Drought Monitoring

Developing Africa Drought Advisory

TOC

Overview

Understanding the problems

Project objective

Target audience

Cycle diagram

Project Timeline

Collins Asega, NORCAP, JRC ACMAD

Overview

It is a joint initiative between the African Centre of Meteorological Applications for Development (ACMAD), the Joint Research Centre (JRC) of the European Commission and Norwegian Capacity (NORCAP). It contains relevant drought information and allows users to interactively visualize drought products generate reports.

This information denotes products such as Precipitation, Soil moisture content, Vegetation indices etc. The system is a service developed as part of the Intra-ACP Climate Services Project in collaboration with the Drought group of the Natural Disaster Risk Unit at the Joint Research Centre of the European Commission. The system is an adaptation of the European Drought Observatory (EDO) to the conditions in the African region

Collaborators : JRC, Dr. ROMEO Nkurunzinza, Mrs. Sandrine

Understanding the problems

01 Drought conditions can be slow and sometimes go undetected, while the impact is huge

02 Interventions as a consequence of drought are often untimely and sometimes not well planned with regards to where drought strike the most

03 Shifts in climate conditions and its natural variation poses a complex challenge when dealing with drought together with its impact calls for more efforts on data collection and drought forecasting

Project objective

- Timely Provision of Drought related products
- Generation of a Drought combined index
- Provision of Analysis and trend reports
- Implementation of Drought forecast
- Tuning the products for various use-cases

Target audience

- Policy makers
- Scientists and Experts in various thematic areas
- Institutions charged with environmental and social responsibilities
- Climate Centres and National Meteorological Institutions
- Research Institutions

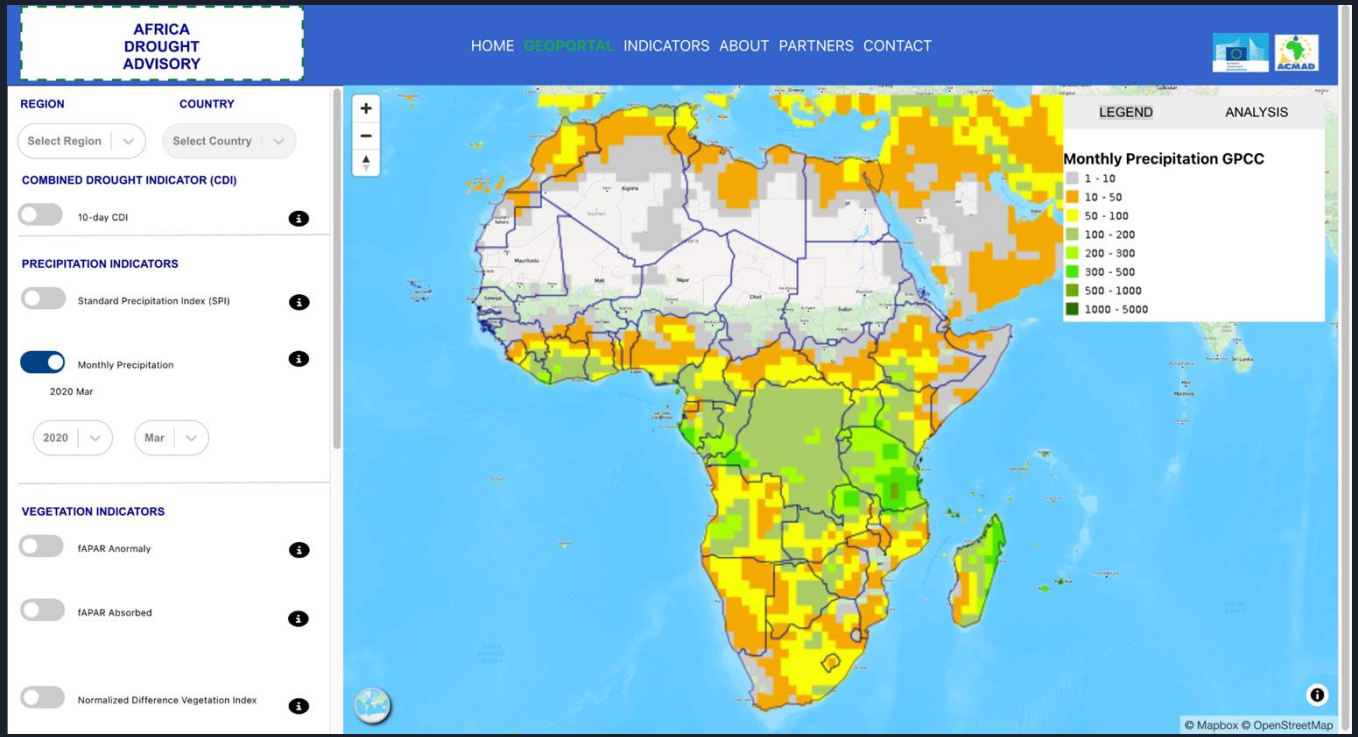
Combined Drought Index

CDI Composition

- Brings together indicators to show drought extent
- Precipitation Index
- Soil Moisture Anomaly
- Fraction of Absorbed Photosynthetically Active Radiation

Precipitation (mm)

Observed Precipitation in Southern part of Africa fall in the low category March 2020



Monthly Precipitation

Precipitation (mm)

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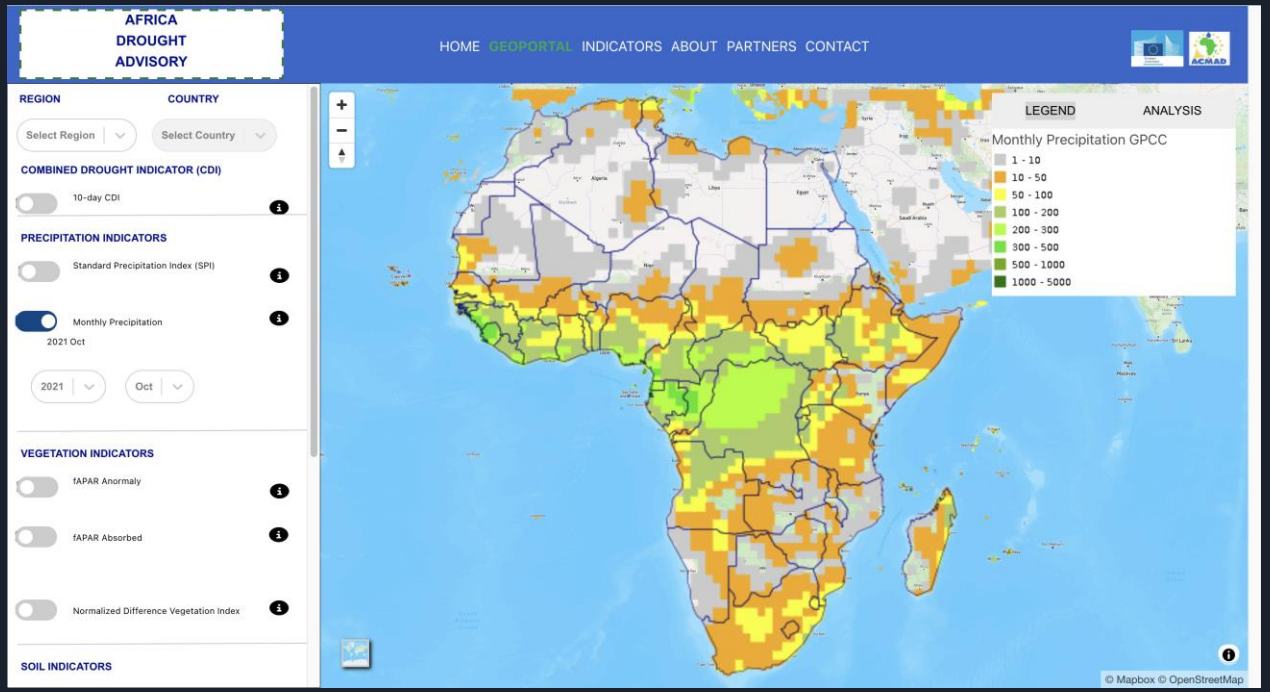
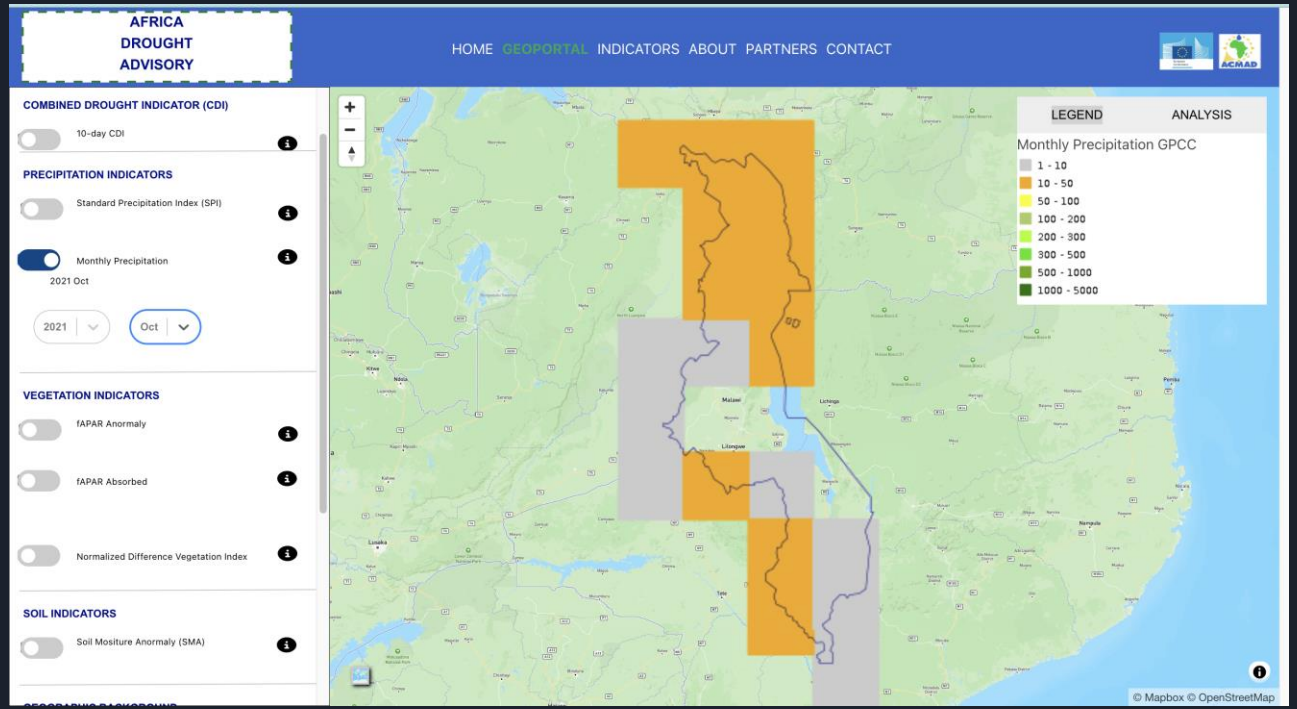


Precipitation (mm)

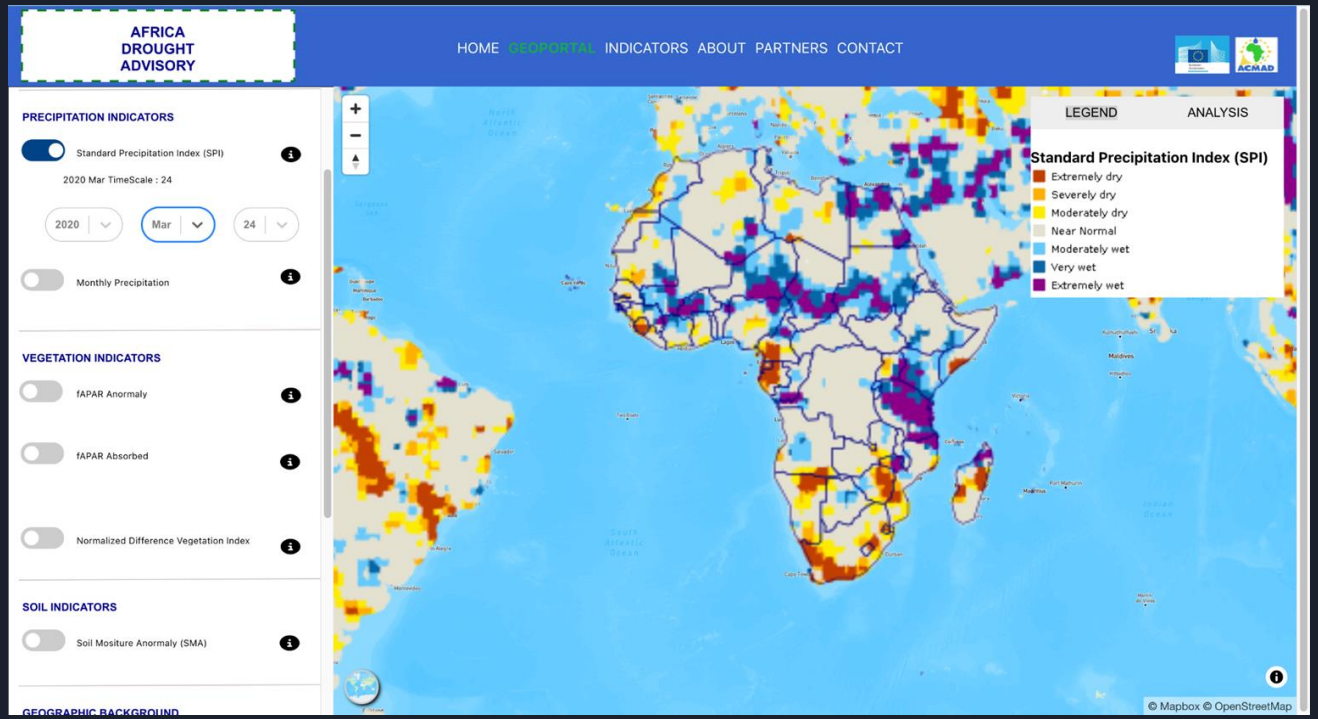
Observed Precipitation Malawi fall in the low category October 2021



Standard Precipitation Index

SPI

Standard Precipitation index in the southern part of Africa showing shortfall in 2020



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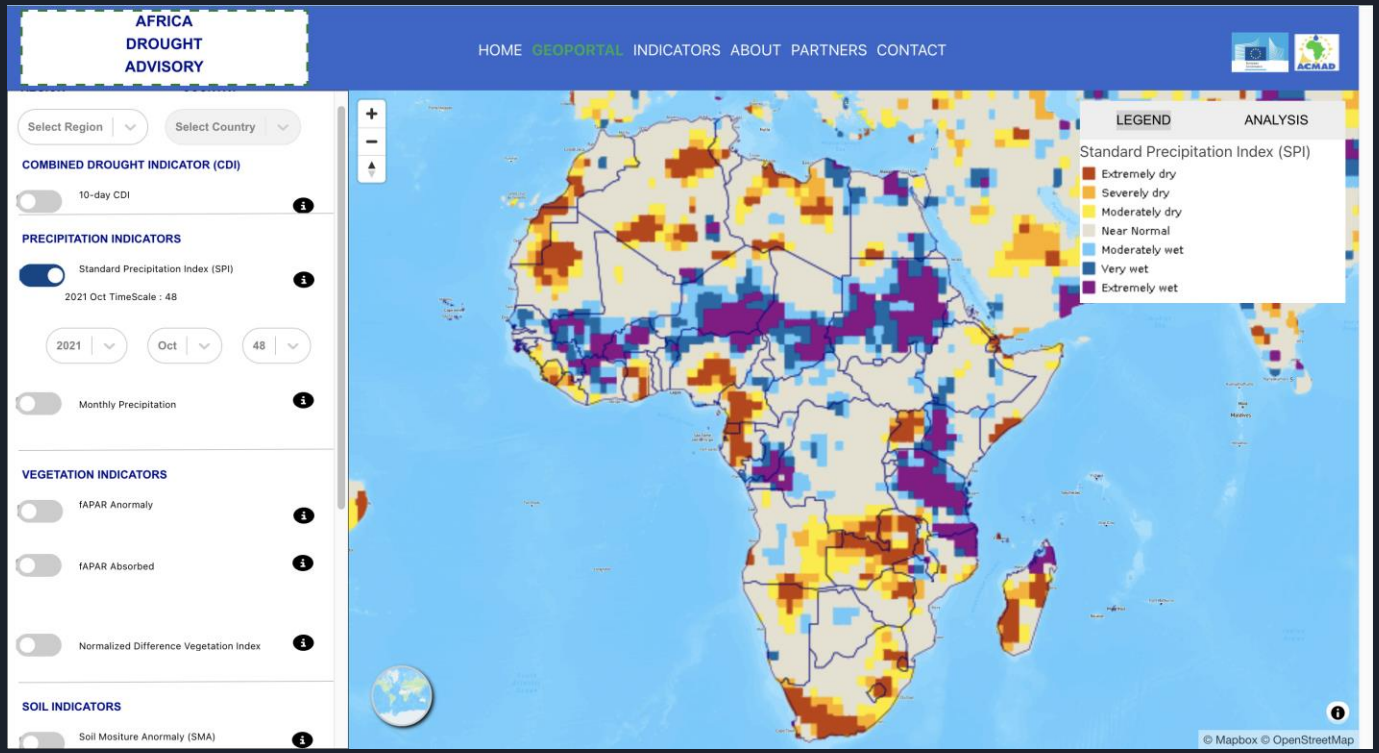

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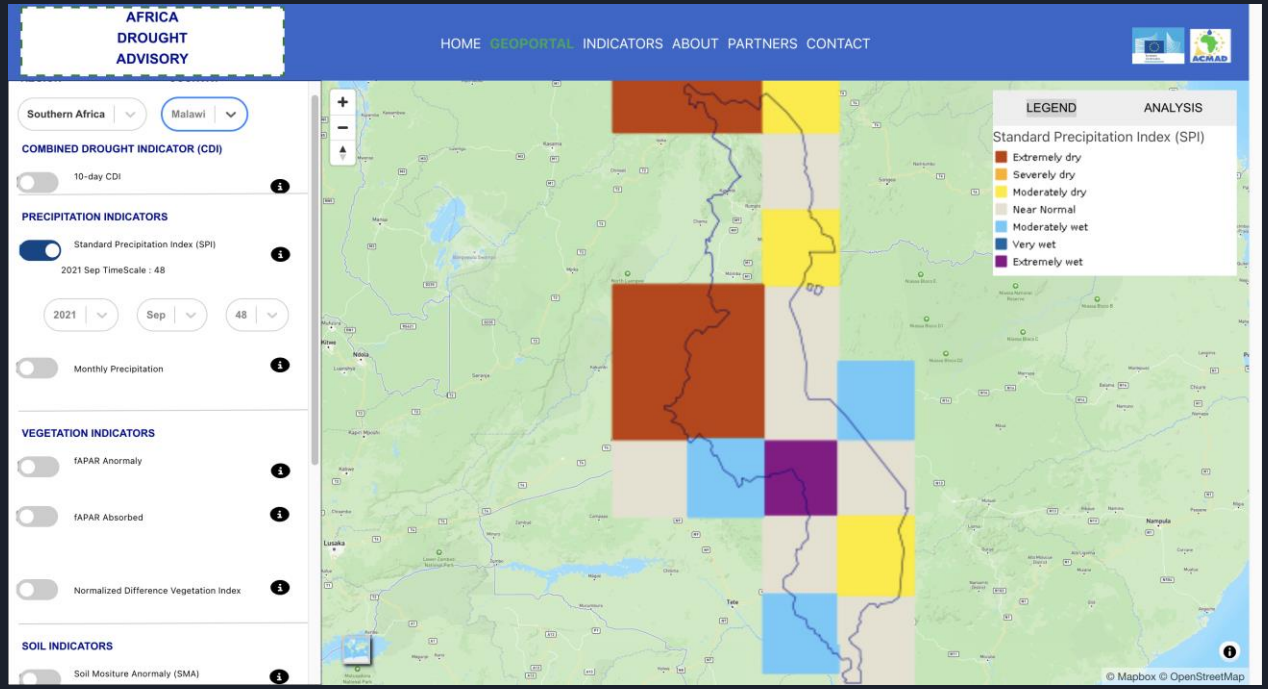
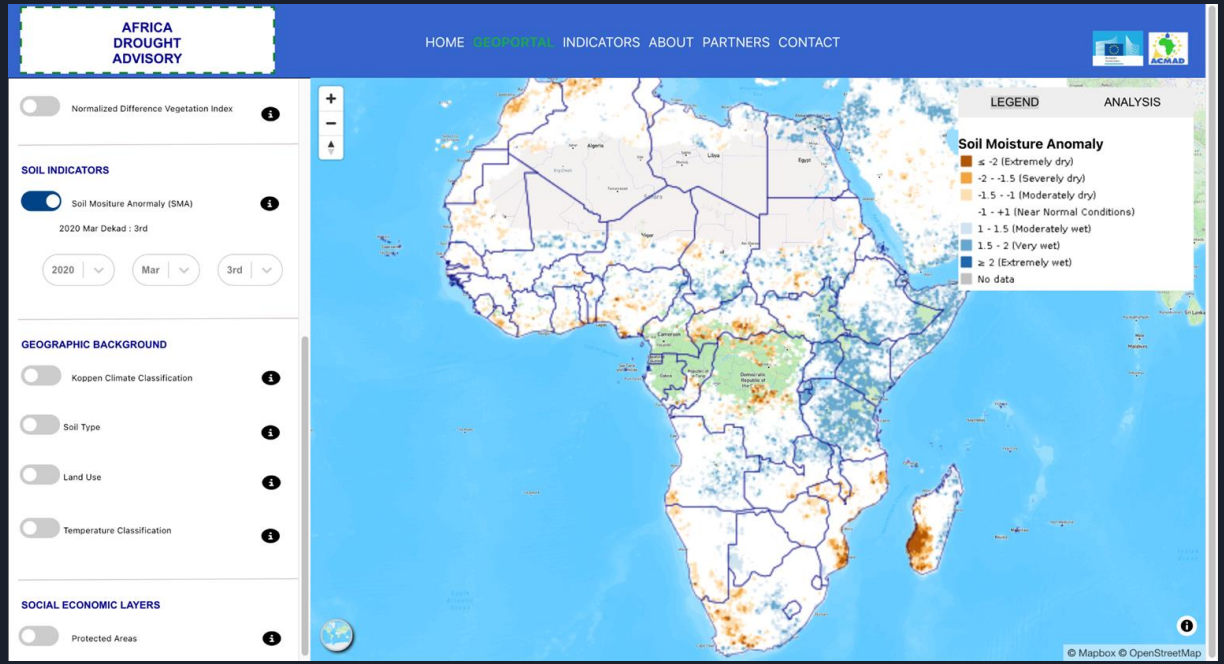


Soil Moisture Anomaly

SMA

What does SMA tell us in the same period



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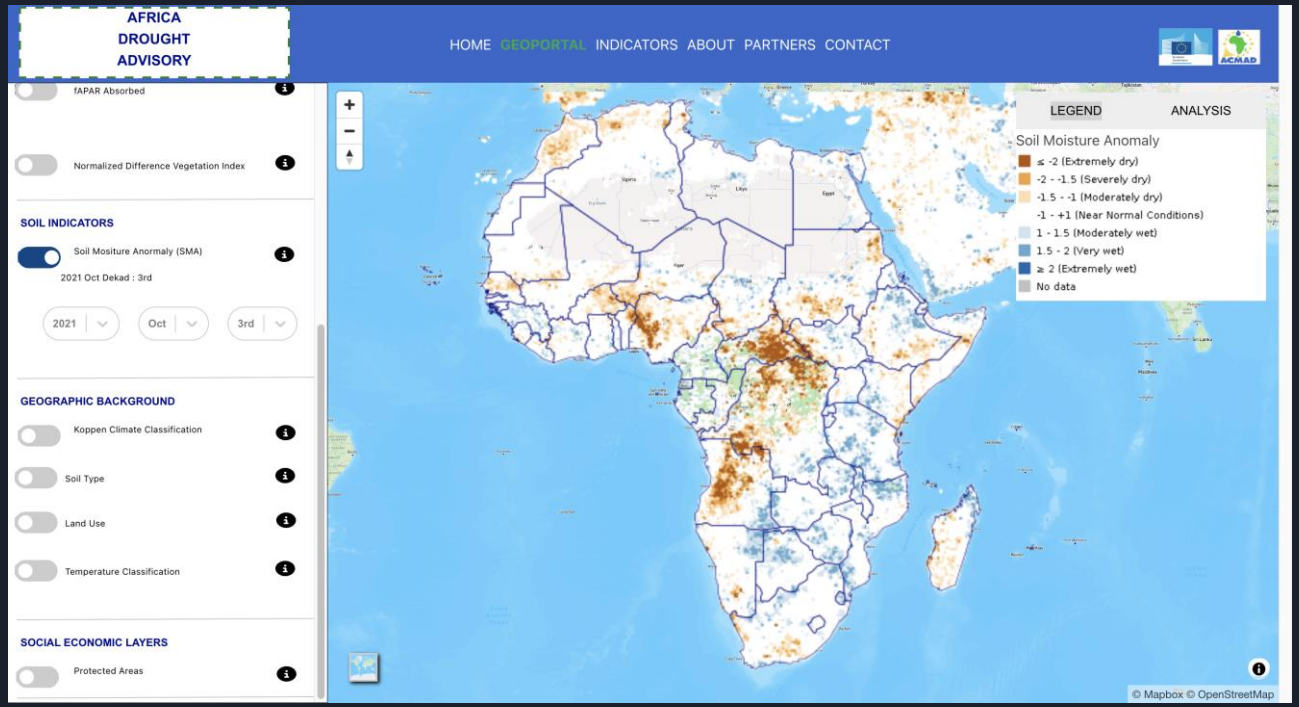
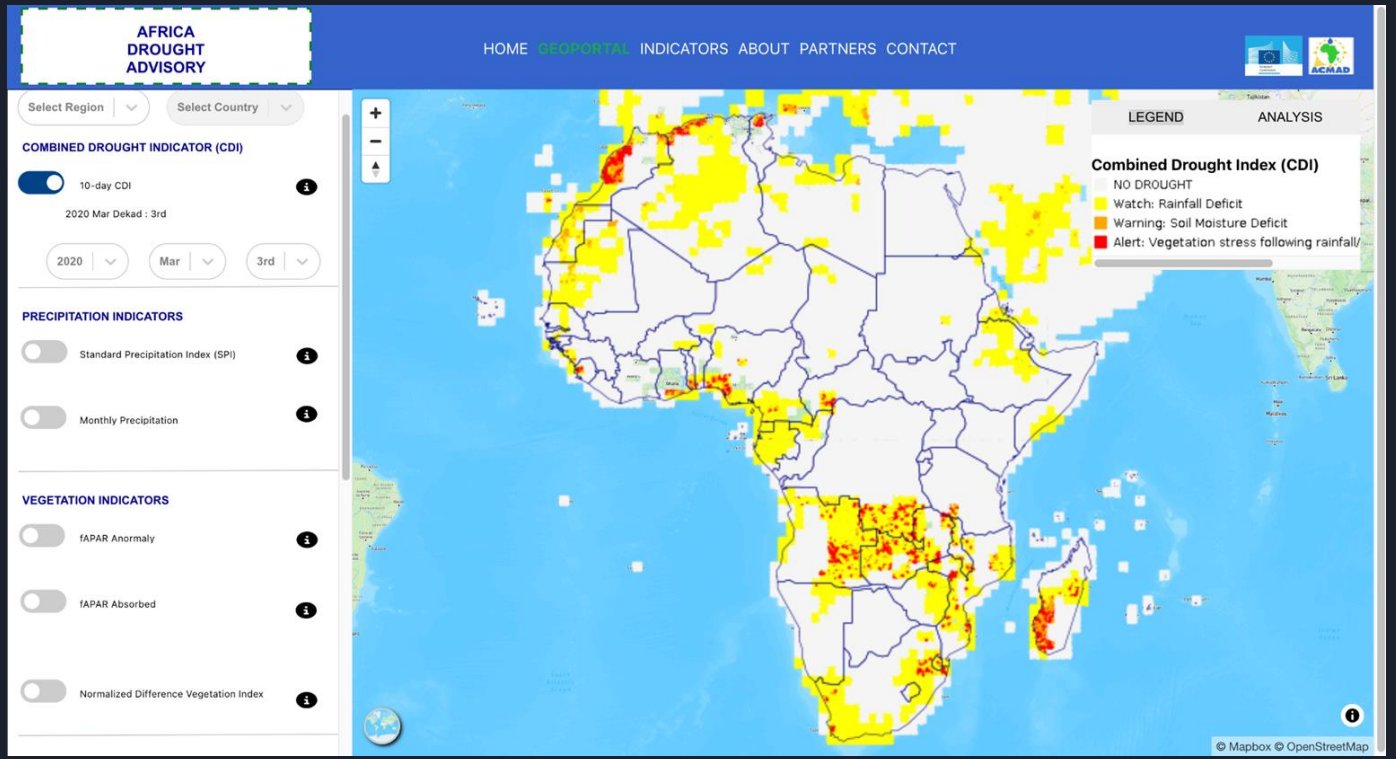


Combined Drought Index

CDI

How about the CDI of the same period

- *In the watch phase*
- *Some parts in the alert*



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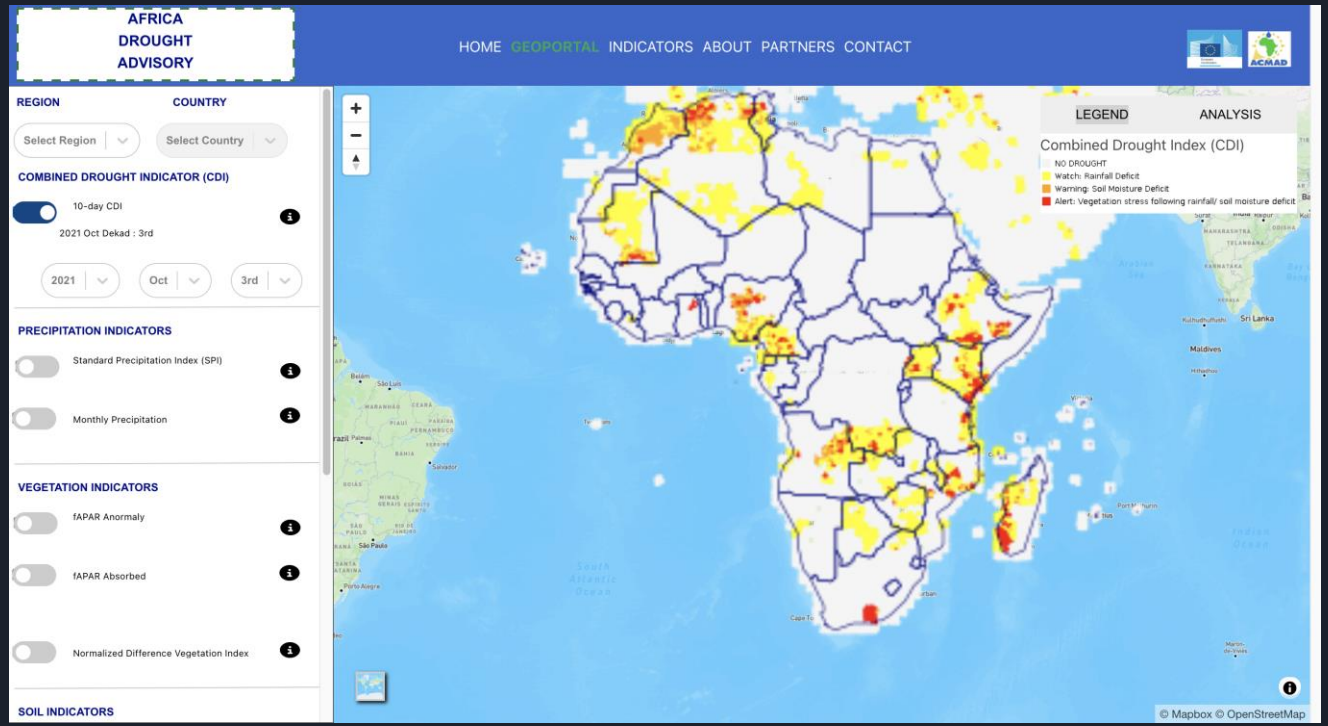
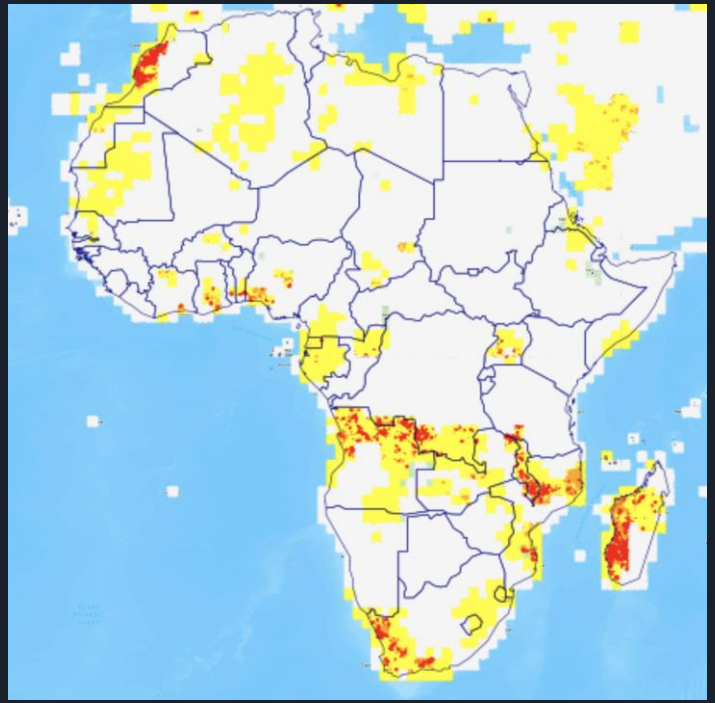


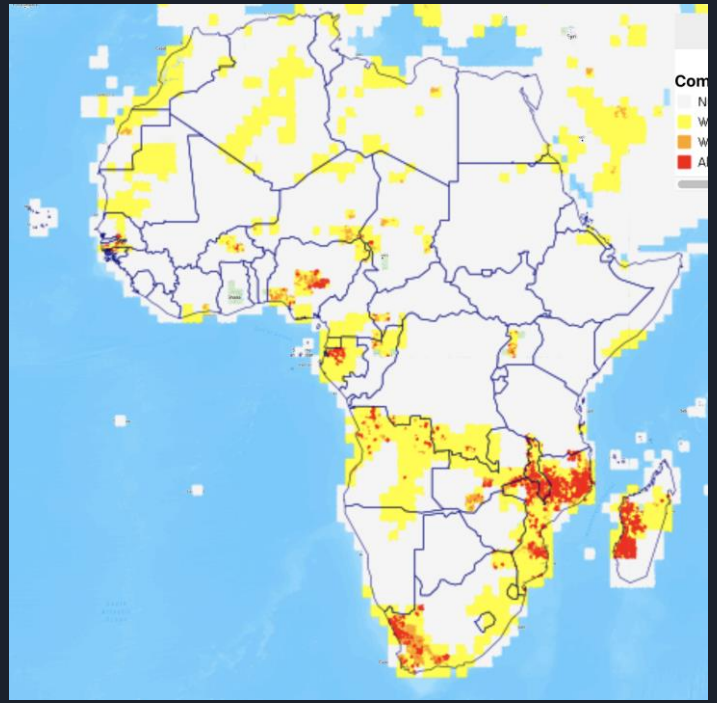
Drought Trends

Lets follow it up

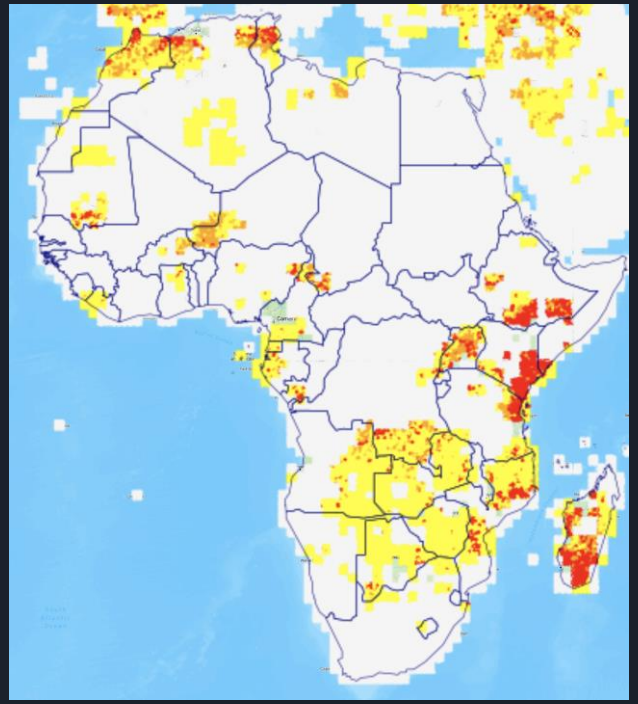
- *April*
- *May*

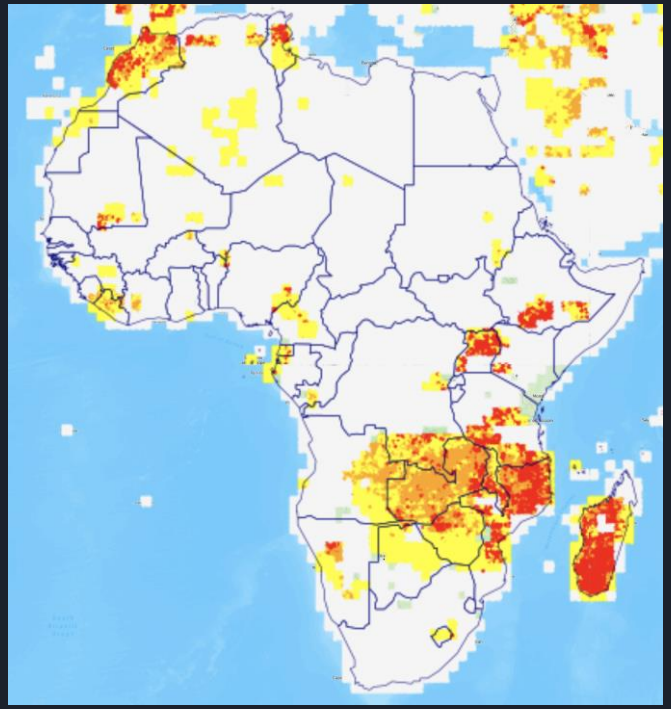
Drought Continous Vegetation Response and Subsurface water





Drought Trends





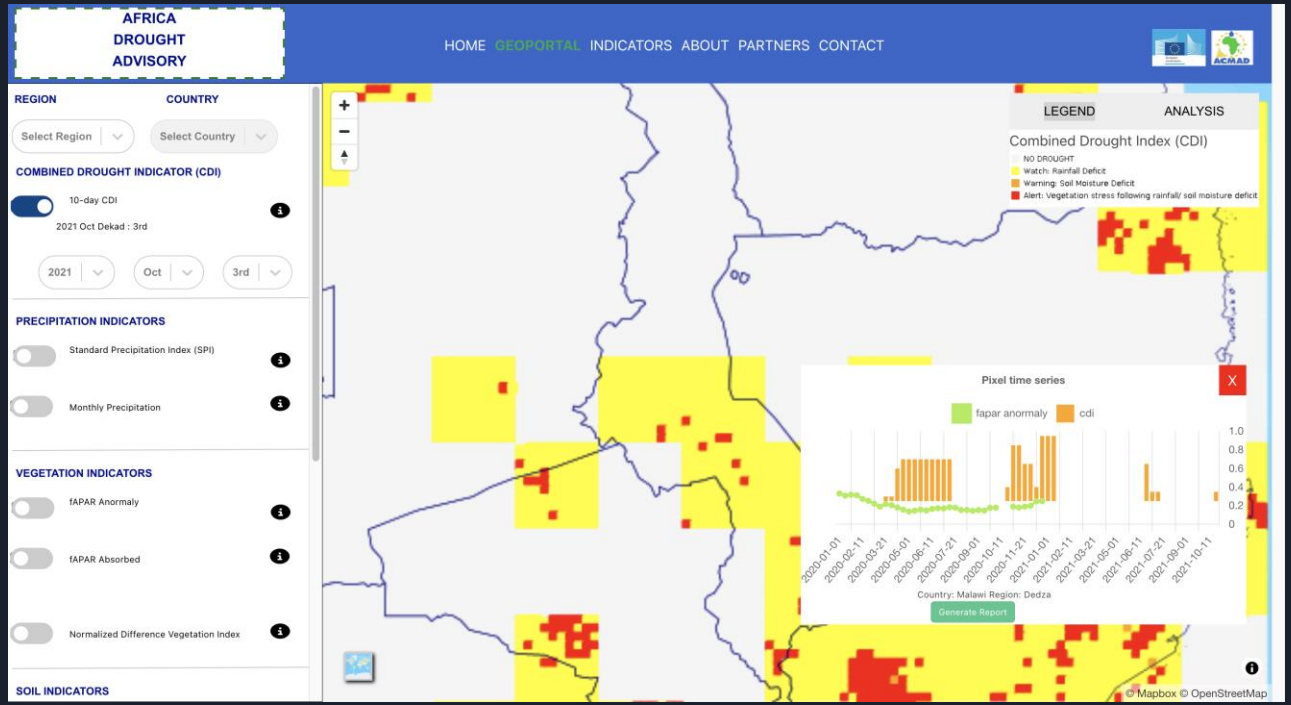
Lets follow it up

- *Nov*
- *Dec*

Drought Continous Vegetation Response and Subsurface water

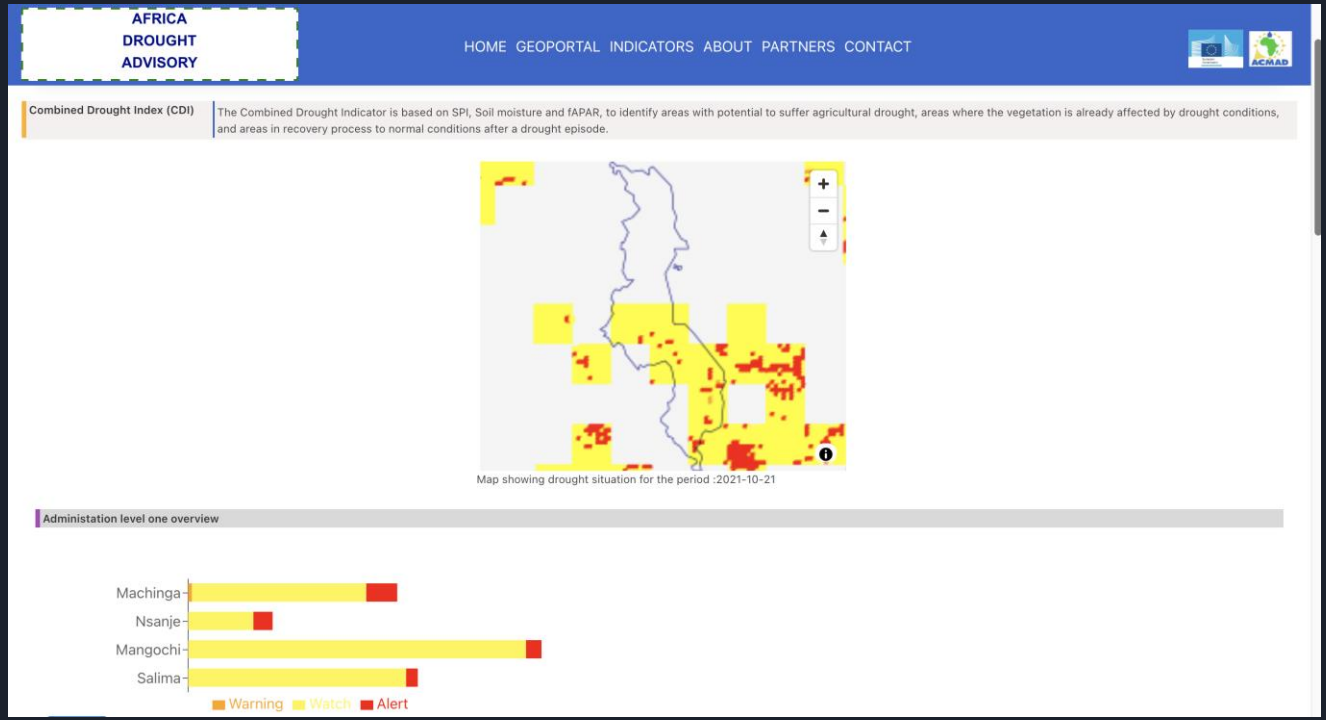
Interaction and Analysis

Inspect a pixel



ReportingTool

Inspect a pixel



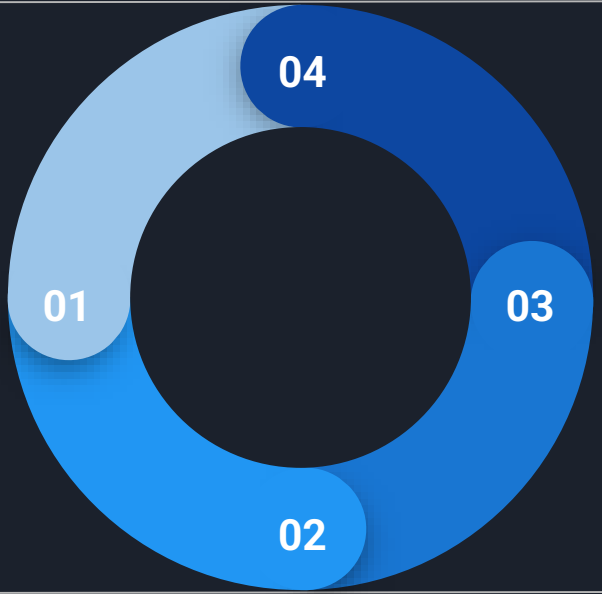
Cycle diagram

Prototype

Development of stage one ADA

Share

User engagement



Refine

Improve/alter the system

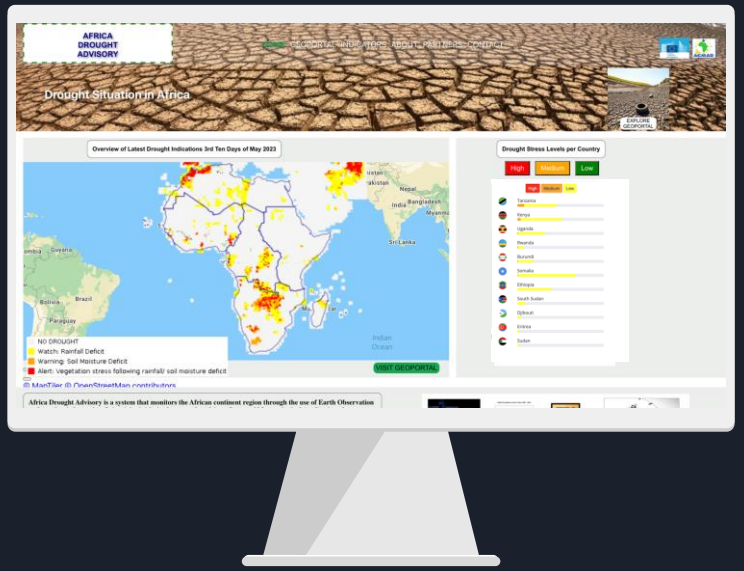
Get feedback

Targeted survey and contact on the site

Introducing: Africa Drought Advisory

ADA: https://ada.acmad.org/

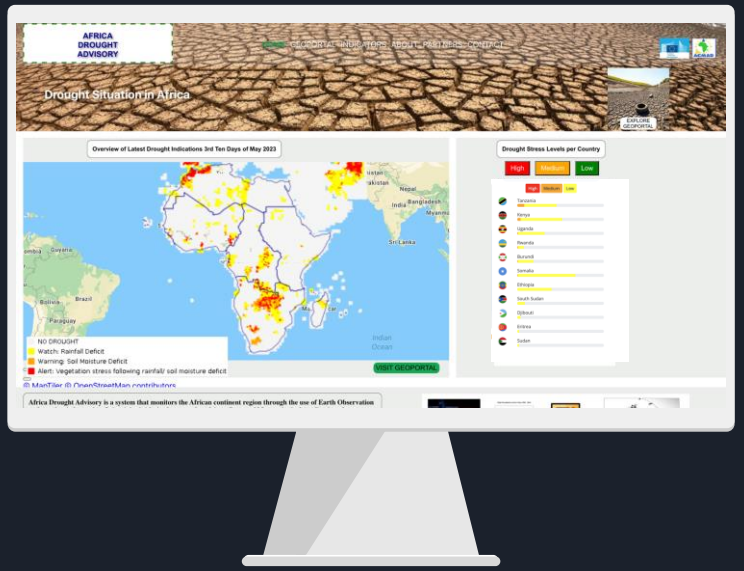
Continental system aimed at solving Drought related challenges



Looking Into the Future

ADA: https://ada.acmad.org/

- Integration of forecast (drought)
- More interactive with insights
- Addition of other Combined drought indices



Feedback

Requesting feedback through:

https://ee.kobotoolbox.org/x/FbORA6Us

Thank you!