

Introduction

No place like
Addis Ababa,
Ethiopia!!!

Dr. Tsegaye Tadesse,
Principal Investigator on the project,
National Drought Mitigation Center (NDMC)
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NASA IDS: Seasonal Prediction of Hydro-Climatic Extremes in the Greater Horn of Africa (GHA)

The First Participatory Research Workshop and Project Meeting

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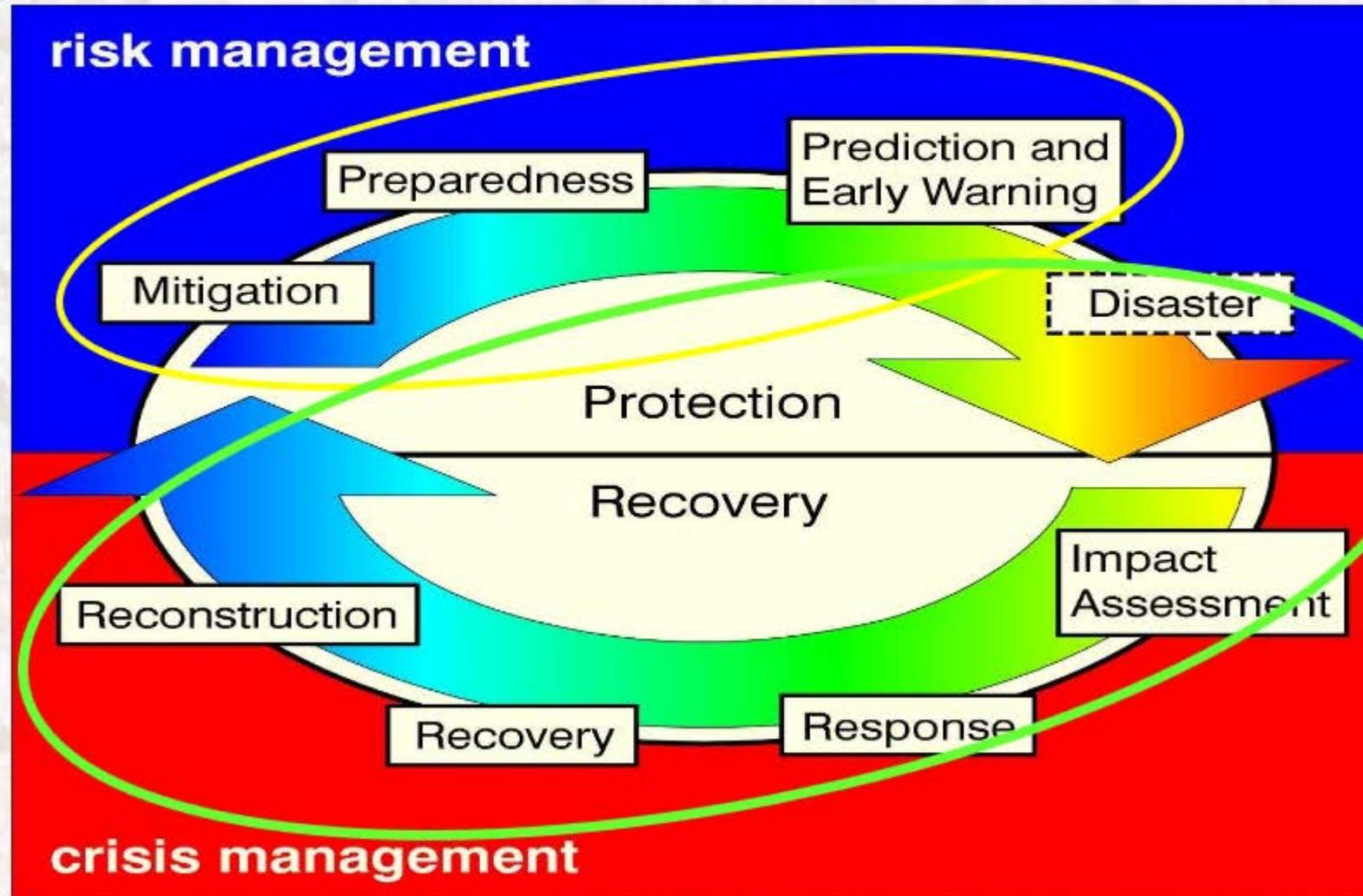


Motivation

- Improved performance and application of seasonal forecast is a critical no-regrets climate adaptation strategy
- But in many parts of the world including GHA:
 - (1) many forecast systems perform poorly,
 - (2) forecasts are not always tied to user needs, and
 - (3) there is a lack of systematic forecast evaluation and comparison
- There is also **a need to understand how forecasts influence the outcomes** they are designed to predict



The Cycle of Disaster Management



NASA GHA Project Goal

“To understand and, where possible, extend the predictive time horizons for extreme drought and flood in the GHA given the challenges of an evolving climate baseline and diverse information needs to support mitigation strategies.”

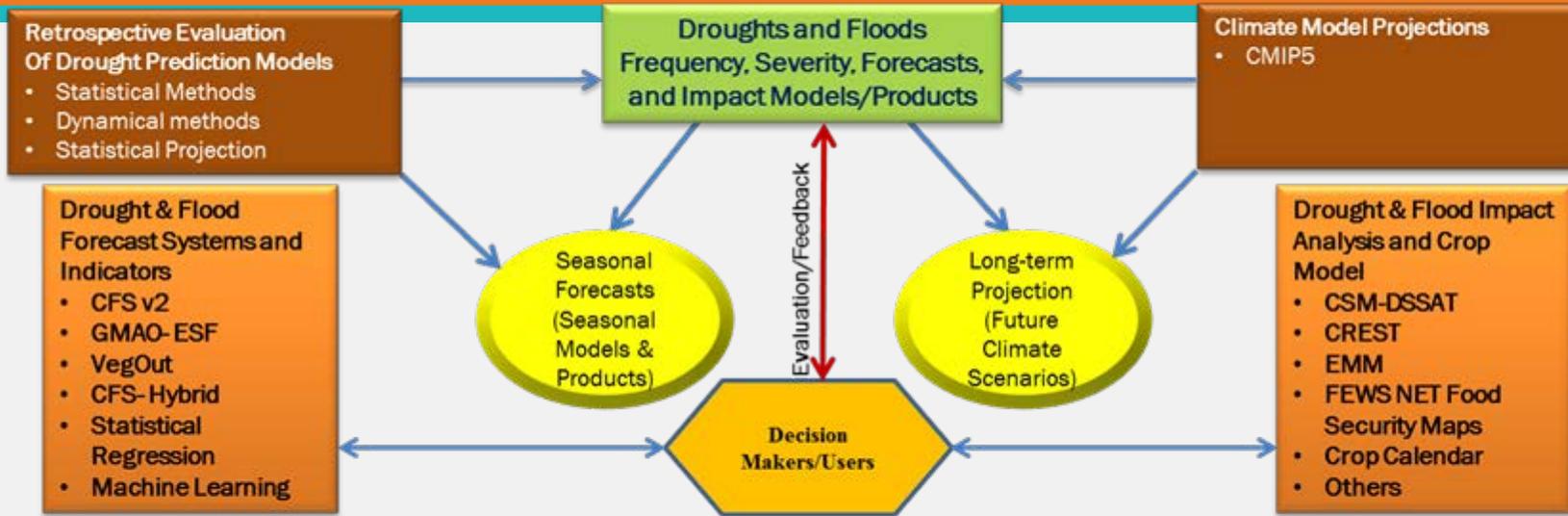
NASA Theme: Understanding Earth system
Vulnerabilities to Climate Extremes

Characterize the value of existing systems and identify key time horizons, prediction targets, and uncertainties relevant to decision makers



Schematic diagram of the project

Predicting Climatic/Hydrologic Extremes in the GHA under Evolving Climate Conditions



Participatory System Design and Evaluation

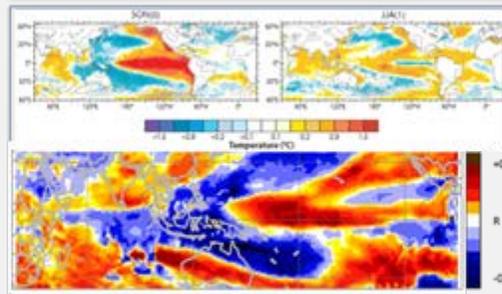
Objective Regionalization Distinct GHA Climatic Subregions



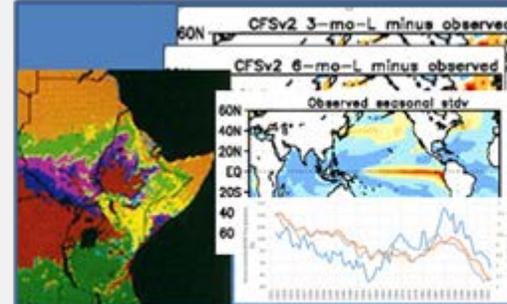
Hierarchical Clustering based on: precipitation reanalysis using

- CRU data
- FEWS data
- NMA Merged satellite data

Analysis of Large-scale Drivers - Ocean-Atmosphere-Land system



Evaluation of Forecast Methods - Retrospective Forecast Experiments



Apply Seasonal Forecast System to Prediction of Socially-relevant Impacts on Crops, Flood Risk, and Economic Outcomes

Investigators



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 B. Wardlow (UNL)
 M. Hayes (National Drought Mitigation Center, UNL).

The First Participatory Research Workshop and Project Meeting Goals and Objectives (rationale):

- To present the scope of the project, engage the decision makers in our assessment of information requirements and use their feedback to reorient the prediction models to address their needs. This includes learning about existing forecasting methods and decision-making processes in various sectors within the GHA.
- To initiate dialogue between managers and scientists on how to make hydro-climatic models' predictions more useful in the GHA and on how to deliver the information for easy use.
- To identify stakeholders that would use the information we produce and work with us over the next 2-3 years. This includes recruiting at least 20 decision makers and/or their advisors representing the local (private, governmental, and NGOs), regional, and international organizations in the GHA.