# CLIP/NSF Meeting Notes (Sept 19-21, 2003)

**<u>Aim</u>**: define the project activities for the next 12-24 months.

- Combine the components of the project, up-and-running.
- Need to understand what each of the group members is doing, so that we can coordinate activities.
- Where the project fits on the broader activities and objects.

## **<u>Review of the Project Activities.</u>**

- The Project's flow diagram (slide) the one from the proposal, p.3
- Linkages and feedbacks between project activities (Table 1 in proposal, p.5)

## Website Discussion

- FTP site?
- Power-point & data sharing
- Flyer
- Poster available
- Publicly available data, or meta-data (data via email or other method)?

## **GROUP DISCUSSION – Land Use Change**

- RAMS? Regional Climate Model
- LTM ? Land Transformation Model
- MABEL? Agent-Based Model
- NPP? Net Primary Productivity
- RPS? Role Playing Simulation
- BBN? Bayesian Belief Networks



- <u>Scaling-up</u>: km? 40 km.
  - Representativeness of case studies
  - Degree of LUC needed for CE
    - Eg., 10%? -where/when
    - Eg., urbanization + rings of ag + deforestation, or Von Thuen
    - Eg., capitalism
    - Eg., peace
- An important issue is how we parameterize the models to coordinate in compatible time-steps?
- How the people change their LU/LC behavior?
  - Policy Adjudication 5-10 yrs
  - Econ., population changes (?) decline on coffee (eg) gradual ? tipping point.

- What's important from the climate LU/LC modelers perspective is not socio-econ changes in general, but only these socio-econ changes that affect the LU/LC changes.
- Then the issue in question is the context of these changes in temporal, geographical (spatial), and behavioral vantage points.
- On the other hand, we have to keep in mind that the challenge is not to loose the big image (eg, the whole study area, not just the case-study areas).

### NPP Activities:

- 1. Met? LTM? LC for RAMS
- 2. Regional LTM / Exp sys ? with MPP
- 3. Blue Case Sequence (could start now)
- 4. NPP ? Reg + cases
- 5. Reactions to outputs, RPS, interviews (MABEL)

**Activities Sequence:** 

1. NPP? LC? RAMS	Phil T. Jeff; Qi, Dave L
(Calibration: LU? LC)	MID 2004? compare NPP model parameters
	w∕ RS par

- 2. NPP Expert? LTM? LC? RAMS
  - What does this means with broad categories of LU and human groups?
  - What other variables are coming into play? (eg, roads, soils, etc.)
  - In the part (expert? LTM) there should be an evaluation stage that validates (and calibrates the model)
  - Bookend scenarios: -1sd, x, +1sd
  - Relative strength of drivers/country/time period/place
  - MC (multi-criteria) evaluation of experts for LTM

- On the RAMS side, what is the level of resolution? Projections?
- Discussion about scenario properties:
  - Emergent ("noise")
  - Resilient ("continuous")
  - Shock ("A", eg, drought, SAP, tech, GMO)
  - Response ("local, generic")
- Core (Tz, Ug, Ke) versous Boundary (Za, Zi, Co)
  - Broad LU/LC cover change
  - <sup>1</sup>/<sub>4</sub> hot spots of change ? experts why?

## 3. Bluecase

- future based on past
- if inputs ? ? NPP
- bookend motif? Of amount of LUC%?
- Land cover classes

## **GROUP DISCUSSION: Communicating Results from Climate Group**

## An Overview

- <u>Step 1</u>: initial perturbation (CO<sub>2</sub>, forced climate change, externally imposed land cover change)
- <u>Step 2</u>: climate response to climate-induced land use change
- The first step comes from a base-case, while step two is a higher hierarchy of climate interactions.
- Step 2 is a unique scenario, while step 1 is not a unique scenario.

### Key-points:

• Possible hiring plans/use of RegCM – may delay initial model runs, but may give large gains in terms of model.

- Boundary conditions Hadley model data is available for 1961-90, 2070-2100.
- Feedback, temporal aspects, time lags annual update to land cover is too often. Updates may be better if based on a good sample of climate (decade).
- BIOME III Ruth
  - Gives some biome type based on precip., temp., and radiation.
  - Validation may need to be done by others.
- Activity II: Ecosystems Productivity
  - 1. Agricultural 2. Ecosystem
    - Prepare model simulations, collect process necessary weather, auxiliary data (Eco: Dec 03, Ag: Sum 04)
    - Validate simulations, run with historical data, process/analyze output (Eco: SUM 04, Ag. WIN 04)
    - Run sims with projected future data, analyze output, interactive sims with LULC (Eco: WIN 04, Ag: FAL 06).