

BEACON Science Advisory Committee (SAC): Year in Review and Looking Forward March 15, 2024

- ◀ Presentation to the BEACON Board of Directors by SAC Co-Chairs:
 - ◀ Dr. Kiki Patsch, California State University Channel Islands (CSUCI)
 - ◀ Dr. Doug George, California Shore and Beach Preservation Association (CSBPA)



SAC MEMBERSHIP- Re-appointed By BEACON Board for 2023-24

Co-Chair Dr. Kiki Patsch

Associate Professor
Environmental Science and Resource Management
California State University, Channel Islands

Co-Chair Dr. Doug George

Vice President
California Shore & Beach Preservation Association

Mr. Bob Battalio, PE

Senior Engineer
Environmental Science Associates

Dr. Jenny Dugan

Associate Research Biologist
Marine Science Institute Deputy Director
Coastal Marine Institute, UCSB

Dr. Lesley Ewing, PE

Senior Coastal Engineer
California Coastal Commission (Retired)

Dr. Kristen Goodrich

Coastal Training Program Coordinator
Tijuana River National Estuarine Research Reserve

Dr. Dan Hoover

Oceanographer
Pacific Coastal and Marine Science Center
United States Geological Survey (USGS)

Dr. Phil King

Associate Professor (Emeritus)
Department of Economics
San Francisco State University

Dr. Charles Lester

Marine and Coastal Policy Center
Marine Science Institute, UCSB

Dr. Dan Reineman

Associate Professor
Environmental Sci. and Resource Management
California State University, Channel Islands

Dr. Dave Revell

Principal, Integral Corporation

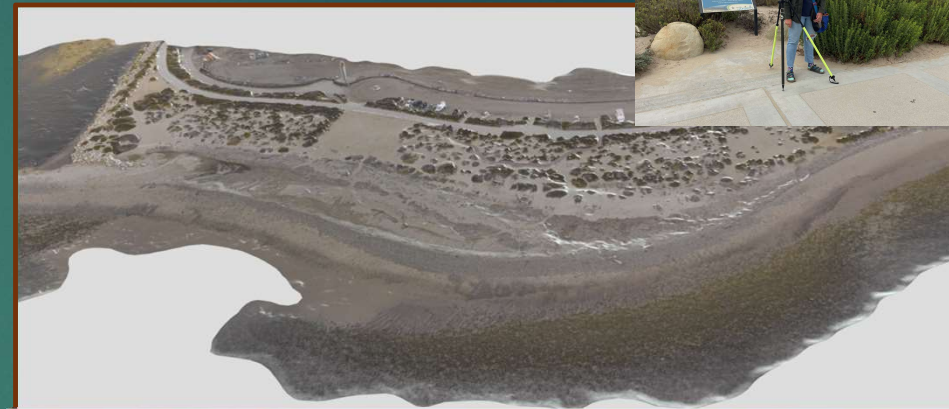
Dr. Sean Vitousek

Research Oceanographer,
Pacific Coastal and Marine Science Center,
United States Geological Survey



Storms and Extreme Events of 2023-2024

- ▶ SAC – intended to deepen understanding of region to inform science-based decision making
 - Types of events the research agenda considers
 - Function of the SAC: collaborate and communicate



Integrating Science and Policy at BEACON

2019-2020	Science Strategy
2020-2021	Science Survey-input on BEACON Science Priorities
2020	BEACON appoints Science Advisory Committee
2021	SAC develops Science Research Agenda
2021-2022	BEACON secures grants to implement research agenda projects
2022	BEACON re-appoints SAC
2023	SAC RCAMP Workshop SAC Manager-Scientist Summit

Year Three Activities-

FOCUS on Implementation

- **Implementation Activities**
 - Initial Planning for Regional Monitoring Plan
 - Prop 68 Coastal Resilience Pilot Project-Integrate RSM-SLR Adaptation
- **Annual SAC Meeting-February**
 - Conducted workshop on RCAMP Goals, Objectives and Program Framework
 - Supported and helped Coordinate Summit with BEACON Staff
 - Manage3r Scientist Summit- November

BEACON's Work is directly tied to the Research Agenda



BEACON RESEARCH AGENDA

A Research Agenda for the
Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) Coast

A Research Agenda for the BEACON Coast
2021-2026
BEACON Science Advisory Committee
Adopted December 2021

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Prepared by the BEACON Science Advisory Committee (SAC)
Adopted December 2021

RCAMP Goal

The overarching goal of the RCAMP is to **provide consistent monitoring data and analysis to inform the implementation of sea-level rise adaptation plans** in the Santa Barbara Littoral Cell, including BEACON member agencies (the Counties of Santa Barbara and Ventura as well as the coastal cities of Santa Barbara, Goleta, Carpinteria, Ventura, Oxnard and Port Hueneme).

The RCAMP will **consider physical, ecological, and socio-cultural monitoring parameters.**

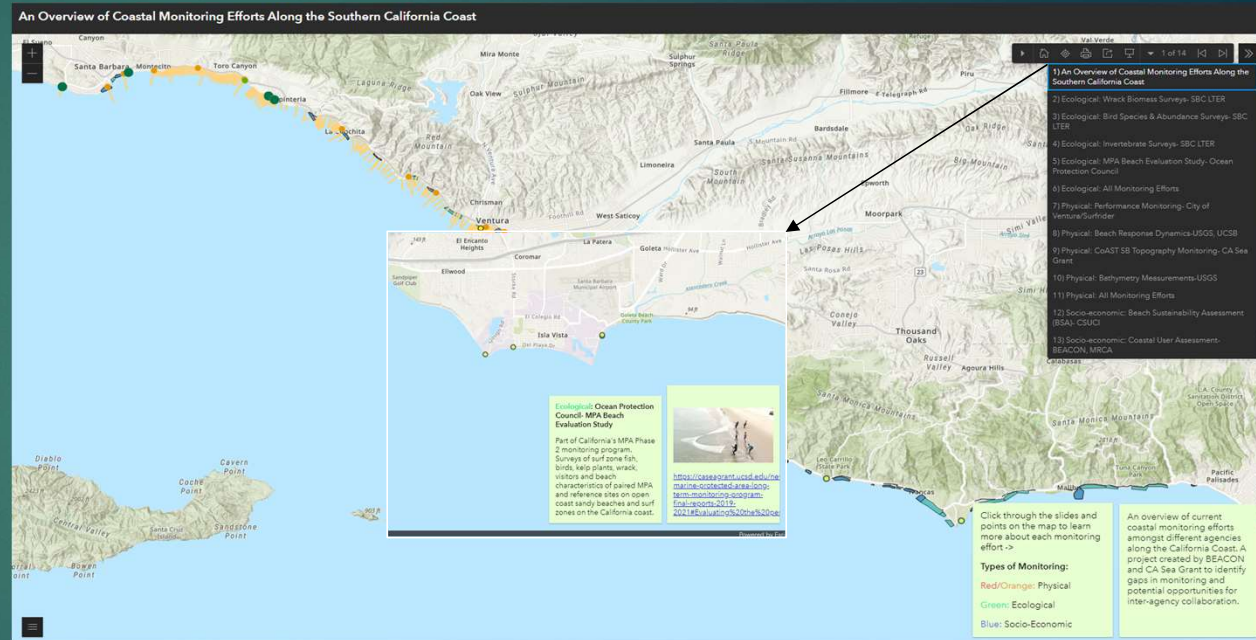
Regional Coastal Adaptation Monitoring Program (RCAMP)

- Collaborative project with City of Santa Barbara using funding from the Coastal Commission to develop a regional sea level rise (SLR) adaptation monitoring program
- Plan will include early pilot projects to establish monitoring parameters and monitoring methods
- BEACON involvement resulted from BEACON SAC Science Research Agenda



Data Inventory

- BEACON SAC summary of ongoing monitoring
- CA Sea Grant/UCSB Coastal Monitoring Web Application & Map
- BEACON regional resilience planning & RCAMP team
- **Input from BEACON stakeholders/managers**



Appendix A: Relevant Research and Science Initiatives in SBLC

Research Initiative	Sponsor Agency	Research Topic	Geographic Extent	Principal Investigator(s)	Time Period	Research Focus	Source of Funds	Cooperating Agencies	Link to Available Resource
Shoreline Monitoring	USGS	Physical Monitoring	SBLC-Elwood-Pt. Mugu	Dan Hoover	1995-present	Shoreline monitoring	USGS	BEACON	
SBC LTER	NSF	Ecological Monitoring	Santa Barbara Channel (local focus)	Bob Miller	2000-present	Kelp ecosystem monitoring		NSF, UCSB, MSI, LTER network	https://sbclter.msi.ucsb.edu/
SBC Kelp Monitoring	UCSB	Ecological Monitoring	Coal Oil Point Reserve	Jessica Nielsen	2012 to present	Kelp monitoring			https://copr.nrs.ucsb.edu/about/programs/subtidal-monitoring
Multi-Agency Rocky Intertidal Network (MARINE)	BOEM, NPS, OPC, PISCO, US Navy	Ecological Monitoring	Alaska to Baja	Pete Raimondi	1997-present	Rocky intertidal habitats	Various		
BOEM		OCS Oil and Gas Pgm				Environmental impacts			
CoSMoS	USGS	Flood Modeling, Cliff Failure, Coastal Groundwater Response	California	Patrick Barnard	2013-present	Coastal storms and sea level rise impacts modeling	USGS, OPC		
CoSMoS COAST	USGS	Shoreline Modeling	California	Sean Vitousek	2017-present	Shoreline evolution	USGS		
Santa Barbara Channel MPA Collaborative	OPC, BEACON	Ecological Management	Santa Barbara MPAs	Julie Bursek, Kristen Hislop	2012-present	MPA management and enforcement	OPC, SB Museum of Natural History		
Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO)	UCSB, UCSB, OSU	Ecological Monitoring	Oregon and California	Jennifer Caselle, Carol Blanchette, Libe Washburn	1999-present	Long term ecosystem monitoring	Various		
Beach Sustainability Assessment (BSA)	CSUCI	Interdisciplinary coastal assessment	Santa Barbara and Ventura	Kiki Patsch, Dan Reineman, Phil King, Nina Roberts, Charles Lester	2013-present	Ecology, Geomorphology, Social Utility	CSUCI, CSU COAST, CASG		
COPE Ecological Monitoring Network	UCSB	Ecological Monitoring	Central Coast	Ali Burgos	2021-present	Subtidal ecological monitoring	NSF COPE		

Dune Science Collaborative	CASG	Dune/Living Shoreline strategies	California	Laura Engeman, Nick Sadrpour	2020-present	Community of practice around dune coastal resilience strategies	Honda Foundation CASG	CASG, USC SG, Bay Foundation, CRC	https://www.resilientcoastlines.com/home
Permit Streamlining: Fine Sediment Transport/Fate, Ecological Impacts, Placement Protocols, etc.	OPC, BEACON	Interdisciplinary sediment permitting	Santa Barbara	Marc Beyeler, Jon Warrick, Jenny Dugan, Nick Sadrpour, Maureen Spencer	2021-2023	Permit Streamlining: Fine Sediment Transport/Fate, Ecological Impacts, Placement Protocols, etc.	OPC, BEACON, SB County Flood Control	Santa Barbara County Flood Control District	
Marshes on the Margin	SCC, NCCOS	Ecological and physical changes of wetlands due to sea level rise	Southern California Bight	Evyann Sloane, John Largier, Karen Thorne, Jeremy Lowe, Jeff Crooks, Melodie Grubbs, Eric Stein	2018-present	wetland transitions and mouth opening/closing changes due to sea level rise	NCCOS EESLR	TRNERR, Santa Barbara Airport	https://tmerr.org/marshes-on-the-margin/
Coastal Resilience-Ventura/Santa Barbara	TNC	Coastal Hazards Modeling	Santa Barbara and Ventura	Bob Battalio	2013-Present	Coastal Hazards Mapping	TNC	ESA, BEACON, several	https://coastalresilience.org/project/santa-barbara-county/ https://coastalresilience.org/project/ventura-county/
Coastal User Assessment	BEACON/MRCA/CASG	Coastal use	Santa Barbara-Malibu	Kiki Patsch, Nate Merrill, Sean Anderson, Marc Beyeler, Elena Eger, Nick Sadrpour, Tom Ford	2021-Present	Coastal User identification	BEACON, MRCA, CASG	BEACON, MRCA, CASG, CSUCI, Bay Foundation, EPA	
Impact of Sea-Level Rise on Groundwater Pollution Vulnerability in Shallow Coastal Aquifers	CSU COAST/CASG	SLR flooding and groundwater	Oxnard	Ben Hagedorn, Matt Becker, Danielle Bram	2021-Present	Groundwater flooding impacts on toxic sites	CSU COAST/CASG	CSULB, CSUN	
Community Science:									
Grunion Greeters	Pepperdine	Ecological Monitoring	Southern California Bight	Karen Martin	2010?	Grunion spawning	NMFS-SWR	Several	http://grunion.pepperdine.edu/ggproject.htm
Community Alliance for Surveying the Topography of Sandy Beaches (CoAST SB)	CASG	Physical Monitoring	Santa Barbara (various beaches)	Aaron Howard	2018-present	Shoreline monitoring	Various	USGS, BEACON, CASG	https://casegrant.ucsd.edu/project/coast-sb-community-alliance-for-surveying-the-topography-of-sandy-beaches
Beach Water Quality	SB ChannelKeeper	Water Quality Monitoring	Santa Barbara and Ventura	Ben Pitterle		Water quality	Island Brewing Company		https://www.sbk.org/our-work/field-work/beach-water-quality
Surfrider BWTF-Ventura	Surfrider	Water Quality Monitoring	Ventura and Santa Barbara	April Bender	2018-present	Water quality	Chuck Vinson Memorial Fund		https://ventura.surfrider.org/programs-and-campaigns/bwtf/
King Tides	California Coastal Commission	Coastal Storms and Flooding	Ventura and Santa Barbara			Coastal flooding		Coastal Commission	https://www.coastal.ca.gov/kingtides/index.html

Pulling together the best available science to **INFORM DECISIONS**

BEACON Manager-Scientist Summit



BEACON Science Activities 2024





QUESTIONS FROM THE BOARD?

THANKS FOR YOUR CONTINUING SUPPORT and
THANKS FOR YOUR ATTENTION

SAC MEMBERS SERVE VOLUNTARILY AND
ENTHUSIASTICALLY, WITHOUT COMPENSATION