



Land Monitoring

# Global Land Component: High Resolution Hotspot Monitoring





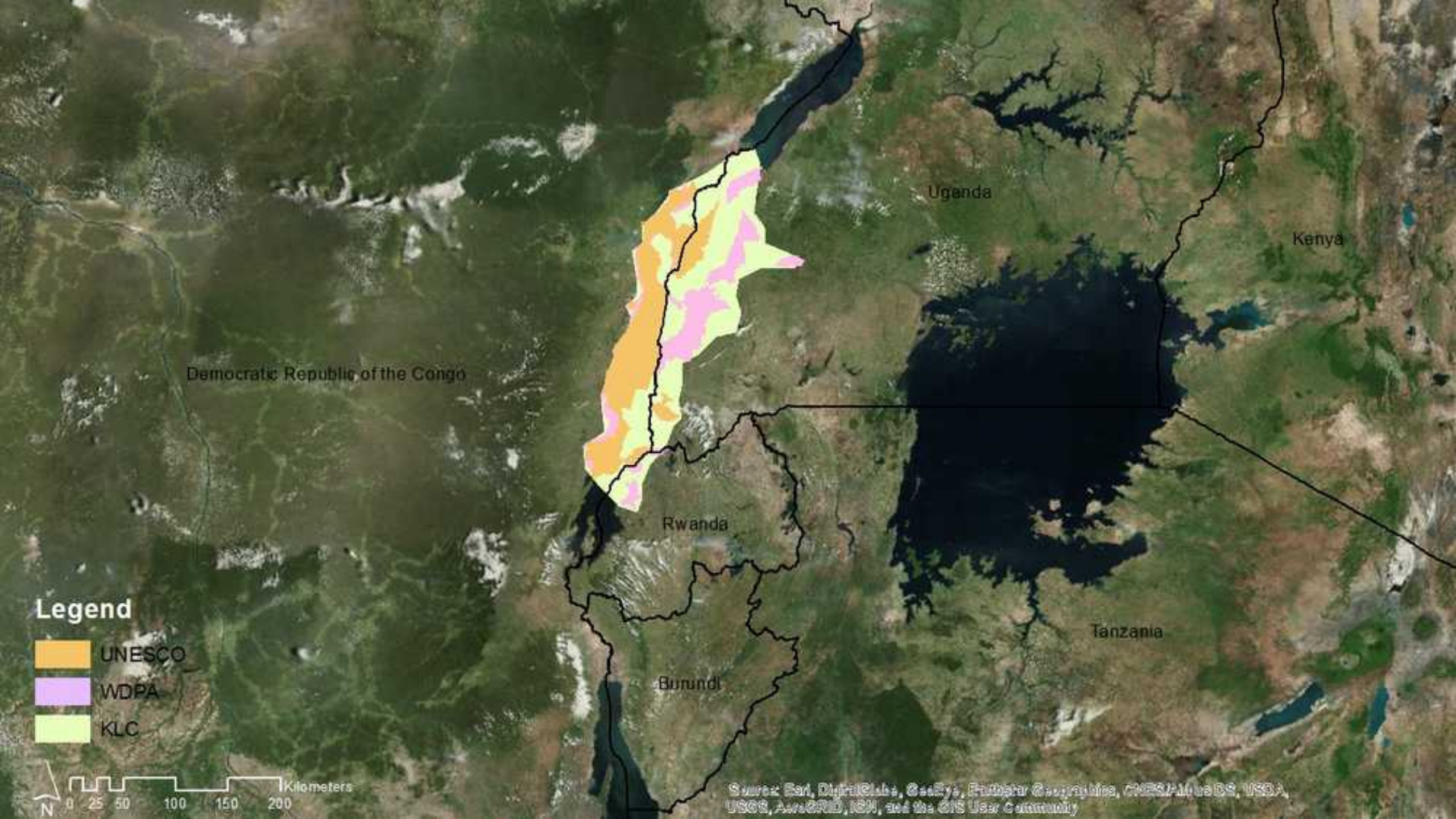
## Hot Spot: Aim

- ★ To produce land cover and land cover change maps and related indicators over specific Areas of Interest (AOI) using medium to high resolution satellite data (from 1 to 30m pixel size)
- ★ To provide detailed land information on specific areas of interest globally
- ★ To answer to ad-hoc requests within the domain of the sustainable management of natural resources
- ★ To complement the near real time global monitoring service at low resolution
- ★ To support EU funded projects or related policies with priority in biodiversity conservation and rural / social development sectors (B4Life)
  
- ★ 19 AOI under mapping
- ★ About 1.3Mio km<sup>2</sup> (about twice the size of France)



Land Monitoring





Democratic Republic of the Congo

Uganda

Kenya

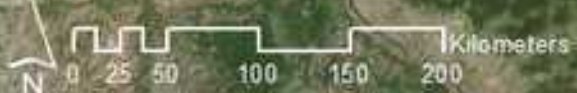
Rwanda

Burundi

Tanzania

### Legend

- UNESCO
- WDPA
- KLC



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





































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UNIVAC  
U 1300 L



**FOR SENKWEKWE**  
Mère: né en 1987  
Père: inconnue  
Père: Rugendo  
Tué le 29 juillet 2007

**MUFABULE**  
Mère: inconnue  
Père: inconnue  
Tué le 29 juillet 2007

**MUFABULE**  
Mère: inconnue  
Père: inconnue  
Tué le 29 juillet 2007

**PARC NATIONAL DES VILLAGES**  
**NYIRAGONGO**  
VOLCAN ACTIF  
ALTEUR: 3670 m  
2 HEURES DE MARCHÉ  
HISTORIQUE DES ERUPTIONS  
1832  
1904  
1977  
GRANDE ERUPTION  
2000 MORTS  
60  
1972-1985

**PARC NATIONAL ALBERT**  
**NATIONAL ALBERT PARK**









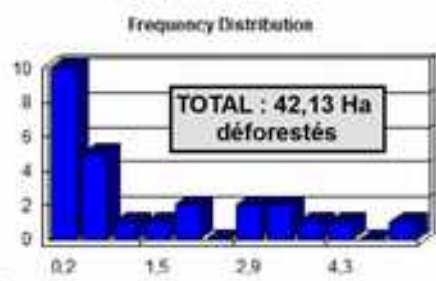
# Application SENTINEL2 : Déforestation le long de la rivière Rwindi en 2017



Confirmation (survol aérien)



Coordinate System: GCS WGS 1984  
Datum: WGS 1984  
Units: Degree





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# Statistics and Indicators

**Loss / gain  
of natural  
vegetation**

**cropland  
expansion  
and  
change**

**Artificial  
and build  
up  
surfaces**

**% and ha  
LC per  
class**

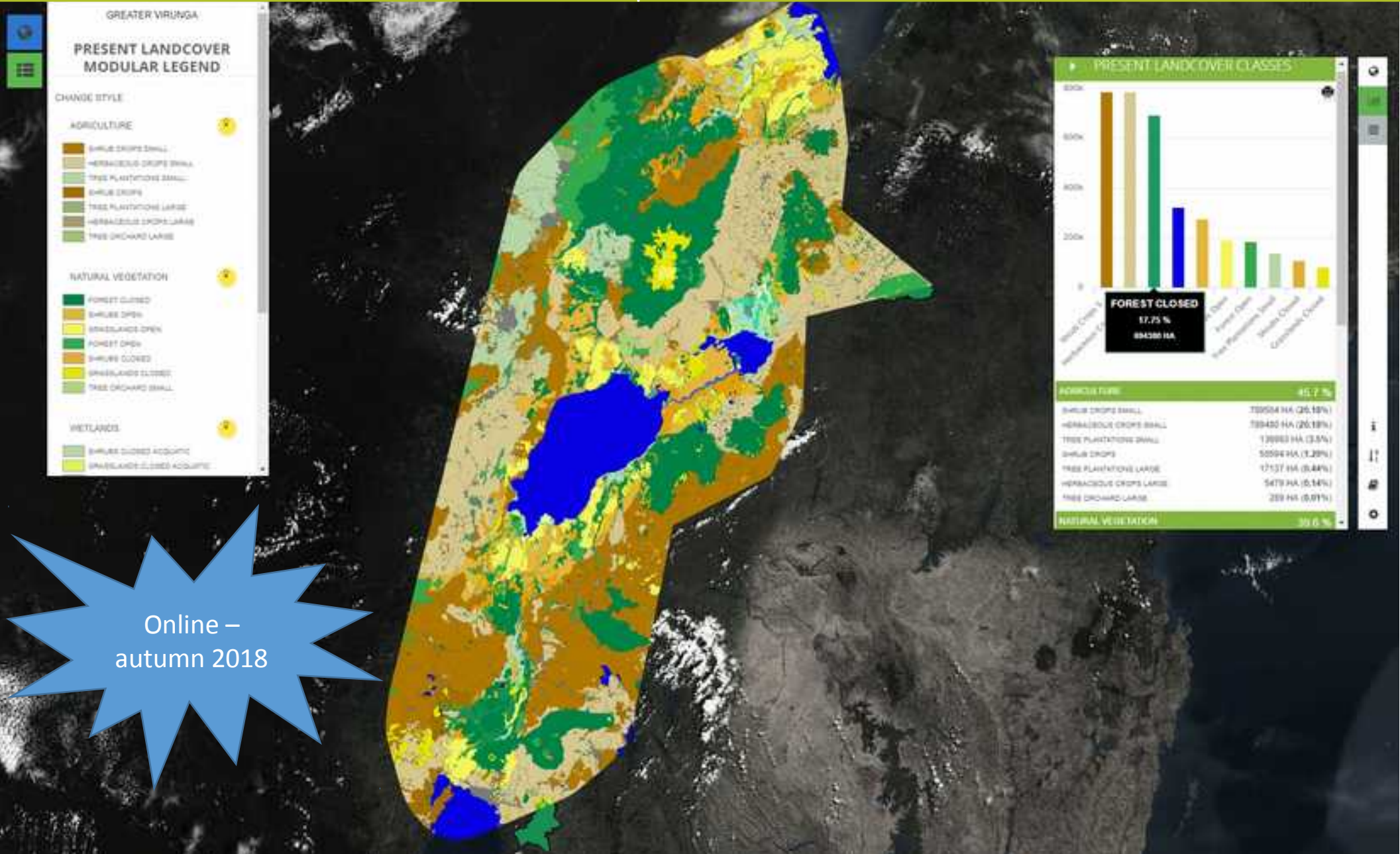
**Pressure  
Index –  
change in the Natural  
Vegetation Intactness  
Index over time**

**Natural  
Vegetation  
Intactness  
Index –  
level of disturbance  
given by absence /  
presence of human  
activities**



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# C - H S M Web Data Explorer - LC



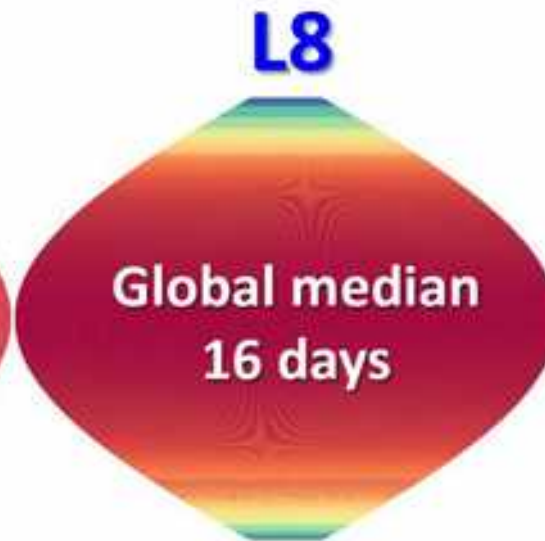
Online –  
autumn 2018



# The Future – Requirements and Needs

- ★ Further and continuous land cover change monitoring
- ★ Yearly synthesis high resolution land cover / land cover change products
- ★ Easy access to “application ready” Sentinel 2 images (S2GM)
- ★ LCC alert system

## Average satellite revisit interval (days)



Li, J. and Roy, D.P. 2017  
“A global analysis of Sentinel-2A, Sentinel 2B and Landsat 8 data  
revisit intervals and implications for terrestrial monitoring”.  
Remote Sensing, 9, 902.




Thank you

Copernicus  
Global Land Service

[andreas.brink@ec.europa.eu](mailto:andreas.brink@ec.europa.eu)

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