# Revisited Program Goals & Future

**LCLUC will use NASA remote sensing technology to improve understanding of human interaction with the environment, and thus provide a scientific foundation for sustainability, vulnerability and resilience of land systems.**

- ✓ **Develop a LCLUC strategic science plan for vulnerability and resilience that**
  - ➢ **Contributes to other national and international efforts on the issue**
  - ➢ **Addresses conceptual issues, indicators, and early warning capabilities**

**A goal of the ESE LCLUC Program is to further the understanding of the consequences of land-cover and land-use change on environmental goods and services, the carbon and water cycles and the management of natural resources.**

- ✓ **Foster "all" LCLUC studies to address key biophysical impacts, retaining but moving beyond carbon.**
  - ➢ **Provide specific assessments of carbon, water, and key environment services and natural resources for the "region" in question**
  - ➢ **Develop end-to-end capabilities, including observations, products, assimilation, models, and use**

**The longer-term objective of the LCLUC program is to develop the scientific capability to:**

- **perform reliable, verifiable and repeated global monitoring of land-cover and land-use processes from space**
- **improve the scientific understanding of land-cover and land-use processes from local to global scales**
- **model and forecast land-use and land-cover change and their direct and indirect impacts and evaluate the societal consequences of the observed and predicted changes**

**The program will contribute to the establishment of the operational provision of data and information products, services, models and tools for multiple users e.g. scientists, resource managers and policy makers.**

## Issues for Further Deliberation on LCLUC Program Directions

- **Strategic approach to prioritize areas for case studies**
- **Overview of LCLUC (cross cutting) related activities in**
  - **NASA programs (IDS, ACE, Ecol, Hydrology, NIP, Hazards, ESIPS)**
  - **National programs e.g. NSF and USGCRP**
  - **International Programs**
- **Strengthening and broadening the integrative science aspects of LCLUC**
  - **combining physical and social science**
  - **strengthening and broadening social science**
  - **strengthening land use and land cover models**
- **Continue to strengthen the LCLUC community through the NASA (expanding these programs in the area of social science)**
  - **Graduate Fellowship Program**
  - **New Investigator Program**
- **NASA needs to clarify its plans re.**
  - **Biodiversity in relations to LCLUC**
  - **Water resources in relation to LCLUC**

## Issues for Further Deliberation on LCLUC Program Directions

- **How will LCLUC take advantage of TERRA, AQUA, NPP and other new missions**
- **LCLUC should take a lead role defining the program objectives and needs for the Landsat follow-on mission**
- **Recognize the importance of engaging regional scientists in LCLUC research as far as possible using existing international mechanisms e.g. GOFC, START, LUCC**

  We believe that:

  – collaborative research,
  – an open data policy,
  – and the provision of suitable data products and services

  are important means to provide the necessary international scientific equity
- **Endorse a close partnership between LCLUC science and the LCLUC applications within the ACE program**

## Issues for Further Deliberation on LCLUC Science Directions

- LCLUC should maintain its regional focus and strengthen the linkages made between the local, state, national, regional, global scales
- Vulnerability - hotspots, indicators and early warning of LCLUC (to include the models needed to predict and necessary information systems to allow response)
- Spectrum of vulnerability
- Small workshop on vulnerability and future directions