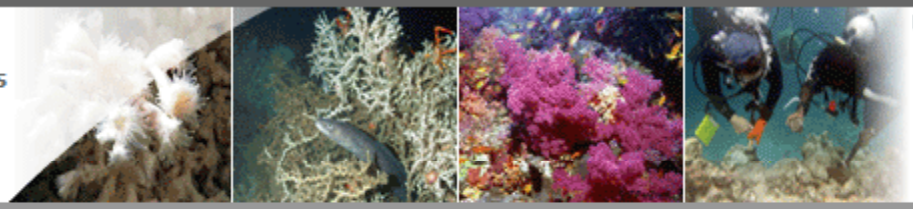
IOCCP.ORG

SPONSORS: UNESCO-IOC | SCOR

The International Ocean Carbon Coordination Project is a communication and coordination service for the ocean carbon community



By the middle of this century, we may be losing more corals to erosion than can be rebuilt through new calcification because of ocean acidification.

The International Ocean Carbon Coordination Project (IOCCP)

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Towards a global observation network for ocean carbon research -

The IOCCP promotes the development of a global network of ocean carbon observations for research through technical coordination and communications services, international agreements on standards and methods, and advocacy and links to the global observing systems.

The IOCCP is co-sponsored by the Intergovernmental Oceanographic Commission of UNESCO and the Scientific Committee on Oceanic Research.

>> About the IOCCP

- Current Projects
- Workshops and Meetings
- History of the IOCCP
- Terms of Reference
- Scientific Steering Committee

>> News

The IOCCP publishes a quarterly newsletter with highlights and announcements about ocean carbon observations and research.
More >

>> Join the IOCCP e-list

The IOCCP's email list reaches > 200 scientists from more than 20 countries. Receive up-to-date news, job announcements, and news...
More >

www.ioccp.org

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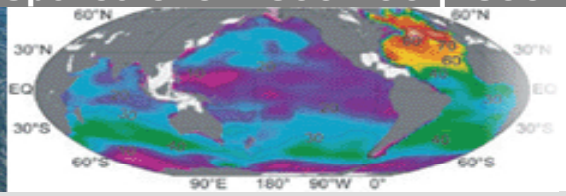

IOCCP Project Office Information and Acknowledgements

Project Office Staff - Funded by the U.S. National Science Foundation through a fund-in-trust with UNESCO. Provides salary support for 1 full time Director (Kathy Tedesco) and 1 post-doc (Maciej Telszewski).

Program Funds - Funds provided by the U.S. National Science Foundation through a grant to SCOR and from the IOC regular program. The IOCCP also benefits from considerable in-kind support, particularly **NIES** and **JAMSTEC**.

Data Center Support - The IOCCP works in close partnership with Alex Kozyr at **CDIAC**. The **University of Bergen** provides support for the SOCAT data set development (Bejamin Pfeil, Are Olsen, Truls Johannessen, and Dorothee Bakker (**UEA**)). **NOAA PMEL** provides support for the development of the Live-Access Server (Steve Hankin, Heather Koyuk).

Partnerships - SCOR, IGBP, SOLAS, IMBER, GCP, CLIVAR, EU EPOCA, EU CARBOCHANGE, EU COCOS, OceanSITES, GOOS, Argo, U.S. OCB, OOPC / GCOS

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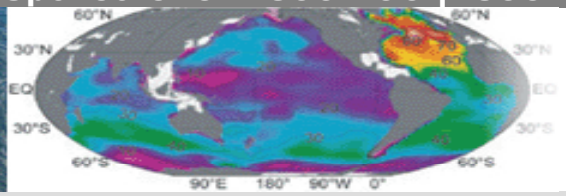

IOCCP SSG 2011-13

Co-Chairs:
Chris Sabine (US)
Toste Tanhua (Germany)

Surface CO_2 Data:
Are Olsen (Norway)

Underway pCO_2:
Pedro Monteiro (South Africa)

Repeat Hydrography:
Bernadette Sloyan (Australia)

Ocean Interior Data:
Masao Ishii (Japan)

Time Series Stations:
Melchor Gonzalez (Spain)

Data Assimilation / Flux Maps:
Ute Schuster (UK)

Data Management:
Alex Kozyr (US)

Integrated GHG Monitoring
Yukihiro Nojiri (Japan)

Ocean Acidification
Jean-Pierre Gattuso (France)

SOLAS / IMBER:
Nicolas Metzl (France)
Niki Gruber (Switzerland)

Project Coordinators:
Kathy Tedesco / Maciej Telszewski

The IOCCP

Began in 2002 as a pilot project of the IOC-SCOR CO_2 Panel and the Global Carbon Project.

Was approved as a standing project in 2005 by the IOC Assembly and the SCOR Executive Council

In the past 9 years the IOCCP has:

- ✓ **held 23 workshops and**
- ✓ **published 22 reports, guides, and strategy documents**
- ✓ **issued 30 newsletters (The IOCCP Conveyor)**

The **Scientific Steering Group** is composed of 2 Co-Chairs and 9 members selected for expertise in specific areas of IOCCP activities and ability to provide a global perspective on ocean carbon research and observation activities and plans.

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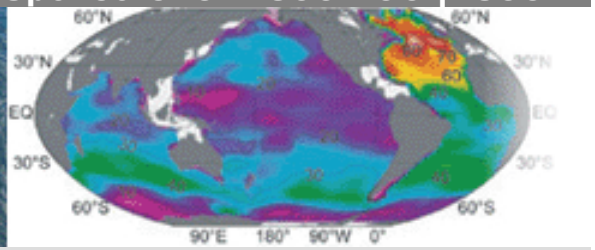


IOCCP Major Activities - SOCAT

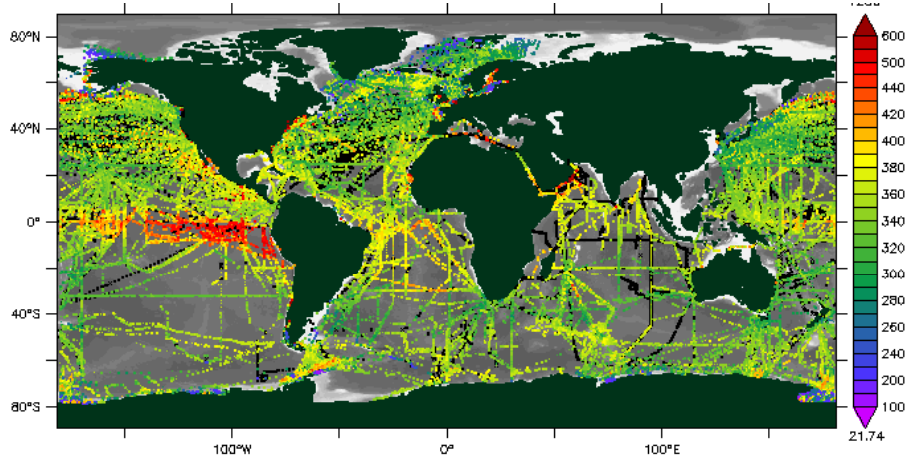
The Surface Ocean CO_2 Atlas Project (SOCAT)

Established in April 2007 at the "Surface Ocean CO_2 Variability and Vulnerability" (SOCOVV) workshop, co-sponsored by IOCCP, SOLAS, IMBER, and the GCP, to develop a global surface CO_2 data set to bring together, in a common format, all publicly available fCO_2 data for the surface oceans.

The SOCAT data set now includes

- **8.8 million measurements**
- **1859 cruises**
- **collected between 1968-2007**

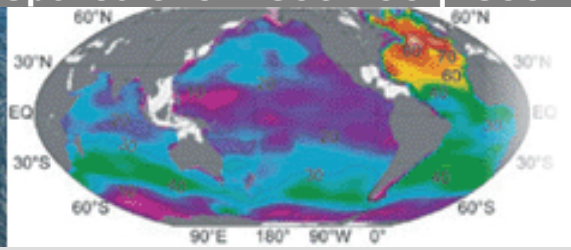
Version 1.4 release September 2011



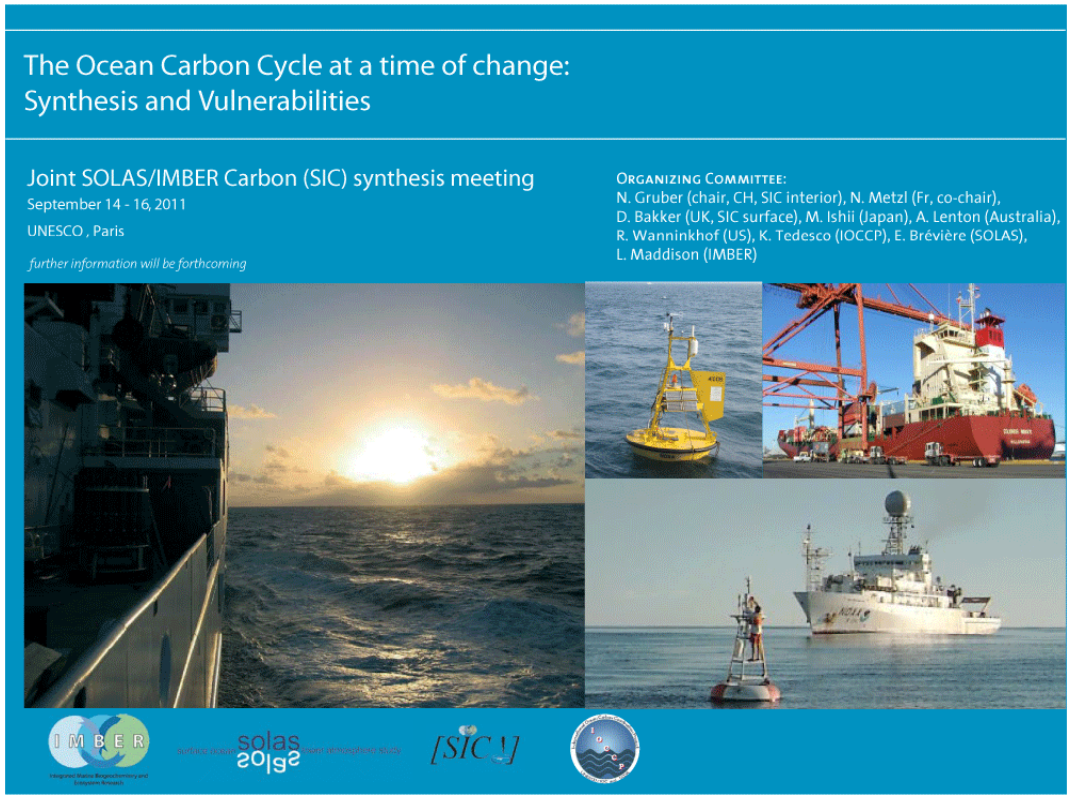
Surface water fCO2 data in SOCAT version 1.3 (B. Pfeil)

IOCCP would like to strongly encourage continued data submission to SOCAT

A communication and coordination service for the international ocean carbon community.



IOCCP Major Activities



14-16 September 2011

UNESCO Headquarters Paris

www.imber.info

This meeting aims to bring together scientists working on global ocean carbon synthesis projects, such as CARINA, PACIFICA, GLODAP2, SOCAT, etc, but is open to all other scientists who are interested in developing an integrated view of how the ocean carbon cycle has changed in recent decades.

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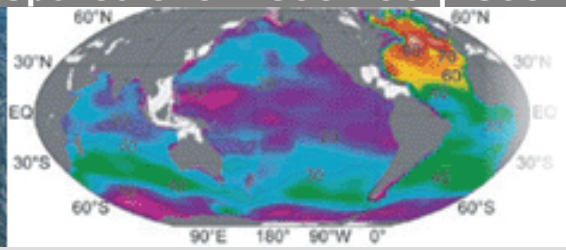
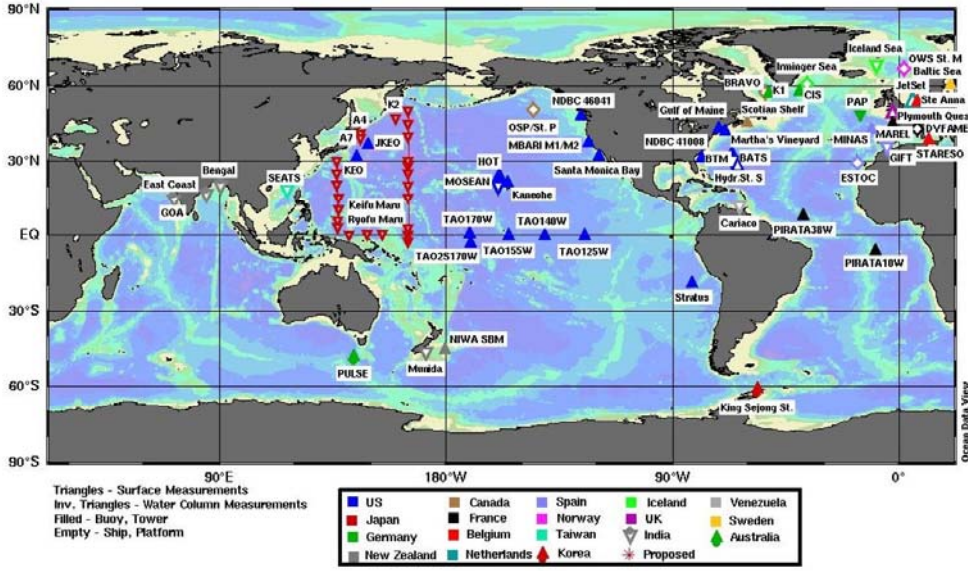


IOCCP Major Activities – Ocean Time Series

The IOCCP is currently updating our list of time series stations where carbon variables are being measured or are expected to be measured in the near future.



CARBON TIME SERIES STATIONS: GLOBAL
International Ocean Carbon Coordination Project (www.ioccp.org)
Last updated: June 2007.

Mooring/Station/ Ship name	Date of operation	Location	Description	Frequency (i.e. monthly, continuous)	PI	Country
Atlantic						
Stations monitored from ships						
Iceland Sea	1983-	68°N 12.66°W	Profile, pCO_2 and TIC, O_2 and nutrients	4/year	J. Olafsson	Iceland
Irminger Sea	1983-	64.3N,28°W	Profile, pCO_2 and TIC, O_2 and nutrients	4/year	J. Olafsson	Iceland
Labrador Sea (Bravo)	1993-	57N,53W		1/year	K. Azetsu-Scott	Canada
JetSet		53N, 4E46' Marsdiep tidal channel	DIC, Alkalinity	weekly	H. Zemmelink	Netherlands
L4/Plymouth Quest	2005-2009	W. English Channel	Time series station since 1988, pCO_2 added in 2006.	Weekly	N. Hardman-Mountford	UK
E1/Plymouth Quest	2005-2009	W. English Channel	Time series station since 1903, pCO_2 added in 2005.	Monthly	N. Hardman-Mountford	UK
NW Atlantic Hydro Station S	1983-	32N, 65W		Monthly	A. Dickson	USA
NW Atlantic BATS/OFP/BTM	1988-	32N 65W			N. Bates	Bermuda/ USA
NE Atlantic ESTOC	1995-	29N,16W	European Station for Time series in the Ocean at the Canary Islands	Monthly	M. Gonzalez/M. Santana	Spain
RV Islandia/CV	2007-	17.5°N, 24.3°W		Monthly	D. Wallace A. Körtzinger	Germany

Please send all related information to Kathy Tedesco k.tedesco@unesco.org

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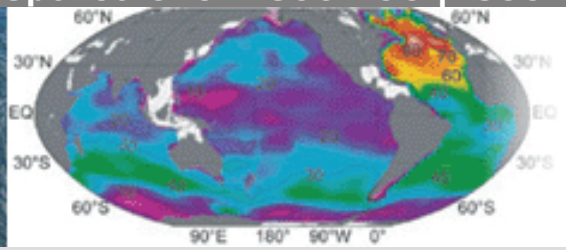

IOCCP Major Activities – Ocean Acidification

The Third Symposium on "The Ocean in a High-CO_2 World" 2012

Key Dates

15 September 2011
Abstract Submission Opens
(oral and poster)

1 April 2012
Abstract Deadline

15 June 2012
Early Registration Deadline

24-27 September 2012
SYMPOSIUM

www.highCO2-iii.org

www.ocean-acidification.org

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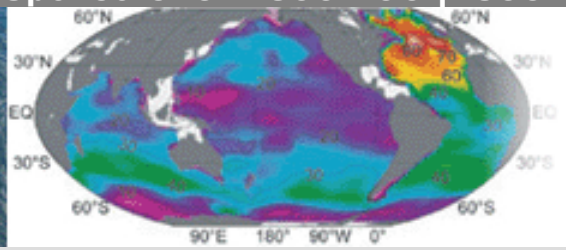


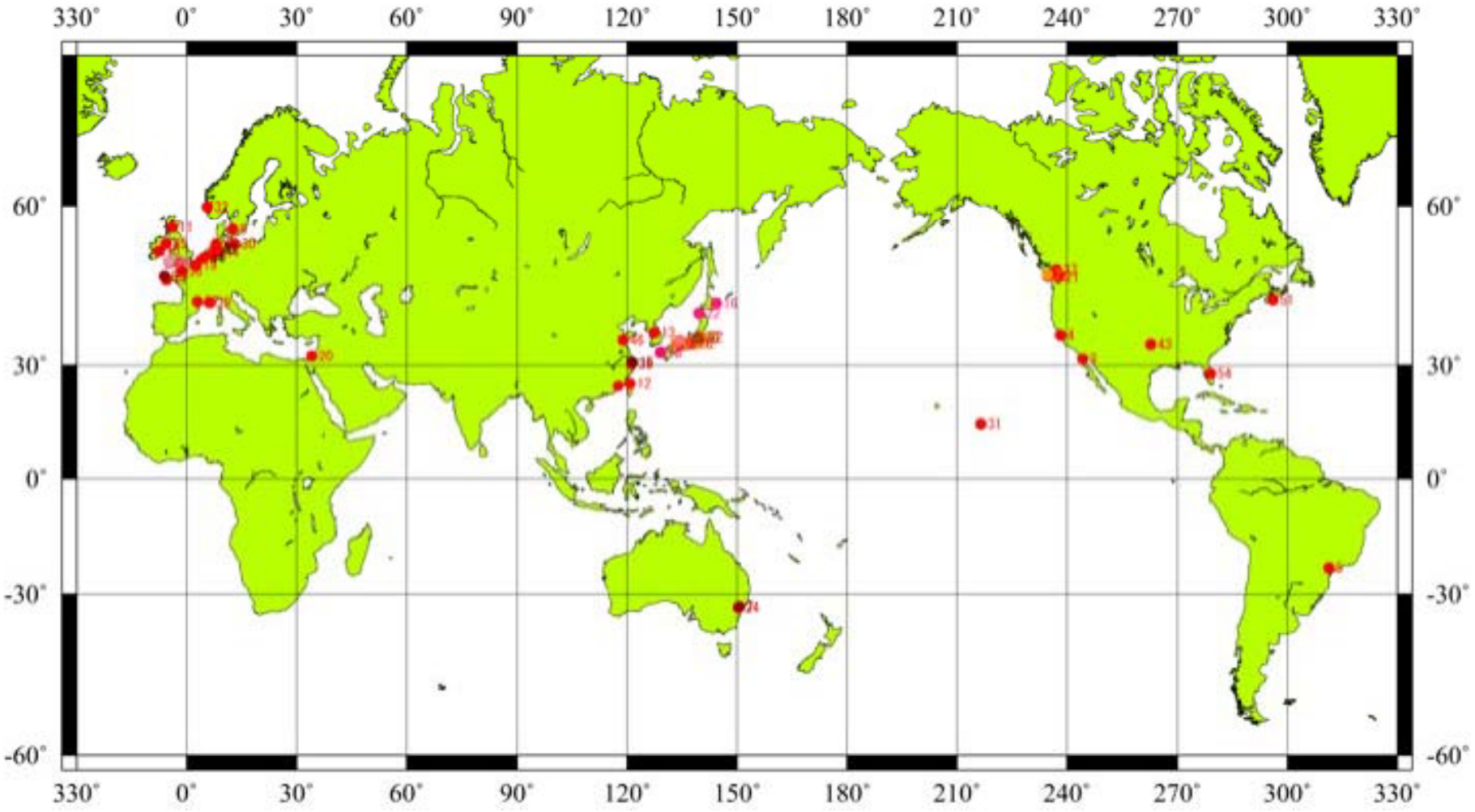
Ocean Acidification

Convention on Biological Diversity (CBD) Expert Meeting to Develop a Series of Joint Expert Review Processes to Monitor and Assess the Impacts of OA on Marine and Coastal Biodiversity

19-20 October 2011
Montreal, Canada

The results of these assessments will be transmitted to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC)

The meeting is organized in collaboration with the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), the Food and Agricultural Organization of the United Nations (FAO), Secretariat of the United Nations Framework Convention oo Climate Change (UNFCCC), World Conservation Monitoring Center of the United Nations Environment Programme (UNEP-WCMC), the International Coral Reef Initiative (ICRI), Ramsar, Antarctic Treaty, the Artic Council, and other relevant organizations and scientific groups.



IOC-ICES Study Group on Nutrient Standards (SGONS)

This figure shows the global coverage of the laboratories involved in the RMNS inter-comparison study in 2008

Lab. Number	Institute	Country
1	Israel Oceanographic & Limnological Res, National Institute of Oceanography	Israel
2	Maizuru Marine Observatory	JAPAN
3	**Scripps Institution of Oceanography** **University of California, San Diego**	**USA**
4	**Atlantic Oceanographic and Meteorological Laboratory,** **National Ocean and Atmospheric Administration**	**USA**
5	State Key laboratory of Marine Environmental Science Xiamen University	CHINE
6	National Oceanography Centre, Southampton	UNITED KINGDOM
7	IFREMER	FRANCE
9	**Texas A&M Unversity**	**USA**
10	Hokkaido National Fisheries Research Institute, Fisheries Research Agency,	JAPAN
11	Nagasaki Marine Observatory	JAPAN
13	Hakodate Marine Observatory	JAPAN
14	Head of Nutrient Facility Plymouth Marine Laboratory	UNITED KINGDOM
16	AquaEcology	Germany
17	Institute of Biogeochemistry and Marine Chemistry	Germany
18	IFREMER Center of Brest	FRANCE
19	LERN/IFREMER	FRANCE
20	Isle of Man Government Laboratory	British Isles
23	Laboratoire d'Océanographie Physique et Biogéochimique	FRANCE
24	Institute of Marine Environmental Chemistry and Ecology Taiwan Ocean Research Institute	Taiwan
25	Royal NIOZ	Netherlands

26	The General Environmental Technos Co., Ltd. Laboratry For Instrumentation and analysis	JAPAN
27	University of Plymouth School of Earth, Ocean & Environmental Sciences	England
28-1	Scottish Environment Protection Agency – Marine Chemistry	UNITED KINGDOM
28-2	Scottish Environment Protection Agency – Marine Chemistry	UNITED KINGDOM
29	Japan Meteorological Agency	JAPAN
33	Bedford Institute of Oceanography	Canada
34	**Monterey Bay Aquarium Research Institute**	**USA**
36	**School of Oceanography,** **University of Washington**	**USA**
37	IFM-GEOMAR, Kiel	GERMANY
38	1: Japan Agency for Marine-Earth Science and Technology (JAMSTEC) 2: Marine Works Japan (MWJ)	JAPAN
40	Environmental Science Research Laboratory Central Research Institute of Electric Power Industry	JAPAN
42	National Environmental Research Institute-Aarhus University	Denmark
43	University of British Columbia	Canada
45	MARCHEM (MUMM LABORATORY)	BELGIUM
46	New South Wales Government	AUSTRALIA
48	Institute of Ocean Sciences	CANADA
50	Key Laboratory of Marine Ecology & Environmental Sciences Institute of Oceanology, Chinese Academy of Sciences	China
51	The Second Institute of Oceanography, The State Oceanic Administration, China, China	China
52	Ocean Research Institute, The University of Tokyo	JAPAN
53	Leibniz-Institute for Baltic Sea Research Warnemünde (IOW)	Germany

55	Kobe Marine Observatory	JAPAN
56	Institute of Ocean Sciences	CANADA
61	Marine Research Institute Reyjavik	Iceland
62	Fisheries Research Services	UNITED KINGDOM
63	**Analytical Laboratory, Marine Science Institute** **University of California Santa Barbara**	**USA**
64	Flinders University, Adelaide, Australia	Australia
65	Biological Oceanography, Tohoku National Fisheries Research Institute, Fisheries Research Agency	JAPAN
66	BSH Bundesamt für Seeschifffahrt und Hydrographie (Federal Maritime and Hydrographic Agency)	Germany
67-1	CSIRO Marine and Atmospheric Research	Australia
67-2	CSIRO Marine and Atmospheric Research Centre for Environment and Life Sciences	Australia
68	Institut de Recherche pour le Développement (IRD)	FRANCE
69	IFREMER Station d'Arcachon	FRANCE
70	Laboratoire Environnement Ressources, Ifremer	FRANCE
71	Centre d'Océanologie de Marseille - Service d'Observation	FRANCE
72	Environmental Waters Laboratory Queensland Health Forensic and Scientific Services	Australia
73	Marine Chemistry Laboratory CNRS & Univ. Pierre et Marie Curie Paris VI & Univ. Bretagne Occidentale	FRANCE
74	SEAL Analytical GmbH	Germany
75	University of Liverpool	UNITED KINGDOM

58 Laboratories 2008

OceanObs'09: Calls for Action

(1) Calls on all nations and governments to **fully implement** by 2015 the **initial physical and carbon global ocean observing system** originally envisioned at OceanObs'99, and refined at OceanObs'09.

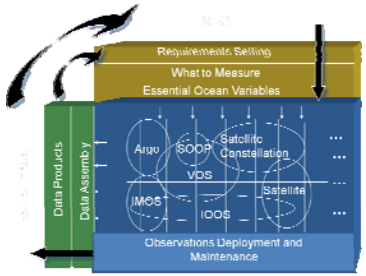
(2) Calls on all nations and governments to **commit to the implementation** and international coordination of **systematic global biogeochemical and biological observations**, guided by the outcomes of OceanObs'09, and taking into account regional variations in ecosystems.

(3) Invites governments and organizations to embrace **a framework for planning and moving forward with an enhanced global sustained ocean observing system over the next decade**, integrating new physical, biogeochemical, biological observations while sustaining present observations. Recommendations on this Framework, considering how to best take advantage of existing structures, will be developed by an **post-Conference working group of limited duration**.

Framework Sponsors

- IOC Intergovernmental Oceanographic Commission of UNESCO
- GEO Group on Earth Observations
- CEOS Committee on Earth Observation Satellites
- POGO Partnership for Observation of the Global Oceans
- SCOR Scientific Committee on Oceanic Research
- SCAR Scientific Committee on Antarctic Research
- GCOS Global Climate Observing System
- GOOS Global Ocean Observing System
- JCOMM Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology
- PICES North Pacific Marine Science Organization
- ICES International Council for the Exploration of the Sea
- CoML Census of Marine Life
- IGBP International Geosphere-Biosphere Programme
- WCRP World Climate Research Programme

Framework Characteristics



- Articulates **'best practices of a systems approach'** for building an enlarged and interoperable system

- Establishes **"Essential Ocean Variables (EOVs)"** as basis for building new elements of the system.

- Argues that an **"Integrated Observing System"** will be a derivative of an EOV-based approach driven by requirements.

- Proposes an approach to introducing new components of the system through a number of **"Readiness Levels"**

www.oceanobs09.net