

# **The U.S. Integrated Ocean Observing System (IOOS®): A National Overview**

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# What is the U.S. Integrated Ocean Observing System?

*A tool that will enable the Nation to track, predict, manage and adapt to changes in our marine environment and deliver critical information to decision makers to...*

***Improve safety***




***Enhance our economy***



***Protect our environment***



# The Integrated Coastal & Ocean Observing System Act of 2009

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- Codified IOOS
  - Interagency Ocean Observing Committee
  - NOAA Lead Federal Agency
  - Certification of “non-federal assets” and “regional information coordination entities”
    - Provides liability coverage



# A National & Regional Collaboration



# System Components

*Effectively & Efficiently links ocean information to user applications*

1. Observing Systems

*In-situ & remotely sensed ocean information*

2. Data Management and Communications (DMAC)

3. Modeling and Analysis

*Decision support tools to aid informed and timely decision making*

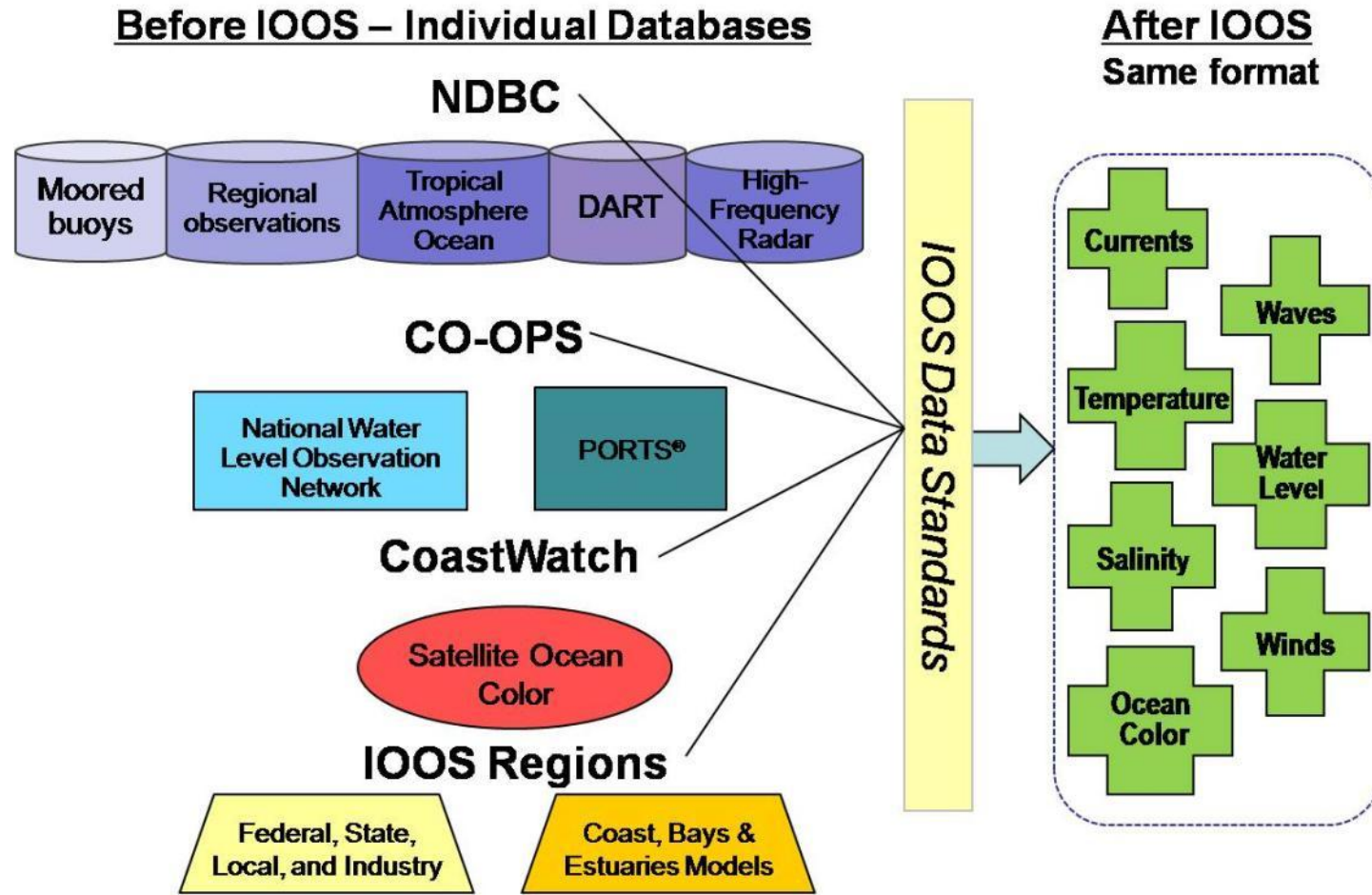
# U.S. IOOS Coastal Component: Core Variables

- |                         |                                      |
|-------------------------|--------------------------------------|
| 1. <b>Temperature</b>   | 14. Bathymetry                       |
| 2. <b>Salinity</b>      | 15. Ice distribution                 |
| 3. <b>Water level</b>   | 16. Contaminants                     |
| 4. <b>Currents</b>      | 17. Stream flow                      |
| 5. <b>Surface Waves</b> | 18. Dissolved nutrients              |
| 6. <b>Surface Winds</b> | 19. Optical properties               |
| 7. <b>Ocean color</b>   | 20. Total suspended matter           |
| 8. Dissolved oxygen     | 21. Colored dissolved organic matter |
| 9. pH                   | 22. Fish species                     |
| 10. $p\text{CO}_2$      | 23. Fish abundance                   |
| 11. Heat flux           | 24. Zooplankton species              |
| 12. Bottom character    | 25. Phytoplankton species            |
| 13. Pathogens           | 26. Zooplankton abundance            |

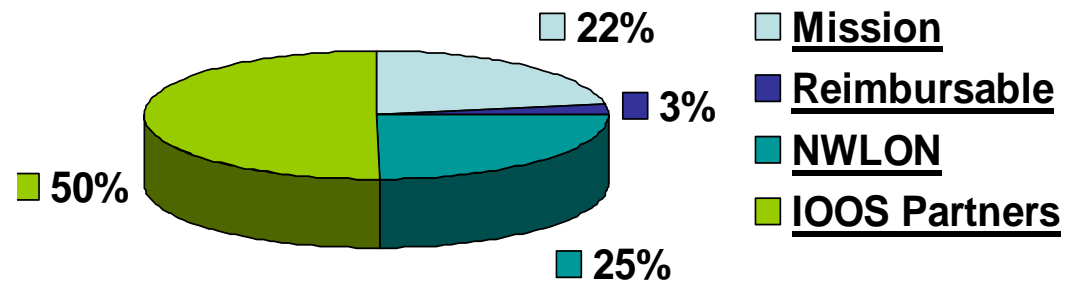
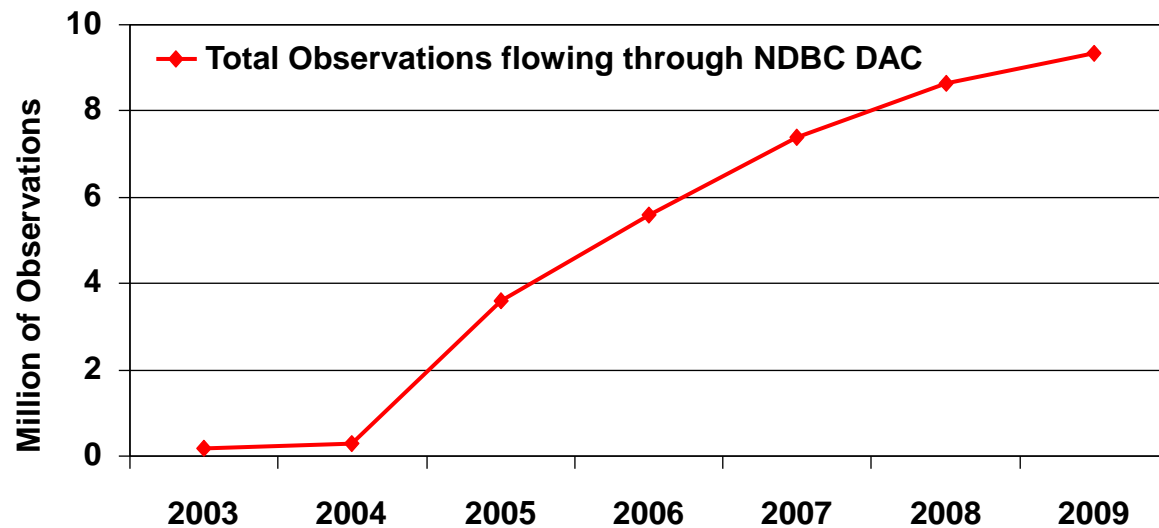
*list could be expanded based on identified needs...*

# U.S. IOOS: Data Management Accomplishments

Interoperable data for seven variables linked in a distributed architecture



# Regional Observations in the U.S. IOOS





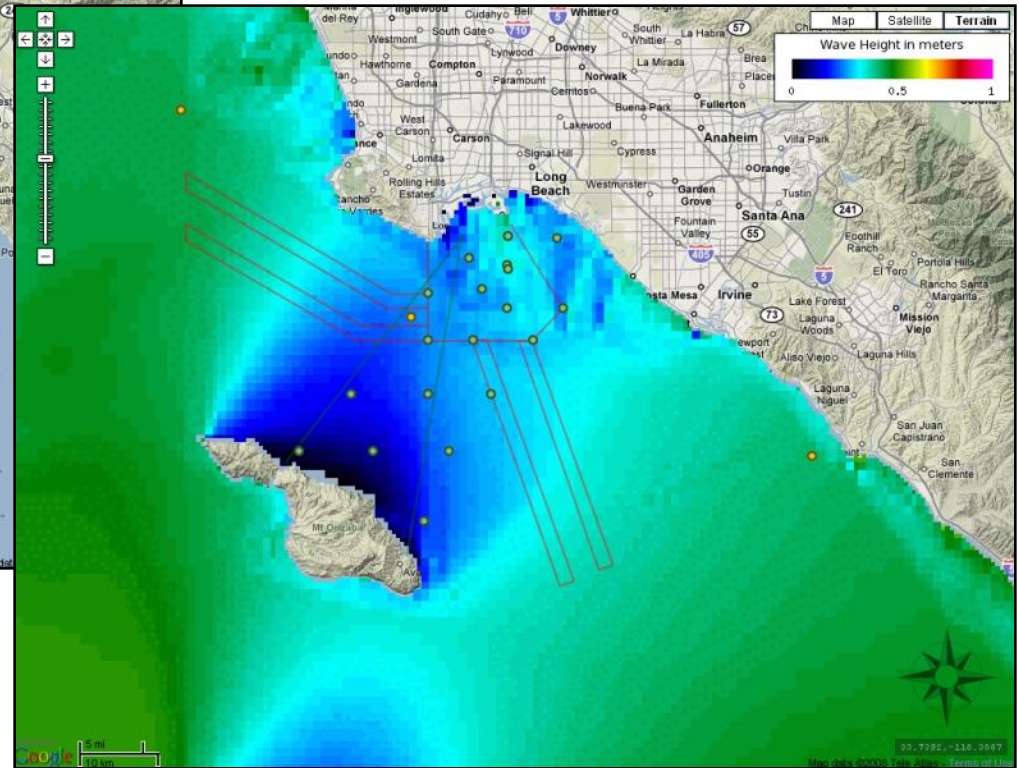
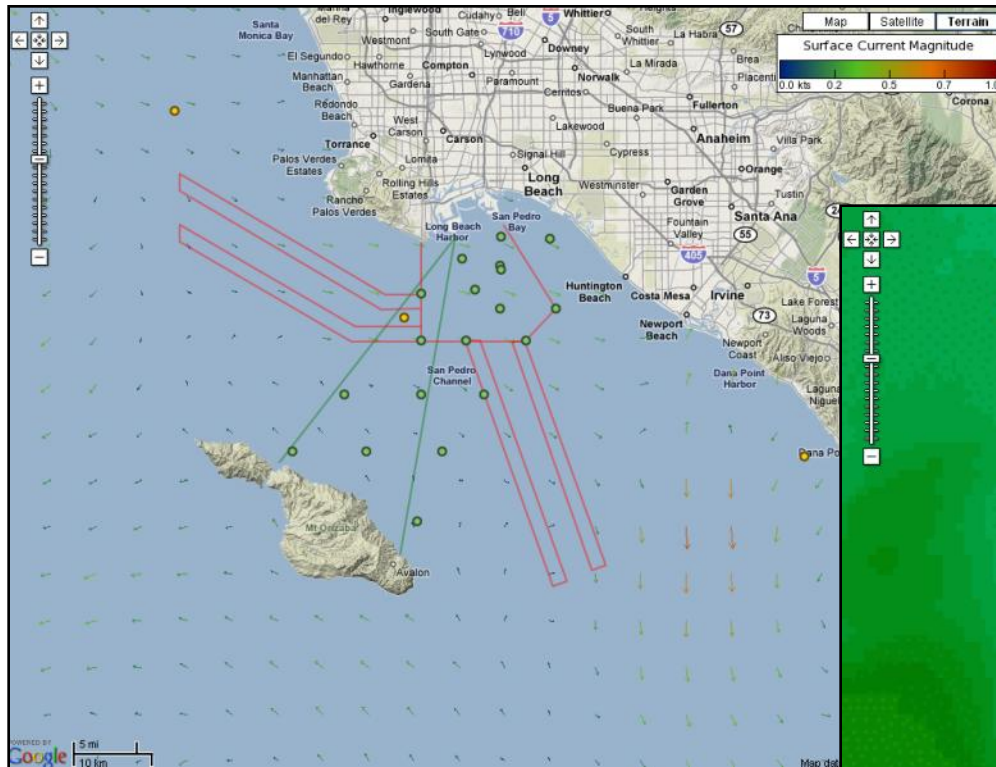
# Army Corps of Engineers contributions to U.S. IOOS



- National Operational Wave Observation Plan
- Dedicated USACE staff detailed to NOAA IOOS office
- Mobile District water level project
- Coastal Data Information Program (CDIP)

# Safe Marine Operations: Long Beach/LA Harbor Viewer

CDIP providing wave observations, nowcasts & forecasts.



SCCOOS providing currents

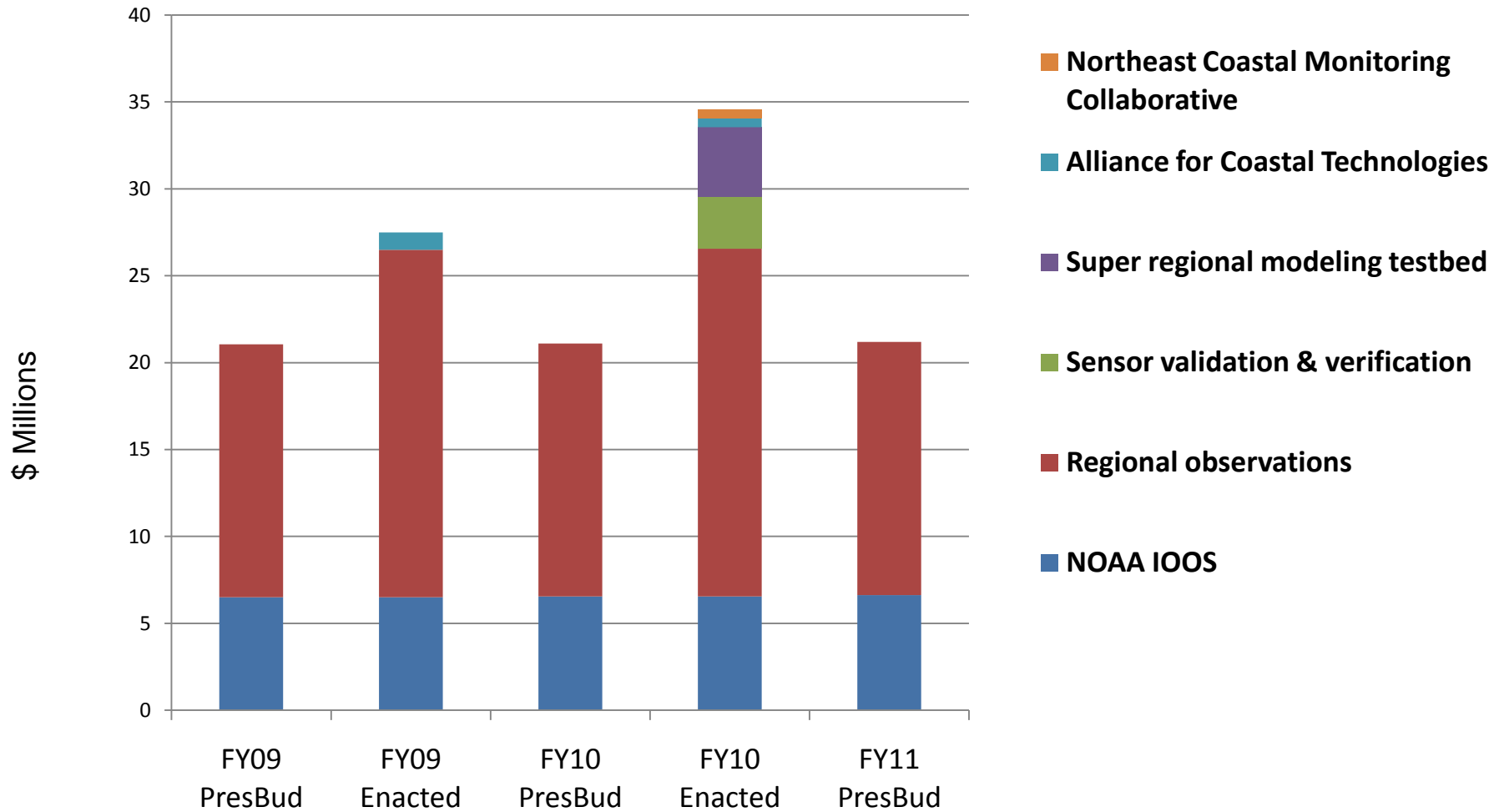
<http://sccoos.ucsd.edu/themes/harbors>

# Key NOAA IOOS Activities

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- Build on interoperability
- Strengthen regional and federal partnerships
- Implement the requirements of the Integrated Coastal Ocean Observing System Act
- Administer regional funding opportunities

# NOAA IOOS Funding



# U.S. IOOS – A National Endeavor

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- IOOS is a comprehensive system and the regions are key partners that need to support both regional and national needs
- Integration of data is critical - this must remain a focus of IOOS
- IOOS is positioned to be an integral part of the Administration's priorities



# Thank You

www.ioos.gov



A screenshot of the IOOS website homepage. The header features the IOOS logo and the text 'INTEGRATED OCEAN OBSERVING SYSTEM'. Below this is a row of logos for various partner organizations, including NASA, NOAA, USGS, and others. A navigation bar contains links for Home, About, NOAA Program, Our Partners, Other Resources, and Contact. A search bar is also present. The main content area is divided into several sections. On the left, a sidebar titled 'Of Special Note' lists various updates and events. The main content area has a heading 'U.S. IOOS®: Our Eyes on Our Oceans, Coasts, and Great Lakes.' followed by a paragraph about the system's purpose. Below this is a grid of six boxes: 'OBSERVATIONS' (with a map of the U.S. coastline), 'DATA MANAGEMENT' (with an image of a research vessel), 'COMMUNICATIONS' (with an image of a satellite), 'REGIONAL PARTNERS' (with a map of the U.S. regions), 'INTERAGENCY PROGRAMS' (with an image of a research vessel), and 'GLOBAL OBSERVATIONS' (with the GOOS logo). At the bottom, there is a footer with the date 'Revised June 22, 2009' and a list of links for questions, comments, contact, report error, privacy policy, disclaimer, site map, and national oceanic and atmospheric administration.

