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Supplement of

Coccolithophore fluxes in the open tropical North Atlantic: influence of thermocline depth, Amazon water, and Saharan dust

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List of oceanographic and meteorological parameters obtained from satellite imagery, and respective sensors, downloaded products and resolution of the downloaded data.

Parameter	Acronym	Units	Sensor	Product	Resolution	Source	Reference
Chlorophyll	Chl- <i>a</i>	mg m ⁻³	MODIS-Aqua	L2-daily	1 km	https://oceancolor.gsfc.nasa.gov/cgi/browse.pl?sen=am https://oceancolor.gsfc.nasa.gov/cgi/browse.pl?sen=am	OBPG 2014; Hu et al. 2012
				L3-monthly	4km	https://oceancolor.gsfc.nasa.gov/cgi/13	
Sea Surface Temperature	SST	°C	MODIS-Aqua	L2-daily	1 km	https://oceancolor.gsfc.nasa.gov/cgi/browse.pl?sen=am	OBPG 2014; Frouin et al. 2003 & 2012
Photosynthetic Available Radiation	PAR	Einstein m ⁻² d ⁻¹	MODIS-Aqua	L2-daily	1 km	https://oceancolor.gsfc.nasa.gov/cgi/browse.pl?sen=am	OBPG 2014; Brown and Minnett (1999)
Aerosol Optical Depth	AOD	none	MODIS-Aqua	L2-daily	10 km	https://ladsweb.modaps.eosdis.nasa.gov/search/order/1/MYD04_L2--6	Levy, R., Hsu, C., et al., 2015.
Precipitation	Prec	mm day ⁻¹	multiple	L3-daily	0.25°	https://disc.gsfc.nasa.gov/datasets/TRMM_3B42RT_Daily_7/summary	Goddard Earth Sciences Data and Information Services Center (2016); Huffman et al. 2007; Xie and Arkin, 1997
Sea Surface Salinity and Wind Speed	SSS WSp	none m s ⁻¹	Aquarius	L3-daily	1°	https://podaac.jpl.nasa.gov/dataset/AQUARIUS_L3_WIND_SPEED_SMI_DAILY_V4 & https://podaac.jpl.nasa.gov/dataset/AQUARIUS_L3_SSS_SMI_DAILY_V4	NASA Aquarius project, 2015a & 2015b; Lee et al. 2012

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Taxonomy of coccolithophores

For taxonomic references, see Jordan et al. (2004)

Kingdom CHROMISTA Cavalier-Smith, 1986

Division HAPTOPHYTA Hibberd, 1972

Class PRYMNESIOPHYCEAE Hibbert, 1976 emend. Cavalier-Smith et al., 1996

Order COCCOLITHALES Schwartz, 1932 emend. Edvardsen et al., 2000

Family CALCIDISCACEAE Young and Bown, 1997

Genus *Calcidiscus* Kamptner, 1950

Calcidiscus leptoporus (Murray and Blackman, 1898) Loeblich and Tappan, 1978

Genus *Hayaster* Bukry 1973

Hayaster perplexus (Bramlette and Riedel 1954) Bukry 1973

Genus *Oolithotus* Reinhardt in Cohen and Reinhardt 1968

Oolithotus antillarum (Cohen 1964) Reinhardt in Cohen and Reinhardt 1968

Oolithotus fragilis (Lohmann 1912) Martini and Müller 1972

Genus *Umbilicosphaera* Lohmann, 1902

Umbilicosphaera anulus (Lecal 1967) Young and Geisen in Young et al. 2003

Umbilicosphaera foliosa (Kamptner 1963 ex Kleijne 1993) Geisen in Sáez et al. 2003b

Umbilicosphaera hulburtiana Gaarder 1970

Umbilicosphaera sibogae (Weber-van Bosse 1901) Gaarder 1970

Order ISOCHRYSIDALES Pascher, 1910 emend. Edvardsen and Eikrem in Edvardsen et al., 2000

Family NOELAERHABDACEAE Jerkovic, 1970 emend. Young and Bown, 1997

Genus *Emiliana* Hay and Mohler in Hay et al., 1967

Emiliana huxleyi (Lohmann, 1902) Hay and Mohler, 1967

Genus *Gephyrocapsa* Kamptner, 1943

Gephyrocapsa ericsonii McIntyre and Bé, 1967

Gephyrocapsa muelleriae Bréhéret, 1978

Gephyrocapsa oceanica Kamptner, 1943

Genus *Reticulofenestra* Hay et al. 1966

Reticulofenestra sessilis (Lohmann 1912) Jordan and Young 1990

Order SYRACOSPHAERALES Hay, 1977 emend. Young et al., 2003

Family CALCIOSOLENIACEAE Kamptner 1937

Genus *Calciosolenia* Gran 1912; emend. Young et al. 2003 (35)

Calciosolenia brasiliensis (Lohmann 1919) Young in Young et al. 2003

Calciosolenia murrayi Gran 1912

Family RHABDOSPHAERACEAE Haeckel 1894

Genus *Acanthoica* Lohmann 1903; emend. Schiller 1913, Kleijne 1992

Acanthoica quattropsina Lohmann 1903

Genus *Algirosphaera* Schlauder 1945; emend. Norris 1984

Algirosphaera robusta (Lohmann 1902) Norris 1984

Genus *Discosphaera* Haeckel 1894

Discosphaera tubifera (Murray and Blackman 1898) Ostfeld 1900

Genus *Palusphaera* Lecal 1966a; emend. Norris 1984

Palusphaera vandellii Lecal 1966a; emend. Norris 1984

Genus *Rhabdosphaera* Haeckel 1894

Rhabdosphaera clavigera Murray and Blackman 1898

Rhabdosphaera clavigera Murray and Blackman 1898

Rhabdosphaera xiphos (Deflandre and Fert 1954) Norris 1984

Family SYRACOSPHAERACEAE (Lohmann, 1902) Lemmermann, 1903

Genus *Ophiaster* Gran 1912; emend. Manton and Oates 1983b

Genus *Syracosphaera* Lohmann, 1902

Syracosphaera anthos (Lohmann 1912) Janin 1987

Syracosphaera lamina Lecal-Schlauder 1951

Syracosphaera molischii Schiller 1925
Syracosphaera pulchra Lohmann, 1902

GENERA INCERTAE SEDIS

Families with possible affinities to the Syracosphaerales

Family ALISPHAERACEAE Young, Kleijne and Cros in Young et al. 2003

Genus *Alisphaera* Heimdal 1973; emend. Jordan and Chamberlain 1993a; Kleijne et al. 2002

Alisphaera unicornis Okada and McIntyre 1977

Family UMBELLOSPHAERACEAE Young and Kleijne in Young et al. 2003

Genus *Umbellosphaera* Paasche in Markali and Paasche 1955

Umbellosphaera irregularis Paasche in Markali and Paasche 1955

Umbellosphaera tenuis (Kamptner 1937) Paasche in Markali and Paasche 1955

Genera with possible affinities with the Syracosphaerales

Genus *Coronosphaera* Gaarder in Gaarder and Heimdal 1977

Coronosphaera mediterranea (Lohmann 1902) Gaarder in Gaarder and Heimdal 1977

Order ZYGODISCALES Young and Bown, 1997

Family HELICOSPHAERACEAE Black, 1971 emend. Jafar and Martini, 1975

Genus *Helicosphaera* Kamptner, 1954

Helicosphaera carteri (Wallich 1877) Kamptner 1954

Helicosphaera hyalina Gaarder 1970

Helicosphaera wallichii (Lohmann 1902) Okada and McIntyre 1977

Family PONTOSPHAERACEAE Lemmermann 1908

Genus *Pontosphaera* Lohmann 1902

Pontosphaera multipora (Kamptner 1948) Roth 1970

Pontosphaera syracusana Lohmann 1902

Genus *Scyphosphaera* Lohmann 1902

Scyphosphaera apsteinii Lohmann 1902

HOLOCOCOLITH-BEARING TAXA

Family CALYPTROSPHAERACEAE Boudreaux and Hay 1969

Genus *Syracolithus* (Kamptner 1941) Deflandre 1952

Syracolithus dalmaticus (Kamptner 1927) Loeblich Jr. and Tappan 1966

Syracolithus schilleri (Kamptner 1927) Kamptner 1956

NANNOLITH-BEARING FAMILIES

Family CERATOLITHACEAE Norris 1965

Genus *Ceratolithus* Kamptner 1950

Ceratolithus cristatus Kamptner 1950

NANNOLITH-BEARING GENERA INCERTAE SEDIS

Genus *Florisphaera* Okada and Honjo 1973

Florisphaera profunda var. *elongata* Okada and McIntyre 1980

Florisphaera profunda Okada and Honjo 1973 var. *profunda*

Genus *Gladiolithus* Jordan and Chamberlain 1993b

Gladiolithus flabellatus (Halldal and Markali 1955) Jordan and Chamberlain 1993b