GeoAI MVP

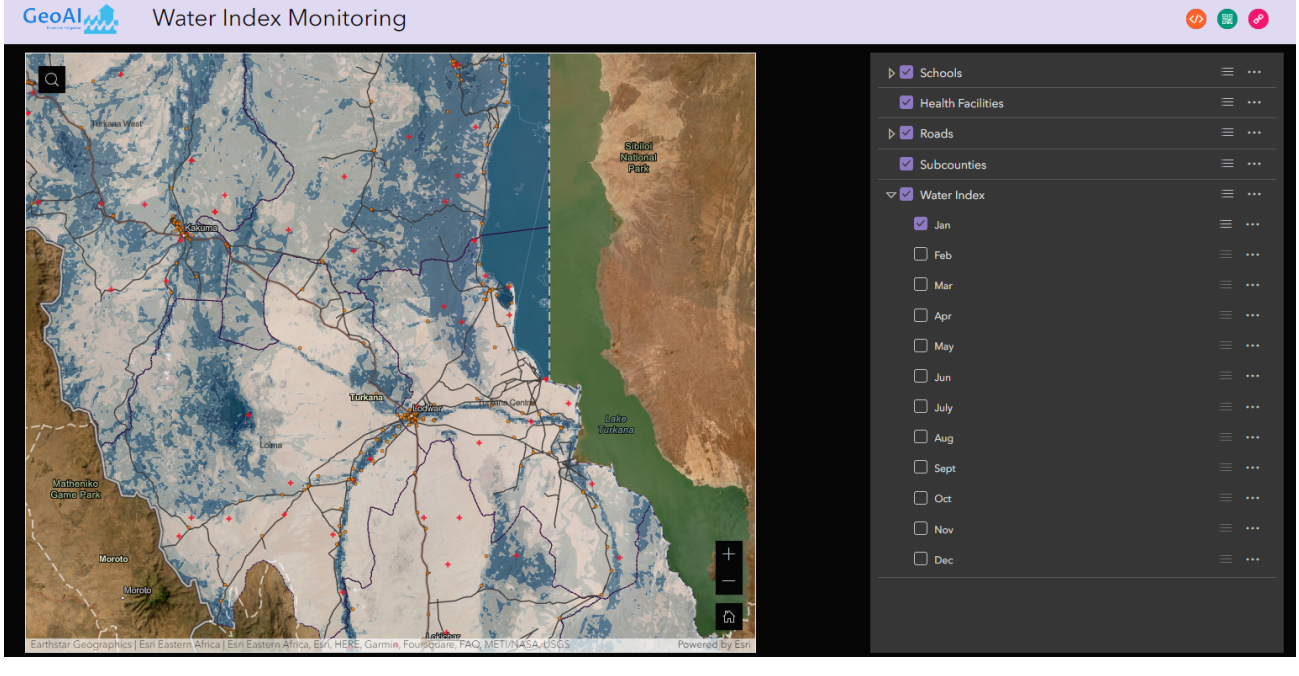
Project Overview

The project aims to monitor and predict climate trends especially floods to project potential health consequences and mitigate risks. Turkana is the target region for the MVP application due to its extreme wet and dry seasons.

Features

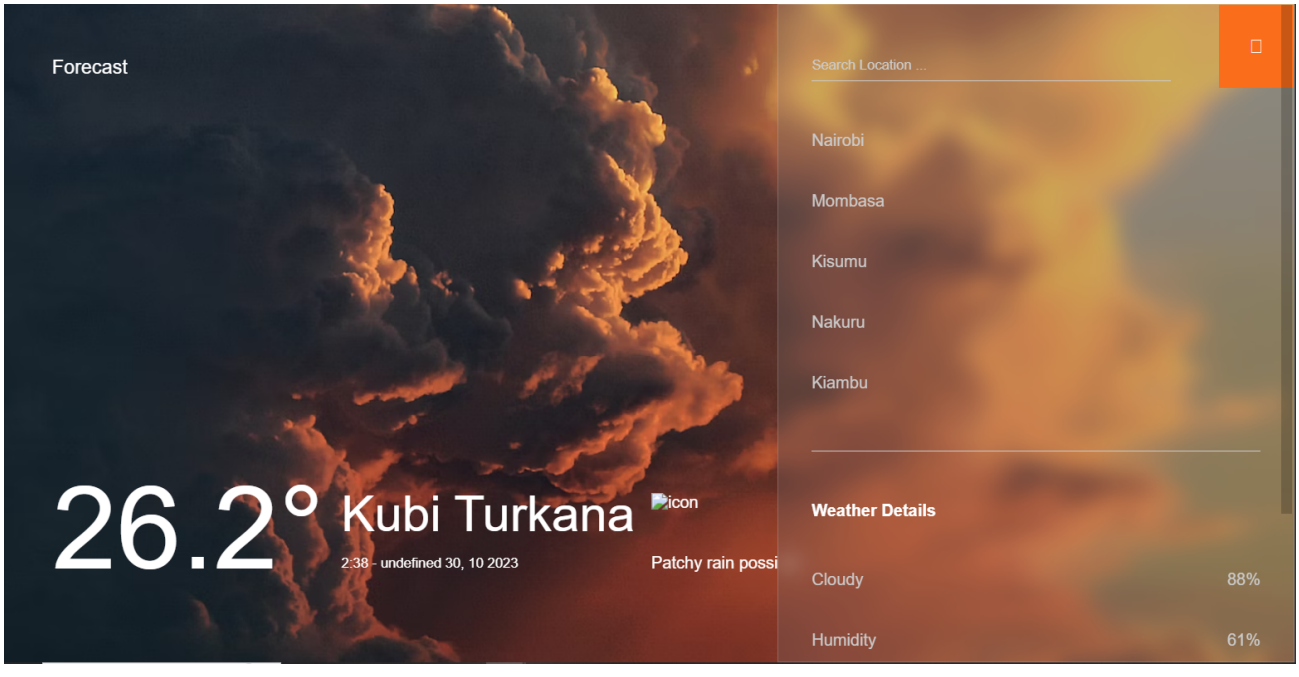
1. **Flood Monitoring**

Flood Monitoring has been implemented through GIS analysis of Normalized Difference Water Index data (NDWI). This basically shows the most flood-prone areas in Turkana based on recent satellite imagery on an interactive map to facilitate measures in mitigating risks associated with flooding. Here is an illustration of the interface.
https://experience.arcgis.com/experience/e97d32a8dcbd4245bee1a2b16fb3c944



2. Weather Forecast

Weather Forecast has been implemented by using Weather API to determine the Temperature, Humidity, Precipitation, and other atmospheric conditions. This aims to inform users of expected weather conditions which informs their decision in safeguarding their health. For instance, a low-temperature forecast implies keeping warm.

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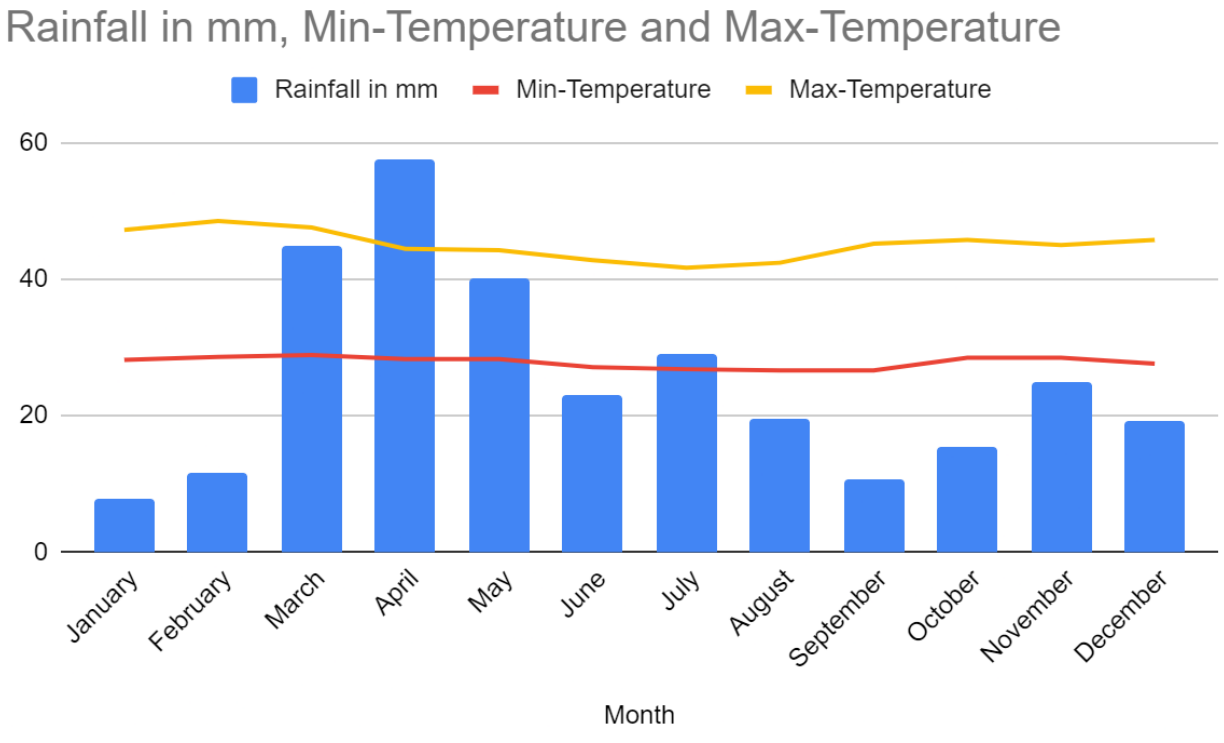
3. AI/ML Predictive Model

The Machine learning model is based on inferencing health risks given temperature, precipitation, and humidity values. High temperature and high precipitation values imply outbreak of hygrothermal diseases such as Malaria, Typhoid, Cholera, Dengue Fever, Yellow fever, and eczema, while Low temperature and high precipitation infer hypochromic diseases such as ARIs, Pneumonia, Bronchitis, Asthma, and Tuberculosis. The model further recommends measures for risk mitigation.



Further Integrations

We aim to utilize Africa's talking API to facilitate climate and risk updates, especially for users who do not own smartphones. We aim to keep GeoAI user-centered hence research and consultation are focused on how to integrate the different features into one seamless application.

Thank you!