**Drought**

|  |  |
| --- | --- |
| **Title:** | Drought Physical exposure |
| **Component:** | Exposure |
| **Rationale:** | The increasing number of drought events in Malawi as a result of prolonged rainfall deficits/dry spells during critical crop stages and rainfall variations that are unpredictable leads to loss of agricultural livelihoods and cause great economic impacts to a country’s GDP. More than 80% of the population in Malawi is dependent on rainfed agriculture and droughts have caused considerable deaths and losses to both human and livestock. |
| **Source Data Set:** | UNEP GRID http://preview.grid.unep.ch/index.php?preview=data&events=droughts&evcat=4&lang=eng |
| **Units:** | Unit is expected average annual population (2010 as the year of reference) exposed (inhabitants) to drought events from 1980 - 2001. |
| **Computation:** | This dataset includes an estimation of the annual physical exposition to drought based on Standardized Precipitation Index. It is based on three sources: 1) A global monthly gridded precipitation dataset obtained from the Climatic Research Unit (University of East Anglia). 2) A GIS modelling of global Standardized Precipitation Index based on Brad Lyon (IRI, Columbia University) methodology. 3) A population grid for the year 2010, provided by LandScanTM Global Population Database (Oak Ridge, TN: Oak Ridge National Laboratory). Unit is expected average annual population (2010 as the year of reference) exposed (inhabitants). This product was designed by UNEP/GRID-Europe for the Global Assessment Report on Risk Reduction (GAR). It was modelled using global data. Data was resampled to 1 km resolution using Resampling tool in ArcGIS. |
| **Statistics for raw data:** | Min=0, Max=314,240 |
| **Scoring system:** | *Raster values were first winsorized at 2000. As a result, this became the new maximum upon which values were rescaled from 0-100 based on the min and max values of winsorized values* |
| **Statistics for transformed data:** | Min=0, Max=100 |
| **Spatial Extent:** | Africa |
| **Spatial Resolution:** | 10 km |
| **Year of Publication:** | 2014 |
| **Time Period:** | 1980-2001 |
| **Additional Notes:** | Data were subset to the Malawi national boundary extent using ArcGIS Extract by Mask tool using a 1km Raster Mask. Raster values were extracted using ArcGIS Extract Values to Points tool and the 1km centroids.  The output was exported to csv table for statistical analysis. |
| **Date:** | July 2015 |
| **Format:** | Grid |
| **File Name:** | Drought Physical exposure |
| **Contact person:** | Denis Macharia |
| **Contact details:** | [dmacharia@rcmrd.org](mailto:dmacharia@rcmrd.org) |