Thoughts for the Wrap-Up Discussion

Allison Thomson and Kate Calvin

29 September 2011

Forestry and Agriculture Greenhouse Gas Modeling Forum

Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle *Since 1965*

Common Themes

- Communication with decision makers
  - Risk
  - Uncertainty
  - Model evaluation and intercomparison – CMIP, AgMIP, maybe ForMIP coming soon?
- Quality of data, especially for international land use and agriculture modeling (yields, land cover, prices, bioenergy yields)
- Importance of thresholds and extremes – in particular temperature extremes and crop physiological limits
- Autonomous adaptations vs. planned adaptations
  - How do you plan for/model additional adaptation
  - Need to consider adaptation and mitigation together

Pacific Northwest
NATIONAL LABORATORY

Areas of future research

- Bioenergy and indirect LUC
  - Bio for electricity as well as liquid fuels
  - Role of residues and trade-off with soil conservation
  - Valuation of terrestrial mitigation with uncertainty – how to determine the value of an offset?
  - What is the land supply?
- Future changes in productivity due to "technology" – what's happening, what's possible, role of the public sector in investing
- Crop prices projected by economic models – will the cost of food rise due to GHG mitigation?
- Integration of ag-forest-economics-climate all in one framework
  - Need for consistency in scenarios and assumptions
- Livestock – importance of pasture and pasture management in LUC driven by introduction of bioenergy crops
- **Soils**

Pacific Northwest
NATIONAL LABORATORY

Questions for discussion

- Role of different approaches – simpler statistical models vs. data intensive process models?
- The role of gov't, need for institutions that do decision making in the right way for uncertain information was raised – but this is (mostly) out of our control. How do researchers help the government that we have make decisions under uncertainty?
  - USFS already actively considering climate change mitigation and adaptation in management; USDA formulating plans. What do they need from us?
- What is the role of disturbance in forest mitigation and adaptation?
- Can we begin to model the feedbacks from economic models back through models of the physical system?

Pacific Northwest
NATIONAL LABORATORY