

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

→ AGRICULTURE COMMODITY PRODUCTION RISK MONITORING SERVICE

Satellite Earth Observation (EO) is a powerful technique for continuously assessing the status and changes of **agricultural production and environmental conditions** on a wide range of spatial and temporal scales. It provides historical to current global data and can rapidly reveal where change has happened in a consistent and repeatable manner.

Information from Earth Observation is therefore very well suited to help assess and reduce risks associated with the environmental and social impact of commodity (palm oil, soy, beef etc.) production. This includes land titling, the location and extent of industrial and smallholder production areas versus other land use, in particular vulnerable ecosystems (peatlands, wetlands and natural grassland), trends and patterns of deforestation and ecosystem loss and degradation.

This service provides independent and timely information on commodity production area distribution and impact on ecosystems at regional to landscape scales. It consists of 3 components:

Commodity baseline mapping:

- Spatial distribution and area of agricultural commodities (palm oil, soy and beef) and other land use
- Mapping of highly biodiverse grasslands, high carbon stock areas, infrastructure etc.
- Allocation of land for licensed concessions (if local cadastral data is available)

Forest, land use and land cover change monitoring:

- Land use and land cover change: deforestation, changes in extent of peatlands, wetlands, natural wetlands, high conservation value area and high carbon stock area

Additional environmental impact monitoring:

- Infrastructure development mapping and monitoring
- Carbon footprint: GHG emissions from farm operations
- Water footprint: Water quality monitoring

DESCRIPTION

This service provides independent and timely information on commodity (soybean, palm oil, beef) production area distribution and impact on ecosystems at regional to local scales

USE

Risk screening:

- › Baseline mapping
- › Monitor performance
- › Evaluate impact of interventions
- › Inform public debate

INPUT PRODUCTS

- › Plantation type and area
- › Ecosystem type
- › Infrastructure
- › Carbon stocks
- › Supporting land status indicators (licensed concessions, protected areas)
- › Deforestation and ecosystem degradation

SPATIAL RESOLUTION AND COVERAGE

Local/national (10-30m) and regional (250m) scale

BENEFITS

Improved strategy and decision making:

- › Prioritize actions
- › Select and upscale successful practices and interventions
- › Independent and neutral information in support of engagement and public debate
- › Monitor activities more effectively and efficiently

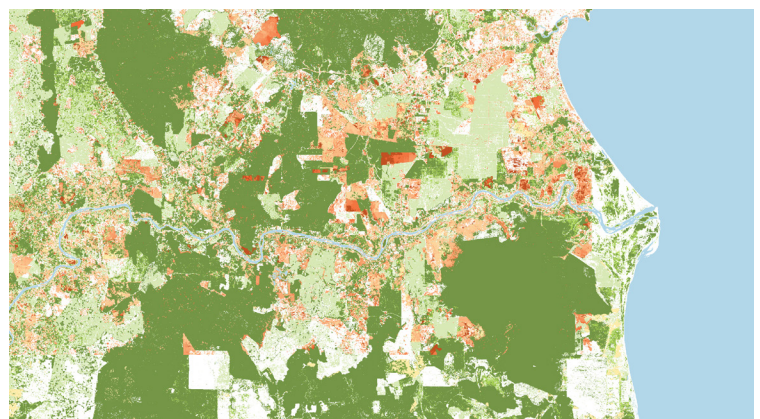
DELIVERY FORMAT

Depending on user needs, e.g.:

- › Vector and raster formats
- › Through a web portal
- › Statistics in tables and/or graphs

FREQUENCY

- › Depending on user needs, most products can be updated regularly (every week at local/national scale)



Deforested areas detected weekly from satellite data in shades of red.