

Sentinels for monitoring Water Quality Global, Continuous & Operational

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Sentinels Looking after Water



0 days 00 hours 00 minutes

Copernicus Space Component

Long term continuity space observations



2011

2015

2020

2030

Access to Contributing Missions

S-1 A/B/C/D

S-1 A/B 2nd Generation

S-2 A/B/C/D

S-2 A/B 2nd Generation

S-3 A/B/C/D

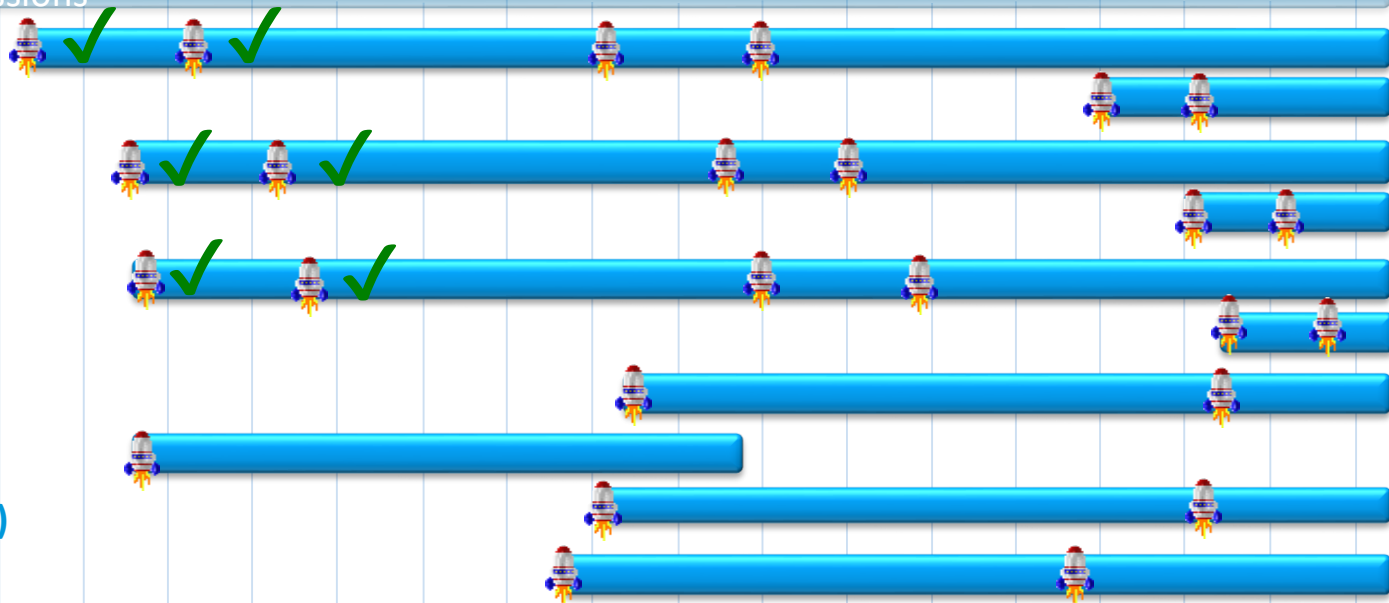
S-3 A/B 2nd Generation

S-4 A/B (on MTG)

S-5 Precursor

S-5 A/B/C (on MetOp-SG)

S-6 A/B



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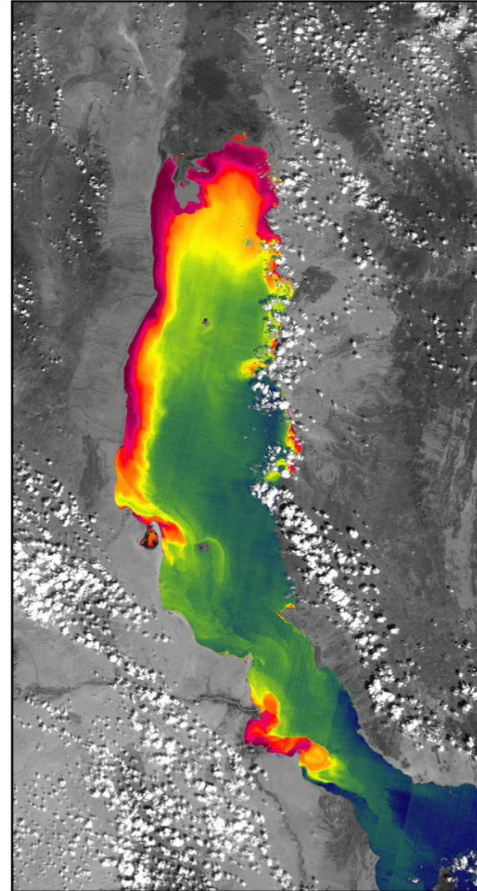
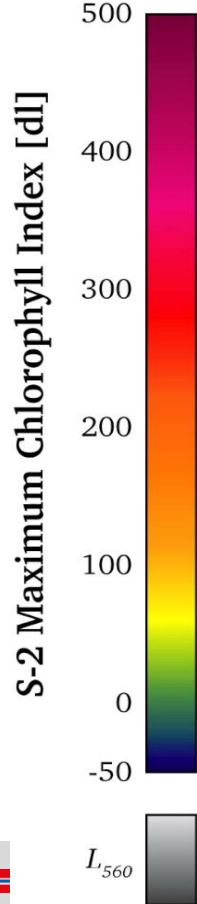
European Space Agency

Water Quality Monitoring for SDG 6.3

Lake Turkana, Maximum Chlorophyll Index



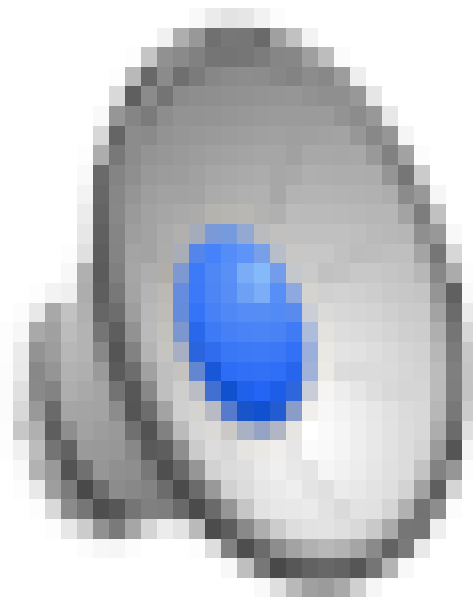
Getintravel



Contains modified Copernicus Sentinel data [2016]

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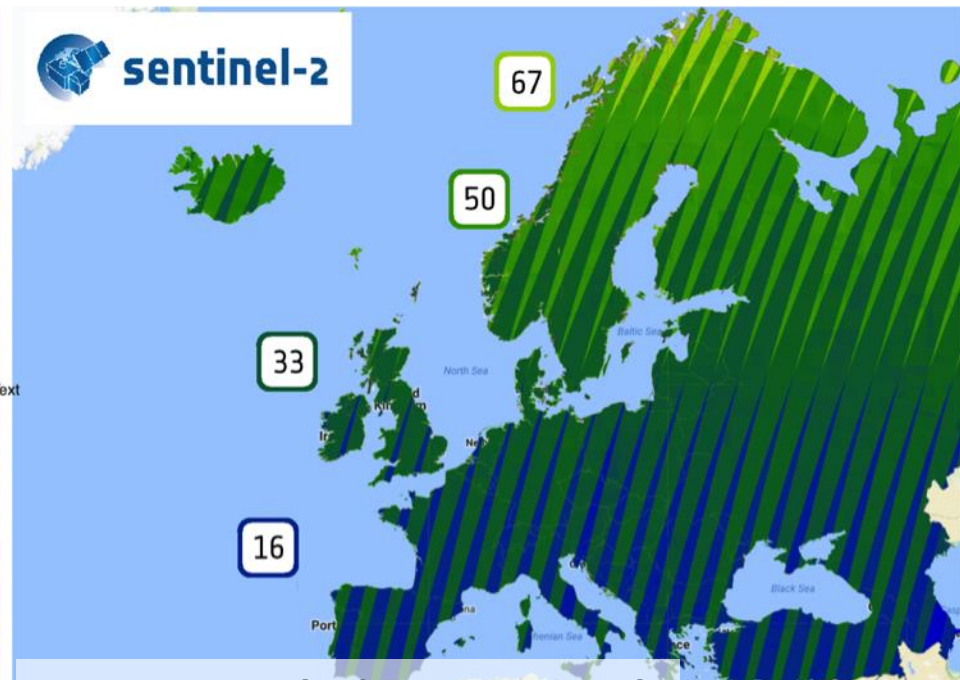
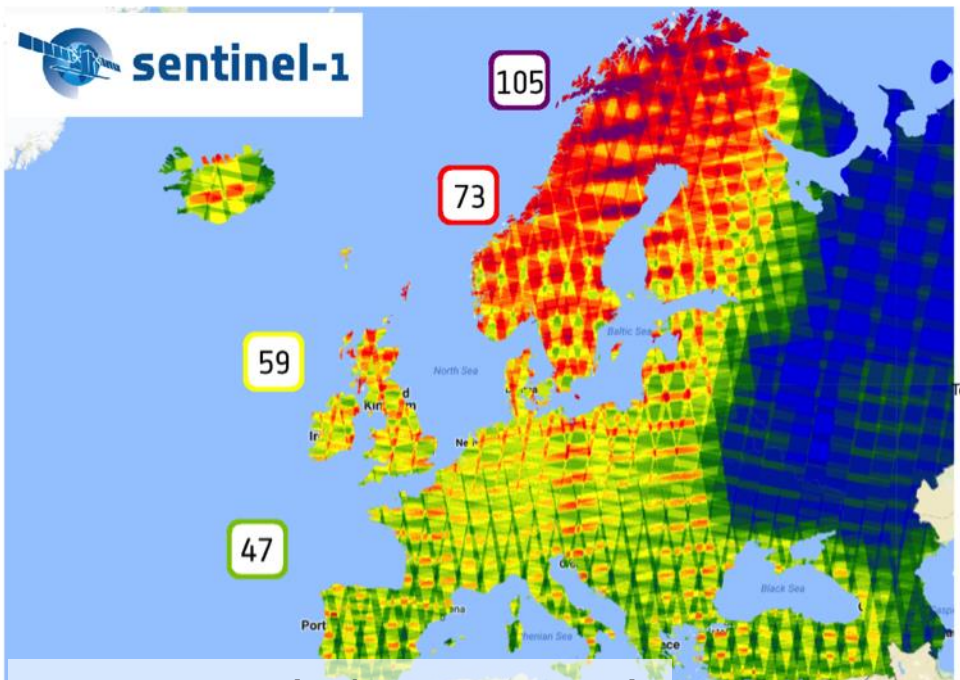
Backup



Sentinels for Water Dynamics

Majority of Europe
>2 day revisit

Majority of Europe
>3 day revisit



S-1A & -1B (July-Sept 2017)

S-2A & -2B (July-Sept 2017)

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ESA | 01/01/2016 | Slide 7



Sentinels – World Class EO Systems

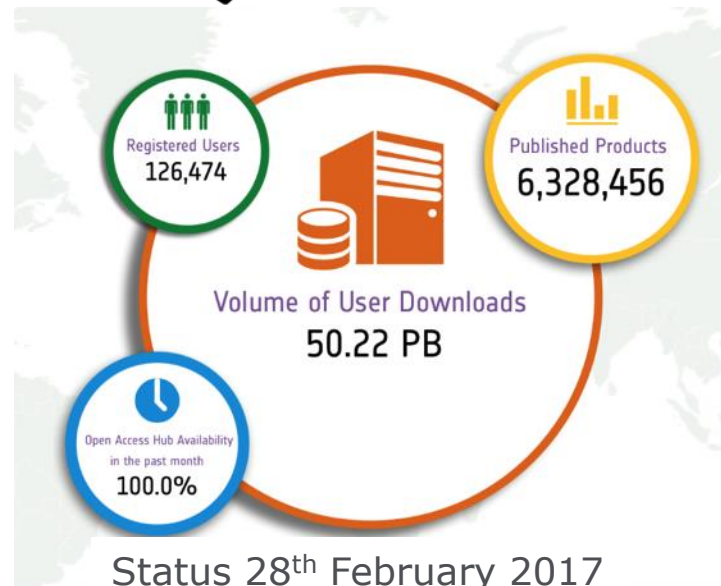
Reference missions: Class leading data quality

Requirement	Description	Measured performance
Absolute geolocation (without ground control points)	The geo-location uncertainty shall be better than 20 m at 2σ confidence level (without Ground Control Points).	< 11 m at 95.5% confidence (baseline 02.04)
Multi-spectral registration	The inter-channel spatial co-registration of any two spectral bands shall be better than 0.30 of the coarser achieved spatial sampling distance of these two bands at 3σ confidence level.	< 0.3 pixel at 99.7% confidence
Absolute radiometric uncertainty	The absolute radiometric uncertainty shall be better than 5% (goal 3%).	B1 to B12, excl. B10: < $5\% \pm 2\%$
SNR	The Signal-to-Noise Ratio (SNR) shall be higher than specified values (see Table 2-6 in this document)	All bands compliant with > 27% margin

Reliable Data Quality – Prerequisite for Water Monitoring

S1 **>5.8 TB daily**

S2 **>3.2 TB daily**



Status 28th February 2017

Monthly Data Quality reports:

<https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-2/data-quality-report>