

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

→ LAND STATUS INDICATORS

Several EO derived products (at different spatial scales, from regional to local) can jointly provide indication of a land status as effective tools for proper land use planning and natural resources management. Land use/land cover maps have become a standard service that provide information of basic land use types, major agricultural surface types, conservation areas, settlements, infrastructure, primary roads, bare soil, water bodies, rivers, wetlands following standard classification schemes according to CORINE or FAO LCCS.

Land degradation assessments, which are often based on land productivity as the main indicator, can be supported with additional land status information, such as climate variables, soil moisture, elevation and terrain slope or population density to better understand the factors contributing to changes in land cover and vegetation productivity and finally ecosystem function.

In drylands, where water is the limiting factor for vegetation growth, the changing climate can often be the driver of a change in productivity, because of the direct link between precipitation and productivity. By relating long-term time series of precipitation with vegetation we can see this effect. The climatic effect can be removed by linking long term observations, thus revealing the impact of human activities such as changed land use practices on land productivity.

When assessing or monitoring land degradation, the supporting land status indicators service provides environmental information to get a more comprehensive picture of the status of the land and drivers behind changes in land productivity.

DESCRIPTION

Land degradation assessments can be supported with additional information to better understand the factors contributing to degradation and ecosystem function

USE

- › Assessment and monitoring of environmental and climatic condition and input to comprehensive land degradation assessments

INPUT PRODUCTS

Project dependent and customisable:

- › Climate variability
- › Evapotranspiration
- › Soil moisture
- › Elevation and terrain slope
- › Protected areas
- › Burnt areas
- › Water bodies
- › Habitat heterogeneity
- › Population density
- › Infrastructure

SPATIAL RESOLUTION AND COVERAGE

Local to regional, yet climate variables come at rather coarse resolution (>1 km).

BENEFITS

- › Improved understanding of the spatial context of land degradation (synergies and trade-offs between causes and impacts)

DELIVERY FORMAT

Depending on user needs, e.g.:

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

FREQUENCY

Annual, seasonal, monthly (depending on data availability)

Supporting information for land degradation assessments for the Volta Basin

