



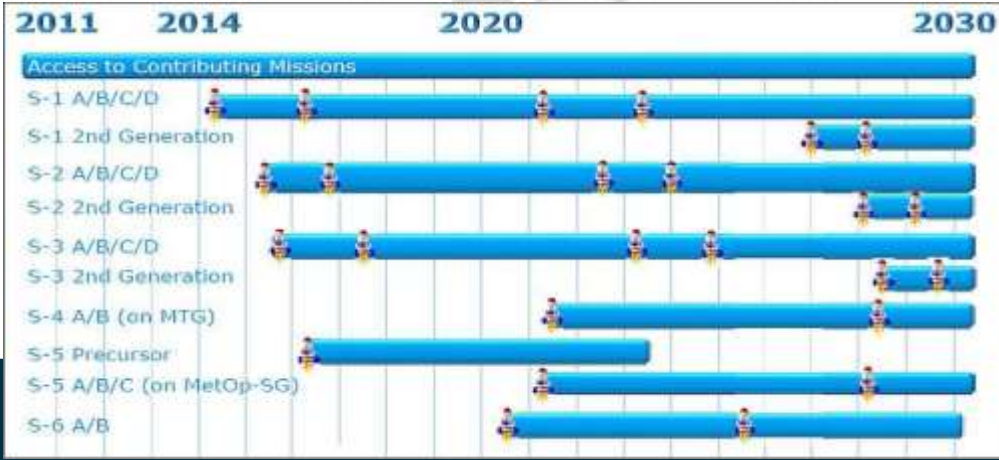
TERRA SCOPE



COPERNICUS AND ITS SENTINELS

European Earth Observation Programme Copernicus: observing our planet for a safer world

- Greenhouse gases and air quality monitoring
- 30+ data services available via the Copernicus Data Hub
- 100+ products of environmental monitoring
- Operational missions in the Earth's orbit
- Real-time monitoring with existing and future satellites
- Emergency Management: Monitoring and alerting for natural disasters
- Land Surface Monitoring: Monitoring of agriculture, land use, forests
- Marine Environmental Monitoring: Monitoring of the ocean and coastal areas
- Climate Change Monitoring: Monitoring the impact of climate change on the environment
- Coastal and Marine Monitoring: Monitoring of the coastal environment and marine resources

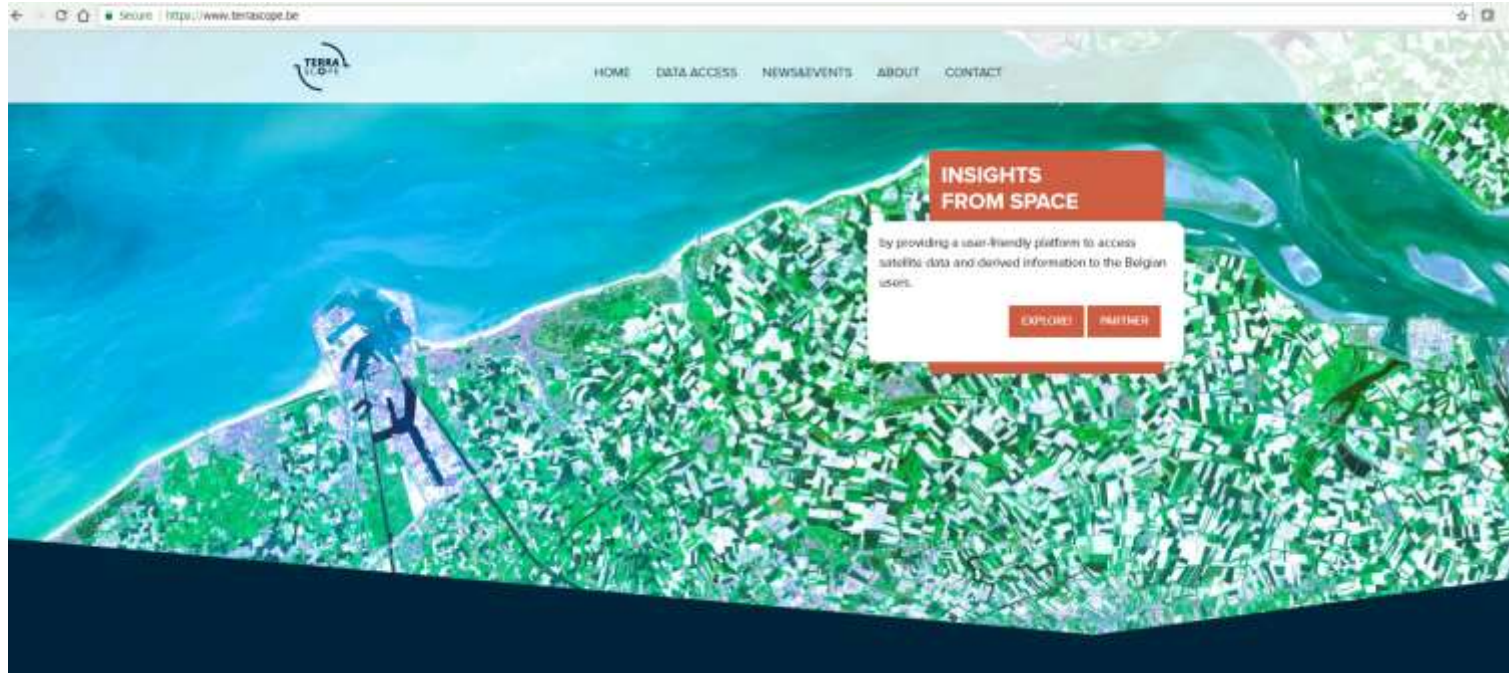


Easy, open and free access until at least 2030










Your access to data of the Sentinel satellites










Your access to data of the Sentinel satellites

-  View and explore at full resolution
-  Integrate data and products via webservice
-  Upload your algorithm, download just the result
-  On the fly (NRT) processing
-  Download data and products





For whom?

-  Public authorities
-  Industry
-  Scientific institutions & universities
-  Educators & students
-  Citizens





What? Download data and products **NOW**

The screenshot shows the VITO Product Distribution Portal website. At the top, there is a navigation bar with the VITO logo (vito - vzw in technology), logos for belapo and esa, and links for Login, Help, Register, and FAQ. The main heading is "PRODUCT DISTRIBUTION PORTAL". Below this, there is a section titled "Free Satellite Imagery" with a link to "Free available satellite imagery". The main content area displays a grid of satellite imagery collections, each with a thumbnail image and a "Collection" link. The collections include: PROBA-V 13M (SYNTHESIS NEAR REAL TIME), PROBA-V 100M (SYNTHESIS NEAR REAL TIME), PROBA-V 100M (SYNTHESIS EARLY DATA 1 MONTH), EPIC ACQUISITION, PROBA-V 100M (SYNTHESIS EARLY DATA 1 MONTH), SENTINEL-1, WATERSAT, WATERSAT 300 (SYNTHESIS), and UNISAT 300 (SYNTHESIS). On the right side, there is a sidebar with "Fast HTTP Access" and "OpenSearch Service" links, and a "News" section with dates and headlines such as "1 March 2018: ESA's Artemis 300 launch" and "28 November 2017: ESA's 300th Anniversary Day".



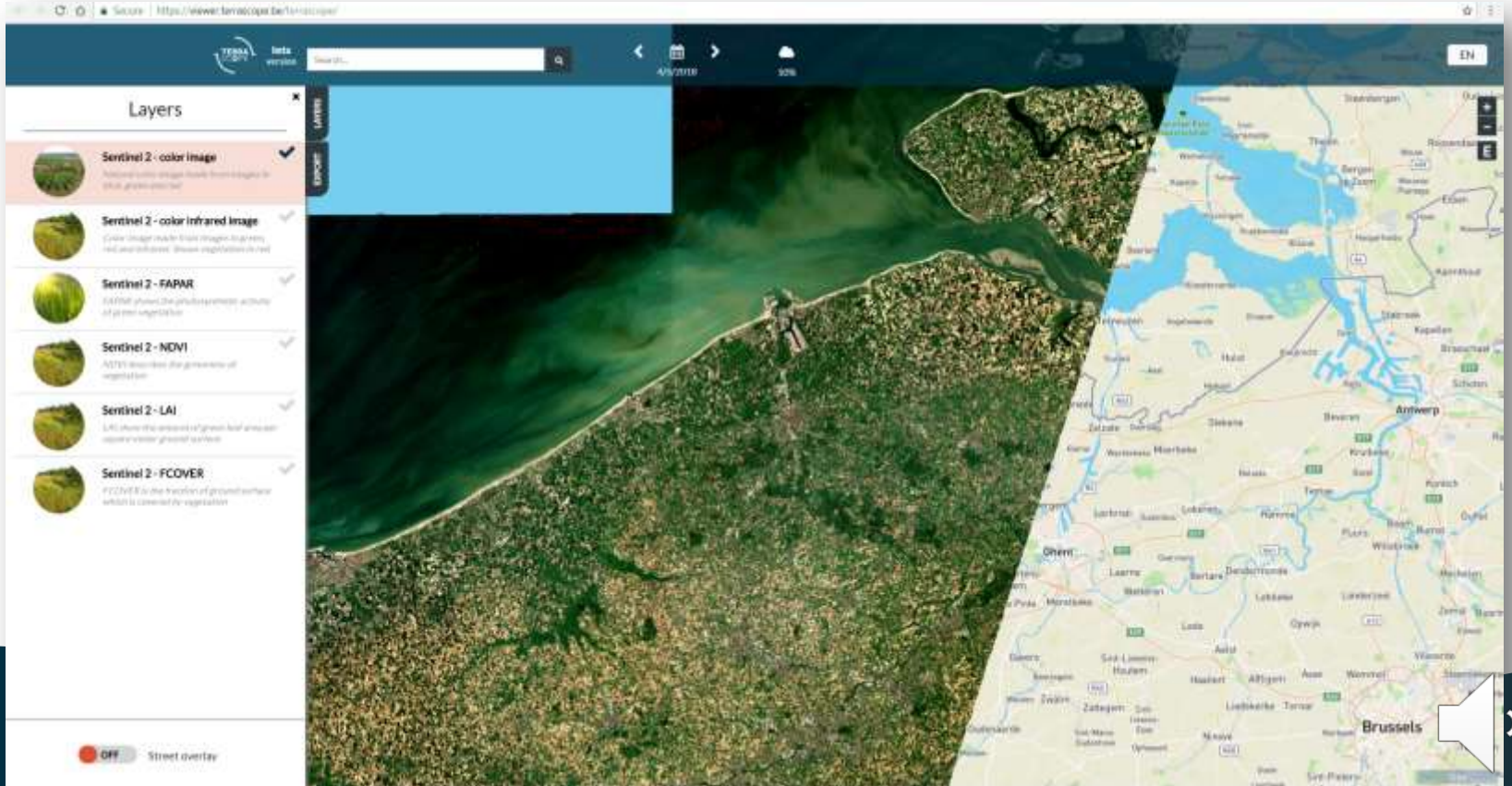


Downloading
FREE data
creates a **COST**,
so why do it?





What? View and explore **NOW**





What? View and explore NOW

The screenshot displays the TerraScope web application interface. The browser address bar shows the URL <https://viewer.terrascope.be/terrascope/>. The interface includes a search bar, a date selector set to 4/5/2018, and a language dropdown set to EN. A 'Layers' panel on the left lists several data layers:

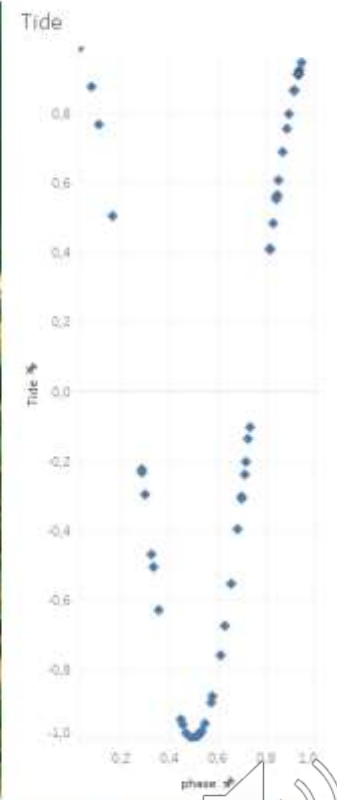
- Sentinel 2 - color image
- Sentinel 2 - color infrared image
- Sentinel 2 - FAPAR
- Sentinel 2 - NDVI
- Sentinel 2 - LAI
- Sentinel 2 - FCOVER

At the bottom of the panel, there is a toggle for 'Street overlay' which is currently turned OFF. The main map area shows a satellite image of a coastal region with a red overlay, and a semi-transparent street map overlay is visible on the right side. A speaker icon is located in the bottom right corner of the interface.

Sentinel-2 timelapse @Zeebrugge



1 apr. 16 1 jun. 16 1 aug. 16 1 okt. 16 1 dec. 16 1 feb. 17 1 apr. 17 1 jun. 17 1 aug. 17 1 okt. 17 1 dec. 17 1 feb. 18 1 apr. 18



11 april 2016 to 6 april 2018



Sentinel-2 timelapse @Zeebrugge



10 februari



1 apr. 16 1 jun. 16 1 aug. 16 1 okt. 16 1 dec. 16 1 feb. 17 1 apr. 17 1 jun. 17 1 aug. 17 1 okt. 17 1 dec. 17 1 feb. 18 1 apr. 18

Sentinel-2 timelapse @Zeebrugge



1 apr. 16 1 jun. 16 1 aug. 16 1 okt. 16 1 dec. 16 1 feb. 17 1 apr. 17 1 jun. 17 1 aug. 17 1 okt. 17 1 dec. 17 1 feb. 18 1 apr. 18



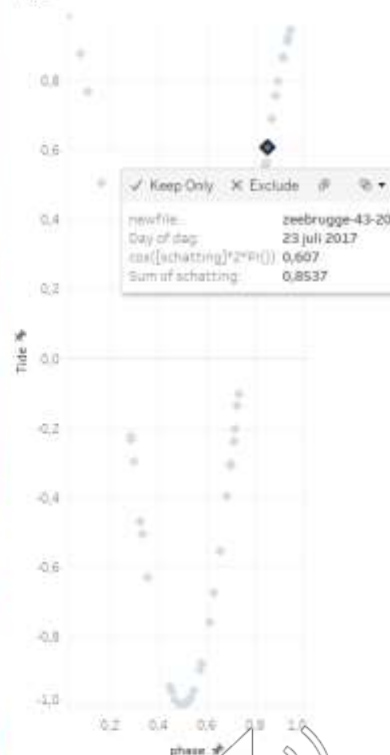
19 april 20

Sentinel-2 timelapse @Zeebrugge



1 apr. 16 1 jun. 16 1 aug. 16 1 okt. 16 1 dec. 16 1 feb. 17 1 apr. 17 1 jun. 17 1 aug. 17 1 okt. 17 1 dec. 17 1 feb. 18 1 apr. 18

Tide

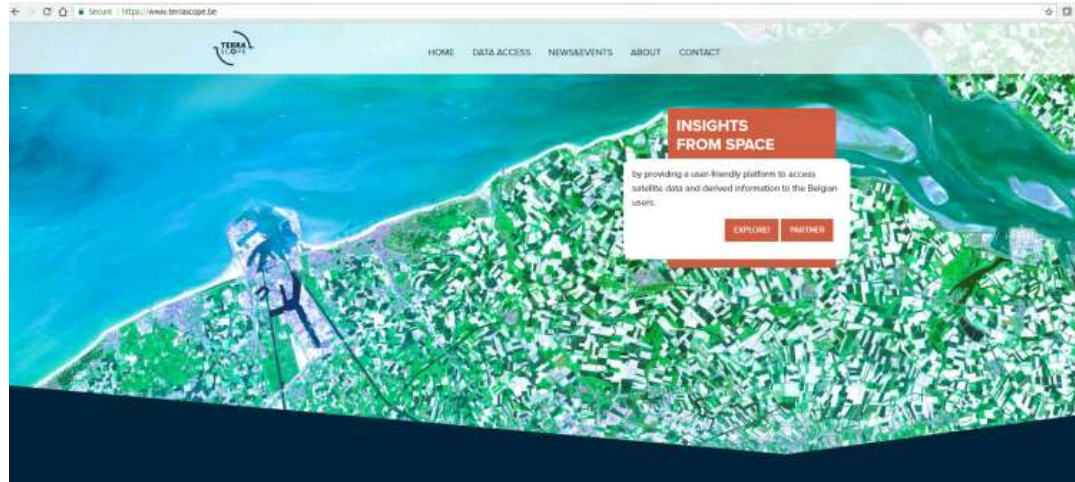


23 juli 20





Platform cycle 1



- Release March 2018
- S1 products over Belgium & BCP
- S2 products over Belgium & BCP
- S2 geo viewing application
- User forum

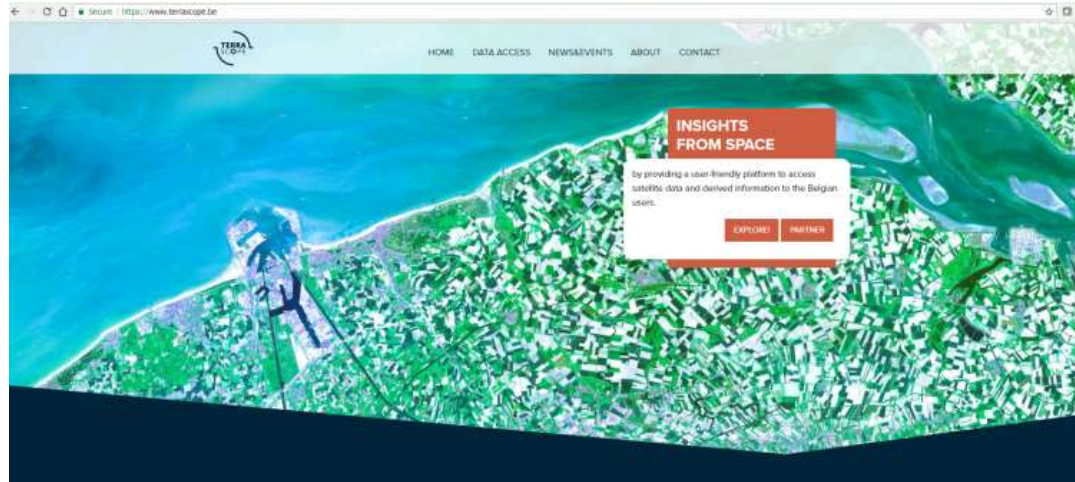


@Terrascope_be





Platform cycle 2



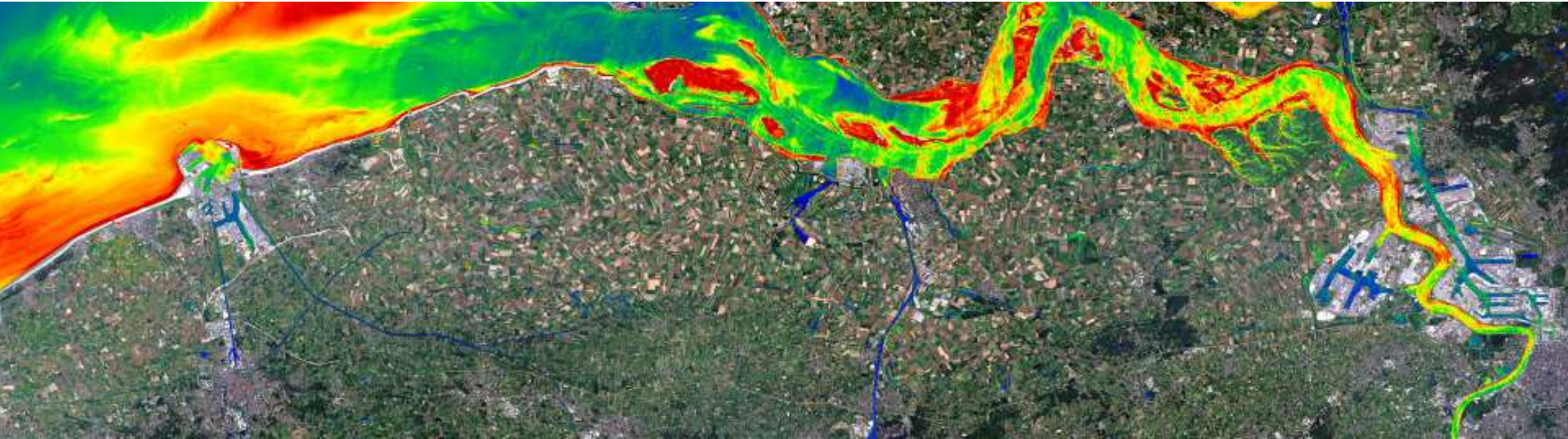
- Release June 2018
- S2 products over EU/AFR
- S3 products global
- Advanced Geo viewer
- PROBA-V/SPOT-VGT access
- Upload you algorithm
- Access to VM/computing power



@Terrascope_be



Use of Sentinel data in marine sciences



Sent 2-derived Suspended Sediment Concentration



Intense near-shore bloom observed by Sentinel-2A/MSI in Belgian waters (red-edge Chl-a absorption - see Vanhellemont & Ruddick, 2017)



Figure 1 Sentinel-2A/MSI Rayleigh-corrected RGB composite of the Belgian coastal zone on 2016-05-01 (10:53 UTC). Common sampling stations are annotated.

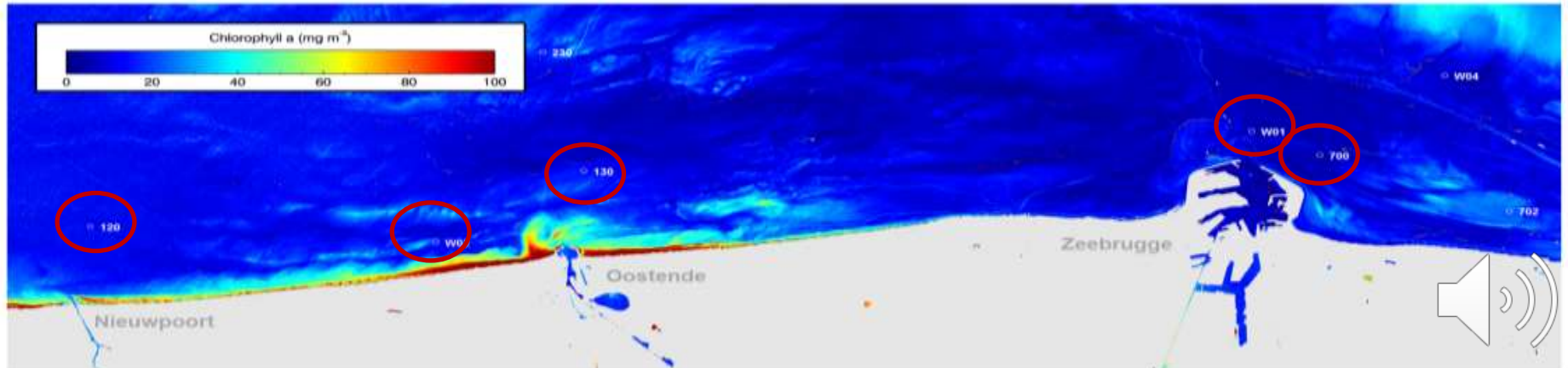














Figure 2 Chlorophyll a concentration derived using the algorithm of Gons (2005), showing an intense bloom between Nieuwpoort and Oostende

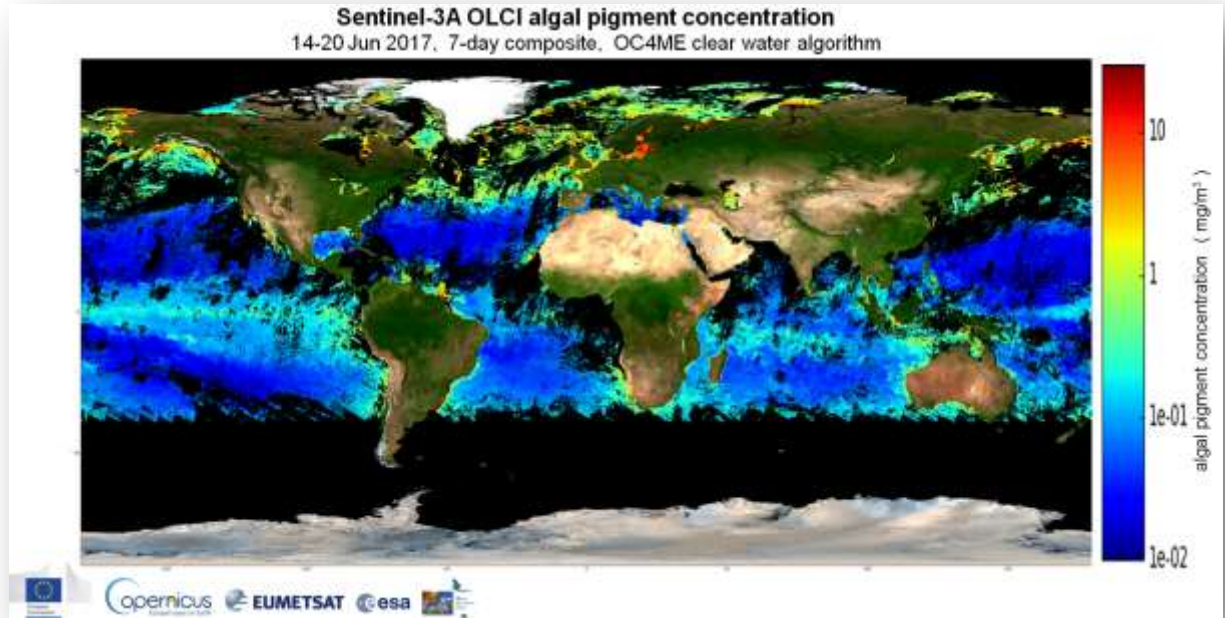
Use of Sentinel data in marine sciences

- <http://www.euronews.com/2018/04/19/sentinel-ocean>








Use of Sentinel data in marine sciences

-  Suspended sediment
-  Turbidity
-  Chlorophyl-a, PC, PE
-  Macrophytes
-  Temperature
-  Attenuation
-  Oil spills
-  Ship detection
-  Currents, waves
-  Coastal vegetation
-  Dike inspection
-  ...



Belgian Sentinel platform: **What's** in it for you?



-  Access to the full archive of Sentinel data
-  Explore data without download
-  Use computing power (VM's) to process
-  Share notebooks
-  User forum





TERRA SCOPE

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