How to Empower Citizens with Information: Experiences based on the Use of Earth Observation

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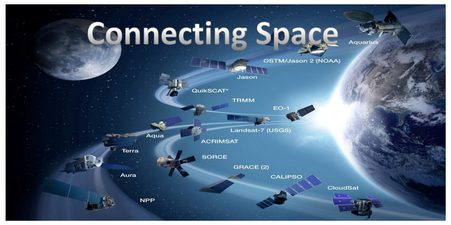
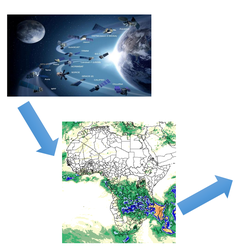
During the last 20 years, the development of geographical information systems and satellites for Earth Observation (EO) has made important progress in the monitoring of the weather, climate, environmental and anthropogenic factors that influence the reduction or the reemergence of vector borne diseases, changes in land cover (agriculture, forest) and monitoring of natural disasters. The following projects have been developed to provide direct EO access to citizens:

Developing a Tool to Map Risks of Trypanosomiasis Transmission in Maasai Communities, Tanzania



Precipitation (CHIRPS), Temperature (MODIS Land Surface Temperature), Water Bodies (LANDSAT), Vegetation (LANDSAT), data collected in the field (ODK) can automatically be integrated and displayed on a smartphone via the applications IRI Data Library and Google Earth Engine (Ceccato *et al.* 2018)

Dissemination of Information to Local Communities



Through their smartphones, the Maasai can access Precipitation, Temperature, Water Bodies, Vegetation data set in real-time to manage the risks of Trypanosomiasis transmission.

IRI Data Library: http://iridl.ldeo.columbia.edu/maproom/

Videos and more information are available at:
http://iri.columbia.edu/news/tackling-sleeping-sickness-in-maasai-communities/ and https://vimeo.com/107206390

Developing a Business Platform for Scientists and Users' Community in Europe

EARTH OBSERVATION REGIONS !

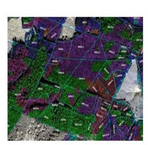
EORegions! is the marketplace where users can access services based on Earth Observation (SENTINEL 1, SENTINEL 2, Very High Spatial Resolution images, drones) and in-situ data.

EORegions! promotes the transition of research outputs towards applications. Universities, Service providers can easily access to E.O. images, software and tools to process data through a Geospatial Exploitation Platform (GEP) share results and reach business market through a Business Platform

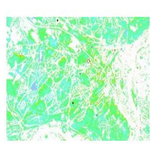
EORegions! proposes to the citizens, private and public sectors: Services in:

- Forestry,
- Agriculture,
- Soil Movements.

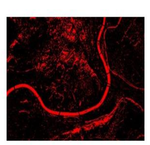
EORegions! also allows Service Providers to use the platform for disseminating their own tools and products within the EUGENIUS association network.



Tree Species Detection



HARRIS - Sentinel 2 NDVI Hot Spots



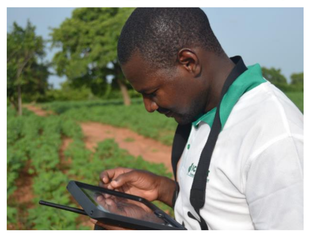
HARRIS – Sentinel 2 Change Detection

EORegions! Business Platform **www.eoregions.com**

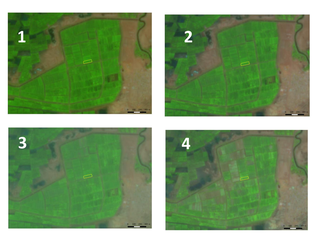
Developing a Business Platform for Scientists and Users' Community in Africa

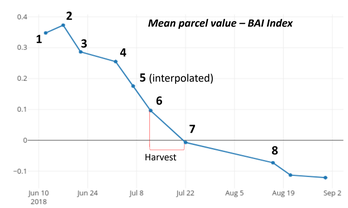
NADiRA develops a business solution combining Earth Observation data from Copernicus (SENTINEL 1 and SENTINEL 2) and in-situ data collection (by IoT and field agents), implemented through the Geospatial Exploitation Platform-GEP (a product of Spacebel) and the agCelerant mobile2web platform (a product of Manobi).

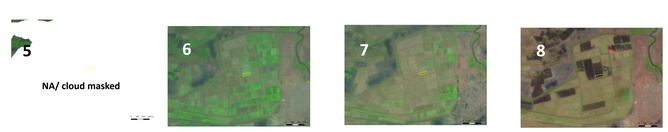
NADiRA



http://nadira-project.eu/







Automatic detection of crop calendar and harvest date using Sentinel 2 (Optical sensor) based on a color composite RGB for channels B11-B8-B4 and a Hue Saturation Value conversion complemented with a BAI index.

Those projects were developed with the support of the UN World Health Organization and IDRC (Trypanosomiasis), the Walloon Region of Belgium co-funded by Skywin, Plan Marshall 4.0 and private sectors (EORegions!) and the European Commission (NADiRA, H2020-Space under grant agreement No 776309).

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