

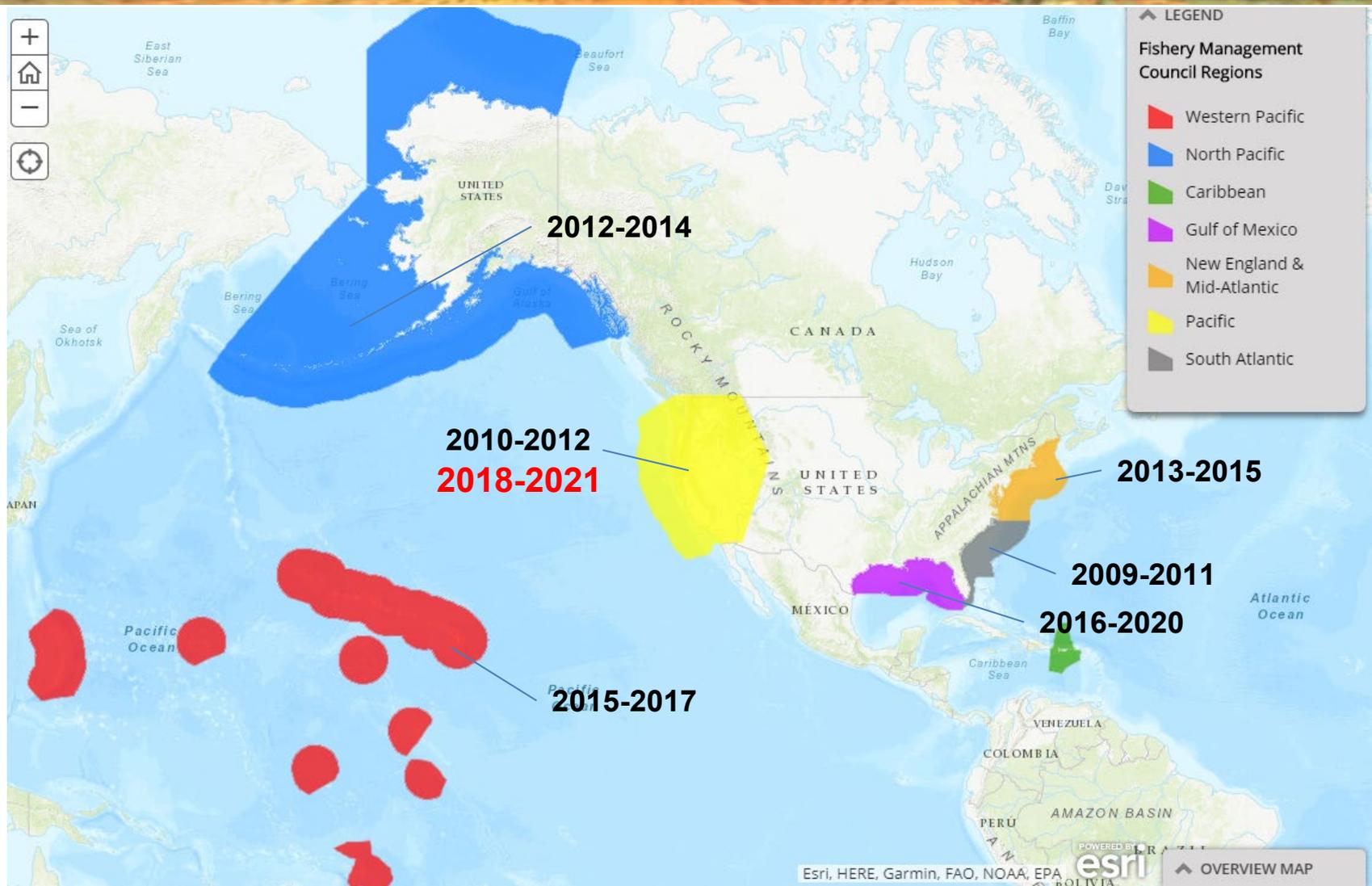


U.S. West Coast Deep-Sea Coral Initiative: Design and Implementation in Support of Resource Management

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HOURIGAN, HEATHER COLEMAN

AUGUST 2019 – 7TH INTERNATIONAL SYMPOSIUM ON DEEP-SEA CORALS

Regional Approach



Management and Protection of DSC

Magnuson-Stevens Act gave Fishery Management Councils discretionary authority to protect deep-sea corals from fishing

- Councils may designate deep-sea coral zones in areas identified by DSCRTP
- Councils may protect deep-sea corals from physical damage from fishing gear within zones



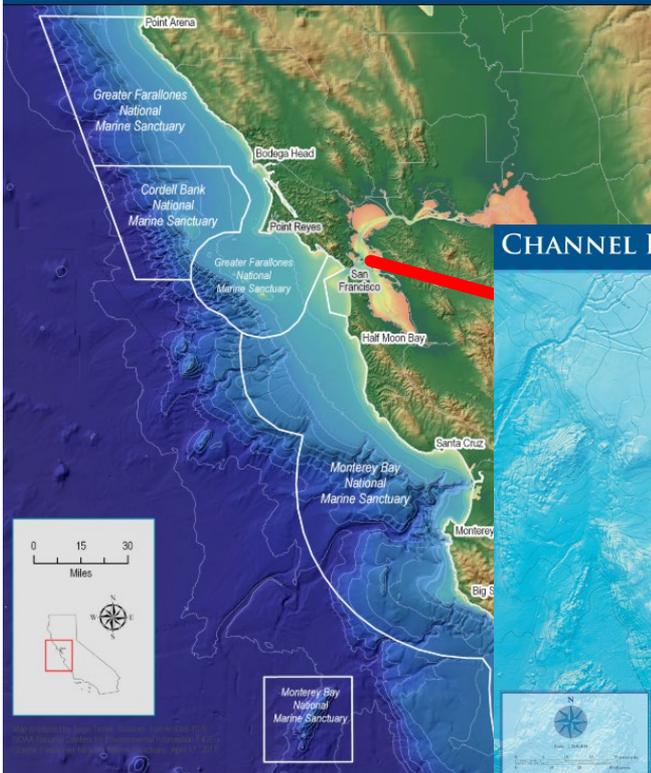
Management and Protection of DSC

NOAA's Office of National Marine Sanctuaries:

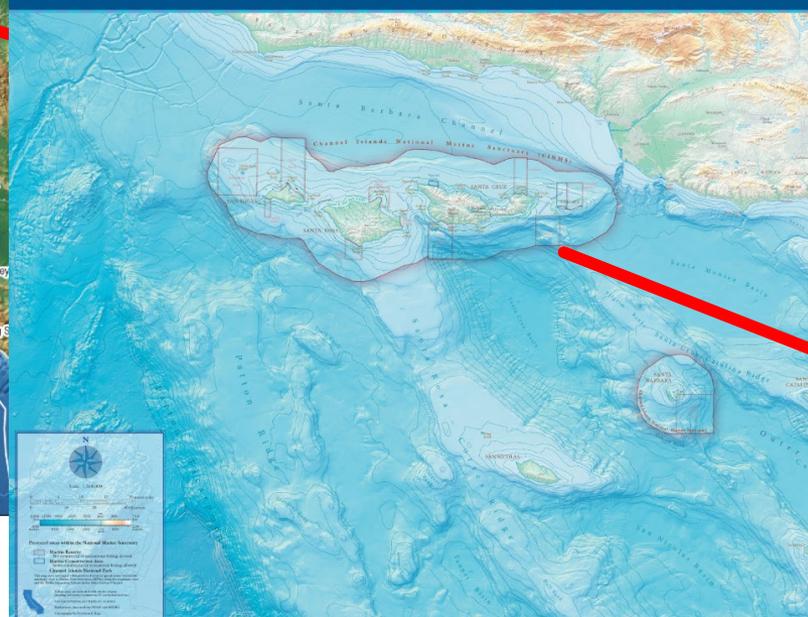
west coast

action

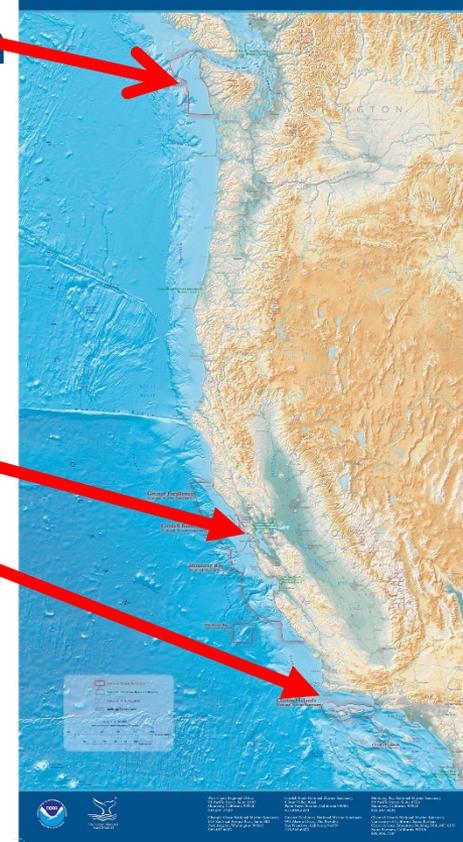
Greater Farallones, Cordell Bank & Monterey Bay National Marine Sanctuaries



CHANNEL ISLANDS NATIONAL MARINE SANCTUARY

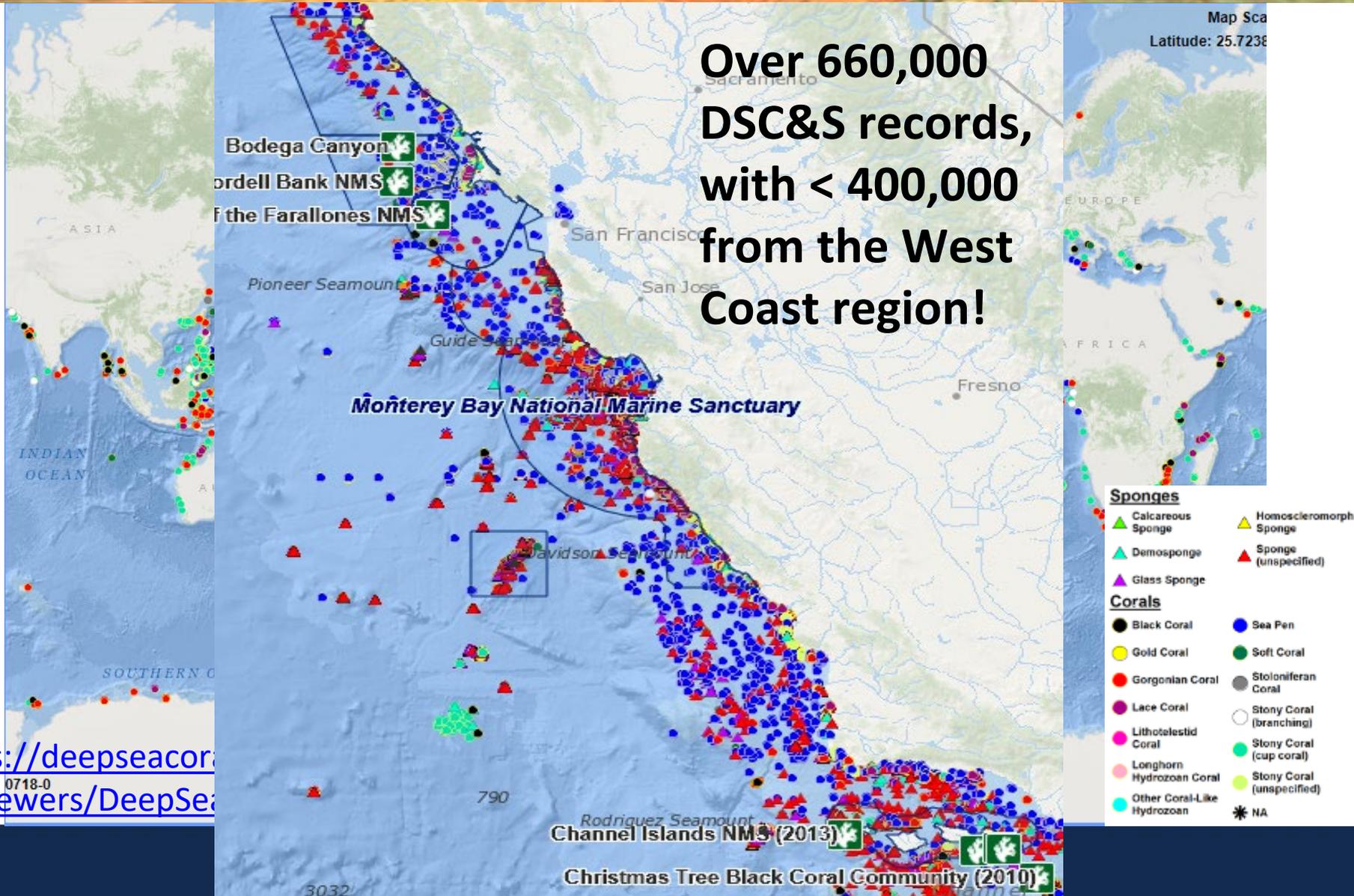


NATIONAL MARINE SANCTUARIES OF THE WEST COAST



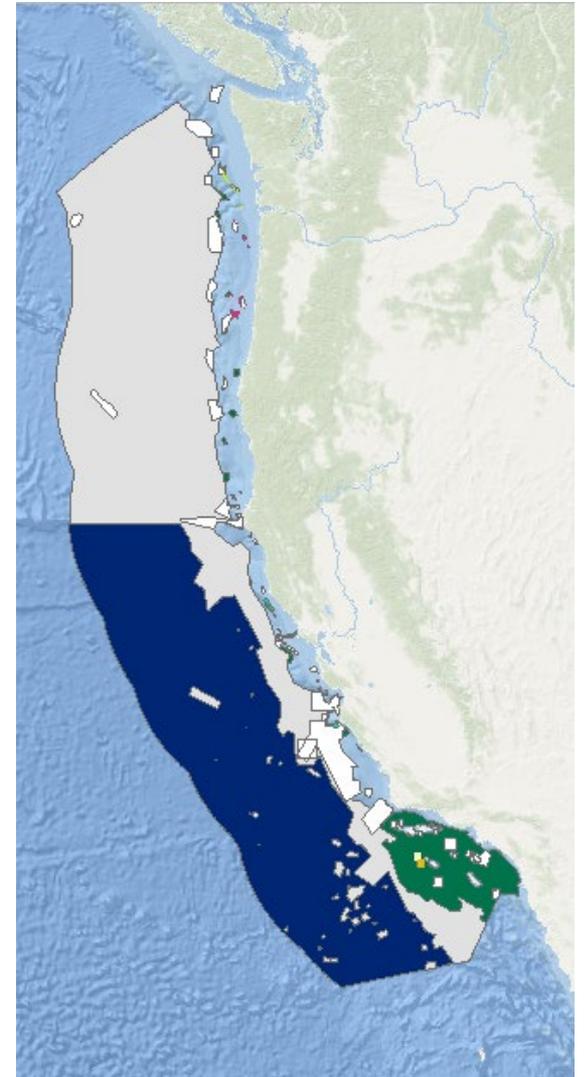
Deep Sea Coral Research & Technology Program

Over 660,000
DSC&S records,
with < 400,000
from the West
Coast region!



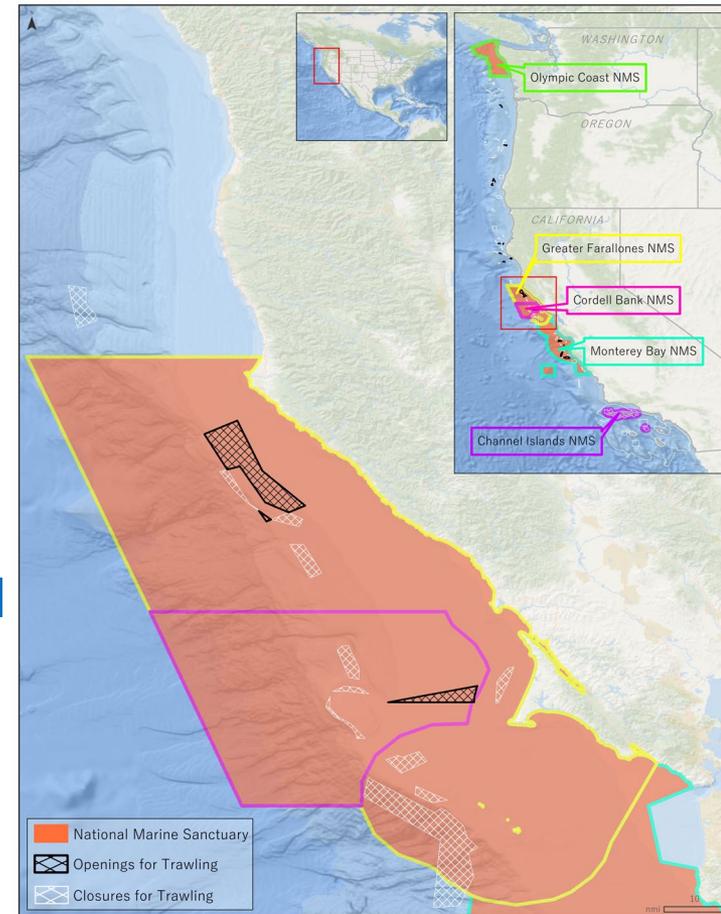
West Coast Deep-Sea Coral Initiative (2018-21)

- **FY 2018:** \$200K ramp-up year
 - Priorities workshop in April
- **2019 & 2020:** up to \$1M each year
 - Research and mapping cruises
- **2021:** \$250K ramp-down year



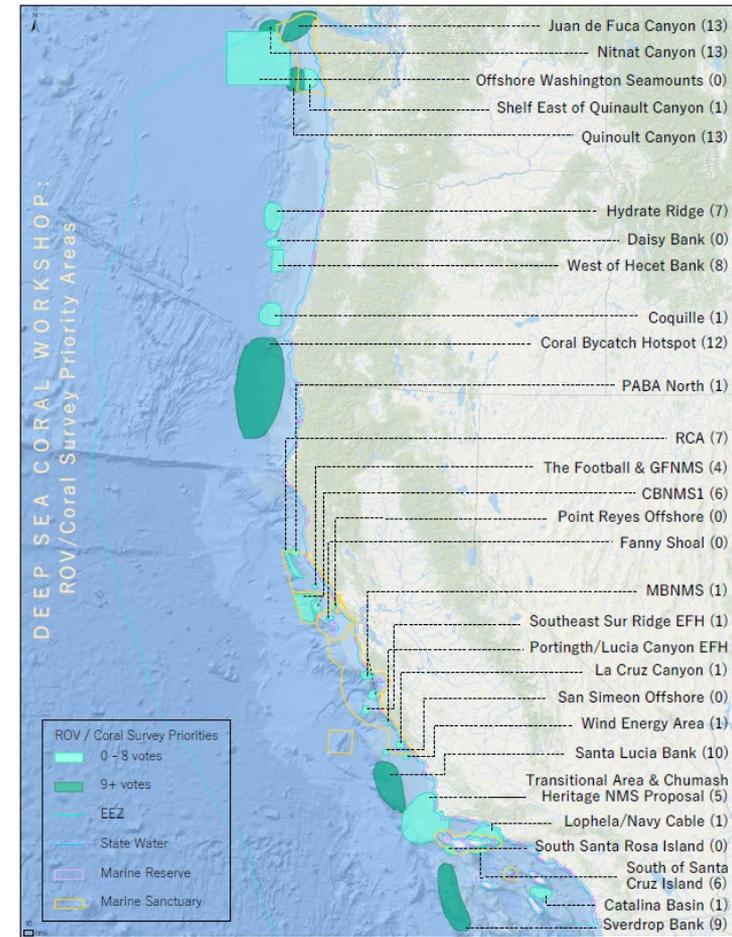
West Coast Initiative: Goals

- 1) Gather baseline information from areas subject to fishing regulation changes
- 2) Better understand coral and sponge bycatch “hot spots”
- 3) Explore and characterize places of special significance such as National Marine Sanctuaries



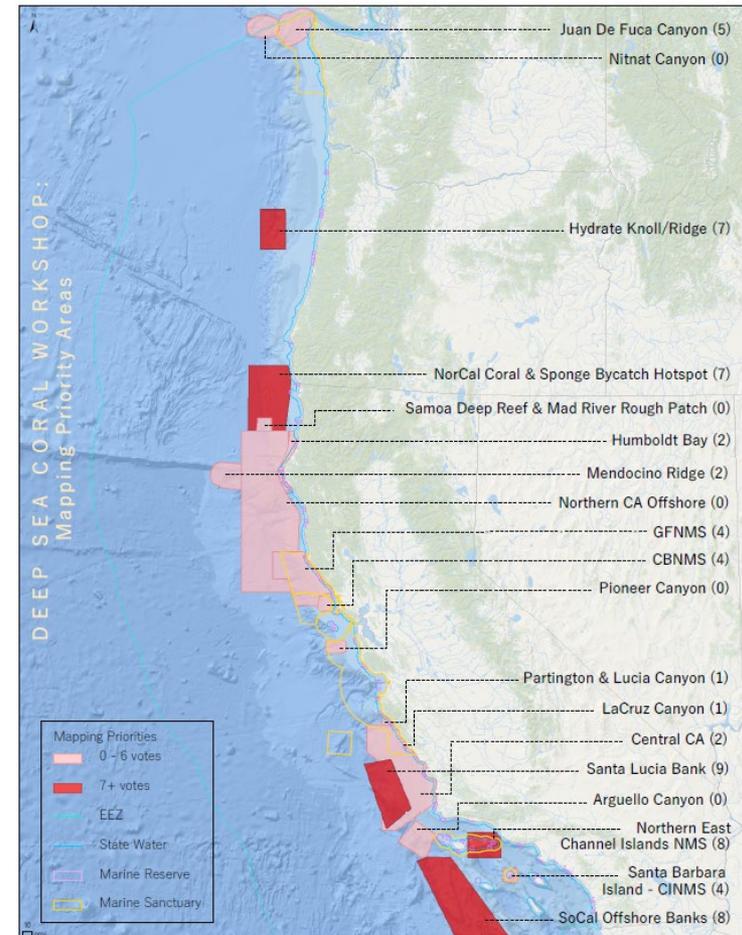
West Coast Initiative: Survey Priorities

- Fishery openings/closures
- Fish and coral/sponge associations
- Pair physical oceanographic data with DSC&S distribution to aid projects (e.g. model validation)



West Coast Initiative: Mapping Priorities

- Identify coral and sponge habitats
- Re-map areas from 2005 hand-drawn maps to quantify habitat type
- Map areas currently under, or considered for, protection



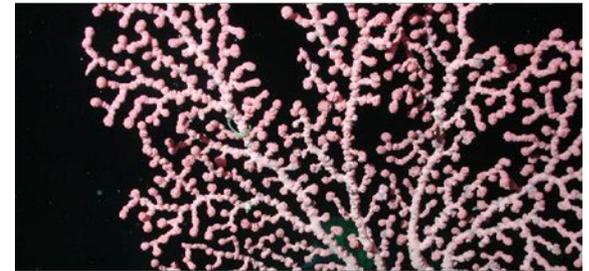
West Coast Initiative: Modeling Priorities

- Environmental variables to predict DSC&S
- Model validation – future surveys, data sampling design
- Workshop on modeling best practices



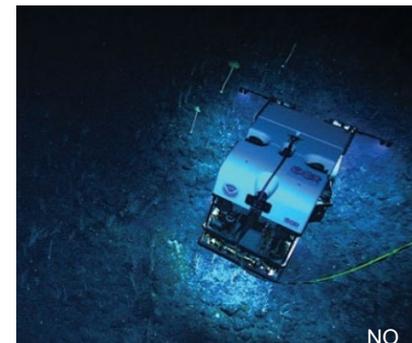
West Coast Initiative: Genetics/Connectivity Priorities

- Sponge genetics
- Sampling for connectivity studies
- Community biodiversity
- Common species “target list”



West Coast Initiative: Human Impact Priorities

- Bottom trawling hot spots
- Monitoring – fishing impacts, recovery, age/size structure, marine debris, OA/hypoxia
- DSC&S refugia

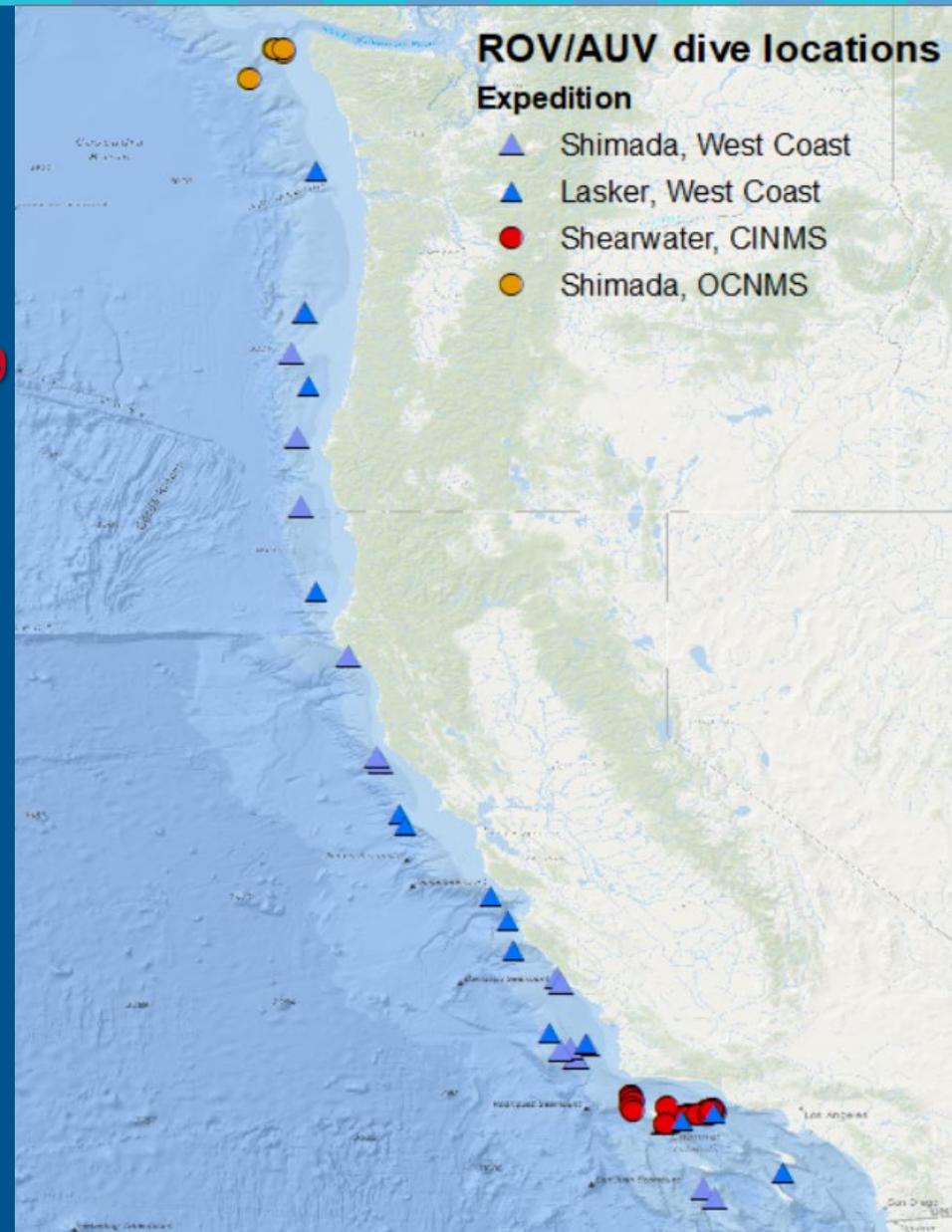


NO
AA

West Coast Deep-Sea Coral Initiative

Field missions to date:

- **30 day Shimada** cruise, 2018
- **30 day Lasker** cruise, 2019
- **9 day Shearwater** cruise, 2019
- **7 day Shimada** cruise, 2019



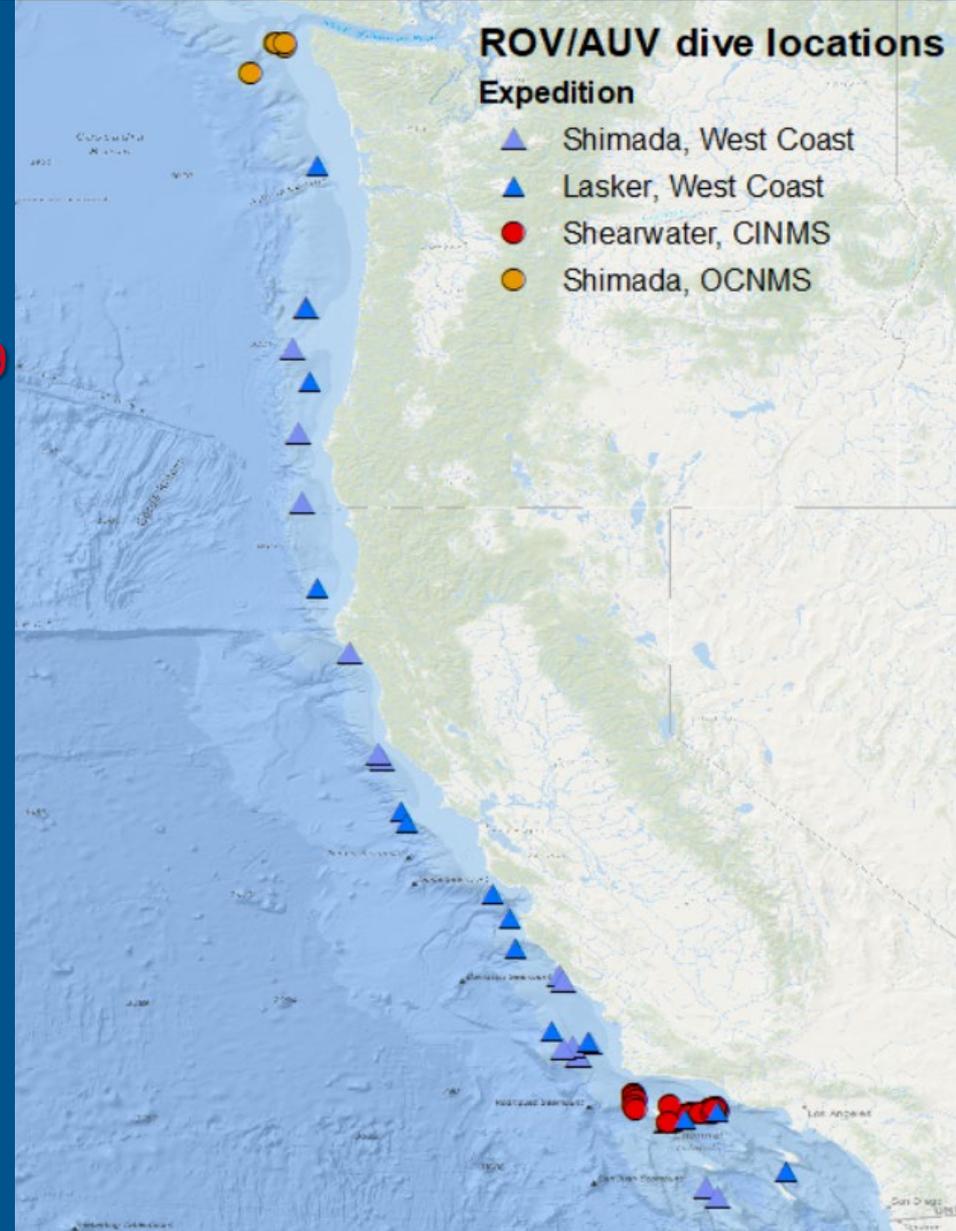
West Coast Deep-Sea Coral Initiative

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Partial support for other field missions:

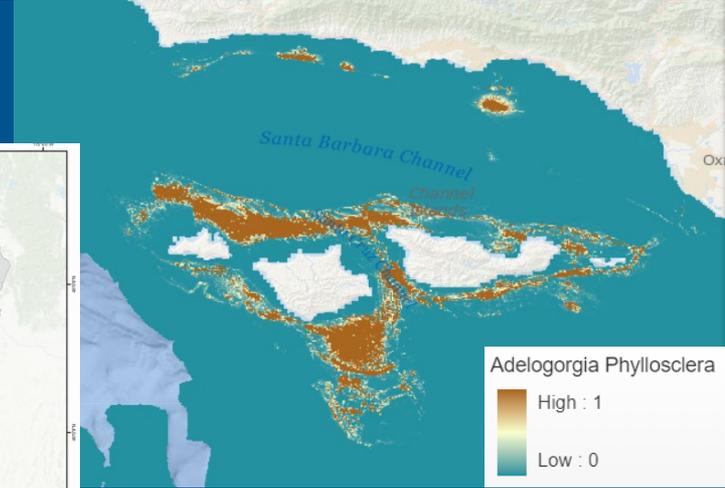
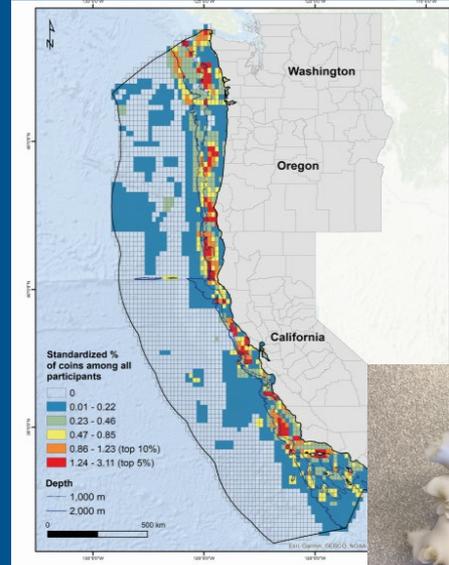
- Ocean Exploration Trust *Nautilus* (sanctuaries)
- Sanctuary-led mission on Shimada (GFNMS, CBNMS)
- Mapping on both *Rainier* and *Fairweather* (CINMS, GFNMS, CBNMS)



West Coast Deep-Sea Coral Initiative

Other projects:

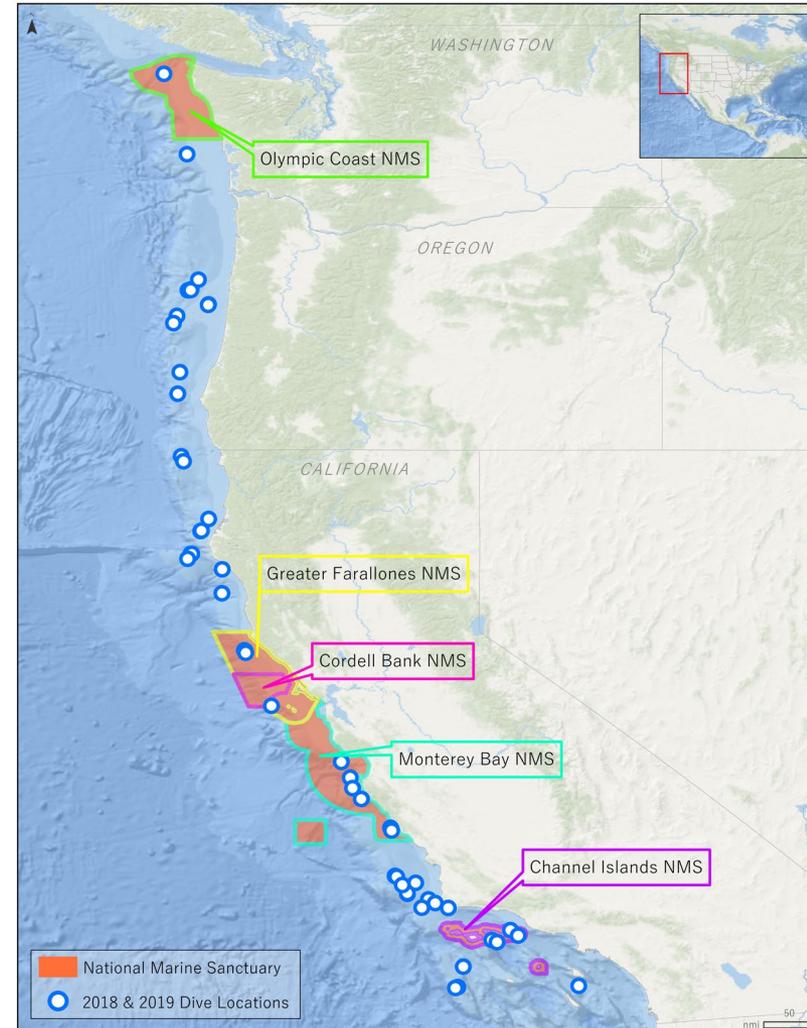
- Spatial prioritization tool (mapping & visual surveys)
- Modeling workshop
- Advancing predictive modeling
- Taxonomy and connectivity studies
- West Coast species ID guide
- Coral-fish association analyses
- Education and outreach
 - 3D printed DSCS models
 - Online curriculum update



Expanding Pacific Research and Exploration of Submerged Systems (EXPRESS)



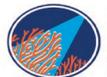
A multi-year, multi-institution cooperative research campaign in deep sea areas off California, Oregon, and Washington. EXPRESS data and information are intended to guide wise use of living marine resources and habitats, inform ocean energy and mineral resource decisions, and improve offshore hazard assessments.



Thank You!

Questions?

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NOAA
DEEP SEA CORAL
Research & Technology Program