

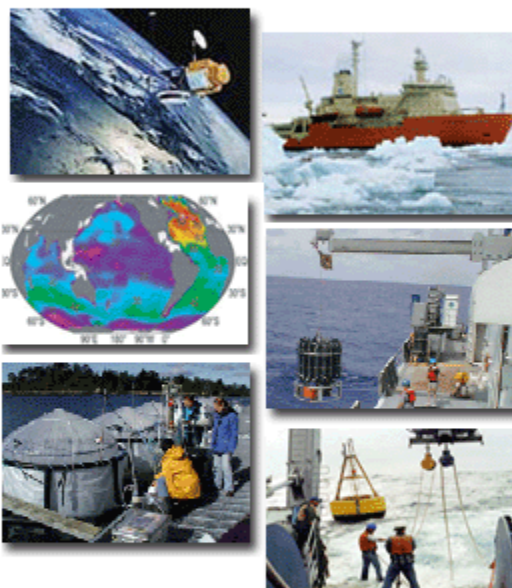
The International Ocean Carbon Coordination Project is a communication and coordination service for the ocean carbon community



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](#)
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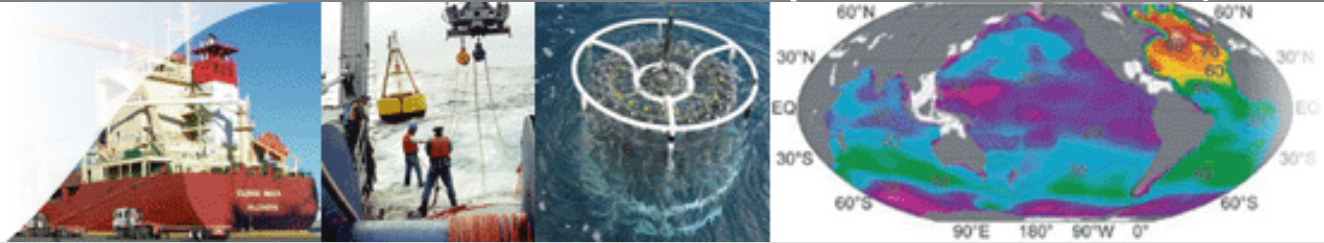
>> News

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 >](#)

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



## IOCCP 2008-2010

### Chair:

Chris Sabine (US)

### Repeat Hydrography:

Masao Fukasawa (Japan)

### Underway pCO<sub>2</sub>:

Pedro Monteiro (South Africa)

### Time series networks:

Melchor Gonzalez (Spain)

### Surface CO<sub>2</sub> Data:

Dorothee Bakker (UK)

### Ocean Interior Data:

Toste Tanhua (Germany)

### Data Assimilation/Flux Maps:

Ute Schuster (UK)

### Data Management:

Alex Kozyr (US)

### Integrated GHG Monitoring

Yukihiro Nojiri (Japan)

### SOLAS/IMBER:

Truls Johannessen (Norway)

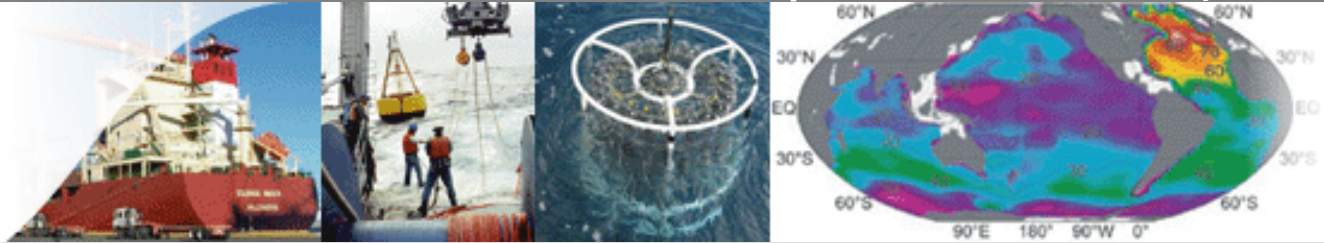
### Project Coordinators:

Kathy Tedesco / Maria Hood

The IOCCP began in 2002 as a pilot project of the IOC-SCOR CO<sub>2</sub> Panel and the Global Carbon Project.

It was approved as a standing project in 2005 by the IOC Assembly and the SCOR Executive Council and is currently co-sponsored by the Intergovernmental Oceanographic Commission of UNESCO and the Scientific Committee on Oceanic Research.

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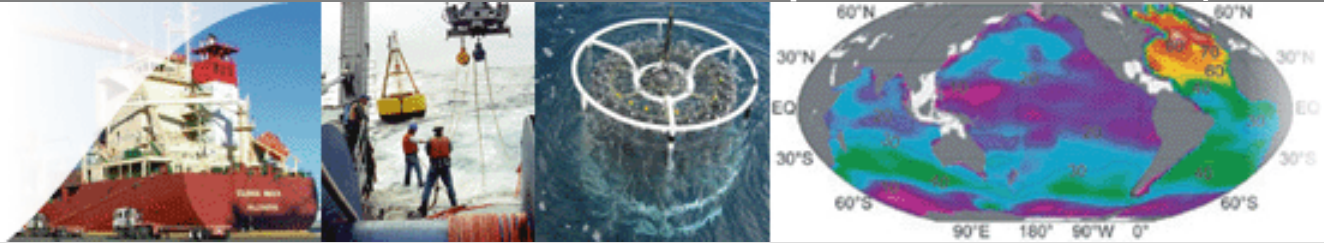
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In the 7 years since its inception, the IOCCP has held 18 workshops and has published and/or co-sponsored the publication of 16 reports, guides, and strategy documents.

The Scientific Steering Group is composed of a Chair and 8 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 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 part-time consultant (Maria Hood).

**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**.

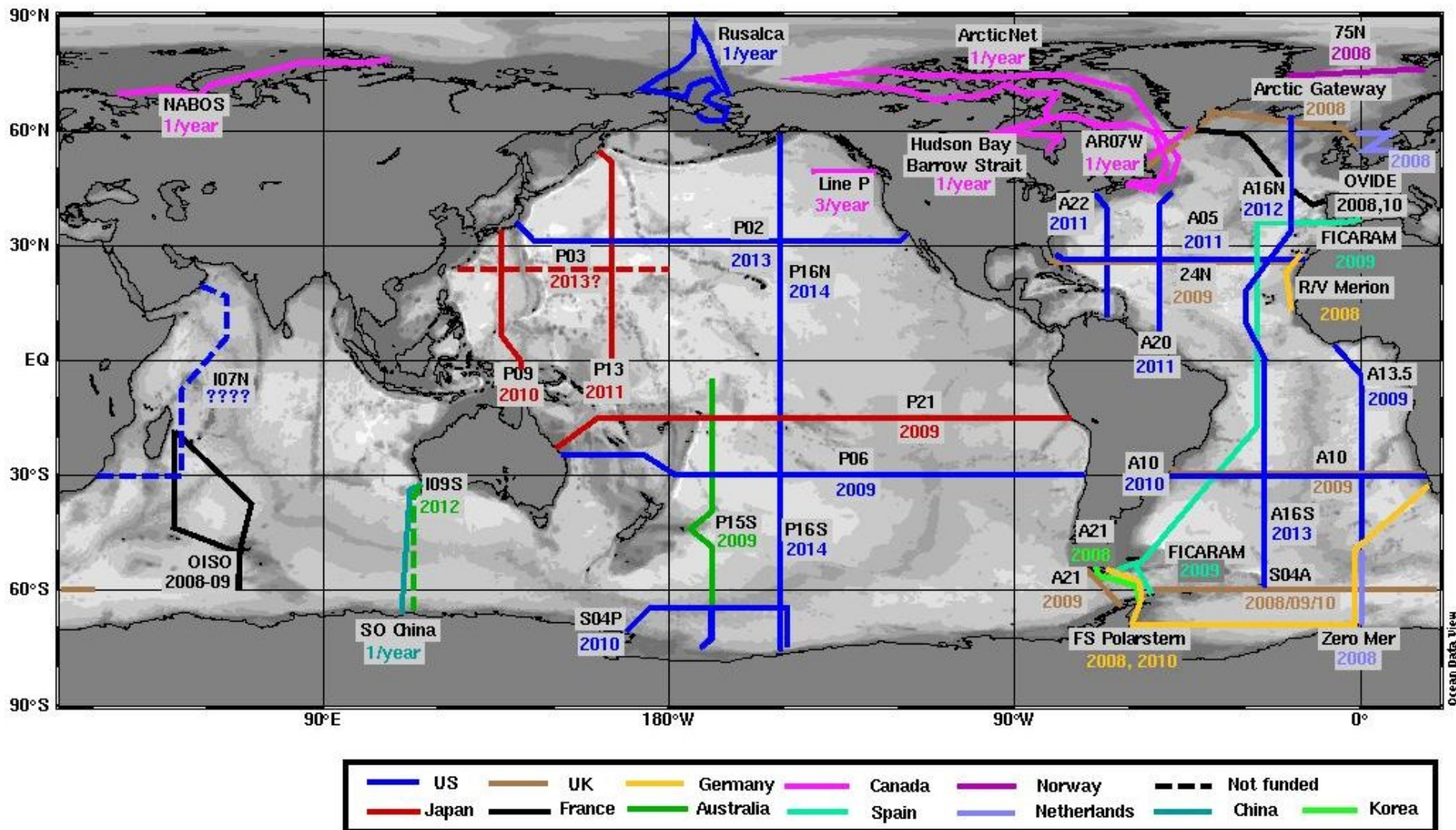
**Data Center Support** – The IOCCP works in close partnership with the Alex Kozyr at **CDIAC**. The **University of Bergen** provides support as part of the CARBOOCEAN project for the SOCAT data set development (Bejamin Pfeil, Are Olsen, Truls Johannessen, and Dorothee Bakker (**UEA**)). **NOAA PMEL**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

**Partnerships** – U.S. OCB, EU CARBOOCEAN, EU COCOS, EU EPOCA, SOLAS, IMBER, CLIVAR, OceanSITES, Argo, OOPC / GCOS

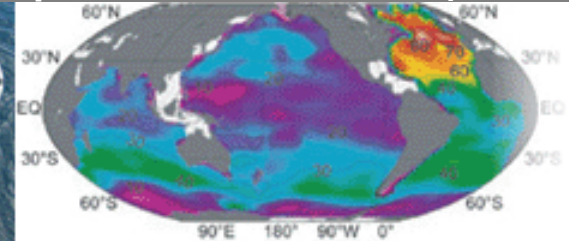
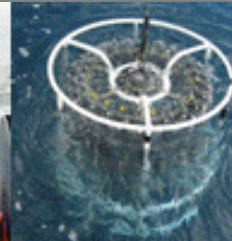


# Ship-based Repeat Hydrography

On-going and planned cruises. Past cruises with data on similar map at CDIAC.



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## ***IOCCP Major Activities 2009***

### **The Global Ocean Ship-based Hydrographic Investigations Panel (GO-SHIP)**

GO-SHIP brings together scientists with interests in physical oceanography, the carbon cycle, marine biogeochemistry and ecosystems, and other users and collectors of hydrographic data to develop guidelines for a globally coordinated network of hydrographic sections.

2 year advisory panel, not a new program

2 activities: revision of WOCE manual and development of strategy for the global survey.

[www.ioccp.org](http://www.ioccp.org) > hydrography > GO-SHIP

#### **GO-SHIP Strategy**

>35 contributing authors

2<sup>nd</sup> draft in preparation

Goals: whitepaper for OceanObs; International workshop in 2010.

#### **GO-SHIP Manual Revision**

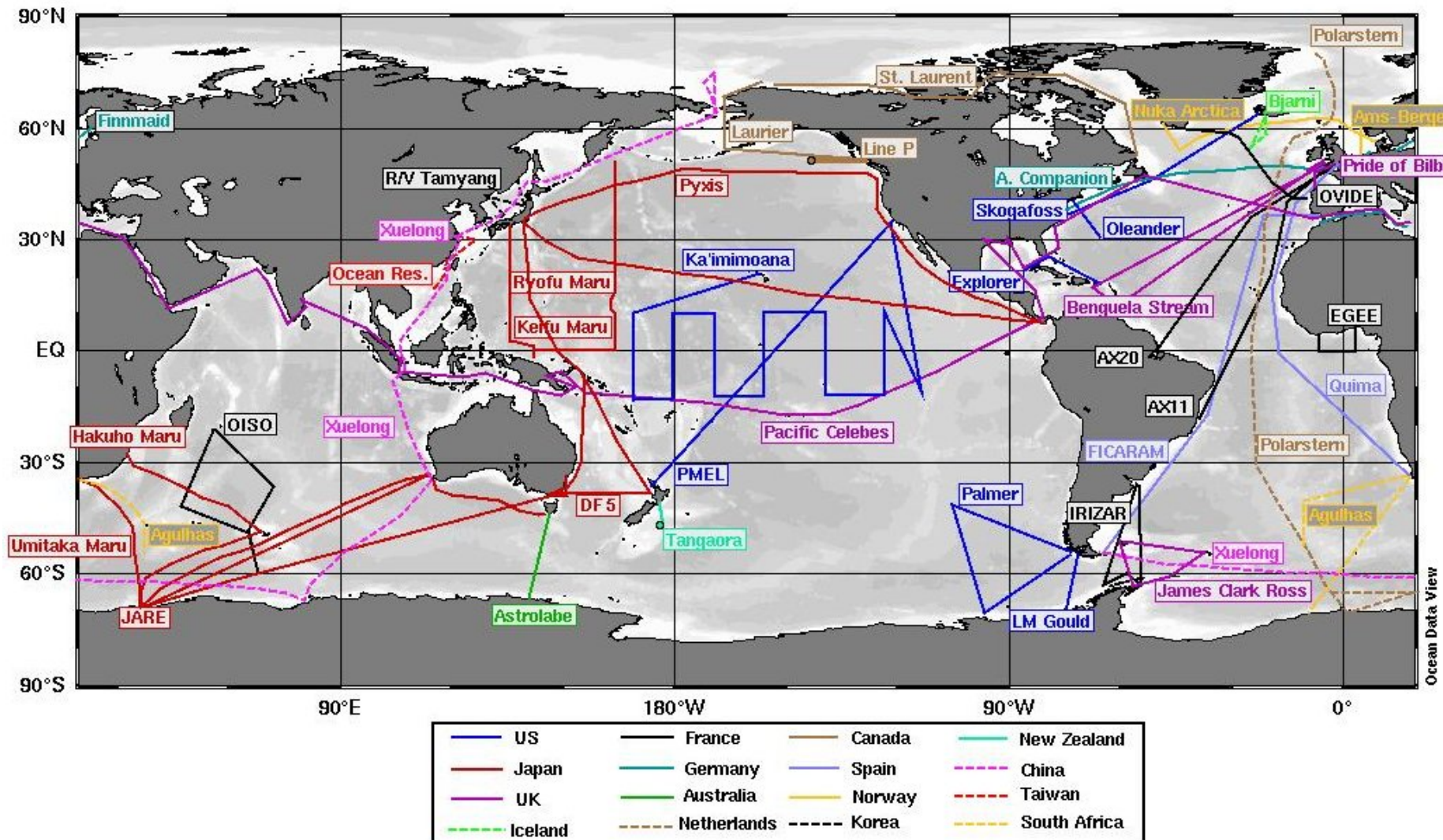
9 of 17 chapters on-line and open for review (see GO-SHIP web site to link to review system)

4 “chapters” are manuals or guides produced by other groups / for other purposes: Ocean Carbon (Dickson et al., 2008), Underway surface measurements (GOSUD group), TEOS (McDougall et al.), Nutrients standards (INSS group).

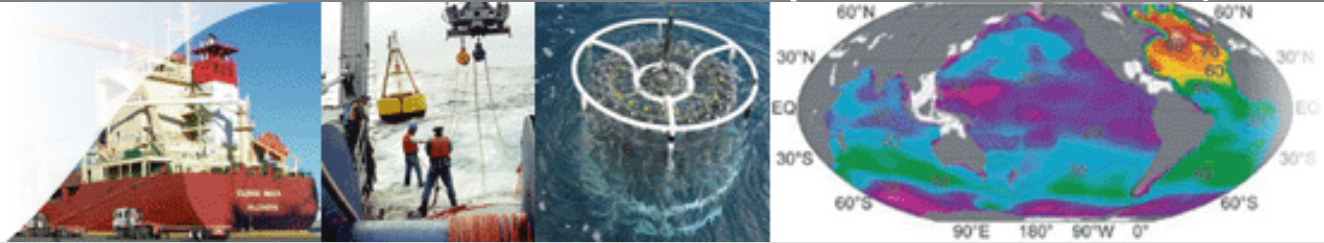


# Surface Underway pCO<sub>2</sub>

On-going programs. Past cruises with data at CDIAC.



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## ***IOCCP Major Activities 2009***

**The Surface Ocean CO<sub>2</sub> Atlas Project (SOCAT)** – Long-term project to develop a global common format surface ocean CO<sub>2</sub> data set with well documented quality control and no interpolation. SOCAT data set now includes over 7 million measurements from more than 2100 cruises from 1968-2007 and will be published in mid-2010 and made available via Live-Access Server. Plans are being developed to sustain this activity.

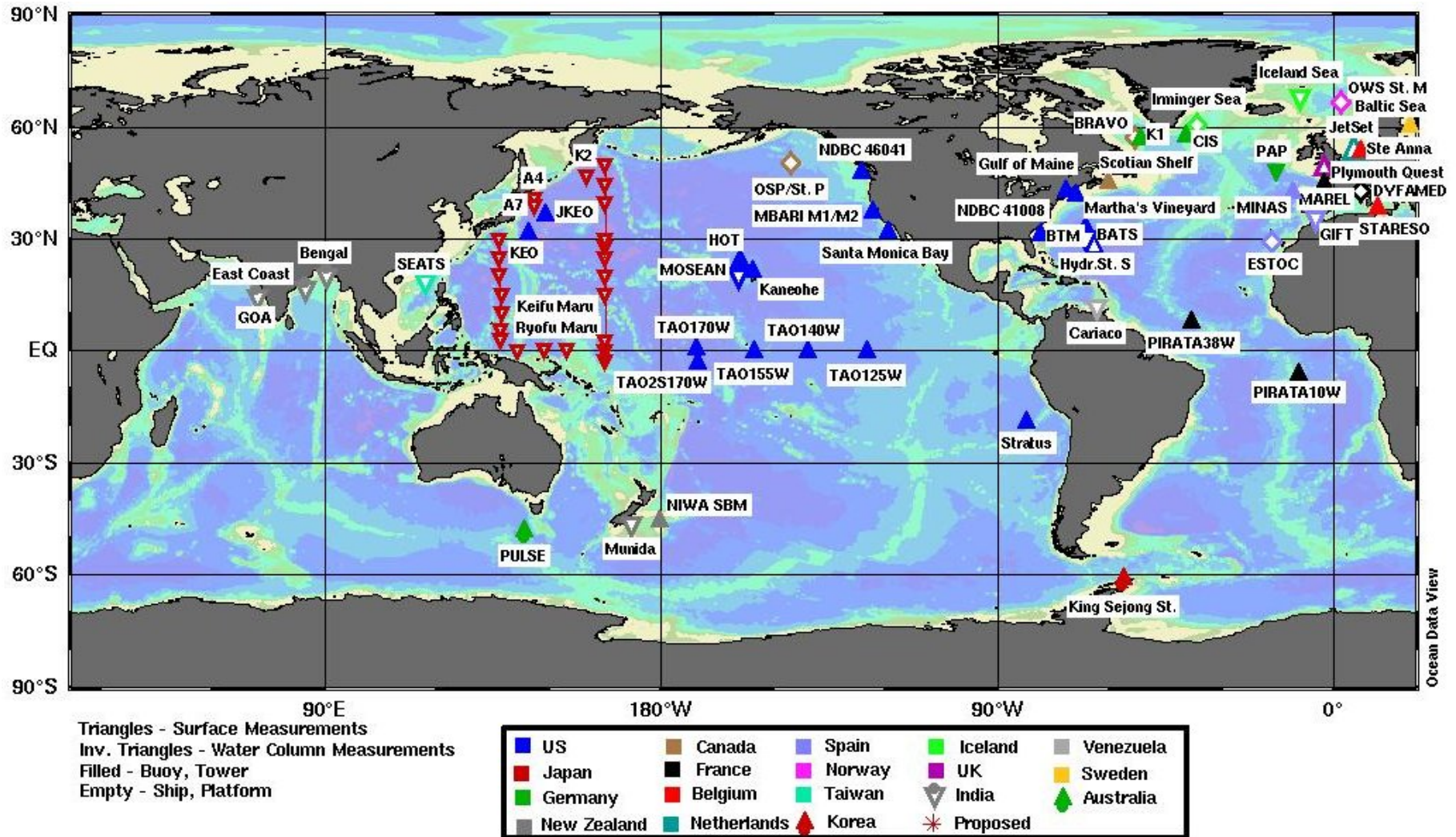
### Meetings:

April 2007	Surface Ocean CO <sub>2</sub> Variability and Vulnerability Workshop
December 2007	1 <sup>st</sup> Technical workshop (1 <sup>st</sup> level QC issues)
June 2008	2 <sup>nd</sup> Technical workshop (2 <sup>nd</sup> level consistency check issues)
January 2009	Coastal group meeting (Technical issues / interface with global data)
March 2009	Pacific Regional group meeting (LAS training and Pacific QC)
June 2009	Atlantic and Southern Ocean Regional meetings (LAS training and regional QC)

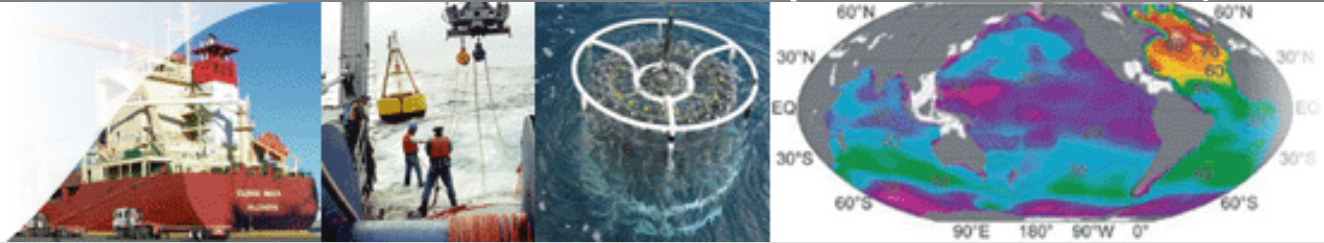


# Time Series Carbon

In collaboration with OceanSITES.



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## *IOCCP Major Activities 2009*

**Changing Times Inventory** – Creating a multi-platform inventory of carbon and biogeochemistry “time series” measurements. Work with the OceanSITES program to generate an inventory of open ocean fixed-point stations and carbon and biogeochemistry time series stations.

### **Other:**

Ocean Carbon Sensor Directory

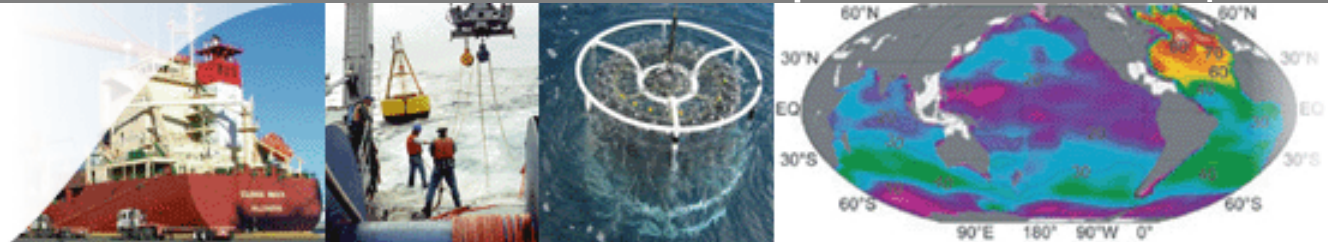
OceanObs09 whitepaper coordination (hydrography, surface CO<sub>2</sub>)

Best Practices for Ocean Acidification Research and Data Reporting

UN system activities related to ocean fertilization

Carbon Observing System Coordination (EU COCOS).

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## *IOCCP Major Activities 2009*

### **IOC-ICES STUDY GROUP ON NUTRIENTS STANDARDS (SGONS)**

The formation of the INSS study group was adopted by the IOC Assembly to develop reference materials for nutrients in seawater (RMNS) and measurement protocols to improve the comparability and traceability of nutrient data in the world's oceans.

### **OCEAN ACIDIFICATION: SUMMARY FOR POLICYMAKERS**

The sponsors of the second symposium on the Ocean in a High-CO<sub>2</sub> World published an eight-page summary for policymakers on ocean acidification including key recommendations.

The summary is available from [www.ocean-acidification.net](http://www.ocean-acidification.net), the ocean acidification website supported by the sponsors.

To order hard copies email: [comms@igbp.kva.se](mailto:comms@igbp.kva.se)