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Supplement of

A comprehensive global ocean radiocarbon dataset (1700–2024) for climate applications

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Supplementary Materials: A Comprehensive Global Ocean Radiocarbon Dataset (1700–2024) for Climate Applications

This supplementary material accompanies the ESSD manuscript, *A Comprehensive Global Ocean Radiocarbon Dataset (1700–2024) for Climate Applications* (Mamnun et al.).

Table S1: Hydrographic cruises with ship-based DIC $\Delta^{14}C$ obtained from the CLIVAR and Carbon Hydrographic Data Office (CCHDO) and included in this compilation but not already represented in GLODAP (Olsen et al., 2016; Lauvset et al., 2024; Lange et al., 2026). Entries comprise (i) cruise occupations absent from the GLODAP radiocarbon product and (ii) individual bottle samples restored from CCHDO for occupations that are present in GLODAP but incompletely included there.

Line (Year)	**Expocode**	**Period**	**Vessel**	**Reference**
Occupations absent from GLODAP (full cruise or station-only)				
P01 (1999)	49NZ199909_2	30 Sep – 01 Oct 1999	R/V Mirai	JAMSTEC (2024a)
P21 (2009)	49NZ20090410	14 Apr – 01 Jun 2009	R/V Mirai	Uchida et al. (2011)
A09.5 (2018)	740H20180228	28 Feb – 10 Apr 2018	RRS James Cook	King (2022)
P02W (2022)	33RR20220430	30 Apr – 10 Jun 2022	Roger Revelle	Tan and Macdonald (2025)
P02E (2022)	33RR20220613	13 Jun – 16 Jul 2022	Roger Revelle	Bigorre and Thurnherr (2025)
A16N leg 1 (2023)	33RO20230306	6 Mar – 7 Apr 2023	Ronald H. Brown	Erickson and Schockman (2025)
A16N leg 2 (2023)	33RO20230413	13 Apr – 9 May 2023	Ronald H. Brown	Barbero and Cimoli (2025)
I08S (2024)	325020240221	21 Feb – 01 Apr 2024	Thomas G. Thompson	Schockman and Bigorre (2025)
Bottles restored from CCHDO for occupations present in GLODAP but incompletely ingested				
P03 (2005)	49NZ20051127	27 Nov 2005 – 17 Jan 2006	R/V Mirai	JAMSTEC (2024b)
P06E (2010)	318M20100105	5 Jan – 10 Feb 2010	Melville	Curry (2025)
P13 (2011)	49UP20110515	15 May – 26 Aug 2011	Ryofu Maru	Nakano (2024)
A22 (2012)	33AT20120324	24 Mar – 17 Apr 2012	Atlantis	Curry (2023)
A20 (2012)	33AT20120419	19 Apr – 15 May 2012	Atlantis	McCartney (2023)
A16N (2013)	33RO20130803	03 Aug – 03 Oct 2013	Ronald H. Brown	Baringer and Bullister (2025)
P15S (2016)	096U20160426	26 Apr – 22 Jun 2016	Investigator	Sloyan and Wijffels (2026)
P06W (2017)	320620170703	03 Jul – 17 Aug 2017	Nathaniel B. Palmer	Rosso and Mecking (2025)
S04P (2018)	320620180309	9 Mar – 14 May 2018	Nathaniel B. Palmer	Briggs and Macdonald (2024)
I07N (2018)	33RO20180423	23 Apr – 06 Jun 2018	Ronald H. Brown	Menezes and Volkov (2023)
I06S (2019)	325020190403	03 Apr – 14 May 2019	Thomas G. Thompson	Rosso and Orsi (2023)

Table S2: GO-SHIP hydrographic cruises with DIC Δ^{14}C data received directly from contributing authors, not publicly archived at the time of compilation.

Line (Year)	Expocode	Period	Vessel	Reference
A25 (2018)	35HT20180611A	11 Jun – 14 Jul 2018	Thalassa	Castrillejo et al. (2026a)
A05 (2020)	740H20200119	19 Jan – 1 Mar 2020	RRS James Cook	Castrillejo et al. (2026b)

Table S3: Peer-reviewed seawater DIC Δ^{14}C literature sources included in this compilation but not in GLODAPv2.2023. Measurements were transcribed from tables, appendices, or public repositories, converted to WOCE Exchange–compatible fields where needed, and harmonized following Stuiver and Polach (1977). The dataset name column gives the short label used in the compilation CSVs.

Dataset name	Period	Region	Notes	Reference
NZOI Foundational South-West Pacific Section	1956–1958	Central Pacific N–S transect	Data reported in enrichment vs NZ Wood Standard	Burling and Garner (1959)
Anton Dohrn–Aranda Nordic–Arctic Profiles	1957	Nordic Seas, Baltic, N. Atlantic, Arctic	Multi-depth stations	Fonselius and Östlund (1959)
Multi-basin WOCE precursors	1955–1959	Caribbean, N. Atlantic, N. Pacific, Columbia Basin	Vertical profiles	Broecker and Olson (1961)
Ostlund–Engstrand Bay of Biscay–Norwegian Sea Profiles	1958–1959	Bay of Biscay, Norwegian Sea	Small early dataset	Östlund and Engstrand (1963)
Rafter South Pacific Surface Snapshot 1958	1958	South Pacific	Surface only; δ^{14}C converted to Δ^{14}C	Toggweiler et al. (1991)
Broecker–Gerard Mediterranean DIC Profiles	1956–1958	Mediterranean Sea	Vertical profiles	Broecker and Gerard (1969)
Rafter–O'Brien South Pacific Surface Series I	1968–1969	South Pacific	Surface only; δ^{14}C converted to Δ^{14}C	Rafter and O'Brien (1970)
Vogel Southampton–Cape Town Surface Transect	1967	North Atlantic	Surface only	Vogel (1970)
Vogel–Marais Southern Hemisphere Surface Series	1961–1970	South Atlantic, Indian Ocean	Surface only; % modern converted to Δ^{14}C	Vogel and Marais (1971)
Rafter–O'Brien South Pacific Surface Series II	1969–1971	South Pacific	Surface only; δ^{14}C converted to Δ^{14}C	Rafter and O'Brien (1972)
Delibrias Southern Indian Ocean Profiles	1973–1975	Southern Indian Ocean	Vertical profiles	Delibrias (1980)
NW Pacific CYGNUS 11	1980	Northwestern Pacific	Table 1 transcription	Gamo et al. (1987)
Arctic Ocean ice camps 1979–85	1979–1985	Arctic Ocean	LOREX, CESAR, and AIWEX profiles	Östlund et al. (1987)
Druffel Central North Pacific Section	1985	Central North Pacific	Section profiles	Druffel et al. (1989)

Dataset name	Period	Region	Notes	Reference
Macdonald–Carmack Canada Basin Deep Profiles	1989	Canada Basin	Deep profiles	Macdonald and Carmack (1991)
Druffel Twin-Gyre Profiles 1987–91	1987–1991	North Central Pacific, Sargasso Sea	Vertical profiles	Druffel et al. (1992)
Sparks South Pacific STCZ Profiles	1987–1989	South Pacific subtropical convergence zone	Vertical profiles	Sparks et al. (1992)
Williams Santa Monica Basin Profiles	1987	Santa Monica Basin, California	Small profile set	Williams et al. (1992)
Polar Star Canada Basin Profiles	1992	Canada Basin	Polar Star 1992 profiles	Jones et al. (1994)
ARCTIC-91 (ARK-VIII/3) 1987–91	1987–1991	Amundsen, Makarov, and Nansen basins	Deep Arctic Ocean profiles	Schlosser et al. (1994)
Tsunogai NPIW Repeat Sections	1983–1991	North Pacific	Repeat occupations	Tsunogai et al. (1995)
Gulf of Mexico and Mediterranean outflow	1992–1993	Gulf of Mexico, Mediterranean outflow, subtropical N. Atlantic	24°N transect profiles	Severinghaus et al. (1996)
Arctic Ocean Section (AOS) 1994 Canada Basin 1994	1994	Canada Basin, Makarov Basin	AOS94 trans-Arctic section	Schlosser et al. (1997)
Bauer Eastern North Pacific Margin Transect	1995	Eastern North Pacific margin	Three-station abyssal-to-slope transect	Bauer et al. (1998)
Station M Deep-Water Profile Time Series	1991–1996	California Current	Vertical profiles at long-term site	Masiello et al. (1998)
Global surface cargo-ship series	1965–1994	Atlantic, Indian, and Pacific oceans	Surface-only time series; large multi-year set	Nydal et al. (1998)
Bhushan Arabian Sea Profiles	1994–1995	Arabian Sea	Vertical profiles	Bhushan et al. (2000)
Aramaki SW North Pacific Profiles 1997	1997	Southwestern North Pacific	Vertical profiles	Aramaki et al. (2001)
Kumamoto NW North Pacific Profiles	1997–1998	Northwestern North Pacific	Table 1 transcription	Kumamoto et al. (2002)
Leboucher Australia–Bali Indian Ocean Section	1989	Eastern Indian Ocean	Meridional section	Leboucher et al. (2004)
Povinec SW North Pacific Profiles 1997	1997	Southwestern North Pacific	Vertical profiles	Povinec et al. (2004)
Guilderson Gulf of Alaska Profiles	2002	Gulf of Alaska	Vertical profiles	Guilderson et al. (2006)
Druffel Twin-Gyre Reoccupation 1999–2000	1999–2000	North Central Pacific, Sargasso Sea	Vertical profiles	Druffel et al. (2008)

Dataset name	Period	Region	Notes	Reference
Station M Surface Radiocarbon Time Series	1996–2004	California Current	Surface-only time series; cruise means from Table 1	Druffel et al. (2010)
Dutta Bay of Bengal Surface Survey	2006	Bay of Bengal	Surface only	Dutta et al. (2010)
Newport Beach time series 2004–08	2004–2008	Southern California Bight	Surface-only time series	Hinger et al. (2010)
Newport Beach time series 2008–10	2008–2010	Southern California Bight	Surface-only time series	Santos et al. (2011)
Tsuboi Kuroshio Profile Survey	2005–2006	Kuroshio region, southern Japan	Vertical profiles	Tsuboi et al. (2011)
Hill California margin seamount profiles	2004	California margin	Deep Niskin DIC samples near bamboo-coral sites; Table 3 transcription	Hill et al. (2011)
Drake Passage Radiocarbon (Δ^{14}C) of DIC	2006–2010	Drake Passage	Separate export from Guilderson et al. (2006)	Guilderson et al. (2012)
Dutta–Bhushan Northern Indian Ocean Compilation	1993–2012	Arabian Sea, Bay of Bengal, Andaman Sea	Merged Dutta (2001) and Bhushan (2012) records	Dutta and Bhushan (2012)
Joint Ocean Ice Study (JOIS) 2008	2008	Canada Basin, Arctic	Vertical profiles	Griffith et al. (2012)
Historical observations prior to GEOSECS	1955–1975	Global (multi-basin)	Compiled early DIC Δ^{14}C data from Bien et al. (1960); Broecker et al. (1960); Fairhall and Young (1985); Linick (1978); Bien et al. (1965)	Graven et al. (2012)
Ge East China Sea Shelf–Slope Profiles	2014	East China Sea	Shelf and slope profiles	Ge et al. (2016)
Santa Barbara and Santa Monica 2012–13	2012–2013	California Borderland	Small profile set	Komada et al. (2016)
Arctic Amundsen and Beaufort 2009–12	2009–2012	Arctic Ocean	Vertical profiles	Druffel et al. (2017)
Northern Gulf of Mexico 2011–12	2011–2012	Northern Gulf of Mexico	Multi-site profiles	Chanton (2018)
Ding Kuroshio Extension Profiles	2015	Northwestern Pacific	Vertical profiles	Ding et al. (2018)
Hudson Canyon margin 2014	2014	US Atlantic margin	Margin profiles	Garcia-Tigreros and Kessler (2018)
North Pacific surface 2004–16	2004–2016	North Pacific	Surface-only time series; supplement table OCR	Aramaki et al. (2019)

Dataset name	Period	Region	Notes	Reference
Gao South China Sea Surface Survey	2014	South China Sea	Surface only	Gao et al. (2019)
Western Coral Sea 2017	2017	Western Coral Sea	Vertical profiles	Servettaz et al. (2019)
HOT and BATS DOM study	2014–2016	N. Pacific subtropical gyre, Sargasso Sea	Vertical profiles	Broek et al. (2020)
Ding South China Sea Repeat Profiles	2015–2019	South China Sea	Repeat occupations	Ding et al. (2020)
Kaizer Western North Pacific Meridional Section	2012	Western North Pacific	Meridional section	Kaizer et al. (2020)
Eastern tropical Indian Ocean 2014	2014	Eastern tropical Indian Ocean	Vertical profiles	Gao et al. (2021)
Mid-Atlantic Bight 2017	2017	US Mid-Atlantic Bight	Margin profiles	Garcia-Tigreros et al. (2021)
Ge Western North Pacific P1 Section	2019	Western North Pacific	Section profiles	Ge et al. (2022)
Niu South China Sea Profile Snapshot	2015	South China Sea	Small profile set	Niu et al. (2022)
Baffin Bay 2019	2019	Baffin Bay	Vertical profiles	Zeidan et al. (2022)
Lan Tokara Strait Profiles 2022	2022	Western Pacific (Korea)	Vertical profiles	Lan et al. (2023)
North Pond MAR 2012–17	2012–2017	Mid-Atlantic Ridge	Deep borehole-fluid profiles	Girguis and Shah Walter (2024)
Newport Beach time series 2011–22	2011–2022	Southern California Bight	Surface-only time series	Hauksson et al. (2024)
Lan Kuroshio Repeat Profiles 2022	2022	Northwestern Pacific	Multi-station profiles	Lan et al. (2024)
Grotheer Antarctic Peninsula Profiles	2022	Southern Ocean	Small profile set	Grotheer et al. (2025)
Jasperse Canadian Arctic Section Profiles	2019–2021	Canadian Arctic	Section profiles	Jasperse et al. (2025)

Table S4: Coral $\Delta^{14}C$ records included in this compilation. Type distinguishes scleractinian (shallow-water hermatypic zooxanthellate and azooxanthellate) from octocoral records whose calcitic skeletons record ambient seawater $\Delta^{14}C$. Proteinaceous (gorgonin) octocoral series are not included. Locations, coordinates, depths, and record durations are taken from the source publications and associated metadata.

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Scleractinian	*Porites lutea*	Hon Tre Island, Vietnam, South China Sea	12°13'N, 109°18'E	2.5	1700–1950	Goodkin et al. (2019)
Scleractinian	*Montastrea annularis*	Rocks Reef, Florida Keys, USA	24°57'N, 80°33'W	5	1700.5–1978	Druffel (1989)
Scleractinian	*Montastrea annularis*	Rocks Reef, Florida Keys, USA	24°57'N, 80°33'W	5	1702.3–1975	Druffel (1989)
Scleractinian	*Porites australiensis*	Abraham Reef, Great Barrier Reef, Australia	22°06'S, 153°E	5	1703.3–1991.1	Druffel and Griffin (1993)
Scleractinian	*Enallopsammia rostrata*	Bermuda, North Atlantic	32°54'N, 64°42'W	1410	1708–2001	Lee et al. (2017)
Scleractinian	*Montastraea faviolata*	Puerto Rico, Caribbean	17°56'N, 67°00'W	20	1751–2004	Kilbourne et al. (2007)
Scleractinian	*Diploria labyrinthiformis*	Bermuda, North Atlantic	32°20'N, 64°50'W	5	1776–1974	Nozaki et al. (1978)
Scleractinian	*Diploria labyrinthiformis*	John Smith's Bay, Bermuda	32°19'N, 64°43'W	16	1777–1938	Goodkin et al. (2012)
Scleractinian	*Pavona clavus*	Urvina Bay, Isabela Island, Galapagos, Ecuador	00°24'S, 91°14'W	5	1783–1953	Druffel et al. (2015)
Scleractinian	*Siderastrea siderea*	Martinique Island, Lesser Antilles, Caribbean	14°42'N, 60°54'W	1.5	1825–2006	Paterne et al. (2023)
Scleractinian	*Gardineria antarctica*	Ross Sea, Antarctica	78°S, 168°E	5	1847–1909	Paterne et al. (2019)
Scleractinian	*Porites australiensis*	Heron Island, Great Barrier Reef, Australia	23°S, 152°E	11	1849.8–1983.8	Druffel and Griffin (1999)
Scleractinian	*Porites lutea*	Makassar Strait, Indonesia	05°02'S, 119°04'E	4	1870.9–1990.5	Fallon and Guilderson (2008)
Scleractinian	*Montastrea annularis*	Glover Reef, Belize, Caribbean	16°49'N, 87°47'W	5	1872.5–1977	Druffel (1980)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Scleractinian	*Montastraea faveolata*	Santiaguillo Reef, Veracruz, Gulf of Mexico	19°08'N, 95°48'W	6	1875.5–1954.5	Wagner et al. (2009)
Scleractinian	*Orbicella faveolata*	Santiaguillo Reef, Veracruz, Gulf of Mexico	19°08'N, 95°48'W	6	1876–1980	DeLong et al. (2025)
Octocoral	*Keratoisis ornata*	Grand Banks, Northwest Atlantic	44°08'N, 52°56'W	713	1879–2001	Sherwood et al. (2008)
Scleractinian	*Siderastrea stellata*	Sueste Chapeirão, Abrolhos Archipelago, Brazil	17°57'S, 38°38'W	8.5	1884.5–1918.5	Oliveira et al. (2019)
Scleractinian	*Diploria strigosa*	Pickles Reef, Florida	24°59'N, 80°25'W	5	1890–1954	Druffel (1997)
Octocoral	*Primnoa resedaeformis*	Northeast Channel, Northwest Atlantic	42°00'N, 65°30'W	275–450	1890–1983	Sherwood et al. (2008)
Scleractinian	*Porites lobata*	Hawaiian Islands, Big Island region, USA	19°31'N, 155°58'W	8	1893.3–1966	Druffel et al. (2001)
Scleractinian	*Porites lutea*	Hainan / South China Sea, China	19°23'N, 110°46'E	5	1900–1948	Yang et al. (2025)
Scleractinian	*Porites lutea*	Hon Tre Island, Vietnam, South China Sea	12°13'N, 109°18'E	5	1900–1986	Bolton et al. (2016)
Scleractinian	*Porites* sp.	Ishigaki Island, Ryukyu Islands, Japan	24°20'N, 124°20'E	5	1900.5–1947.5	Hideshima et al. (2001)
Scleractinian	*Siderastrea radians*	Cape Verde Islands, eastern Atlantic	16°46'N, 22°53'W	5	1905.4–2001.7	Fernandez et al. (2015)
Scleractinian	*Montastrea annularis*	Isla Tortuga, Venezuela, Caribbean	10°54'N, 65°14'W	5	1906.4–1940.5	Guilderson et al. (2005)
Scleractinian	*Porites lutea*	Okinawa, Ryukyu Islands, Japan	26°14'N, 127°41'E	10	1913–1978	Konishi et al. (1981)
Scleractinian	*Plategyra lamellina*	Hurghada, Red Sea, Egypt	27°17'N, 33°53'E	5	1914–1983	Cember (1989)
Scleractinian	*Plategyra lamellina*	Port Sudan, Red Sea, Sudan	19°37'N, 37°15'E	5	1914–1984	Cember (1989)
Scleractinian	*Porites* sp.	Palmyra Atoll, Line Islands, Pacific	06°N, 162°W	10	1919–1941	Zaunbrecher et al. (2010)
Scleractinian	*Porites* sp.	Fanning Island, Line Islands, Pacific	03°55'N, 159°19'W	11	1922.7–1956.2	Grottoli et al. (2003)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Octocoral	*Corallium secundum*	Makapuu, southeast Oahu, Hawaii	21°18'N, 157°40'W	450	1925.2–1991	Roark et al. (2006)
Scleractinian	*Siderastrea siderea*	West Flower Garden Bank, Gulf of Mexico	27°52'N, 93°49'W	21.3	1928–2005	DeLong et al. (2025)
Scleractinian	*Pavona clavus*	Duncan Island, Galapagos, Ecuador	01°S, 90°W	10	1930–1977	Druffel (1981)
Scleractinian	*Porites lutea*	Xisha (Paracel) region, South China Sea	16°58'N, 112°15'E	4	1930–1949	Yang et al. (2025)
Scleractinian	*Porites lutea*	Chichijima, Ogasawara Islands, Japan	27°04'N, 142°13'E	5	1931–1949	Saito-Kokubu et al. (2019)
Scleractinian	*Porites* sp.	Rowley Shoals, Western Australia	17°20'S, 119°20'E	2.5	1932.5–1992.5	Mitsuguchi et al. (2021)
Scleractinian	*Siderastrea stellata*	Sueste Chapeirão, Abrolhos Archipelago, Brazil	17°57'S, 38°38'W	8.5	1932.5	Oliveira et al. (2019)
Scleractinian	*Siderastrea stellata*	Pedra Alva reef, Todos os Santos Bay, Brazil	12°52'S, 38°31'W	10	1934.5	Oliveira et al. (2019)
Scleractinian	*Porites* sp.	Lombok Strait, Indonesia	08°14'S, 115°30'E	5	1937.4–1990	Guilderson et al. (2009)
Octocoral	*Corallium secundum*	Makapuu, southeast Oahu, Hawaii	21°18'N, 157°40'W	450	1937.7–1994	Roark et al. (2006)
Scleractinian	*Porites lobata*	Guam, Mariana Islands, western Pacific	13°36'N, 144°50'E	4.5	1939.3–2000.1	Andrews et al. (2016a)
Scleractinian	*Porites evermanni*	Kure Atoll, North Pacific Gyre, Hawaii	28°24'N, 178°20'W	3	1939.5–2002.5	Andrews et al. (2016b)
Scleractinian	*Diploria strigosa*	Rocks Reef, Florida Keys, USA	24°57'N, 80°33'W	5	1940–1955	Druffel (1997)
Scleractinian	*Porites lutea*	Sesoko Marine Biological Station	26°38'N, 127°52'E	10	1940–1980	Konishi et al. (1981)
Octocoral	*Primnoa resedaeformis*	Hudson Strait, Northwest Atlantic	60°30'N, 61°24'W	414	1941–1994	Sherwood et al. (2008)
Scleractinian	*Porites* sp.	Marquesas Islands, French Polynesia	09°S, 140°W	5	1942.5–1955.5	Burr et al. (2009)
Scleractinian	*Porites australiensis*	Solomon Islands, southwest Pacific	09°16'S, 159°40'E	14	1942.6–1995.2	Guilderson et al. (2004)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Scleractinian	*Porites* sp.	Southern Taiwan, South China Sea	21°54'N, 120°42'E	5	1942–2012	Ramos et al. (2019)
Scleractinian	*Orbicella faveolata*	Boca de Medio Island, Los Roques, Venezuela	11°55'N, 66°36'W	2	1944–1997	DeLong et al. (2025)
Scleractinian	*Porites* sp.	Penang Island, Mentawai Islands, Indonesia	00°08'S, 98°31'E	6	1944.5–1990.6	Grumet et al. (2004)
Scleractinian	*Porites* sp.	Solomon Islands, southwest Pacific	09°50'S, 160°50'E	2	1944–1994	Schmidt et al. (2004)
Scleractinian	*Orbicella faveolata*	West Flower Garden Bank, Gulf of Mexico	27°52'N, 93°50'W	20	1944–1989	DeLong et al. (2025)
Scleractinian	*Montastrea annularis*	Boca de Medio, Los Roques, Venezuela	11°55'N, 66°36'W	5	1945.4	Guilderson et al. (2005)
Scleractinian	*Porites lutea*	Currimao, Luzon, Philippines	17°59'N, 120°29'E	5	1945–1949.5	Hirabayashi et al. (2019)
Scleractinian	*Montastraea faveolata*	Flower Garden Banks region, Gulf of Mexico	27°31'N, 93°30'W	20	1945.5–1954.5	Wagner et al. (2009)
Scleractinian	*Montastraea faveolata*	Isla Tortuga, Venezuela, Caribbean	10°32'N, 65°13'W	2	1945.5–1951.5	Wagner et al. (2009)
Scleractinian	*Montastraea faveolata*	Los Roques / southern Caribbean, Venezuela	11°33'N, 66°22'W	2	1945.5–1954.5	Wagner et al. (2009)
Scleractinian	*Siderastrea siderea*	Los Testigos, Venezuela, Caribbean	11°23'N, 63°08'W	5	1945.4	Guilderson et al. (2005)
Scleractinian	*Porites lutea*	Palau Archipelago, western Pacific	07°17'N, 134°15'E	13	1945–2008	Glynn et al. (2013)
Scleractinian	*Porites* sp.	Palaui Island, northern Luzon, Philippines	18°30'N, 122°12'E	5	1945–2011	Ramos et al. (2019)
Scleractinian	*Porites* sp.	Papua New Guinea, southwest Pacific	04°S, 152°E	5	1945–1955.8	Burr et al. (2009)
Scleractinian	*Porites* sp.	Great Barrier Reef, Australia	23°32'S, 151°45'E	4.5	1946–2017.6	Wu et al. (2021)
Scleractinian	*Porites* sp.	Ishigaki Island, Ryukyu Islands, Japan	24°N, 124°E	5	1946–1994.3	Hirabayashi et al. (2017a)
Scleractinian	*Porites lobata*	Big Island of Hawai'i	19°34'N, 155°58'W	8	1947.2–1992.2	Guilderson et al. (2021)
Scleractinian	*Porites* sp.	Nauru Island, western Pacific	00°30'S, 166°E	14	1947–1995.2	Guilderson et al. (1998)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Scleractinian	*Porites lobata*	South China Sea	11°29'N, 119°01'E	10	1947.5–1981	Wu and Fallon (2020)
Scleractinian	*Porites lutea*	Watamu, Kenya, western Indian Ocean	03°23'S, 39°52'E	5	1947.4–1987.3	Grumet et al. (2002)
Scleractinian	*Montastraea faveolata*	Cayo Ahogado, Fajardo, Puerto Rico	18°19'N, 65°37'W	6	1948.8–2004.4	Moyer and Grottoli (2011)
Scleractinian	*Porites* sp.	Con Dao Island, Vietnam	08°39'N, 106°33'E	5.5	1948.3–1999.3	Mitsuguchi et al. (2007)
Scleractinian	*Porites* sp.	Landfall Island, northern Andaman Islands, India	13°23'N, 93°01'E	5.3	1948–2020.5	Raj and Bhushan (2021)
Scleractinian	*Porites* sp.	Con Dao Island, Vietnam	08°40'N, 106°33'E	5	1949–1960	Dang et al. (2004)
Scleractinian	*Porites* sp.	Fanning Island, Line Islands, Pacific	03°52'N, 159°23'W	5	1949–1979	Druffel (1987)
Scleractinian	*Porites* sp.	Lakshadweep Islands, India, Arabian Sea	10°50'N, 72°11'E	4	1949.5–2015	Raj et al. (2026)
Scleractinian	*Mussismilia braziliensis*	Timbebas Reef, Abrolhos Banks, Brazil	17°29'S, 39°02'W	3.5	1949.5–1982.5	Druffel (1996)
Scleractinian	*Madrepora oculata*	Bay of Biscay, northeast Atlantic	46°55'N, 05°19'W	691	1950.1–1985.4	Montero-Serrano et al. (2013)
Scleractinian	*Favia speciosa*	Pirotan Island, Gulf of Kutch, India	22°36'N, 70°E	5	1950–1989	Bhushan et al. (1994)
Scleractinian	*Porites lutea*	Rarotonga, Cook Islands, South Pacific	21°14'S, 159°49'W	18	1950–1997.2	Guilderson et al. (2000)
Scleractinian	*Gardineroseris planulata*	Uva Island, Gulf of Chiriqui, Panama	07°48'N, 81°45'W	5	1950–1980	Druffel (1987)
Scleractinian	*Porites* sp.	Vanuatu, southwest Pacific	15°S, 167°E	5	1950–1955.9	Burr et al. (2009)
Scleractinian	*Plategyra lamellina*	Moskali Island, Gulf of Tadjoura, Djibouti	11°36'N, 43°06'E	5	1951–1984.8	Cember (1989)
Scleractinian	*Porites* sp.	Easter Island (Rapa Nui), Chile	27°S, 109°W	5	1952.2–1955.8	Burr et al. (2009)
Scleractinian	*Montastrea cavernosa*	Porto de Galinhas, Pernambuco, Brazil	08°30'S, 35°W	4	1952.5–1963.5	Druffel (1996)
Scleractinian	*Porites* sp.	San Benedicto Island, Revillagigedo Archipelago, Mexico	19°19'N, 110°49'W	5	1952.2–1998.5	Rafter et al. (2017)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Scleractinian	*Porites* sp.	Tutuila, American Samoa, South Pacific	14°18'S, 170°41'W	10	1953.8–2012.1	Andrews et al. (2021)
Scleractinian	*Porites* sp.	Cocos (Keeling) Islands, Indian Ocean	12°04'S, 96°49'E	5	1955.5–1985.5	Hua et al. (2005)
Scleractinian	*Porites* sp.	Xisha (Paracel) Islands, South China Sea	16°42'N, 112°18'E	5	1955.4–1957.7	Southon et al. (2002)
Scleractinian	*Porites australiensis*	Lady Musgrave Island, Great Barrier Reef, Australia	24°S, 153°E	11	1956.3–1983.3	Druffel and Griffin (1995)
Scleractinian	*Mussismilia braziliensis*	Parcel dos Abrolhos Reefs, Brazil	17°58'S, 38°42'W	4.5	1956–1964	Druffel (1996)
Scleractinian	*Porites lobata*	Urvina Bay, Isabela Island, Galapagos	00°25'S, 91°14'W	1	1956.8–1982.8	Guilderson and Schrag (1998)
Scleractinian	*Porites* sp.	French Frigate Shoals, Northwest Hawaiian Islands	23°43'N, 166°06'W	5	1958.4–1978.4	Druffel (1987)
Scleractinian	*Porites astreoides* ssp. *hentscheli*	Cape Verde Islands, eastern Atlantic	16°46'N, 22°53'W	5	1962–1970	Druffel (1996)
Scleractinian	*Porites* sp.	Fanning Island, Near Rapa Pass (windward)	03°54'N, 159°12'W	5	1964.2–1972.4	Druffel (1987)
Scleractinian	*Porites* sp.	Kiritimati (Christmas Island), Line Islands, Pacific	02°N, 157°W	10	1965.5	Zaunbrecher et al. (2010)
Scleractinian	*Dipsastraea speciosa*	Iki Island, Japan	33°48'N, 129°39'E	2.5	1966.5–2000.2	Mitsuguchi et al. (2016)
Scleractinian	*Porites* sp.	Canton Island (Tropical Pacific)	02°48'S, 171°43'W	5	1967.9–1973.7	Druffel (1987)
Scleractinian	*Porites lutea*	Currimao, Luzon, Philippines	17°59'N, 120°29'E	4.8	1968.4–1994.3	Hirabayashi et al. (2017b)
Scleractinian	*Porites* sp.	Tahiti, French Polynesia	17°29'S, 149°36'W	5	1969–1974.2	Druffel (1987)
Scleractinian	*Porites* sp.	Kahe Point, Oahu, Hawaii, USA	21°18'N, 158°07'W	10	1970–1979	Druffel (1987)
Scleractinian	*Porites lutea*	Langki, Makassar Strait	05°02'S, 119°04'E	5	1970.3–1985.3	Moore et al. (1997)
Scleractinian	*Pavona clavus*	San Cristobal Island, Galapagos, Ecuador	01°S, 89°30'W	17	1970–1973.8	Brown et al. (1993)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Scleractinian	*Porites lutea*	Ponape (Pohnpei), Caroline Islands, Pacific	07°N, 158°12'E	10	1972–1980	Konishi et al. (1981)
Scleractinian	*Pavona clavus*	Santa Cruz Island, Galapagos, Ecuador	00°45'S, 90°30'W	5	1973–1982	Druffel and Griffin (1993)
Scleractinian	*Porites lutea*	Ishigaki Island, Ryukyu Islands, Japan	24°33'N, 124°20'E	5	1975.7–1983.2	Mitsuguchi et al. (2016)
Scleractinian	*Platygyra* sp.	Daya Bay, South China Sea, China	22°33'N, 114°32'E	5	1977–1998	Shen et al. (2004)
Scleractinian	*Porites lutea*	Guam, Mariana Islands, western Pacific	13°21'N, 144°39'E	4	1978.8–1983.6	Moore et al. (1997)
Scleractinian	*Porites* sp.	Lakshadweep Islands, India, Arabian Sea	11°15'N, 72°46'E	1.8	1978–2016.6	Raj and Bhushan (2021)
Scleractinian	*Porites lutea*	Ishigaki Island, Ryukyu Islands, Japan	24°34'N, 124°33'E	5	1985–1993	Mitsuguchi et al. (2004)
Scleractinian	*Porites* sp.	Ogasawara (Bonin) Islands, Japan	28°17'N, 129°56'E	2.9	1991.5–1998.5	Morimoto et al. (2004)
Scleractinian	*Porites* sp.	Okinawa Island, Japan	26°07'N, 127°45'E	5	1992.5–1996.5	Mitsuguchi et al. (2016)
Scleractinian	*Porites* sp.	Amami Islands, Japan	28°17'N, 129°55'E	6	1993.8–2009.1	Zeng et al. (2024)
Scleractinian	*Porites* sp.	South China Sea, near Hong Kong	22°33'N, 114°35'E	5	1994.7–2005.1	Wang et al. (2017)

Table S5: Mollusk shell (bivalve and gastropod) $\Delta^{14}C$ records compiled in this study, plus one brachiopod (*Liothyrella uva*) retained here for convenience. Entries are restricted to records interpreted by the original authors as reflecting localized ambient seawater $\Delta^{14}C$.

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Bivalve	*Arctica islandica*	Gulf of Maine, northwest Atlantic	43°43'N, 69°45'W	38	1700–1935	Lower-Spies et al. (2020)
Bivalve	*Arctica islandica*	Irish Sea, south/west of Isle of Man	54°12'N, 05°30'W	52.5	1709–1913	Butler et al. (2009)
Bivalve	*Panopea generosa*	Tree Nob Islands, northeast Pacific, Canada	54°15'N, 130°51'W	10	1729.5–1915	Edge et al. (2023)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Bivalve	*Arctica islandica*	North Icelandic Shelf (Grimsey region)	66°32'N, 18°12'W	82	1784–1950	Wanamaker et al. (2012)
Bivalve	*Venerupis corrugatus*	Cape of Good Hope, South Africa	34°30'S, 18°36'E	5	1820	Southon et al. (2002)
Bivalve	*Marcia recens*	Bombay (Mumbai), India	18°48'N, 72°42'E	5	1836	Southon et al. (2002)
Bivalve	*Tapes deshayesi*	Ile de France, Mauritius	21°S, 56°E	5	1836	Southon et al. (2002)
Bivalve	*Pinctada radiata*	Red Sea	20°N, 38°E	5	1839	Southon et al. (2002)
Bivalve	*Pinctada radiata*	Seychelles, western Indian Ocean	09°24'S, 47°E	5	1840	Southon et al. (2002)
Bivalve	*Gafrarium pectinatum*	Seychelles, western Indian Ocean	09°24'S, 47°E	5	1840	Southon et al. (2002)
Bivalve	*Pinctada maculata*	Seychelles, western Indian Ocean	09°24'S, 47°E	5	1840	Southon et al. (2002)
Bivalve	*Pinctada radiata*	Diego-Suarez, Madagascar	12°24'S, 49°24'E	5	1841	Southon et al. (2002)
Bivalve	*Marcia opima*	Goa, India	16°30'N, 73°48'E	5	1841	Southon et al. (2002)
Bivalve	*Gafrarium scriptum*	Raffles Bay, N. Australia	11°18'S, 132°24'E	5	1841	Southon et al. (2002)
Bivalve	*Pinctada margaritifera*	Sri Lanka, Indian Ocean	07°N, 80°E	5	1841	Southon et al. (2002)
Bivalve	*Marcia flammea*	Muscat, Oman	23°30'N, 58°36'E	5	1843	Southon et al. (2002)
Bivalve	*Paphia textile*	Malabar Coast, India	11°18'N, 76°E	5	1847	Southon et al. (2002)
Bivalve	*Marcia flammea*	Aden, Yemen, Gulf of Aden	12°30'N, 45°E	5	1850	Southon et al. (2002)
Bivalve	*Fragum fragum*	Seychelles, western Indian Ocean	09°24'S, 47°E	5	1850	Southon et al. (2002)
Bivalve	*Gafrarium callipygum*	Socotra, Yemen	12°30'N, 54°E	5	1850	Southon et al. (2002)
Bivalve	*Pinctada radiata*	Zanzibar, Tanzania	06°18'S, 39°18'E	5	1864	Southon et al. (2002)
Bivalve	*Tapes deshayesi*	Mayotte, Comoros	13°06'S, 45°42'E	5	1874	Southon et al. (2002)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Bivalve	*Arctica Islandica*	North Icelandic Shelf, North Atlantic	66°10'N, 18°53'W	22	1874–1991	Weidman (1995)
Bivalve	*Pinctada radiata*	Sri Lanka, Indian Ocean	07°N, 80°E	5	1874	Southon et al. (2002)
Bivalve	*Gafrarium pectinatum*	Mahe, Seychelles	09°24'S, 47°E	5	1878	Southon et al. (2002)
Bivalve	*Senilia senilis*	Cabinda, Angola	05°33'S, 12°12'E	5	1886	Soulet et al. (2023)
Bivalve	*Ostrea stentina*	Loango, Republic of Congo	04°40'S, 11°48'E	5	1890	Soulet et al. (2023)
Bivalve	*Pinctada margaritifera*	Muscat, Oman	23°30'N, 58°36'E	5	1897	Southon et al. (2002)
Bivalve	*Donax rugosus*	Saint Louis, Senegal	16°01'N, 16°31'W	5	1901	Soulet et al. (2023)
Bivalve	*Anadara trapezia*	Port Curtis / Gladstone, Queensland, Australia	23°51'S, 151°16'E	5	1904	Ulm (2002)
Bivalve	*Bucardium ringens*	Dakar, Bay of Hann at low tide, Senegal	14°43'N, 17°25'W	5	1908	Soulet et al. (2023)
Bivalve	*Donax rugosus*	Dakar, Bay of Hann at low tide, Senegal	14°43'N, 17°25'W	5	1908	Soulet et al. (2023)
Bivalve	*Senilia senilis*	Dakar, backwaters of the "Marigot de Hann", Senegal	14°44'N, 17°23'W	5	1908	Soulet et al. (2023)
Bivalve	*Donax rugosus*	Ndiago, Mauritania	16°10'N, 16°31'W	5	1908	Soulet et al. (2023)
Bivalve	*Argopecten purpuratus*	Peru margin, southeast Pacific	12°S, 77°W	20	1908	Jones et al. (2009)
Bivalve	*Argopecten purpuratus*	Peru margin, southeast Pacific	05°35'S, 80°57'W	20	1908	Jones et al. (2009)
Bivalve	*Senilia senilis*	Dakar, Bay of Hann at low tide, Pointe Bel Air, Senegal	14°42'N, 17°25'W	5	1909	Soulet et al. (2023)
Bivalve	*Bucardium ringens*	Grand Bassam, Ivory Coast	05°11'N, 03°44'W	5	1909	Soulet et al. (2023)
Bivalve	*Pseudochama gryphina*	Los Islands, Tamara Island, Republic of Guinea	09°28'N, 13°50'W	5	1909	Soulet et al. (2023)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Bivalve	*Senilia senilis*	Ahémé Lake, Benin	06°25'N, 01°58'E	5	1910	Soulet et al. (2023)
Bivalve	*Ostrea stentina*	Bay of Cansado, Mauritania	20°53'N, 17°02'W	5	1910	Soulet et al. (2023)
Bivalve	*Bucardium ringens*	Cotonou, Sea at a water depth of 20-25 meters	06°20'N, 02°23'E	22.5	1910	Soulet et al. (2023)
Bivalve	*Bucardium ringens*	La Bouche du Roi, Grand Popo, Benin	06°17'N, 01°55'E	5	1910	Soulet et al. (2023)
Bivalve	*Bucardium ringens*	Lobito, Bay of Lobito, near the peninsula, Angola	12°20'S, 13°34'E	5	1910	Soulet et al. (2023)
Bivalve	*Senilia senilis*	Luanda, Angola	08°47'S, 13°16'E	5	1910	Soulet et al. (2023)
Bivalve	*Donax rugosus*	Luanda, Angola	08°49'S, 13°13'E	5	1910	Soulet et al. (2023)
Bivalve	*Ostrea stentina*	Moçâmedes, Angola	15°11'S, 12°08'E	5	1910	Soulet et al. (2023)
Bivalve	*Ostrea stentina*	Near Cape Saint Ann, Sierra Leone	07°34'N, 12°56'W	5	1912	Soulet et al. (2023)
Bivalve	*Irus rugosus*	Perim, Western Arabian Sea	12°30'N, 53°18'E	5	1920	Southon et al. (2002)
Bivalve	*Marcia opima*	Pondicherry, India	12°06'N, 80°E	5	1920	Southon et al. (2002)
Bivalve	*Marcia flammea*	Aden, Yemen, Gulf of Aden	12°30'N, 45°E	5	1921	Southon et al. (2002)
Bivalve	*Pinctada radiata*	Aden, Yemen, Gulf of Aden	12°30'N, 45°E	5	1921	Southon et al. (2002)
Bivalve	*Senilia senilis*	Cabinda, Angola	05°33'S, 12°12'E	5	1921	Soulet et al. (2023)
Bivalve	*Laevicardium biradiatum*	Comoros, western Indian Ocean	11°36'S, 43°30'E	5	1921	Southon et al. (2002)
Bivalve	*Tapes deshayesi*	Djibouti, Gulf of Aden	11°18'N, 43°E	5	1921	Southon et al. (2002)
Bivalve	*Ostrea stentina*	Mohammedia, Morocco	33°43'N, 07°22'W	5	1921	Soulet et al. (2023)
Bivalve	*Ostrea stentina*	Noudhibou, Pointe Chacal, Mauritania	20°55'N, 17°02'W	5	1921	Soulet et al. (2023)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Bivalve	*Timoclea cochinensis*	Sri Lanka, Indian Ocean	07°N, 80°E	5	1924	Southon et al. (2002)
Bivalve	*Latona deltoides*	Elliott Heads, Queensland, Australia	24°55'S, 152°29'E	5	1925	Ulm (2002)
Bivalve	*Argopecten purpuratus*	Peru margin, southeast Pacific	12°S, 77°W	20	1926	Jones et al. (2009)
Bivalve	*Argopecten purpuratus*	Peru margin, southeast Pacific	08°S, 78°35'W	20	1926	Jones et al. (2009)
Bivalve	*Arctica Islandica*	Oyster Ground, southern North Sea	53°41'N, 04°25'E	40	1927.5–1986	Witbaard et al. (1994)
Bivalve	*Volachlamys singaporina*	Port Curtis / Gladstone, Queensland, Australia	23°51'S, 151°16'E	5	1929	Ulm (2002)
Bivalve	*Arctica islandica*	North Icelandic Shelf (Grimsey region)	66°32'N, 18°12'W	82	1935–2005	Scourse et al. (2012)
Bivalve	*Thracia meridionalis*	Ross Sea, Antarctica	78°30'S, 164°20'W	490	1935	Paterne et al. (2019)
Bivalve	*Asaphis deflavata*	Steward Sound, Andaman Islands, India	13°01'N, 92°58'E	5	1935	Dutta et al. (2001)
Bivalve	*Donax rugosus*	Pointe Noire, Republic of Congo	04°46'S, 11°50'E	5	1937	Soulet et al. (2023)
Bivalve	*Arctica Islandica*	Georges Bank, northwest Atlantic	41°N, 67°W	76	1939–1988.5	Weidman and Jones (1993)
Bivalve	*Adamussum colbecki*	Antarctic Peninsula, Southern Ocean	67°52'S, 67°17'W	25.5	1940	Paterne et al. (2019)
Bivalve	*Adamussum colbecki*	Antarctic Peninsula, Southern Ocean	68°30'S, 67°W	25	1940	Paterne et al. (2019)
Bivalve	*Arctica Islandica*	Northern Norway, North Atlantic	69°38'N, 18°57'E	3	1940–1992.5	Weidman (1995)
Bivalve	*Laevicardium flavum*	Ile de France, Mauritius	21°S, 56°E	5	1945	Southon et al. (2002)
Bivalve	*Marcia paupercula*	Natal, South Africa	30°S, 31°06'E	5	1945	Southon et al. (2002)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Bivalve	*Gomphina aequilatera*	Saigon (Ho Chi Minh City), Vietnam	10°48'N, 106°48'E	5	1945	Southon et al. (2002)
Bivalve	*Marcia recens*	Singapore, Southeast Asia	02°54'N, 103°48'E	5	1945	Southon et al. (2002)
Bivalve	*Ostrea stentina*	Dakar, beach of Hann, posts of the pontoon	14°43'N, 17°25'W	5	1947	Soulet et al. (2023)
Bivalve	*Arctica Islandica*	North Sea, northeast Atlantic	54°24'N, 06°30'E	37	1948–1989.5	Weidman (1995)
Bivalve	*Ostrea stentina*	Port-Gentil, Gabon	00°43'S, 08°47'E	5	1948	Soulet et al. (2023)
Brachiopod	*Liothyrella uva*	Signy Island, South Orkney Islands, Antarctica	60°43'S, 45°36'W	—	1949–1953	Peck and Brey (1996)
Bivalve	*Cyrtodaria siliqua*	Banquereau Bank, Scotian Shelf, NW Atlantic	44°30'N, 58°W	80	1950.5–1975	Kilada et al. (2009)
Bivalve	*Cyrtodaria siliqua*	Banquereau Bank, Scotian Shelf, NW Atlantic	44°30'N, 58°W	80	1950–1975	Kilada et al. (2009)
Bivalve	*Panopea generosa*	Tree Nob Islands, northeast Pacific, Canada	54°15'N, 130°51'W	10	1951.4–1980.7	Kastelle et al. (2011)
Bivalve	*Cyrtodaria siliqua*	Banquereau Bank, Scotian Shelf, NW Atlantic	44°30'N, 58°W	80	1952–1987	Kilada et al. (2009)
Bivalve	*Pinctada radiata*	Doha (Dohar), Qatar, Persian Gulf	25°18'N, 51°24'E	5	1952	Southon et al. (2002)
Bivalve	*Arctica Islandica*	Oyster Ground, southern North Sea	54°06'N, 04°45'E	39	1952–1985.5	Witbaard et al. (1994)
Bivalve	*Cyrtodaria siliqua*	Banquereau Bank, Scotian Shelf, NW Atlantic	44°30'N, 58°W	80	1954.5–1986.5	Kilada et al. (2009)
Bivalve	*Marcia pinguis*	Chilika Lake, Odisha, India	19°43'N, 85°37'E	5	1954	Dutta et al. (2001)
Bivalve	*Chione stutchburyi*	Cook Strait region, New Zealand	41°13'S, 174°43'E	5	1954	McFadgen and Manning (1990)
Bivalve	*Arctica islandica*	Sable Bank, Scotian Shelf, NW Atlantic	44°N, 61°W	37	1956–1978.5	Kilada et al. (2007)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Bivalve	*Arctica islandica*	Sable Bank, Scotian Shelf, NW Atlantic	44°N, 61°W	37	1957–1981	Kilada et al. (2007)
Bivalve	*Pinctada margaritifera*	Ile de France, Mauritius	21°S, 56°E	5	1959	Southon et al. (2002)
Bivalve	*Arctica islandica*	Sable Bank, Scotian Shelf, NW Atlantic	44°N, 61°W	33	1959.5–1976.5	Kilada et al. (2007)
Bivalve	*Arctica islandica*	Sable Bank, Scotian Shelf, NW Atlantic	44°N, 61°W	33	1960.5–1976	Kilada et al. (2007)
Bivalve	*Arctica islandica*	Sable Bank, Scotian Shelf, NW Atlantic	44°N, 61°W	33	1960.5–1975	Kilada et al. (2007)
Bivalve	*Ostrea crenulifera*	NW Mirs Bay, Hong Kong SAR	22°30'N, 114°18'E	5	1961	Southon et al. (2002)
Bivalve	*Arctica islandica*	Sable Bank, Scotian Shelf, NW Atlantic	44°N, 61°W	70	1963–1971	Kilada et al. (2007)
Bivalve	*Arctica Islandica*	Oyster Ground, southern North Sea	53°41'N, 04°19'E	39.5	1966.5–1986	Witbaard et al. (1994)
Bivalve	*Adamussum colbecki*	Butter Point, McMurdo Sound, Antarctica	74°45'S, 163°01'E	5	1995	Berkman and Forman (1996)
Bivalve	*Adamussum colbecki*	Cape Bernacchi, McMurdo Sound, Antarctica	74°42'S, 164°07'E	5	1995	Berkman and Forman (1996)
Bivalve	*Adamussum colbecki*	Explorers Cove, McMurdo Sound, Antarctica	74°19'S, 165°05'E	5	1995	Berkman and Forman (1996)
Bivalve	*Adamussum colbecki*	New Harbor, McMurdo Sound, Antarctica	74°41'S, 164°06'E	5	1995	Berkman and Forman (1996)
Gastropod	*Cymia gradata*	Singapore, Southeast Asia	01°18'N, 103°54'E	5	1860	Southon et al. (2002)
Gastropod	Gastropod	Bonin (Ogasawara) Islands, Japan	27°N, 142°E	5	1884	Southon et al. (2002)
Gastropod	*Cronia margariticola*	Hong Kong SAR, South China Sea	22°12'N, 114°12'E	5	1884	Southon et al. (2002)
Gastropod	Gastropod	Bombay (Mumbai), India	18°54'N, 72°48'E	5	1887	Southon et al. (2002)
Gastropod	Gastropod	Sri Lanka, Indian Ocean	07°N, 80°E	5	1887	Southon et al. (2002)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Gastropod	*Bursa rana*	Ap Lei Chau, Hong Kong SAR	22°12'N, 114°12'E	5	1903	Southon et al. (2002)
Gastropod	Gastropod	Guam, Mariana Islands, western Pacific	13°30'N, 144°48'E	5	1903	Southon et al. (2002)
Gastropod	*Cronia margariticola*	Mindoro Strait, Philippines	12°30'N, 120°30'E	5	1908	Southon et al. (2002)
Gastropod	*Neobuccinum eatoni*	Kerguelen Island, Southern Ocean	49°36'S, 68°50'E	5	1909	Paterne et al. (2019)
Gastropod	*Thais* sp.	Pelabuhanratu, S. Java	07°S, 106°30'E	5	1910	Southon et al. (2002)
Gastropod	*Thais* sp.	Nicobar Islands, India, Bay of Bengal	09°N, 94°E	5	1913	Southon et al. (2002)
Gastropod	*Neobuccinum eatoni*	Kerguelen Island, Southern Ocean	49°22'S, 68°22'E	5	1914	Paterne et al. (2019)
Gastropod	Gastropod	Janao Bay, Luzon, Philippines	13°48'N, 120°54'E	5	1916	Southon et al. (2002)
Gastropod	*Thais distinguenda*	Mona Is., Philippines	12°N, 120°E	5	1916	Southon et al. (2002)
Gastropod	*Neobuccinum eatoni*	Ross Sea, Antarctica	68°47'S, 90°05'W	120	1917	Paterne et al. (2019)
Gastropod	Gastropod	Bo Hai Gulf, China	39°N, 119°E	5	1920	Southon et al. (2002)
Gastropod	*Thais hippocastaneum*	Ko Ang Trang, Thailand	09°36'N, 99°42'E	5	1923	Southon et al. (2002)
Gastropod	*Busycon sinistrum*	Northern Gulf of Mexico, Florida panhandle, USA	30°08'N, 85°43'W	5	1924	Hadden and Cherkinsky (2015)
Gastropod	*Cronia margariticola*	SaBui Bay, S. Borneo	03°S, 111°30'E	5	1925	Southon et al. (2002)
Gastropod	Gastropod	Tsingtao (Qingdao), China, Yellow Sea	36°06'N, 120°18'E	5	1927	Southon et al. (2002)
Gastropod	*Strombus alatus*	Northern Gulf of Mexico, Florida panhandle, USA	29°51'N, 84°38'W	5	1929	Hadden and Cherkinsky (2015)
Gastropod	*Strombus alatus*	Northern Gulf of Mexico, Florida panhandle, USA	30°25'N, 86°33'W	5	1929	Hadden and Cherkinsky (2015)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Gastropod	*Cypraea* sp.	Rameswaram, Tamil Nadu, India	09°15'N, 79°29'E	5	1930	Dutta et al. (2001)
Gastropod	*Nacella kerguelensis*	Kerguelen Island, Southern Ocean	49°22'S, 69°22'E	5	1931	Paterne et al. (2019)
Gastropod	*Busycon sinistrum*	Northern Gulf of Mexico, Florida panhandle, USA	30°23'N, 86°30'W	5	1941	Hadden and Cherkinsky (2015)
Gastropod	*Strombus alatus*	Northern Gulf of Mexico, Florida panhandle, USA	30°23'N, 86°30'W	5	1941	Hadden and Cherkinsky (2015)
Gastropod	*Strombus alatus*	Northern Gulf of Mexico, Florida panhandle, USA	29°54'N, 85°23'W	5	1945	Hadden and Cherkinsky (2015)
Gastropod	*Busycon sinistrum*	Northern Gulf of Mexico, Florida panhandle, USA	30°08'N, 85°43'W	5	1945	Hadden and Cherkinsky (2015)
Gastropod	*Strombus alatus*	Northern Gulf of Mexico, Florida panhandle, USA	30°08'N, 85°42'W	5	1946	Hadden and Cherkinsky (2015)
Gastropod	*Cypraea* sp.	Rameswaram, Tamil Nadu, India	09°15'N, 79°29'E	5	1949	Dutta et al. (2001)
Gastropod	*Turbobrunneus* sp.	Dwarka, Gujarat, India	22°16'N, 68°57'E	5	1952	Dutta et al. (2001)
Gastropod	*Conus monile*	Dwarka, Gujarat, India	22°16'N, 68°57'E	5	1952	Dutta et al. (2001)
Gastropod	*Nerita oryzarum*	Dwarka, Gujarat, India	22°16'N, 68°57'E	5	1952	Dutta et al. (2001)
Gastropod	*Architectonica* sp.	Dwarka, Gujarat, India	22°16'N, 68°57'E	5	1952	Dutta et al. (2001)
Gastropod	*Nassarius* sp.	Dwarka, Gujarat, India	22°16'N, 68°57'E	5	1952	Dutta et al. (2001)
Gastropod	*Cypraea* sp.	Mandapam, Tamil Nadu, India	09°12'N, 78°42'E	5	1953	Dutta et al. (2001)
Gastropod	*Turbobrunneus* sp.	Port Okha, Gujarat, India	22°28'N, 69°05'E	5	1953	Dutta et al. (2001)
Gastropod	*Alcithoe arabica*	Cook Strait region, New Zealand	41°06'S, 174°55'E	5	1954	McFadgen and Manning (1990)
Gastropod	*Haliotis* sp.	Cook Strait region, New Zealand	41°13'S, 174°43'E	5	1954	McFadgen and Manning (1990)

Type	Species	Location	Coordinates	Depth (m)	Duration	Reference
Gastropod	*Cellana* sp.	Cook Strait region, New Zealand	41°13'S, 174°43'E	5	1954	McFadgen and Manning (1990)
Gastropod	*Murex tribulus*	Ap Lei Chau, Hong Kong SAR	22°12'N, 114°12'E	5	1956	Southon et al. (2002)
Gastropod	*Cypraea errones*	Port Shelter, Hong Kong SAR	22°24'N, 114°18'E	5	1957	Southon et al. (2002)
Gastropod	*Columbella versiculor*	Port Shelter, Hong Kong SAR	22°24'N, 114°18'E	5	1957	Southon et al. (2002)
Gastropod	*Clithon ovalaniensis*	NW Mirs Bay, Hong Kong SAR	22°30'N, 114°18'E	5	1958	Southon et al. (2002)
Gastropod	*Siphonaria japonica*	Ap Lei Chau, Hong Kong SAR	22°12'N, 114°12'E	5	1959	Southon et al. (2002)
Gastropod	*Littorina scabra*	Port Shelter, Hong Kong SAR	22°24'N, 114°18'E	5	1960	Southon et al. (2002)

Table S6: Sclerosponge Δ^{14}C records included in this compilation, spanning shallow to mesophotic and upper-bathyal habitats. Locations, coordinates, depths, and record durations are taken from the source publications and associated metadata.

Species	Location	Coordinates	Depth (m)	Duration	Reference
Ceratoporella nicholsoni	Discovery Bay, Jamaica, Caribbean	18°27'N, 77°58'W	26	1855–1970	Benavides and Druffel (1986)
Ceratoporella nicholsoni	San Salvador Island, Bahamas	24°04'N, 74°25'W	41.4	1889.3–2002.4	Fernandez et al. (2015)
Acanthochaetetes wellsi	Palau, western Pacific	07°16'N, 134°33'E	17	1945.6–2001.6	Grottoli et al. (2010)

References

Andrews, A. H., Asami, R., Iryu, Y., Kobayashi, D. R., and Camacho, F.: Bomb-produced radiocarbon in the western tropical Pacific Ocean: Guam coral reveals operation-specific signals from the Pacific Proving Grounds, Journal of Geophysical Research: Oceans, 121, 6351–6366, https://doi.org/10.1002/2016JC012043, 2016a.

Andrews, A. H., Siciliano, D., Potts, D. C., DeMartini, E. E., and Covarrubias, S.: Bomb Radiocarbon and the Hawaiian Archipelago: Coral, Otoliths, and Seawater, Radiocarbon, 58, 531–548, https://doi.org/10.1017/RDC.2016.32, 2016b.

Andrews, A. H., Prouty, N. G., and Cheriton, O. M.: Bomb-Produced Radiocarbon across the South Pacific Gyre: A New Record from American Samoa with Utility for Fisheries Science, Radiocarbon, 63, 1591–1605, https://doi.org/10.1017/RDC.2021.51, 2021.

Aramaki, T., Mizushima, T., Kuji, T., Povinec, P. P., and Togawa, O.: Distribution of Radiocarbon in the Southwestern North Pacific, Radiocarbon, 43, 857–867, https://doi.org/10.1017/S0033822200041527, 2001.

Aramaki, T., Nakaoka, S., Terao, Y., Kushibashi, S., Kobayashi, T., Osonoi, Y., Mukai, H., and Tohjima, Y.: Variation of Surface Radiocarbon in the North Pacific During Summer Season 2004–2016, Radiocarbon, 61, 1367–1375, https://doi.org/10.1017/RDC.2019.32, 2019.

Barbero, L. and Cimoli, L.: Bottle data from cruise 33RO20230413, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33RO20230413, accessed 30 June 2026. CCHDO cruise DOI: 10.25923/437g-kd65, 2025.

Baringer, M. O. and Bullister, J. L.: Bottle data from cruise 33RO20130803, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33RO20130803, accessed 30 June 2026. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2025.

Bauer, J. E., Druffel, E. R. M., Wolgast, D. M., Griffin, S., and Masiello, C. A.: Distributions of dissolved organic and inorganic carbon and radiocarbon in the eastern North Pacific continental margin, Deep Sea Research Part II: Topical Studies in Oceanography, 45, 689–713, https://doi.org/10.1016/S0967-0645(97)00098-2, 1998.

Benavides, L. M. and Druffel, E. R. M.: Sclerosponge growth rate as determined by 210Pb and 14C chronologies, Coral Reefs, 4, 221–224, https://doi.org/10.1007/BF00298080, 1986.

Berkman, P. A. and Forman, S. L.: Pre-bomb radiocarbon and the reservoir correction for calcareous marine species in the Southern Ocean, Geophysical Research Letters, 23, 363–366, https://doi.org/10.1029/96GL00151, 1996.

Bhushan, R., Chakraborty, S., and Krishnaswami, S.: Physical Research Laboratory (Chemistry) Radiocarbon Date List I, Radiocarbon, 36, 251–256, https://doi.org/10.1017/S0033822200040546, 1994.

Bhushan, R., Somayajulu, B. L. K., Chakraborty, S., and Krishnaswami, S.: Radiocarbon in the Arabian Sea water column: Temporal variations in bomb ^{14}C inventory since the GEOSECS and CO_2air-sea exchange rates, Journal of Geophysical Research: Oceans, 105, 14 273–14 282, https://doi.org/10.1029/2000jc000255, 2000.

Bien, G. S., Rakestraw, N. W., and Suess, H. E.: Radiocarbon Concentration in Pacific Ocean Water, Tellus, 12, 436–443, https://doi.org/10.3402/tellusa.v12i4.9413, 1960.

Bien, G. S., Rakestraw, N. W., and Suess, H. E.: Radiocarbon in the Pacific and Indian Oceans and Its Relation to Deep Water Movements, Limnology and oceanography, 10, 25–37, https://doi.org/10.4319/lo.1965.10.suppl2.r25, 1965.

Bigorre, S. and Thurnherr, A.: Bottle data from cruise 33RR20220613, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33RR20220613, accessed 30 June 2026. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2025.

Bolton, A., Goodkin, N. F., Druffel, E. R. M., Griffin, S., and Murty, S. A.: Upwelling of Pacific Intermediate Water in the South China Sea Revealed by Coral Radiocarbon Record, Radiocarbon, 58, 37–53, https://doi.org/10.1017/RDC.2015.4, 2016.

Briggs, E. and Macdonald, A.: Bottle data from cruise 320620180309, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/320620180309, accessed 30 June 2026. CCHDO cruise DOI: 10.7942/C2F08X, 2024.

Broecker, W. S. and Gerard, R.: Natural Radiocarbon in the Mediterranean Sea, Limnology and Oceanography, 14, 883–888, http://www.jstor.org/stable/2833770, 1969.

Broecker, W. S. and Olson, E. A.: Lamont Radiocarbon Measurements VIII, Radiocarbon, 3, 176–204, https://doi.org/10.1017/S0033822200020920, 1961.

Broecker, W. S., Gerard, R., Ewing, M., and Heezen, B. C.: Natural radiocarbon in the Atlantic Ocean, Journal of Geophysical Research, 65, 2903–2931, https://doi.org/10.1029/JZ065i009p02903, 1960.

Broek, T. A. B., Walker, B. D., Guilderson, T. P., Vaughn, J. S., Mason, H. E., and McCarthy, M. D.: Low Molecular Weight Dissolved Organic Carbon: Aging, Compositional Changes, and Selective Utilization During Global Ocean Circulation, Global Biogeochemical Cycles, 34, e2020GB006 547, https://doi.org/10.1029/2020GB006547, 2020.

Brown, T. A., Farwell, G. W., Grootes, P. M., Schmidt, F. H., and Stuiver, M.: Intra-Annual Variability of the Radiocarbon Content of Corals from the Galapagos Islands, Radiocarbon, 35, 245–251, https://doi.org/10.1017/S0033822200064912, 1993.

Burling, R. W. and Garner, D. M.: A section of 14C activities of sea water between 9°s and 66°s in the South-West Pacific Ocean, New Zealand journal of geology and geophysics, 2, 799–824, https://doi.org/10.1080/00288306.1959.10422771, 1959.

Burr, G. S., Beck, J. W., Correge, T., Cabioch, G., Taylor, F. W., and Donahue, D. J.: Modern and Pleistocene Reservoir Ages Inferred from South Pacific Corals, Radiocarbon, 51, 319–335, https://doi.org/10.1017/S0033822200033853, 2009.

Butler, P. G., Scourse, J. D., Richardson, C. A., Wanamaker, A. D., Bryant, C. L., and Bennell, J. D.: Continuous marine radiocarbon reservoir calibration and the 13C Suess effect in the Irish Sea: Results from the first multi-centennial shell-based marine master chronology, Earth and Planetary Science Letters, 279, 230–241, https://doi.org/10.1016/j.epsl.2008.12.043, age-dated shell Δ^{14}C chronology accessed from PANGAEA (https://doi.org/10.1594/PANGAEA.816177), access date 30.06.2026., 2009.

Castrillejo, M., Bollhalder, S., Lherminier, P., Fontela, M., and Wacker, L.: Dissolved inorganic radiocarbon along the Greenland–Portugal GO-SHIP A25 OVIDE line in 2018, https://doi.org/10.5281/zenodo.24372568, 2026a.

Castrillejo, M., Graven, H., Lester, J., Sanchez-Franks, A., Kündig, K., Gautschi, P., and Wacker, L.: Dissolved inorganic radiocarbon along the GO-SHIP A05 line 'JC191-24N' in 2020, https://doi.org/10.5281/zenodo.24377842, 2026b.

Cember, R.: Bomb radiocarbon in the Red Sea: A medium-scale gas exchange experiment, Journal of Geophysical Research: Oceans, 94, 2111–2123, https://doi.org/10.1029/JC094iC02p02111, 1989.

Chanton, J.: Dissolved Inorganic Carbon 14C values, northern Gulf of Mexico, May 2011 to May 2012, https://doi.org/10.7266/N7W37TWR, accessed 30 June 2026., 2018.

Curry, R.: Bottle data from cruise 33AT20120324, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33AT20120324, accessed 30 June 2026. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2023.

Curry, R.: Bottle data from cruise 318M20100105, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/318M20100105, accessed 30 June 2026. CCHDO cruise DOI: 10.7284/903800, 2025.

Dang, P. X., Mitsuguchi, T., Kitagawa, H., Shibata, Y., and Kobayashi, T.: Marine Reservoir Correction in the South of Vietnam Estimated from An Annually-Banded Coral, Radiocarbon, 46, 657–660, https://doi.org/10.1017/S0033822200035712, 2004.

Delibrias, G.: Carbon-14 in the Southern Indian Ocean, Radiocarbon, 22, 684–692, https://doi.org/10.1017/S0033822200010055, 1980.

DeLong, K. L., Kilbourne, K. H., Guilderson, T. P., Wagner, A. J., Slowey, N., Palmer, K., and Hajdas, I.: New and old coral radiocarbon records revisited for the subtropical and tropical Atlantic Ocean, Radiocarbon, 67, 487–512, https://doi.org/10.1017/RDC.2025.5, 2025.

Ding, L., Ge, T., Gao, H., Luo, C., Xue, Y., Druffel, E. R. M., and Wang, X.: Large Variability of Dissolved Inorganic Radiocarbon in the Kuroshio Extension of the Northwest North Pacific, Radiocarbon, 60, 691–704, https://doi.org/10.1017/RDC.2017.143, 2018.

Ding, L., Qi, Y., Shan, S., Ge, T., Luo, C., and Wang, X.: Radiocarbon in Dissolved Organic and Inorganic Carbon of the South China Sea, Journal of Geophysical Research: Oceans, 125, e2020JC016 073, https://doi.org/10.1029/2020JC016073, 2020.

Druffel, E. M.: Radiocarbon in Annual Coral Rings of Belize and Florida, Radiocarbon, 22, 363–371, https://doi.org/10.1017/S0033822200009656, 1980.

Druffel, E. M.: Radiocarbon in annual coral rings from the eastern Tropical Pacific Ocean, Geophysical Research Letters, 8, 59–62, https://doi.org/10.1029/GL008i001p00059, 1981.

Druffel, E. R. M.: Bomb radiocarbon in the Pacific: Annual and seasonal timescale variations, Journal of Marine Research, 45, 667–698, https://doi.org/10.1357/002224087788326876, 1987.

Druffel, E. R. M.: Decade time scale variability of ventilation in the North Atlantic: High-precision measurements of bomb radiocarbon in banded corals, Journal of Geophysical Research: Oceans, 94, 3271–3285, https://doi.org/10.1029/JC094iC03p03271, 1989.

Druffel, E. R. M.: Post-Bomb Radiocarbon Records of Surface Corals from the Tropical Atlantic Ocean, Radiocarbon, 38, 563–572, https://doi.org/10.1017/S0033822200030095, 1996.

Druffel, E. R. M.: Pulses of Rapid Ventilation in the North Atlantic Surface Ocean During the Past Century, Science, 275, 1454–1457, https://doi.org/10.1126/science.275.5305.1454, 1997.

Druffel, E. R. M. and Griffin, S.: Large variations of surface ocean radiocarbon: Evidence of circulation changes in the southwestern Pacific, Journal of Geophysical Research: Oceans, 98, 20 249–20 259, https://doi.org/10.1029/93JC02113, 1993.

Druffel, E. R. M. and Griffin, S.: Regional Variability of Surface Ocean Radiocarbon from Southern Great Barrier Reef Corals, Radiocarbon, 37, 517–524, https://doi.org/10.1017/S0033822200031003, 1995.

Druffel, E. R. M. and Griffin, S.: Variability of surface ocean radiocarbon and stable isotopes in the southwestern Pacific, Journal of Geophysical Research: Oceans, 104, 23 607–23 613, https://doi.org/10.1029/1999JC900212, 1999.

Druffel, E. R. M., Williams, P. M., Robertson, K., Griffin, S., Jull, A. J. T., Donahue, D., Toolin, L., and Linick, T. W.: Radiocarbon in Dissolved Organic and Inorganic Carbon From the Central North Pacific, Radiocarbon, 31, 523–532, https://doi.org/10.1017/S003382220001211X, 1989.

Druffel, E. R. M., Williams, P. M., Bauer, J. E., and Ertel, J. R.: Cycling of dissolved and particulate organic matter in the open ocean, Journal of Geophysical Research: Oceans, 97, 15 639–15 659, https://doi.org/10.1029/92JC01511, 1992.

Druffel, E. R. M., Griffin, S., Guilderson, T. P., Kashgarian, M., Southon, J., and Schrag, D. P.: Changes of Subtropical North Pacific Radiocarbon and Correlation with Climate Variability, Radiocarbon, 43, 15–25, https://doi.org/10.1017/S0033822200031593, 2001.

Druffel, E. R. M., Bauer, J. E., Griffin, S., Beaupré, S. R., and Hwang, J.: Dissolved inorganic radiocarbon in the North Pacific Ocean and Sargasso Sea, Deep Sea Research Part I: Oceanographic Research Papers, 55, 451–459, https://doi.org/10.1016/j.dsr.2007.12.007, 2008.

Druffel, E. R. M., Griffin, S., Glynn, D. S., Hauksson, N. E., Pedron, S., and Xu, X.: Radiocarbon in Surface Ocean Dissolved Inorganic Carbon at Station M, California Current, Radiocarbon, 52, 1150–1157, https://doi.org/10.1017/S0033822200046221, 2010.

Druffel, E. R. M., Griffin, S., Vetter, D., Dunbar, R. B., and Mucciarone, D. M.: Identification of frequent La Niña events during the early 1800s in the east equatorial Pacific, Geophysical Research Letters, 42, 1512–1519, https://doi.org/10.1002/2014GL062997, 2015.

Druffel, E. R. M., Griffin, S., Glynn, C. S., Benner, R., and Walker, B. D.: Radiocarbon in dissolved organic and inorganic carbon of the Arctic Ocean, Geophysical Research Letters, 44, 2369–2376, https://doi.org/10.1002/2016GL072138, 2017.

Dutta, K. and Bhushan, R.: Radiocarbon in the Northern Indian Ocean two decades after GEOSECS, Global Biogeochemical Cycles, 26, https://doi.org/10.1029/2010gb004027, 2012.

Dutta, K., Bhushan, R., and Somayajulu, B. L. K.: ΔR Correction Values for the Northern Indian Ocean, Radiocarbon, 43, 483–488, https://doi.org/10.1017/S0033822200038376, 2001.

Dutta, K., Prasad, G. V. R., Ray, D. K., and Raghav, S.: Decadal Changes of Radiocarbon in the Surface Bay of Bengal: Three Decades After Geosecs and One Decade After WOCE, Radiocarbon, 52, 1191–1196, https://doi.org/10.1017/S0033822200046269, 2010.

Edge, D. C., Wanamaker, A. D., Staisch, L. M., Reynolds, D. J., Holmes, K. L., and Black, B. A.: A MODERN MULTICENTENNIAL RECORD OF RADIOCARBON VARIABILITY FROM AN EXACTLY DATED BIVALVE CHRONOLOGY AT THE TREE NOB SITE (ALASKA COASTAL CURRENT), Radiocarbon, 65, 81–96, https://doi.org/10.1017/RDC.2022.83, 2023.

Erickson, Z. and Schockman, K.: Bottle data from cruise 33RO20230306, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33RO20230306, accessed 30 June 2026. CCHDO cruise DOI: 10.25923/j4re-d727, 2025.

Fairhall, A. W. and Young, A. W.: Historical ^{14}C Measurements from the Atlantic, Pacific and Indian Oceans, Radiocarbon, 27, 473–507, http://hdl.handle.net/10150/652696, 1985.

Fallon, S. J. and Guilderson, T. P.: Surface water processes in the Indonesian throughflow as documented by a high-resolution coral 14C record, Journal of Geophysical Research: Oceans, 113, https://doi.org/10.1029/2008JC004722, 2008.

Fernandez, A., Lapen, T. J., Andreasen, R., Swart, P. K., White, C. D., and Rosenheim, B. E.: Ventilation time scales of the North Atlantic subtropical cell revealed by coral radiocarbon from the Cape Verde Islands, Paleoceanography, 30, 938–948, https://doi.org/10.1002/2015PA002790, 2015.

Fonselius, S. and Östlund, G.: Natural Radiocarbon Measurements on Surface Water from the North Atlantic and the Arctic Sea, Tellus, 11, 77–82, https://doi.org/10.3402/tellusa.v11i1.9280, 1959.

Gamo, T., Horibe, Y., and Kobayashi, H.: Comparison of Oceanic Δ^{14}C Data with Those of GEOSECS: Vertical Profiles in 1973 (GEOSECS) and in 1980 at (30° N, 170° E) in the Northwestern Pacific Ocean, Radiocarbon, 29, 53–56, https://doi.org/10.1017/S0033822200043551, 1987.

Gao, P., Zhou, L., Liu, K., and Xu, X.: Radiocarbon in the Maritime Air and Sea Surface Water of the South China Sea, Radiocarbon, 61, 461–472, https://doi.org/10.1017/RDC.2018.100, 2019.

Gao, P., Qian, N., Zhou, L., and Liu, K.: Decadal changes of seawater radiocarbon in the eastern tropical Indian Ocean and their oceanographic implications, Journal of Marine Systems, 213, 103 453, https://doi.org/10.1016/j.jmarsys.2020.103453, 2021.

Garcia-Tigreros, M. and Kessler, J. D.: Increasing Upper Ocean Stratification Over Four Decades Revealed by Triple-Oxygen-Isotope and Dissolved Oxygen Measurements in the Subtropical North Atlantic Ocean, Journal of Geophysical Research: Biogeosciences, 123, 2135–2144, https://doi.org/10.1029/2018JG004384, dissolved inorganic carbon Δ^{14}C data accessed from BCO-DMO dataset 737887 (https://www.bco-dmo.org/dataset/737887), access date 30.06.2026., 2018.

Garcia-Tigreros, M., Kessler, J. D., Ward, C. P., Lapham, L., Ruppel, C. D., Valentine, D. L., Yang, L., Xie, Y., and Reddy, C. M.: Diverse Carbon Cycling in the Mid-Atlantic Bight: Implications for Carbon Dioxide Removal, Journal of Geophysical Research: Biogeosciences, 126, e2019JG005 621, https://doi.org/10.1029/2019JG005621, 2021.

Ge, T., Luo, C., Ren, P., Zhang, H., Chen, Z., Sun, S., Xu, L., and Wang, X.: Radiocarbon in Dissolved Inorganic Carbon in the East China Sea Shelf and Slope, Radiocarbon, 58, 517–529, https://doi.org/10.1017/RDC.2016.23, 2016.

Ge, T., Luo, C., Ren, P., Zhang, H., Chen, Z., Sun, S., Xu, L., and Wang, X.: Decadal Variations in Radiocarbon in Dissolved Inorganic Carbon (DIC) Along a Transect in the Western North Pacific Ocean, Journal of Geophysical Research: Oceans, 127, e2021JC017 845, https://doi.org/10.1029/2021JC017845, 2022.

Girguis, P. R. and Shah Walter, S. R.: Carbon chemistry of basement fluids and bottom seawater at IODP North Pond Cork observatories (U1382A, U1383C), 2012–2017, https://doi.org/10.26008/1912/bco-dmo.876729.2, accessed 30 June 2026., 2024.

Glynn, D., Druffel, E., Griffin, S., Dunbar, R., Osborne, M., and Sanchez-Cabeza, J. A.: Early Bomb Radiocarbon Detected in Palau Archipelago Corals, Radiocarbon, 55, 1659–1664, https://doi.org/10.1017/S0033822200048578, 2013.

Goodkin, N. F., Druffel, E. R. M., Hughen, K. A., and Doney, S. C.: Two centuries of limited variability in subtropical North Atlantic thermocline ventilation, Nature Communications, 3, 803, https://doi.org/10.1038/ncomms1811, 2012.

Goodkin, N. F., Bolton, A., Hughen, K. A., Karnauskas, K. B., Griffin, S., Phan, K. H., Vo, S. T., Ong, M. R., and Druffel, E. R. M.: East Asian Monsoon Variability Since the Sixteenth Century, Geophysical Research Letters, 46, 4790–4798, https://doi.org/10.1029/2019GL081939, 2019.

Graven, H., Kozyr, A., and Key, R.: Historical observations of oceanic radiocarbon conducted prior to GEOSECS, https://doi.org/10.3334/CDIAC/OTG.HIST_C14_OBS, accessed 30 June 2026., 2012.

Griffith, D. R., McNichol, A. P., Xu, L., McLaughlin, F. A., Macdonald, R. W., Brown, K. A., and Eglinton, T. I.: Carbon dynamics in the western Arctic Ocean: insights from full-depth carbon isotope profiles of DIC, DOC, and POC, Biogeosciences, 9, 1217–1224, https://doi.org/10.5194/bg-9-1217-2012, 2012.

Grotheer, H., Hammes, J. S., Gentz, T., Castrillejo, M., Wacker, L., Hansman, R. L., and Mollenhauer, G.: Radiocarbon measurements of dissolved inorganic carbon (DIC) in sediment porewater and seawater at AWI MICADAS, Radiocarbon, 67, 297–306, https://doi.org/10.1017/RDC.2024.139, 2025.

Grottoli, A. G., Gille, S. T., Druffel, E. R. M., and Dunbar, R. B.: Decadal Timescale Shift in the 14C Record of a Central Equatorial Pacific Coral, Radiocarbon, 45, 91–99, https://doi.org/10.1017/S0033822200032422, 2003.

Grottoli, A. G., Adkins, J. F., Panero, W. R., Reaman, D. M., and Moots, K.: Growth rates, stable oxygen isotopes (18O), and strontium (Sr/Ca) composition in two species of Pacific sclerosponges (Acanthocheatetes wellsi and Astrosclera willeyana) with 18O calibration and application to paleoceanography, Journal of Geophysical Research: Oceans, 115, https://doi.org/10.1029/2009JC005586, 2010.

Grumet, N. S., Guilderson, T. P., and Dunbar, R. B.: Pre-Bomb Radiocarbon Variability Inferred from a Kenyan Coral Record, Radiocarbon, 44, 581–590, https://doi.org/10.1017/S0033822200031933, 2002.

Grumet, N. S., Abram, N. J., Beck, J. W., Dunbar, R. B., Gagan, M. K., Guilderson, T. P., Hantoro, W. S., and Suwargadi, B. W.: Coral radiocarbon records of Indian Ocean water mass mixing and wind-induced upwelling along the coast of Sumatra, Indonesia, Journal of Geophysical Research: Oceans, 109, https://doi.org/10.1029/2003JC002087, 2004.

Guilderson, T. P. and Schrag, D. P.: Abrupt Shift in Subsurface Temperatures in the Tropical Pacific Associated with Changes in El Niño, Science, 281, 240–243, https://doi.org/10.1126/science.281.5374.240, 1998.

Guilderson, T. P., Schrag, D. P., Kashgarian, M., and Southon, J.: Radiocarbon variability in the western equatorial Pacific inferred from a high-resolution coral record from Nauru Island, Journal of Geophysical Research: Oceans, 103, 24 641–24 650, https://doi.org/10.1029/98JC02271, 1998.

Guilderson, T. P., Schrag, D. P., Goddard, E., Kashgarian, M., Wellington, G. M., and Linsley, B. K.: Southwest Subtropical Pacific Surface Water Radiocarbon in a High-Resolution Coral Record, Radiocarbon, 42, 249–256, https://doi.org/10.1017/S0033822200059051, 2000.

Guilderson, T. P., Schrag, D. P., and Cane, M. A.: Surface Water Mixing in the Solomon Sea as Documented by a High-Resolution Coral 14C Record, Journal of Climate, 17, 1147–1156, https://doi.org/10.1175/1520-0442(2004)017<1147:SWMITS>2.0.CO;2, 2004.

Guilderson, T. P., Cole, J. E., and Southon, J. R.: Pre-Bomb 14C Variability and the Suess Effect in Cariaco Basin Surface Waters as Recorded in Hermatypic Corals, Radiocarbon, 47, 57–65, https://doi.org/10.1017/S003382220005219X, 2005.

Guilderson, T. P., Roark, E. B., Quay, P. D., Page, S. R. F., and Moy, C.: Seawater Radiocarbon Evolution in the Gulf of Alaska: 2002 Observations, Radiocarbon, 48, 1–15, https://doi.org/10.1017/S0033822200035359, 2006.

Guilderson, T. P., Fallon, S., Moore, M. D., Schrag, D. P., and Charles, C. D.: Seasonally resolved surface water 14C variability in the Lombok Strait: A coralline perspective, Journal of Geophysical Research: Oceans, 114, https://doi.org/10.1029/2008JC004876, 2009.

Guilderson, T. P., Sweeney, C., Quay, P. D., Newberger, T., and Stutsman, J.: Drake Passage Radiocarbon (Δ^{14}C) of Dissolved Inorganic Carbon (DIC): Measurements from R/V Laurence M. Gould Transects, https://doi.org/10.3334/CDIAC/OTG.DRAKE_C14, accessed 30 June 2026., 2012.

Guilderson, T. P., Schrag, D. P., Druffel, E. R. M., and Reimer, R. W.: Postbomb Subtropical North Pacific Surface Water Radiocarbon History, Journal of Geophysical Research: Oceans, 126, e2020JC016 881, https://doi.org/10.1029/2020JC016881, 2021.

Hadden, C. S. and Cherkinsky, A.: 14C Variations in Pre-Bomb Nearshore Habitats of the Florida Panhandle, USA, Radiocarbon, 57, 469–479, https://doi.org/10.2458/azu_rc.57.18353, 2015.

Hauksson, N. E., Xu, X., Pedron, S., Martinez, H. A., Lewis, C. B., Glynn, D. S., Glynn, C., Garcia, N., Flaherty, A., Thomas, K., Griffin, S., and Druffel, E. R. M.: TIME SERIES OF SURFACE WATER DISSOLVED INORGANIC CARBON ISOTOPES FROM THE SOUTHERN CALIFORNIA BIGHT, Radiocarbon, 66, 863–878, https://doi.org/10.1017/RDC.2023.73, 2024.

Hideshima, S., Matsumoto, E., Abe, O., and Kitagawa, H.: Northwest Pacific Marine Reservoir Correction Estimated from Annually Banded Coral from Ishigaki Island, Southern Japan, Radiocarbon, 43, 473–476, https://doi.org/10.1017/S0033822200038352, 2001.

Hill, T. M., Spero, H. J., Guilderson, T. P., LaVigne, M., Clague, D. A., Macalello, S., and Jang, N.-D.: Temperature and vital effect controls on bamboo coral (Isididae) isotope geochemistry: A test of the "lines method", Geochemistry, Geophysics, Geosystems, 12, Q04 008, https://doi.org/10.1029/2010GC003443, 2011.

Hinger, E. N., Santos, G. M., Druffel, E. R. M., and Griffin, S.: Carbon Isotope Measurements of Surface Seawater from a Time-Series Site Off Southern California, Radiocarbon, 52, 69–89, https://doi.org/10.1017/S0033822200045045, 2010.

Hirabayashi, S., Yokoyama, Y., Suzuki, A., Miyairi, Y., and Aze, T.: Multidecadal oceanographic changes in the western Pacific detected through high-resolution bomb-derived radiocarbon measurements on corals, Geochemistry, Geophysics, Geosystems, 18, 1608–1617, https://doi.org/10.1002/2017GC006854, 2017a.

Hirabayashi, S., Yokoyama, Y., Suzuki, A., Miyairi, Y., Aze, T., Siringan, F., and Maeda, Y.: Radiocarbon variability recorded in coral skeletons from the northwest of Luzon Island, Philippines, Geoscience Letters, 4, 15, https://doi.org/10.1186/s40562-017-0081-8, 2017b.

Hirabayashi, S., Yokoyama, Y., Suzuki, A., Esat, T., Miyairi, Y., Aze, T., Siringan, F., and Maeda, Y.: Local marine reservoir age variability at Luzon Strait in the South China Sea during the Holocene, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 455, 171–177, https://doi.org/10.1016/j.nimb.2018.12.001, 2019.

Hua, Q., Woodroffe, C. D., Smithers, S. G., Barbetti, M., and Fink, D.: Radiocarbon in corals from the Cocos (Keeling) Islands and implications for Indian Ocean circulation, Geophysical Research Letters, 32, https://doi.org/10.1029/2005GL023882, 2005.

JAMSTEC: Bottle data from cruise 49NZ199909_2, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/49NZ199909_2, accessed 30 June 2026. WHP P01 (1999) occupation; included as a former CCHDO extra in `cchdo_radiocarbon_not_in_glodap3`. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2024a.

JAMSTEC: Bottle data from cruise 49NZ20051127, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/49NZ20051127, accessed 30 June 2026. WHP P03 (2005); station 211 Δ^{14}C profile only in this compilation. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2024b.

Jasperse, L., Else, B. G. T., Miller, L. A., Nickoloff, G., Walker, J., Fox, A. E., and Walker, B. D.: Tracing Pan-Canadian Arctic Water Masses and Dissolved Inorganic Carbon Cycling Using Stable and Radiocarbon Isotopes, Global Biogeochemical Cycles, 39, e2024GB008 179, https://doi.org/10.1029/2024GB008179, 2025.

Jones, G. A., Key, R. M., McNichol, A. P., Grottoli, A. G., Roberts, M. L., Jenkins, W. J., Griffin, S., and Druffel, E. R. M.: Determination of Radiocarbon in Marine Carbonate Samples by Accelerator Mass Spectrometry, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 92, 426–430, https://doi.org/10.1016/0168-583X(94)96048-8, 1994.

Jones, K. B., Hodgins, G. W. L., Etayo-Cadavid, M. F., and Andrus, C. F. T.: Upwelling signals in radiocarbon from early 20th-century Peruvian bay scallop (Argopecten purpuratus) shells, Quaternary Research, 72, 452–456, https://doi.org/10.1016/j.yqres.2009.07.008, 2009.

Kaizer, J., Kumamoto, Y., Molnár, M., Palcsu, L., and Povinec, P. P.: Temporal changes in tritium and radiocarbon concentrations in the western North Pacific Ocean (1993–2012), Journal of Environmental Radioactivity, 218, 106 238, https://doi.org/10.1016/j.jenvrad.2020.106238, 2020.

Kastelle, C. R., Helser, T. E., Black, B. A., Stuckey, M. J., Gillespie, D. C., McArthur, J., Little, D., Charles, K. D., and Khan, R. S.: Bomb-produced radiocarbon validation of growth-increment crossdating allows marine paleoclimate reconstruction, Palaeogeography, Palaeoclimatology, Palaeoecology, 311, 126–135, https://doi.org/10.1016/j.palaeo.2011.08.015, 2011.

Kilada, R. W., Campana, S. E., and Roddick, D.: Validated age, growth, and mortality estimates of the ocean quahog (Arctica islandica) in the western Atlantic, ICES Journal of Marine Science, 64, 31–38, https://doi.org/10.1093/icesjms/fsl001, 2007.

Kilada, R. W., Campana, S. E., and Roddick, D.: Growth and sexual maturity of the northern propellerclam (Cyrtodaria siliqua) in Eastern Canada, with bomb radiocarbon age validation, Marine Biology, 156, 1029–1037, https://doi.org/10.1007/s00227-009-1146-9, 2009.

Kilbourne, K. H., Quinn, T. M., Guilderson, T. P., Webb, R. S., and Taylor, F. W.: Decadal- to interannual-scale source water variations in the Caribbean Sea recorded by Puerto Rican coral radiocarbon, Climate Dynamics, 29, 51–62, https://doi.org/10.1007/s00382-007-0224-2, 2007.

King, B. A.: Bottle data from cruise 740H20180228, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/740H20180228, accessed 14 August 2026. GO-SHIP A09.5 (JC159). DIC Δ^{14}C from CCHDO file 740H20180228_D14Cd13Cdataonly_220427.csv submitted by H. Graven (2 Nov 2022); GLODAPv3 includes only a sparse public subset and the remaining bottles are restored in `cchdo_radiocarbon_not_in_glodap3`. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2022.

Komada, T., Burdige, D. J., Chanton, J. P., Castrillejo, M., Druffel, E. R. M., Griffin, S., Hwang, J., Lapham, L., Wang, Y., and Xu, X.: Dissolved inorganic carbon and radiocarbon in Go-Flo seawater from Santa Barbara and Santa Monica basins, 2012–2013, https://doi.org/10.26008/1912/bco-dmo.663096, accessed 30 June 2026., 2016.

Konishi, K., Tanaka, T., Sakanoue, M., Johannes, R. E., Gomez, E. D., Marsh, J. A., Jr., Tsuda, R. T., Birkeland, C. E., and Buddemeier, R. E.: Secular variation of radiocarbon concentration in seawater: Sclerochronological approach, in: Proceedings of the Fourth International Coral Reef Symposium, vol. 1, pp. 181–185, Marine Sciences Center, University of the Philippines, Manila, ISBN 9789710300150, 1981.

Kumamoto, Y., Murata, A., Saito, C., Honda, M., and Kusakabe, M.: Bomb radiocarbon invasion into the northwestern North Pacific, Deep Sea Research Part II: Topical Studies in Oceanography, 49, 5339–5351, https://doi.org/10.1016/S0967-0645(02)00194-7, 2002.

Lan, H., Hirabayashi, S., Miyairi, Y., and Yokoyama, Y.: First dataset of dissolved inorganic radiocarbon in the Tokara Strait, GEOCHEMICAL JOURNAL, 57, 197–203, https://doi.org/10.2343/geochemj.GJ23018, 2023.

Lan, H., Yokoyama, Y., Hirabayashi, S., Miyairi, Y., Jiang, S., Saito, H., Hasumi, H., and Yasuda, I.: Mixing Dynamics Within the Kuroshio Area Are Reflected in Dissolved Inorganic Radiocarbon Values, Journal of Geophysical Research: Oceans, 129, e2023JC020 261, https://doi.org/10.1029/2023JC020261, 2024.

Lange, N., Lauvset, S. K., Carter, B. R., Humphreys, M. P., Woosley, R. J., Olsen, A., Bittig, H. C., Kozyr, A., Álvarez, M., Azetsu-Scott, K., Becker, S., Brown, P. J., Cotrim da Cunha, L., Hoppema, M., Ishii, M., Jeansson, E., Murata, A., Müller, J. D., Pérez, F. F., Schirnick, C., Steinfeldt, R., Ulfsbo, A., Velo, A., and Tanhua, T.: The Global Ocean Data Analysis Project version 3 (GLODAPv3) – an internally consistent biogeochemical data product for the World Ocean (NCEI Accession 0315582), https://doi.org/10.25921/m6tp-mj50, dataset; accessed 20 July 2026, 2026.

Lauvset, S. K., Lange, N., Tanhua, T., Bittig, H. C., Olsen, A., Kozyr, A., Álvarez, M., Azetsu-Scott, K., Brown, P. J., Carter, B. R., Cotrim da Cunha, L., Hoppema, M., Humphreys, M. P., Ishii, M., Jeansson, E., Murata, A., Müller, J. D., Pérez, F. F., Schirnick, C., Steinfeldt, R., Suzuki, T., Ulfsbo, A., Velo, A., Woosley, R. J., and Key, R. M.: The annual update GLODAPv2.2023: the global interior ocean biogeochemical data product, Earth Syst. Sci. Data, 16, 2047–2072, https://doi.org/10.5194/essd-16-2047-2024, 2024.

Leboucher, V., Jean-Baptiste, P., Fourré, E., Arnold, M., and Fieux, M.: Oceanic Radiocarbon and Tritium On A Transect Between Australia and Bali (Eastern Indian Ocean), Radiocarbon, 46, 567–581, https://doi.org/10.1017/S003382220003561X, 2004.

Lee, J.-M., Eltgroth, S. F., Boyle, E. A., and Adkins, J. F.: The transfer of bomb radiocarbon and anthropogenic lead to the deep North Atlantic Ocean observed from a deep sea coral, Earth and Planetary Science Letters, 458, 223–232, https://doi.org/10.1016/j.epsl.2016.10.049, 2017.

Linick, T. W.: La Jolla Measurements of Radiocarbon in the Oceans, Radiocarbon, 20, 333–359, https://doi.org/10.1017/S0033822200009164, 1978.

Lower-Spies, E. E., Whitney, N. M., Wanamaker, A. D., Griffin, S. M., Introne, D. S., and Kreutz, K. J.: A 250-Year, Decadally Resolved, Radiocarbon Time History in the Gulf of Maine Reveals a Hydrographic Regime Shift at the End of the Little Ice Age, Journal of Geophysical Research: Oceans, 125, e2020JC016 579, https://doi.org/10.1029/2020JC016579, 2020.

Macdonald, R. W. and Carmack, E. C.: The Role of Tidal Mixing and Topography in the Southern Beaufort Sea, Science, 254, 1348–1350, https://doi.org/10.1126/science.254.5036.1348, 1991.

Masiello, C. A., Druffel, E. R. M., and Bauer, J. E.: Physical controls on dissolved inorganic radiocarbon variability in the California Current, Deep Sea Research Part II: Topical Studies in Oceanography, 45, 617–642, https://doi.org/10.1016/S0967-0645(97)00096-9, 1998.

McCartney, M.: Bottle data from cruise 33AT20120419, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33AT20120419, accessed 30 June 2026. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2023.

McFadgen, B. G. and Manning, M. R.: Calibrating New Zealand Radiocarbon Dates of Marine Shells, Radiocarbon, 32, 229–232, https://doi.org/10.1017/S0033822200040194, 1990.

Menezes, V. and Volkov, D. L.: Bottle data from cruise 33RO20180423, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33RO20180423, accessed 30 June 2026. CCHDO cruise DOI: 10.7942/C25H2B, 2023.

Mitsuguchi, T., Kitagawa, H., Matsumoto, E., Shibata, Y., Yoneda, M., Kobayashi, T., Uchida, T., and Ahagon, N.: High-resolution 14C analyses of annually-banded coral skeletons from Ishigaki Island, Japan: implications for oceanography, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 223-224, 455–459, https://doi.org/10.1016/j.nimb.2004.04.086, 2004.

Mitsuguchi, T., Dang, P. X., Kitagawa, H., Yoneda, M., and Shibata, Y.: Tropical South China Sea Surface 14C Record in an Annually-Banded Coral, Radiocarbon, 49, 905–914, https://doi.org/10.1017/S0033822200042776, 2007.

Mitsuguchi, T., Hirota, M., Group, P. L. A. M. S. D., Yamazaki, A., Watanabe, T., and Yamano, H.: Post-bomb coral 14C record from Iki Island, Japan: possible evidence of oceanographic conditions on the northern East China Sea shelf, Geo-Marine Letters, 36, 371–377, https://doi.org/10.1007/s00367-016-0456-4, 2016.

Mitsuguchi, T., Okabe, N., Yokoyama, Y., Yoneda, M., Shibata, Y., Fujita, N., Watanabe, T., and Saito-Kokubu, Y.: 129I/127I and 14C records in a modern coral from Rowley Shoals off northwestern Australia reflect the 20th-century human nuclear activities and ocean/atmosphere circulations, Journal of Environmental Radioactivity, 235-236, 106 593, https://doi.org/10.1016/j.jenvrad.2021.106593, 2021.

Montero-Serrano, J.-C., Frank, N., Tisnerat-Laborde, N., Colin, C., Wu, C.-C., Lin, K., Shen, C.-C., Copard, K., Orejas, C., Gori, A., De Mol, L., Van Rooij, D., Reverdin, G., and Douville, E.: Decadal changes in the mid-depth water mass dynamic of the Northeastern Atlantic margin (Bay of Biscay), Earth and Planetary Science Letters, 364, 134–144, https://doi.org/10.1016/j.epsl.2013.01.012, 2013.

Moore, M. D., Schrag, D. P., and Kashgarian, M.: Coral radiocarbon constraints on the source of the Indonesian throughflow, Journal of Geophysical Research: Oceans, 102, 12 359–12 365, https://doi.org/10.1029/97JC00590, 1997.

Morimoto, M., Kitagawa, H., Shibata, Y., and Kayanne, H.: Seasonal Radiocarbon Variation of Surface Seawater Recorded in A Coral from Kikai Island, Subtropical Northwestern Pacific, Radiocarbon, 46, 643–648, https://doi.org/10.1017/S0033822200035694, 2004.

Moyer, R. P. and Grottoli, A. G.: Coral skeletal carbon isotopes (13C and 14C) record the delivery of terrestrial carbon to the coastal waters of Puerto Rico, Coral Reefs, 30, 791–802, https://doi.org/10.1007/s00338-011-0758-y, 2011.

Nakano, T.: Bottle data from cruise 49UP20110515, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/49UP20110515, accessed 30 June 2026. CLIVAR P13 (2011); station 66 Δ^{14}C profile only in this compilation. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2024.

Niu, Z., Zhou, W., Zhao, H., Feng, X., and Lyu, M.: Radiocarbon in the Atmosphere and Seawater in the South China Sea: Flux, Inventory and Air-Sea CO_2 Exchange Rate Tracing, Journal of Geophysical Research: Biogeosciences, 127, e2021JG006 380, https://doi.org/10.1029/2021JG006380, 2022.

Nozaki, Y., Rye, D. M., Turekian, K. K., and Dodge, R. E.: A 200 year record of carbon-13 and carbon-14 variations in a Bermuda coral, Geophysical Research Letters, 5, 825–828, https://doi.org/10.1029/GL005i010p00825, 1978.

Nydal, R., Brenkert, A. L., and Boden, T. A.: Carbon-14 Measurements in Surface Water CO_2 from the Atlantic, Indian and Pacific Oceans, 1965–1994, https://doi.org/10.3334/CDIAC/otg.ndp057, accessed 30 June 2026., 1998.

Oliveira, M. I., Carvalho, C., Macario, K., Evangelista, H., Lamounier, S., and Hammerschlag, I.: Marine Reservoir Corrections for the Brazilian Northern Coast Using Modern Corals, Radiocarbon, 61, 587–597, https://doi.org/10.1017/RDC.2018.145, 2019.

Olsen, A., Key, R. M., van Heuven, S., Lauvset, S. K., Velo, A., Lin, X., Schirnick, C., Kozyr, A., Tanhua, T., Hoppema, M., Jutterström, S., Steinfeldt, R., Jeansson, E., Ishii, M., Pérez, F. F., and Suzuki, T.: The Global Ocean Data Analysis Project version 2 (GLODAPv2) – an internally consistent data product for the world ocean, Earth Syst. Sci. Data, 8, 297–323, https://doi.org/10.5194/essd-8-297-2016, 2016.

Östlund, H. G. and Engstrand, L. G.: Stockholm Natural Radiocarbon Measurements V, Radiocarbon, 5, 203–227, https://doi.org/10.1017/S0033822200036869, 1963.

Östlund, H. G., Dingle, R. N., and Dowd, E.: Tritium and Radiocarbon in the Arctic Ocean in the Mid-1980s, Journal of Geophysical Research: Oceans, 92, 3769–3777, https://doi.org/10.1029/JC092iC04p03769, 1987.

Paterne, M., Michel, E., and Heros, V.: Variability of marine 14C reservoir ages in the Southern Ocean highlighting circulation changes between 1910 and 1950, Earth and Planetary Science Letters, 511, 99–104, https://doi.org/10.1016/j.epsl.2019.01.029, 2019.

Paterne, M., Druffel, E. R. M., Guilderson, T. P., Blamart, D., Moreau, C., Weil-Accardo, J., and Feuillet, N.: Pulses of South Atlantic water into the tropical North Atlantic since 1825 from coral isotopes, Science Advances, 9, eadi1687, https://doi.org/10.1126/sciadv.adi1687, 2023.

Peck, L. S. and Brey, T.: Bomb signals in old Antarctic brachiopods, Nature, 380, 207–208, https://doi.org/10.1038/380207a0, 1996.

Povinec, P. P., Aramaki, T., Burr, G. S., Timothy Jull, A. J., Liong Wee Kwong, L., and Togawa, O.: Radiocarbon in the Water Column of the Southwestern North Pacific Ocean—24 Years After Geosecs, Radiocarbon, 46, 583–594, https://doi.org/10.1017/S0033822200035621, 2004.

Rafter, P. A., Sanchez, S. C., Ferguson, J., Carriquiry, J. D., Druffel, E. R. M., Villaescusa, J. A., and Southon, J. R.: Eastern tropical North Pacific coral radiocarbon reveals North Pacific Gyre Oscillation (NPGO) variability, Quaternary Science Reviews, 160, 108–115, https://doi.org/10.1016/j.quascirev.2017.02.002, 2017.

Rafter, T. A. and O'Brien, B. J.: Exchange rate between the ocean as shown by recent C-14 measurements in the South Pacific, in: Radiocarbon variations and absolute chronology, 12th Nobel Symposium, edited by Olson, I., New York, Wiley Interscience Division, 1970.

Rafter, T. A. and O'Brien, B. J.: 14C measurements in the South Pacific Ocean — a recalculation of the exchange rates between the atmosphere and the ocean, Proceedings of the Eighth International Conference on Radiocarbon Dating 1972., Royal Soc New Zealand, Wellington, New Zealand, 1972.

Raj, H. and Bhushan, R.: Spatial and temporal changes in bomb radiocarbon in the northern Indian Ocean, Journal of Environmental Radioactivity, 237, 106 680, https://doi.org/10.1016/j.jenvrad.2021.106680, 2021.

Raj, H., Dabhi, A. J., Banerji, U. S., and Bhushan, R.: Pre-bomb marine reservoir corrections for the southeastern Arabian Sea, Radiocarbon, 68, 392–405, https://doi.org/10.1017/RDC.2025.10173, 2026.

Ramos, R. D., Goodkin, N. F., Druffel, E. R. M., Fan, T. Y., and Siringan, F. P.: Interannual Coral 14C Records of Surface Water Exchange Across the Luzon Strait, Journal of Geophysical Research: Oceans, 124, 491–505, https://doi.org/10.1029/2018JC014735, 2019.

Roark, E. B., Guilderson, T. P., Dunbar, R. B., and Ingram, B. L.: Radiocarbon-based ages and growth rates of Hawaiian deep-sea corals, Marine Ecology Progress Series, 327, 1–14, https://doi.org/10.3354/meps327001, 2006.

Rosso, I. and Mecking, S.: Bottle data from cruise 320620170703, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/320620170703, accessed 30 June 2026. CCHDO cruise DOI: 10.7942/C2PH20, 2025.

Rosso, I. and Orsi, A.: Bottle data from cruise 325020190403, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/325020190403, accessed 30 June 2026. CCHDO cruise DOI: 10.7942/C29660, 2023.

Saito-Kokubu, Y., Mitsuguchi, T., Watanabe, T., Yamada, T., Asami, R., and Iryu, Y.: Preliminary Test of the EA-AGE3 System for 14C Measurement of CaCO3 Samples and Coral-Based Estimation of Marine Reservoir Correction in the Ogasawara Islands, Northwestern Subtropical Pacific, Radiocarbon, 61, 1593–1601, https://doi.org/10.1017/RDC.2019.69, 2019.

Santos, G. M., Ferguson, J., Acaylar, K., Johnson, K. R., Griffin, S., and Druffel, E.: Δ^{14}C and Δ^{13}C of Seawater DIC as Tracers of Coastal Upwelling: A 5-Year Time Series from Southern California, Radiocarbon, 53, 669–677, https://doi.org/10.1017/S0033822200039126, 2011.

Schlosser, P., Kromer, B., Östlund, G., Ekwurzel, B., Bönisch, G., Loosli, H. H., and Purtschert, R.: On the 14C and 39Ar Distribution in the Central Arctic Ocean: Implications for Deep Water Formation, Radiocarbon, 36, 327–343, https://doi.org/10.1017/S003382220001451X, 1994.

Schlosser, P., Kromer, B., Ekwurzel, B., Bönisch, G., McNichol, A., Schneider, R., von Reden, K., Östlund, H. G., and Swift, J. H.: The first trans-Arctic ^{14}C section: comparison of the mean ages of the deep waters in the Eurasian and Canadian basins of the Arctic Ocean, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 123, 431–437, https://doi.org/10.1016/S0168-583X(96)00677-5, 1997.

Schmidt, A., Burr, G. S., Taylor, F. W., O'Malley, J., and Beck, J. W.: A semiannual radiocarbon record of a modern coral from the Solomon Islands, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 223-224, 420–427, https://doi.org/10.1016/j.nimb.2004.04.080, 2004.

Schockman, K. and Bigorre, S.: Bottle data from cruise 325020240221, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/325020240221, accessed 30 June 2026. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2025.

Scourse, J. D., Wanamaker, A. D., Weidman, C., Heinemeier, J., Reimer, P. J., Butler, P. G., Witbaard, R., and Richardson, C. A.: The Marine Radiocarbon Bomb Pulse Across the Temperate North Atlantic: A Compilation of Δ^{14}C Time Histories from Arctica Islandica Growth Increments, Radiocarbon, 54, 165–186, https://doi.org/10.2458/azu_js_rc.v54i2.16026, 2012.

Servettaz, A. P. M., Yokoyama, Y., Hirabayashi, S., Kienast, M., Miyairi, Y., and Mohtadi, M.: Dissolved inorganic Radiocarbon content of the Western Coral sea: Implications for Intermediate and Deep Water Circulation, Radiocarbon, 61, 1685–1696, https://doi.org/10.1017/RDC.2019.122, 2019.

Severinghaus, J. P., Broecker, W. S., Peng, T.-H., and Bonani, G.: Transect Along 24°n Latitude of 14C in Dissolved Inorganic Carbon in the Subtropical North Atlantic Ocean, Radiocarbon, 38, 407–414, https://doi.org/10.1017/s0033822200030058, 1996.

Shen, C. D., Yi, W. X., Yu, K. F., Sun, Y. M., Yang, Y., and Zhou, B.: Interannual ^{14}C Variations During 1977–1998 Recorded in Coral from Daya Bay, South China Sea, Radiocarbon, 46, 595–601, https://doi.org/10.1017/S0033822200035633, 2004.

Sherwood, O. A., Edinger, E. N., Guilderson, T. P., Ghaleb, B., Risk, M. J., and Scott, D. B.: Late Holocene radiocarbon variability in Northwest Atlantic slope waters, Earth and Planetary Science Letters, 275, 146–153, https://doi.org/10.1016/j.epsl.2008.08.019, 2008.

Sloyan, B. and Wijffels, S.: Bottle data from cruise 096U20160426, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/096U20160426, accessed 30 June 2026. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2026.

Soulet, G., Maestrati, P., Gofas, S., Bayon, G., Dewilde, F., Labonne, M., Dennielou, B., Ferraton, F., and Siani, G.: Marine reservoir ages for coastal West Africa, Geochronology, 5, 345–359, https://doi.org/10.5194/gchron-5-345-2023, 2023.

Southon, J., Kashgarian, M., Fontugne, M., Metivier, B., and W-S Yim, W.: Marine Reservoir Corrections for the Indian Ocean and Southeast Asia, Radiocarbon, 44, 167–180, https://doi.org/10.1017/S0033822200064778, 2002.

Sparks, R. J., Drummond, G. W., Brailsford, G. W., Lowe, D. C., Lassey, K. R., Manning, M. R., Taylor, C. B., and Wallace, G.: Radiocarbon Measurements in South Pacific Ocean Waters in the Vicinity of the Subtropical Convergence Zone, Radiocarbon, 34, 727–736, https://doi.org/10.1017/S0033822200064018, 1992.

Stuiver, M. and Polach, H. A.: Discussion: Reporting of ^{14}C Data, Radiocarbon, 19, 355–363, https://doi.org/10.1017/S0033822200003672, 1977.

Tan, S. and Macdonald, A.: Bottle data from cruise 33RR20220430, exchange version [Dataset], accessed from CCHDO https://cchdo.ucsd.edu/cruise/33RR20220430, accessed 30 June 2026. CCHDO Hydrographic Data Archive. UC San Diego Library Digital Collections. https://doi.org/10.6075/J0CCHAM8, 2025.

Toggweiler, J. R., Dixon, K., and Broecker, W. S.: The Peru upwelling and the ventilation of the south Pacific thermocline, Journal of Geophysical Research: Oceans, 96, 20 467–20 497, https://doi.org/10.1029/91JC02063, 1991.

Tsuboi, N., Yokoyama, Y., Miyairi, Y., Aze, T., Matsuzaki, H., Dunbar, R. B., and Ohkouchi, N.: Radiocarbon in Dissolved Inorganic Carbon in the Kuroshio Region, Southern Japan, Radiocarbon, 53, 679–690, https://doi.org/10.1017/S0033822200039138, 2011.

Tsunogai, S., Watanabe, S., Honda, M., and Aramaki, T.: North Pacific Intermediate Water studied chiefly with radiocarbon, Journal of Oceanography, 51, 519–536, https://doi.org/10.1007/BF02270522, 1995.

Uchida, H., Murata, A., and Doi, T.: WHP P21 REVISIT DATA BOOK, https://doi.org/10.17596/0000032, JAMSTEC Data DOI, 2011.

Ulm, S.: Marine and estuarine reservoir effects in central Queensland, Australia: Determination of ΔR values, Geoarchaeology, 17, 319–348, https://doi.org/10.1002/gea.10017, 2002.

Vogel, J. C.: Groningen Radiocarbon Dates IX, Radiocarbon, 12, 444–471, https://doi.org/10.1017/S0033822200008183, 1970.

Vogel, J. C. and Marais, M.: Pretoria Radiocarbon Dates I, Radiocarbon, 13, 378–394, https://doi.org/10.1017/S003382220000850X, 1971.

Wagner, A. J., Guilderson, T. P., Slowey, N. C., and Cole, J. E.: Pre-Bomb Surface Water Radiocarbon of the Gulf of Mexico and Caribbean as Recorded in Hermatypic Corals, Radiocarbon, 51, 947–954, https://doi.org/10.1017/S0033822200034020, 2009.

Wanamaker, A. D., Butler, P. G., Scourse, J. D., Richardson, C. A., Eiríksson, J., Knudsen, K. L., Hall, I. R., Heinemeier, J., Wohlfarth, B., et al.: Surface changes in the North Atlantic meridional overturning circulation during the last millennium, Nature Communications, 3, 899, https://doi.org/10.1038/ncomms1901, 2012.

Wang, N., Shen, C., Sun, W., Yi, W., Ding, P., Ding, X., Fu, D., and Liu, K.: Seasonal 14C and Sr/Ca Records of a Modern Coral around Daya Bay Nuclear Power Plants, Radiocarbon, 59, 1035–1046, https://doi.org/10.1017/RDC.2017.43, 2017.

Weidman, C. R.: Development and application of the mollusc *Arctica islandica* as a paleoceanographic tool for the North Atlantic Ocean, Ph.D. thesis, Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, Joint Program in Oceanography, Woods Hole, MA, USA, https://doi.org/10.2172/663502, 1995.

Weidman, C. R. and Jones, G. A.: A shell-derived time history of bomb ^{14}C on Georges Bank and its Labrador Sea implications, Journal of Geophysical Research: Oceans, 98, 14 577–14 588, https://doi.org/10.1029/93JC00785, 1993.

Williams, P. M., Robertson, K. J., Soutar, A., Griffin, S. M., and Druffel, E. R. M.: Isotopic signatures (14C, 13C, 15N) as tracers of sources and cycling of soluble and particulate organic matter in the Santa Monica Basin, California, Progress in Oceanography, 30, 253–290, https://doi.org/10.1016/0079-6611(92)90015-R, 1992.

Witbaard, R., Jenness, M. I., Van Der Borg, K., and Ganssen, G.: Verification of annual growth increments in Arctica islandica L. from the North Sea by means of oxygen and carbon isotopes, Netherlands Journal of Sea Research, 33, 91–101, https://doi.org/10.1016/0077-7579(94)90054-X, 1994.

Wu, Y. and Fallon, S. J.: Prebomb to Postbomb 14C History From the West Side of Palawan Island: Insights Into Oceanographic Changes in the South China Sea, Journal of Geophysical Research: Oceans, 125, e2019JC015 979, https://doi.org/10.1029/2019JC015979, 2020.

Wu, Y., Fallon, S. J., Cantin, N. E., and Lough, J. M.: SURFACE OCEAN RADIOCARBON FROM A PORITES CORAL RECORD IN THE GREAT BARRIER REEF: 1945–2017, Radiocarbon, 63, 1193–1203, https://doi.org/10.1017/RDC.2020.141, 2021.

Yang, L., Zhou, W., Cheng, P., Zhang, L., Wei, G., Ma, X., Zhou, J., Yan, H., Chen, N., and Hou, Y.: Monsoon-regulated marine carbon reservoir effect in the northern South China Sea, Radiocarbon, 67, 412–427, https://doi.org/10.1017/RDC.2024.118, 2025.

Zaunbrecher, L. K., Cobb, K. M., Beck, J. W., Charles, C. D., Druffel, E. R. M., Fairbanks, R. G., Griffin, S., and Sayani, H. R.: Coral records of central tropical Pacific radiocarbon variability during the last millennium, Paleoceanography, 25, https://doi.org/10.1029/2009PA001788, 2010.

Zeidan, S., Walker, J., Else, B. G. T., Miller, L. A., Azetsu-Scott, K., and Walker, B. D.: Using Radiocarbon Measurements of Dissolved Inorganic Carbon to Determine a Revised Residence Time for Deep Baffin Bay, Frontiers in Marine Science, Volume 9 - 2022, https://doi.org/10.3389/fmars.2022.845536, 2022.

Zeng, Y., Yokoyama, Y., Hirabayashi, S., Miyairi, Y., Suzuki, A., Aze, T., and Kawakubo, Y.: Anthropocene North Western Pacific Oceanography Recorded as Seasonal-Resolution Radiocarbon in Coral From Kikai Island, Japan, Global Biogeochemical Cycles, 38, e2023GB007 927, https://doi.org/10.1029/2023GB007927, 2024.