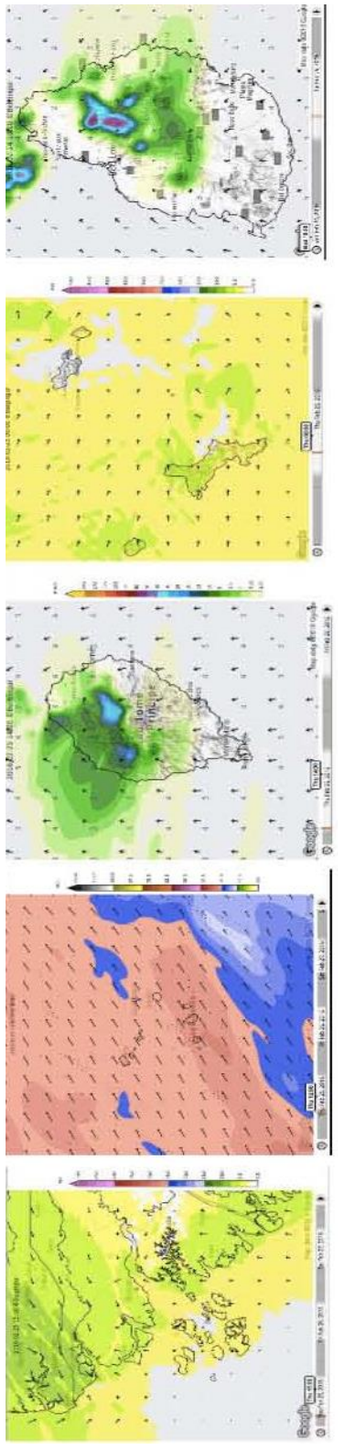
The role of climate information and services in DRR



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Economic Commission for Africa

ACPC
African Climate Policy Centre

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Part 1

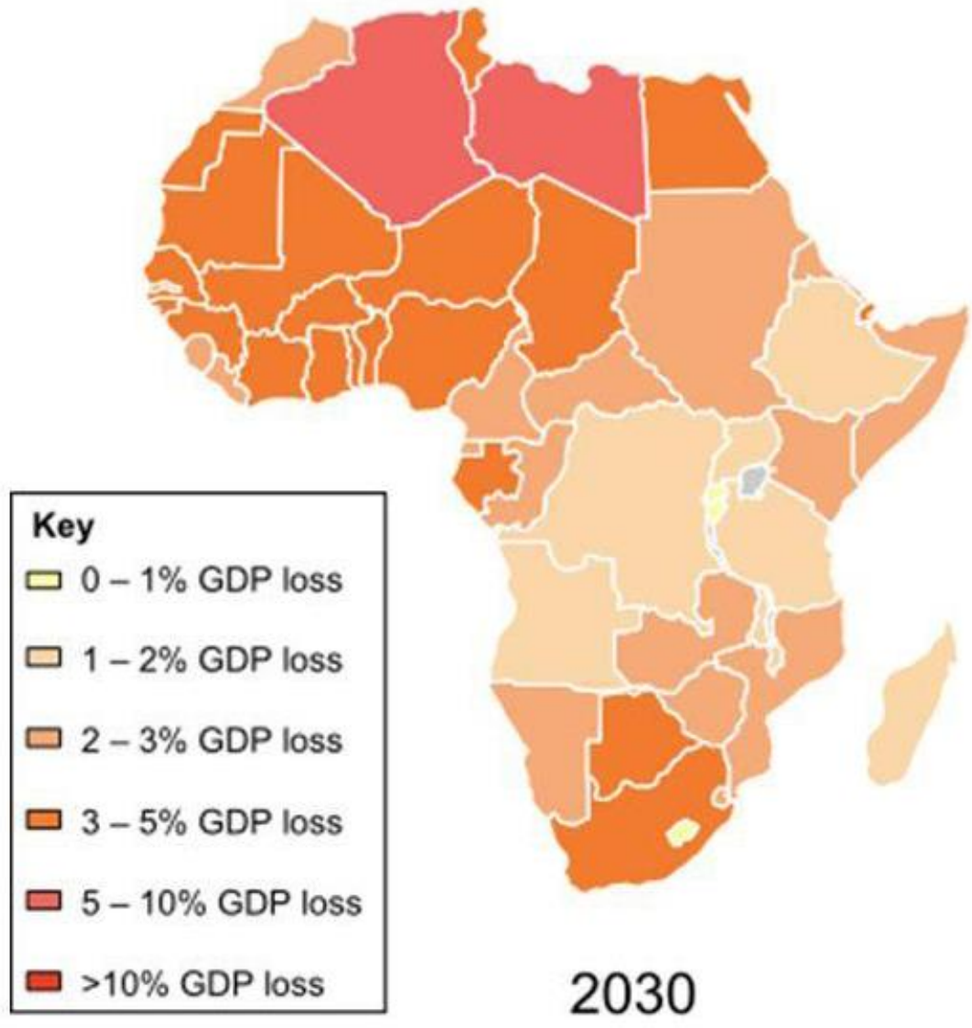
Hydro-metrological impacts in Africa

Hydro meteorological hazards

- **Include drought, floods, heavy wind, heat waves and others;**
- **Accounted for 90% of all natural disasters and erode Africa's gains in poverty reduction and set back its economic development.**

Impacts in Africa

- **By 2050 could lead up to a 50% reduction in water availability across most of Southern and West Africa (*IPCC 2013*).**



Since 1980, more than 420,000 Africans have died and direct economic damages total at least US$ 9 billion (*EM-DAT*)

Impacts in Africa

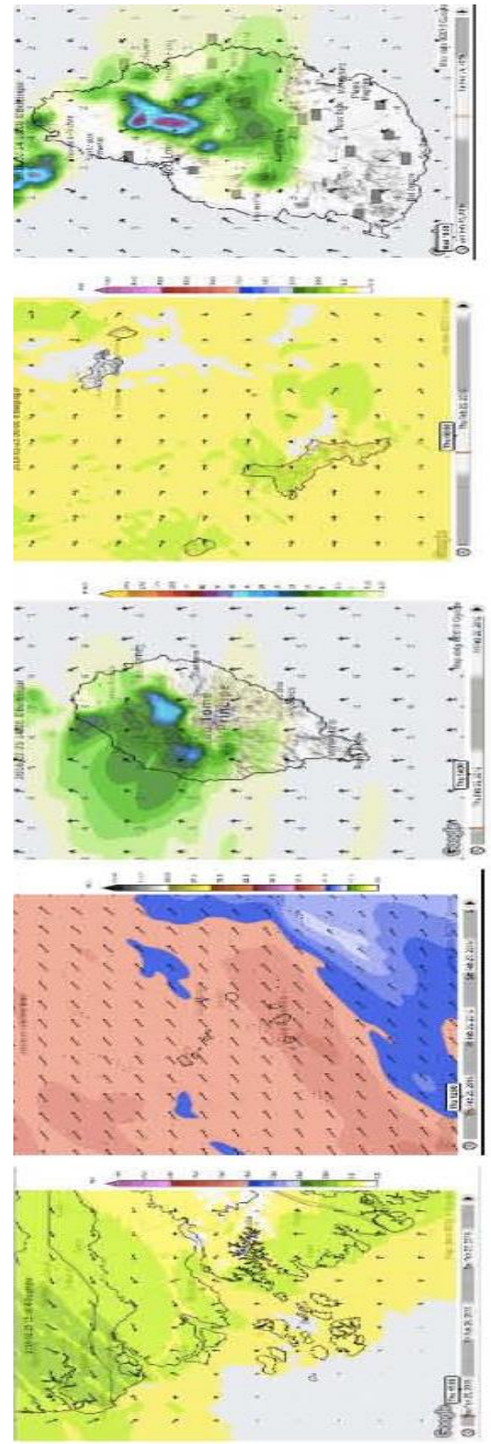
By 2050, potential mean production losses for sub–Saharan Africa are predicted to be high (*Schlenker and Lobell, 2010*).

Addressing these extremes requires:

- ✓ **the involvement of diverse stakeholders NMHSs observe, forecast, and issue warnings for expected weather, climate, and water threats;**
- ✓ **Close collaboration between experts in climate science and related fields and policy-makers;**
- ✓ **Provision of end-users with timely, tailored climate-related information and knowledge products.**

The proper utilization of CIS could help Africa in:

- ✓ building resilience to climate change
- ✓ facilitating climate-smart decision
- ✓ guiding adaptation and mitigation planning
- ✓ supporting scenario planning
- ✓ identifying hotspot or areas with high potentials of future vulnerability
- ✓ guiding long-lived, large scale investment
- ✓ informing interventions in INDC,...



Part 2

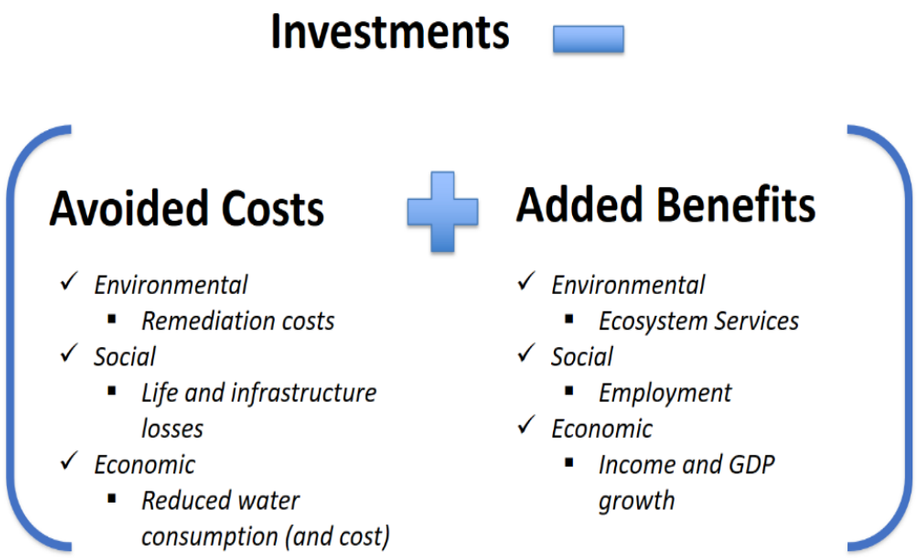
Approach to assess the SEB of CIS

ACPC under WISER project developed a framework that:

- ✓ assesses the economic and social benefits of CIS compared to the costs of investments;
- ✓ presents the steps required for the effective identification and use of indicators to support a sectoral and integrated analysis;
- ✓ demonstrates the utility of timely and accurate weather and climate information in decision making process

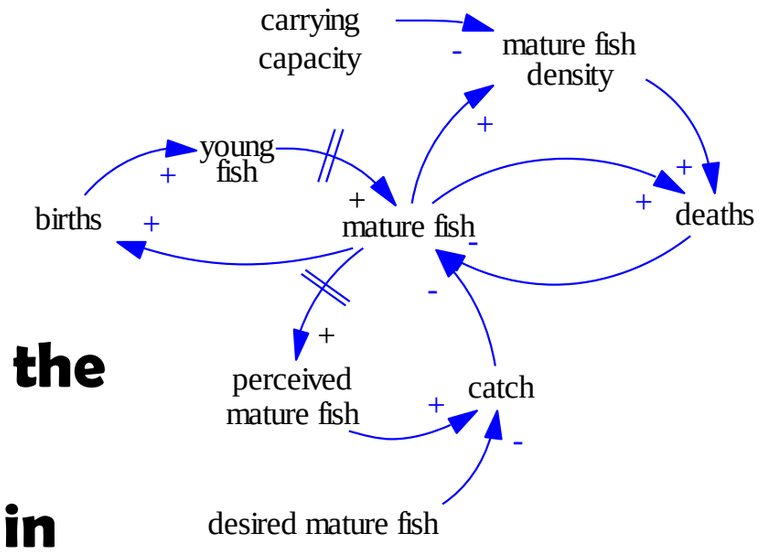
System Dynamics methodology

- creates models that are descriptive, and focus on the identification of causal relations influencing the creation and evolution of the issues being investigated
- based on the amount of <u>avoided costs</u> and <u>added benefits</u> that <u>investments</u> is generate over time, meaning that cumulative benefits and costs are compared to determine the benefit to cost ratio of CIS implementation
- Uses Vensim software



The 10 key steps in the SEB analysis

1. Identifying current and future vulnerability to climate variability and climate change.



2. Identifying the potential benefits of the weather and climate service and how these benefits will arise from the steps in the weather chain (from weather or climate information to end users).

3. Identifying indicators that measure performance and vulnerabilities across social, economic and environmental dimensions.

4. Derive a baseline of the current situation without the new information provision.

5. Identifying, simulating and analyzing alternative scenarios of action to estimate deviations from the baseline.

6. Assessing the change from the baseline with the new weather and climate services in place.

7. Assessing the costs of the project, including investment in meteorological stations and operation provision

8. **Comparing benefits against costs, estimating, to the extent possible the economic value of avoided social and environmental impacts, as well as avoided economic costs and benefits.**

9. **Identifying omissions, consider bias and undertake sensitivity analysis.**

10. **Exploring how benefits could be enhanced through interventions along the weather chain.**

ACPC SEB model

- **subsequently validated by the national DRR focal points from 42 member states. Each of the participants later received a copy of the SEB model and detailed application manual to enable them make use of it in their investment planning**
- **comprehensive analytical report on the socio-economic benefit (SEB) of CIS uptake in Disaster Risk Reduction (DRR) produced to help prepare disaster risk adaptation strategies or to expand existing national and sectoral policy and strategies in member countries**

Thank you!

Merci!

Amesegenalhu!