The 1984 East African Drought
The Risk, Impacts, and Opportunities

Group 5:
Choul B., Tewodros T., Melanie P.,
Almutaz A., Mulangwa D., Amna O., and Titike B.

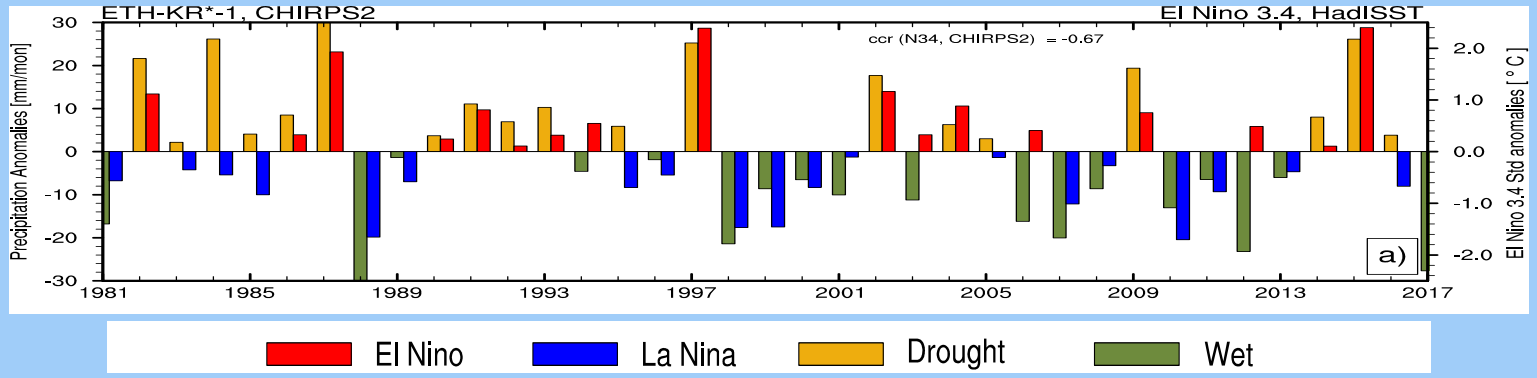
Training Program
East African Drought Monitoring and Forecasting Workshop
October 8-10, 2019
UNECA, Addis Ababa, Ethiopia

Introduction

- East African countries are facing recurrent extreme climate events with extensive economic and social consequences. In extreme cases these may lead to droughts and humanitarian disasters.

- East Africa has experienced recurrent drought events in the past few decades. e. g. **1984, 2010/2011, 2015, and 2016**.

- **1984** drought events was the most devastating drought event in the region.



Projected number of severely malnourished Somali children up 50 percent

Somali children face triple threat of drought, disease and displacement

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Young mothers wait with their children to be seen at a UNICEF-supported

GENEVA/NAIROBI, 2 May 2017 – The projected number of children who are or will be acutely malnourished has shot up by 50 per cent since the beginning of the year to 1.4 million, including over 275,000 who have or will suffer life-threatening severe acute malnutrition in 2017.

Severely malnourished children are nine times more likely to die of killer diseases like cholera / acute watery diarrhea and measles, which are spreading. During the 2011 famine in Somalia that killed an estimated 260,000 – over half of them young children – the main causes of death among children were diarrhea and measles.

Introduction

- Droughts have several impacts on the environment and society such as; significant water shortages, economic losses, destruction of ecological resources, food shortages and starvation of millions people and subsequently mortalities.

- Therefore, understanding of the mechanisms that produce this variability and developing both dynamical & statistical model for extended range forecast is of great importance:

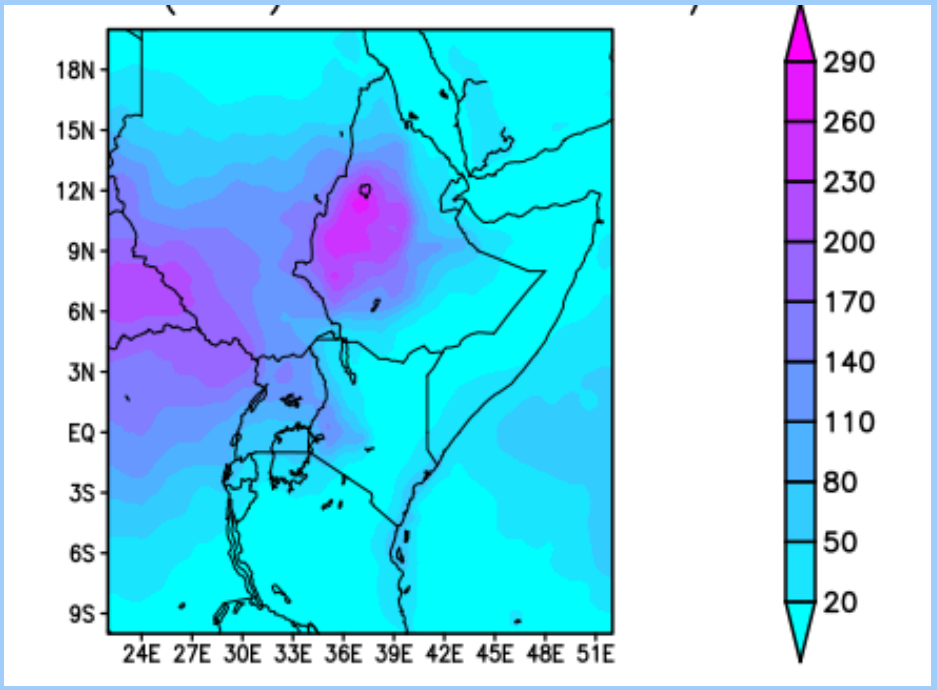
  E.g., NASA satellite maps, Princeton Climate Analytics tool which offers products like; East Nile Monitor, African Flood and Drought Monitor, Global Drought Risks, etc.

- Socio-economic planning that accounts for variable climatic conditions
- Control agricultural productivity
- Management of water resources
- Early warning for disaster risk management and outbreak

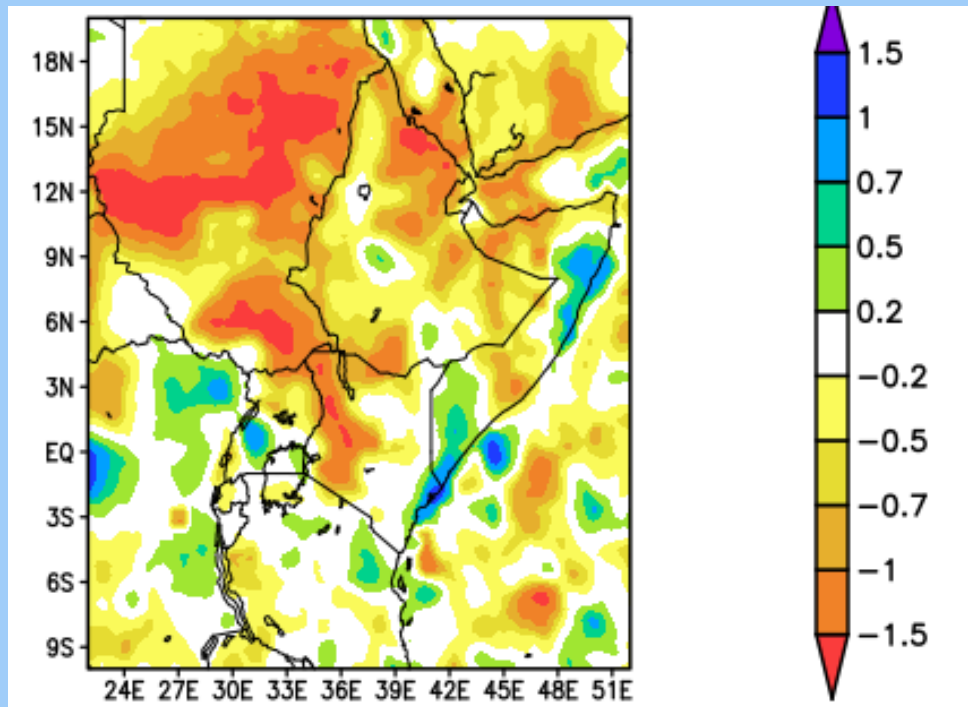
OBJECTIVE

- To evaluate the Tools for there ability to identify drought events and visualize how it propagates on the hydrology of the system.

Analysis: PREC and SPI

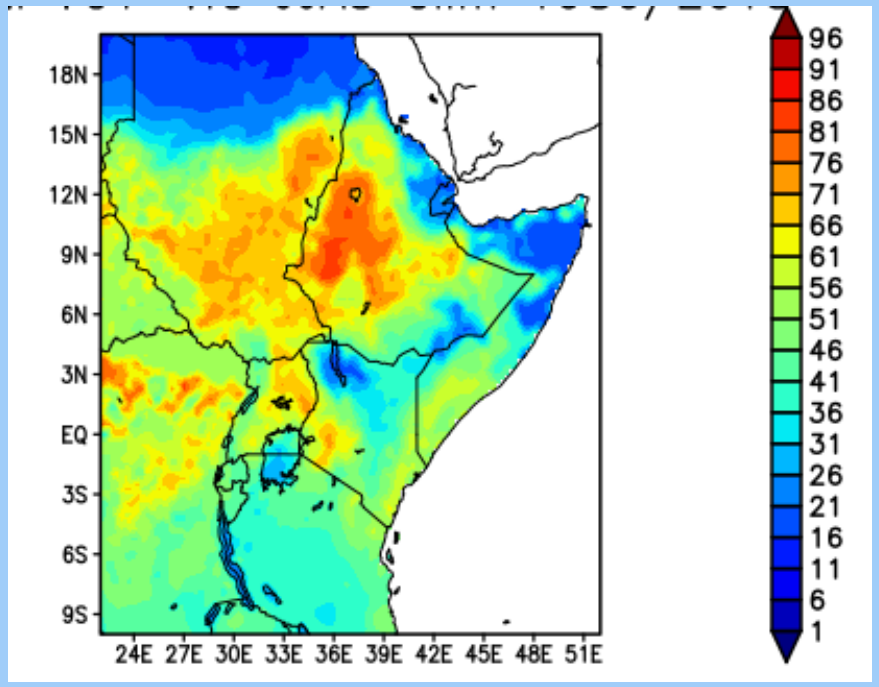


AFDM precipitation (mm/mon) JJAS mean 2003-2018



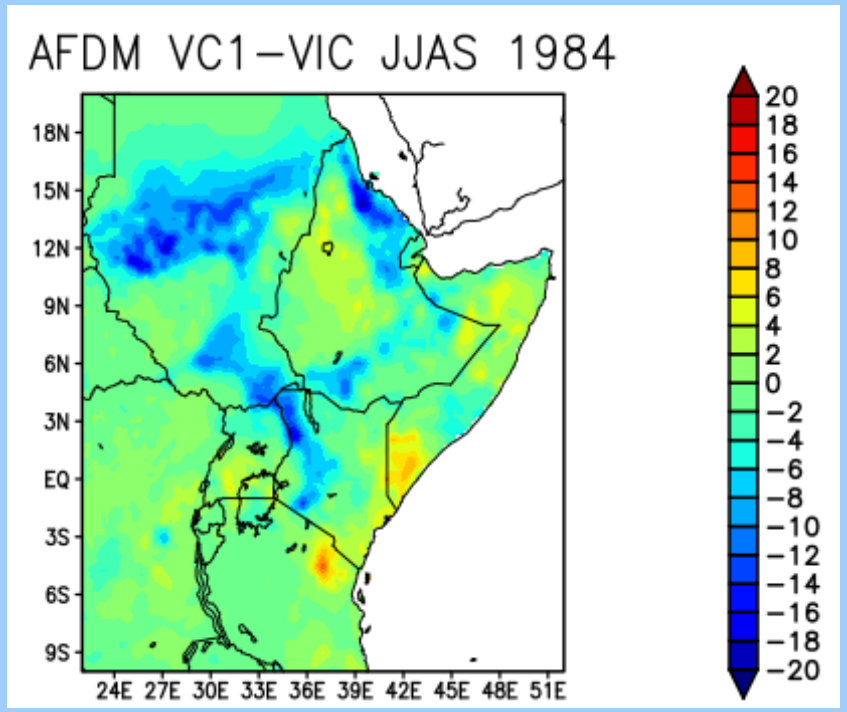
AFDM SPI JJAS mean 1984

Analysis: VC1-VIC

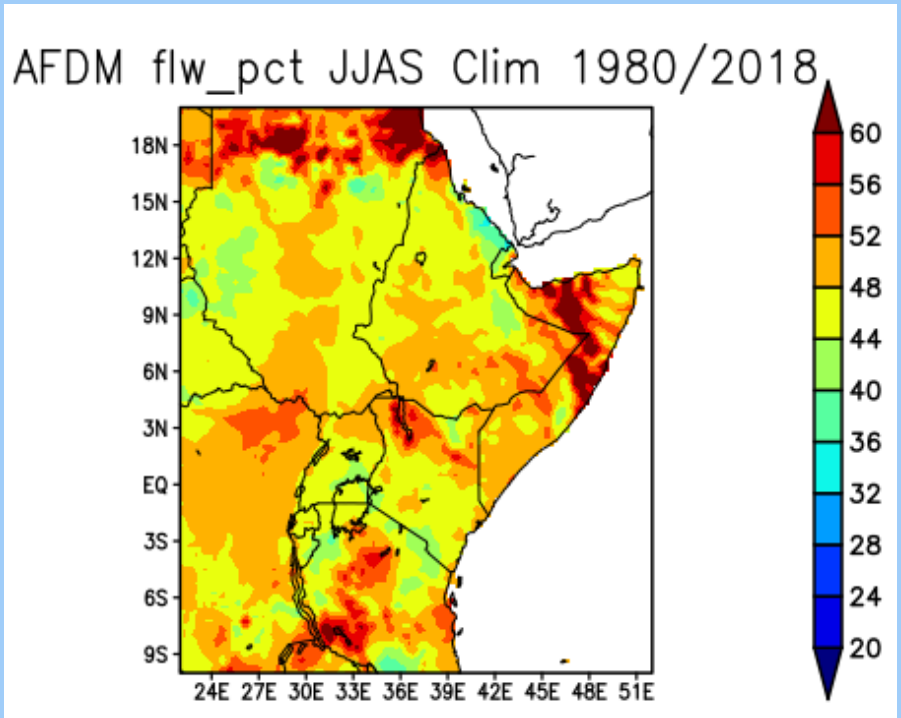


AFDM VC1-VIC JJAS mean 1980-2018

AFDM VC1-VIC anomalies for 1984 with base period of 1980-2018

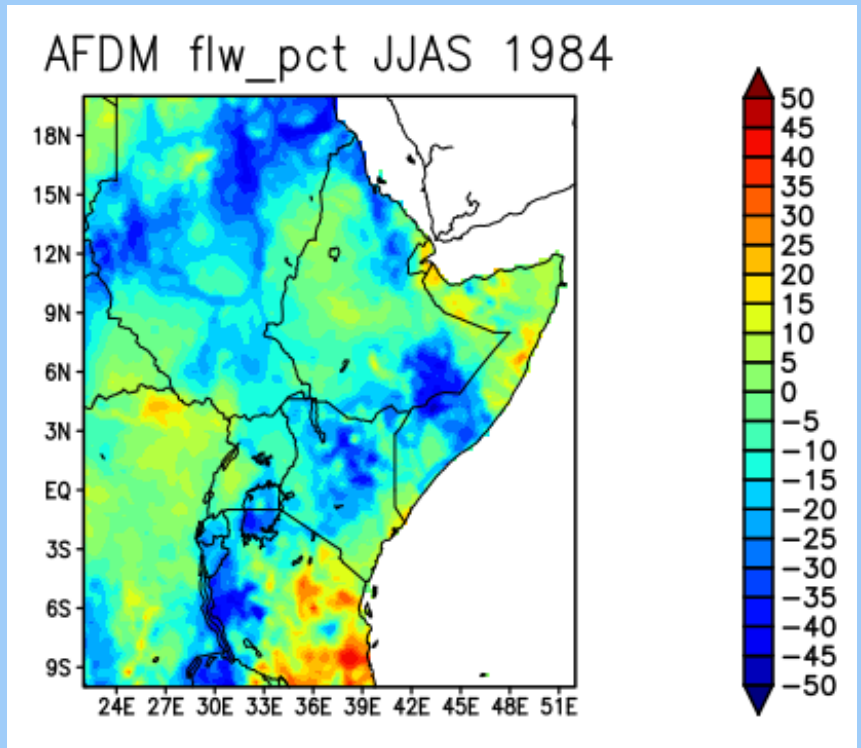


Analysis: VC1-VIC



AFDM flw_pct JJAS mean 1980-2018

AFDM flw_pct anomalies for 1984 with base period of 1980-2018



Opportunity and Challenge

- **Opportunity:**

1. Availabilities of tools to help decision-makers in designing early warning systems.
2. Ability to quantify water availability for different purposes (Irrigation, Hydropower,…etc).
3. Use of readily available seasonal forecast to inform decision makers.

- **Challenges:**

1. Way of dissemination information such as climate information or extreme events to stakeholders and farmers.
2. Mainstreaming the efforts to identify the climate information users and their needs.
3. Automatic downloading of data using scripts is not possible in the platform.