



NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

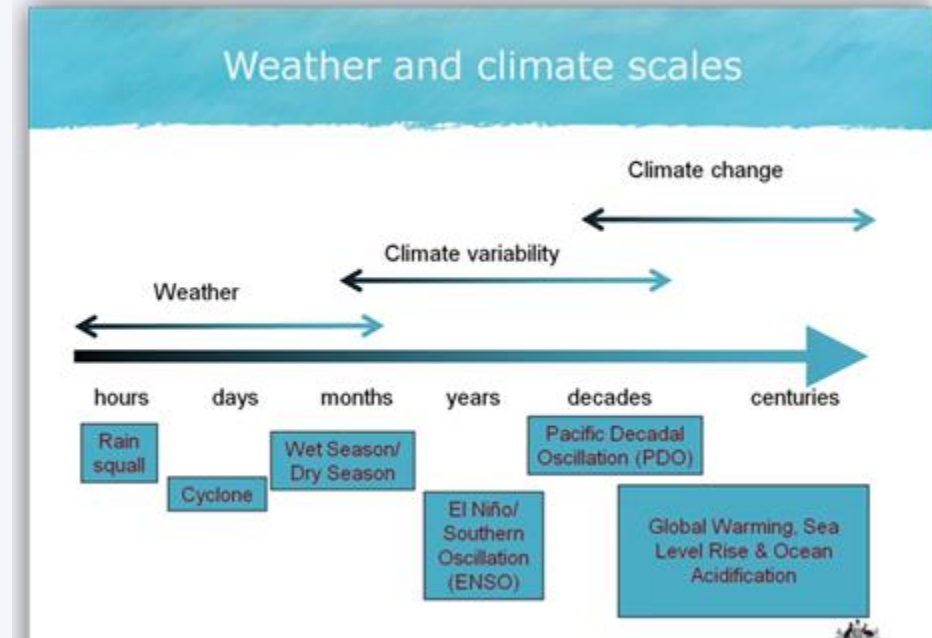


CLIMATE CHANGE IMPACTS ON WATER RESOURCES AVAILABILITY IN THE NILE RIVER BASIN

Eng. Dr. Henry K. Ntale,
Faculty of Engineering and Survey, Ndejje University

Introduction

- Dual challenge of addressing **climate variability** and **climate change**.
- Killing two birds with one stone



Evidence of Climate Change Impacts

- Temperature Rise,
- Erratic Rainfall,
- Sea Level Rise,
- Ecosystem Changes.

Temperature Rise

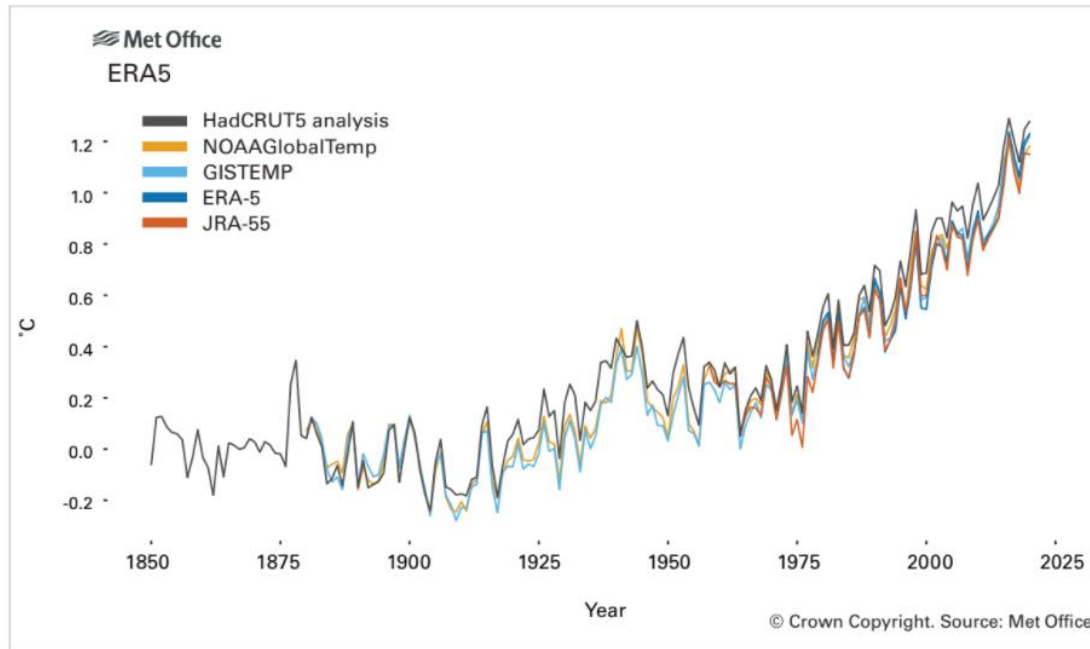


Figure 1. Global annual mean temperature difference from pre-industrial conditions (1850–1900) for five global temperature data sets. *Source:* Met Office, United Kingdom

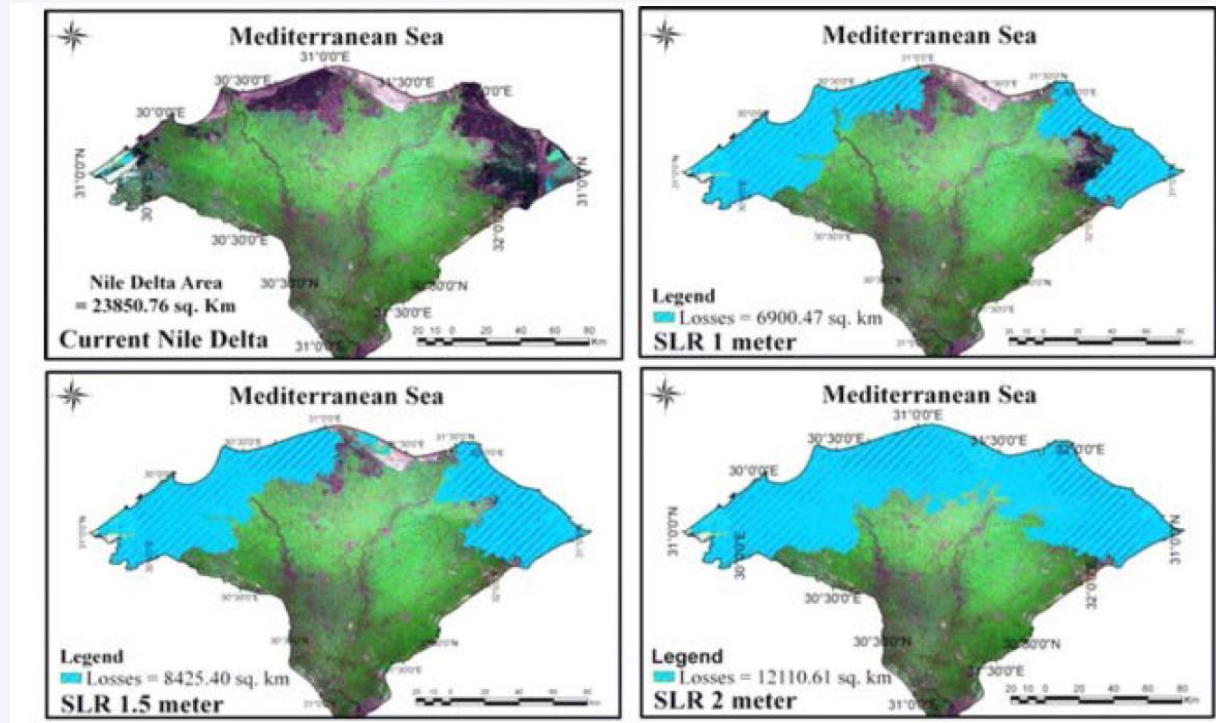
Erratic Rainfall

- Shifting rain seasons
- Prolonged droughts
- Flash floods



Sea Level Rise

- In the Nile Delta
The sea rose at a rate of **3.1mm per year** in 1993-2003
(Compared to 1.8mm per year in the last century).



Ecosystem Changes

- - Altered flow patterns will disrupt spawning and migration of fish species



Mitigation Efforts

- Nile Basin Initiative (NBI),
- Adaptive agriculture – promotion of climate smart agriculture
- Hydropower diversification.
- Afforestation and Reforestation
- Ecosystem Conservation Efforts

The Way Forward

Action points include:

- a. Strengthen Integrated Water Resource Management (IWRM)
- b. Adaptation and Resilience Building
- c. Diversify Energy Sources
- d. Ecosystem Conservation
- e. Enhance Capacity Building and Knowledge Sharing
- f. Promote International Cooperation
- g. Mobilize Climate Financing
- h. Increase Public Awareness and Education
- i. Peaceful Cooperation and Policy alignment
- j. Investment in Green Infrastructure
- k. Continuous Monitoring at both National and Regional level;

Recommendations

- **Recommendation 1: Integrated Water Resource Management (IWRM)**
 - Foster collaboration among Nile Basin countries for effective water resource management.
 - Ensure equitable sharing of water resources for sustainable development.
- **Recommendation 2: Climate-Resilient Infrastructure**
 - Develop and upgrade infrastructure, particularly for irrigation, to enhance climate resilience.
 - Improve agricultural sustainability and water resource management.
- **Recommendation 3: Renewable Energy Transition**
 - Diversify energy sources by investing in solar and wind energy.
 - Enhance energy security and reduce dependence on hydropower during water scarcity



NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL



**THANK
YOU!**