

Asia Pacific Network for Global Change Research



**Final Project Report
APN Project 2003-15**

**Travel Support for Asia-Pacific
Marine Scientists to Attend the Final
JGOFS Open Science Conference**



Table of Contents

Abstract.....	1
Project Information.....	1
Introduction	2
Activities Conducted	3
Outcomes and Products	4
Conclusions	4
Future Directions	6
Appendix 1: Conference Program	7
Appendix 2: Participants List	8
Appendix 3: Funding Sources outwith APN	9
Appendix 4: Glossary of Terms	10
Appendix 5: References.....	11

APN Project 2003-15

Travel Support for Asia-Pacific Marine Scientists to Attend the Final JGOFS Open Science Conference

Abstract

Launched in 1987 under the auspices of the Scientific Committee on Oceanic Research (SCOR), the Joint Global Ocean Flux Study (JGOFS) became the first core project of the International Geosphere-Biosphere Programme (IGBP) two years later as its first field studies were getting underway. Global in scope and multinational and interdisciplinary from its inception, JGOFS adopted two major goals: to understand the processes controlling the cycling of carbon and other biogenic elements in the ocean and their exchange with the atmosphere and the seafloor, and to advance our capacity to predict the response of ocean systems to anthropogenic perturbations.

Over the years since it was launched, JGOFS has sponsored a series of symposia designed to measure the advance of scientific knowledge against the questions the study was designed to address. The final open science conference, "A Sea of Change: JGOFS Accomplishments and the Future of Ocean Biogeochemistry," was held May 5-8, 2003, at the U.S. National Academies facility in Washington, D.C., the site of the first international JGOFS meeting in 1990.

Project Information

Project Leader:

Mary Zawoysky

U.S. JGOFS Planning and Data Management Office

Woods Hole Oceanographic Institution MS #43

Woods Hole, MA 02543-1057

Phone: 508-289-2834

Fax: 508-457-2161

E-mail: mzawoysky@whoi.edu

The total amount of APN Funding awarded during the entire funded period: \$12,000

The duration of the project: May 5-8, 2003

Collaborating APN approved countries included the following:

Australia

Bangladesh

Korea

China

India

Japan

New Zealand

Pakistan

Russia

USA

Introduction

The Joint Global Ocean Flux Study (JGOFS) has been the most ambitious ocean biogeochemistry project ever undertaken. The goal of this project has been to understand better the processes controlling the cycle of carbon and associated elements in the open ocean, including the ocean margins. This knowledge must now be synthesized and transferred to the next generation of ocean biogeochemists who will endeavor to predict the ocean's response to global climate change and variability, and to deliver this information to policy makers who will establish better-informed policies that are aimed at protecting our Earth systems.

New paradigms regarding the ocean carbon cycle have been formed, and improved methods for conducting integrated biological, chemical, physical and sedimentological studies of ocean processes have been developed. Two recent publications have dedicated an entire issue to the accomplishments of JGOFS. An AMBIO issue provided a broad overview of its international accomplishments to global change research scientists (Fasham et al, 2001) and The Oceanography Society (TOS) Magazine presented a more detailed review of U.S. JGOFS accomplishments (Buesseler, 2001).

This conference is the third in the series of JGOFS Open Science Conferences. The first was held in Villefranche-sur-mer, France, at the mid-term review under the auspices of ICSU in 1995, and the second was held in Bergen, Norway, in 2000 at the culmination of the fieldwork that formally initiated the synthesis, interpretation and modelling phase. These conferences led to a Cambridge University Press (Hanson et al., 1999) and a Springer-Verlag (Fasham et al, 2003) book on ocean biogeochemistry.

Several goals were accomplished for the Final Open Science Conference. The conference brought together all marine scientists that have been actively involved in the project since its inception. Second, it presented the major accomplishments of the national and international JGOFS process studies, time-series stations, ocean surveys, and ocean modelling. Third, it reached out to the broader global change programs in climate, human dimension and biodiversity research by linking conference themes to emerging issues in the global carbon cycle. Fourth, it included science and educational activities for the public. Finally, it offered the scientific community and public an opportunity to discuss ocean-related issues and concerns with renowned JGOFS scientists and notable national officials.

Much of the fieldwork completed under the project concerns the priority activities and special emphasis within APN—particularly "Climate Change and Variability". Many cruises took place in the Asia-Pacific area and were related to key processes of major interest to the APN and related populations (e.g., El-Niño – Southern Oscillation). Within the project, there are well-defined elements on coastal zones and continental margins, biodiversity, and atmosphere. JGOFS research included regional process studies and encouraged strong regional collaboration among its partners over the past decade and a half. With APN co-sponsorship, the conference furthered past regional collaborations and facilitated future collaborations among scientists and institutions in developing countries throughout the Asia Pacific Network and the global change research communities (IGBP, WCRP, IHDP, and Diversitas).

JGOFS devoted resources, time and effort to capacity building and educating the next generation of ocean biogeochemists and global change scientists. Many conferences, symposia, and meetings were specifically held throughout the world for this purpose. JGOFS involved 22 countries and educated undergraduate and graduate students from around the world. In the U.S. alone over 300 students participated in the program. APN travel support for scientists to participate in the conference promoted quality as well as future collaborative research proposals, and helped to build strong regional infrastructure to conduct global change research.

The International Geosphere-Biosphere Programme (IGBP) and the Scientific Committee on Ocean Research (SCOR) have backed a strong bottom up effort by the international scientific community for the continued development of a new project, Ocean Biogeochemistry and Ecosystems, as part of the next phase of IGBP. This project will have strong collaborative links with the ongoing projects, like SOLAS (Surface Ocean Layer and Atmospheric Study), LOICZ (Land-Ocean Interactions in the Coastal Zone) and GLOBEC (Global Ocean Ecosystem Dynamics), and will build on the results of JGOFS and other global change research.

Activities Conducted

The U.S. JGOFS Planning and Data Management Office planned and coordinated activities for the highly successful final international JGOFS Open Science Conference “A Sea of Change: JGOFS Accomplishments and the Future of Ocean Biogeochemistry”, May 5-8, 2003, at the National Academy of Sciences in Washington, D.C. This was a major activity, requiring 3 years of planning for a wide range of logistical (hotels, meeting rooms, social events, travel awards, registration, web info), scientific (poster abstracts, talk formats) and publicity related activities (conference announcements, posters, emails, mailings, advertisements, letters, newsletter).

The conference with its 34 plenary talks focused not only on JGOFS highlights bringing together all the various scientific accomplishments of the various national and international JGOFS studies, time series efforts and model results, but our schedule also included talks on the connections between JGOFS and other science programs, as well as a look forward to new programs in ocean sciences. Poster sessions in the afternoons allowed the opportunity to see the latest JGOFS synthesis efforts and individual contributions arranged across regional and cross-cutting scientific themes in 196 posters. The talks and posters summarized the fundamental results of more than 15 years of JGOFS-related science. U.S. and international data management efforts were showcased during the week and conference delegates all received CDs and DVDs of current JGOFS data compilations.

332 conference delegates participated, representing 31 countries and the U.S., having backgrounds ranging from past and present JGOFS “heroes” to the 71 young students who represented the next generation which will carry on this work in future programs. This included a successful parallel program specific to minority students: 21 students were matched up with 21 mentor/scientists participating in the conference.

Outcomes and Products

The main product of the conference, all of the plenary talks and many of the posters are now on line via the U.S. JGOFS web site, where they will serve for a long time to come as a community resource and ultimately reach the widest possible audience and have the largest impact. To view and download the talks in original PowerPoint and PDF formats and posters in PDF format, see our revised conference web site:
<http://usjgofs.whoi.edu/osc2003.html>

Conclusions

This section and the next section are excerpted from the EOS article (Steinberg et al., 2003) because they succinctly cover the conclusions and future direction that derived from the conference.

Conference presentations highlighted JGOFS contributions to a better understanding of the ocean's role in the global carbon cycle and likely responses to changing climate conditions in at least three broad areas. How much carbon is taken up and stored in various regions of the ocean, and how might this change in the future? What role do food web structure and biological processes play in the partitioning of carbon into different pools? How does carbon get from the surface waters to the deep ocean and seafloor, where it can be sequestered for millennia to eons?

Data amassed during the JGOFS survey and previous ocean studies indicate a globally integrated net CO₂ flux into the ocean of roughly 2.1 petagrams of carbon per year. This flux varies greatly from one region to another; the largest uptake occurs in the North Atlantic and Southern Ocean, whereas the equatorial regions, particularly in the Pacific, show a substantial net release of carbon into the atmosphere. The ocean is the largest sink for anthropogenic CO₂ at present, taking up more than one-third of total emissions from human activities. Modeling studies suggest the possibility of positive feedback with atmospheric warming, reducing the ocean's capacity to take up CO₂.

JGOFS studies demonstrated links between changes in large-scale climate patterns, such as the North Atlantic Oscillation and the El Niño-Southern Oscillation, and variations in the exchange of CO₂ between the ocean and atmosphere. They also indicated the importance of the continental margins in ocean CO₂ uptake, a critical issue for future study.

JGOFS process and time-series studies showed that plankton food web structure and dynamics have significant effects on the size and partitioning of the ocean carbon flux among organic and inorganic, dissolved and particulate forms. Phytoplankton size classes differ greatly in their contribution to surface blooms and to the timing and volume of material exported from the surface ocean to the meso-pelagic zone and deeper waters.

Zooplankton measurements showed that although larger species add variability and dominate the export of material from the euphotic zone, the micro-zooplankton provide the background that ultimately dominates the cycling of carbon and other elements

through the water column. JGOFS studies also documented the overall domination of ocean biomass and flux by microbes, including autotrophic pico- and nanoplankton, *Archaea*, bacteria, and protozoan grazers.

New discoveries about the role of element limitation on phytoplankton growth and abundance emerged from a number of studies. Open-ocean experiments tested the hypothesis that iron limits phytoplankton growth and abundance in regions with sufficient supplies of nitrogen and phosphorus. Data from time-series studies in oligotrophic ocean gyres show a long-term shift in the ratio of nitrogen to phosphorus in particulate matter and suggest a link between the warmer, calmer conditions that accompany a high frequency of El Niño events and the growth of nitrogen-fixing cyanobacteria.

The quest to understand how carbon gets from the ocean surface to the seafloor sediments produced a number of lessons for JGOFS scientists. Just as it is insufficient to rely solely on satellite data on pigments as a measure of surface productivity, so too is it insufficient to rely solely on particulate organic material collected in sediment traps at various depths as a measure of ocean export flux.

A significant discovery was the importance of dissolved organic carbon (DOC), which comprises 20% of the total ocean export flux on the global scale. Although processes governing DOC formation, export, decomposition, and geographic distribution are not well understood, it is interesting to note that the cycling and export of carbon south of the Antarctic Polar Front is dominated by particle fluxes; almost no carbon is exported in the form of DOC in that region.

JGOFS field and modeling studies have yielded insights into the importance of the inorganic fractions of the particle flux. Inorganic "ballast" protects organic material from decomposition in the water column and affects the rate and extent of particle sedimentation and re-mineralization. Food web structure and windborne materials have an impact on the formation and effects of this ballast.

Among the lessons learned during JGOFS is the importance of improving methods of measurement and establishing common standards that permit effective comparison of results. Measurements of both DOC and dissolved inorganic carbon (DIC) benefited from the development of reliable seawater standards. Advances in trace-metal free sampling techniques made it possible to carry out effective iron-enrichment experiments in the open ocean. Improvements in remote sensing technology, autonomous underwater vehicles, and sensors for long-term deployment on buoys also advanced biogeochemical research during the JGOFS era.

Another lesson learned is the importance of determining temporal and spatial scales relevant to particular questions. Long-term studies and the development of continuously recording instruments have made it possible to capture small and meso-scale events in time and space that have a disproportionate effect on variability in ocean properties.

In her keynote lecture, former Environmental Protection Agency administrator Carol M. Browner discussed the role of scientists in the formulation of governmental climate

policies. In her concluding address, Margaret Leinen of the National Science Foundation applauded JGOFS for broad goals and focused vision, noting the importance of intertwining observations and experiments with modeling, the value of cooperation among large ocean programs such as JGOFS and WOCE, and the utility of the data management system created under JGOFS as a model for future programs.

Future Directions

Directions for future research emerged from presentations at the conference. Plenary sessions with keynote speakers and commentators addressed a series of broad topics, including ocean color observations from space, air-sea fluxes of CO₂, ocean carbon transport and storage, ecosystem community structure and dynamics, ocean margins and benthic processes, the paleoceanographic perspective, data assimilation and modeling, iron limitation, particle export flux, and new technologies for biogeochemical observations. JGOFS history, links between JGOFS and other major ocean programs past and present, ocean biogeochemistry in the context of Earth system science, and future ventures in ocean biogeochemistry were explored as well.

The International Geosphere-Biosphere Programme (IGBP) and the Scientific Committee on Ocean Research (SCOR) have backed a strong bottom up effort by the international scientific community for the continued development of a new project, Ocean Biogeochemistry and Ecosystems, as part of the next phase of IGBP. This project will have strong collaborative links with the ongoing projects, like SOLAS (Surface Ocean Layer and Atmospheric Study), LOICZ (Land-Ocean Interactions in the Coastal Zone) and GLOBEC (Global Ocean Ecosystem Dynamics), and will build on the results of JGOFS and other global change research.

Appendix 1: Conference Program
See file [program.pdf](#) on this CD.

Appendix 2: Participants List
See file [participants.pdf](#) on this CD.

Appendix 3: Funding Sources outwith APN

U.S. National Science Foundation \$105,191

U.S. National Oceanic and Atmospheric Administration \$34,999

U.S. National Aeronautics and Space Administration \$24,958

U.S. Office of Naval Research \$24,991

Scientific Committee on Oceanic Research \$11,999

International JGOFS Project Office (Research Council of Norway) \$80,808

Global Change System for Analysis Research and Training (START) \$10,000

Inter-American Institute for Global Change Research (IAI) \$3,000

The Ocean Studies Board of the U.S. National Academy of Sciences cosponsored the conference and allowed us to use their facility at cost only of staff support and catering costs.

Appendix 4: Glossary of Terms

APN: Asia-Pacific Network

CD: compact disk

CO₂: carbon dioxide

DIC: dissolved inorganic carbon

DOC: dissolved organic carbon

DVD: digital versatile disc

GLOBEC: Global Ocean Ecosystem Dynamics

IAI: Inter-American Institute for Global Change Research

IGBP: International Geosphere-Biosphere Programme

IHDP: International Human Dimensions Programme on Global Environmental Change

IOC: Intergovernmental Oceanographic Commission

JGOFS: Joint Global Ocean Flux Study

LOICZ: Land-Ocean Interactions in the Coastal Zone

PDF: Portable Document Format

SCOR: Scientific Committee on Oceanic Research

SOLAS: Surface Ocean Layer and Atmospheric Study

TOS: The Oceanography Society

WCRP: World Climate Research Programme

WOCE: World Ocean Circulation Experiment

Appendix 5: References

- Barange, Manuel (2003). The final JGOFS OSM: 'A sea of change: JGOFS accomplishments and the future of ocean biogeochemistry'. Washington DC, USA, 5-8 May 2003. *Atlantic Meridional Transect Newsletter*, **2**, 8.
- Buesseler, Ken O., Editor (2001). U.S. JGOFS, United States Joint Global Ocean Flux Study. *Oceanography Special Issue*, **14**:4.
- Fasham, Michael J. R., Beatriz M. Baliño and Margaret C. Bowles, Eds. (2001). A new vision of ocean biogeochemistry after a decade of the Joint Global Ocean Flux Study (JGOFS). *AMBIO Special Report No. 10*.
- Fasham, Michael, Editor, with John Field, Trevor Platt, Bernt Zeitzschel, Co-editors (2003). *Ocean Biogeochemistry: A JGOFS Synthesis*, Springer-Verlag, 297 pgs.
- Hanson, Roger B., Hugh W. Ducklow and John G. Field, Editors (1999). *The Changing Ocean Carbon Cycle, a midterm synthesis of Joint Global Ocean Flux Study*, International Geosphere-Biosphere Programme Book Series Nr. 5, Cambridge University Press.
- Steinberg, Deborah K., Hugh W. Ducklow, Ken O. Buesseler, and Margaret C. Bowles (2003). Assessing contributions of JGOFS; Previewing studies in ocean ecology, biogeochemistry. *EOS*, **84**: 40, 413.

Sunday, 4 May: Early Registration and Reception

1730-1930 JGOFS Registration and Reception (U.S. National Academy of Sciences)

Day 1—Monday, 5 May

0730-0830 REGISTRATION

0830-0900 WELCOME AND INTRODUCTION
Robert Hamilton, Acting Director, Ocean Studies Board
Hugh Ducklow, Virginia Institute of Marine Science
Mark Abbott, Oregon State University

Session I. OCEAN COLOR TO OCEAN DYNAMICS

CHAIR: **Trevor Platt**, Bedford Institute of Oceanography

0900-1000 *Reenvisioning the Ocean: The View from Space*
SPEAKER: **Mark Abbott**, Oregon State University
COMMENTATOR: **Dave Siegel**, University of California, Santa Barbara

1000-1030 BREAK

1030-1130 *Constraining Fluxes at the Top: Advances in Quantifying Air-Sea Carbon Dioxide Fluxes during the JGOFS Decade*
SPEAKER: **Rik Wanninkhof**, AOML/NOAA
COMMENTATOR: **Richard Feely**, PMEL/NOAA

1130-1230 *Storage of Carbon in the Oceans: Observational Constraints*
SPEAKER: **Nicolas Gruber**, University of California, Los Angeles
COMMENTATOR: **Nick Bates**, Bermuda Biological Station for Research, Inc.

1230-1400 LUNCH

Session II. JGOFS CONNECTIONS

CHAIR: **Robert Anderson**, Lamont-Doherty Earth Observatory

1400-1430 *WOCE – Links to JGOFS Biogeochemistry*
Carl Wunsch, Massachusetts Institute of Technology

1430-1500 *GLOBEC – Links to JGOFS Biogeochemistry*
Roger Harris, Plymouth Marine Laboratory

1500-1530 *SOLAS – Links to JGOFS Biogeochemistry*
Peter Liss, University of East Anglia

1530-1730 **Poster Session I:**
Theme 1: Carbon Dioxide, CHAIR: **Bronte Tilbrook**, CSIRO Marine Research
Theme 2: Ocean Color, CHAIR: **Daniela Turk**, Canadian SOLAS Secretariat
Region 1: North Atlantic, CHAIR: **Véronique Garçon**, LEGOS, Centre National de la Recherche Scientifique
Region 2: Equatorial Pacific, CHAIR: **Robert Le Borgne**, Centre Institut de Recherche pour le Développement
Region 3: North Pacific, CHAIR: **Toshiro Saino**, Nagoya University

Day 2—Tuesday, 6 May

Session III. ECOSYSTEM STRUCTURE AND DYNAMICS

CHAIR: **Bernt Zeitzschel**, Institut für Meereskunde an der Universität Kiel

0800-0830	REGISTRATION
0830-0930	<i>Does Biological Community Structure Influence Biogeochemical Fluxes? JGOFS Says Yes!</i> SPEAKER: Tony Michaels , University of Southern California COMMENTATOR: Deborah Steinberg , Virginia Institute of Marine Science
0930-1030	<i>Co-limitation of Major Phytoplankton Groups by Light and Multiple Nutrients as Control of the Marine Carbon Cycle</i> SPEAKER: Hein de Baar , Royal Netherlands Institute for Sea Research COMMENTATOR: Ed Laws , University of Hawaii
1030-1100	BREAK
1100-1200	<i>Linking Surface Ocean and the Deep Sea</i> SPEAKER: Richard Lampitt , Southampton Oceanography Centre COMMENTATOR: Susanne Neuer , Arizona State University
1200-1300	<i>Climate Sensitivity: What Observations Tell Us about Model Predictions</i> SPEAKER: Corinne Le Quéré , Max-Planck Institut für Biogeochemie COMMENTATOR: Jorge Sarmiento , Princeton University
1300-1430	LUNCH
Session IV. OCEAN MARGINS AND BENTHIC PROCESSES	
Chair: Kon-Kee Liu , National Taiwan University	
1430-1500	<i>Examining Human Impacts on Global Biogeochemical Cycling Via the Coastal Zone and Ocean Margins</i> Liana Talaue-McManus , University of Miami
1500-1530	<i>Benthic Processes</i> Rick Jahnke , Skidaway Institute of Oceanography
1530-1600	<i>Seeing the Past through JGOFS Spectacles</i> Thomas Pedersen , University of British Columbia
1600-1630	Discussion/Question Period – Kon-Kee Liu , National Taiwan University
1630-1830	Poster Session II: Theme 1: Plankton Community Structure , CHAIR: Renato Quiñones , University of Concepción Theme 2: Euphotic Zone Production/Export , CHAIR: Patrick Monfray , Centre National de la Recherche Scientifique Theme 3: Time-Series Studies , CHAIR: Tony Knap , Bermuda Biological Station for Research Region 1: Ocean Margins , CHAIR: Hema Naik , National Institute of Oceanography

Day 3—Wednesday, 7 May

Session V. DATA ASSIMILATION AND MODELLING

CHAIR: **John Steele**, Woods Hole Oceanographic Institution

0800-0830	REGISTRATION
0830-0900	<i>Modelling Biogeochemical Fluxes in the Ocean – How Far Have We Gotten?</i> Andreas Oschlies , Institut für Meereskunde an der Universität Kiel
0900-0930	<i>The Internal Weather of the Sea and its Influences on Ocean Biogeochemistry: Findings from JGOFS Studies</i> Dennis McGillicuddy , Woods Hole Oceanographic Institution
0930-1000	<i>Using Inverse Models to Estimate Biogeochemical Fluxes – Achievements and Limitations</i> Reiner Schlitzer , Stiftung Alfred-Wegener-Institut für Polar- und Meeresforschung
1000-1030	Discussion/Question Period – John Steele , Woods Hole Oceanographic Institution
1030-1100	BREAK

Session VI. HIGHLIGHTS OF THE JGOFS ERA, CHAIR: **John Field**, University of Cape Town

1100-1130	<i>Iron Limitation – Phil Boyd</i> , University of Otago
1130-1200	<i>The Life and Times of Marine Particles: The JGOFS Story</i> Ken Buesseler , Woods Hole Oceanographic Institution
1200-1230	<i>New Technologies and their Roles in Advancing Biogeochemical Science during the JGOFS Era</i> Tommy Dickey , University of California, Santa Barbara
1230-1300	Discussion/Question Period – John Field , University of Cape Town
1300-1430	LUNCH

Session VII. FUTURE PROGRAMS, CHAIR: **Peter Burkill**, Southampton Oceanography Centre

1430-1450	<i>Ocean Futures in Biogeochemistry</i> Julie Hall , National Institute of Water and Atmospheric Research
1450-1510	<i>Role of Ocean Observing Systems in Ocean Research - Larry Atkinson</i> , Old Dominion University
1510-1530	<i>Oceans in the Earth System: Sailing into the Sea of Excitement</i> Will Steffen , International Geosphere-Biosphere Programme
1530-1730	Poster Session III Theme 1: Mesopelagic , CHAIR: Richard Lampitt , Southampton Oceanography Centre Theme 2: Deep Ocean/Benthos/Paleoceanography , CHAIR: Anitra Ingalls , Harvard University Theme 3: Global Synthesis/Ecosystem Modeling , CHAIR: Scott Doney , Woods Hole Oceanographic Institution Region 1: Arabian Sea , CHAIR: Sharon Smith , University of Miami Region 2: Southern Ocean , CHAIR: Paul Tréguer , Institut Universitaire Européen de la Mer
1700 & 1745	Buses will leave the National Academy for the Smithsonian
1800-1930	Smithsonian National Museum of Natural History, Baird Auditorium WELCOME AND INTRODUCTION: David Evans , Smithsonian Institution Deborah Steinberg , Virginia Institute of Marine Science Keynote Lecture “ <i>Global Climate Policy: Where is the World Headed?</i> ” SPEAKER: Carol M. Browner , The Albright Group
1930-2100	Please join us for hors d’oeuvres and drinks in the Museum Rotunda and viewing of select galleries.
2030 & 2115	Buses will return to the Melrose and State Plaza Hotels

Day 4—Thursday, 8 May

Session VIII. OCEAN DYNAMICS IN EARTH SYSTEM SCIENCE

CHAIR: **Hugh Ducklow**, Virginia Institute of Marine Science

0800-0830	REGISTRATION
0830-0900	<i>Why and How We Created JGOFS and the Lessons Learned</i> Peter Brewer , Monterey Bay Aquarium Research Institute
0900-0930	James McCarthy , Harvard University
0930-1015	<i>Ocean Biogeochemistry in the Earth System</i> Berrien Moore III , University of New Hampshire
1015-1030	Further Discussion/Questions Hugh Ducklow , Virginia Institute of Marine Science
1030-1100	BREAK
1100-1200	<i>JGOFS Accomplishments and New Challenges</i> SPEAKER: David Karl , University of Hawaii COMMENTATOR: Mark Abbott , Oregon State University
1200-1215	Epilogue Margaret Leinen , National Science Foundation
1230	Buses depart National Academy for the <i>Nina's Dandy</i>
1300-1600	CONFERENCE BANQUET (Potomac River Lunch Cruise)
	Buses will return after the cruise to the Melrose and State Plaza Hotels

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Abbott, Mark Oregon State University College Of Oceanic And Atmospheric Sciences Ocean. Admin. Bldg. 104 CORVALLIS OR USA	541 737-5195 USA	541 737-2064 97331-550	mark@coas.oregonstate.edu
Acker, Dr. James Goddard Distributed Active Archive Center NASA Goddard Space Flight Center Code 902 GREENBELT MARYLAND USA	301-614-5435 USA	301-614-5268 21075	acker@daac.gsfc.nasa.gov
Ahmed, Professor Saiyed Sultan Qaboos University Dept. Of Marine Science MUSCAT CAPITOL OMAN	968-515-191 OMAN	968-513-418 123	ahmedsi@squ.edu.om
Ammerman, James Rutgers University IMCS 71 Dudley Road NEW BRUNSWICK NJ USA	732-932-6555 X339 USA	732-932-8578 08901	ammerman@imcs.rutgers.edu
Anderson, David NOAA Paleoclimatology 325 Broadway Boulder CO USA	303-497-6237 USA	 80303	david.m.anderson@noaa.gov
Anderson, Dr. Laurence Woods Hole Oceanographic Institution Bigelow 411, MS #9 Woods Hole Oceanographic Institution WOODS HOLE MA USA	508-289-3742 USA	508-457-2132 02543	landerson@whoi.edu
Anderson, Robert Lamont-Doherty Earth Observatory Geochemistry Room 66 P. O. Box 1000 PALISADES NY USA	845-365-8508 USA	845-365-8155 10964	boba@ldeo.columbia.edu
Applegate, David GEO Times			
Asper, Vernon University Of Southern Mississippi P.O. Box 7000 703 E. Beach Dr. OCEAN SPRINGS MISSISSIPPI US	228-872-4211 US	228-872-4279 39564	vernon.asper@usm.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Atkinson, Larry Old Dominion University CCPO-Crittenton Hall Old Dominion University NORFOLK VA US 23505	757 683 4926	757 683 5550	atkinson@ccpo.odu.edu
Avery, Shatavia Savannah State University P.O. Box 20910 Savannah GA USA 31404			shayshaya@yahoo.com
Avril, Dr. Bernard JGOFS International Project Office University Of Bergen - SMR PO Box 7800 BERGEN HORDALAND NORWAY N-5020	47 555 84249	47 555 89687	bernard.avril@jgofs.uib.no
Ayoub, Ms Lore Usf 936 1/2 17 Ave NE ST PETERSBURG FL USA 33704	(727)553-1130	(727)553-1189	loreayoub@hotmail.com
Baba, Mr Norio Japan Oceanographic Data Center 5-3-1, Tsukiji CHUO-KU TOKYO JAPAN 104-0045	81-3-3541-7588	81-3-3545-2885	norio-baba@nifty.com
Baldwin, Amy University Of Western Florida Pensacola FL USA			
Banse, Dr. Karl School Of Oceanography Box 357940 University Of Washington SEATTLE WA USA 98195-794	(206) 543-5079	(206) 543-6073	banse@ocean.washington.edu
Barange, Dr Manuel Globec Ipo Plymouth Marine Laboratory Prospect Place PLYMOUTH DEVON UK PL1 3DH	44-1752-633160	44-1752-633101	m.barange@pml.ac.uk
Barber, Prof. Richard Duke University 135 Duke Marine Lab Road BEAUFORT NC USA 28516	252-504-7578	252-504-7648	rbarber@duke.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Barciela Fernandez, Dr. Rosa Met Office London Road BRACKNELL BERKSHIRE UNITED KINGDOM RG12 2SZ	44 (0)1344 856512	44 (0)1344 854499	rosa.barciela@metoffice.com
Bates, Dr Nicholas R. Bermuda Biological Station For Research 17 Biological Station Lane FERRY REACH NY BERMUDA GE01	441-297-1880 X210	441-297-8143	nick@bbsr.edu
Baylor, Victoria Skidaway Institute Of Oceanography 9610 Whitebluff Road Apt. 1507 Savannah GA USA 31406			baylor@skio.peachnet.edu
Benitez-Nelson, Dr. Claudia University Of South Carolina Department Of Geological Sciences 700 Sumter Street, EWS 408 COLUMBIA SC 29208	(803) 777-0018	(803) 777-6610	cbnelson@geol.sc.edu
Bernal, Mrs Gladys Escuela Naval Almirante Padilla Cra 1 # 1A42 Ed Bavaria 806 El Laguito Facultad De Oceanografia Escuela Naval - Bosque, Isla Manzan CARTAGENA BOLIVAR COLOMBIA 00	(57-5)6694124	(57-5)6694315	bernal_gladys@yahoo.com
Block, Karin CUNY Graduate School 83 Norman Avenue Brooklyn NY USA 11222			kblock@sci.ccny.edu
Boehm, Prof Alexandria B. Stanford University Terman M7 Stanford University STANFORD CA USA 94305-402	6507249128	6507253164	aboehm@stanford.edu
Bontempi, Paula NASA Headquarters Washington D.C.	202-358-1508	202-358-2770	pbontemp@mail.hq.nasa.gov
	USA	20546-000	
Boutin, Dr Jacqueline LODYC/CNRS LODYC/UPMC Case 100 4, Place Jussieu 75252 PARIS Cedex05 PARIS FRANCE 75252	33 1 44 27 47 65	33 1 44 27 38 05	jb@lodyc.jussieu.fr

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Bowles, Mrs. Mardi U.S. JGOFS Planning Office P.O. Box 26 WOODS HOLE MASSACHUSETT U.S.A.	508-548-7178	508-540-7078 02543	mardi@whoi.edu
Boyd, Dr Philip Nat. Inst. Of Water & Atmosphere, New Zealand NIWA, Department Of Chemistry, University Of Otago, DUNEDIN NEW ZEALAND	64-3-479-5249	64-3-479-5248 9001	pboyd@alkali.otago.ac.nz
Brewer, Dr. Peter G. Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd. MOSS LANDING CA	831-775-1706	831-775-1620 95039	brpe@mbari.org
Brix, Mr Holger UCLA-IGPP 5845 Slichter Hall LOS ANGELES CA	(310)8254526	(310)2063051 90095-156	hbrix@igpp.ucla.edu
Broadgate, Dr Wendy IGBP Secretariat Royal Swedish Academy Of Sciences Box 50005 STOCKHOLM SWEDEN	468 166448	468 166405 S10405	wendy@igbp.kva.se
Brown, Dana Georgia State University 5004 Dupont Lane Tucker GA			dbrown6@student.gsu.edu
Brown, Dr. Otis Rosenstiel School - University Of Miami 4600 Rickenbacker Causeway MIAMI FL	1 305 361 4000	1 305 361 4711 33149	obrown@miami.edu
Buesseler, Ken Woods Hole Oceanographic Institution Mail Stop #25 WOODS HOLE MA	508-289-2309	508-457-2193 02540	kbuesseler@whoi.edu
Burd, Adrian University Of Georgia Department Of Marine Sciences ATHENS GEORGIA	706-542-1604	706-542-5888 30602	adrian@plankton.marsci.uga.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Burgos, Ricardo University Of Puerto Rico P.O. Box 5481 Muniz - Mayaguez Mayaguez PR		USA	rdburgos@coqui.net
Burkill, Professor Peter Henry Southampton Oceanography Centre European Way SOUTHAMPTON HAMPSHIRE	44 23 8059 6014	44 23 8059 6247	phb@soc.soton.ac.uk
		UNITED KINGDOM SO14 3ZH	
Bychkov, Dr. Alexander North Pacific Marine Science Organization PICES Secretariat C/o Institute Of Ocean Sciences P.O.Box 6000 SIDNEY BRITISH	1-250-363-6364	1-250-363-6827	bychkov@pices.int
		CANADA V8L 4B2	
Carlson, Dr. Craig University Of California Department Of Ecology, Evolution And Marine Biology University Of California SANTA BARBARA CA	805-893-2541	805-893-8062	carlson@lifesci.ucsb.edu
		USA 93106	
Catalano, Mr Giulio Cnr-Ismar-Ts Viale Gessi, 2 TRIESTE ITALY	39040305506	39040308941	giulio.catalano@itt.ts.cnr.it
		ITALY I 34123	
Chai, Dr. Fei University Of Maine School Of Marine Sciences 5741 Libby Hall ORONO MAINE	2075814317	2075814388	fchai@maine.edu
		USA 04469-574	
Chandler, Ms Cynthia Woods Hole Oceanographic Institution Ms 43 WOODS HOLE MA	508 289 2765	508 457 2161	cchandler@whoi.edu
		USA 02543	
Chen, Prof. C.T. Arthur Nat. Sun Yat-Sen Univ. P.O. Box 59-60 KAOHSIUNG	886-7-525-5146	886-7-525-5346	ctchen@mail.nsysu.edu.tw
		TAIWAN 80424	
Chen, Dr. Chung-Chi National Taiwan Normal Univeristy Department Of Biology, National Taiwan Normal Univeristy, Ta TAIPEI TAIWAN	011-886-2-2933314	011-886-2-2931-2904	ccchen@cc.ntnu.edu.tw
		REPUBLIC OF 116	

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Chen, Mr Shang First Institute Of Oceanography, SOA Ocean University Of Qingdao 6 Xianxialing Road QINGDAO	86-532-8897476	86-532-8895544 266061	qdcs@163.com
Chen, Mr. Tzong-Yueh University Of Connecticut Marine Sciences Building 1080 Shennecossett Rd GROTON CT	(860)448-1142	USA 06340	tzong-yueh.chen@huskymail.uconn.edu
Chou, Mr Wen-Chen National Sun Yat-Sen University Institute Of Marine Geology And Chemistry National Sun Yat-Sen University Kaohsiung, Taiwan KAOHSIUNG TAIWAN	886-7-5255348	886-7-5255148 TAIWAN 804	wcjou@mail.nsysu.edu.tw
Church, Mr Matthew Va. Institute Of Marine Science P. O. Box 1346 GLOUCESTER VIRGINIA	804-684-7401	804-684-7293 USA 23062	mattc@vims.edu
Clark, Larry National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA	703-292-8500	703-292-9042 USA 22230	
Claustre, Dr. Herve CNRS Laboratoire D'Océanographie De Villefranche B.P. 08 VILLEFRANCHE FRANCE	33 4 93 76 37 29	33 4 93 76 37 39 FRANCE 06238	claustre@obs-vlfr.fr
Coale, Dr. Kenneth Moss Landing Marine Laboratories 8272 Moss Landing Road MOSS LANDING CALIFORNIA	(831) 771-4406	(831) 632-4403 USA 95039	coale@mml.calstate.edu
Colman, Dr Albert Carnegie Institution Of Washington Geophysical Laboratory 5251 Broad Branch Rd, NW WASHINGTON DC	202-478-8983	202-478-8901 USA 20015	a.colman@gl.ciw.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Condon, Mr. Robert Va. Institute Of Marine Science P.O. Box 1346 GLOUCESTER VIRGINIA US	804-684-7839	804-684-7293	rcondon@vims.edu
Conkright, Dr. Margarita NOAA/NODC/Ocean Climate Laboratory EOC5 1315 East-West Highway SILVER SPRING MARYLAND USA	(202)419-3466	(202)223-3065	mconkright@nodc.noaa.gov
Conte, Dr. Maureen Woods Hole Oceanographic Institution Ms#25 WOODS HOLE MA USA	508-289-2931	508-457-2193	mconte@whoi.edu
Cowart, Dominique Texas A & M University P.O. Box 1981 Drop Box 35 Galveston TX USA		77553	green_outlaw@hotmail.com
Crawford, Dr. William R. Fisheries & Oceans Canada Institute Of Ocean Sciences 9860 West Saanich Road P.O. Box 6000 SIDNEY BC CANADA	1-250-363-6369	1-250-363-6746	crawfordb@pac.dfo-mpo.gc.ca
Dadou, Mrs Isabelle LEGOS Biogeochemistry Dept. Observatoire Midi-Pyrenes TOULOUSE FRANCE FRANCE	33 5 61 33 29 54	33 5 61 25 32 05	isabelle.dadou@cnes.fr
Daniels, Mr. Robert Virginia Institute Of Marine Science P.O. Box 1346 GLOUCESTER VIRGINIA US	804-684-7439	804-684-7293	bdaniels@vims.edu
Davenport, Mr. Robert DFG Research Center Ocean Margins University Of Bremen Klagenfurterstr. BREMEN GERMANY UNITED KINGDOM	00494212187759	00494212183116	davenport@uni-bremen.de
De Baar, Prof Hein J W Royal Netherlands Institute For Sea Research P.O. Box 59 1790 AB DEN BURGISLE OF TEXEL THE	31222369465	31222319674	debaar@nioz.nl
		1790 AB	

**JGOFS OPEN SCIENCE CONFERENCE
 WASHINGTON, D.C.
 MAY 5 - 8, 2003
 PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Dickey, Professor Tommy University Of California, Santa Barbara Ocean Physics Laboratory 6487 Calle Real, Suite A SANTA BARBARA CA	805 893-7354 USA	805 967-5704 93117	tommy.dickey@opl.ucsb.edu
Dickson, Dr. Andrew Scripps Institution Of Oceanography (UCSD) 9500 Gilman Drive LA JOLLA CA	1-858-822-2990 USA	1-858-822-2919 92093-024	adickson@ucsd.edu
Dinniman, Mr. Michael CCPO, Old Dominion University Center For Coastal Physical Oceanography Old Dominion University Crittenton Hall NORFOLK VA	757 683-5559 USA	757 683-5550 23529	msd@ccpo.odu.edu
DiTullio, Dr Giacomo University Of Charleston, SC Grice Marine Lab 205 Fort Johnson CHARLESTON SC	8439539196 USA	8439539199 29412	ditullioj@cofc.edu
Doney, Scott Woods Hole Oceanographic Institution MS#25, 360 Woods Hole Road WOODS HOLE MA	508-289-3776 USA	 02543	sdoney@whoi.edu
Dore, John University Of Hawaii Department Of Oceanography University Of Hawaii At Manoa 1000 Pope Rd. HONOLULU HAWAII	808-956-2449 USA	808-956-9516 96822	jdore@soest.hawaii.edu
Do Rosario Gomes, Helga Bigelow Laboratory For Ocean Sciences 180 McKown Point Road West Boothbay ME	207-633-9628 USA	207-633-9641 04575	hgomes@bigelow.org
Dowell, Dr. Mark University Of New Hampshire Ocean Process Analysis Laboratory Morse Hall Rm. 151 DURHAM NH	603-8621476 USA	603-8620243 03824	mark.dowell@unh.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Drevillon, Ms Marie LEGOS Biogeochemistry Dept. Observatoire Midi-Pyrenees 14 Av. E. Belin TOULOUSE FRANCE FRANCE	33 5 61 33 29 41	33 5 61 25 32 05	drevillo@notos.cst.cnes.fr
Ducklow, Hugh College Of William School Of Marine Science Route 1208 Greate Road Box 1346 GLOUCESTER VA USA	804-684-7180	804-684-7293	duck@vims.edu
Dunne, Dr John NOAA, Geophysical Fluid Dynamics Laboratory PO Box 308, Forrestal Campus B Site PRINCETON NJ USA	609-452-6596	609-987-5063	jdunne@gfdl.noaa.gov
Dutkiewicz, Dr Stephanie Massachusetts Institute Of Technology 54-1511 Mit 77 Massachusetts Ave CAMBRIDGE MA USA	617-253-2170	617-253-9845	stephd@plume.mit.edu
Dybas, Cheryl National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA USA	703-292-8500	703-292-9042	
Eldin, Dr Gerard LEGOS/GRGS LEGOS, 14 Avenue Edouard Belin TOULOUSE HG FRANCE	(33) 561332872	(33) 561253205	gerard.eldin@notos.cst.cnes.fr
Emerson, Dr. Steven University Of Washington P.O. 355351 University Of Washington SEATTLE WA U.S.A.	206-325-0339	206-685-3351	emerson@u.washington.edu
Etcheto, Dr Jacqueline LODYC/CNRS LODYC,Case 100, Tour 15 2e Etage, UPMC, 4 Place Jussieu PARIS FRANCE	33 1 44 27 70 71	33 1 44 27 38 05	je@lodyc.jussieu.fr
Fach, Bettina Woods Hole Oceanographic Institution Mail Stop #25 Woods Hole Oceanographic Institution WOODS HOLE MA	508-289-3462	508-289-2193	bfach@whoi.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Farrenkopf, Dr. Anna Eco Chemie, B.V. Kanaalweg Z9/G Utrecht	011-31-30-289-3154	011-31-30-288-0715	ann@ecochemie.nl
	NETHERLANDS	3526KM	
Feely, Dr. Richard A. Pacific Marine Environmental Laboratory, NOAA 7600 Sand Point Way NE Bin C15700 SEATTLE WA	206-526-6214	206-526-6744	feely@pmel.noaa.gov
	USA	98115	
Fiedler, Dr. Paul NOAA Fisheries 8604 La Jolla Shores Dr. LA JOLLA CA	858-546-7016	858-546-7198	pfiedler@ucsd.edu
		92037	
Field, Prof John University Of Cape Town Zoology Department Univeristy Of Cape Town RONDEBOSCH W CAPE	27-21-6503612	27-21-6896115	jgfield@pop.uct.ac.za
	SOUTH AFRICA	7701	
Fiorani, Luca ENEA, FIS-LAS Via Ferma 45 Frascati	39-06-94005861	39-06-233227077	fiorani@frascati.enea.it
	ITALY	00044	
Fischer, Dr. Gerhard University Of Bremen Geoscience Department Klagenfurter Str. Bremen	49 (0) 4272723588	49 (0) 427278 3116	gerhard.fischer@allgeouni-bremen.org
	GERMANY	28359	
Follows, Dr Michael MIT 54-1514, Mit 77 Massachusetts Ave CAMBRIDGE MA	617 2535939	617 2534464	mick@mit.edu
	USA	02130	
Francois, Roger Woods Hole Oceanographic Institution Ms#25 Mc WOODS HOLE MA	508-289-2637	508-457-2193	rfrancois@whoi.edu
	USA	02543	
Franklin, Linda Smithsonian Environmental Research Center			

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Fujii, Masahiko National Institute For Environmental Studies 16-2 Onogawa TSUKUBA IBARAKI JAPAN	81 29 850 2769	81 29 851 4732	fujii.masahiko@nies.go.jp
Gabche, Mr Charles Emene Irad-Fisheries Research Irad-Fisheries South-West Province, CAMEROON -	(237) 333 20 71/775	(237) 333 20 25	cemenegab@yahoo.com
LIMBE SOUTH-WEST CAMEROON		PMB 77	
Garcon, Mrs Veronique LEGOS/CNRS 18 Avenue Edouard Belin TOULOUSE CEDEX	33561332957	33561253205	veronique.garcon@cnes.fr
		FRANCE 31401	
Gardner, Mr. Wilford Texas A & M University Department Of Oceanography Ms-3146 COLLEGE STATION TEXAS	979-8457211	979-8456331	wgardner@ocean.tamu.edu
		USA 77843	
Garrison, Dave National Science Foundation Biological Oceanography Program, Ocean Science Division 4201 Wilson Boulevard Arlington VA	703-292-8582	702-292-9085	dgarriso@nsf.gov
		USA 22230	
Gasol, Joseph M. Institut Del Mar-CMIMA, CSIC Pg. Maritim De La Barceloneta BARCELONA CATALUNYA	34932309500	34932309555	pepgasol@icm.csic.es
		SPAIN 08003	
Gauns, Dr Mangesh National Institute Of Oceanography Biological Oceanography Division, National Institute Of Ocea PANAJIM GOA	91 (832) 2456700	91 (832) 2456702	gmangesh@darya.nio.org
		INDIA 403 004	
Gibson, Dr. Deidre Hampton University Marine And Environmental Science Dept. Hampton University 3 Shore Road HAMPTON VA	757-727-5883	757-7275740	deidre.gibson@hamptonu.edu
		USA 23668	
Gildor, Dr. Hezi LDEO, Columbia University 61 Rte. 9W PALISADES NY	845-365-8901	845-365-8736	hezi@ldeo.columbia.edu
		10964	

**JGOFS OPEN SCIENCE CONFERENCE
 WASHINGTON, D.C.
 MAY 5 - 8, 2003
 PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Glover, Dr. David Woods Hole Oceanographic Institution Mail Stop #25 WOODS HOLE MA USA	508-289-2656	02543	dglover@whoi.edu
Goes, Dr. Joaquim Bigelow Laboratory For Ocean Sciences WEST BOOTHBAY MAINE USA	207-633-9628	207-633-9641 04538	jgoes@bigelow.org
Gonzalez, Dr. Rodrigo Universidad De Concepcion Centro COPAS Concepcion CONCEPCION CHILE	56 41 204239	56 41 256571 CASILLA	rogonzal@udec.cl
Grant, Takiesa Savannah State University 8000 Waters Ave., #115 Savannah GA USA		31406	grant@skio.peachnet.edu
Graulau Santiago, Jaime Michigan State University 3100 Trappers Cove, Apt. 3-D Lansing MI USA			graulaus@msu.edu
Green, Sara Lamont-Doherty Earth Observatory 61 Route 9W PALISADES NY USA	845-365-8480	854-365-8150 10964	sgreen@ldeo.columbia.edu
Gregg, Watson NASA/GFSC Code 971 GREENBELT MD USA	301-614-5711	301-614-5644 20771	watson.w.gregg@nasa.gov
Grigorov, Mr Ivo SOC Empress Dock SOUTHAMPTON UK UK	44 2380 596478	44 (0)23 80593052 SO14 3ZH	ivo_grigorov@hotmail.com
Gruber, Nicolas UCLA 5853 Slichter Hall Institute Of Geophysics And Planetary Physics LOS ANGELES CA	(310) 825 4772	(310) 206 3051 90095	ngruber@igpp.ucla.edu
Guerra, Omar Texas A & M University 3419 Avenue P Galveston TX USA		77550	omarjguerra@hotmail.com

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Gundersen, Dr. Kjell Bigelow Laboratory For Ocean Sciences McKown Point Rd. PO Box 475 WEST BOOTHBAY MAINE	207-633-9619 USA	207-633-9661 04575	kgundersen@bigelow.org
Gupta, Dr. Shyam Murti National Institute Of Oceanography National Institute Of Oceanography DONA PAULA GOA	91-832-2456700 INDIA	91-832-2456702 403 004	smgupta@csnio.ren.nic.in
Guptha, Dr Shankaranarayana National Institute Of Oceanography National Institute Of Oceanography, DONA PAULA GOA	91-832-2456700 INDIA	91-832-2456702, 403 004	guptha@csnio.ren.nic.in
Habtes, Sennai University Of North Carolina 425 Hillsborough Streeet, Apt 2D Chapel Hill NC	USA	27514	sennai@email.unc.edu
Hall, Frank University Of New Orleans 6910 Morrison Road Apt. 217 New Orleans LA	504-280-6325 USA	504-280-7396 70148	frhall@mac.com
Hall, Dr Julie NIWA PO Box 11 115 HAMILTON NEW ZEALAND	NEW ZEALAND	64 7 856 1709 NEW ZEALAND NONE	j.hall@niwa.co.nz
Halpern, David Office Of Science And Technology Policy EEOB Washington DC	USA	20502	dhalpern@ostp.eop.gov
Hansell, Dr. Dennis University Of Miami Rsmas/mac 4600 Rickenbacker Causeway MIAMI FL	1-305-361-4078	1-305-361-4689 33149	dhansell@rsmas.miami.edu
Hanson, Dr. Roger B. University Of Bergen JGOFS International Project Office Centre For Studies Of The Environment University Of Bergen 5020 BERGEN HORDALAND	NORWAY	47 55 58 42 44 5020	roger.hanson@jgofs.uib.no

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Harris, Roger Plymouth Marine Laboratory Prospect Place PLYMOUTH	44 1752 633400 UK		r.harris@pml.ac.uk
Haugan, Dr. Peter M. Geophysical Institute, UOB Allegaten 70 BERGEN	47 5558 2678 NORWAY	47 5558 9883 NORWAY	peter.haugan@gfi.uib.no
Heimerdinger, Mr. George U.S. JGOFS Data Management Office Woods Hole Oceanographic Institution WOODS HOLE	508 289 37554 USA	508 457 2161 02543	gheimerdiger@whoi.edu
Hemmings, Dr John Southampton Oceanography Centre European Way SOUTHAMPTON	44 23 8059 7793 HAMPSHIRE	44 23 8059 6400 UNITED KINGDOM	j.hemmings@soc.soton.ac.uk
Herr, Frank Office Of Naval Research Remote Sensing, Code 1121 RS 800 N. Quincy Street Arlington	703-696-4125 VA	703-696-2007 USA	hrrf@onr.navy.mil
Higgins, Mr Harry CSIRO Marine Research, Australia GPO Box 1538 HOBART	61 3 6232 5222 TASMANIA	61 3 6232 5123 AUSTRALIA	harry.higgins@csiro.au
Hill, Whitney Georgia State University 2759 Dresden Trail East Point	GA	USA	hill_whitney@hotmail.com
Hill III, Walter Texas A & M University 13107 Walnut Lake Road Houston	MA	USA	hill_walter_3@hotmail.com
Hiscock, Mr Michael Duke University Nicholas School Of The Environment & Earth Science 135 Duke Marine Lab Road BEAUFORT	NC	USA	hiscock@duke.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Hoepffner, Dr. Nicolas European Commission Institute For Environment And Sustainability Joint Research Centre Of The E.C. Tp 272 ISPRA VA ITALY	39 0332 789873	39 0332 789034	nicolas.hoepffner@jrc.it
Hofmann, Dr. Eileen Old Dominion University Center For Coastal Physical Oceanography Crittenton Hall NORFOLK VA USA	757-683-5334	757-683-5550	hofmann@ccpo.odu.edu
Holland, Monica NASA Global Change Master Directory 10210 Greenbelt Road Suite 500 Greenbelt MD USA	301-867-2079	301-867-2149	holland@gcmd.nasa.gov
Hollman, Erica Lynette M.A.E.A Interactive Science Program			
Honda, Mr. (Ph.D) Makio Japan Marine Science And Technology Center 2-15 Natsushima YOKOSUKA KANAGAWA JAPAN	81-468-67-9502	81-468-67-9455	hondam@jamstec.go.jp
Hood, Dr. Raleigh Center For Environmental Science, Univ. Of Maryland University Of Maryland 2020 Horns Point Road P.O. Box 775 CAMBRIDGE MARYLAND USA	410 221-8434	410 221-8490	raleigh@hpl.umces.edu
Hossain, Dr. Monowar Bangladesh University Of Eng. Department Of Water Resources Engg., BUET DHAKA BANGLADESH BANGLADESH	8802-9665631	8802-8613026	monowar@wre.buet.ac.bd
Hutcherson, Myrna Diablo Valley College 3136 Wisconsin Street Oakland CA USA			muh132@psu.edu
Ingalls, Dr. Anitra Harvard University Department Of Earth And Planetary Sciences 20 Oxford Street CAMBRIDGE MA USA	617 496-4297	617 496-4387	ingalls@eps.harvard.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Ithier-Guzman, Warner Inter-America University Of Puerto Rico P.O. Box 21540 Rio Piedras PR USA 00931			withier@yahoo.com
Itsweire, Eric National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA USA 22230	703-292-8500	703-292-9042	
Jackson, Dr. George Texas A & M University Dept. Oceanography Tamu Ms 3146 COLLEGE STATION TEXAS USA 77843	979 845 0405	979 845 8219	gjackson@tamu.edu
Jacques, Mr Guy CNRS 13, Rue Fontaine Saint-Martin PERPIGNAN 66000 FRANCE 66000	33 4 68 54 35 01		jacques@univ-perp.fr
Jahnke, Richard Skidaway Institute Of Oceanography 10 Ocean Science Circle SAVANNAH GEORGIA USA 31411	912.598.2491	912.598.2391	rick@skio.peachnet.edu
Jan, Dr. Sen National Sun Yat-Sen University Institute Of Physical Oceanography National Sun Yat-Sen University 70 Lien-Hai Rd. KAOHSIUNG TAIWAN TAIWAN 80424	886-7-5252000X535	886-7-5255359	senjan@mail.nsysu.edu.tw
Jayakumar, Dr Amal Princeton University M-45 Guyot Hall, Geosciences Princeton University PRINCETON NJ USA 08544	609 258 6294	609 258 0796	ajayakum@princeton.edu
Jearld, Dr. Ambrose NOAA Fisheries Woods Hole Lab. Northeast Fisheries Science Center 166 Water Street WOODS HOLE MA USA 02543-102	508.495.2318	508.495.2258	ambrose.jearld@noaa.gov
Johannessen, Professor Truls Geophysical Institute, UOB Alleg. 70 BERGEN NORWAY NORWAY 5007	-4755584327	-4755584330	truls@gfi.uib.no

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Johnson, Aisha Michael E. Bakley High School For Health Prof.			
Jones, Brandon University Of Delaware 700 Pilottown Road LEWES DE USA 19958			mbjones@udel.edu
Juranek, Laurie University Of Washington School Of Oceanography Box 355351 SEATTLE WA USA 98195	206 543 4511	206 685 3351	jurane@ocean.washington.edu
Karl, David University Of Hawaii 1000 Pope Road Department Of Oceanography HONOLULU HAWAII USA 96822	808-956-8964	808-956-5059	dkarl@hawaii.edu
Kennelly, Ms. Maureen University Of Rhode Island Graduate School Of Oceanography University Of Rhode Island South Ferry Road NARRAGANSETT RI USA 02882	401-874-6679	401-874-6728	m.kennelly@gso.uri.edu
Kidwai, Ms Samina National Institute Of Oceanography ST 47, Block 1 Clifton KARACHI KARACHI PAKISTAN 75600	(9221)-9251172-73	(9221)-9251179	niopk@cubexs.net.pk
Kim, Mr. Hae-Cheol Center For Coastal Physical Oceanography, Old Dominion University Center For Coastal Physical Oceanography, Crittenton Hall, 7 NORFOLK VIRGINIA SOUTH KOREA 23508	757-683-6006	757-683-5550	kim@ccpo.odu.edu
Kim, Mrs Jae-Yeon Busan National University Dept. Marine Science Busan National University JANG-JEON DONG BUSAN SOUTH KOREA 609-735	82-51-510-3369	82-51-581-2963	yeony@pusan.ac.kr
Kirchman, David University Of Delaware College Of Marine Studies 700 Pilottown Road LEWES DE USA 19958	302-645-4375	302-645-4028	kirchman@udel.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Kleypas, Dr. Joanie National Center For Atmospheric Research PO Box 3000 BOULDER CO USA	303 497 1316	303 497 1700	kleypas@ucar.edu
Klinck, Dr John Center For Coastal Physical Oceanography CCPO, Crittenton Hall 768 52nd Street Old Dominion University NORFOLK VIRGINIA USA	757 683 6005	757 683 5550	klinck@ccpo.odu.edu
Knap, Dr Anthony Bermuda Biological Station For Research, Inc 17 Biological Lane Ferry Reach ST GEORGE'S ST GEORGE'S BERMUDA	441-297-1880	441-297-0860	gillian@bbsr.edu
Knoppers, Prof. Dr. Bastiaan Universidade Federal Fluminense Departamento De Geoquimica, Morro Do Valonguinho S/n NITERI11 RIO DE JANEIRO BRAZIL	55-21-27174189	55-21-27174189	geoknop@geoq.uff.br
Koeve, Dr. Wolfgang Marum Univ. Bremen Postfach 330440 BREMEN GERMANY GERMANY	49 431 600 4277	49 1212-5-10618829	w.koeve@web.de
Kohfeld, Dr Karen Max Planck Institute For Biogeochemistry Winzerlaerstrasse 10 JENA N/A GERMANY	493641576265	493641577200	kek@bgc-jena.mpg.de
Korb, Dr. Rebecca British Antarctic Survey High Cross Madingley Road CAMBRIDGE CAMBRIDGESHIR UK	44 1223 221597	44 1223221259	rk@bas.ac.uk
Kozyr, Mr. Alex Oak Ridge National Laboratory Oak Ridge National Laboratory Carbon Dioxide Information Analysis Center Building 1509, Mail Stop 6335 OAK RIDGE TENNESSEE USA	865-576-8449	865-574-2232	kozyra@ornl.gov

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Kremer, Mrs. Patricia Department Of Marine Sciences University Of Connecticut 1080 Shennecossett Road GROTON CONNECTICUT USA	860-405-9140	860-405-9153	pkremer@uconn.edu
Kutub (Qutob), Mr. Mutaz Al-Quds University 6-Noir Edin, P.O.Box 19164 JERUSALEM ISRAEL ISRAEL	972 51 794687	972 2 628-4077	qutob@planet.edu
Lam, Phoebe UC Berkeley Department Of Earth And Planetary Science UC Berkeley 307 McCone Hall BERKELEY CA USA	510-643-4248	510-643-9377	pjlam@socrates.berkeley.edu
Lampitt, Dr Richard Southampton Oceanography Centre Empress Dock SOUTHAMPTON HAMPSHIRE UK	44 (0)23 80596347	44 (0)23 80596247	r.lampitt@soc.soton.ac.uk
Lance, Ms. Veronica Duke University Duke University Marine Laboratory 135 Marine Lab Road BEAUFORT NC USA	252-504-7631	252-504-7648	vplance@duke.edu
Langone, Dr Leonardo ISMAR-CNR, Istituto Di Geologia Marina Via Gobetti 101 BOLOGNA ITALY ITALY	39 051 6398870	39 051 6398940	langone@igm.bo.cnr.it
Laws, Dr. Edward University Of Hawaii Department Of Oceanography HONOLULU HAWAII USA	808-956-7402	808-956-9225	elaws@hawaii.edu
Leblanc, Doctor Karine College Of Marine Studies 700 Pilottown Road LEWES DELAWARE USA	302-645-4009	302-645-4007	leblanc@ucel.edu
Le Borgne, Dr Robert P. IRD Centre IRD, B.P. A5 NOUMEA CEDEX NEW CALEDONIA	(687) 260786	(687) 264326	leborgne@noumea.ird.nc

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Lee, Mr. Hung-Jen National Museum Of Marine Biology And Aquarium 2 Houwan Road, Checheng, Pingtung 944, Taiwan CHECHENG PINGTUNG TAIWAN	886-(08)8825001	886-(08)8825086	lec@nmmba.gov.tw
Legendre, Prof. Louis Villefranche Oceanography Laboratory Lov Bp 28 VILLEFRANCHE-SUFRANCE	33493763836	33493763834	legendre@obs-vlfr.fr
Leinen, Dr Margaret National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA USA	703-292-8500	703-292-9042	mleinen@nsf.gov
Lempa, Jenna Smithsonian Environmental Research Center			
Lequere, Corinne Max-Planck-Institute For Biogeochemistry Postfach 100164 JENA D GERMANY	49 3641 576217	49 3641 577200	lequere@bgc-jena.mpg.de
Lestenkof, Pamela University Of Alaska 4531 188th Avenue SE Issaquah WA USA			pamelalestenkof@hotmail.com
Letelier, Dr. Ricardo COAS - Oregon State University 104 Ocean. Admin. Bldg. CORVALLIS OREGON UNITED STATES	541-737-3890	541-737-2064	letelier@coas.oregonstate.edu
Lewis, Dr. Marlon Dalhousie University Dept. Oceanography Life Sciences Centre HALIFAX NOVA SCOTIA CANADA	902-494-3513	902-494-2039	marlon.lewis@dal.ca
Lindsay, Dr. Keith National Center For Atmospheric Research Climate 3080 Center Green Dr., Ste. 2600 P.O. Box 3000 BOULDER CO USA	303-497-1722	303-497-1700	klindsay@ucar.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Liss, Professor Peter University Of East Anglia School Of Environmental Sciences University Of East Anglia NORWICH NORFOLK UK NR4 7TJ	44 1603 592563	44 1603 507714	p.liss@uea.ac.uk
Liu, Mr Kon-Kee Institute Of Oceanography, National Taiwan University 1 Sect 4 Roosevelt Rd TAIPEI TAIWAN REPUBLIC OF 106	886-2-23631810	886-2-23644049	kkliu@ntu.edu.tw
Livingston, Mr. Hugh IAEA Marine Laboratory 12 Blvd Princess Grace, MONTE CARLO, MONACO MONACO 98000	(377) 97771224		h.livingston@iaea.org
Llinas, Mr Octavio Instituto Espanol De Oceanografa Avda. Del Brasil, 31 MADRID MADRID SPAIN 28020	34914175438	34915551954	octavio.llinas@md.ieo.es
Lobe, Hank RD Instruments Government Systems 1242 Creek Drive Annapolis MD USA 21403-030	410-263-1143		hanklobe@earthlink.com
Loisel, Mr Hubert Laboratoire D'Optique Atmosphrique VILLENEUVE FRANCE FRANCE 59655	33-3.20.33.61.89	33-3.20.43.43.42	loisel@loa.univ-lille1.fr
Lomas, Dr. Michael Bermuda Biological Station For Research 17 Biological Lane ST. GEORGE'S OTHER BERMUDA GE01	441-297-1880 X303	441-297-8143	mlomas@bbsr.edu
Mackey, Dr Denis James CSIRO CSIRO Marine Research PO Box 1538 HOBART TASMANIA AUSTRALIA 7001	61 3 6225 2747	61 3 6232 5123	denis.mackey@csiro.au
Madin, Dr Laurence Woods Hole Oceanographic Institution Ms 33 FALMOUTH MA USA 02543	508-289-2739	508-457-2314	lmadin@whoi.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Mahanta, Dr. Chandan Indian Institute Of Technology - Guwahati IIT Campus, Guwahati 781039 GUWAHATI ASSAM INDIA 781039	91-361-2690321 TO	91-361-2690762	mahanta_iit@yahoo.com
Manganini, Steven Woods Hole Oceanographic Institution 266 Water St. Clark 101 WOODS HOLE MA USA 02543	508-289-2778	508-457-2175	smanganini@whoi.edu
Mangoni, Dr Olga University Of Naples "Federico II" Via Mezzocannone 8 NAPLES ITALY ITALY 80134	39 081 2535149	39 081 2535134	olga.mangoni@unina.it
Marra, Dr John Lamont-Doherty Earth Observatory 61 Route 9W PALISADES NY USA 10964	845-365-8891	845-365-8150	marra@ldeo.columbia.edu
Martin, Dr Adrian Southampton Oceanography Centre George Deacon Division Empress Dock European Way SOUTHAMPTON HAMPSHIRE UK SO14 3ZH	00 44 (0)23	00 44 (0)23 80596247	apm1@soc.soton.ac.uk
Martin, Mr William Woods Hole Oceanographic Institution Mail Stop 8 Woods Hole Oceanographic Inst. WOODS HOLE MA 02543	508 289-2836	508 457-2183	wmartin@whoi.edu
Martinez, Ramon University Of Puerto Rico P.O. Box 5864 Mayaguez PR USA 02904			s_ramartinez@hotmail.com
Mayzaud, Dr Patrick CNRS-LOV Observatoire Oc#3anologique Bp. 28 VILLEFRANCHE FR FRANCE 06230	33 4 93 76 38 28	33 4 93 76 38 48	mayzaud@obs-vlfr.fr
McCarthy, Dr. James Harvard University McZ 26 Oxford St. CAMBRIDGE MA USA 02138	617-495-2330	6107-495-0506	jmccarthy@oeb.harvard.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
McGillicuddy, Dr. Dennis Woods Hole Oceanographic Institution Bigelow 209b - MS11 WOODS HOLE MA USA	508-289-2683	508-457-2194	dmcgillicuddy@whoi.edu
McKinley, Dr. Galen Instituto Nacional De Ecologia Periferico 5000, Piso 4 Col. Insurgentes Cuicuilco MEXICO DF MEXICO	525556280600X131	525554245404	galen@alum.mit.edu
McLeod, Miss Paula Southampton Oceanography Centre School Of Ocean And Earth Science Southampton Oceanography Centre European Way SOUTHAMPTON UK	44 (0)23 8059 6631	SO14 3ZH	pm496@soc.soton.ac.uk
McNeil, Dr Ben AOS Program, Princeton University Sayre Hall, Forrestal Campus, Princeton University PRINCETON NJ USA	609-258-0979	609-258-2850	bmcneil@princeton.edu
Memery, Dr Laurent LODYC/CNRS LODYC, Univ. Pierre Et Marie Curie Case 100 4 Place Jussieu PARIS FRANCE	33 1 44 27 49 66	33 1 44 27 71 59	memery@lodyc.jussieu.fr
Mergulhao, Lina National Institute Of Oceanography Geological Oceanography Division Dona Paula Goa	91 0 832 2456702	91 0 245 6703	mlina@darya.nio.org
Merlivat, Dr Mrs Liliane LODYC/CNRS University Paris 6 -4 Place Jussieu PARIS 75 FRANCE	33144277072	33144277159	merlivat@lodyc.jussieu.fr
Metz, Simone National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA USA	703-292-8500	703-292-9042	

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Metzl, Mr. Nicolas Dimitri CNRS Laboratoire De Biogeochimie Et Chimie Marine LBCM/IPSL Univ. P Et M Curie, Case 134 4, Place Jussieu PARIS	33 1 44 27 33 94	33 1 44 27 49 93	metzl@ccr.jussieu.fr
Michaelis, Dr. Anthony USC, Wrigley Institute For Environmental Studies 3616 Trousdale Parkway, AHF 232 LOS ANGELES	213-740-6780	213-740-6720	tony@usc.edu
Miller, Dr Axel The Scottish Association For Marine Science UHI Millennium Institute Dunstaffnage Marine Laboratory OBAN	44 1631 559263	44 1631 559101	axel.miller@dml.ac.uk
Milne, Peter National Science Foundation 4201 Wilson Blvd ARLINGTON	7032927594	7032928521	pmilne@nsf.gov
Mishonov, Mr. Oleksiy Texas A & M University Department Of Oceanography Ms-3146 COLLEGE STATIONTX	979-862-6674	979-845-6331	avm@tamu.edu
Modigh, Dr Monica Zoological Station A. Dohrn Villa Comunale NAPLES	0039 081 5833317	0039 081 7641355	modigh@szn.it
Monfray, Mr Patrick LEGOS/CNRS 14 Av. E. Belin TOULOUSE	(33) 5 61 33 29 02	(33) 5 61 25 32 05	monfray@cnes.fr
Mongin, Mr Mathieu COAS Oregonstate University IEUM Brest France 104 Admi Buil COAS Oregonstate University CORVALLIS	54147372186		mmongin@coas.oregonstate.edu
Moore III, Professor Berrien Institute For The Study Of Earth, Oceans, And Space, University Of New Hampshire 305 Morse Hall DURHAM	603-862-1766	603-862-1915	b.moore@unh.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Mooring, Raymond Georgia Tech 500 Northside Circle NW Apt II-8 Atlanta GA USA 30309			
Morland, Mr Terje Research Council Of Norway PB 2700 St.Hanshaugen OSLO OSLO NORWAY NO-0131	4722037280	4722037278	tmo@rcn.no
Mullison, Jerry RD Instruments 9855 Businesspark Avenue SAN DIEGO CA USA 92131	858-693-1178	858-695-1459	jmullison@rdinstruments.com
Murnane, Dr. Richard Bermuda Biological Station For Research PO Box 405 GARRETT PARK MD USA 20896	443-622-6484	301-942-1886	rmurnane@bbsr.edu
Murray, Prof. James W. University Of Washington School Of Oceanography, Box 355351 SEATTLE WA USA 98195-535	(206) 543-4730	(206) 685-3351	jmurray@u.washington.edu
Mwashote, Mr Benjamin Kenya Marine And Fisheries Research Institute P. O. Box 81651 P. O. Box 40874 MOMBASA COAST KENYA 80100	254-(0)11-475152/3/	254-(0)11-475157	benmwashote@ilovejesus.net
Naik, Ms Hema National Institute Of Oceanography Chemical Oceanography Division, National Institute Of Oceano PANAJIM GOA INDIA 403 004	91 (832) 2456700	91 (832) 2456702	hema@darya.nio.org
Najjar, Dr. Raymond The Pennsylvania State University 503 Walker Building Department Of Meteorology UNIVERSITY PARK PENNSYLVANIA U.S.A. 16802-501	814-863-1586	814-865-3663	najjar@essc.psu.edu
Naqvi, Dr. Wajih National Institute Of Oceanography, India National Institute Of Oceanography DONA PAULA GOA INDIA 403004	918322456700	918322456702	wajih_naqvi@yahoo.com

JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST

NAME:	PHONE:	FAX:	E-MAIL:
Neale, Patrick Smithsonian Environmental Research Center P.O. Box 28 EDGEWATER MD USA	443-482-2285	443-482-2380	nealep@si.edu
Neuer, Dr Susanne Arizona State University Department Of Biology TEMPE AZ USA	480 727 7524	480 965 2519	susanne.neuer@asu.edu
Nieves, Ismael University Of Connecticut 261 Glennbrook Road, Unit 2037 Stoors CT USA		06269	ismael.nieves@uconn.edu
Oguma, Ms Sachiko Marine Information Research Center Mishima Bldg 5F 7-15-4 Ginza CHUO-KU TOKYO JAPAN	81-3-3248-6668	81-3-3248-6661	oguma@mirc.jha.jp
Oguz, Mr Temel Middle East Technical University, Institute Of Marine Sciences PO Box 28 ERDEMLI, MERSIN TURKEY	90 324 521 2150	90 324 521 2327	oguz@ims.metu.edu.tr
Oliver, Mr Jacques L Va. Institute Of Marine Science P O Box 1346 GLOUCESTER VIRGINIA USA	804-684-7416	804-684-7293	jloliver@vims.edu
Orcutt, Dr. Karen University Of Maine Darling Marine Center 193 Clark's Cove Rd. WALPOLE MAINE USA	207-563-3146	207-563-3119	karen.orcutt@maine.edu
Orr, Dr. James LSCE/CEA France LSCE/CEA Saclay Bat. 709, L'Orme GIF-SUR-YVETTE CEDEX FRANCE	(33)169087723	(33)169087716	orr@cea.fr
Oschlies, Dr Andreas IfM Kiel Institut Fuer Meereskunde, Duesternbrooker Weg 20 KIEL GERMANY GERMANY	49-431-6004008	49-431-6001515	aoschlies@ifm.uni-kiel.de

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Pakulski, Dean University Of Western Florida Pensacola FL USA			
Palmisano, Anna Department Of Energy Er-74 Department Of Energy, 19901 Germantown Road Germantown MD USA	301-903-4183	301-903-5051	anna.palmisano@science.doe.gov
Palucci, Antonio ENEA, C.R. Frascati Via Enrico Fermi 45 C.P. 65 Frascati (Rome) ITALY	39-06-9400-5299	39-06-9400-5312	Palucci@frascati.enea.it
Paropkari, Dr. Anil National Institute Of Oceanography NIO, Dona Paula , Goa-403004 DONA PAULA GOA INDIA	91 0832 2456700	91 0832 2456702	parop@darya.nio.org
Paulmier, Mr Aurelien LBCM Universite Pierre Et Marie Curie, Case Courrier 134 4,Pl.Jussieu 75252 PARIS CEDEX FRANCE	33 1 44 27 48 61	33 1 44 27 49 93	paulmier@ccr.jussieu.fr
Pedersen, Dr. Thomas University Of Victoria School Of Earth And Ocean Sciences Petch 168, PO Box 3055, University Of Victoria VICTORIA BC CANADA	250-721-6120	250-721-6200	tfp@uvic.ca
Peloquin, Jill Virginia Institute Of Marine Science/College Of William P O Box 1346 Route 1208 Greate Road GLOUCESTER VIRGINIA USA	804-684-7401	804-684-7293	jillp@vims.edu
Pena, Angelica Institute Of Ocean Sciences PO Box 6000 9860 W Saanich Rd SIDNEY BRITISH CANADA	(250) 363-6576	(250) 363-6746	penaa@pac.dfo-mpo.gc.ca

JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST

NAME:	PHONE:	FAX:	E-MAIL:
Peng, Dr. Tsung-Hung NOAA/AOML 4301 Rickenbacker Causeway MIAMI FL USA	305 361 4399	305 361 4392	tsung-hung.peng@noaa.gov
Penhale, Polly National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA USA	703-292-8500	703-292-9042	
Pilskaln, Dr. Cindy Bigelow Lab For Ocean Sciences Box 475 180 McKown Pt. Rd. WEST BOOTHBAY ME USA	207-633-9668	207-633-9641	cpilskaln@bigelow.org
Platt, Dr. Trevor Bedford Institute Of Oceanography 1 Challenger Drive DARTMOUTH NOVA SCOTIA CANADA	1-902-426-3793	1-902-426-9388	tplatt@dal.ca
Plattner, Dr. Gian-Kasper UCLA/IGPP 5839 Slichter Hall LOS ANGELES CA	310 206 5445	310 206 3051	plattner@igpp.ucla.edu
Pollard, Dr Raymond Southampton Oceanography Centre Waterfront Campus European Way SOUTHAMPTON HAMPSHIRE UK	0(44)2380596433	0(44)2380596204	rtp@soc.soton.ac.uk
Popova, Dr Ekaterina Southampton Oceanography Centre Southampton Oceanography Centre Empress Dock SOUTHAMPTON HAMPSHIRE UK	44 (0)2380596346	44(0)2380596247	ekp@soc.soton.ac.uk
Pratap, Dr Madhu National Institute Of Oceanography Donapaula, Goa 403 004, India H-1, Landscape By Bay, Caranzalam, Goa, India PANAJI GOA INDIA	91 (0832) 2456700	91 (0832) 2456702	madhu@darya.nio.org
Prezelin, Professor Barbara Univ. California, Santa Barbara Dept. Ecology Evolution And Marine Biology SANTA BARBARA CALIFORNIA UNITED STATES	8058934319	8058934319	prezelin@lifesci.ucsb.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Purnell, Asya Renee Michael E. Bakley High School For Health Prof.			
Pyrtle, Dr. Ashanti Georgia Institute Of Technology School Of Earth Georgia Institute Of Technology 311 Ferst Drive ATLANTA GEORGIA USA	4048941624	4048945638	apyrtle@eas.gatech.edu
Quay, Mr Paul University Of Washington School Of Oceanography Box 355351 SEATTLE WA	206-685-8061	206-685-3351	pdquay@u.washington.edu
Queguiner, Prof. Dr. Bernard LOB UMR-CNRS Centre D'Oceanologie De Marseille Campus De Luminy, Case 901 MARSEILLE FRANCE	(33) 4 91 82 92 05	(33) 4 91 82 19 91	queguiner@com.univ-mrs.fr
Quinones, Dr. Renato University Of Concepcion Departamento De Oceanografia, Universidad De Concepcion Casilla 160-C Concepcion, Chile CONCEPCION VIII REGION CHILE	56-41-203861	56-41-256571	rquinone@udec.cl
Radenac, Dr. Marie-Helene IRD Legos 18 Avenue Edouard Belin TOULOUSE	33 5 61 33 30 00	33 5 61 25 32 05	marie-helene.radenac@cnes.fr
Reeve, Mike National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA	703-292-8500	703-292-9042	
Rice, Don National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA	703-292-8500	703-292-9042	

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Richardson, Dr Mary Jo Texas A & M University 3148 Tamu College Of Geosciences COLLEGE STATIONTX	979-845-3651 USA	979-845-0056 77843-314	mrichardson@ocean.tamu.edu
Richardson, Dr Tammi Texas A & M University Department Of Oceanography Eller O And M Building MS 3146 Texas A COLLEGE STATIONTX	979-845-2977 USA	979-845-8219 77843-314	tammi@ocean.tamu.edu
Rivkin, Dr Richard B. Ocean Sciences Centre Memorial University Of Newfoundland ST. JOHN'S	709 737 3720 NEWFOUNDLAN CANADA	709 737 3220 A1C 5S7	rrivkin@mun.ca
Robinson, Dr Carol Plymouth Marine Laboratory Prospect Place West Hoe PLYMOUTH	44 (0)1752 633462 DEVON ENGLAND	44 (0)1752 633101 PL1 3DH	c.robinson@pml.ac.uk
Rodier, Mrs Martine IRD Centre IRD De Nouma, BPA5 NOUM 1A	00 687 26 07 82 NEW CALEDONIA NEW CALEDONIA	00 687 26 43 26 98848	rodier@noumea.ird.nc
Roman, Dr. Michael Univ Of MD Center For Env. Science Horn Point Laboratory PO Box 775 CAMBRIDGE	410-221-8425 MARYLAND USA	410-221-8473 21613-077	roman@hpl.umces.edu
Rosario, Karyna University Of Puerto Rico RR 02 Buzon 7025 Cidra	RP USA	00739	orcinus2@yahoo.com
S., Prof Shanmuganandan Madurai Kamaraj University Professor And Head, Department Of Geography, Madurai Kamaraj 72, Pasupathy Nagar, Madurai-625021, Tamilnadu, India MADURAI	91 452 2458471 372 TAMILNADU INDIA	91 452 2459139 625021	shanmug@eth.net
Sabine, Dr. Christopher L. NOAA/PMEL 7600 Sand Point Way NE SEATTLE	(206) 526-4809 WASHINGTON USA	(206) 526-6744 98115	sabine@pmel.noaa.gov

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Sadler, Mr. Dan University Of Hawaii 1000 Pope Road HONOLULU HAWAII	808-956-7779 USA	808-956-9516 96816	sadler@hawaii.edu
Saggiomo, Dr Vincenzo Zoological Station "A. Dohrn" Villa Comunale I NAPLES ITALY	39 081 5833240 ITALY	39 081 5833224 80121	saggiomo@szn.it
Saino, Prof. Toshiro Nagoya University Hydrospheric Atmospheric Research Center Furo Cho, Chikusa Ku NAGOYA	81-52-789-3487 JAPAN	81-52-789-5508 464-8601	tsaino@ihas.nagoya-u.ac.jp
Sakshaug, Mr Egil Norway Univ. Of Science & Technology Biological Station TRONDHEIM-NTN NORWAY,	47-73591583 NORWAY	47-73591597 N-7491	egil.sakshaug@vm.ntnu.no
Salihoglu, Mr Baris CCPO Old Dominion University 52nd St Crittenton HI NORFOLK VA	757-683-5557 USA	757-683-5550 23508	baris@ccpo.odu.edu
Sambrotto, Raymond Lamont-Doherty Earth Observatory 61 Rt. 9W PALIUSADES NY	845-365-8402 USA	845-365-8150 10964	sambrott@ldeo.columbia.edu
Sarin, Prof Manmohan Physical Research Laboratory Physical Research Laboratory AHMEDABAD GUJARAT	91-79-6302129 INDIA	921-79-6301502 380 009	sarin@prl.ernet.in
Sarmiento, Mr. Jorge Princeton University AOS Program 205 Sayre Hall Forrestal Campus PRINCETON NJ	609-258-6585 USA	609-258-2850 08544	jls@splash.princeton.edu
Schlitzer, Mr. Reiner Alfred Wegener Institute Columbusstrasse BREMERHAVEN D	(49) 471 48311559 GERMANY	(49) 471 48311149 27568	rschlitzer@awi-bremerhaven.de

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Schmeltz, Dr Marjorie Jet Propulsion Laboratory Mail Stop 300-323 4800 Oak Grove Drive PASADENA CA	1 818 354 37 98	1 818 393 67 20	marjorie@pacific.jpl.nasa.gov
Schneider, Mr. David Woods Hole Oceanographic Institution Us Jgofs Ms 23 WOODS HOLE MA	508-289-2873	508-289-2025	dschneider@whoi.edu
Schnetzer, Dr. Astrid University Of Southern California Dept. Of Biological Sciences 3616 Trousdale Parkway, AHF 301 LOS ANGELES CALIFORNIA	213082102123	213074008123	astrids@usc.edu
Sedwick, Dr Peter Bermuda Biological Station For Research Biological Lane Ferry Reach ST GEORGES ST GEORGES	(441) 297 1880	(441) 297 8143	psedwick@bbsr.edu
Seiter, Mrs Katherina Bremen University Dept. Of Geosciences Klagenfurterstr. BREMEN BREMEN	49-218-8933	49-218-4321	kseiter@uni-bremen.de
Sempere, Dr Richard Laboratoire De Microbiologie Marine 163 Av De Luminy, Campus De Luminy, Case 907, Cedex 09 MARSEILLES BOUCHES DU	33 (0) 4 91 82 90	33 (0) 4 91 82 90	sempere@com.univ-mrs.fr
Shen, Prof. Huanting State Key Laboratory And Institute Of Estuarine SHANGHAI CHINA	8621-62232842	8621-62546441	daleshen@yahoo.com
Sheridan, Ms. Cecelia University Of Hawaii Department Of Oceanography University Of Hawaii 1000 Pope Road HONOLULU HI	808.956.3314	808.956.9516	sheridan@hawaii.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Sheu, Dr. David National Sun Yat-Sen University P.O. Box 59-20 Kaohsiung, TAIWAN TAIWAN	886-7-525-5148 TAIWAN	886-7-525-5348 TAIWAN	ddsheu@mail.nsysu.edu.tw
Shields, Amy Virginia Institute Of Marine Science College Of William Route 1208 Greate Road PO Box 1346 GLOUCESTER	804-684-7458 VIRGINIA	804-684-7293 USA	amys@vims.edu
Shimmield, Professor Graham Scottish Association For Marine Science Dunstaffnage Marine Laboratory Dunbeg OBAN	01631 559000 ARGYLL	01631 559001 UNITED KINGDOM	dmlsec@dml.ac.uk
Showstack, Randy EOS			
Siegel, David University California, Santa Barbara Icess SANTA BARBARA	805-893-4547 CA	805-893-2578 USA	davey@icess.ucsb.edu
Simo, Dr Rafel CSIC Passeig Mar#7tim De La Barceloneta 37-49 BARCELONA	34 93 2309590 CATALONIA	34 93 2309555 SPAIN	rsimo@icm.csic.es
Smith, Dr. S. Lan Frontier Research System For Global Change 3173-25 Showa-Machi, Kanazawa-Ku YOKOHAMA	01181457785581 KANAGAWA	01181457785707 JAPAN	lanimal@jamstec.go.jp
Smith, Dr. Sharon U.Miami/RSMAS Rsmas-Mbf 4600 Rickenbacker Causeway MIAMI	305.361.4819 FL	305.361.4765 USA	ssmith@rsmas.miami.edu
Smith, Dr Walker Virginia Institute Of Marine Science P O Box 1346 Route 1208 Greate Road GLOUCESTER	804-684-7709 VIRGINIA	804-684-7293 USA	wos@vims.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Son, Mr Seung-Hyun University Of New Hampshire OPAL Morse Hall, 39 College Rd DURHAM NH USA	603-862-1348	603-862-0243	shson@darkstar.sr.unh.edu
Spitz, Dr Yvette H. Oregon State University, COAS College Of Oceanic And Atmospheric Sciences 104 Ocean Admin. Bldg. CORVALLIS OR USA	541-737-3227	541-737-2064	yvette@coas.oregonstate.edu
Stebbins, Hannah Office Of Rep. William Delahunt			
Steele, John Woods Hole Oceanographic Institution Ms41 Woods Hole Oceanogr. Instrn. WOODS HOLE MA USA	508 289 2220		jsteele@whoi.edu
Steffen, Dr Will IGPB The Royal Swedish Academy Of Sciences Box 50005 STOCKHOLM SWEDEN SWEDEN	46 8 166448	46 8 166405	will@igbp.kva.se
Steinberg, Dr. Deborah Virginia Insitute Of Marine Science P.O. Box 1346 Rt. 1208 Greate Rd. GLOUCESTER VA USA	804-684-7838	804-684-7293	debbies@vims.edu
Stokke, Judith Rae JGOFS International Project Office JGOFS, Centre For Studies Of Environment And Resources University Of Bergen, PB 7800 BERGEN NORWAY NORWAY	47 55584246	47 55589687	judith.stokke@jgofs.uib.no
Summers, Jeff Department Of Energy Fe-23 19901 Germantown Road Germantown MD USAQ	301-903-4412	301-903-8350	jeff.summers@hq.doe.gov
Sundarvel, Ragasakthi S.S. Pondicherry University School Of Ecology, Pondicherry University Campus E-8 Faculty Quarters, Pond PONDICHERRY 605PONDICHERRY INDIA	0091 - 413 - 2655	0091- 413 - 2655 265	

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Suzuki, Dr. Toru Marine Information Research Center Mishima Bldg 5F 7-15-4 Ginza CHUO-KU TOKYO JAPAN	81-3-3248-6668	81-3-3248-6661	suzuki@mirc.jha.jp
Takahashi, Dr. Taro Lamont-Doherty Earth Observatory Of Columbia University PALISADES NY USA	845-365-8537	845-365-8155	taka@ldeo.columbia.edu
Talaeu-McManus, Dr. Liana University Of Miami Rosenstiel School Of Marine Division Of Marine Affairs, UM-RSMAS 4600 Rickenbacker Causeway MIAMI FL US	3053614760	3053614675	lmcmanus@rsmas.miami.edu
Taylor, Phil National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA USA	703-292-8500	703-292-9042	
Tedesco, Kathy NOAA Office Of Global Programs 1100 Wayne Avenue Suite 1225 Silver Spring MD USA	301-427-2089 EXT.	301-427-2082	kathy.tedesco@noaa.gov
Tilbrook, Dr Bronte CSIRO Marine Research PO Box 1538 HOBART TAS AUSTRALIA	61 3 6232 5273	61 3 6232 5000	bronte.tilbrook@csiro.au
Tozzi, Sasha College Of William P O Box 1346 GLOUCESTER VIRGINIA	804-684-7117	804-684-7293	stozzi@vims.edu
Trees, Charlie NASA Headquarters, Oceanography Program Office Of Earth Science/Code YS 300 E Street, SW, Room 5S32 Washington D.C. USA	202-358-0310	202-358-2770	ctrees@hq.nasa.gov
Treguer, Dr Paul European Institute For Marine Studies Technopole BREST - Iroise PLOUZANE FRANCE	33 2 98 49 86 01	33 2 98 49 86 09	paul.treguer@univ-brest.fr

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Tupas, Dr. Luis M. National Science Foundation Office Of Polar Programs 4201 Wilson Boulevard ARLINGTON VIRGINIA USA	(703) 292-8029	(703) 292-9082	ltupas@nsf.gov
Turk, Dr Daniela Canadian SOLAS Secretariat Dalhousie University HALIFAX NOVA SCOTIA CANADA	902-494-1612	902-494-2697	neli@dal.ca
Turnewitsch, Dr Robert Southampton Oceanography Center European Way SOUTHAMPTON UK	44 (0) 2380 59 4683	44 (0) 2380 59 6554	rxt@soc.soton.ac.uk
Urban, Dr. Ed SCOR Dept. Of Earth And Planetary Sciences The Johns Hopkins University BALTIMORE MD USA	1-410-516-4239	1-410-516-4019	scor@jhu.edu
Vance - Harris, Cynthia Georgia Tech 1314 La France Street Atlanta GA USA			cynthia@eas.gatech.edu
VSS Sarma, Dr. Vedula Nagoya University HyARC, Furo-Cho, Chikusa-Ku NAGOYA AICHI JAPAN	81 52 789 3443	81 52 789 3436	sarma@ihas.nagoya-u.ac.jp
Wang, Dr Wendy (Xiujun) University Of Maryland/ESSIC 2207 Computer COLLEGE PARK MD	(301) 405 1532	(301) 405 8468	wwang@essic.umd.edu
Wanninkhof, Dr. Rik AOML/NOAA 4301 Rickenbacker Causeway MIAMI FL USA	305-361-4379	305-361-4392	rik.wanninkhof@noaa.gov
Werner, Prof. Cisco Marine Sciences Department 12-7 Venable Hall, CB# 3300 University Of North Carolina At Chapel Hill CHAPEL HILL NC USA	919-962-0269	919-962-1254	cisco@unc.edu

**JGOFS OPEN SCIENCE CONFERENCE
WASHINGTON, D.C.
MAY 5 - 8, 2003
PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Wiggert, Dr Jerry ESSIC-UMD Ces-2207 Essic University Of Maryland COLLEGE PARK MARYLAND USA	301-405-4971	301-405-8468	jwiggert@essic.umd.edu
Williamson, Dr Phillip Natural Environment Research Council School Of Environmental Sciences University Of East Anglia NORWICH NORFOLK UK	44 1603 593111	44 1603 507714	p.williamson@uea.ac.uk
Wilmore, Christy Texas A & M University 1014 Texas Clipper Road, #233 Galveston TX USA		77554	wilmorecn@aol.com
Wilson, Mr Gary BATC PO Box 1062 MST-3 Boulder CO	303-939-4023	303-939-5355	gwilson@ball.com
Wilson, Mr. Stan NOAA/NESDIS SSMC1, Room 8212 1335 East West Highway SILVER SPRING MD USA	301-713-3389	301-713-1249	stan.wilson@noaa.gov
Wilson, Ms. Stephanie Virginia Institute Of Marine Science P.O. Box 1346 GLOUCESTER VIRGINIA US	804-684-7839	804-684-7293	sewilson@vims.edu
Wroblewski, Dr. Joe Memorial University Of Newfoundland Ocean Sciences Centre 4 Clark Place Memorial University Of Newfoundland ST. JOHN'S NEWFOUNDLAN CANADA	709-737-2410	709-737-3018	jwroblew@mun.ca
Wunsch, Prof. Carl MIT Mit, 54-1522 77 Mass. Avenue CAMBRIDGE MA	6172535937	6172534464	cwunsch@pond.mit.edu

**JGOFS OPEN SCIENCE CONFERENCE
 WASHINGTON, D.C.
 MAY 5 - 8, 2003
 PARTICIPANT LIST**

NAME:	PHONE:	FAX:	E-MAIL:
Yajnik, Dr Kirit CSIR Centre For Mathematical Modeling & Comp. Simulation F2 Regal Manor 2/1, Bride Street, Langford Town BANGALORE KARNATAKA INDIA 560025	91 (80) 505 1924	91 (80) 522 0392	ksy@postoffice.iisc.ernet.in
Yoder, Jim National Science Foundation 4201 Wilson Blvd Suite 705 ARLINGTON VA USA 22230	703-292-8500	703-292-9042	
Zahuranec, Dr. Bernard University Of Washington 11004 Rutledge Drive GAITHERSBURG MARYLAND USA 20878	202/357-4798 X63	202/786-2557	bzahuranec@yahoo.com
Zawoysky, Ms. Mary Woods Hole Oceanographic Institution Ms 43 WOODS HOLE MA 02543	5082892834	5084572161	mzawoysky@whoi.edu
Zeitzschel, Professor Bernt Institut Fuer Meereskunde, Kiel University Dorfstrasse 9 SCHLESWIG-HOL GERMANY 24211	0049-4307-6775		b.zeitzschel@t-online.de
Zhang, Mr Jia-Zhong AOML/NOAA 4301 Rickenbacker Causeway MIAMI FL USA 33149	305 361 4512	305 361 4392	jia-zhong.zhang@aoml.noaa.gov