



Guiding National Ocean Research Investment: Public Workshop on the Development of the Ocean Research Priorities Plan

National Science and Technology Council
Joint Subcommittee on Ocean Science and Technology
(JSOST)

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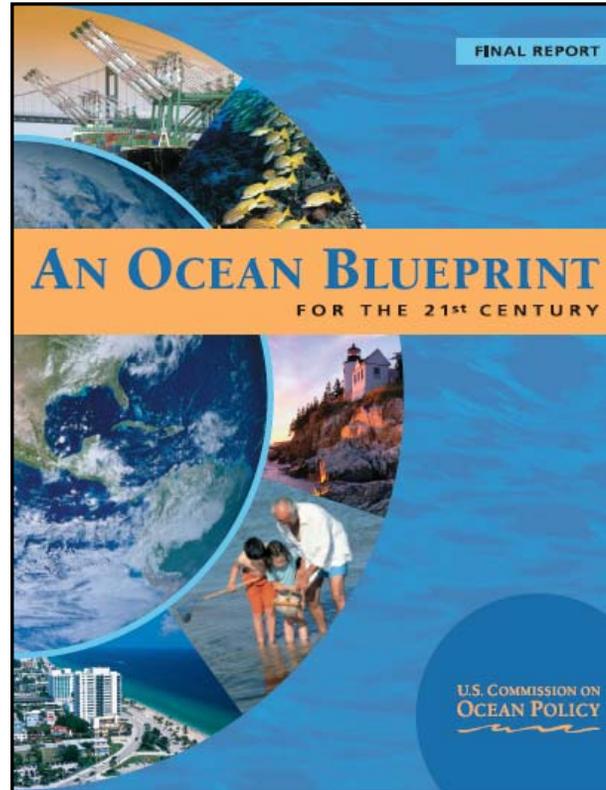
April 18, 2006

U.S. Ocean Policy

Oceans Act
2000



USCOP Report
2004



Bush Response
2004





US Commission on Ocean Policy

- *“Ocean managers and policy makers need comprehensive scientific information about the ocean ... to make wise decisions.”*
- *“...to ensure the highest return on the nation’s investment in ocean research ... a national strategy is needed.”*



Office of Science & Technology Policy (OSTP)

Role of OSTP:

- Advise the President & Offices of the President
- ***Lead the interagency effort to develop S&T policies and budgets for all areas of science***
- Develop clear, measurable goals and objectives for R&D programs
- Assess Federal investments relative to purposes of government

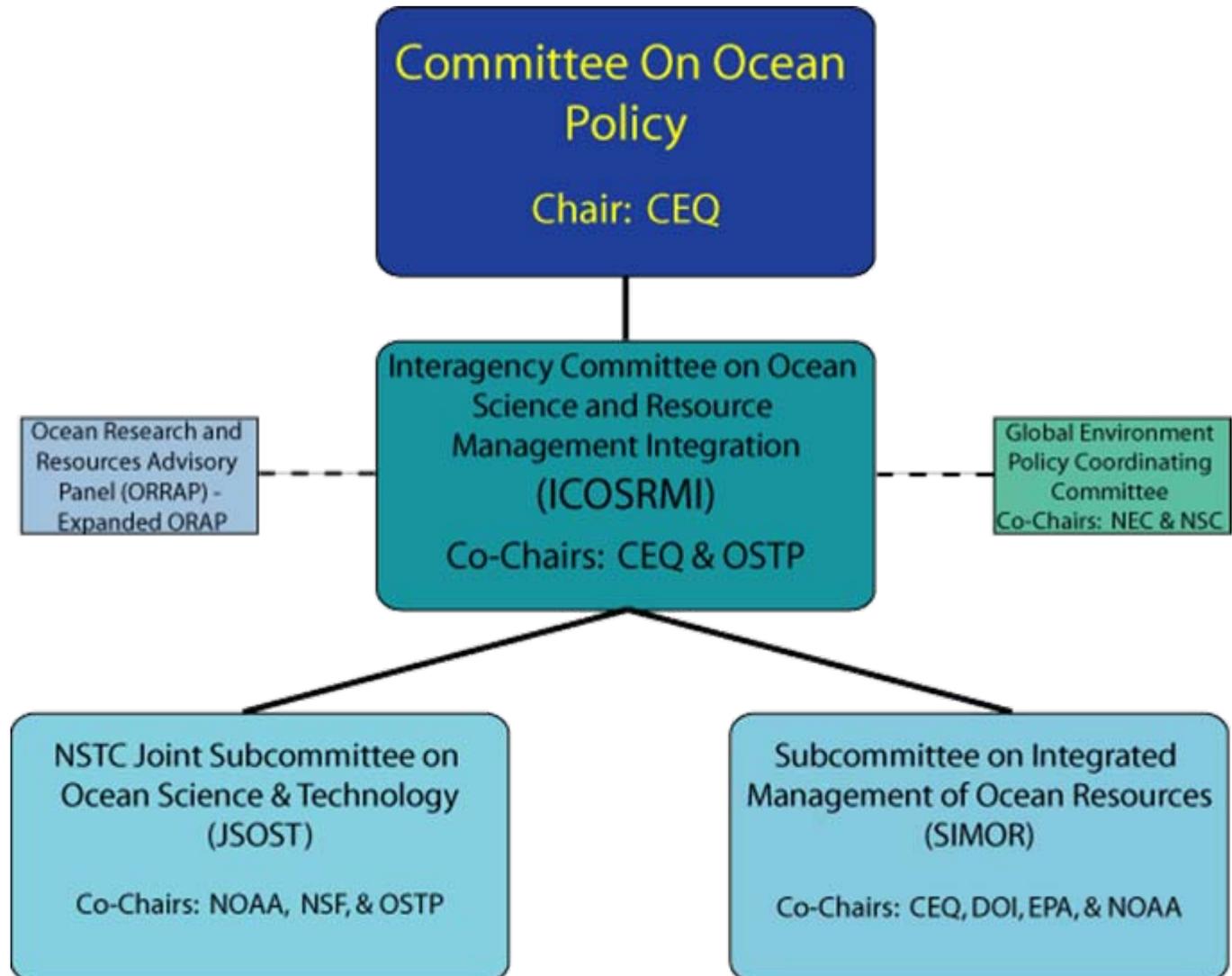


Council on Environmental Quality (CEQ)

Role of CEQ:

- Coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.
- Serves as the principal environmental policy adviser to the President
- Reports annually to the President on the state of the environment;
- Oversees federal agency implementation of the environmental impact assessment process; and acts as a referee when agencies disagree over the adequacy of such assessments.

Ocean Action Plan Governance Structure





The President





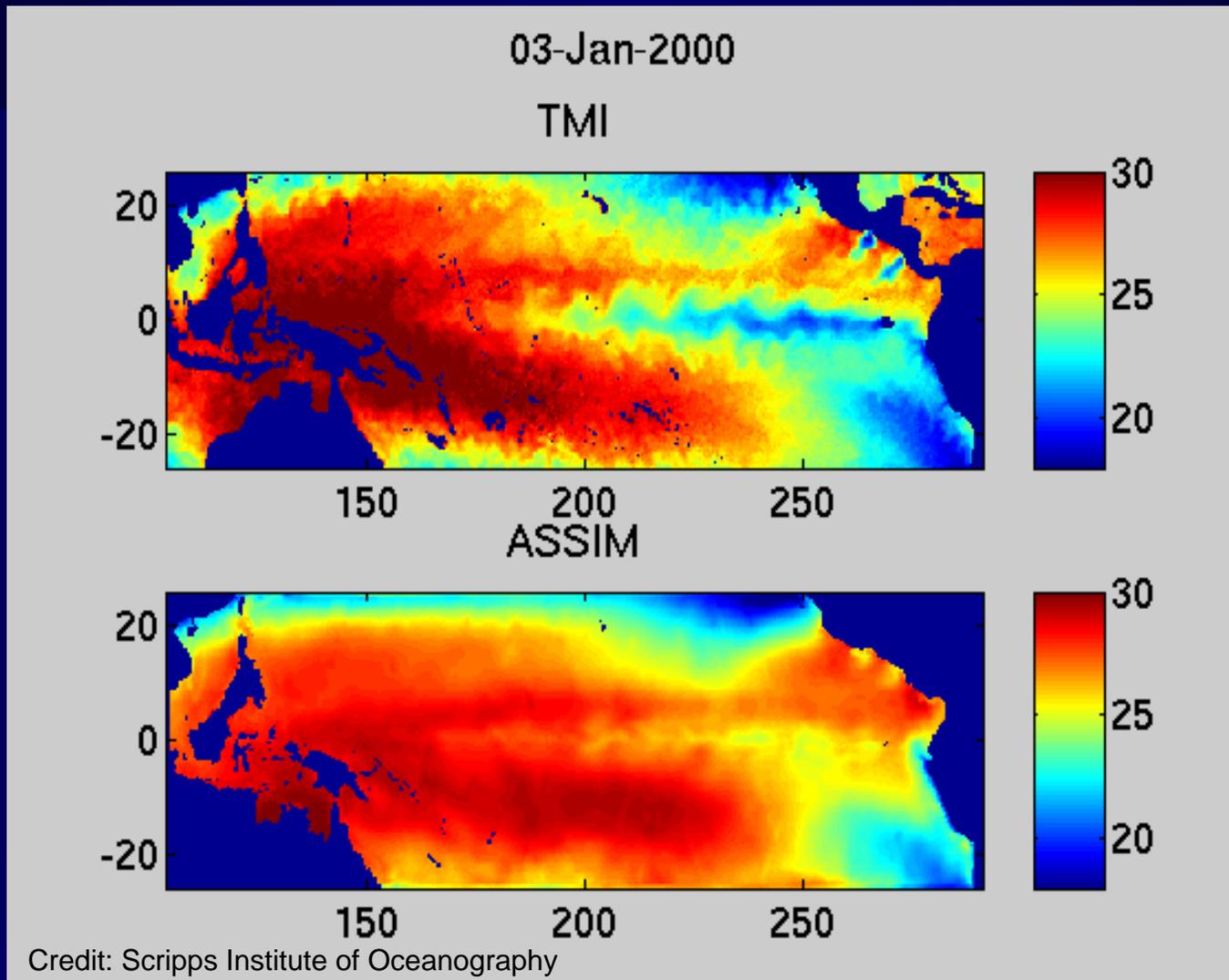
What is driving this?



- A deeper understanding of the ocean and the processes that take place in the ocean is essential to solve many important problems
- Basic research to understand the ocean has provided many important insights:

Physical oceanography:

Our *models* of the physical circulation of the equatorial Pacific Ocean and its impact on climate that have led to our ability to forecast coming El Nino events and predict their impacts



Sometimes *long-term observations* are key:

Biological oceanography:

Just recently we found that an organism we didn't understand very well - *Trichodesmium* - is actually responsible for fixing much of the nitrogen in both the Atlantic and Pacific Oceans. It is therefore the base of the food chain that supplies all the organisms above it



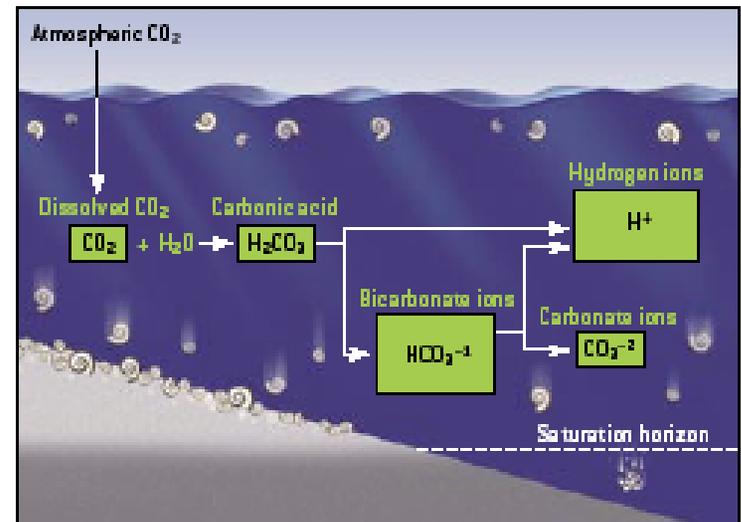
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Credit: D. Karl, University of Hawaii

Sometimes *theory* is the critical factor:

Chemical oceanography:

Recent studies show that the pH of the ocean is decreasing -- that is, it is becoming more acidic. Our knowledge of the complex chemistry of the ocean allow us to understand that this will affect the ability of coral reef organisms to grow



Credits: Royal Soc. of London, 2005; Scientific American graphic

And often *exploration* brings new discovery:

Geological Oceanography:

Discovery of hot and cold vents on the seafloor has changed our understanding of chemical processes in the ocean, biological processes, and fostered new fields of study



Credit: D. Kelley,
U. Washington



Credit: Woods Hole Oceanographic
Institution



Nov 18, 2005

Millions of Annual Cancer Deaths May Be Preventable



May 29, 2002

Famine Threat Stalks Africa



Nov 17, 2005

New drug gives patients hope



August 6, 2004

New ocean species uncovered



December 9, 2005

Jobs lost after Katrina, Rita, Wilma on the rise

Hurricane claims climb to 599,700

April 10, 1963

U.S. nuclear sub Thresher, with crew of 129, lost in Atlantic

FRIDAY, JUNE 20, 1997 C1

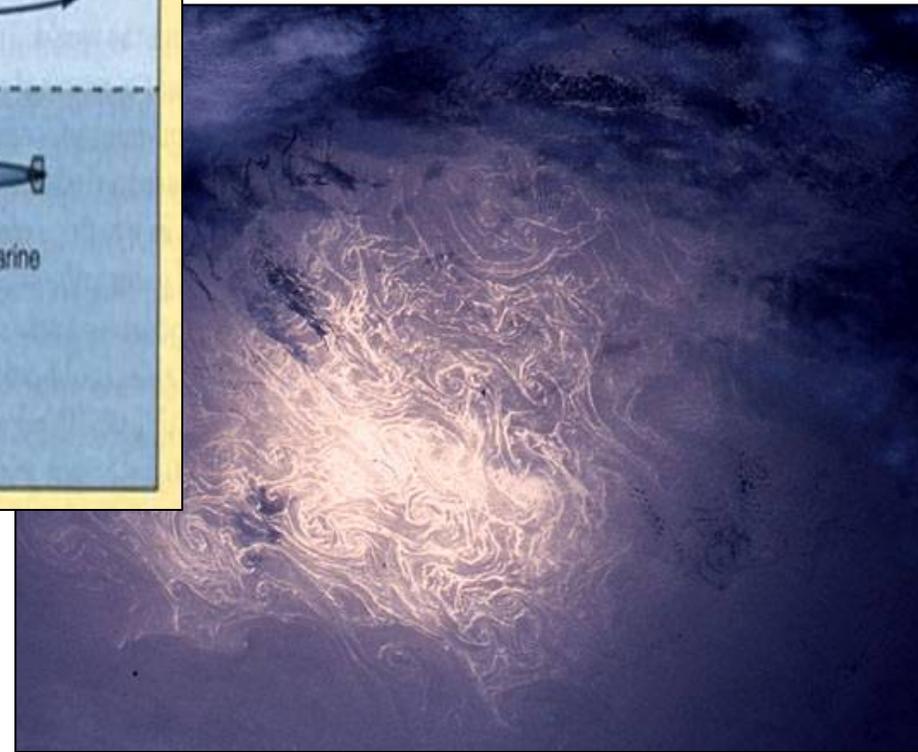
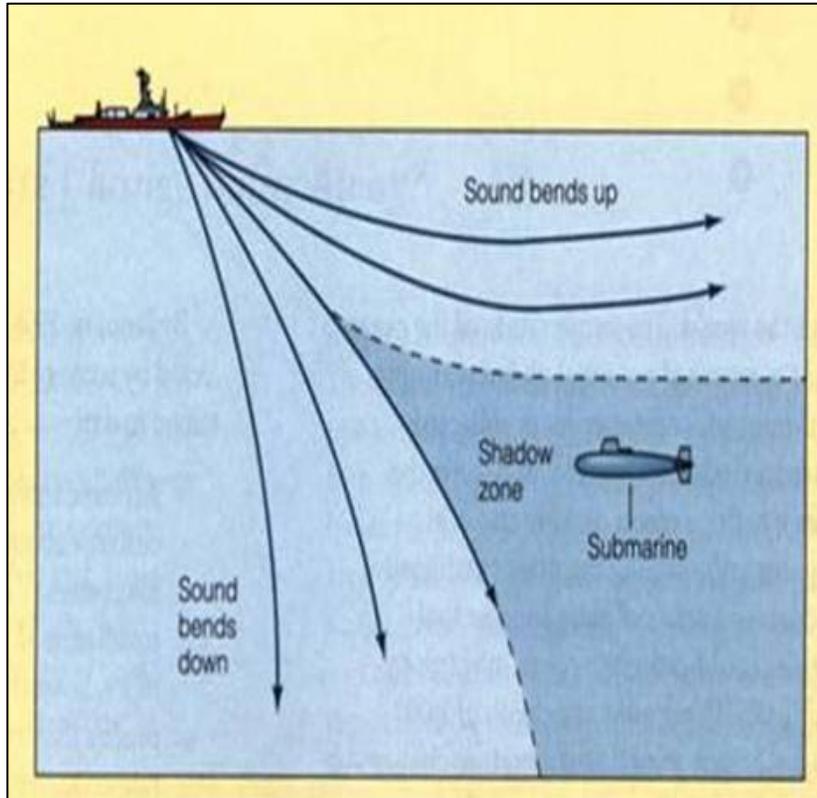
THE WALL STREET JOURNAL

A Strapping El Nino Brews, And Grain Traders Fidget

COMMODITIES

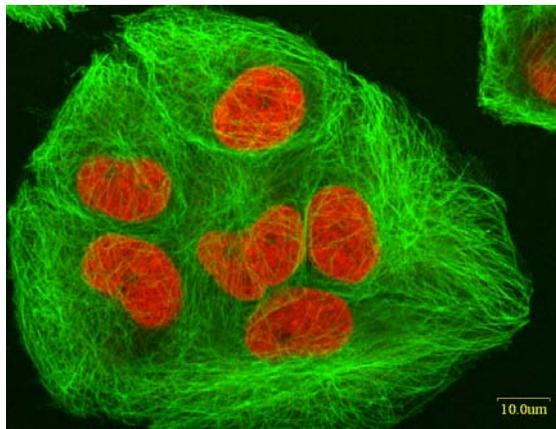
National Oceanic and Atmospheric Administration is detecting the biggest jump in water temperatures since 1983. The warm-

Oceans Won The Cold War

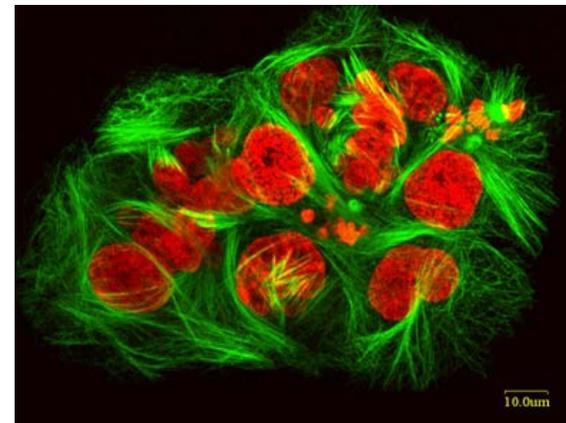


October, 1984
STS-41G

Oceans Cure Cancer



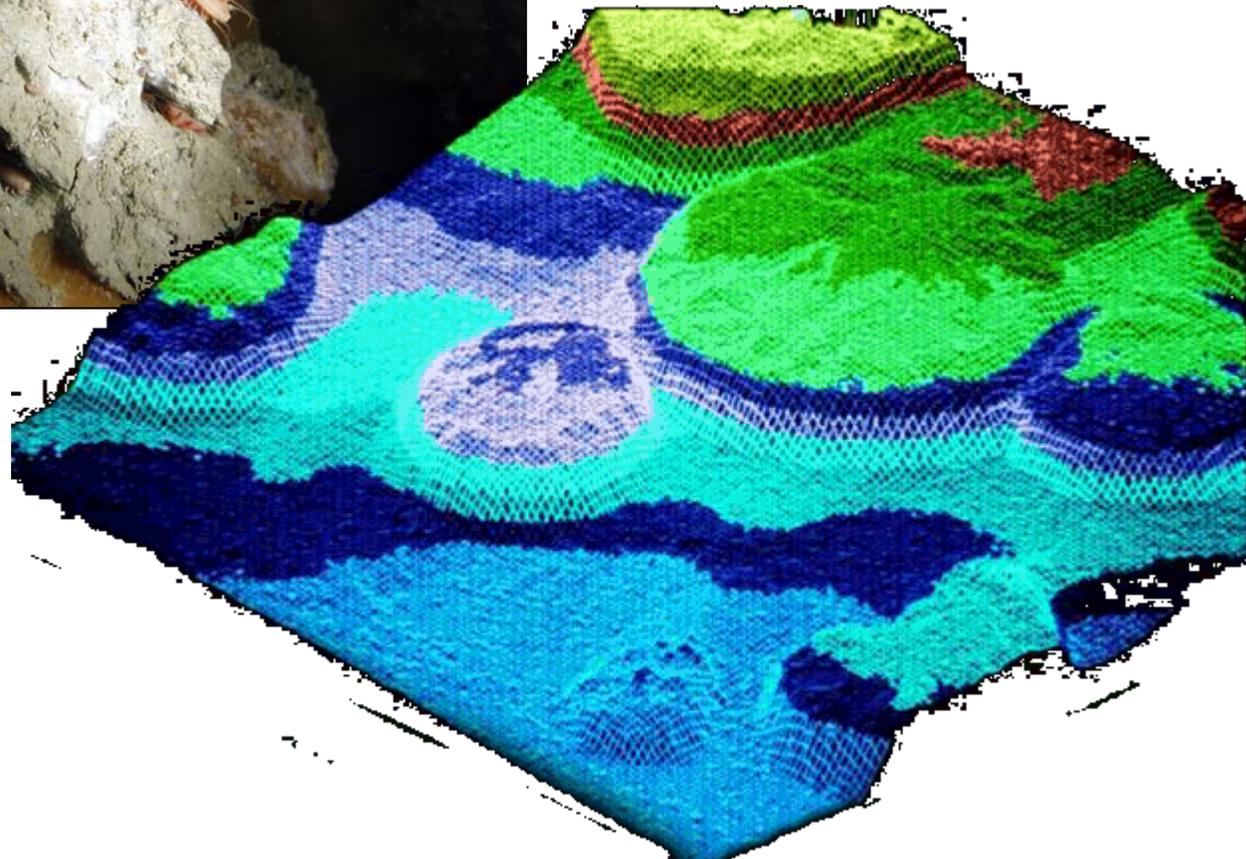
Untreated cancer cells



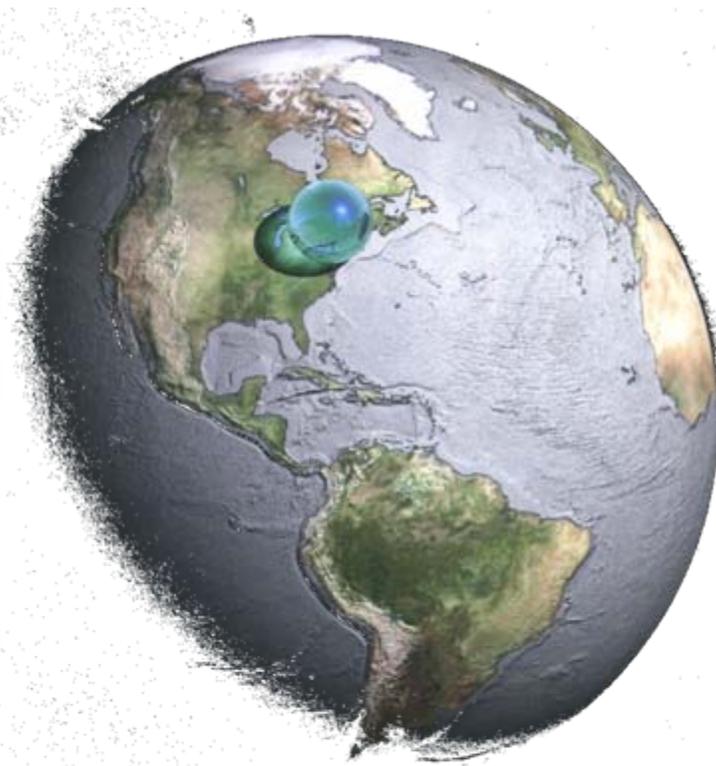
Cancer cells treated with
discodermolide



Oceans Give Us Energy Security

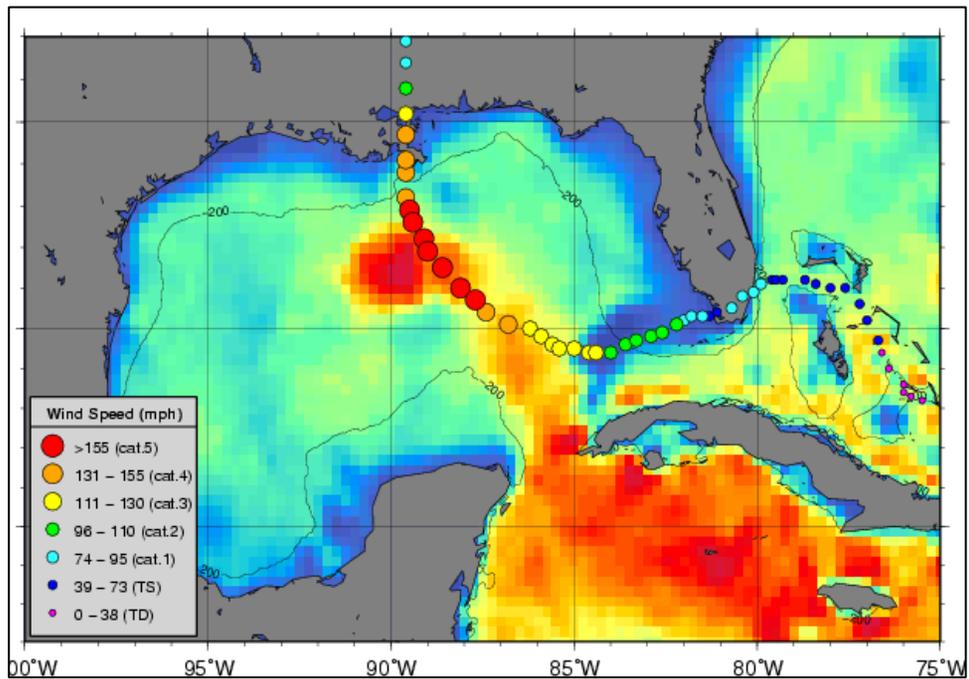
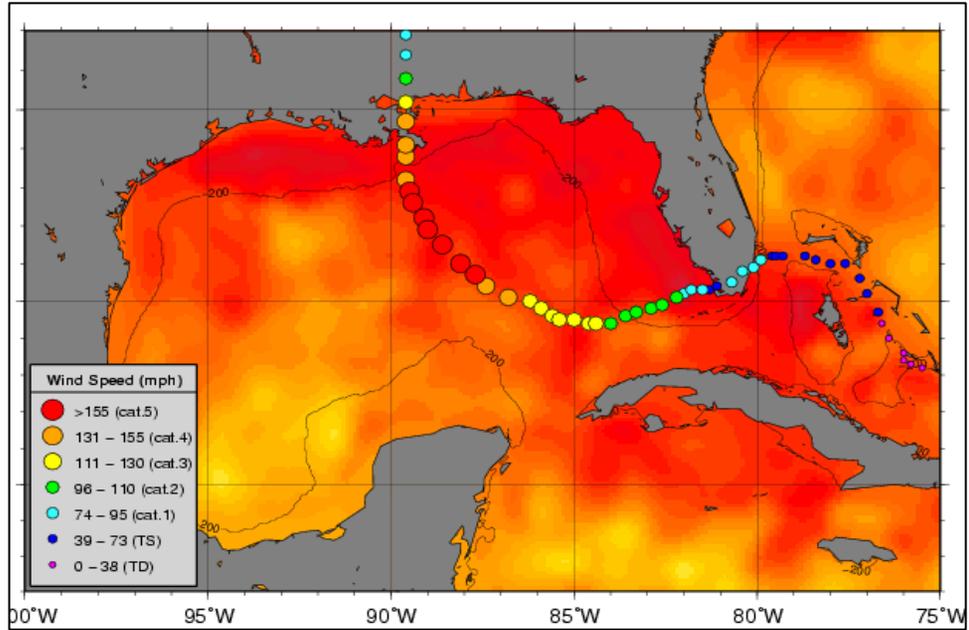


Oceans Are Key To Forecasting Climate and Weather



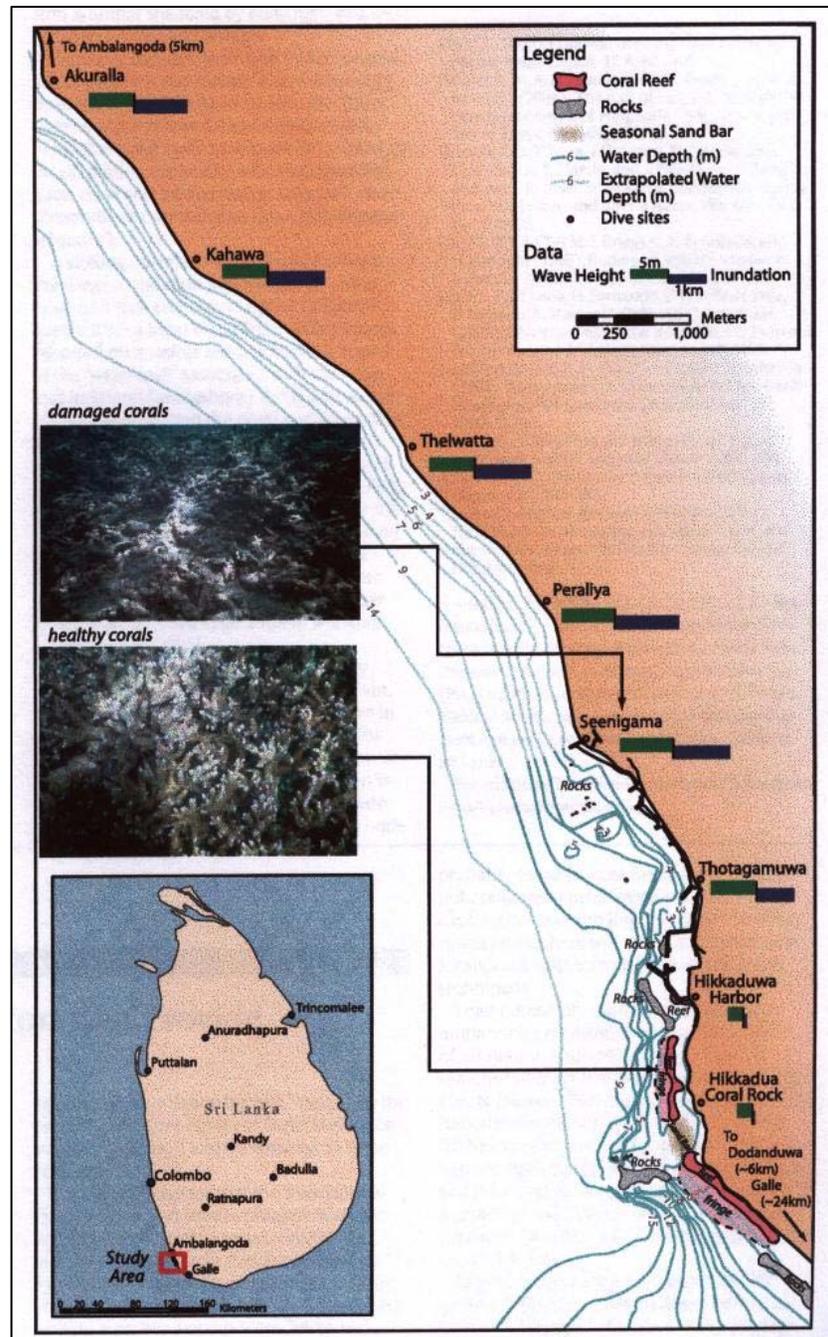
Credit photos and text: (c) Dr. Adam Nieman/SPL







Marine Photobank Image provided by: Craig Shuman, Reef Check





Why are we here today?



Ocean Research Priorities Plan and Implementation Strategy

“...the administration supports ocean, coastal, and Great Lakes research including exploration for discovery, hypothesis-driven science, infrastructure and technology development, data and information management, improvements of forecasting and data products, new observations and continuing research observations that have substantial societal benefits...” (U. S. Ocean Action Plan)



Principles for Ocean Research Priorities Plan

- Seek enhanced coordination, collaboration, and synergies between USG, academia, nongovernmental organizations, State and local governments, industry
- Address challenges through integration of capabilities of federal, State, local governments, academia, industry, NGOs
- Identify how all ocean sectors should be engaged in preparation and execution of the Plan and Strategy
- Develop in an open and transparent manner
- Develop performance metrics on meeting goals
- Identify areas of highest priority and opportunity



Ocean Research Priorities Plan Framework

Finalized April 2005

- Introduction
 - Vision, Justification, Challenges
- Themes, Governance Implications for Research & Cross Cuts
- Asset Requirements
 - Observing infrastructure, Information and communication infrastructure, Intellectual capacity
- Evaluating Performance
- Partnerships
 - State & local Governments, Industry, Academia, NGOs, Global
- Implementation Strategy [separate document]

Identification of Themes

- Societal and cross-cutting themes are topics highlighted in both the USCOP report and the U.S. Ocean Action Plan
- Themes were discussed and endorsed by JSOST retreats
 - Sought consistency with important complementary efforts (CCSP, IOOS, GEOSS, etc.)
- Themes were discussed with
 - Subcommittee on Management of Ocean Resources (SIMOR)
 - Federal-State Task Team
 - Ocean Research and Resources Advisory Panel





Development of Planning Document

- Initial descriptions of themes drafted by JSOST members
 - Overall Vision
 - Rationale
 - Challenges
 - Research Needs
 - Infrastructural and Technological Needs
 - Expected Results
- Input from an *ad hoc* NRC review of existing ocean science and technology related reports
- Review by SIMOR, ICOSRMI, ORRAP and SIMOR's Federal-State Task Team



Pre-workshop Community Outreach

- Ocean Studies Board – *July 2005*
- American Meteorological Society Annual Meeting – *February 2006*
- Ocean Sciences Meeting – *February 2006*
- Coastal States Organization Meeting – *March 2006*
- National Association of Marine Laboratories Meeting – *March 2006*
- National Estuary Program National Meeting / NOAA Coastal Manager Meeting – *March 2006*
- ORION design workshop – *March 2006*
- Oceanology International 06 – *March 2006*
- Flyers and information distributed at other meetings.
- E-mail notifications and web postings to numerous societies and organizations



Planning Document

- Planning document serves as a **starting point** to generate discussion and recommend priorities
- Sections within themes provide examples of the content and specificity needed
- Planning document released March 27, 2006 for public comment (ends May 15, 2006)

http://ocean.ceq.gov/about/sup_jsost_public_comment.html



Public Workshop - Goal

- Provides an opportunity for community input into the development of the Ocean Research Priorities Plan
- Opportunity for diverse ocean communities to engage and work together towards a common goal-
 - *establishing the priorities for ocean science and technology initiatives across a wide scope of societal interests*

Public Workshop - Process

- Agenda
 - Emphasis on participant interaction and engagement through multiple, small breakout sessions per theme
 - Participant input will be gathered through discussions during breakout sessions and report-outs conducted for societal and cross-cutting theme breakout sessions





Public Workshop - Process

- What we ask of you:
 - Ask questions and contribute comments
 - Keep an open mind
 - Take the message home to your constituents and encourage them to participate in the public comment period
- Specific instructions for the breakout sessions will be discussed in the Charge to the Workshop

Process - Clarifications

- What do we include in oceans?
 - Open ocean, coasts and estuaries, Great Lakes, and coastal watersheds.
- Can themes be added or removed?
 - Yes!
 - Breakout group leaders will provide opportunities to discuss this.
 - For example: education and human dimensions could be handled in alternative ways.
- Are we ignoring international context for the oceans?
 - Not an international plan, but some things may require international cooperation.



Process - Clarification

- What are the criteria for prioritization?
 - The criterion is importance.
 - i.e. Not cost, readiness, time-to-delivery, leveraging, or politics.
- We are looking for both near-term and longer-term priorities.



Next Steps

- We will engage communities that are not well-represented at the workshop using suggestions from participants.
- Using input from workshop and public comment period, a draft of the ORPP will be developed
 - We will consider every individual comment, but may not adopt every suggestion.
 - We will take on board anything for which there is a broad consensus.
 - The draft will relate the priorities to the benefits.
- You will have the opportunity to ensure that you have been heard.
 - NRC will conduct review of the draft ORPP.
 - There will be a second public comment period.



What is an Implementation Strategy?

- Describes how priorities are turned into plans.
- Describes how agencies will work together.
- Describes how the Federal government will work with constituents and the broader community.
- Describes how OSTP, CEQ, and Office of Management and Budget (OMB) will work with agencies to ensure that interagency planning reflects the priorities.
- Discusses how the ORPP can evolve with time.

Ocean Research Priorities Plan

- For the first time, we will have:
 - A common framework for all Federal agencies
 - A strong, common rationale for the development of Federal agency research plans, programs, and budgets
 - A comprehensive framework to guide ocean research investments that has never existed before
 - A basis to inform private sector investments
 - A comprehensive document to guide academic research and recruitment



**Thank you to the following
companies for their generous
support** □

Teledyne
Harris Corporation
SAIC
WET Labs Inc.
Lockheed Martin
Sea Bird Electronics
Planning System Inc.





Backup Slides

OAP Governance Structure

- ***Committee on Ocean Policy (COP)***—Cabinet level, meets infrequently
- ***ICOSRMI***—meets bi-monthly, reports to COP
- ***JSOST & SIMOR***—meet monthly, report to ICOSRMI
- ***JSOST Interagency Working Groups***—established to work on specific issues, report to JSOST
- ***SIMOR Federal/State Task Team***—reports to SIMOR
- ***ORRAP***—(expanded ORAP) The Federal Advisory Committee Act (FACA) group that advises the ICOSRMI. The ORRAP's (expanded ORAP) responsibilities were recently expanded to include resource management issues.



ICOSRMI Membership

Department of Agriculture

Department of Commerce

Department of Defense

 US Army Corps of Engineers

Department of Energy

Department of Health and Human Services

Department of Interior

Department of Justice

Department of Labor

Department of State

Department of Transportation

Environmental Protection Agency

Executive Office of the President

 Office of the Vice President

 Office of Management and Budget

 Council on Environmental Quality (Co-Chair)

 Domestic Policy Council

 National Economic Council

 National Security Council

 Homeland Security Council

 Office of Science and Technology Council (Co-Chair)

Joint Chiefs of Staff

National Aeronautics and Space Administration

National Science Foundation

JSOST Membership



Arctic Research Commission
Department of Agriculture
Department of Commerce
 National Oceanic and Atmospheric Administration (Co-Chair)
Department of Defense
 U.S. Army Corps of Engineers
 Office of Naval Research
Department of Energy
Department of Health and Human Services
 Centers for Disease Control and Prevention
 Food and Drug Administration
 National Institutes of Health
Department of Homeland Security
 U.S. Coast Guard
Department of Interior
 Minerals Management Service
 U.S. Geological Survey
Department of Justice
Department of State
Department of Transportation
 Maritime Administration
 Environmental Protection Agency
Executive Office of the President
 Council on Environmental Quality
 Domestic Policy Council
 Office of Management and Budget
 Office of Science and Technology Policy (Co-Chair)
Joint Chiefs of Staff
Marine Mammals Commission
National Aeronautics and Space Administration
National Science Foundation (Co-Chair)
Smithsonian Institution

SIMOR Membership

Department of Agriculture

Department of Commerce

National Oceanic and Atmospheric Administration (Co-Chair)

Department of Defense

Joint Chiefs of Staff

US Army Corps of Engineers

Department of Energy

Department of Health and Human Services

Food and Drug Administration

Department of Homeland Security

U.S. Coast Guard

Department of Interior (Co-Chair)

U.S. Fish and Wildlife Service

U.S. Geological Survey

Minerals Management Service

Department of Justice

Department of Labor

Department of State

Department of Transportation

Environmental Protection Agency (Co-Chair)

Executive Office of the President

Council on Environmental Quality (Co-Chair)

Domestic Policy Council

Homeland Security Council

National Security Council

Office of Management and Budget

Office of Science and Technology Policy

Office of the Vice-President

Joint Chiefs of Staff

Marine Mammals Commission

National Aeronautics and Space Administration

National Science Foundation

Smithsonian Institution



Societal Themes

Goal - to link research and development to:

- Enhancing human health
- Improving ecosystem health
- Sustaining natural resources
- Promoting marine operations
- The ocean's role in climate variability and change
- Mitigating effects of natural hazards
- Improving quality of life

Cross-Cutting Themes

Elements that are integral to multiple themes and transcend the scope of any one societal theme

- Basic understanding of the ocean
- Expanded ocean education
- Research support through ocean observations and infrastructure



Timeline for 2006

- January-March
 - Internal review of planning document
- March-May
 - Public release of planning document; notification through e-mail announcements and Federal Register
 - Public comment period and workshop
- May-June
 - Incorporating workshop input and public comments
 - Internal review of draft Ocean Research Priorities Plan
- July-September
 - NRC review of plan
 - Public comment on draft plan
- September-December
 - Incorporating NRC and public comments
 - Internal review of 3rd draft
 - Release of final plan