

LARGE-SCALE EXPLOITATION OF SATELLITE DATA IN SUPPORT OF INTERNATIONAL DEVELOPMENT

→ SOIL EROSION MAPPING

The use of satellite Earth Observation (EO) for the identification and assessment of the extent and severity of water related soil erosion has gained prominence in recent years as it can be used to establish baselines, to track change over time, and to monitor soil erosion mitigation measures.

Identifying erosion prone areas

Earth observation is helpful to get an overview over the extent and severity of areas with soil erosion potential. The potential of erosion is linked to environmental factors of a site, such as terrain slope, soil type, land cover/use and amount of precipitation. With satellite Earth Observation and advanced GIS analyses we can determine these parameters and combine them to a map showing areas prone to soil erosion due to water. Applications related to sustainable land and water management (SLWM) are for instance assisting in the prioritization of restoration or rehabilitation measures and monitoring of critical locations. The service could be combined with the land degradation assessment service to get a more complete picture of the condition of the land.

DESCRIPTION

This service helps to identify areas prone to water erosion and to determine their extent

USAGE

- › Baseline mapping
- › Prioritization of interventions
- › Mapping

INPUT PRODUCTS

- › Precipitation
- › Elevation, terrain slope
- › Soil type
- › Land cover and land cover change

SPATIAL RESOLUTION AND COVERAGE

The resolution depends on the input data, the resulting product will be a merge of input data resolutions

BENEFITS

- › Get an overview of erosion prone areas and their severity to plan interventions and monitoring activities more effectively

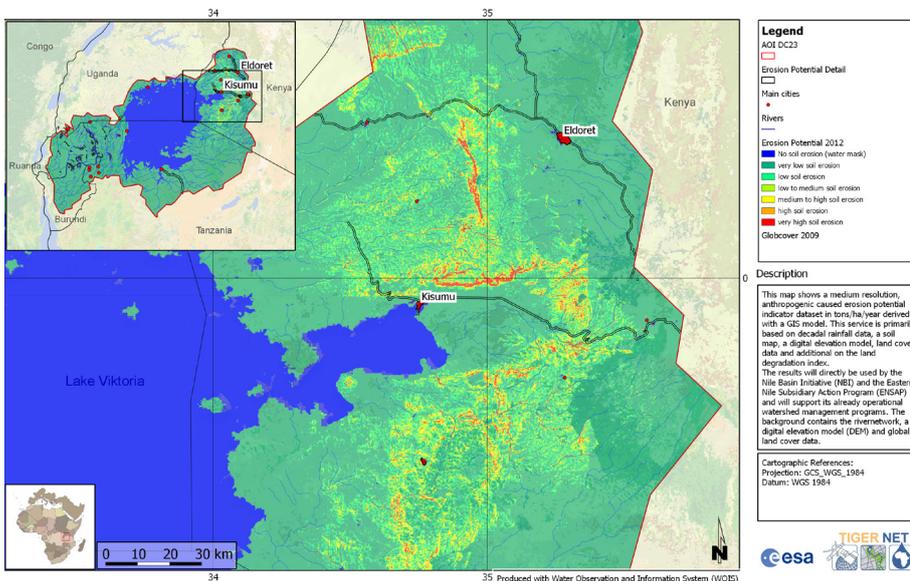
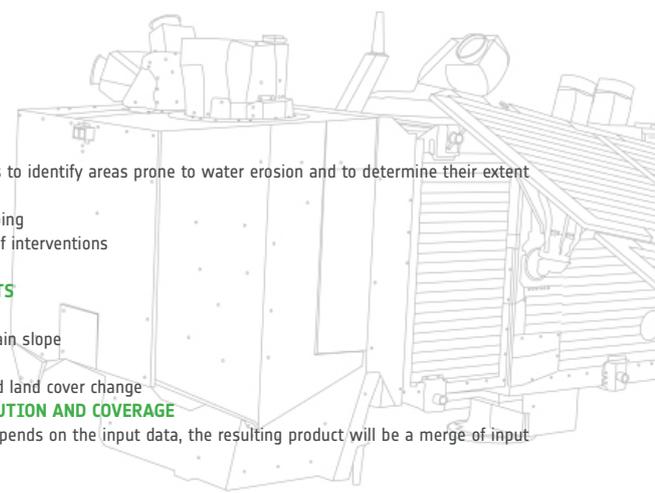
DELIVERY FORMAT

Depending on user needs, e.g.:

- › Vector and raster formats for integration into existing management systems

FREQUENCY

Depending on user requirements and input data availability.



Water soil erosion potential for the Nile Basin (2012)

The map shows an anthropogenic caused erosion potential indicator dataset in tons/ha/year. Source: GeoVille for ESA TIGERNET project. The product is derived with a GIS model and includes decadal rainfall data, soil information, digital elevation model, land cover information and additional information on land degradation index.