

Understanding change in the Lake Sibaya region



SAEON's vision

- *“World-class environmental research platforms for a sustainable society”*
 - Our job is to try and understand Global change impacts on the environment and society

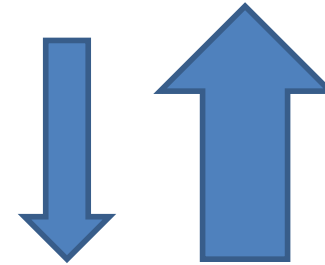


Humans are changing the carbon cycle

- Changes in Land use and land cover
- Increased CO² emissions

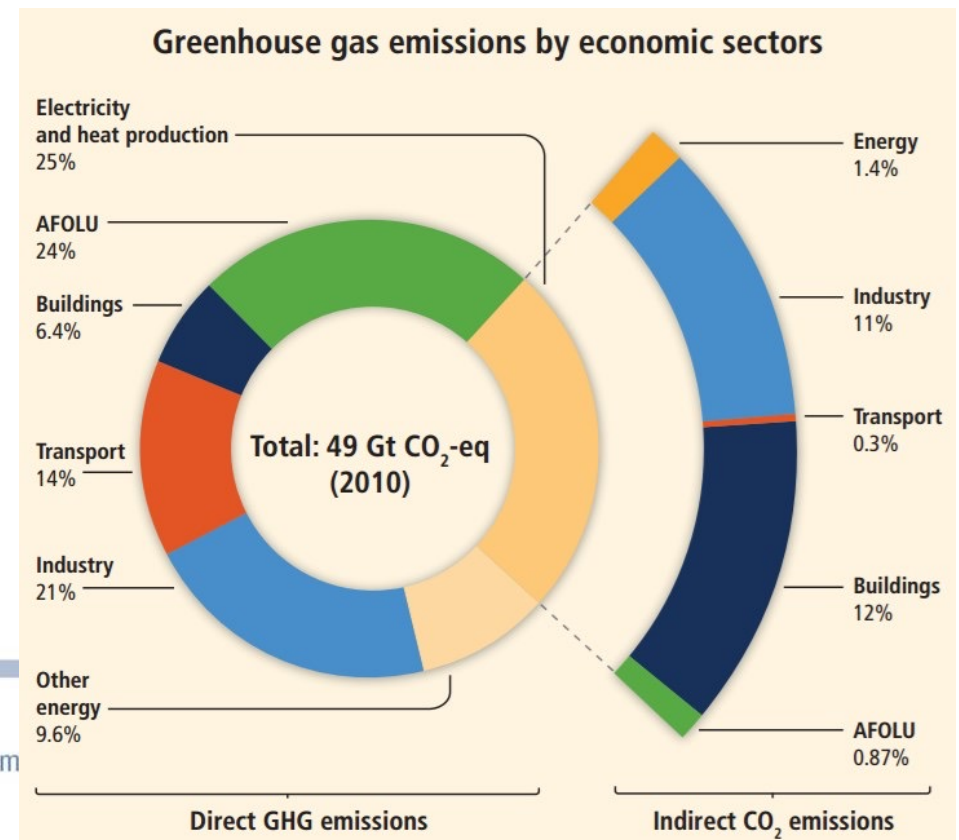
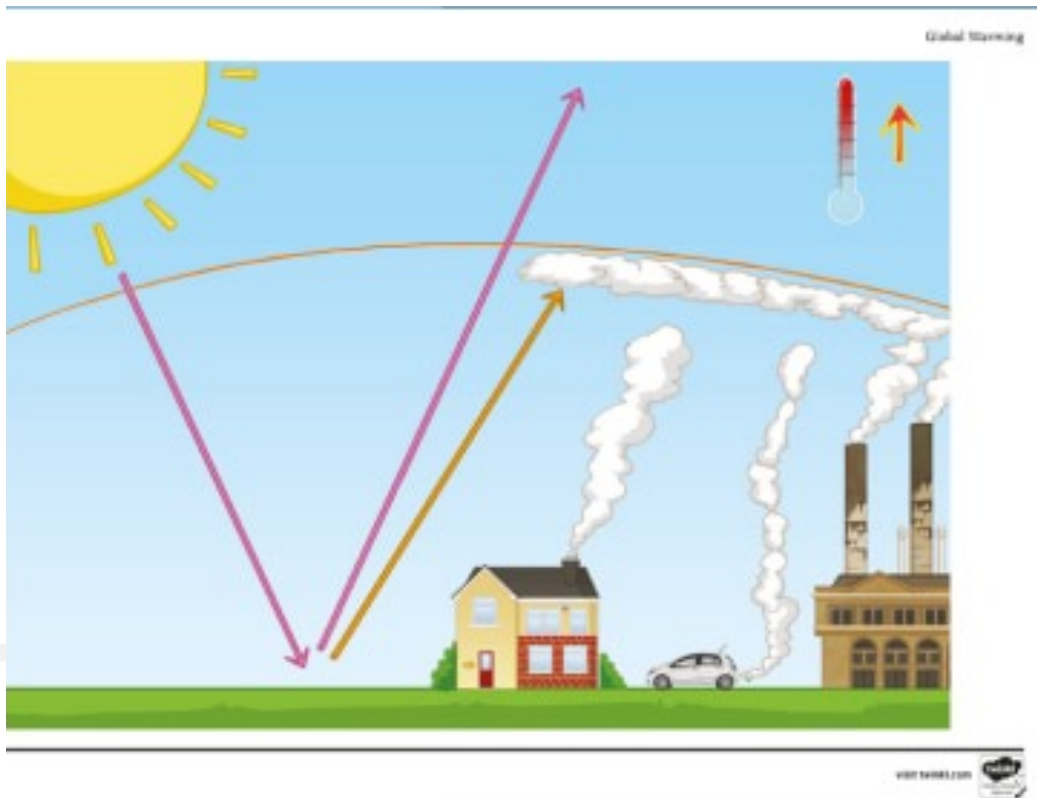


Global change



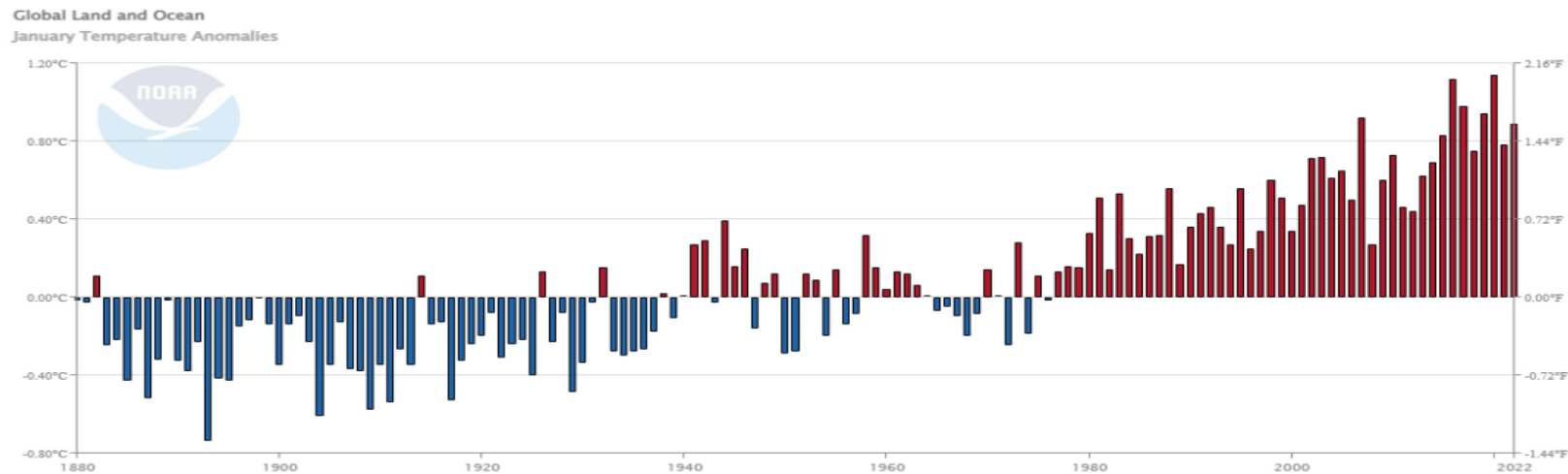
Climate Change

- Weather = short term
- Climate long term
- What is it- The green house effect?
- What causes it? Human activity that gives off CO₂



Impacts of Climate Change?

- Temperatures are increasing



- This messes with the climate! (Climate change)
- Oceans heating up
- **Weather is become more extreme and less predictable**

Home
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By /

KWAZULU-NATAL FLOODS DEATH TOLL RISES TO 461

Premier Sihle Zikalala says 23 bodies remain unidentified.



An increase in extreme temperature

Severe drought

High intensity tropical cyclones

Changes in the timing of phenological events

What does the future hold for here?

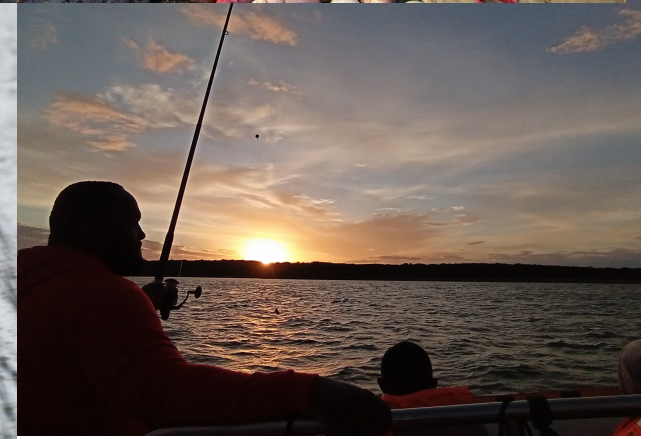
- Definitely hotter
- Definitely more extreme weather
 - More severe / longer droughts,
 - More intense storms
 - More heat waves
- Rainfall in general for this area?
 - **Big Uncertainty???**
 - You are in a transition area which makes future difficult to predict
 - Not enough data specific to this area
 - Implications for water security???
- Income and livelihoods????

Umhlabuyalingana: Unique and fragile water dependant ecosystems

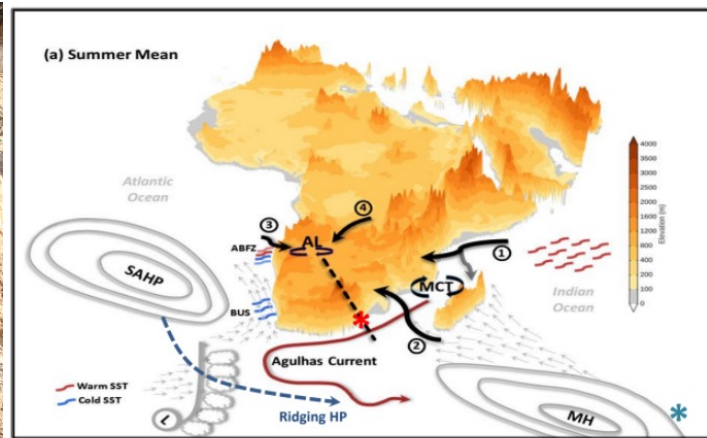
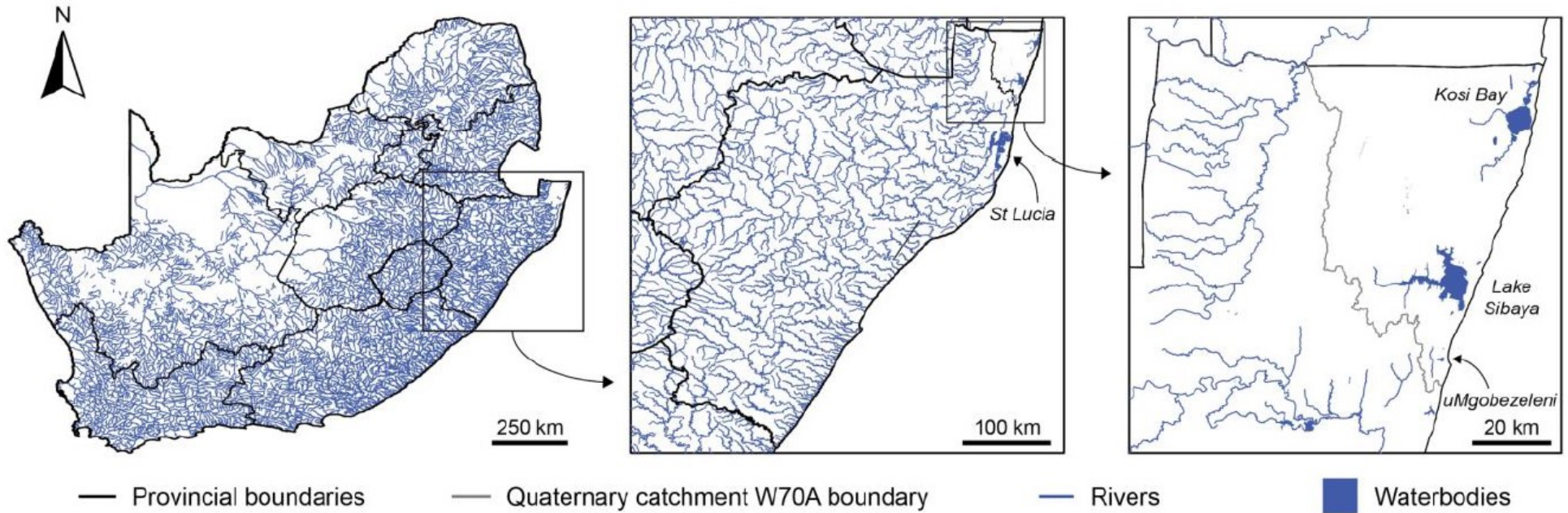


Value of your wetlands

- Drink water
- Farming
- Tourism
- Livestock
- Fishing
- Fiber
- Crafts

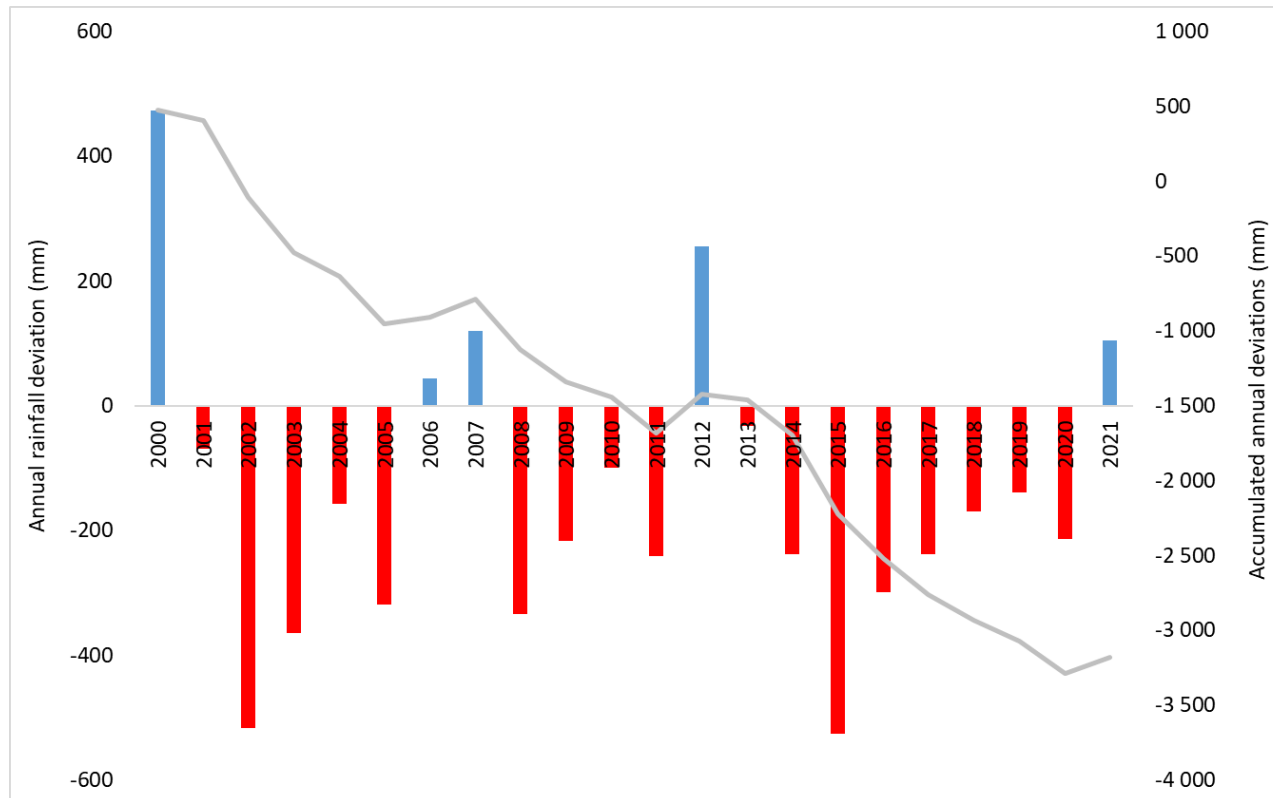


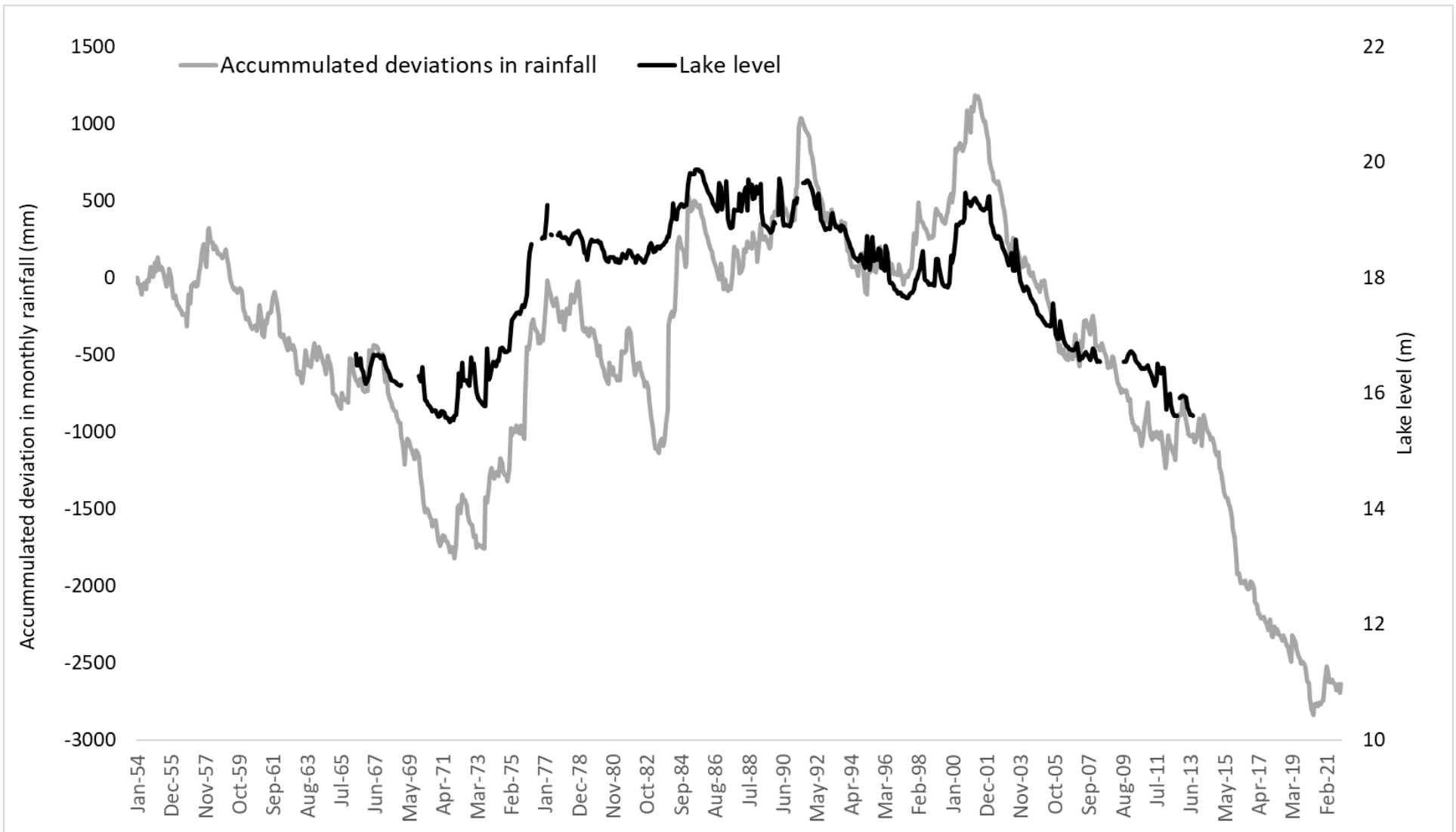
More unique features



Zooming in on last 21 years

From 2000 to 2021
HLABISA MBAZWANA as primary station
Mean period 1960 - 1990







2015



Aug 2016



18 Feb 2017

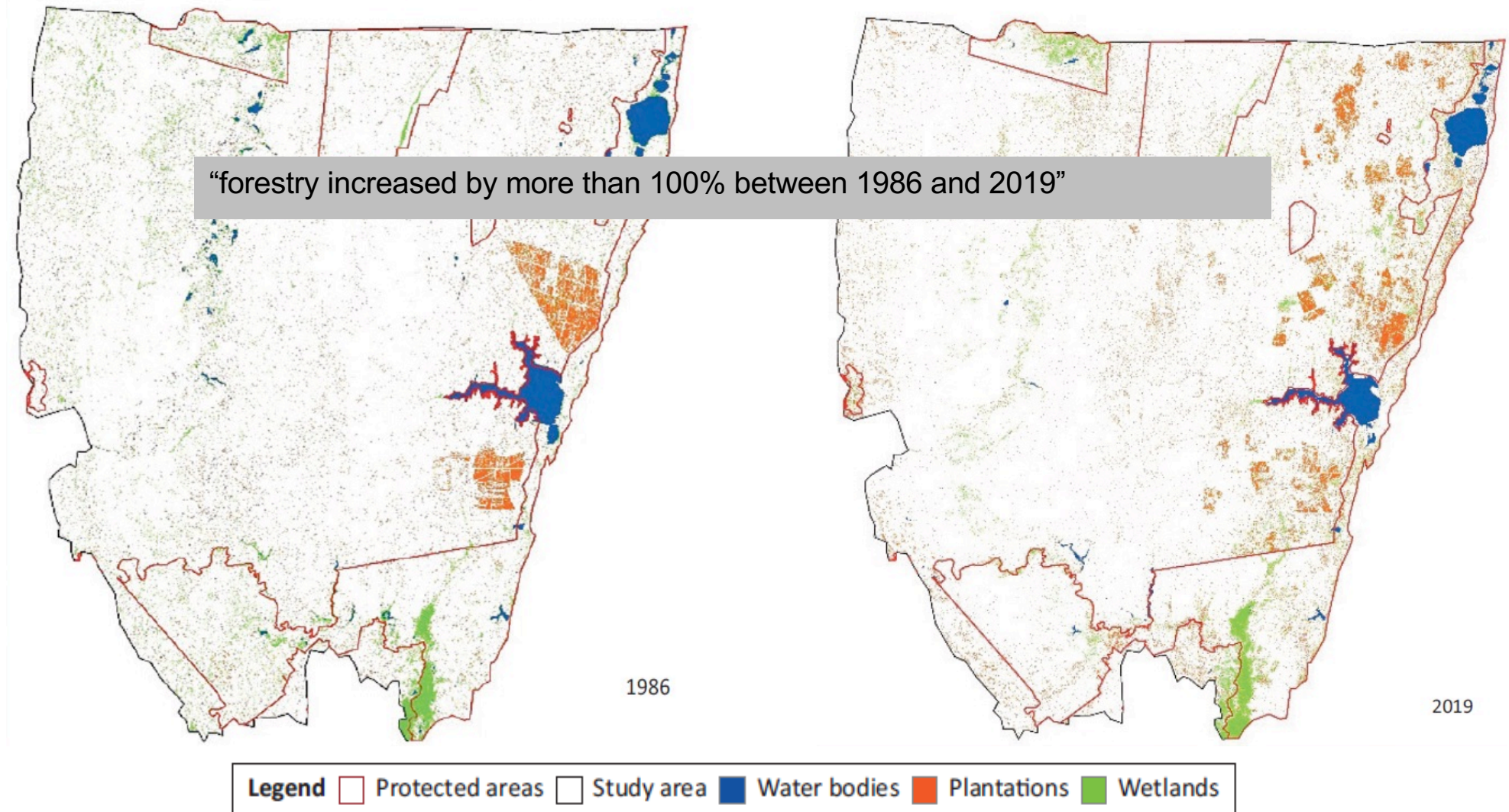


15 Nov 2017



Land use change???
Climate change???
Abstraction???

What about the impact of land use and land cover??



Exotic trees use lots of water!

