

# CASE STUDY – ENERGY & WATER

# MALAWI

## CONTEXT



- EDF is interested in hydropower projects in Southern Africa, particularly in Malawi.
- Malawi heavily relies on hydropower, which is projected to be increasingly exposed to climate variability.
- EDF seeks to better characterize the future impacts of climate change on Lake Malawi and the Shire River catchments.



## EXPECTED RESULTS

- 1 A better understanding and attribution of past events, which had a significant impact on river flow & water availability.
- 2 Estimation of future climate change impacts on Lake Malawi and the Shire River hydrological cycles.
- 3 Evaluating the added-value of such a climate service for stakeholders.
- 4 Making the designed approach replicable to other sites and end-users.

## THE TEAM



RESEARCH	SERVICE PROVIDER	END USER



FOCUS-**AFRICA**

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## TOOLS & APPROACH



OBSERVATIONS AND REANALYSIS



MULTI-MODEL CLIMATE DATA



DYNAMICAL & STATISTICAL DOWNSCALING



IMPACT MODEL

Assess the recent climate variability using observational and reanalysis data.

Assess the future impacts of climate change using the latest climate projection exercises (e.g. CMIP6).

Use existing as well as new downscaling/bias-correction methods to produce local climate data.

Use impact models to assess future water & hydropower resources.

## CLIMATE SERVICES

The expectations for such a climate service include:



RELIABLE LOCAL DATA

MEANINGFUL IMPACT INDICATORS

COMPREHENSIVE VISUALISATION TOOLS FOR DECISION-MAKERS

USER-FRIENDLY PLATFORM