



Sources of Free and Open Source Spatial Data for Natural Disasters and Principles for Use in Developing Country Contexts

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Access to reliable spatial and quantitative datasets (e.g., infrastructure maps, historical observations, environmental variables) at regional and site specific scales can be a limiting factor for understanding hazards and risks in developing country settings. Here we present a 'living database' of >75 freely available data sources relevant to hazard and risk in Africa (and more globally). Data sources include national scientific foundations, non-governmental bodies, crowd-sourced efforts, academic projects, special interest groups and others. The database is available at <http://tinyurl.com/africa-datasets> and is continually being updated, particularly in the context of broader natural hazards research we are doing in the context of Malawi and Kenya. For each data source, we review the spatiotemporal resolution and extent and make our own assessments of reliability and usability of datasets. Although such freely available datasets are sometimes presented as a panacea to improving our understanding of hazards and risk in developing countries, there are both pitfalls and opportunities unique to using this type of freely available data. These include factors such as resolution, homogeneity, uncertainty, access to metadata and training for usage. Based on our experience, use in the field and grey/peer-review literature, we present a suggested set of guidelines for using these free and open source data in developing country contexts.