

## Biogeochemical Time Series Stations - Atlantic & Arctic

International Ocean Carbon Coordination Project ([www.ioccp.org](http://www.ioccp.org))

Last updated: April 2016 (using last available data from March 2014)

Station Name	Observing Element	Location	Period of Operation	Observing Frequency	Biogeochemical EOVs (Sub-Variables) Measured	PI	Country
FRAM/HAUSGARTEN	Ship-based	<p>Network of 17 stations west of Svalbard:</p> <ul style="list-style-type: none"> <li>- longitudinal transect at 2500m water depth (~5°E)</li> <li>- depth transect from 1200 to 5500m water depth (~ 79°N)</li> </ul> <p>Central station 'HGIV' located at 79.1°N, 3.6°E</p>	1999-	<p>continuous (moorings and benthic observatories) and yearly visit (sampling, experimentation, instrument exchange and maintenance)</p>	<p>Dissolved Oxygen Carbonate System (pCO<sub>2</sub> TA) Suspended Particulates (Chl-a POM POC+PIC-flux Bsi-flux) DOC</p>	<p>Thomas Soltwedel (<a href="mailto:thomas.soltwedel@awi.de">thomas.soltwedel@awi.de</a>);</p> <p>Antje Boetius (<a href="mailto:antje.boetius@awi.de">antje.boetius@awi.de</a>)</p> <p>Felix Janssen (<a href="mailto:felix.janssen@awi.de">felix.janssen@awi.de</a>)</p> <p>Eva-Maria Nöthig (representing PEBCAO group Eva-Maria.Noethig@awi.de)</p>	Norway
AZTI Station D2 (Southeastern Bay of Biscay)	Ship-based	43.45 N -1.92 W ; Bay of Biscay & western Iberian Shelf	1986- (Chl a & physico-chemical); 2002- (phytoplankton)	3-12 cruises/yr (Chl a & physico-chemical); 2-4 cruises/yr (phytoplankton)	<p>Dissolved Oxygen Inorganic Macronutrients (NO<sub>3</sub>+NO<sub>2</sub> NO<sub>2</sub> NH<sub>4</sub> P Si) Suspended Particulates (Chl-a Beam_Att)</p>	<p>Marta Revilla [<a href="mailto:mrevilla@azti.es">mrevilla@azti.es</a>]; Victoriano Valencia [<a href="mailto:vvalencia@azti.es">vvalencia@azti.es</a>]</p>	Spain

Bilbao Estuary 35 (Inner Bay of Biscay)	Ship-based	43.4 N -3.0 W ; Bay of Biscay & western Iberian Shelf	1997-	monthly cruises	Dissolved Oxygen Suspended Particulates (Chl-a)	Fernando Villate [fernando.villate@ehu.es]	Spain
Guadiana Estuary (southwest Iberian Peninsula)	Ship-based	37.5 N -7.5 W ; Bay of Biscay & western Iberian Shelf	1996 (phytoplankton), 1997 (zooplankton)	9 cruises/yr (phytoplankton), 1 cruise/yr (zooplankton)	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Ana Barbosa [abarbosa@ualg.pt]; Maria Alexandra Chicharo [mchichar@ualg.pt]	Portugal
Nervion River Estuary E1,2 (Southern Bay of Biscay)	Ship-based	43.3 N -3.0 W ; Bay of Biscay & western Iberian Shelf	2000-	7 cruises/yr	Dissolved Oxygen Suspended Particulates (Chl-a)	Emma Orive [emma.orive@ehu.es]	Spain
RADIALES A Coruna Station 2 (northwest Iberian coast)	Ship-based	43.4 N -8.4 W western Iberian Shelf	1988- (zooplankton); 1989- (phytoplankton, CTD & nutrientes)	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a POM) DOC	Antonio Bode [antonio.bode@co.ieo.es]; M.T. Alvarez-Ossorio [maite.alvarez@co.ieo.es]	Spain
RADIALES Gijon/Xixon Station 2 (Bay of Biscay)	Ship-based	43.7 N -5.6 W ; Bay of Biscay	2001- (zooplankton, CTD & nutrients); 2002- (phytoplankton)	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Xose Anxelu Moran [xelu.moran@gi.ieo.es]; Angel Lopez-Urrutia [alop@gi.ieo.es]	Spain
RADIALES Santander St. 4 (Southern Bay of Biscay)	Ship-based	43.6 N -3.8 W ; Bay of Biscay & western Iberian Shelf	1991-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Carmen Rodriguez [carmen@st.ieo.es]	Spain

RADIALES Vigo St. 3 (Northwest Iberian coast)	Ship-based	42.1 N -9.0 W; western Iberian Shelf	1987- (nutrients); 1994- (zooplankton)	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Ana Miranda [ana.miranda@v i.ieo.es]	Spain
REPHY (Bay of Biscay)	Ship-based	48.1 N -4.3 W ; Bay of Biscay & western Iberian Shelf; 46.1 N - 1.1 W ; Bay of Biscay & western Iberian Shelf; 47.5 N -3.1 W ; Bay of Biscay & western Iberian Shelf; 47.5 N - 2.5 W ; Bay of Biscay & western Iberian Shelf; 44.7 N -1.2 W ; Bay of Biscay & western Iberian Shelf	1987-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Dominique Soudant [Dominique.Soudant@ifremer.fr]	France
Urdaibai Estuary 35 (Inner Bay of Biscay)	Ship-based	43.4 N -2.7 W ; Bay of Biscay & western Iberian Shelf	1997-	monthly cruises	Dissolved Oxygen Suspended Particulates (Chl-a)	Fernando Villate [fernando.villate@ehu.es]	Spain
AR7W Zone 1-5	Ship-based	54.3 N -55.0 W ; Labrador Sea; 55.2 N - 54.0 W ; Labrador Sea; 57.3 N -51.9 W ; Labrador Sea; 60.0 N - 48.9 W ; Labrador Sea; 60.4 N -48.4 W ; Labrador Sea	1995 (1996 zone 2)-	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Carbonate System (DIC TA pH) Suspended Particulates (Chl-a Beam_Att POM)	Erica Head [Erica.Head@mar.dfo-mpo.gc.ca]	Canada
Greenland Shelf and Slope (Northwest Atlantic)	Ship-based	60.4 N -48.5 W ; Labrador Sea	1994-	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a POM)	Bill Li [Bill.Li@dfo-mpo.gc.ca]	Canada

Labrador Basin (Northwest Atlantic)	Ship-based	57.8 N -51.3 W ; Labrador Sea	1994-	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM)	Bill Li [Bill.Li@dfo-mpo.gc.ca]	Canada
Labrador Shelf and Slope (Northwest Atlantic)	Ship-based	54.6 N -54.7 W ; Labrador Sea	1995-	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM)	Bill Li [Bill.Li@dfo-mpo.gc.ca]	Canada
Station 27 (Newfoundland Shelf)	Ship-based	47.6 N -52.6 W ; Labrador Sea	1999-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Suspended Particulates (Chl-a)	Pierre Pepin [Pierre.Pepin@dfo-mpo.gc.ca]	Canada
Newfoundland Shelf (AZMP)	Ship-based	57.06N -61.3W; 42.08N -49.3W; Newfoundland Shelf	1999-	1 to 3 cruises per year	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Suspended Particulates (Chl-a POM)	Pierre Pepin [Pierre.Pepin@dfo-mpo.gc.ca]	Canada
Faroe Islands Shelf (Faroe Islands)	Ship-based	61.9N -06.8W ; Nordic & Barents Seas;	1997- (phytoplankton), 1991- (zooplankton)	6 cruises/yr (phytoplankton); 1 cruise/yr (zooplankton)	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> Si) Suspended Particulates (Chl-a)	Hogni Debes [Hoegnid@hav.fo]; Eilif Gaard [Eilifg@hav.fo]	Denmark
Fugloya-Bjornoya (Western Barents Sea)	Ship-based	74.0 N 19.4 E ; Nordic & Barents Seas; 71.0 N 19.8 E ; Nordic & Barents Seas	1991-	7 cruises/yr		Webjorn Melle [webjoern.melle@imr.no]	Norway
Norwegian Sea Transect (Northern Faroe Islands)	Ship-based	64.30 N -06.05 W ; Nordic & Barents Seas; 62.55 N -06.05 W ; Nordic & Barents Seas	1990-	1 cruise/yr		Eilif Gaard [Eilifg@frs.fo]	Denmark
Selvogsbanki Transect, Siglunes Transect (Iceland)	Ship-based	63.3 N -21.6 W ; Nordic & Barents Seas; 67.0 N 18.8 W ; Nordic & Barents Seas	1971- (south), 1961- (north)	1 cruise/yr		Astthor Gislason [astthor@hafro.is]	Iceland

Svinoy Transect (Norwegian Sea)	Ship-based	62.8 N 4.2 E ; Nordic & Barents Seas; 63.5 N 1.6 E ; Nordic & Barents Seas	1996-	6 cruises/yr	Suspended Particulates (Chl-a)	Webjorn Melle [webjoern.melle@imr.no]	Norway
Vardo-Nord (Eastern Barents Sea)	Ship-based	75.0 N 31.2 E ; Nordic & Barents Seas; 71.0 N 31.2 E ; Nordic & Barents Seas	1991-	5 cruises/yr		Webjorn Melle [webjoern.melle@imr.no]	Norway
Arendal Station 2 (Northern Skagerrak)	Ship-based	58.4 N 08.8 E ; North Sea & English Channel	1994-	Fortnightly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Tone Falkenhaus [Tone.Falkenhaus@imr.no]	Norway
Helgoland Roads (Southeast North Sea)	Ship-based	54.2 N 07.9 E ; North Sea & English Channel	1962- (phytoplankton),	work-daily	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Carbonate System (TA pH)	Karen H. Wiltshire [Karen.Wiltshire@awi.de];	Germany
Plymouth L4 (English Channel)	Ship-based	50.25 N -4.2 W ; North Sea & English Channel	1988- (zooplankton); 1992- (phytoplankton)	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Angus Atkinson [aat@pml.ac.uk]; Claire Widdicombe (phytoplankton) [clst@pml.ac.uk]	UK
REPHY (English Channel)	Ship-based	49.7 N 0.1 E ; North Sea & English Channel; 50.2 N 1.5 E ; North Sea & English Channel; 48.8 N -1.6 W ; North Sea & English Channel; 48.7 N 3.9 W ; North Sea & English Channel; 50.8 N 1.5 E ; North Sea & English Channel	1989-; 1987-; 2002-; 1987-; 1992-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Dominique Soudant [Dominique.Soudant@ifremer.fr]; Catherine Belin [Catherine.Belin@ifremer.fr]	France

Scalloway - Shetland Isles (Northwest North Sea)	Ship-based	60.1 N -1.3 W ; North Sea & English Channel	2001-	8 cruises/yr	Suspended Particulates (Chl-a)	Eileen Bresnan [E.Bresnan@MARLAB.AC.UK]	UK
Scapa Bay - Orkney (Northwest North Sea)	Ship-based	59.0 N -3.0 W ; North Sea & English Channel	2000-	monthly cruises	Suspended Particulates (Chl-a)	Eileen Bresnan [E.Bresnan@MARLAB.AC.UK]	UK
Stonehaven (Northwest North Sea)	Ship-based	57.0 N -2.1 W ; North Sea & English Channel	1997-	weekly sampling	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Eileen Bresnan [E.Bresnan@MARLAB.AC.UK]; Kathryn Cook [Kathryn.cook@scotland.gsi.gov.uk]	UK
Cypris Station - Isle of Man (Irish Sea)	Ship-based	54.1 N -4.8 W ; Northeast Atlantic Shelf	1954-	Monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Kevin Kennington [Kevin.Kennington@gov.im]	UK
East Coast Ireland (Ireland)	Ship-based	52.8 N -6.1 W ; Northeast Atlantic Shelf	1990-2012	monthly	Suspended Particulates (Chl-a)	Joe Silke [joe.silke@marine.ie]	Ireland
Loch Ewe (Northwest North Sea)	Ship-based	57.9 N -5.7 W ; North Sea & English Channel	2002-	weekly sampling	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Kathryn Cook [Kathryn.cook@scotland.gsi.gov.uk]; Eileen Bresnan [E.Bresnan@MARLAB.AC.UK]	UK
Loch Maddy (Northwest North Sea)	Ship-based	57.6 N -7.1 W ; Northeast Atlantic Shelf	2004-	4 cruises/yr	Suspended Particulates (Chl-a)	Eileen Bresnan [E.Bresnan@MARLAB.AC.UK]	UK
Mill Port (Northwest North Sea)	Ship-based	55.7 N -4.9 W ; Northeast Atlantic Shelf	2005-	4 cruises/yr	Suspended Particulates (Chl-a)	Eileen Bresnan [E.Bresnan@MARLAB.AC.UK]	UK

Ireland	Ship-based	55.1 N -8.3 W ; Northeast Atlantic Shelf; 51.8N -8.0 W ; Northeast Atlantic Shelf; 51.6 N -9.9 W ; Northeast Atlantic Shelf; 53.4 N -10.1 W ; Northeast Atlantic Shelf	1990-2012	monthly	Suspended Particulates (Chl-a)	Joe Silke [joe.silke@marine.ie]	Ireland
ECOMON (NMFS- Northeast US Shelf)	Ship-based	Northwest Atlantic 35- 45oN; 66-76oW	1977-present	currentlt 6 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Carbonate System (pCO2 DIC TA pH) DOC	Jon Hare [Jon.Hare@noaa.gov]	US
SOOP (NMFS - Northeast US Shelf)	Ship-based	Northwest Atlantic 35- 45oN; 66-76oW	1961-present	currently 2 transects monthly	Carbonate System (pCO2)	Jon Hare [Jon.Hare@noaa.gov]	US
Anticosti Gyre (Gulf of St Lawrence)	Ship-based	49.7 N -66.3 W ; Northwest Atlantic Shelf	1999-	9 cruises/yr	Suspended Particulates (Chl-a)	Michel Harvey [Michel.Harvey@dfo-mpo.gc.ca]	Canada
Bay of Fundy (northwest Atlantic shelf)	Ship-based	45.0 N -66.8 W ; Northwest Atlantic Shelf	1988-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Jennifer Martin [Jennifer.Martin@dfo-mpo.gc.ca]	Canada
Bedford Basin (Northwest Atlantic)	Ship-based	44.7 N -63.6 W ; Northwest Atlantic Shelf	1991-	weekly cruises	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a POM)	Bill Li [Bill.Li@dfo-mpo.gc.ca]	Canada
Booth Bay - Maine (northwest Atlantic shelf)	Ship-based	43.8N -69.6 W ; Northwest Atlantic Shelf	2001-present	pier sampling, once a week, at high tide	Suspended Particulates (Chl-a)	Nicole Poulton [npoulton@bigelow.org]	US
Brandy Cove (Bay of Fundy)	Ship-based	45.1 N -67.1 W ; Northwest Atlantic Shelf	1988-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Jennifer Martin [Jennifer.Martin@dfo-mpo.gc.ca]	Canada

Central Scotian Shelf (Halifax Line, northwest Atlantic shelf)	Ship-based	43.5 N -62.5 W ; Northwest Atlantic Shelf	1996-	3 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a POM)	Bill Li [Bill.Li@dfo-mpo.gc.ca]	Canada
Deadmans Harbour (Bay of Fundy)	Ship-based	45.0 N -66.8 W ; Northwest Atlantic Shelf	1988-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Jennifer Martin [Jennifer.Martin@dfo-mpo.gc.ca]	Canada
Eastern Scotian Shelf (Louisbourg Line, Northwest Atlantic)	Ship-based	45.1 N -59.1 W ; Northwest Atlantic Shelf	1997-	2 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a POM)	Bill Li [Bill.Li@dfo-mpo.gc.ca]	Canada
Gaspe Current (Gulf of St Lawrence)	Ship-based	49.2 N -66.2 W ; Northwest Atlantic Shelf	1999-	9 cruises/yr	Suspended Particulates (Chl-a)	Michel Harvey [Michel.Harvey@dfo-mpo.gc.ca]	Canada
Halifax Line 2 (Scotian Shelf)	Ship-based	44.3 N -64.3 W ; Northwest Atlantic Shelf	1999-	20 cruises/year	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Catherine Johnson [Catherine.Johnson@dfo-mpo.gc.ca]	Canada
Shediac (southwestern Gulf of St. Lawrence)	Ship-based	47.8 N -63.3 W ; Northwest Atlantic Shelf	1999-	about 7 cruises/year	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Catherine Johnson [Catherine.Johnson@dfo-mpo.gc.ca]	Canada
Lime Kiln Bay (Bay of Fundy)	Ship-based	45.1 N -66.8 W ; Northwest Atlantic Shelf	1987-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si)	Jennifer Martin [Jennifer.Martin@dfo-mpo.gc.ca]	Canada
Passamaquoddy Bay (Bay of Fundy)	Ship-based	45.1 N -67.0 W ; Northwest Atlantic Shelf	1999-	weekly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Jennifer Martin [Jennifer.Martin@dfo-mpo.gc.ca]	Canada



Prince 5 (Bay of Fundy)	Ship-based	45.0 N -66.8 W ; Northwest Atlantic Shelf	1999-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Catherine Johnson [Catherine.Johnson@dfo- mpo.gc.ca]	Canada
Rimouski Station (Gulf of St Lawrence)	Ship-based	48.7 N -68.6 W ; Northwest Atlantic Shelf	2005-	6 cruises/yr	Suspended Particulates (Chl-a)	Michel Harvey [Michel.Harvey@ dfo- mpo.gc.ca]	Canada
Western Scotian Shelf (Browns Bank Line, Northwest Atlantic)	Ship-based	42.5 N -65.5 W ; Northwest Atlantic Shelf	1997-	2 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a POM)	Bill Li [Bill.Li@dfo- mpo.gc.ca]	Canada
Wolves Islands (Bay of Fundy)	Ship-based	45.0 N -66.7 W ; Northwest Atlantic Shelf	1988-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Jennifer Martin [Jennifer.Martin @dfo- mpo.gc.ca]	Canada
Gulf of Maine North Atlantic Time-series Study (GNATS)	Ship-based	Transect at 43.75 N	1998-	0		Barney Balch (bbalch@bigelo w.org)	US
Labrador Sea (BIO)	Ship-based	0	1993-	1 cruise/yr	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Carbonate System (DIC TA pH) Suspended Particulates (Chl-a POM) DOC	Stephen Punshon	Canada
Offshore Halifax Line	Ship-based	0	2006-	1 cruise/yr	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Carbonate System (DIC TA pH) Suspended Particulates (Chl-a POM) DOC	Stephen Punshon	Canada
Davis Strait	Ship-based	0	2004-2011, 2013 and 2015 (planned)	1 cruise/yr	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Carbonate System (DIC TA pH)	Stephen Punshon	Canada

Barrow Strait	Ship-based	0	2003-2010 (2008 no data)	1 cruise/yr	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (DIC TA pH)	Stephen Punshon	Canada
Hudson Bay and Strait	Ship-based	0	2003-2006	1 cruise/yr	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Carbonate System (DIC TA)	Stephen Punshon	Canada
Cape Verde Ocean Observatory - CVOO	Ship-based	Eastern North Atlantic (17.6°N 24.3°W)	2006- (upgrades in 2013 - new testbed mooring, refit ship)	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC TA) Suspended Particulates (Chl-a POM POC+PIC-flux) DOC	Björn Fiedler, Arne Körtzinger	Cabo Verde
PAP	Ship-based	49.0° N, 16.5° W	1989-	Mooring?		Richard Lampitt	UK
Western Channel Observatory	Ship-based	50.25° N, 4.2° W (L4), 50.0° N, 4.4° W (E1)	E1: 1903 - present (with gaps); L4: 1988 - present	L4: weekly; E1: bi-weekly. Moorings also reporting surface parameters at 1 hourly resolution	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC TA) Suspended Particulates (Chl-a Beam_Att POM) DOC	Tim Smyth (TJSM@pml.ac.uk)	UK
OWS M (Ocean Weather Station M)	Ship-based	66° N, 2° E (Norwegian Sea)	1948-2009 (stationary weather ship); 2010- (mooring and irregularly visiting research vessels)	1948-2009: daily-weekly-monthly (depending on variable); 2010- : mooring and 3-6 cruises each year	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC TA pH) Suspended Particulates (Chl-a)	Ingunn Skjelvan (ingunn.skjelvan@uni.no) Truls Johannessen (truls.johannessen@gfi.uib.no)	Norway

ESTOC	Ship-based	29.2° N, 15.5° W	1994-	4 cruises/yr (since 2004)	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC TA pH) Suspended Particulates (Chl-a Beam_Att POM)	Andres Cianca	Spain
BATS (inc. Hydrostation "S")	Ship-based	31.7° N, 64.2° W	BATS: October 1988- , HS: 1954-	15 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC TA) Suspended Particulates (Chl-a Beam_Att POM POC+PIC-flux) DOC	Rodney Johnson, Mike Lomas, Nicholas Bates	US
Irminger Sea	Ship-based	64.33°N, 28.0°W	1983-	4 cruises/year	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC)	Jon Olafsson	Iceland
Iceland Sea	Ship-based	68.0°N, 12.67°W	1983-	4 cruises/year	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC)	Jon Olafsson	Iceland
A Coruña RADIALES (NW Spain)	Ship-based	43.4° N, 8.4° E (E2) other stations and transects in NW Spain available	1989-	monthly	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM) DOC	Antonio Bode (antonio.bode@co.ieo.es)	Spain
Oceanic Flux Program	Ship-based	31.7° N, 64.2° W	1978-	continuous (sediment trap)	Dissolved Oxygen Suspended Particulates (Beam_Att POM POC+PIC-flux Bsi-flux)	Maureen Conte	US
CARIACO	Ship-based	Venezuela (10.5° N, 64.7° W)	1995-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (TA pH) Suspended Particulates (Chl-a Beam_Att POM POC+PIC-flux Bsi-flux) DOC	Jaimie Rojas, Laura Lorenzoni, Frank Muller-Karger	Venezuela
REDCAM (Colombia)	Ship-based	Many stations throughout the Colombian coastline	0	Monthly cruises		Luisa Espinoza (lespinosa@inve.mar.org.co)	Colombia

Cartagena	Ship-based	Colombia (10.4° N, 76.0° W)	2008-	3 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> Si) Carbonate System (pH) Suspended Particulates (Chl-a)	Mary Luz Cañon Paez	Colombia
Arkona Basin (Southern Baltic Sea)	Ship-based	54.9 N 13.05 E ; Baltic Sea	1979-	monthly cruises (8 cruises/yr for zooplankton)	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM)	Lutz Postel [lutz.postel@io-warnemuende.de], Norbert Wasmund [norbert.wasmund@io-warnemuende.de]	Germany
HELCOM monitoring stations (Baltic Sea); TF 0012, 0022, 0030, 0046, 0109, 0113, 0213, 0259, 0271, 0360, O11, O5, O9	Ship-based	54.2 N 11.3 E; 54.07 N 11.1E; 54.4 N 12.5 E; 54.3 N 12.13 E; 55 N 14.05E; 54.6 N 13.3E; 55.2N 15.6E; 55.3N 18.2 E; 57.2N 20.03E; 54.4N 10.3 E; 54.3N 13.5E; 54.1N 12.05E, 54.4N 13.2E	1979-	5 cruises/yr	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM)	Lutz Postel [lutz.postel@io-warnemuende.de], Norbert Wasmund [norbert.wasmund@io-warnemuende.de], Guenther nausch	Germany
Boknis Eck Time-Series Station (Eckernförde Bay, SW Baltic Sea)	Ship-based	54.52 N 10.04 E; Baltic Sea	1957-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (DIC) Suspended Particulates (Chl-a)	Hermann Bange [hbange@geomar.de]	Germany

Bornholm Basin (Baltic)	Ship-based	55.25 N 16.0 E ; Baltic Sea	1979-	monthly cruises (7 cruises/yr for zooplankton)	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Piotr Margonski [pmargon@mir.gdynia.pl], Norbert Wasmund [norbert.wasmund@io-warnemuende.de]	Poland
Bothnian Bay Region: F2+Bo3 (northern Baltic Sea)	Ship-based	64.7 N 22.7 E ; Baltic Sea	1981 (1984 for phytoplankton analysis)	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Sirpa Lehtinen [sirpa.lehtinen@ymparisto.fi]; Maiju Lehtiniemi [Maiju.Lehtiniemi@ymparisto.fi]	Finland
Bothnian Sea Region: US5b+SR5+F64 (northern Baltic Sea)	Ship-based	61.7 N 19.5 E ; Baltic Sea	1979-	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Sirpa Lehtinen [sirpa.lehtinen@ymparisto.fi]; Maiju Lehtiniemi [Maiju.Lehtiniemi@ymparisto.fi]	Finland
Eastern Gotland Basin (Central Baltic)	Ship-based	57.0N 20.2 E ; Baltic Sea	1960-	3 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Gunta Rubene (BIOR) [gunta.rubene@bior.gov.lv]; Solvita Strake (LHEI) [solvita.strake@lhei.lv]	Latvia

Eastern Gotland Basin (Southern Baltic Sea)	Ship-based	56.4 N 19.2 E ; Baltic Sea	1979-	monthly cruises (8 cruises/yr for zooplankton)	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM)	Norbert Wasmund [norbert.wasmund@io-warnemuende.de]	Germany
Gdansk Basin (Baltic)	Ship-based	54.0 N 19.0 E ; Baltic Sea	1987 (phytoplankton); 1986 (zooplankton)	5 cruises/yr (phytoplankton); 6 cruises/yr (zooplankton) in 1977-2000; 2-3 cruises/yr since 2001	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (DIC TA pH) Suspended Particulates (Chl-a)	Anetta Ameryk [anetta@mir.gdynia.pl]; Piotr Margonski [pmargon@mir.gdynia.pl]	Poland
Gulf of Finland Region: LL3A+LL7+LL12 (northern Baltic Sea)	Ship-based	59.6 N 24.4 E ; Baltic Sea	1979-	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Sirpa Lehtinen [sirpa.lehtinen@ymparisto.fi]; Maiju Lehtiniemi [Maiju.Lehtiniemi@ymparisto.fi]	Finland
Mecklenburg Bight (Southern Baltic Sea)	Ship-based	54.3 N 11.6 E ; Baltic Sea	1980-	monthly cruises	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM)	Norbert Wasmund [norbert.wasmund@io-warnemuende.de]	Germany
Northern Baltic Proper Region: LL17+LL23+BY15+BY38 (northern Baltic Sea)	Ship-based	57.90 N 19.15 E ; Baltic Sea	1979-	1 cruise/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Sirpa Lehtinen [sirpa.lehtinen@ymparisto.fi]; Maiju Lehtiniemi [Maiju.Lehtiniemi@ymparisto.fi]	Finland

Parnu Bay (Gulf of Riga)	Ship-based	58.2 N 24.3 E ; Baltic Sea	1957-	10 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Arno Pollumae [arno@sea.ee]	Estonia
SMHI A17 (Sweden)	Ship-based	58.3 N 10.5 E ; Baltic Sea	2002-	9 cruises/yr	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Suspended Particulates (Chl-a)	Marie Johansen [marie.johansen@smhi.se]	Sweden
SMHI Anholt East (Kattegat)	Ship-based	56.65 N 12.1 E ; Baltic Sea	1998 (zooplankton); 2001 (phytoplankton)	monthly cruises	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Suspended Particulates (Chl-a)	Marie Johansen [marie.johansen@smhi.se]	Sweden
SMHI Slaggo (Sweden)	Ship-based	58.3 N 11.4 E ; Baltic Sea	2002-	monthly cruises	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P) Suspended Particulates (Chl-a)	Marie Johansen [marie.johansen@smhi.se]	Sweden
Southern Gotland Basin (Baltic)	Ship-based	55.6 N 18.5 E ; Baltic Sea	1979-	7 cruises/yr	Suspended Particulates (Chl-a)	Piotr Margonski [pmargon@mir.gdynia.pl]	Poland
Station 121 (Gulf of Riga)	Ship-based	57.6 N 23.6 E ; Baltic Sea	1993-	3 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (pH) Suspended Particulates (Chl-a)	Anda Ikauniece [anda.ikauniece@lhei.lv]	Latvia
Tallinn Bay (Gulf of Finland)	Ship-based	59.5 N 24.7 E ; Baltic Sea	1993-	8 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Arno Pollumae [arno@sea.ee]	Estonia
Medes Islands	Ship-based	42.05° N, 3.254° E	2008-	monthly cruises	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (TA pH) Suspended Particulates (Chl-a)	E. Calvo ecalvo@icm.csic.es C. Pelejero pelejero@icm.csic.es	Spain

Gulf of Lyon (North-west Mediterranean Offshore)	Ship-based	42.45° N, 3.53° E (NW Mediterranean)	2005-	Monthly Cruises	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC TA pH) Suspended Particulates (Chl-a Beam_Att POM)	Ian Salter (ian.salter@obs- banyuls.fr)	France
Gulf of Lyon (North-west Mediterranean Coastal)	Ship-based	42.48° N, 3.14° E (NW Mediterranean)	1997-	Weekly/Fortni ghtly depending on variable	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (pCO <sub>2</sub> DIC TA pH) Suspended Particulates (Chl-a Beam_Att POM)	Ian Salter (ian.salter@obs- banyuls.fr)	France
Blanes Bay (Northwest Mediterranean)	Ship-based	41.7 N 2.8 E ; Mediterranean Sea	2003-	monthly cruises	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a)	Pep Gasol [pepgasol@icm. csic.es]	Spain
Gulf of Naples LTER-MC (Tyrrhenian Sea)	Ship-based	40.8 N 14.25 E ; Mediterranean Sea	1984-	15 days cruises 1984- 1991 weekly cruises 1995-	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a POM) DOC	Adriana Zingone [zingone@szn.it] ; Maria Grazia Mazzocchi [grazia.mazzoc chi@szn.it]	Italy
Gulf of Trieste (Northern Adriatic Sea)	Ship-based	45.7 N 13.7 E ; Mediterranean Sea	1970-	monthly cruises		Serena Fonda Umani [sfonda@units.it ]	Italy
Kastela Bay (central Adriatic Sea)	Ship-based	43.6 N 16.3 E ; Mediterranean Sea	1994-	monthly cruises		Mladen Solic [solic@izor.hr]	Croatia



Malaga St. MA2 (Alboran Sea)	Ship-based	36.7 N -4.4 W ; Mediterranean Sea	1992-	2 cruises/yr	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 P Si) Suspended Particulates (Chl-a)	Jesús Mercado [jesus.mercado@ma.iew.es]; Dolores Cortés [lcortes@ma.iew.es]; Lidia Yebra [lidia.yebra@ma.iew.es]	Spain
Mallorca St. 1 (Balearic Sea and Algerian Basin); Along the spanish mediterranean coast from Alboran to Catalan sea	Ship-based	39.5 N 2.4 E ; Western Mediterranean Sea ; Different Transects along the Spanish Mediterranean coast from Alboran to Catalan sea	1994-2005 2006-2012	monthly cruises seasonal cruises	Inorganic Macronutrients (NO3+NO2 P) Suspended Particulates (Chl-a)	Maria Luz Fernandez de Puelles [mluz.fernandez@ba.iew.es]	Spain
REPHY (Mediterranean Sea)	Ship-based	42.1 N 9.5 E ; Mediterranean Sea; 43.1 N 5.9 E ; Mediterranean Sea; 42.9 N 3.0 E ; Mediterranean Sea; 43.7 N 7.3 E ; Mediterranean Sea	1987 (1995)-	monthly cruises	Inorganic Macronutrients (NO3+NO2 NO2 NH4 P) Suspended Particulates (Chl-a)	Dominique Soudant [Dominique.Soudant@ifremer.fr] ; Catherine Belin [Catherine.Belin@ifremer.fr]	France
Saronikos Gulf S11 (Aegean Sea)	Ship-based	37.9 N 23.6 E ; Mediterranean Sea	1987-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO3+NO2 NO2 NH4 P Si) Suspended Particulates (Chl-a)	Soultana Zervoudaki [tanya@hcmr.gr] Aleka Pavlidou aleka@hcmr.gr	Greece
Stoncica (central Adriatic Sea)	Ship-based	43.0N 16.3 E ; Mediterranean Sea	1995-	monthly cruises		Mladen Solic [solic@izor.hr]; Olja Vidjak [vidjak@izor.hr]	Croatia

Thau Lagoon (Mediterranean)	Ship-based	43.4 N 3.6 E ; Mediterranean Sea	1975-	weekly sampling for phytoplankton , T, S	Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P) Suspended Particulates (Chl-a)	Yves Collos [Yves.Collos@u niv-montp2.fr]	France
Villefranche Point B (Cote d'Azur)	Ship-based	43.7 N 7.3 E ; Mediterranean Sea	1995-	monthly cruises		Gabriel Gorsky [gorsky@obs- vlfr.fr]	France
Bay of Calvi (Corsica)	Ship-based	42° 34' 85" N, 08° 43' 60" E	1979-	Monthly or more frequently		Anne Goffart (A.Goffart@ulg. ac.be)	France
DYFAMED (Ligurian Sea)	Ship-based	42°25'N 7°52'E; Mediterranean Sea	1991-	continous (mooring) and monthly visit	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Carbonate System (DIC TA pH) Suspended Particulates (POM POC+PIC-flux Bsi-flux)	Laurent Coppola (coppola@obs- vlfr.fr)	France
Ubatuba	Ship-based	23.5° S, 45.1° W (Brazil)	2004-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Suspended Particulates (Chl-a Beam_Att)	Milton Kempel	Brazil
Bahía Blanca	Ship-based	38.5°S, 62.2° (Argentina)	1978-	Fortnightly	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> NH <sub>4</sub> P Si) Carbonate System (pH) Suspended Particulates (Chl-a POM)	Jorge Marcovecchio (jorgemar@crib a.edu.ar) Valeria Guinder (vguinder@criba .edu.ar)	Argentina
Egi	Ship-based	43.33°S, 65.03°W	1998-	Approximately monthly	Carbonate System (pH) Suspended Particulates (Chl-a)	Walter Helbling (whelbling@efpu .org.ar)	Argentina
Epea	Ship-based	38.5° S, 57.7° W (Argentina)	2000-	monthly cruises	Dissolved Oxygen Inorganic Macronutrients (NO <sub>3</sub> +NO <sub>2</sub> NO <sub>2</sub> P Si) Suspended Particulates (Chl-a) Carbon-13 DOC	Ruben Negri (negri@inidep.e du.ar) Vivian Lutz (vlutz@inidep.ed u.ar)	Argentina

