Land Use/Cover

- We work with a lot of acronyms (common language)
  - RAMS Regional Atmospheric Modeling Systems
  - LTM Land Transformation Model
  - MABEL Agent based model
  - RPS Role Playing Simulation
  - BBN Bayesian Belief Network

LUCC Modeling

- What case studies provide us
  - Develop surrogate variables
  - Populate MABEL and LTM
  - Get output
  - Assess output using case studies and expert judgment
  - Urban system modeling that includes changes in demand fxn or preferences
  - Do we need to have one common methodological approach in the social science?

LUCC Modeling

- Why do we use models?
- What are they supposed to tell us?
- If they do not perform well, is this important?
- When do we NOT use models?

LUCC Case Studies

- LUCC Drivers Behave Differently
  - Land tenure changes are huge triggers
  - Population and economic changes affected land use change slowly; many years in some cases
  - Magnitude of the driver (not well pronounced does affect change)
  - Coincidence important as well (synergistic effects)
  - Need to understand coping strategies which are complicated an involve risk and past experiences

LUCC Modeling

- Important Issues
  - We need to make sure that we focus our attention on those variables that are likely to result in cover changes
  - We also need to determine what the time steps will be for the coupling of climate and land. We recognize that each region may operate on different coupling mechanisms

LUCC Modeling

- Methods that are important
  - How much do we change land cover to force regional climate?
  - Do we look at the “book ends” of land cover change possibilities
  - Should we conduct sensitivity analysis to determine magnitude of interaction?
  - How does a tightly versus loosely coupled climate-land modeling system, differ?

LUCC Modeling

- What are cross correlations between regional changes that are linked somehow (economically)

Scenarios

- General versus specific
- Top down versus bottom up approach
- Three levels of complexity approach
  1. Met→ LTM → LC for RAMS
  2. Regional LTM/Expert System (?NPP)
  3. Case studies (compare and contrast) using MABEL and LTM (learning exercises)
  4. Reactions to outputs (RPS, grp interviews)

Other issues

- Define bookends clearly
- Define land cover classes that we need to model. To consider are:
  - Inputs to land change
  - Outputs that are important for cliamte inputs