|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Serial No | Variable Name | Unit | Category | Source |
| 1 | Chlorophyll-a concentration (CHL) | mg m-3 | Water quality (Nutrient) | [CMEMS](https://data.marine.copernicus.eu/product/OCEANCOLOUR_GLO_BGC_L4_MY_009_104/services) |
| 2 | Micro-phytoplankton | mg m-3 | Water quality (Nutrient) |
| 3 | Nano-phytoplankton | mg m-3 | Water quality (Nutrient) |
| 4 | Pico-phytoplankton | mg m-3 | Water quality (Nutrient) |
| 5 | Diatoms | mg m-3 | Ecology (Planktonic) |  |
| 6 | Dinophytes | mg m-3 | Ecology (Planktonic) |  |
| 7 | Green Algae | mg m-3 | Ecology (Planktonic) |  |
| 8 | Haptophytes | mg m-3 | Ecology (Planktonic) |  |
| 9 | Prokaryotes | mg m-3 | Ecology (Planktonic) |  |
| 10 | Prochlorococcus | mg m-3 | Ecology (Planktonic) |  |
| 11 | Particulate back-scattering coefficient | % | Light |  |
| 12 | Backwards scattering coefficient | m-1 | Light |  |
| 13 | Absorption coefficient due to DOM (CDOM) | m-1 | Light |  |
| 14 | Primary productivity of biomass (C) | mg/m2/day | Water quality (Nutrient) |  |
| 15 | Remote sensing reflectance at 412 nm | Sr-1 | Light |  |
| 16 | Remote sensing reflectance at 443 nm | Sr-1 | Light |  |
| 17 | Remote sensing reflectance at 490 nm | Sr-1 | Light |  |
| 18 | Remote sensing reflectance at 555 nm | Sr-1 | Light |  |
| 19 | Remote sensing reflectance at 670 nm | Sr-1 | Light |  |
| 20 | Volume Attenuation coefficient (KD490) | m-1 | Light |  |
| 21 | Secchi disk depth (ZSD) | m | Light |  |
| 22 | Suspended Particle Matter (SPM) | g/m-3 | Water quality (Nutrient) |  |
| 23 | Water surface temperature | Deg c | Water quality (PhysChm) | [NASA](https://oceancolor.gsfc.nasa.gov/l3/) |
| 24 | Particulate Organic carbon (POC) | mg/m3 | Water quality (Nutrient) |
| 25 | Particulate Inorganic carbon (PIC) | mg/m3 | Water quality (Nutrient) |
| 26 | Diffuse attenuation coefficient (PAR) | m-1 | Light |
| 27 | Heated layer depth, ZSL | m | Light | [ACRI](https://hermes.acri.fr/index.php?class=archive) |
| 28 | Euphotic layer depth, ZEU | m | Light |
| 29 | Air Density | kg/m3 | Meteorology | [CMEMS](https://data.marine.copernicus.eu/product/WIND_GLO_PHY_L4_NRT_012_004/description) |
| 30 | Wind Speed | m/s | Meteorology |
| 31 | Wind-to Direction | degree | Meteorology |
| 32 | Zonal (Eastward) Wind Velocity | m/s | Meteorology |
| 33 | Meridional (Northward) Wind Velocity | m/s | Meteorology |
| 34 | Wind Divergence | 1/s | Meteorology |
| 35 | Wind Curl | 1/s | Meteorology |
| 36 | Wind Stress Magnitude | N/m2 | Meteorology |
| 37 | Sea surface height (sla) | m | Hydrodynamics | [CMEMS](https://data.marine.copernicus.eu/product/SEALEVEL_GLO_PHY_L4_MY_008_047/description) |
| 38 | Sea surface height above geoid, *adt* | m | Hydrodynamics |
| 39 | Surface geostrophic eastward sea water velocity, *ugos* | m/s | Hydrodynamics |
| 40 | Surface geostrophic northward sea water velocity, *vgos* | m/s | Hydrodynamics |
| 41 | Surface geostrophic northward sea water velocity assuming sea level for geoid, *vgosa* | m/s | Hydrodynamics |
| 42 | Sea surface height above sea level, noise | m | Hydrodynamics | [CMEMS](https://data.marine.copernicus.eu/product/SEALEVEL_GLO_PHY_NOISE_L4_STATIC_008_033/services) |

**Satellite Data**

**Model Data**

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| Serial No | Variable No | Unit | Category | Source |
| 1 | Total alkalinity | mol/m3 | Water Quality (Nutrient) | [CMEMS](https://data.marine.copernicus.eu/product/GLOBAL_ANALYSISFORECAST_BGC_001_028/description) |
| 2 | Concentration of chlorophyll | mg/m3 | Water Quality (Nutrient) |
| 3 | Concentration of dissolved inorganic carbon | mol/m3 | Water Quality (Nutrient) |
| 4 | Concentration of dissolved iron | mmol/m3 | Water Quality (Nutrient) |
| 5 | Concentration of nitrate | mmol/m3 | Water Quality (Nutrient) |
| 6 | Net primary production of biomass | mg/m3/day | Water Quality (Nutrient) |
| 7 | Concentration of dissolved molecular oxygen | mmol/m3 | Water Quality (Nutrient) |
| 8 | pH |  | Water Quality (PhysChm) |
| 9 | Concentration of phytoplankton | mmol/m3 | Water Quality (Nutrient) |
| 10 | Concentration of phosphate | mmol/m3 | Water Quality (Nutrient) |
| 11 | Concentration of silicate | mmol/m3 | Water Quality (Nutrient) |
| 12 | Surface partial pressure of carbon dioxide | Pa | Water Quality (PhysChm) |
| 13 | Light attenuation coefficient, KD | m-1 | Light |
| 14 | Eastward sea water velocity (uo) | m/s | Hydrodynamics | [CMEMS](https://data.marine.copernicus.eu/product/GLOBAL_ANALYSISFORECAST_PHY_001_024/description) |
| 15 | Northward sea water velocity (vo) | m/s | Hydrodynamics |
| 16 | Sea water salinity (so) | 10-3 | Water Quality (PhysChm) |
| 17 | Sea water potential temperature (*thetao*) | °C | Water Quality (PhysChm) |
| 18 | Upward sea water velocity, wo | m/s | Hydrodynamics |
| 20 | Ocean mixed layer thickness, sigma theta, *mlotst* | m | Hydrodynamics |
| 21 | Sea water pressure at sea floor, *pbo* | dbar | Hydrodynamics |
| 22 | Surface sea water x velocity due to tide, *utide* | m/s | Hydrodynamics |
| 23 | Surface sea water y velocity due to tide , *vtide* | m/s | Hydrodynamics |
| 24 | Surface sea water x velocity, *utotal* | m/s | Hydrodynamics |
| 25 | Surface sea water y velocity, *vtotal* | m/s | Hydrodynamics |
| 26 | Sea floor depth below geoid, *deptho* | m | Hydrodynamics |
| 27 | Sea water potential temperature vertical mean over pelagic layer, *T* | °C | Ecology (Pelagic) | [CMEMS](https://data.marine.copernicus.eu/product/GLOBAL_MULTIYEAR_BGC_001_033/description) |
| 28 | Eastward sea water velocity vertical mean over pelagic layer, *U* | m/s | Ecology (Pelagic) |
| 29 | Northward sea water velocity vertical mean over pelagic layer, *V* | m/s | Ecology (Pelagic) |
| 30 | Sea water pelagic layer bottom depth, *pelagic\_layer\_depth* | m | Ecology (Pelagic) |
| 31 | epipelagic micronekton | g/m2 | Ecology (Pelagic) |
| 32 | Highly migrant lower mesopelagic micronekton | g/m2 | Ecology (Pelagic) |
| 33 | Lower mesopelagic micronekton | g/m2 | Ecology (Pelagic) |
| 34 | migrant lower mesopelagic micronekton | g/m2 | Ecology (Pelagic) |
| 35 | migrant upper mesopelagic micronekton | g/m2 | Ecology (Pelagic) |
| 36 | Upper mesopelagic micronekton | g/m2 | Ecology (Pelagic) |
| 37 | Net primary productivity of biomass | mg/m2/day | Water Quality (Nutrient) |
| 38 | Euphotic zone depth | m | Light |
| 39 | Zooplankton | g/m2 | Water Quality (Nutrient) |
| 40 | Sea surface wave maximum height, *VCMX* | m | Hydrodynamics | [CMEMS](https://data.marine.copernicus.eu/product/GLOBAL_ANALYSISFORECAST_WAV_001_027/description) |
| 41 | Sea surface wave significant height, *VHM0* | m | Hydrodynamics |
| 42 | Sea surface primary swell wave significant height, *VHM0\_SW1* | m | Hydrodynamics |
| 43 | Sea surface secondary swell wave significant height, *VHM0\_SW2* | m | Hydrodynamics |
| 44 | Sea surface wind wave significant height, *VHM0\_WW* | m | Hydrodynamics |
| 45 | Sea surface wave from direction, *VMDR* | ° | Hydrodynamics |
| 46 | Sea surface primary swell wave from direction, *VMDR\_SW1* | ° | Hydrodynamics |
| 47 | Sea surface secondary swell wave from direction, *VMDR\_SW2* | ° | Hydrodynamics |
| 48 | Sea surface wind wave from direction, *VMDR\_WW* | ° | Hydrodynamics |
| 49 | Sea surface wave from direction at variance spectral density maximum, *VPED* | ° | Hydrodynamics |
| 50 | Sea surface wave stokes drift x velocity, *VSDX* | m/s | Hydrodynamics |
| 51 | Sea surface wave stokes drift y velocity, *VSDY* | m/s | Hydrodynamics |
| 52 | Sea surface primary swell wave mean period, *VTM01\_SW1* | s | Hydrodynamics |
| 53 | Sea surface secondary swell wave mean period, *VTM01\_SW2* | s | Hydrodynamics |
| 54 | Sea surface wind wave mean period, *VTM01\_WW* | s | Hydrodynamics |
| 55 | Sea surface wave mean period from variance spectral density second frequency moment, *VTM02* | s | Hydrodynamics |
| 56 | Sea surface wave mean period from variance spectral density inverse frequency moment, *VTM10* | s | Hydrodynamics |
| 57 | Sea surface wave period at variance spectral density maximum, *VTPK* | s | Hydrodynamics |