

Competition: UNICEF Arm 2030 Vision # 2: Malawi Floods Data Visualization and Reporting Challenge

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The complete application can be downloaded from: <https://github.com/Edimer/VisualizationFlood>

Summary of work

Socioeconomic indicators

- Each of the variables of the socioeconomic indicators was plotted over time in order to observe their behavior.
- Three types of graphs are presented: one that shows the temporal variation, in addition to boxplots and bar graphs that allow observing the variation between groups based on the median.
- The variables were divided into two groups: one before 2015 (before the flood) and after 2015 in order to observe the impact of the phenomenon.
- A separate analysis of the 20th century and the 21st century was carried out.
- A descriptive table is presented for each socioeconomic indicator.
- For the purification of the data, those variables that did not present variation throughout the years and data with values equal to zero were eliminated.
- In the case of indicators that presented more than 70 variables, those with a low number of records were eliminated, in order to better visualize them.

Geospatial data (maps)

- Two interactive flood maps for 2015 are presented with *terrasarx* and *radarsat2* databases, which allow the user to better interact and visualize the flooded areas.
- The distribution of health sites by region and city in Malawi is shown.
- A national vulnerability map in Malawi is presented. These data were classified into five categories to facilitate their visualization.