

African land cover as seen by satellite

From the barren Sahara to lush jungles, the first high-resolution map classifying land cover types on the entire African continent has been released by the European Space Agency (ESA). This map was created using a year's worth of data from the Sentinel-2A satellite and as can be seen it shows Africa's diverse landscapes from grasslands to croplands, water bodies to deserts.

Land-cover mapping breaks down the different types of material on the Earth's surface. This information is important for understanding changes in land use, modelling climate change extent and impacts, conserving biodiversity and managing natural resources.

The map released early in October comprises 180,000 Sentinel-2A images representing 90 terabytes of data captured between December 2015 and December 2016. Considering the size of the map – about six gigabytes – a [web interface](#) was developed to visualise the data.

The map was developed under ESA's Climate Change Initiative (CCI) Land Cover project.

In the words of Frédéric Achard from the Joint Research Centre: *‘The prototype high-resolution land cover map over Africa is an impressive demonstration of the Sentinel-2A data availability and of the present capabilities for the processing of such huge volumes of data. The community dealing with land resources in Africa will surely look forward with great interest to this prototype and to its future development.’*

The pair of Sentinel-2 satellites offer colour vision for Europe's Copernicus programme. They each carry a multispectral imager with 13 spectral bands that can be used for agricultural and forestry practices and for helping manage food security. Satellite images can be used to determine various plant indices such as leaf area chlorophyll and water content.

Picture captions

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The Sentinel-2 satellite over Italy and the N Mediterranean. Photo: ESA ©