

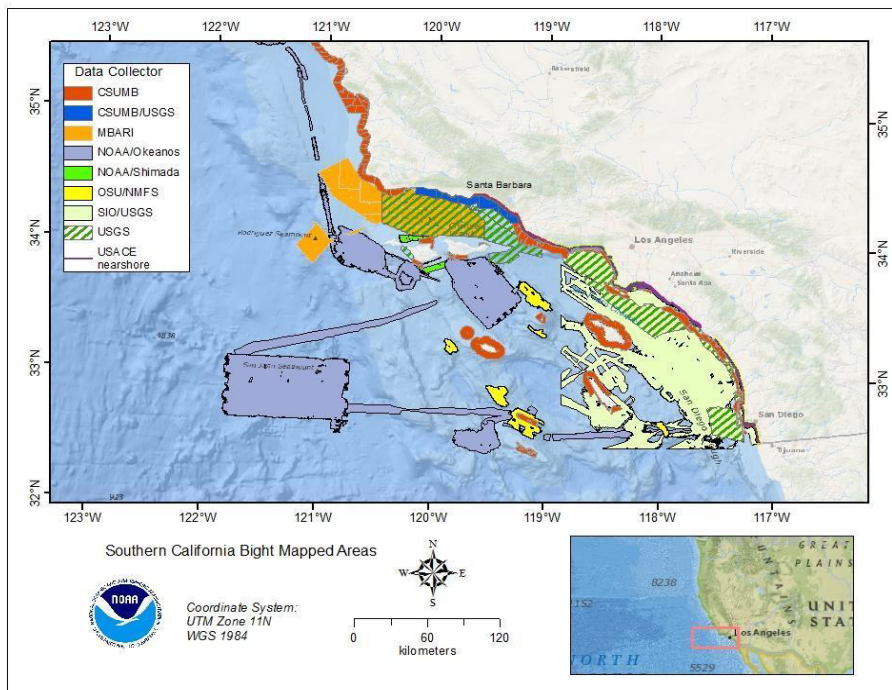
# Charting and Exploration of the Southern California Borderlands



## A Cross-NOAA Collaboration

### Filling Critical Seafloor Data Gaps

Place-based fisheries and coastal zone managers depend on fine scale bathymetry and habitat maps for an array of critical decisions including: navigational safety, disaster response, endangered species and fisheries management, conservation, research, energy development, and marine planning. Yet, in southern California nearly 90% of U.S. waters remain unmapped at an appropriate resolution. Within NOAA's Channel Islands National Marine Sanctuary (CINMS) that number is over 50% with the majority being characterized by single beam and lead line data from the 1930s. To address this critical information gap, offices across the NOAA family, together with other state and federal partners are uniting and filling the void.



Footprint of existing high resolution multibeam data acquired in the Southern California Bight

### Key Partners

- Bureau of Ocean Energy Management (BOEM)
- California Ocean Protection Council (OPC) & Seafloor and Coastal Mapping Program (CSCMP)
- NOAA Deep Sea Coral Research and Technology Program (DSC RTP)
- NOAA Integrated Ocean and Coastal Mapping Program (IOCM)
- NOAA National Centers for Coastal and Ocean Science (NCCOS)
- Ocean Exploration Trust (OET)
- NOAA Office of Coast Survey (OCS)
- NOAA Office of Marine and Aviation Operations (OMAO)
- NOAA Office of National Marine Sanctuaries (ONMS)
- NOAA Office of Ocean Exploration and Research (OER)
- NOAA Southwest Fisheries Science Center (SWFSC)
- SeaSketch

### 2015 Southern California Seafloor Mapping Workshop

With management requirements necessitating seafloor data for this ecologically and economically critical area, an inclusive and strategic path forward was demanded. Toward this end, the southern California seafloor mapping initiative was kicked off in August of 2015. Organized by NOAA's NCCOS and CINMS, a workshop was held in Santa

Barbara, CA that included participation from seventeen federal and state agencies, academic institutions, and NGOs. Regional priorities and requirements were captured spatially using an innovative participatory GIS approach. In addition to the sanctuary itself, other areas including the Santa Monica Basin, unmapped Essential Fish Habitat,

deep canyons and the nearshore white zone were identified as important data gaps. This synthesis of agency needs is now being utilized to prioritize future data acquisition efforts. The results are captured on the IWG-OCM SeaSketch [website](#) and are also presented as a technical report in the ONMS Conservation Series.

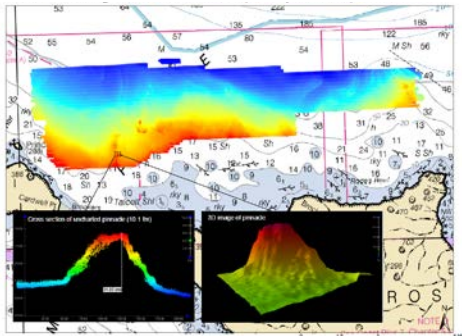


Image Credit: NCCOS/NOAA

Area surveyed aboard R/V *Bell M. Shimada* in 2015 and uncharted pinnacle discovered by researchers.

## Project Goals & Objectives

- **Integrated Ocean and Coastal Mapping:** Acquire and disseminate seafloor mapping data to aid a wide range of regional partners
- **Navigational Safety:** Provide critical updates to NOAA Nautical Charts
- **Fishery & Protected Resource Management:** Create comprehensive maps to support EFH and inform population assessments
- **Ocean Exploration:** Provide foundational information on deepwater areas to support science-based decision making
- **Coastal Zone Management:** Inform marine planning efforts such as placement of renewable energy, aquaculture, submerged pipes and cables
- **Enhance NOAA Fleet:** Test and configure ship-based and autonomous systems for high resolution bathymetry and backscatter acquisition

## Major Accomplishments

- To-date, this effort has leveraged an investment of over **\$1.5 million** and a commitment of over **40 days-at-sea** in 2015/2016 alone
- Developed a consortia of over **20 agencies** and research groups interested in southern California mapping
- Held a **one day workshop** to delineate mapping gaps and prioritize acquisition requirements across the Southern California Bight
- **Mapped 81 mi<sup>2</sup>** aboard the NOAA ship *Bell M. Shimada* in a successful test of the vessels ME70 and discovered vast coral garden communities
- Partnered with IWG-OCM and their SeaSketch online portal (<http://www.seasketch.org>) to facilitate access to regional data sets
- Partnered with CA Ocean Protection Council and the California Seafloor and Coastal Mapping Program to inform the state level mapping priorities



Image Credit: CINMS/NOAA

The NOAA ship *Bell M. Shimada*



Photo: Dirk Rosen/MARE

Deep Sea Coral Gardens found north of Santa Rosa Island during the 2015 Shimada Cruise

## Next Steps

- Map shallow waters (40 – 350m) in and around CINMS and Santa Rosa Flats with R/Vs *Bell M. Shimada* and *Reuben Lasker*
- Explore regional deeper water priorities in partnership with Ocean Exploration Trust off R/V *Nautilus*
- Continue to integrate key NOAA assets into the effort (e.g. survey of CINMS with topo-bathymetric LiDAR)
- Survey remaining priority locations with other vessels of opportunity
- Develop key management-relevant products including a unified bathymetry surface and benthic habitat map

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