



African Union  
Commission



African Development  
Bank

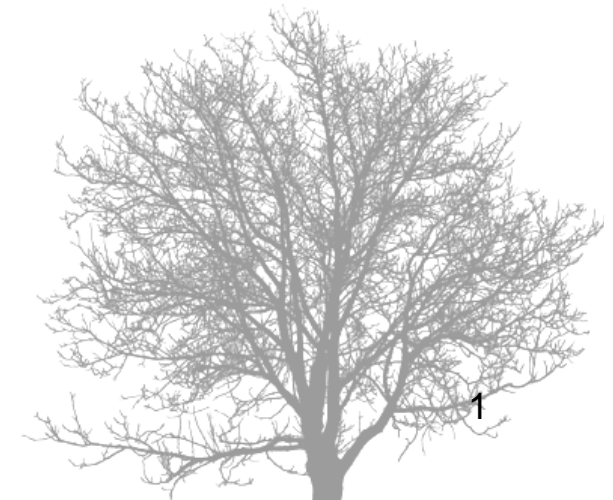


Economic Commission  
for Africa

ClimDev-Africa

# Climate change impacts in Africa and the UNFCCC negotiations: policy implications of recent scientific findings

**Doreen Stabinsky**



# The UNFCCC objective

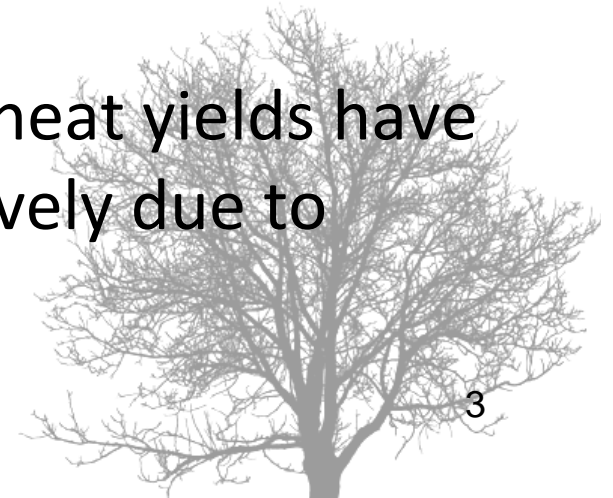
## Article 2:

The ultimate objective of this Convention ... is to achieve ... stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient ... ***to ensure that food production is not threatened...***



# Temperatures rising and yields falling

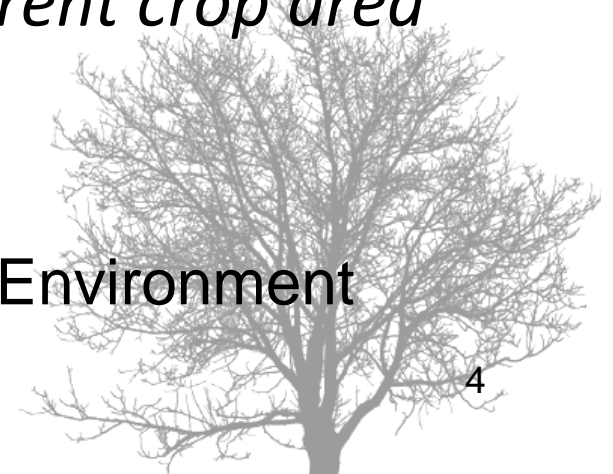
- Current average temperatures across the globe are  $0.74^{\circ}\text{C}$  above the historical reference year of 1905. An average warming of  $1.5^{\circ}\text{C}$  above historical temperatures is expected by 2050.
- For Africa, 2010 was the warmest year on record. 2010 temperatures averaged over Africa were  $1.29^{\circ}\text{C}$  above the long-term average.
- From 1980-1998, global maize and wheat yields have decreased by 3.8% and 5.5% respectively due to increasing temperatures.



# Threats from extreme events and slow onset temperature rise

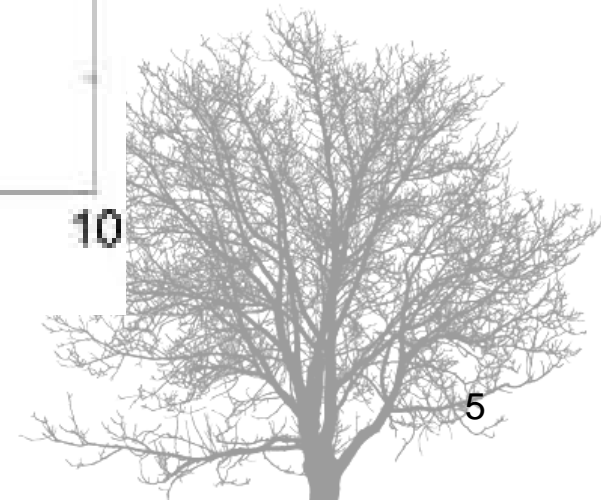
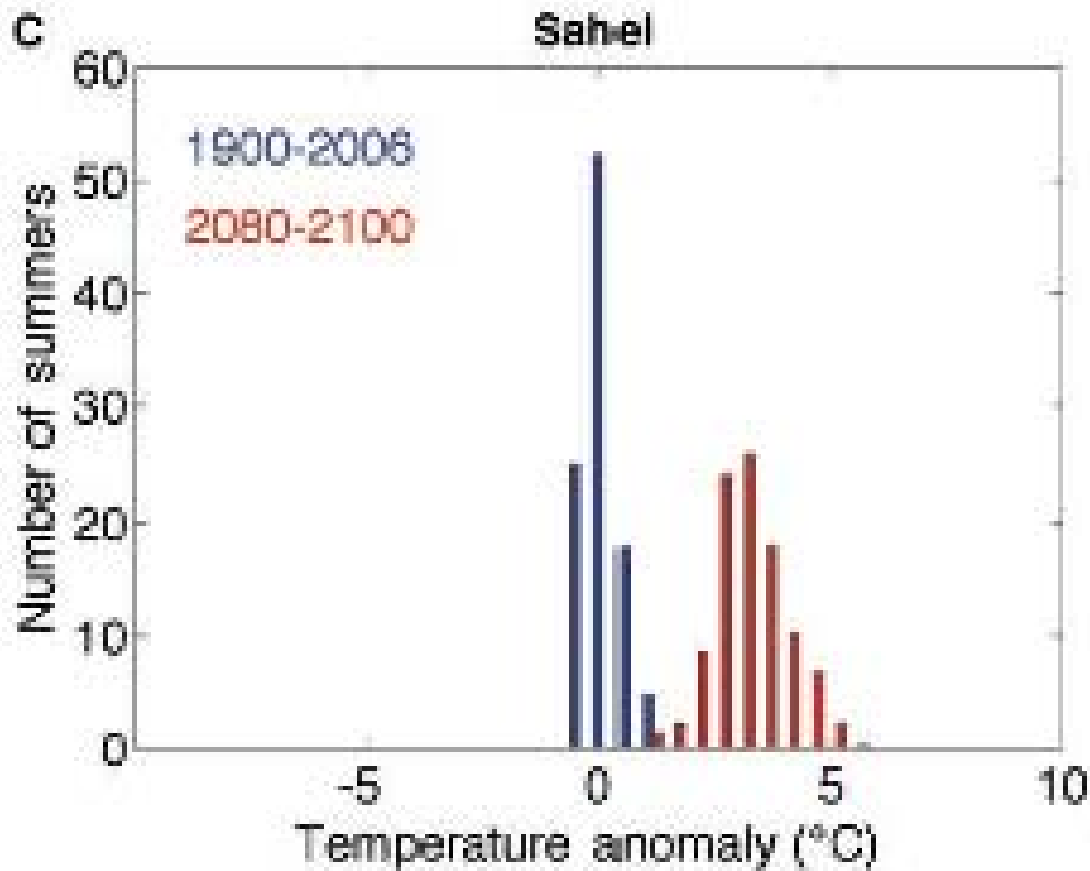
- *“Temperature changes have a much stronger impact on yields than precipitation changes.”*
- Climate extremes will become much more common, with *“relevant temperature thresholds for crops ... to be exceeded on more days in most regions.”*
- *“The majority of African countries will have novel climates over at least half of their current crop area by 2050.”*

Stanford University Program on Food and Environment



# Observed and projected averaged summer temperatures for the Sahel

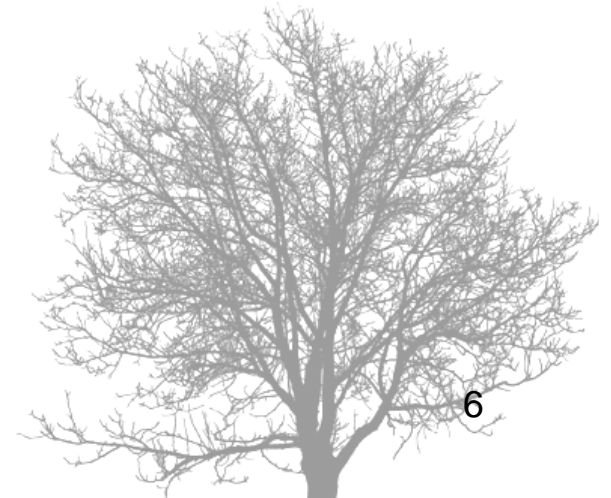
(Battisti and Naylor 2009)



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# Three policy questions to consider

- Global goal: 1.5 or 2°C?
- Prioritizing adaptation: how?
- Addressing mitigation smartly



# Global goal: 1.5 or 2°C?

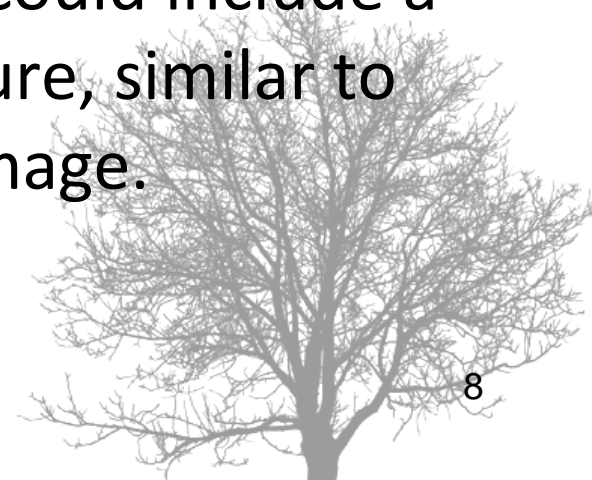
- The Sahel and Horn of Africa droughts have both been linked with human-caused increases in sea surface temperatures
- Average predicted production losses in African maize by 2050 = 22%
- Current warming = 0.74°C
- 1°C by 2020
- 1.5°C by 2050

**2°C is too much**



# Prioritizing adaptation

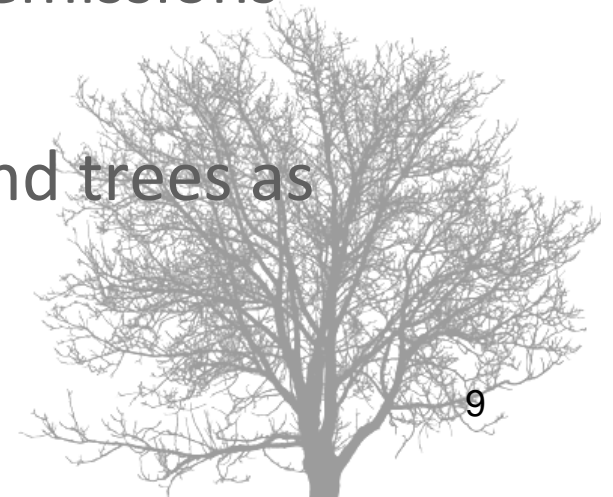
- Adaptation of agricultural systems must be a central and immediate concern of country-level planning, regional cooperation and international finance.
- Governments should actively engage in the negotiations on loss and damage, particularly with respect to the impacts of slow onset temperature rise on future crop production.
- The UNFCCC Adaptation Framework could include a specific work programme on agriculture, similar to the work programme on loss and damage.





# Addressing mitigation smartly

- Agricultural emissions from developed countries are 2-3 times those from African countries.
- Mitigation markets will not be a stable or predictable funding source for African agriculture
- Soil carbon markets may actually threaten future production
  - Offset markets require continued emissions elsewhere
  - Reversal of C sequestered in soil and trees as temperature rises



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# Thankyou

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