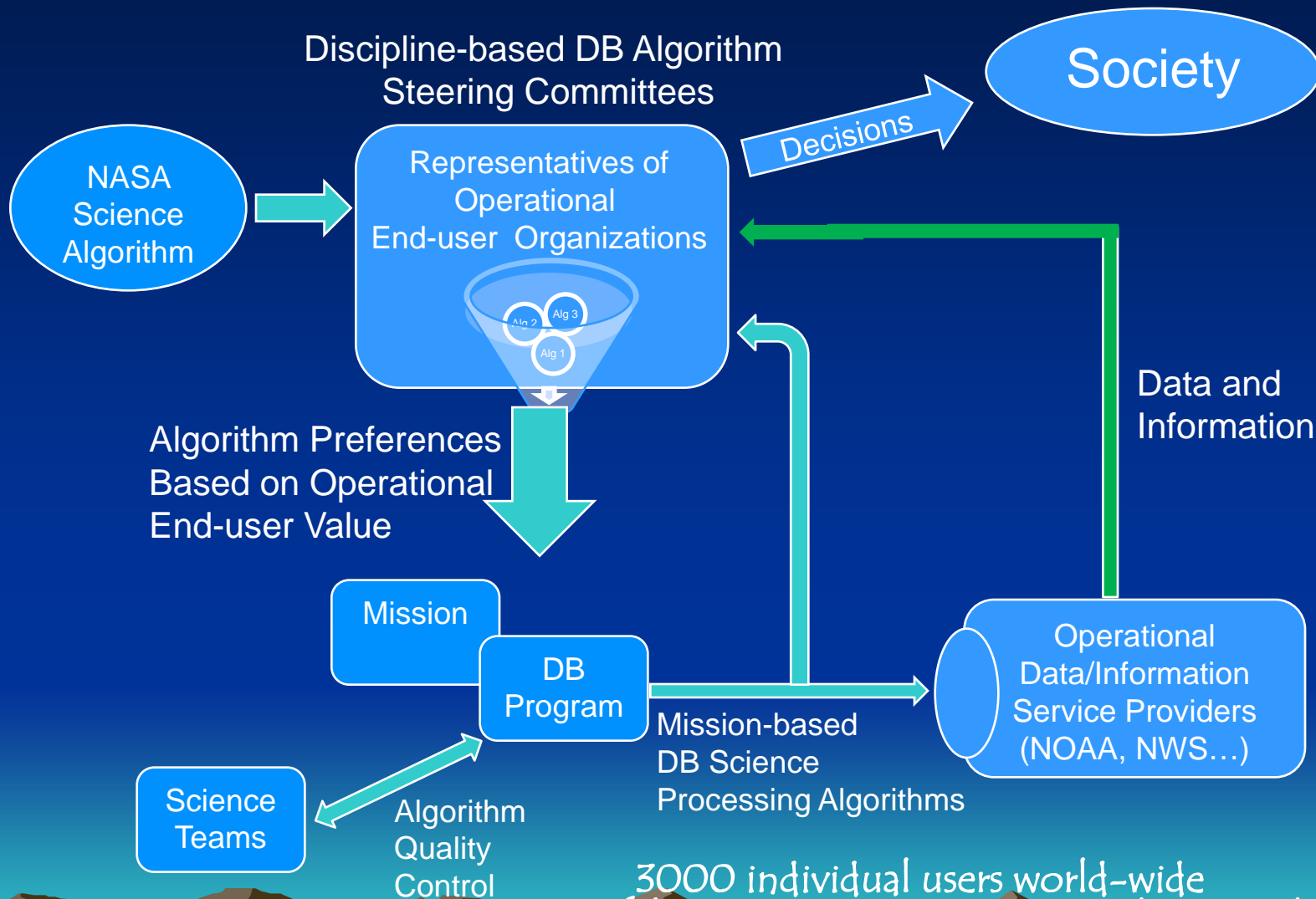


L2 DB Science Products

Over 2000 Registered Users and Over 4,000 Software Downloads



# -Identifying and Bringing Forward Science Algorithm that have Potential Societal Benefits -




3000 individual users world-wide  
85% of these ground stations support real-time applications  
40% of DB sites have developed additional algorithms for their own applications using locally-generated Level-1 data



# LCLUC Data Issues

- *NASA promotes the free and open sharing of data*
- **LCLUC expects its PI's to make their data and products available to the broader community**
- Metadata page on the LCLUC web site
- LCLUCers use established Land Cover data distribution centers (EROS, GLCF, TRFC)
- Data sharing is encouraged, some available through the Land Cover Project Office at GSFC



### Information About Data Sets

+ Add Another Data Set  
- Remove Last Entry

Row ID	Data Set Metadata	
0	<b>Data Set/Document Name:</b>	
	<b>Product File Type:</b>	PDF
	Publication Year:	
	Temporal Resolution:	
	Spatial Resolution:	
	<b>Sensors Used:</b> (ctrl-click for multiple)	None AATSR ALOS ASAR - Envisat ASTER ATSR AVHRR AWiFS Cartosat
	URL to Data:	
	Data Keywords:	
	Upper Left Lat (dd):	
	Upper Left Long (dd):	
Lower Right Lat (dd):		
Lower Right Long (dd):		
Other Sensor:		

# Global Land Surveys (GLS)

- NASA-USGS GLS-2005 dataset based on L-5 and -7 data was developed for 2004-2007 period: Complete and available at USGS EROS data center
- The next Landsat (LDCM) data not earlier than 2013
- Landsat-7 mechanical problems may affect satellite longevity, Landsat-5 is celebrating its 25<sup>th</sup> anniversary.
- NASA-USGS joint effort on the decadal dataset (GLS-2010) similar to GLS-2005, i.e. Landsat-based
- In parallel: backup plan that would involve international contributions from non-US sensors in conjunction with the USGS-led Land Surface Imaging constellation



# Ongoing Projects and Research Announcements

- EOS and MEASURES (mid-term)
- Carbon Cycle/LCLUC projects (mid-term)
- GLS LCLUC Products projects (final year)
- LCLUC Projections round (mid-term)
- Recent selections
  - Climate impact on land use, adaptation (9 projects)
  - Small contributions to non-NASA ongoing international projects under NEESPI and MAIRS programs (9 projects)
- ROSES-2009: no LCLUC call
  - But IDS has LCLUC-relevant elements – watch the website



# Future Plans

- Enhance social science component in LCLUC projects, especially in extra-tropical regions
- Foster GOFC-GOLD regional activities and international global initiatives: Expand to S.Asia and S.America
- Promote integration of LCLUC processes in climate models and assimilation schemes
- Synthesis of global forest cover from Landsat
- Facilitate development of land-cover/change products from the available reprocessed historical GLS datasets
- Develop GLS-2010
- Prepare LCLUC call for ROSES-2010



Thank you  
Enjoy Washington in bloom!

