



Sentinel-3 OC Data products



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Norm-water-leaving-reflectance

PRODUCT NAME	Normalised Water Leaving Reflectance
PARAMETER ID	Rxxx, where xxx represents the band wavelength in nm.
PRODUCT LEVEL	2
DESCRIPTION	Surface directional reflectance, corrected for atmosphere and Sun specular reflection, at all OLCI channels except those dedicated to atmosphere absorption measurements, and associated error estimates
Product Parameters	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	<i>Dimensionless</i>
RANGE	0-0.2, exceptionally higher
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: variable with 16 channels
FORMAT	2-bytes integer
APPENDED DATA	Error estimate (2-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 17.4 GB (FR), 1.1 GB (RR)
Additional Information	
INPUT BANDS	All OLCI bands but O13, O14, O15, O19, and O20
ANCILLARY AND AUXILIARY DATA	Aerosol models, aerosol LUT, atmospheric diffuse transmittances LUT, RT LUT (solar zenith angle, viewing zenith angle, wavelength, aerosol optical thickness, gaseous absorption, chlorophyll concentration)



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Total Backscattering Coefficient

PRODUCT NAME	Backscattering diffusion coefficient
PARAMETER ID	BBPxxx. where xxx represents the band wavelength in nm.
PRODUCT LEVEL	2
DESCRIPTION	Backscattering coefficient of the whole water body, excluding the pure water contribution, and associated error estimates. Closely related to suspended particulate matter (sediments), at 443 nm.
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m ⁻¹
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: 1 channel
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	CASE 1: O3 (443nm) or O6(560nm) CASE 2: O1 (400nm) – O12 (753.5nm), O16 (778.75nm), O17 (865nm), O21 (1020nm)
ANCILLARY AND AUXILIARY DATA	CASE 1: Pre-computed f/Q LUT, \mathfrak{R} LUT, f' and μ^d LUT CASE 2: Neural Net coefficients LUT



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Total Absorption Coefficient

PRODUCT NAME	Total absorption coefficient
PARAMETER ID	ATOT _{xxx} , where xxx represents the band wavelength in nm.
PRODUCT LEVEL	2
DESCRIPTION	Absorption coefficient of the whole water body, excluding the pure water contribution, and associated error estimates, at 443 nm.
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m ⁻¹
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: 1 channel
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	CASE 1: O3 (443nm) or O6(560nm) CASE 2: O1 (400nm) – O12 (753.5nm), O16 (778.75nm), O17 (865nm), O21 (1020nm)
ANCILLARY AND AUXILIARY DATA	CASE 1: Pre-computed f/Q LUT, κ LUT, f' and μ^d LUT CASE 2: Neural Net coefficients LUT



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Phytoplankton Absorption Coefficient

PRODUCT NAME	Phytoplankton absorption coefficient
PARAMETER ID	APHxxx. where xxx represents the band wavelength in nm.
PRODUCT LEVEL	2
DESCRIPTION	Absorption coefficient due to the phytoplankton, and associated error estimates, at 443 nm
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m ⁻¹
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: 1 channel
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O3 (443nm)
ANCILLARY AND AUXILIARY DATA	



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Coloured Dissolved Matter Absorption

PRODUCT NAME	Coloured Dissolved Matter Absorption
PARAMETER ID	ADGxxx. where xxx represents the band wavelength in nm.
PRODUCT LEVEL	2
DESCRIPTION	Absorption of Coloured Detrital and Dissolved Material, and associated error estimates, at 443 nm.
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m ⁻¹
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: 1 channel
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O3 (443nm)
ANCILLARY AND AUXILIARY DATA	Seawater absorption coefficient LUT, particulate absorption coefficient LUT



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Humic Material Absorption Coefficient

PRODUCT NAME	Coloured Dissolved Matter Absorption
PARAMETER ID	ADxxx. where xxx represents the band wavelength in nm.
PRODUCT LEVEL	2
DESCRIPTION	Absorption coefficient due to matter transported by rivers into the coastal sea, and associated error estimates. It comprises non-living particulate organic material, living particles such as bacteria, inorganic minerals and bubbles. at 443 nm
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m ⁻¹
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: 1 channel
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O3 (443nm)
ANCILLARY AND AUXILIARY DATA	



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Algal pigment concentration

PRODUCT NAME	Algal pigment concentration
PARAMETER ID	CHL
PRODUCT LEVEL	2
DESCRIPTION	Chlorophyll-a concentration, and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	mg (chl <i>a</i>) m ⁻³
RANGE	0.01 – 100 mg m ⁻³ (0.01 – 30 when restricting to Case 1 waters)
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	CASE 1: O3 (443nm) to O6 (560nm) CASE 2: O1 (400nm) – O12 (753.5nm), O16 (778.75nm), O17 (865nm), O21 (1020nm)
ANCILLARY AND AUXILIARY DATA	CASE 1: Pre-computed f/Q tables, \mathfrak{R} table, Chl polynomial coefficients. CASE 2: Neural Net coefficients LUT



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Total suspended Matter concentration

PRODUCT NAME	Total Suspended Matter concentration
PARAMETER ID	TSM
PRODUCT LEVEL	2
DESCRIPTION	Total suspended matter concentration, and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	$\text{g} \cdot \text{m}^{-3}$
RANGE	0-100
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O1 (400nm) – O12 (753.5nm), O16 (778.75nm), O17 (865nm), O21 (1020nm)
ANCILLARY AND AUXILIARY DATA	Neural Net coefficients LUT



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Diffuse Attenuation coefficient

PRODUCT NAME	Diffuse Attenuation coefficient
PARAMETER ID	KD490
PRODUCT LEVEL	2
DESCRIPTION	Diffuse attenuation coefficient for downwelling irradiance, and associated error estimates, at 490 nm.
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m ⁻¹
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O4 (490nm) and O6 (560nm)
ANCILLARY AND AUXILIARY DATA	



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Heated Layer depth

PRODUCT NAME	Heated layer depth
PARAMETER ID	ZHL
PRODUCT LEVEL	2
DESCRIPTION	Depth of the water body layer heated by the solar radiation, and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	
ANCILLARY AND AUXILIARY DATA	



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Water Transparency

PRODUCT NAME	Water transparency
PARAMETER ID	ZSD
PRODUCT LEVEL	2
DESCRIPTION	Maximum depth of Secchi disk visibility from Sea surface, and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	m
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	
ANCILLARY AND AUXILIARY DATA	



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Photosynthetically Active Radiation

PRODUCT NAME	Photosynthetically active radiation
PARAMETER ID	PAR
PRODUCT LEVEL	2
DESCRIPTION	Quantum energy flux from the Sun in the spectral range 400-700 nm and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	$\mu\text{Einstein.m}^{-2}.\text{s}^{-1}$
RANGE	
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	
ANCILLARY AND AUXILIARY DATA	



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Aerosol Optical Depth

PRODUCT NAME	Aerosol optical depth
PARAMETER ID	T865
PRODUCT LEVEL	2
DESCRIPTION	Aerosol load, expressed in optical depth at a given wavelength (865 nm), and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	<i>dimensionless</i>
RANGE	0-0.6
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O5 (510nm), O16 (779nm), O17 (865nm)
ANCILLARY AND AUXILIARY DATA	



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Aerosol Angstrom exponent

PRODUCT NAME	Aerosol Angstrom exponent
PARAMETER ID	A865
PRODUCT LEVEL	2
DESCRIPTION	Spectral dependency of the aerosol optical depth, between 779 and 865 nm, and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
LATENCY	NRT, NTC, RP
PACKAGING	half-orbit
UNITS	<i>dimensionless</i>
RANGE	-0.5-2.5
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	1-byte integer
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O5 (510nm), O16 (779nm), O17 (865nm)
ANCILLARY AND AUXILIARY DATA	



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Integrated Water vapour column over Sea

PRODUCT NAME	Integrated Water Vapour Column Over Sea
PARAMETER ID	IWV
PRODUCT LEVEL	2
DESCRIPTION	Total amount of water vapour integrated over an atmosphere column, and associated error estimates
PRODUCT PARAMETERS	
COVERAGE	global
PACKAGING	half-orbit
LATENCY	NRT, NTC, RP
UNITS	kg.m ⁻²
RANGE	1-70
SAMPLING	Spatial 260mx290m (FR) and 1.4kmx1.16km (RR) ; spectral: N/A
FORMAT	2-bytes / sample
APPENDED DATA	Error estimate (1-byte integer)
FREQUENCY	1 product per orbit
SIZE OF PRODUCT	Approx 0.54 GB (FR), 35 MB (RR)
ADDITIONAL INFORMATION	
INPUT BANDS	O18 (885nm), O19 (900nm)
ANCILLARY AND AUXILIARY DATA	Polynomial LUT: illumination/viewing angle, surface type, aerosol optical depth (above water)

Bands per Products

2.8 Récapitulatif de la sensibilité des produits par rapport aux données d'entrée

A l'examen de la description des algorithmes présentés ci-avant, la sensibilité des produits dérivés des luminances marines (i.e. toute abstraction faite des effets de corrections atmosphériques) peut être synthétisée comme dans le tableau ci-dessous.

Produits	413	442,443	488,490	510	551,555,560	620	667,670	709	Chla
Chl1									
Chl2									
SPM									
Kd									
EL560									
Transparence									
YSBPA									

Les cases jaunes correspondent à une sensibilité qui n'est pas connue de manière déterministe. Les cases vertes correspondent à des sensibilités qui peuvent, à l'aide des formulations des sections précédentes s'exprimer de manière quasi-analytique.