

ACTIVITY	INPUTS	OUTCOMES
1a. Regional Climate Projections Parameterize RAMS and LEAF regional climate models for E. Africa	- GCMs (<i>italics</i>) - Topography - Current land cover	Regional scale climate change scenarios: (a) current land cover as a control run, (b) two extreme land cover changes
1b. Local Level Climate Analysis - Analyses of historical data - Validate RCM output with observations - Downscaling from global to regional and local scales for high resolution scenarios	- GCMs - Historical meteorological records for East Africa	Historical climate analyses including trends and variability, & their relationship to ENSO; Scenarios at high spatial & temporal resolutions; Present and future daily weather series for NPP simulations
2. Ecosystem productivity simulations Agricultural/ecosystem modeling using DSSAT, RANGEMOD, BIOME3 models	↳ <i>Present and future climatic conditions for vegetation</i> - Soils characteristics	Productivity under historical and projected climate conditions; maps of areas particularly vulnerable to climate change
3. Land Use/Cover Projections - Identify LULCC patterns& drivers from case studies and role-playing simulations - Model& up-scale to region w/ LTM/MABEL - Add climate change as driver - Convert land use to cover classes	↳ <i>How climate change will affect distribution of land uses</i> - Long-term case studies identify patterns, driving forces & their surrogate variables - Regional data bases	Scenarios of regional land use change assuming no climate change (control runs), and scenarios that include the impact of climate change on land use Scenarios of land cover based on projected land use
4. Land Cover Parameters Specify current and projected land surface parameters using imagery, algorithms, field validation & learning sites from Activity 3	↳ <i>Maps of projected land cover</i> - Satellite imagery - Biophysical & socioeconomic data	Regional distribution of land surface parameters (albedo, LAI, etc.) varying seasonally (past, current & future scenarios)
5. Response of the RCM Conduct experiments with land cover scenarios, testing the RCM's sensitivity to types and magnitudes of land cover changes	↳ <i>Revised land surface parameters</i>	Regional climate simulations that incorporating altered land surface. These feed the next iteration of NPP simulations& land use change analyses
6. Integrated Analysis of Climate-Land Feedbacks Conduct experiments with linked models of climate-land use-land cover change	↳ <i>Outputs and interpretations of Activities 1-5</i>	An integrated analysis that compares and contrasts different coupled climate-land systems and their implications for livelihoods, science and policy