

Supplement of State Planet, 4-osr8, 1, 2024
<https://doi.org/10.5194/sp-4-osr8-1-2024-supplement>
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Supplement of

The state of the global ocean

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Product Tables

Sea surface temperature (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
SST.1	SST_GLO_SST_L4_REP_OBSERVATIONS_010_011 (OSTIA), satellite observations	EU Copernicus Marine Service Product (2023a)	Quality Information Document (QUID): Worsfold et al. (2023) Product User Manual (PUM): Worsfold et al. (2022)
SST.2	SST_GLO_SST_L4_NRT_OBSERVATIONS_010_001 (OSTIA-NRT), satellite observations	EU Copernicus Marine Service Product (2023b)	QUID: Briand et al. (2023) PUM: Martin et al. (2023)
SST.3	SST_GLO_SST_L4_REP_OBSERVATIONS_010_024 (ESA-CCI), satellite observations	EU Copernicus Marine Service Product (2021a)	QUID: Good (2021) PUM: Good (2022)
SST.4	Optimum Interpolation Sea Surface Temperature (OISST), satellite observations	Huang et al. (2020)	Banzon et al. (2016)
SST.5	Multivariate El Niño/Southern Oscillation Index Version 2 (MEI.v2), climate index	MEI.v2 (2024)	MEI.v2 (2024)
SST.6	OMI_CLIMATE_SST_NORTHWESTSHELF_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023c)	QUID: Autret (2023a) PUM : Autret (2023b)
SST.7	OMI_CLIMATE_SST_IBI_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023d)	QUID : Autret (2023c) PUM : Autret (2023d)
SST.8	OMI_CLIMATE_SST_BAL_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023e)	QUID : Karagali et al. (2023a) PUM : Karagali et al. (2023b)
SST.9	MEDSEA_OMI_TEMP_SAL_sst_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2022a)	QUID : Pisano et al. (2022a) PUM : Pisano et al. (2022b)
SST.10	BLKSEA_OMI_TEMP_SAL_sst_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2022b)	QUID : Pisano et al. (2022c) PUM : Pisano et al. (2022d)

Ocean heat content (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
OHC.1	Institute of Atmospheric Physics (IAP) ocean subsurface temperature, in-situ observations	(IAP, 2024)	(Cheng et al., 2017; Cheng & Zhu, 2016)
OHC.2	NOAA/NESDIS/NCEI Ocean Climate Laboratory, temperature anomaly fields, in-situ observations	(NOAA, 2024)	(Levitus et al., 2012)
OHC.3	INSITU_GLO_PHY_TS_OA_MY_013_052 (CORA gridded), in-situ observations	EU Copernicus Marine Service Product (2023f)	QUID : Szekely (2023a) PUM : Szekely (2023b)
OHC.4	EN.4.2.2.c14	(<i>Met Office Hadley Centre Observations Datasets</i> , n.d.)	(Cheng et al., 2014; Good et al., 2013; Gouretski & Cheng, 2020)
OHC.5		(Minière et al., 2023)	(Minière et al., 2023)
OHC.6	GCOS Global Ocean Heat Content, in-situ observations, satellite observations and numerical models	(von Schuckmann et al., 2023)	(Von Schuckmann et al., 2023)
OHC.7	GLOBAL_OMI_OHC_area_averaged_anomalies_0_2000, numerical models	EU Copernicus Marine Service Product (2021b)	QUID : von Schuckmann et al. (2021) PUM : Monier et al. (2021)
OHC.8	GLOBAL_REANALYSIS_PHY_001_031 (GREP), numerical models	EU Copernicus Marine Service Product (2023g)	QUID : Desportes et al. (2023) PUM : Gounou et al. (2023)
OHC.9	BALTIC_OMI_OHC_area_averaged_anomalies, numerical models	EU Copernicus Marine Service Product (2023h)	QUID : Raudsepp et al. (2023a) PUM : Maljutenko et al. (2023a)

OHC.10	OMI_CLIMATE_OHC_BLKSEA_area_averaged_anomalies, numerical models and in-situ observations	EU Copernicus Marine Service Product (2023i)	QUID : Lima et al. (2023) PUM : Lima and Lecci (2023)
OHC.11	MEDSEA_OMI_OHC_area_averaged_anomalies, numerical models and in-situ observations	EU Copernicus Marine Service Product (2022c)	QUID : Lyubartsev et al. (2023) PUM : Lyubartsev and Clementi (2023)
OHC.12	OMI_CLIMATE_OHC_IBI_area_averaged_anomalies, in-situ observations and numerical models	EU Copernicus Marine Service Product (2023j)	QUID : de Pascual et al. (2023X) PUM : de Pascual et al. (2022X)

Sea level (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
SL.1	GLOBAL_OMI_SL_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023k)	QUID : Veillard et al. (2023a) PUM : Taburet (2023a)
SL.2	GLOBAL_OMI_SL_regional_trends, satellite observations	EU Copernicus Marine Service Product (2023l)	QUID : Veillard et al. (2023b) PUM : Taburet (2023b)
SL.3	NORTHWESTSHELF_OMI_SL_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023m)	QUID : Veillard et al. (2023c) PUM : Taburet (2023c)
SL.4	IBI_OMI_SL_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023n)	QUID : Veillard et al. (2023d) PUM : Taburet (2023d)
SL.5	BALTIC_OMI_SL_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023o)	QUID : Veillard et al. (2023e) PUM : Taburet (2023e)
SL.6	MEDSEA_OMI_SL_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023p)	QUID : Veillard et al. (2023f) PUM : Taburet (2023f)
SL.7	BLKSEA_OMI_SL_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service Product (2023q)	QUID : Veillard et al. (2023g) PUM : Taburet (2023g)

The ocean in the cryosphere (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
SI.1	ARCTIC_OMI_SI_extent_obs, satellite observations OSI SAF Sea ice index 1978-onwards, version 2.2 (2023), OSI-420. EUMETSAT Ocean and Sea Ice Satellite Application Facility.	EU Copernicus Marine Service (2019a)	QUID : Lavergne et al. (2019a) PUM : Lavergne (2023)
SI.2	ANTARCTIC_OMI_SI_extent_obs, satellite observations OSI SAF Sea ice index 1978-onwards, version 2.2 (2023), OSI-420. EUMETSAT Ocean and Sea Ice Satellite Application Facility.	EU Copernicus Marine Service (2019b)	QUID : Lavergne et al. (2019b) PUM : Lavergne and Wettre (2023)
SI.3	GLOBAL_MULTIYEAR_PHY_001_030, numerical models	EU Copernicus Marine Service (2023r)	QUID : Dréville et al (2023a) PUM : Dréville et al (2023b)
SI.4	GLOBAL_ANALYSISFORECAST_PHY_001_024	EU Copernicus Marine Service (2023s)	QUID : Lellouche et al (2023) PUM : Le Galloudec et al (2023)
SI.5	OMI_CLIMATE_SST_INDEX_ARCTIC_area_averaged_anomalies, satellite observations	EU Copernicus Marine Service (2023t)	QUID : Karagali et al (2023c) PUM : Karagali et al (2023d)
SI.6	OMI_CLIMATE_SST_INDEX_ARCTIC_trend, satellite observations	EU Copernicus Marine Service (2023u)	QUID : Karagali et al (2023e) PUM : Karagali et al (2023f)

SI.7	BALTIC_OMI_SI_exten t, satellite observations	EU Copernicus Marine Service (2023v)	QUID : Maljutenko et al. (2023b) PUM : Raudsepp et al. (2023b)
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Ocean acidification (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
OA.1	GLOBAL_OMI_HEALTH H_carbon_ph_trend, In- situ observations	EU Copernicus Marine Service Product (2023w)	Quality Information Document (QUID): Chau et al. (2023a) Product User Manual (PUM): Chau et al. (2023b)
OA.2	GLOBAL_OMI_HEALTH H_carbon_ph_area_aver aged, In-situ observations	EU Copernicus Marine Service Product (2023x)	QUID: Chau et al. (2023c) PUM: Chau et al. (2023d)
OA.3	MULTIOBS_GLO_BIO _CARBON_SURFACE_ REP_015_008, In-situ observations	EU Copernicus Marine Service Product (2023y)	QUID: Chau et al. (2023e) PUM: Chau et al. (2023f)

Ocean variability (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
OV.1	GLOBAL_OMI_CLIMV AR_enso_sst_area_avera ged_anomalies, numerical models	EU Copernicus Marine Service Product (2022d)	QUID : Drevillon and Gues (2022a) PUM : Gounou et al. (2022)
OV.2	GLOBAL_OMI_NATL ANTIC_amoc_max26N_ timeseries, numerical models	EU Copernicus Marine Service Product (2022e)	QUID : Jackson et al. (2022a) PUM : Jackson et al (2022b)
OV.3	OMI_CIRCULATION_ MOC_MEDSEA_area_a veraged_mean, numerical models	EU Copernicus Marine Service Product (2023z)	QUID : Lyubartsev et al. (2023a) PUM : Lyubartsev et al. (2023a)
OV.4	MEDSEA_MULTIYE A_R_PHY_006_004, numerical models	EU Copernicus Marine Service Product (2022f)	QUID : Escudier et al. (2022)

			PUM : Lecci et al. (2022)
OV.5	OMI_CIRCULATION_VOLTRANS_ARCTIC_averaged, numerical models	EU Copernicus Marine Service Product (2022g)	QUID : Raj et al. (2022a) PUM : Raj et al. (2022b)
OV.6	BALTIC_OMI_WMHE_mbi_bottom_salinity_arkona_bornholm, numerical models, in situ observations and satellite observations	EU Copernicus Marine Service Product (2023aa)	QUID : Raudsepp et al. (2023c) PUM : Raudsepp et al. (2023d)
OV.7	BALTIC_OMI_WMHE_mbi_sto2tz_gotland, numerical models, in situ observations and satellite observations	EU Copernicus Marine Service Product (2023ab)	QUID : Raudsepp et al. (2023e) PUM : Raudsepp et al. (2023f)

Ocean marine heatwaves (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
MHW.1	General Bathymetric Chart of the Oceans (GEBCO_2023 sub-ice bathymetry), in situ and satellite observations	(GEBCO Compilation Group, 2023b)	(GEBCO Compilation Group, 2023a)
MHW.2	EMODnet – Human Activities Marine Finfish aquaculture sites of production in Europe	(EMODnet Product Catalogue, 2021)	(EMODnet Product Catalogue, 2021)
MHW.3	EMODnet – Human Activities Marine Shellfish aquaculture sites of production in Europe	(EMODnet Product Catalogue, 2022)	(EMODnet Product Catalogue, 2022)

Ocean wind extremes (global and regional sections)

Product ref. No.	Product ID and type	Data access	Documentation
Wind.1	WIND_GLO_PHY_L3_MY_012_005, Satellite observations	EU Copernicus Marine Service (2023ac)	QUID: Driesenaar et al., 2023a PUM: Driesenaar et al., 2023b

Wind.2	European Centre for Medium-Range Weather Forecasts (ECMWF) ERA5 Reanalysis, Numerical models Parameter used: hourly 850hPa relative vorticity	Hersbach et al. (2023)	Hersbach et al. (2023)
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