

Drugs from the Deep: What might the United States do to realize the potential?

A View from the US Commission on Ocean Policy and Its Work in Progress

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USCOP Policy Options

- Ocean Exploration
- Biodiversity
- Coral Reefs
- Oceans & Human Health
- Funding for Research and Science Infrastructure

Exploration

- Ocean research, education, and exploration are inextricably linked to expand our understanding of the oceanic realm.

What is Ocean Exploration?



- Systematic search and investigation of the oceans for the purpose of discovery through disciplined diverse observations and recording of the findings
- Delving into 95% of our oceans that has never been seen before
- Using new technologies and applications

What the Students Said

“I am quite smart and can figure things out. The ‘scientist side’ which I have never seen before came through.”

“That I am not bad in science. In other words, I am a better person.”

“That I am capable of knowing things.”



USCOP Policy Options Under Consideration: **Exploration**

- Support the President's Panel on Ocean Exploration and the NRC panel report for the establishment of a robust and long-term effort in global ocean exploration.

USCOP Policy Options Under Consideration: **Exploration**

- An Ocean Exploration program should be bold and innovative to garner a broad consensus on its benefits to the Nation.
- The program should include exploration and mapping of the continental margin and the US EEZ.

USCOP Policy Options Under Consideration: **Biodiversity**

- The US Government should develop a comprehensive program to study marine biodiversity at genetic, species and ecosystem scales.
- Beyond mere enumeration, the program should explore the range of causes for declining biodiversity and potential solutions.

USCOP Policy Options Under Consideration: **Coral Reefs**

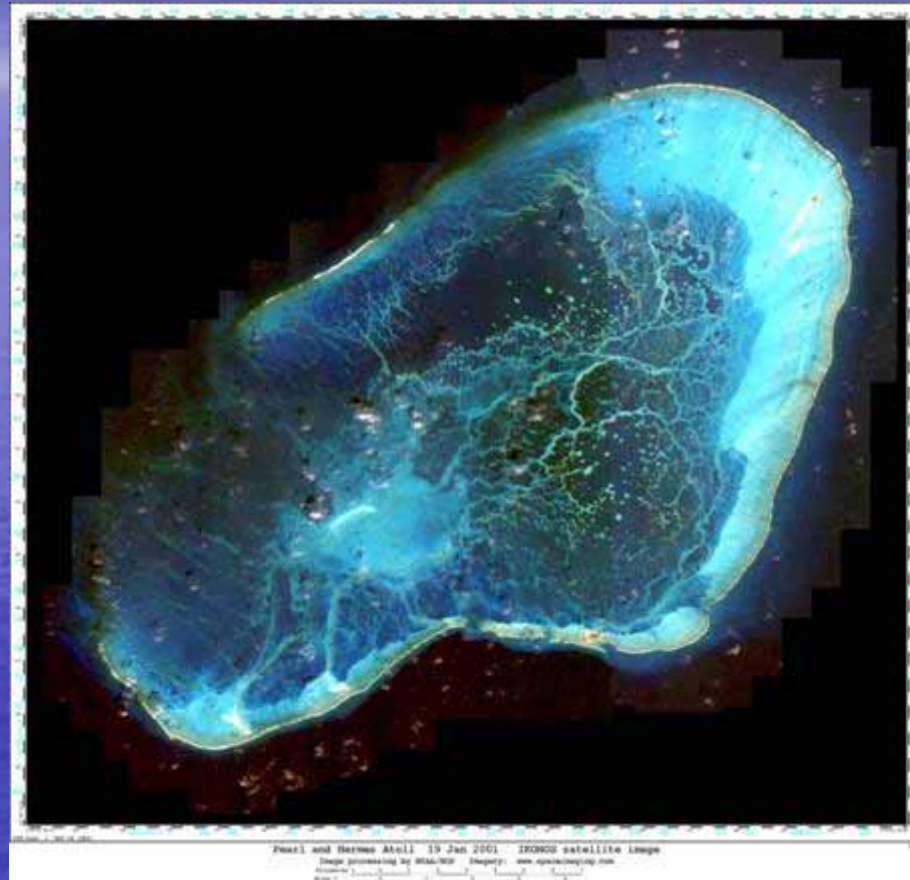
- Retain Coral Reef Task Force (CRTF) and develop national coral reef strategies
- Complete comprehensive map of US coral reefs

Coral Mapping by NOAA's National Centers for Coastal Ocean Science

- **Coral habitat mapping and method development**
- **Northwest Hawaii habitat mapping**
- **Bathymetry development, mapping, and charting**
- **Global (SeaWiFS)**

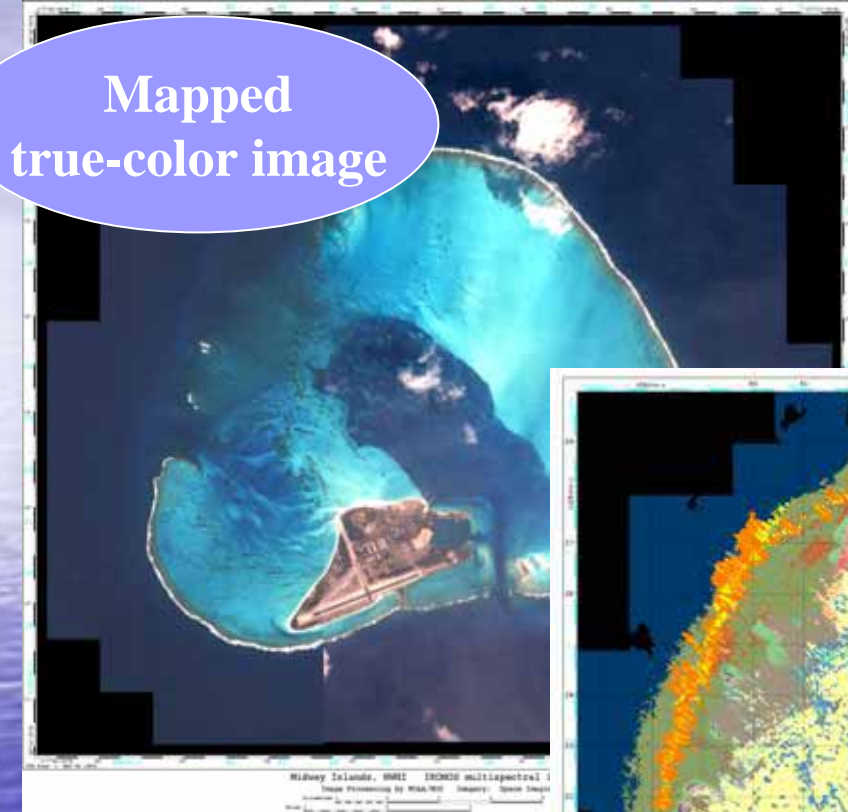


Use of High-Resolution Satellite Imagery to Map Coral Reef Environments



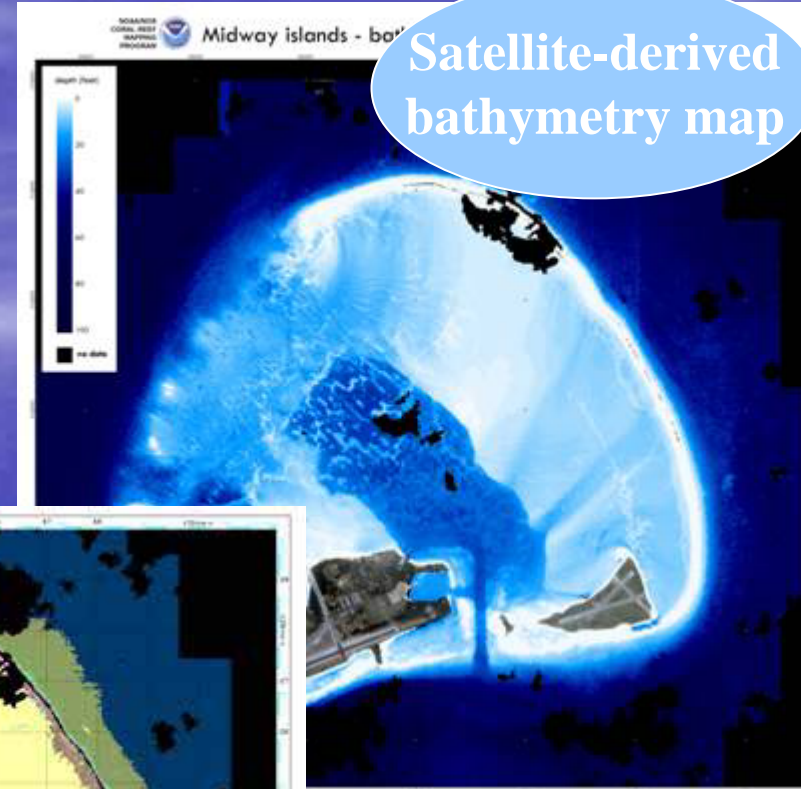
Pearl & Hermes, NW Hawaii
Mapped true color IKONOS image

Satellite-based benthic habitat map products

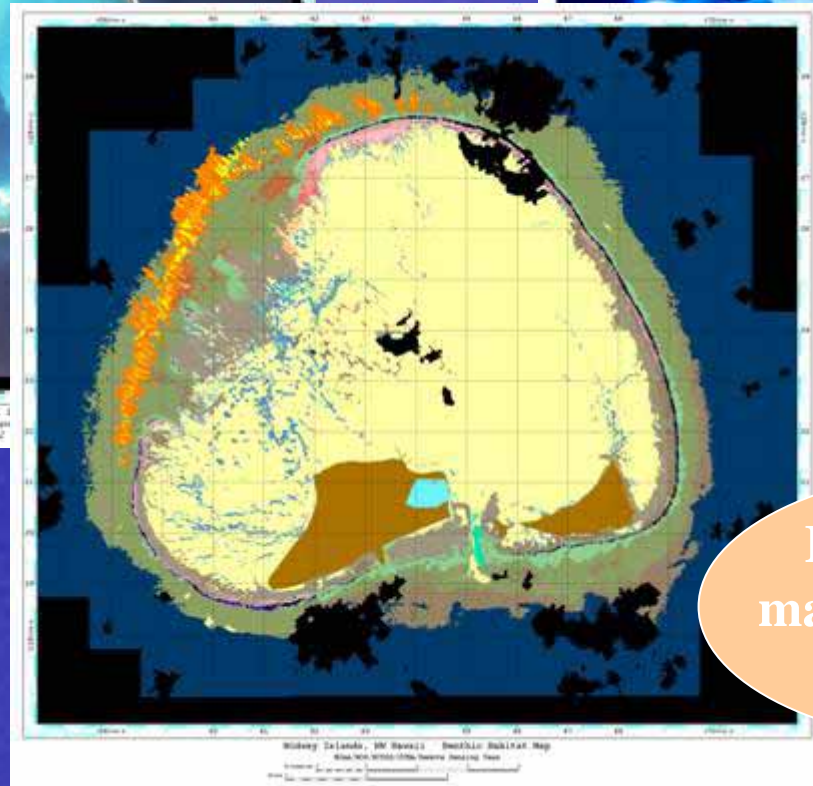


Mapped true-color image

Midway Islands



Satellite-derived bathymetry map



Benthic habitat map - from imagery and field data

Multiple map products derived from IKONOS satellite imagery

USCOP Policy Options Under Consideration: **Coral Reefs**

- Expand marine sanctuary “damage recovery” provision to designated coral reefs
- Continue active international leadership
 - Offer “debt forgiveness” to foreign nations which demonstrate good stewardship
 - Strive for international standards to limit ornamental capture
 - Use U.S. research strength to gain leadership

USCOP Policy Options Under Consideration: Oceans & Health

Federal government should establish an aggressive, fully-funded and coordinated Oceans and Human Health Program that fosters and supports academic-private-sector-government partnerships to:

- Conduct research that leads to understanding of the complex inter-relations, pathways and causal effects of marine pollution, harmful algal blooms, ecosystem degradation and alteration, and human health
- Develop models and strategies for predicting and mitigating pollutant loadings, harmful algal blooms and infectious disease potential in the marine environment

USCOP Policy Options Under Consideration: Oceans & Health

- Establish a marine biotechnology R&D program that fosters private sector investment and sets a clear policy governing biotech activities
- Develop new technologies for measuring human and environmental/ecological health parameters in the marine environment
- Monitor and assess pollution inputs, ecosystem health and human health impacts

USCOP Policy Options Under Consideration: Research Funding

- The Administration should propose, at a minimum, a doubling of the Federal ocean research budget from today's \$630M to \$1.3B.
- Federal funding for technology should be on a par with the requested increase for ocean research to ensure the Nation has the requisite tools to conduct a rigorous program of ocean science.

Policy Options In International Leadership

- The U.S. needs to increase its commitment to global ocean science, technology, and education; especially its participation in large cooperative projects of critical importance to global environmental health and discovery and in international capacity-building in education, research, exploration, infrastructure, and data-exchange.

"All that we do is touched with
ocean."

Richard Purdy Wilbur
Poet Laureate of the United States

US Commission on Ocean Policy

- Stay tuned. There is lots more to come. We are in the report writing stage now, with lots of work left. Anticipate draft report to be sent to Governors by late summer, with final to the President and Congress in the fall.

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