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# Empowering Communities to Adapt to Climate Change in Western Tanzania

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Our work in Africa is focused on perfecting and exporting the best examples of community-led conservation across the continent's vast communal lands and waters.







Conservation Projects and Protected Areas of Western Tanzania

Ecosystems of the Greater Gombe Ecosystem and Greater Mahale Ecosystem

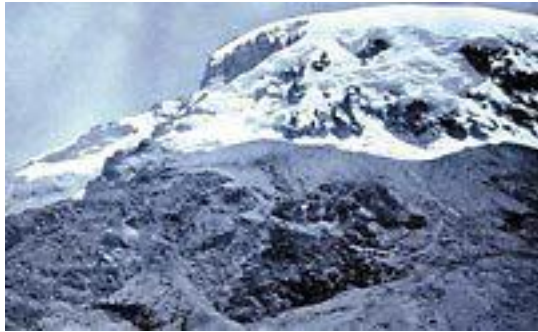








Mount Kilimanjaro:  
90% loss of ice cover  
Loss of 13000ha of  
montane forest



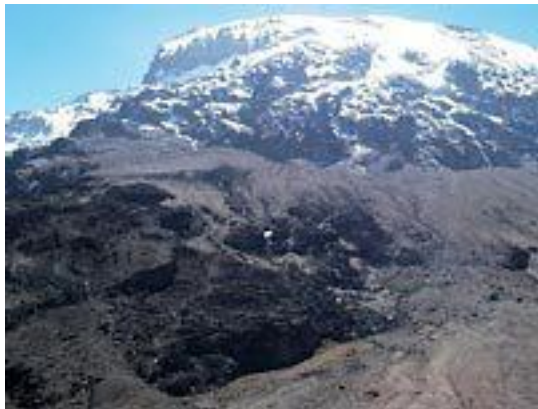
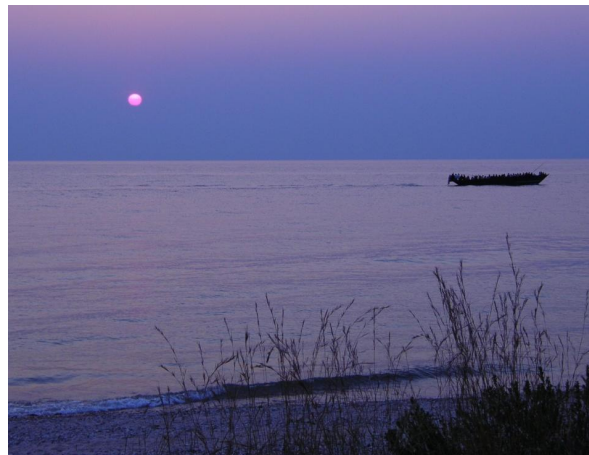
East Africa: increased  
frequency of drought over  
last 20 years



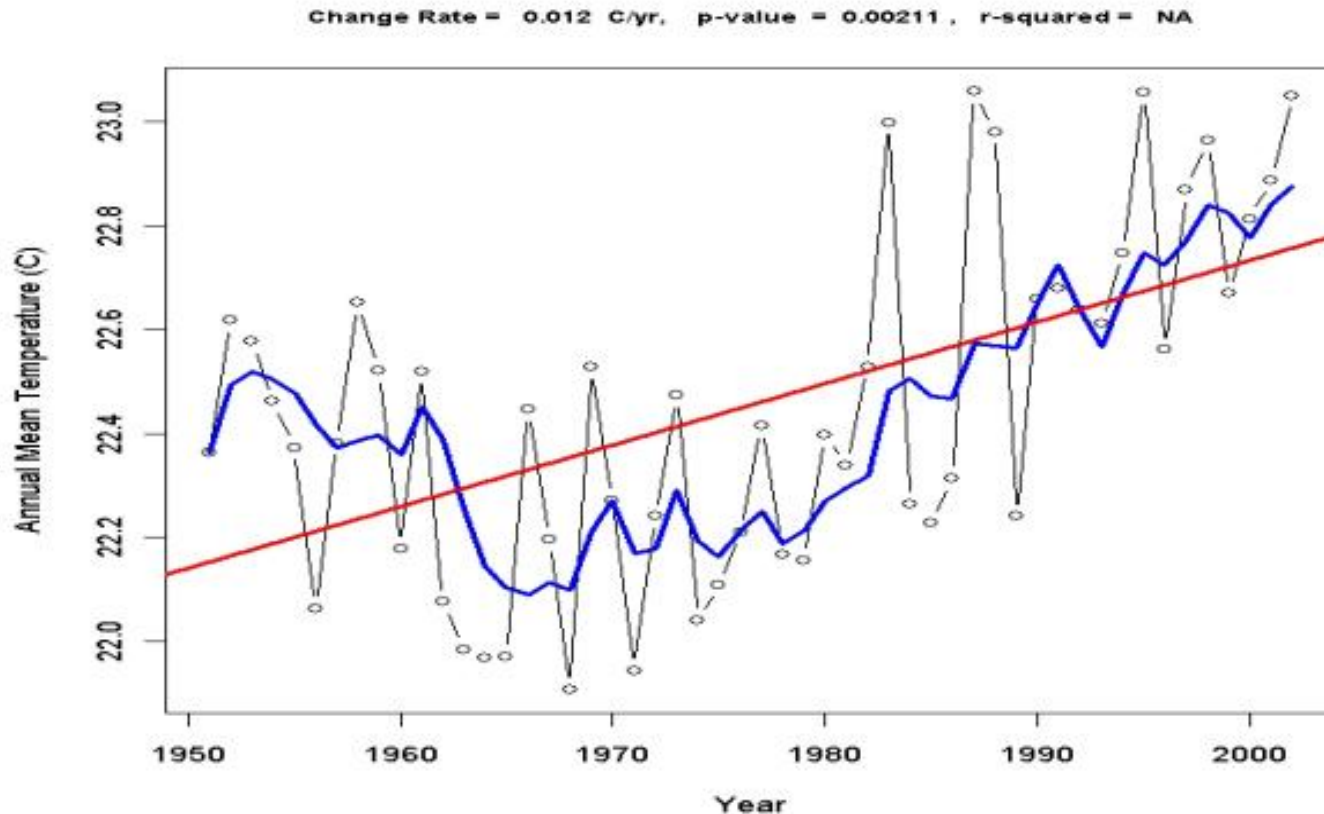
Kenya: decline of birds in  
mountainous regions



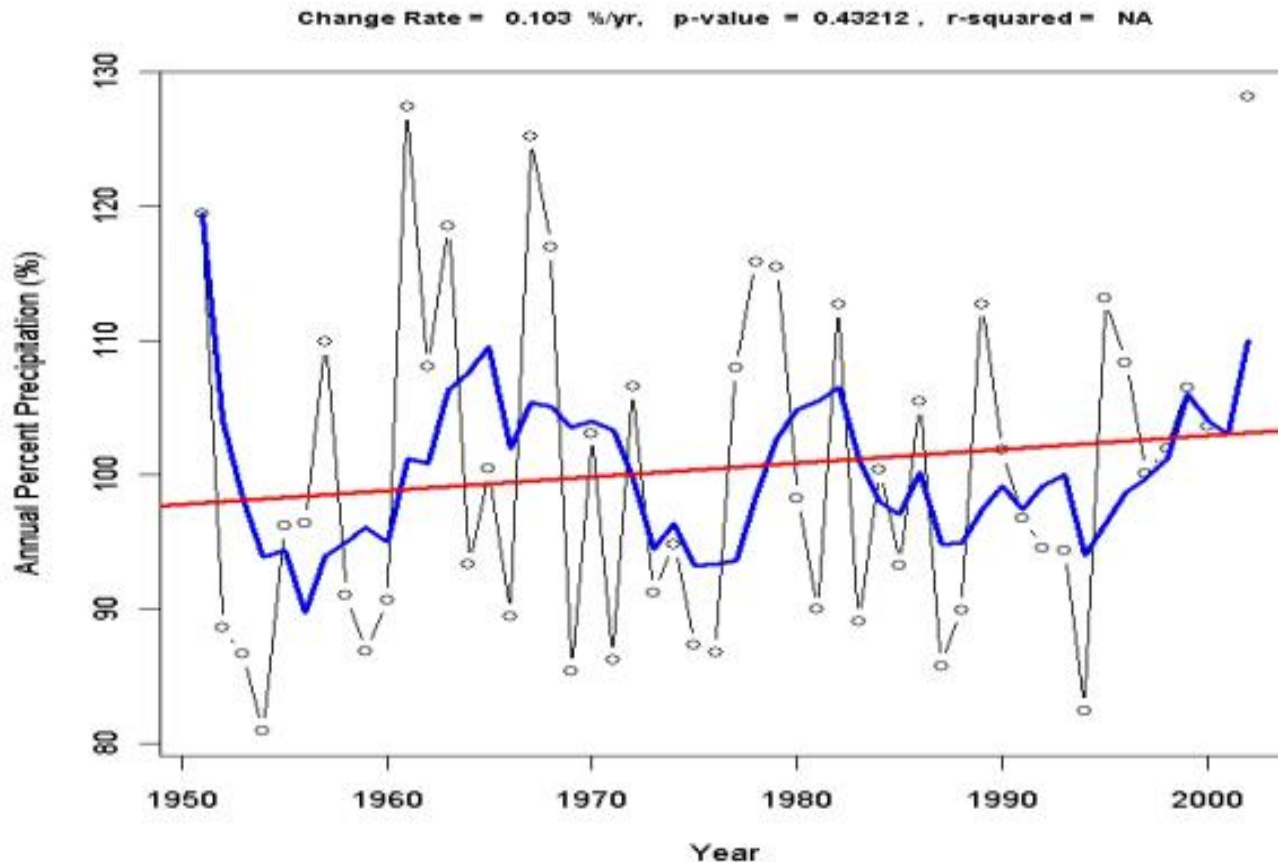
Lake Tanganyika: declining  
fish catches



# Average yearly temperature since 1950s

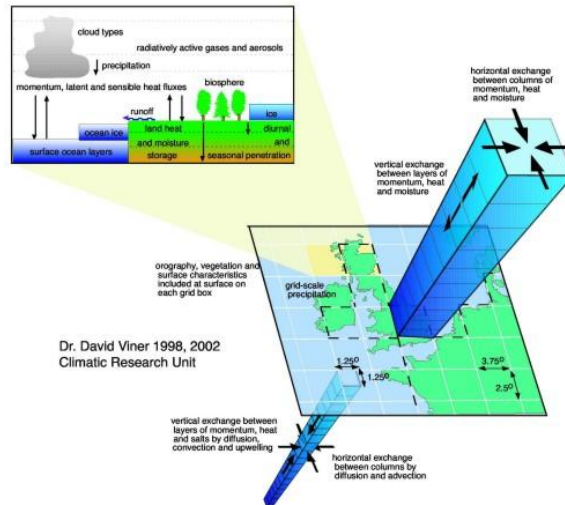


# Average yearly rainfall since 1950s



# Future Climate Projections

- Use information about historical climate and statistical techniques to interpolate to finer spatial scale.



## Future-Climate Downscaling

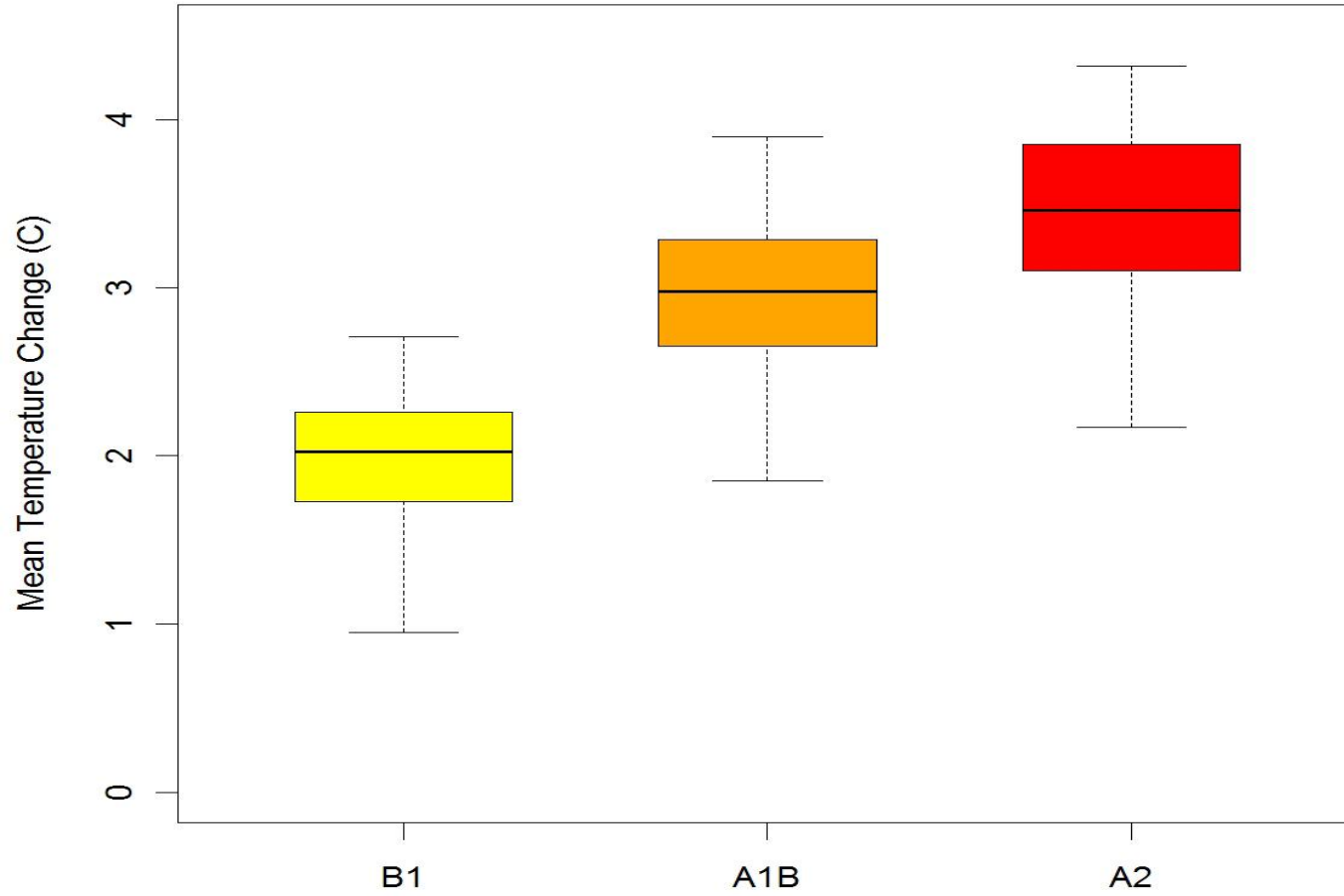
Focus on Coastal Winds in the North Sea

MODEL COMPUTATIONAL GRIDS

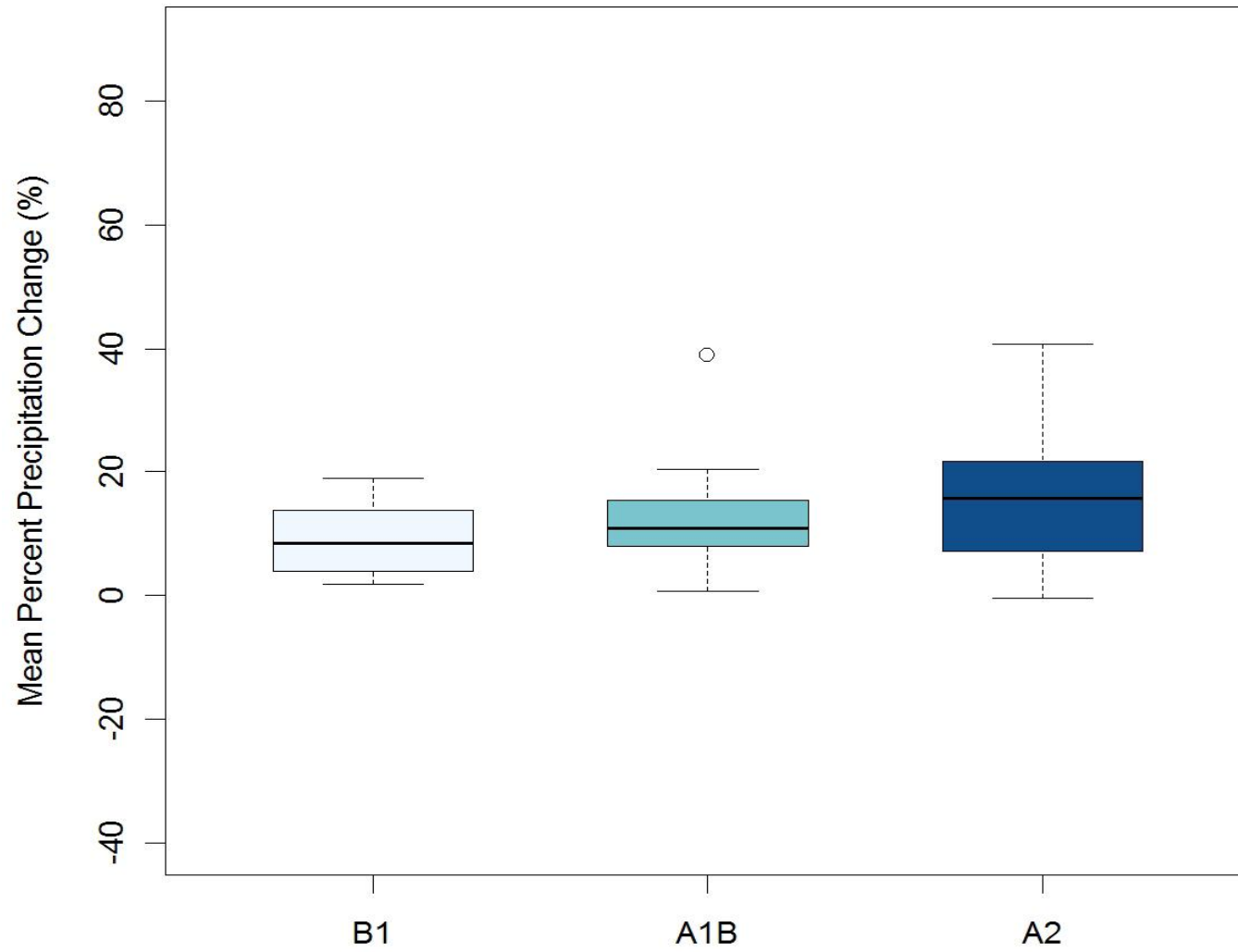
GLOBAL MODEL FORECAST FOR 2020

HIGH-RESOLUTION MODEL FORECAST FOR 2020

## End-of-Century: Annual Temperature Change



## End-of-Century: Annual Precipitation Change



# Synthesis of Climate Forecasts

- Temperatures will continue to rise, across all seasons
- Annual rainfall may not vary, but we will see changes in frequency, intensity & predictability
- Wet seasons will become wetter; dry seasons will become drier
- Despite increased rainfall, it will become more arid











# Greater Mahale Ecosystem



## Montane Forest

Incidence of fire increases

Moisture decreases

**Rainfall patterns change –  
More unpredictable**

**Increased Temperature**

Animal movement increases

## Miombo Woodland

Incidence of fire increases

## Riverine System

Hydrological system becomes erratic –  
Oscillating levels of flow



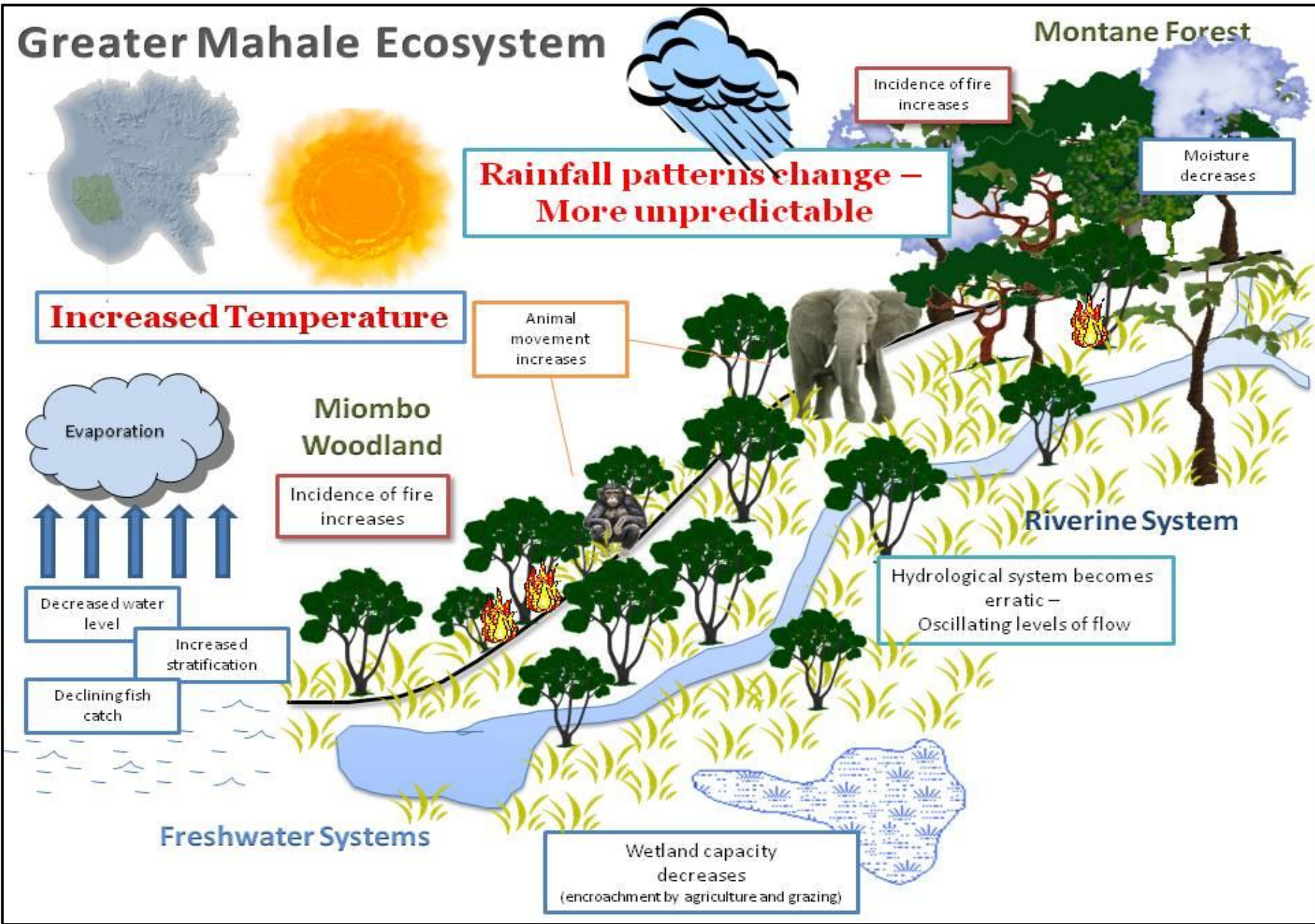
Decreased water level

Increased stratification

Declining fish catch

## Freshwater Systems

Wetland capacity decreases  
(encroachment by agriculture and grazing)





- Land use planning
- Fisheries
- Policy
- Agriculture
- Wildfire
- Poaching
- Corridors
- Energy

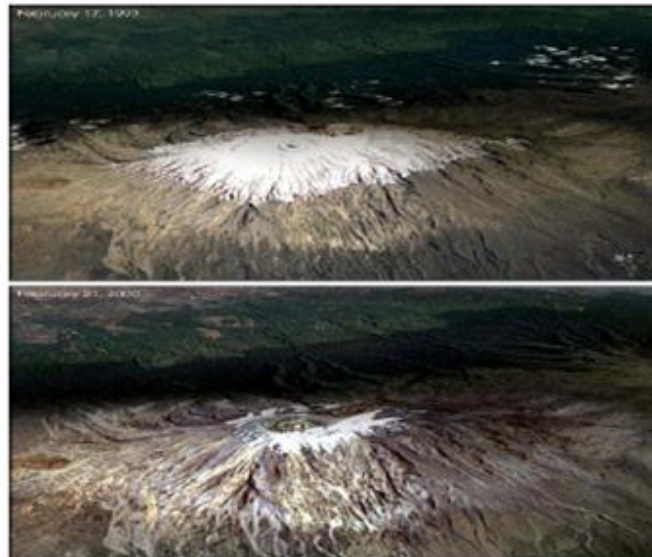






UNITED REPUBLIC OF TANZANIA

NATIONAL ADAPTATION PROGRAMME OF ACTION (NAPA).



VICE PRESIDENT'S OFFICE,

Division of Environment, January 2007





Thank You