



# Climate Group Breakout

Friday Afternoon

Sep. 19, 2003

# What will we be doing?



- Mid-late 2004, benchmarking and basic validation of RAMS in East Africa
- Early 2006, completion of arbitrarily chosen land cover perturbation cases of model
- Going forward—further refinement of LULC scenarios and full feedback
- Greenhouse gas concentration scenarios—how far into the future do we want to look? 2010-2050? 2070-2100?

# Statistical downscaling



- Downscaling for historical productivity, mid-2004. Jean
- Analysis of long-term time series, early 2005? Jean
- Analysis of monthly time series, relating this to circulation types. 2005? Ruth
- Relating climate to biome types-- BIOME-III 2004 Ruth

# Agricultural productivity modeling

- Historical analysis and calibration completed by end of 2004



# Scenarios

- “Multiple stressors”—land use change due to population change



# Data needs



- *Daily* rainfall data, max and min temp, radiation or sunshine hours—preferably for a 15-yr period
- Daily rainfall data desired for longer time period at a few stations
- Are data available for case study sites? Should there be some more thought about identifying study sites based on data availability

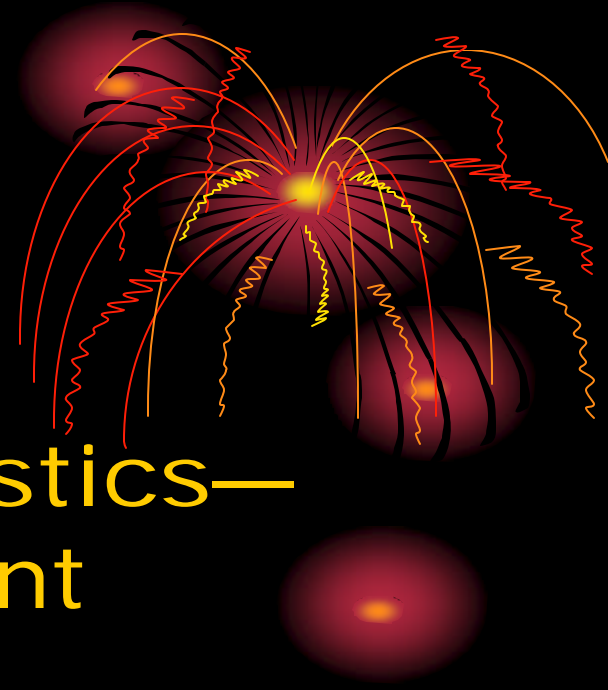
# Data needs, cont.



- Global Precipitation Climatology Project gridded daily precip— $2.5 \times 2.5$  degree grid
- New et al. monthly precip data gridded at  $0.5 \times 0.5$  deg

# Data purposes

- Time series characteristics—downscaling as endpoint
- Model validation
- Model boundary conditions
- De-biasing and matching of distributions (aka fudging of model output)



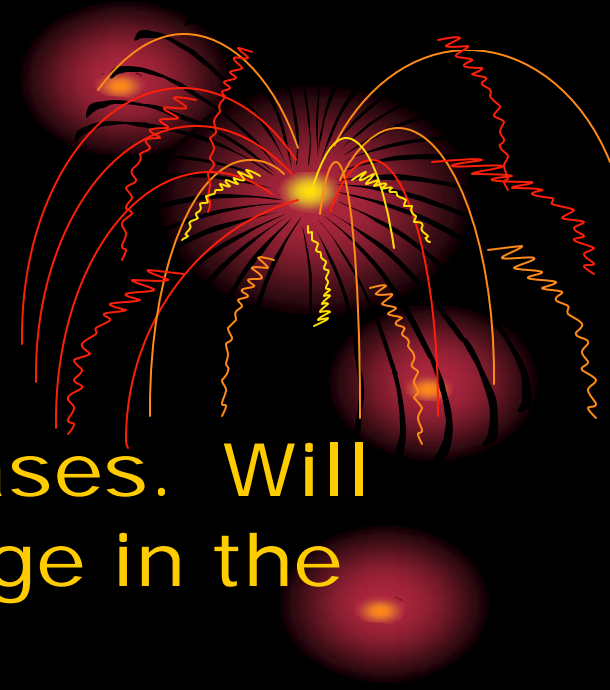


# Downscaling plans

- Likely to use weather generator
- Does upper air pattern/surface weather relationship remain stationary with climate change? Markov generation of precipitation—observations show change in frequency of rainfall in some regions. Models may be able to reproduce areal average precip; point values may be more difficult.



# Scenarios



- Positive/negative ENSO cases. Will frequencies of these change in the future?
- Larger-scale influence—do we trust the supplied lateral boundary conditions as reflective of influence of ENSO, Indian Ocean dipole, etc? Can we run model over a larger area?

