

# Sentinel-3 Results for Land



# Sentinel-3:

## OLCI swath at country scale

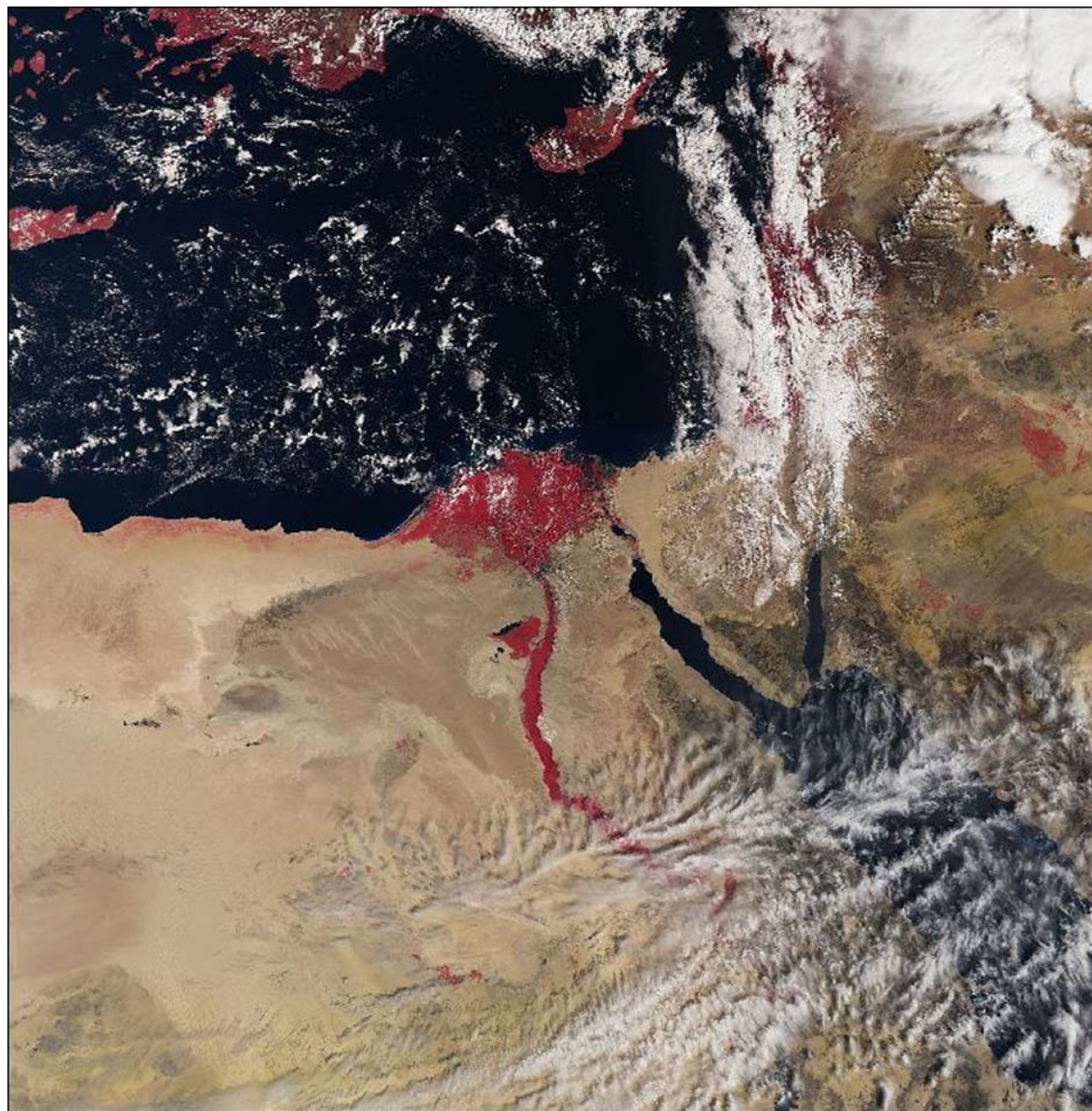
Image of France captured by the Copernicus Sentinel-3A satellite's OLCI (Ocean and Land Color Instrument) on 7 April 2017.

**OLCI monitors ocean ecosystems, supports crop management and agriculture, and provides estimates of atmospheric aerosol and clouds – all of which bring significant benefits through more informed decision-making.**





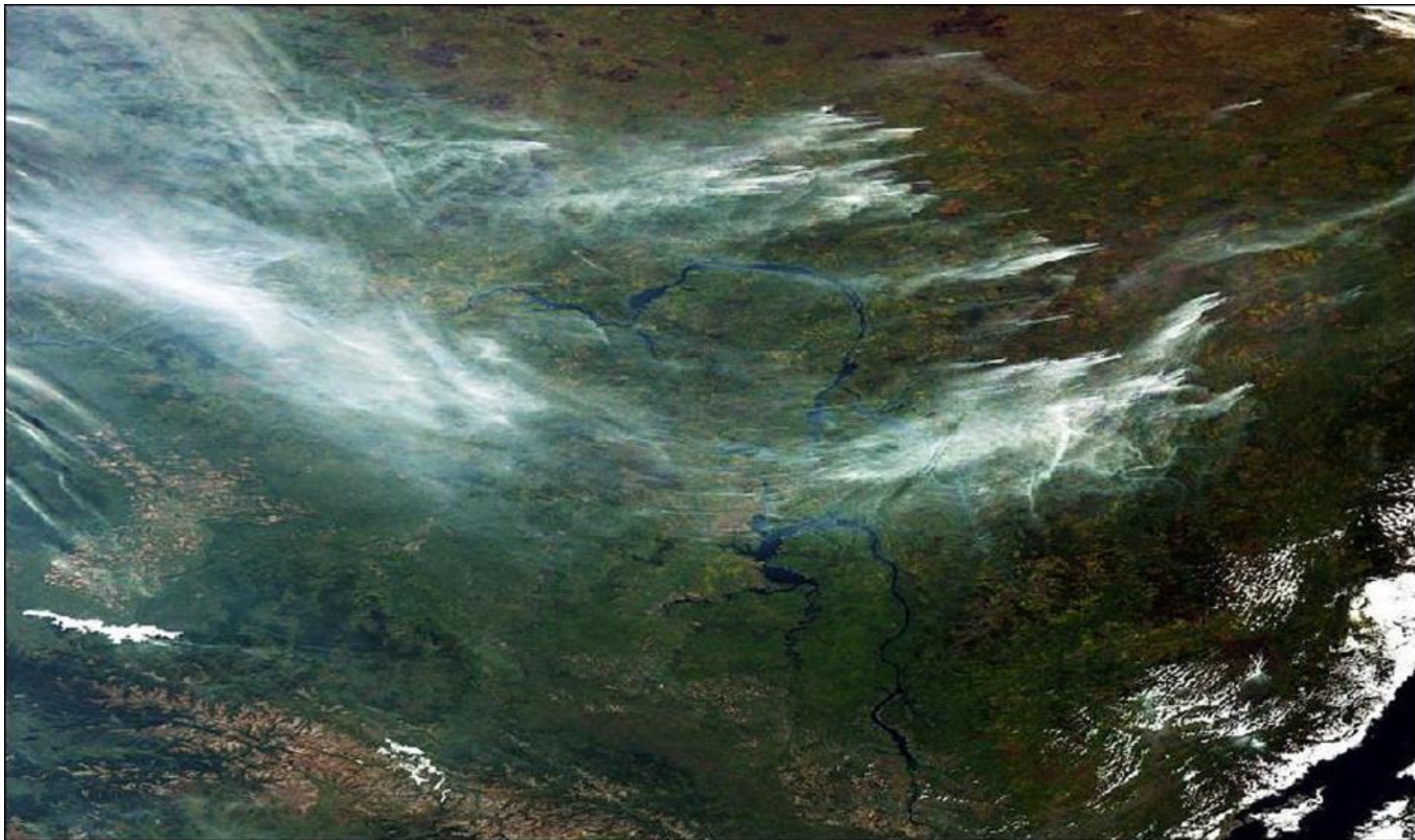
The false color image of SLSTR measures the energy radiating from Earth's surface **in nine spectral bands**, including visible and infrared bands.



(ESA, contains modified Copernicus Sentinel data (2016), processed by ESA)

Slide 3



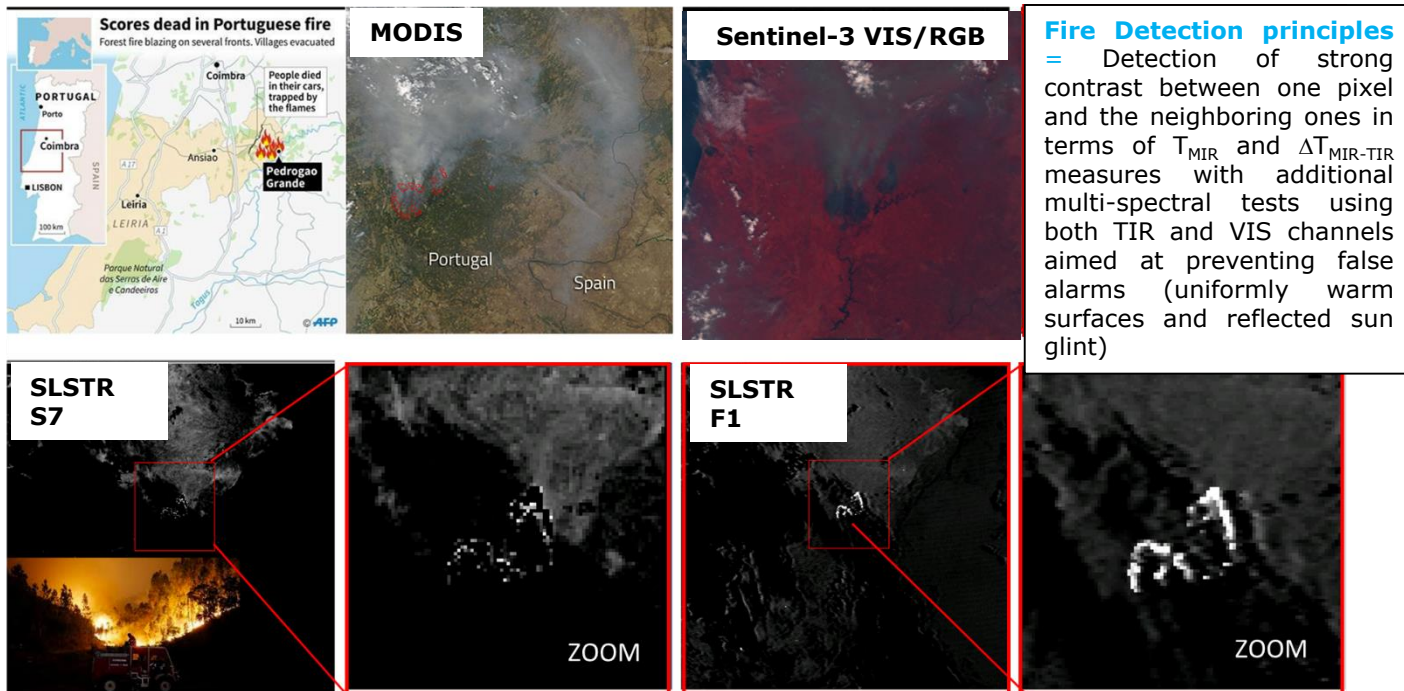


Wildfires in Siberia causing huge smoke plumes, stretching **2000 Km** and winds blowing the smoke to the west.

*(ESA, contains modified Copernicus Sentinel data (2016), processed by ESA)*

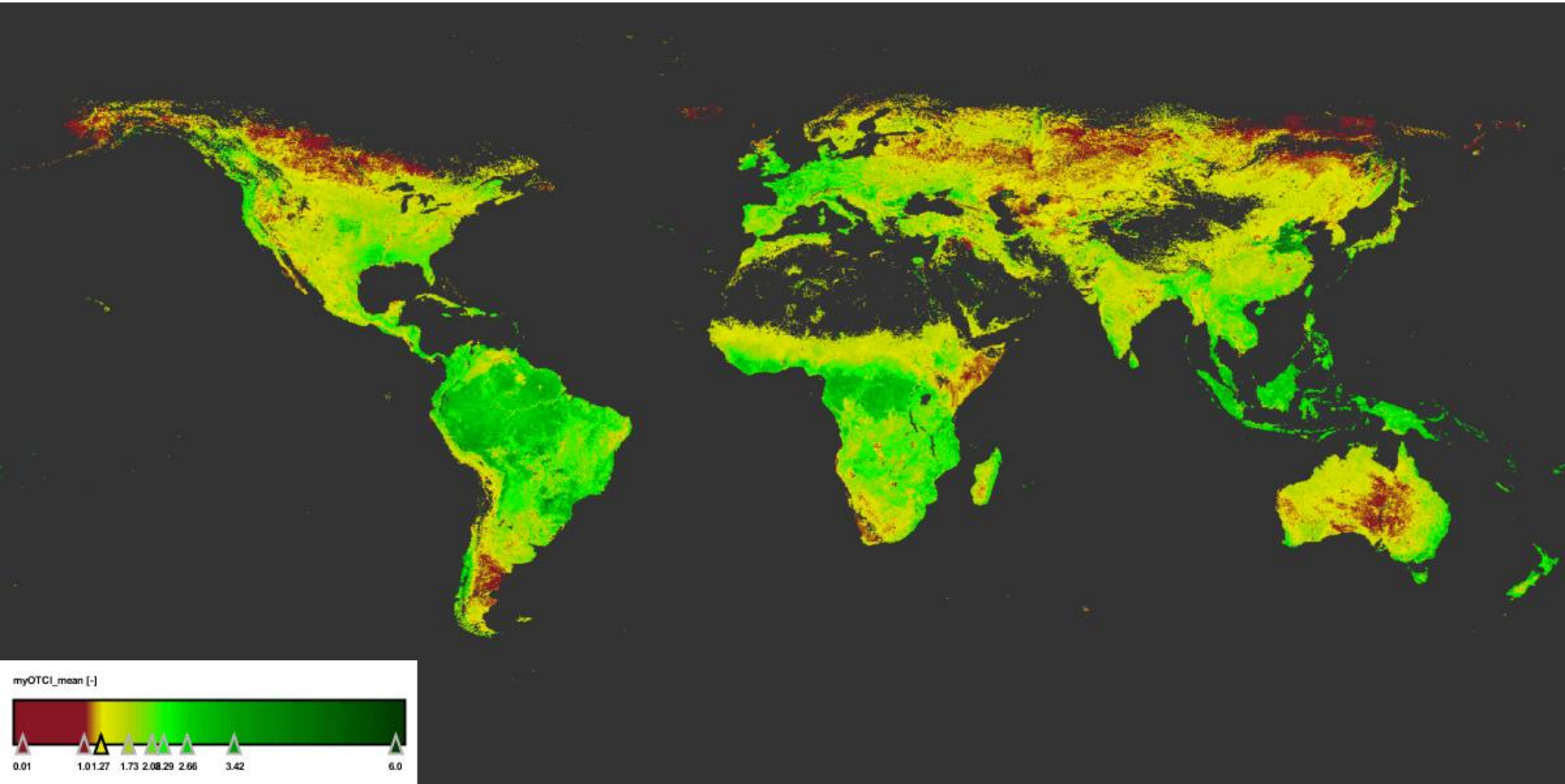
Slide 4

# Preliminary Active Fire Detection Results, Portugal Fires – 18 June, 2017



**Credit: C.Henocq (ACRI), M.Wooster (KCL), W. Xu (KCL)**



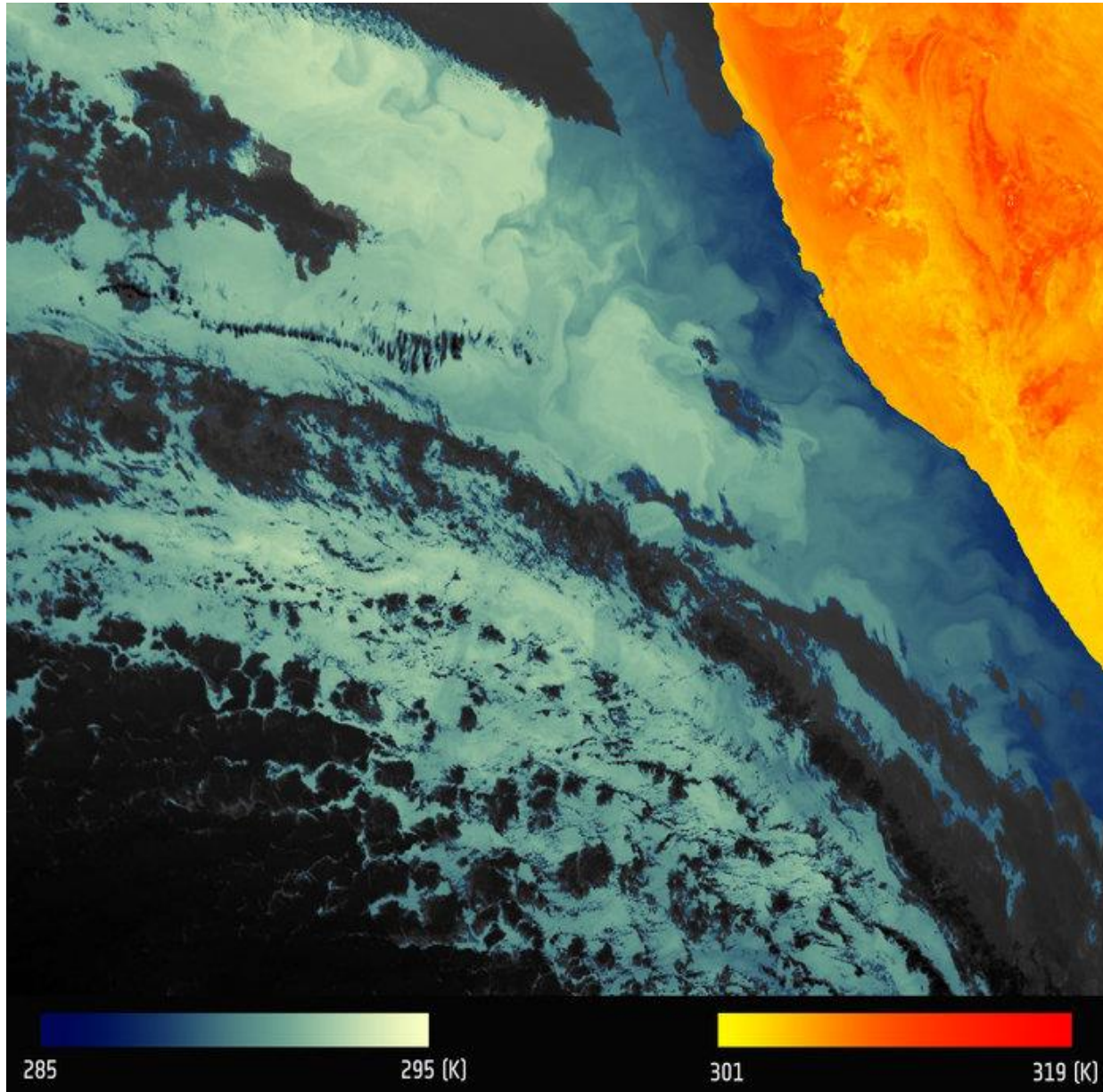


OLCI **chlorophyll** detection. Animation shows global distribution of chlorophyll between **1 April and 27 May 2017**. Index ranges from 1 to 6.5.

(ESA, contains modified Copernicus Sentinel data (2017), processed by University of Southampton-J. Dash/Brockman Consult (S3-MPC))

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# Sentinel-3: Thermal Signatures



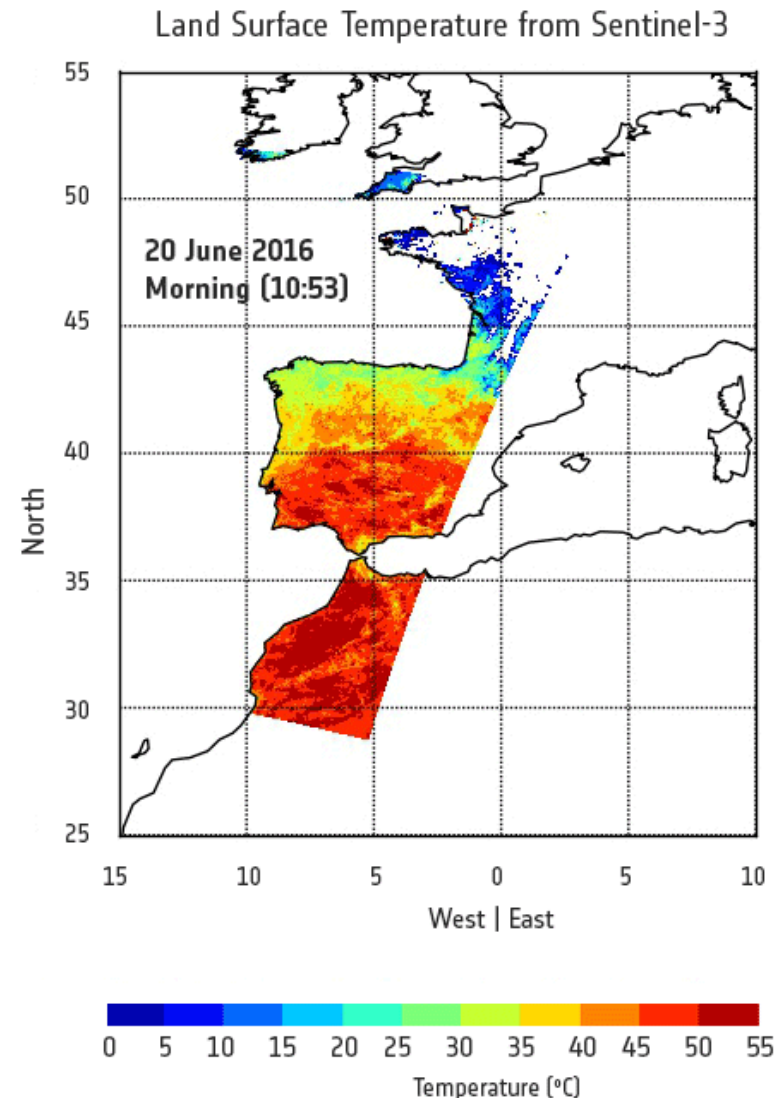
**Namibian  
Coastline,  
29 March 2016**

*(ESA, contains modified Copernicus  
Sentinel data (2016), processed by ESA)*

Slide 7

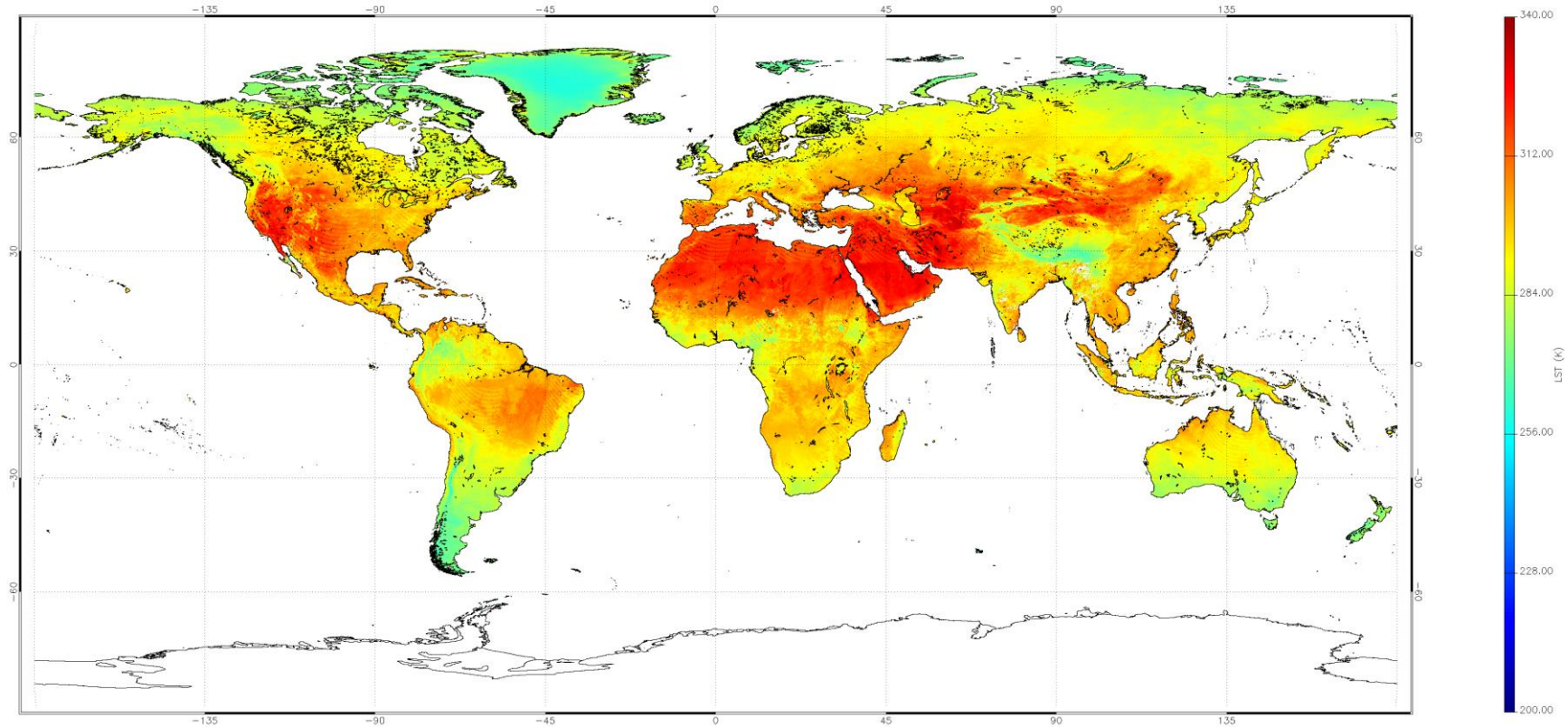
# Sentinel-3: Day & Night surface temperatures by SLSTR

The animation shows the difference in the day and night temperatures of the land surface. Daytime measurements were taken on 20 June 2016 and night time readings on 21 June.





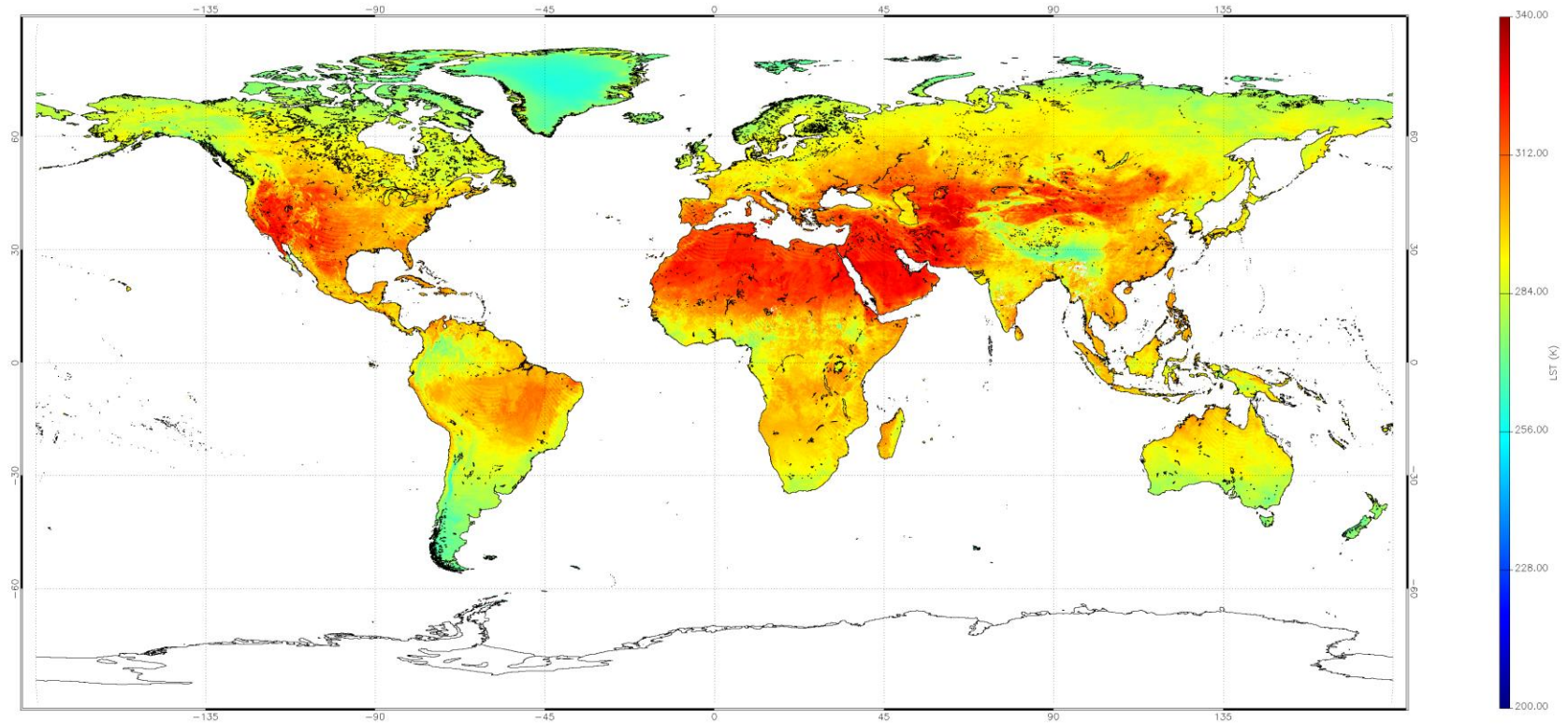
# Sentinel-3: Earth's land temperature



Sentinel-3A's SLSTR measures radiation emitted from Earth's surface, revealing how the temperature of Earth's land changes between **July and November 2016**. Measurements are in kelvin.

(ESA, contains modified Copernicus Sentinel data (2015), processed by UK National Centre for Earth Observation/University of Leicester)

# Sentinel-3 Land Surface Temperature



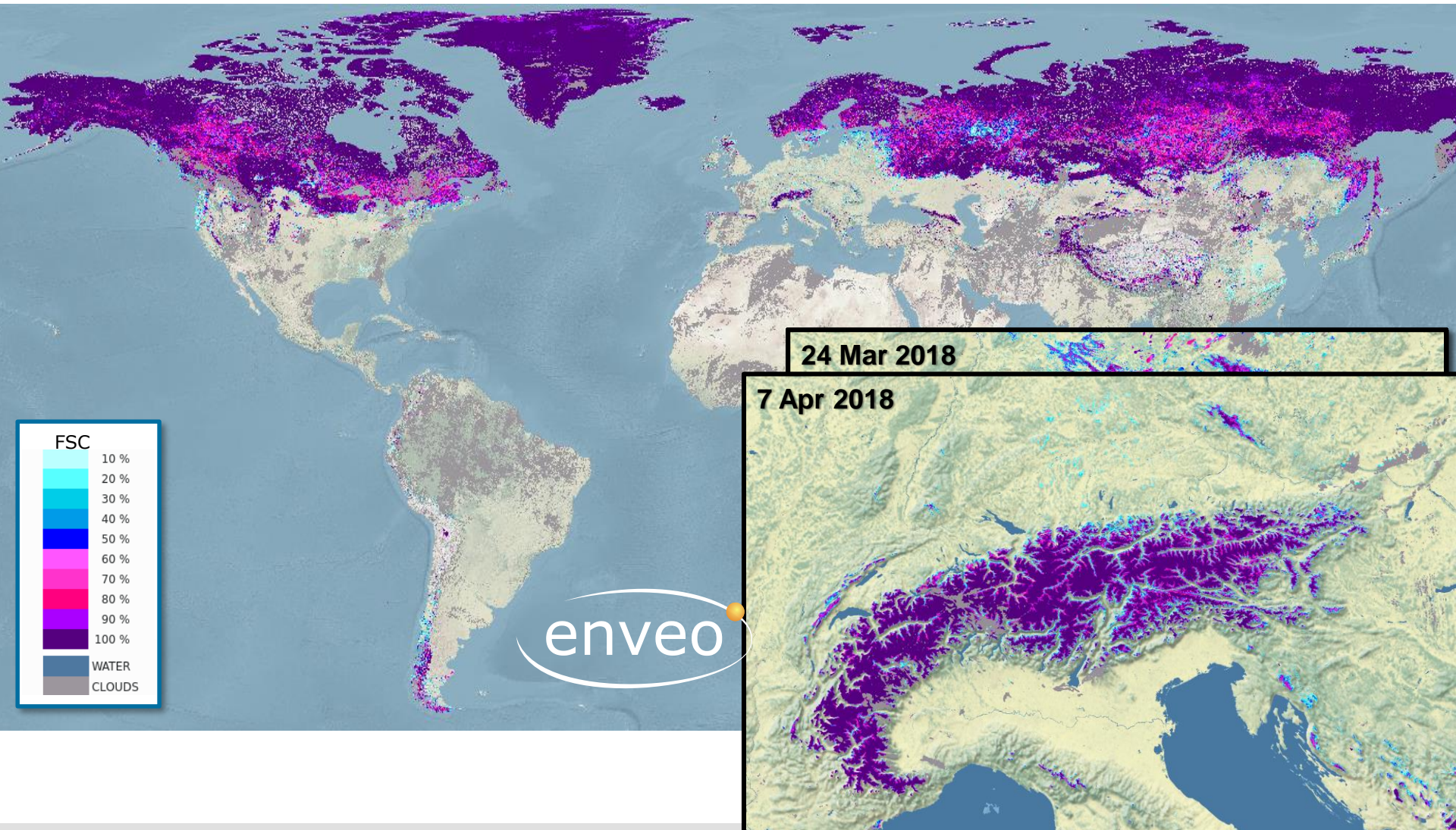
**Land Surface Temperature monthly composite for September 2016**

**Credit: D. Ghent, University of Leicester**



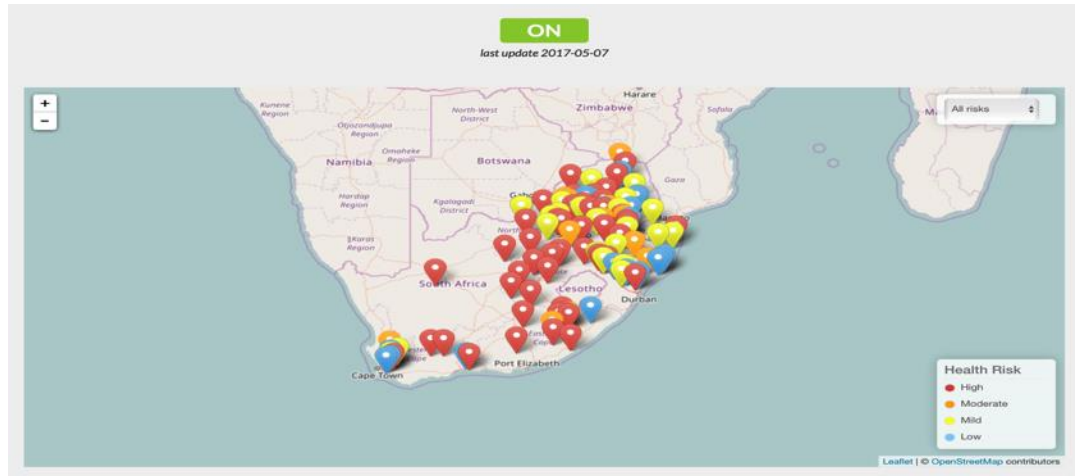
# Sentinel-3A SLSTR Snow Extent Product

## 5 -10 April 2018

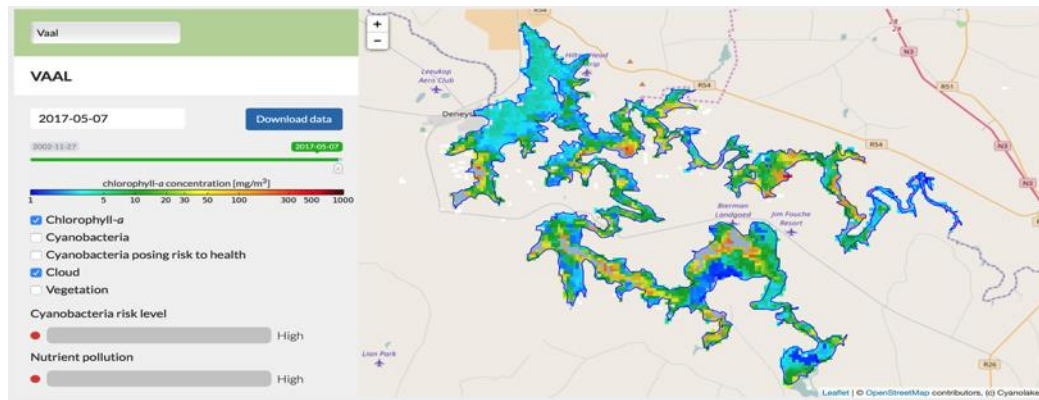


# Sentinel-3 for inland water quality

## CyanoLakes: <http://eonemp.cyanolakes.com>



- ❑ CyanoLakes: winner of Copernicus Masters Ideas Challenge in 2014
- ❑ **Integration of Earth Observation into the National Eutrophication Monitoring Service** (EONEMP) provided by CyanoLakes (Pty) Ltd, funded by the Water Research Commission of South Africa.
- ❑ Service based on MERIS data (10 year archive) and **OLCI** data (live since April 2017)
- ❑ **Monitoring and reporting on eutrophication** (via chlorophyll-a estimates) and cyanobacteria blooms in lakes/reservoirs in South Africa.

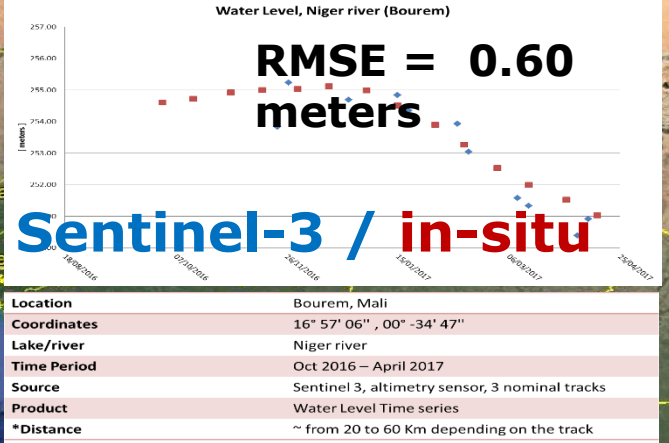




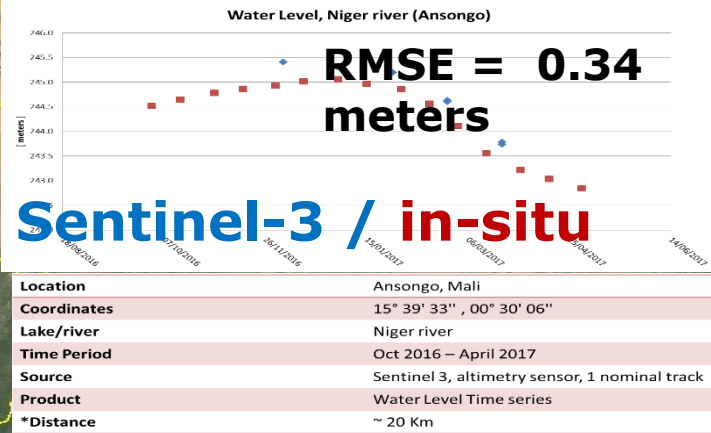
@Google earth



Bourem, Niger river



Ansongo Niger river



Credit: Isardsat, HEP