## → LAND APPLICATIONS

Land covers 30% of the Earth's surface. This area supports the vast majority of human activity and provides habitats to living beings. It also plays a prominent role in the Earth's climate, due to its direct interaction with the atmosphere and the hydrosphere. These elements make the monitoring of Land a key component for humankind and the biosphere.

Remote sensing has become today an invaluable tool in the assessment of land resources. Satellites support for example land cover mapping, urban planning, forest fires detection, soil moisture and erosion assessment, forest biomass estimation, Earth's topography measurement, volcano monitoring and earthquake modelling.





Mount Longonot volcang uplift measured on an Envisat ASAR interferogram





## AGRICULTURE

Optical imagers are capable of providing periodic and fine detailed images of agricultural fields. This allows mapping crops and assessing their health and growth on a frequent basis.

## VOLCANOES

Applications of radar imagers include measuring the inflation or deflation of a volcano with millimetric precision, using SAR Interferometry. This can provide information on volcanic activity, which can improve models for the prediction of future eruptions.

## SOIL MOISTURE

Imaging radiometers, such as on ESA's SMOS satellite, produce global maps of surface soil moisture, an important parameter for vegetation and agriculture monitoring, water management, weather and climate forecasting.