


Using ecosystem services in decision-making: Getting to transformation



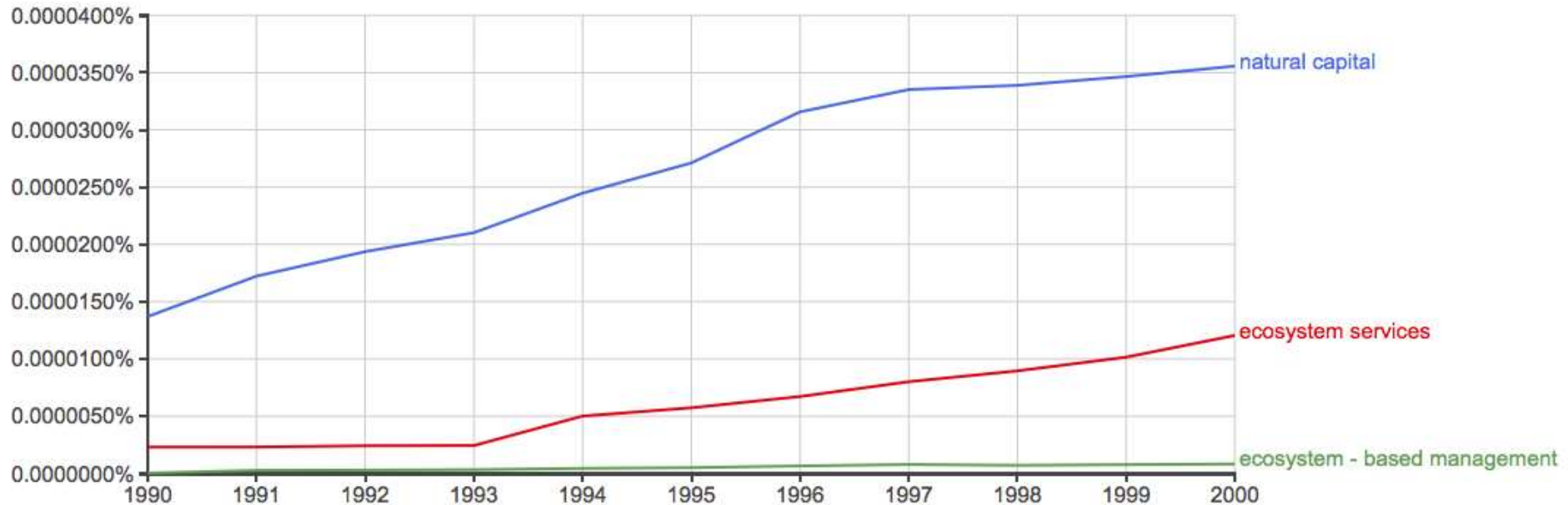
Anne Guerry, ACES, Jacksonville Florida, December 2016

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1. Growing awareness
 2. Changing decisions
 3. Lessons for transformation

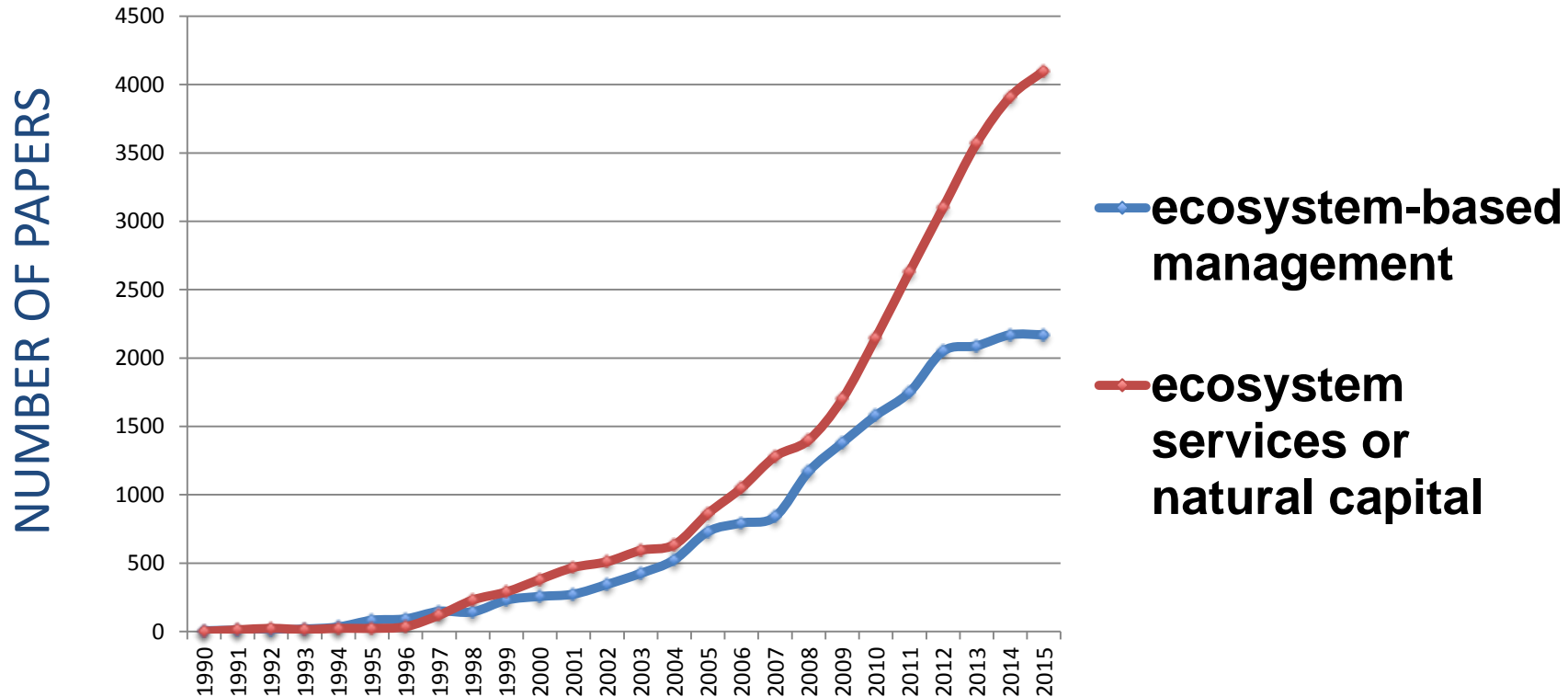
Growing awareness



Growing interest



Growing scientific understanding



Global Reach

Applying ecosystem service approaches across sectors

- Governments (e.g., China, Colombia, UK, US...)
- Global Assessment Community (e.g., IPBES, UN SDGs)
- Multilaterals (e.g., IDB, WB, ADB)
- Private Sector (e.g., Coke, Unilever, Dow, NCC)

Changing decisions





Shining a light on the intimate connections between people and nature

We're developing practical tools and approaches to account for nature's contributions to society, so that leaders worldwide can create a more sustainable future.



Where we work



We work in a wide array of sectors, developing nature-based solutions to problems around the world.

- ◆ Sustainable Development Planning
- ◆ Securing Freshwater
- ◆ Sustainable, Livable Cities
- ◆ Standards for the Private Sector
- ◆ Safe, Resilient Coastal Communities

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Where do coastal habitats protect
people and property from sea-level
rise and storms?

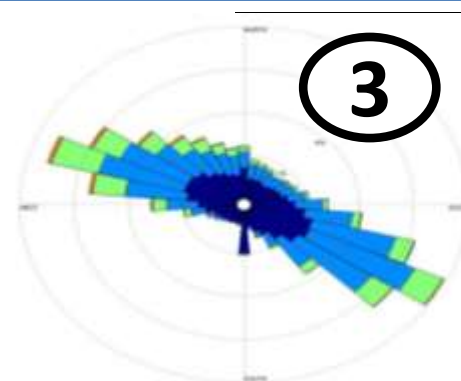




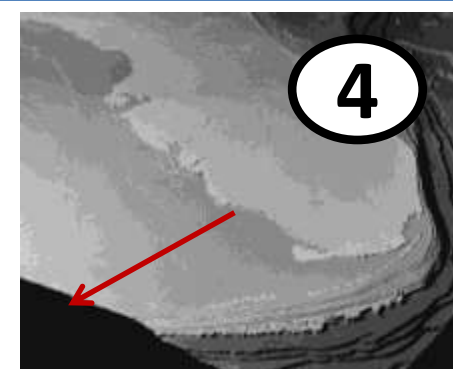
GEOMORPHOLOGY



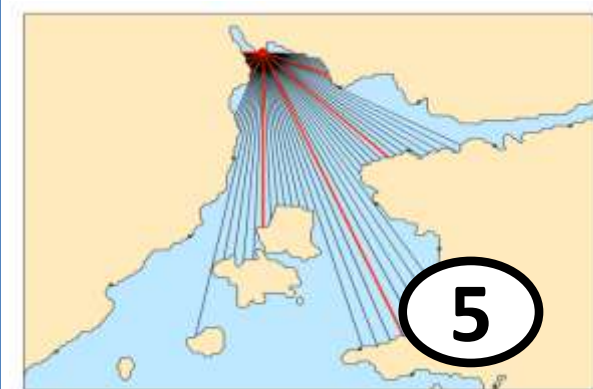
COASTAL HABITATS



WIND EXPOSURE



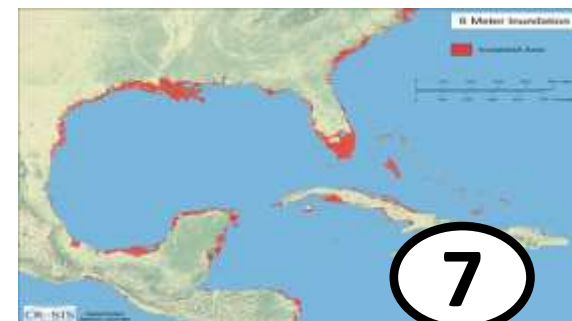
SURGE POTENTIAL



WAVE EXPOSURE



RELIEF



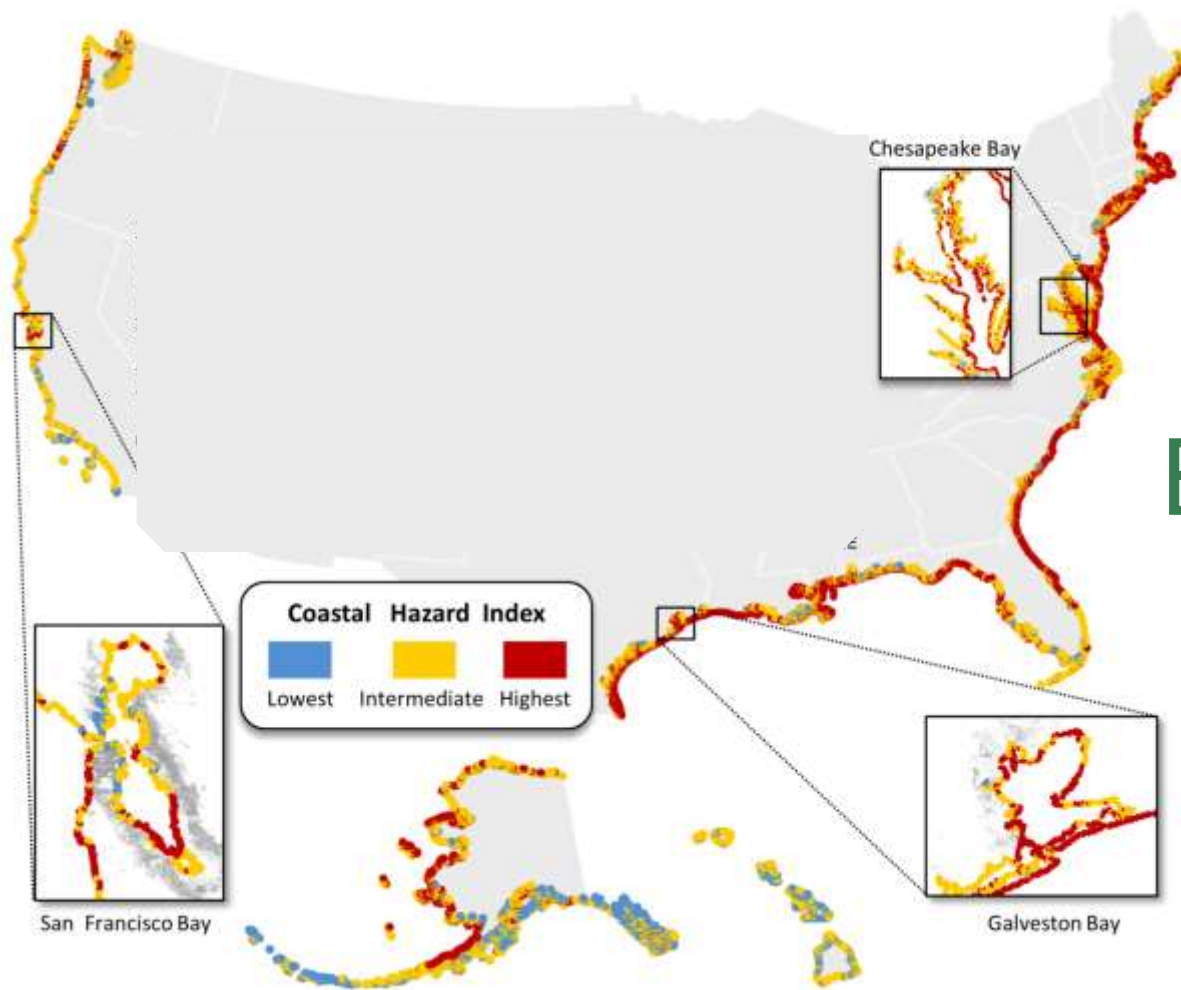
SEA LEVEL RISE

InVEST

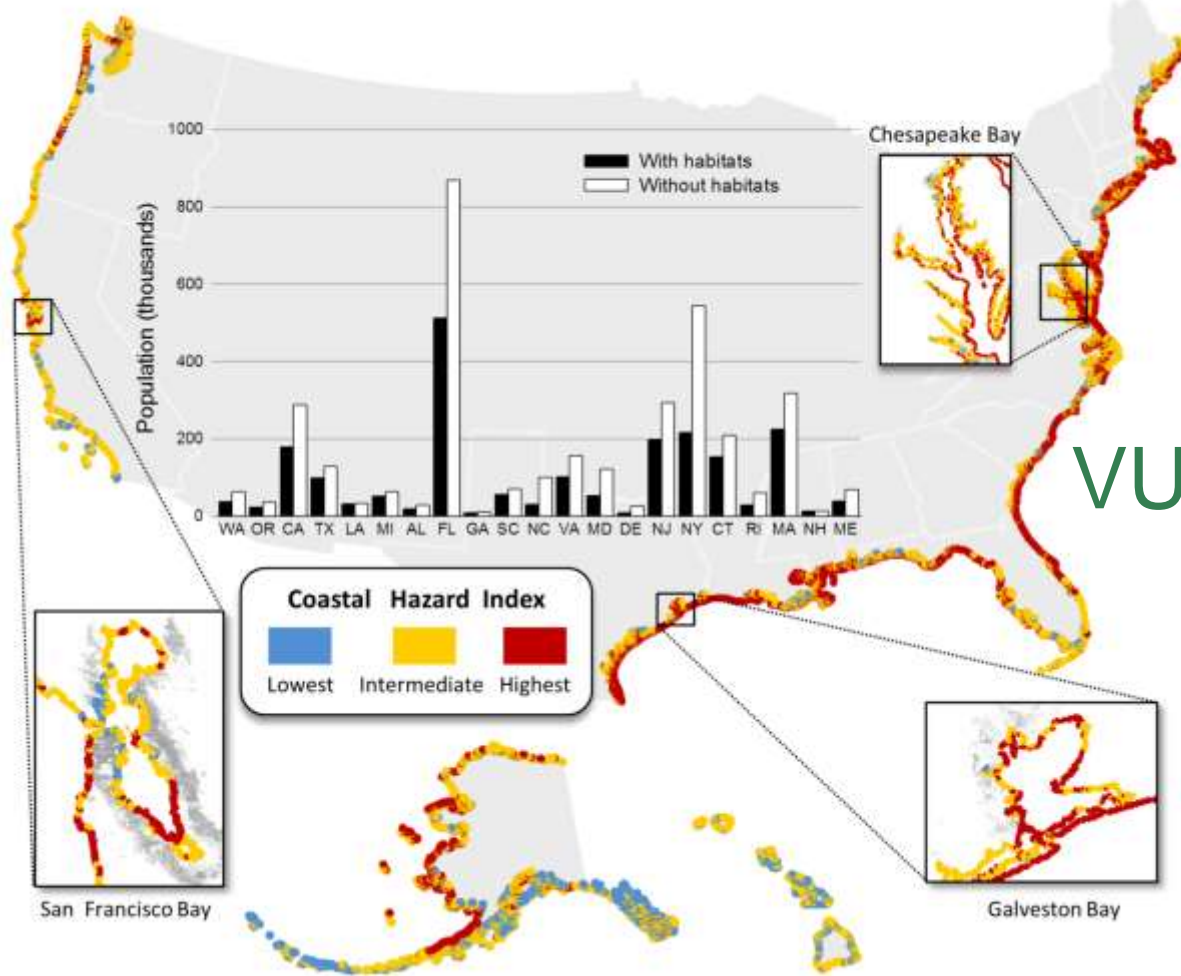
integrated valuation of
ecosystem services
and tradeoffs

Arkema et al., Nature Climate Change 2013

EXPOSURE



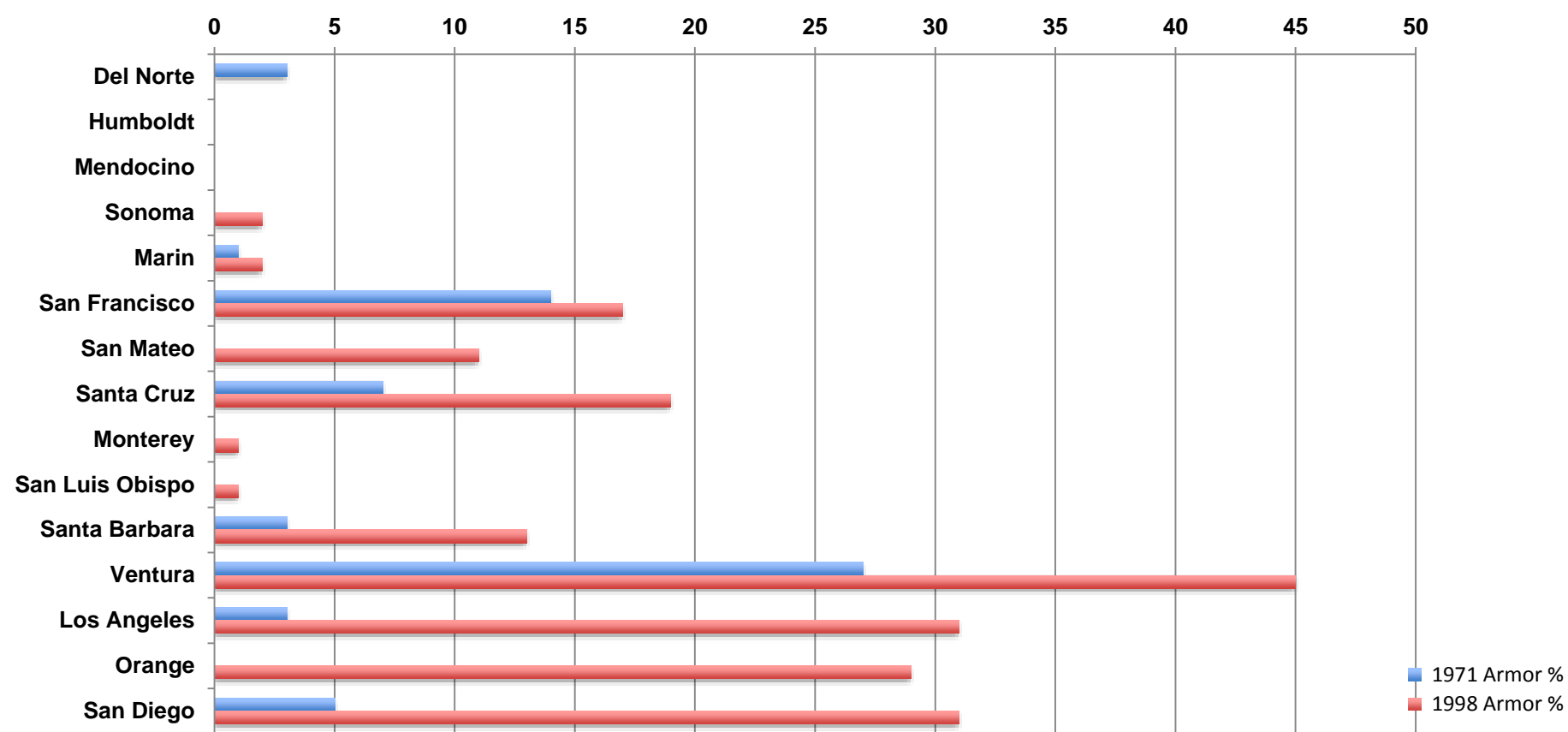
VULNERABILITY



Coastal habitats halve the # of

- people
- poor families
- elderly
- value of property

most exposed to hazards





Encinitas, San Diego County



Salmon Creek, Sonoma County



- When and where can we rely on natural habitats to reduce the impacts of coastal hazards?
- Where should we prioritize conservation and restoration for maximal benefits to our communities?
- Where might nature-based solutions meet the least legal and political resistance?
- How can we include natural solutions in our local coastal planning updates?



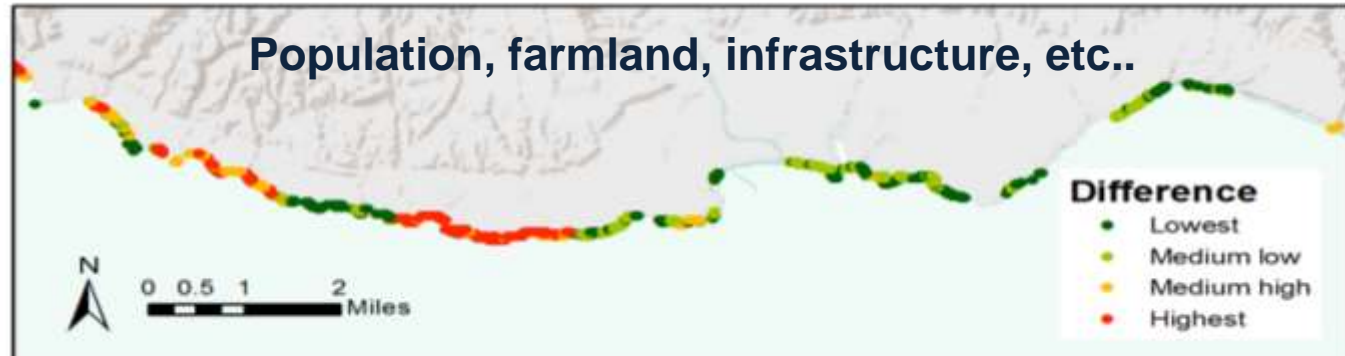
with habitats



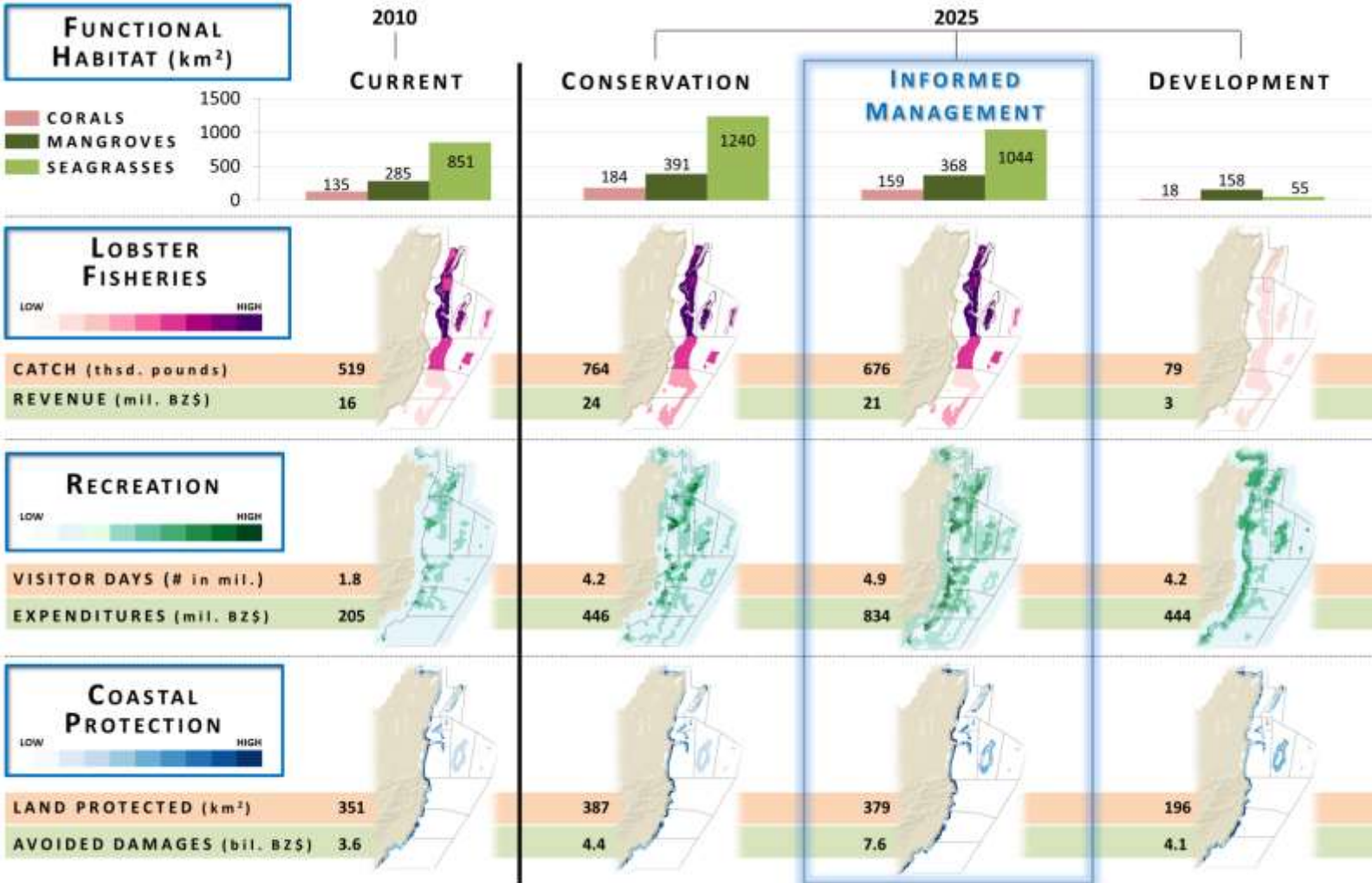
without habitats



difference

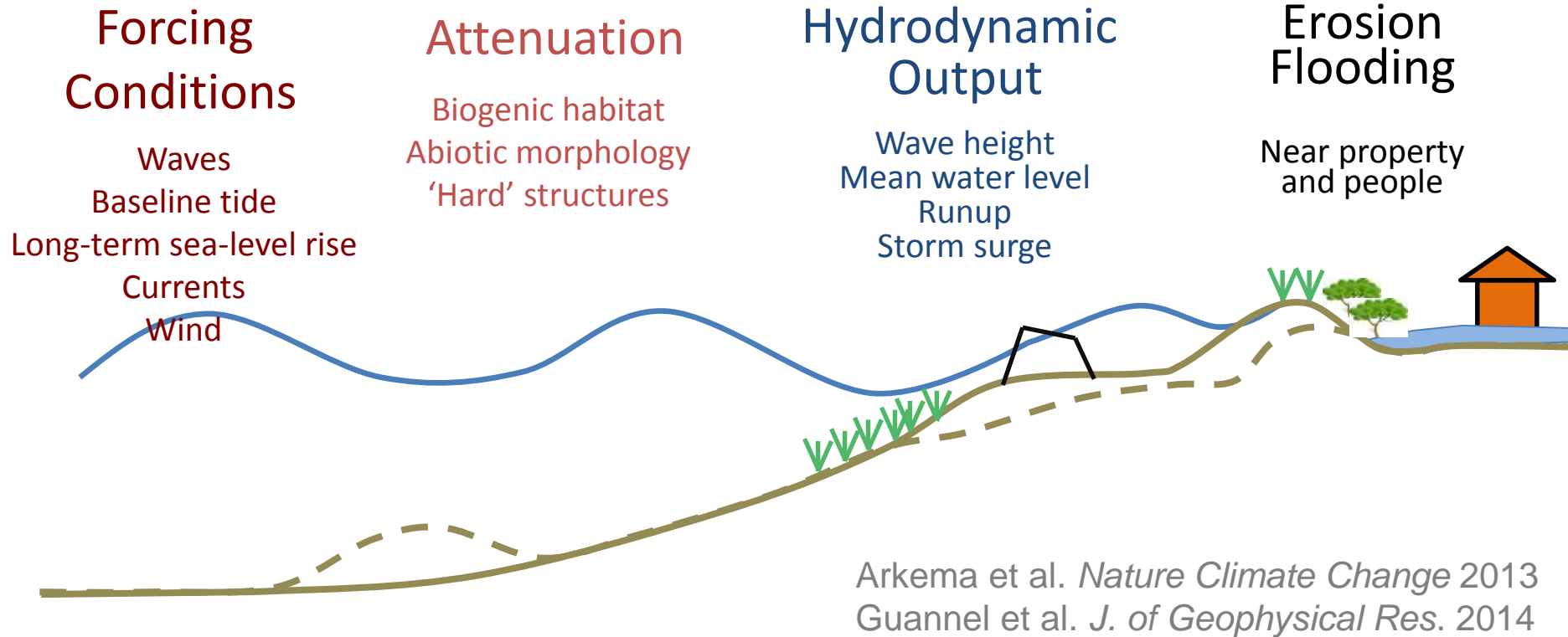






Arkema et al
2015 PNAS

Mechanistic modeling



Lessons for Transformation*



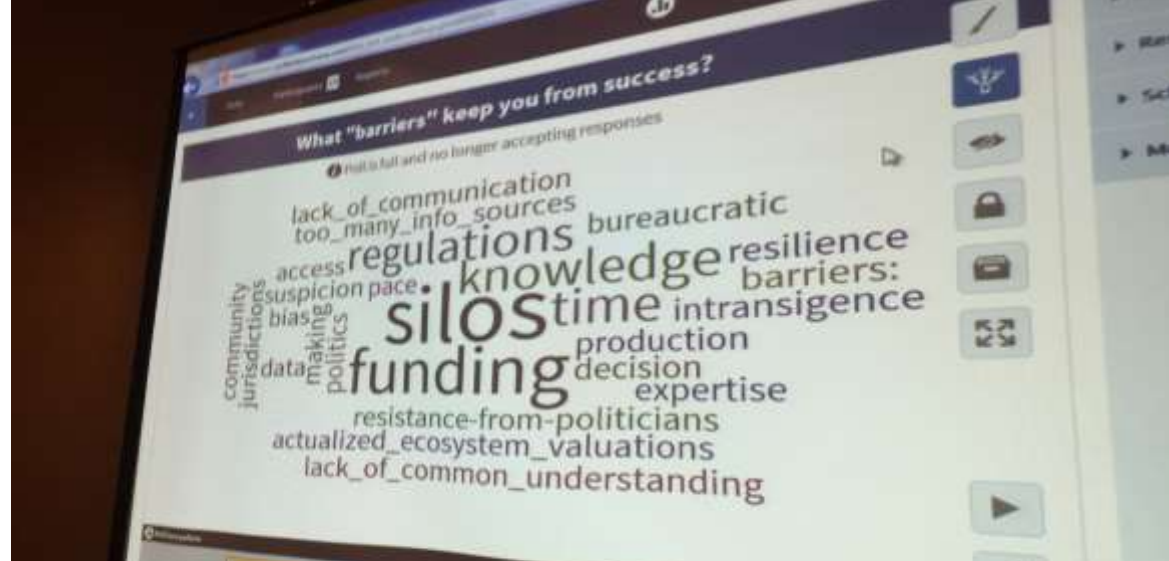
*in today's political climate

3

If you just learn a single trick, Scout, you`ll get along a lot better with all kinds of folks. You never really understand a person until you consider things from his point of view . . . until you climb inside of his skin and walk around in it.

- Atticus Finch, To Kill A Mockingbird

1. Listen



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[1a. Words
matter]

EBM = Sustainable delivery of ecosystem services

Ecosystem services are all about the things people care about...Yet too often this community gets too wonky.

Listen first. Then use approaches, metrics, and words that resonate with people.







2. Make it
easy

- Recognize your starting place
- Get actionable information into the hands of decision-makers
- Tell stories of success to inspire change



InVEST

integrated valuation of
ecosystem services
and tradeoffs





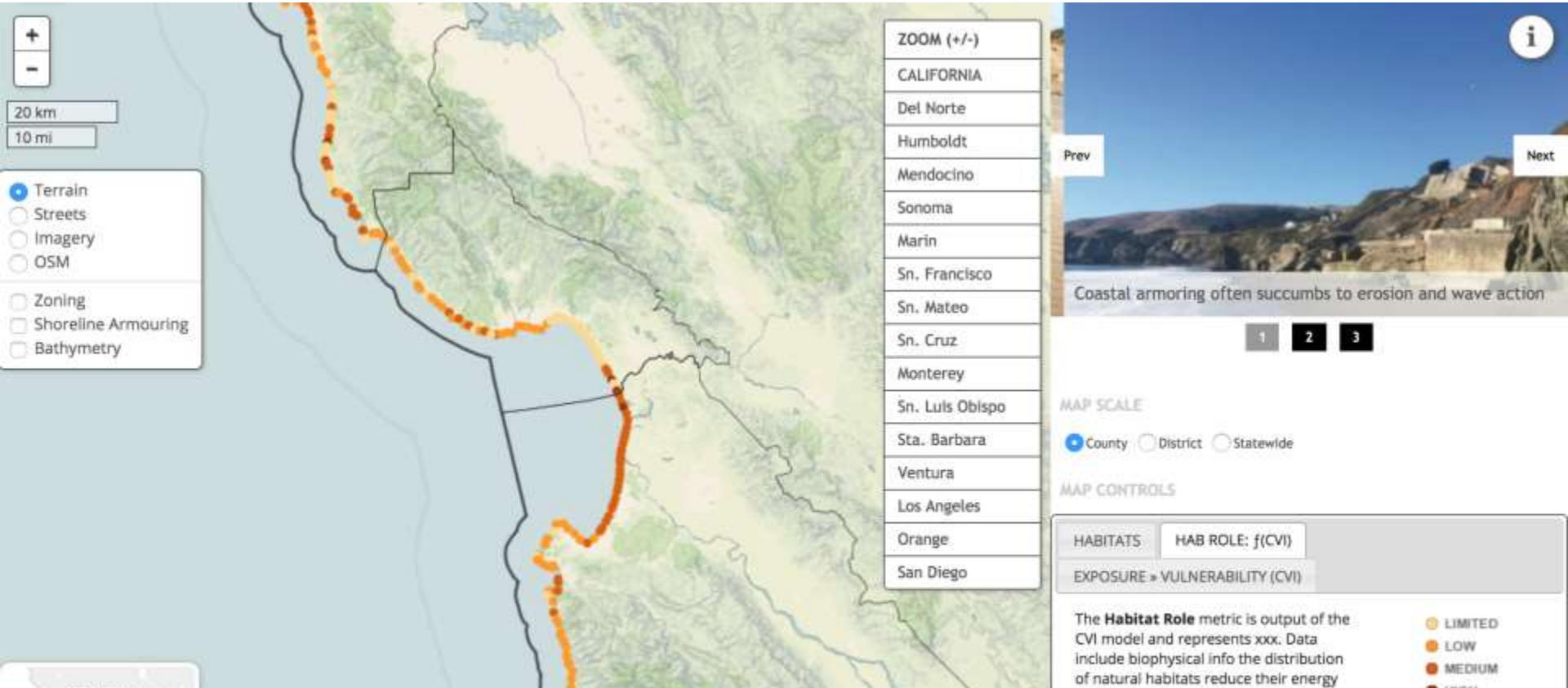
Carbon
Crop Pollination
Crop Production
Fisheries
Finfish Aquaculture
Renewable Energy
Recreation
Scenic Quality
Sediment Retention
Water Yield
Water Quality
...



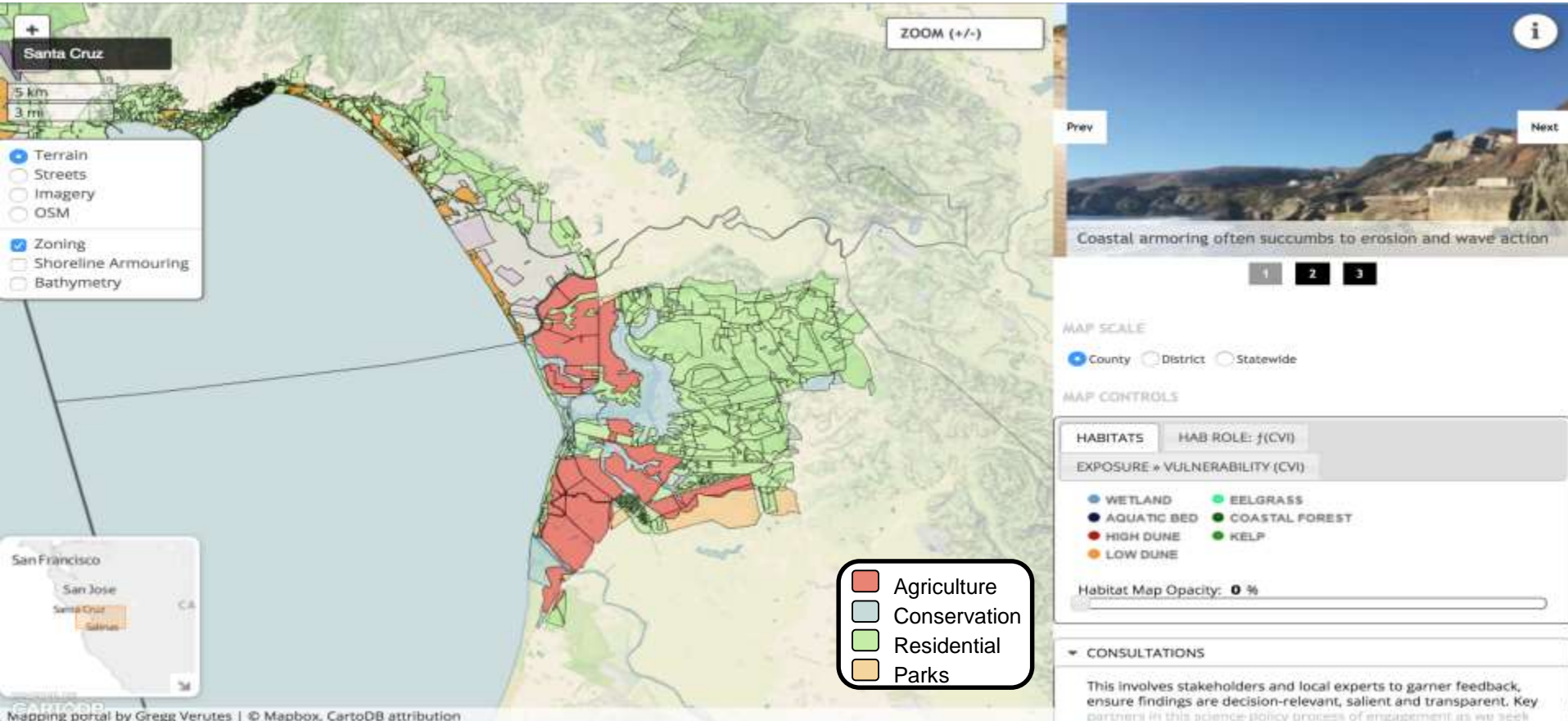
California Coastal Act - InVEST Comparision Table

CA Coastal Act Article	CA Coastal Act Section	CA Coastal Act Section Brief Title/Description	InVEST Model
Public Access	30210	Access; recreational opportunities; posting; goal is to maximize public access	Recreation and Fisheries
	30211	Development not to interfere with access	All models
	30214(a)(1), (2), (3)	Implementation of public access policies; legislative intent	Habitat Risk Assessment
	30214(a)(4)	Implementation of public access policies; legislative	Aesthetic Quality
Recreation	30220	Protection of certain water-oriented activities	Overlap Analysis Model: Recreation (Tier 0, 1) and Fisheries (Tier 0)
	30221	Oceanfront land; protection for recreational use and	Overlap Analysis Model: Recreation (Tier 0, 1) and Fisheries (Tier 0)
	30222.5	Oceanfront lands; aquaculture facilities; priority	Aquaculture Models: (both finfish and shellfish models) (Tier 1)
	30223	Upland areas	Overlap Analysis Model: Recreation (Tier 0, 1) and Fisheries (Tier 0)
	30224	Recreational boating use; encouragement; facilities	Overlap Analysis Model: Recreation (Tier 0, 1) and Fisheries (Tier 0)
Marine Environment	30230	Marine resources; maintenance	All models
	30231	Biological productivity; water quality	All models
	30233	Diking, filling or dredging; continued movement of sediment and nutrients	All models
	30233 (a)(1)	Diking, filling or dredging; continued movement of sediment and nutrients (new or expanded port, energy, and coastal dependent industrial facilities)	Renewable Energy (wave)
	30234	Commercial fishing and recreational boating facilities	Overlap Analysis Model: Recreation (Tier 0, 1) and Fisheries (Tier 0)
	30234.5	Economic, commercial, and recreational importance of fishing	Overlap Analysis Model: Recreation (Tier 0, 1) and Fisheries (Tier 0)

Statewide viewer



Statewide viewer



3. Seize opportunities

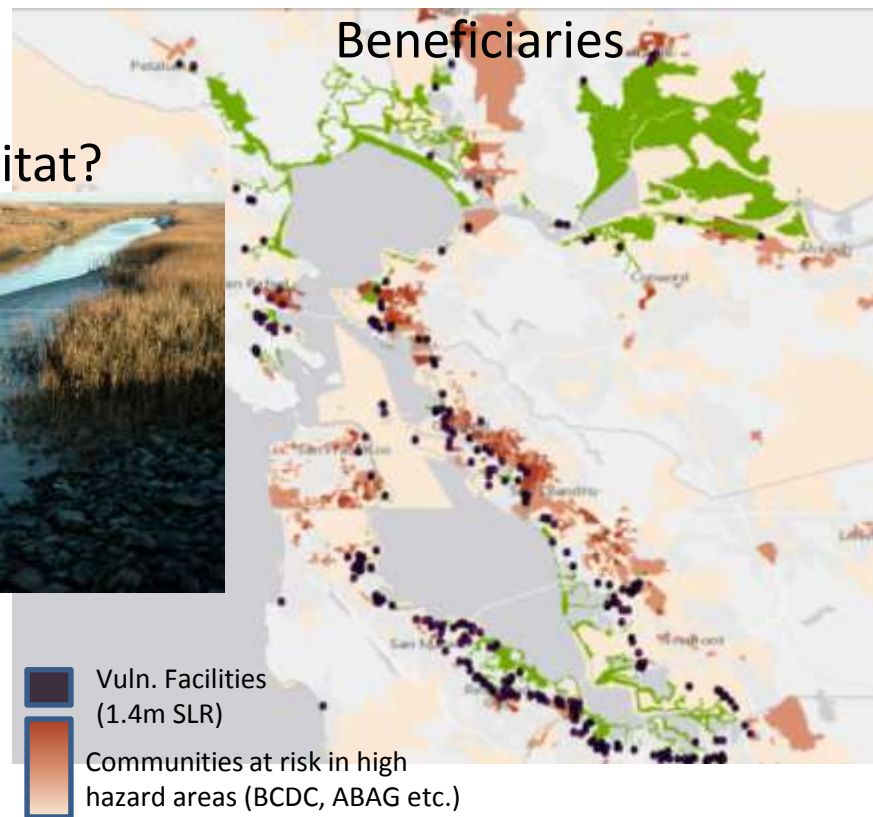




Where will restoration efforts be the most beneficial to people, property, and infrastructure?



A role for habitat?



Marsh

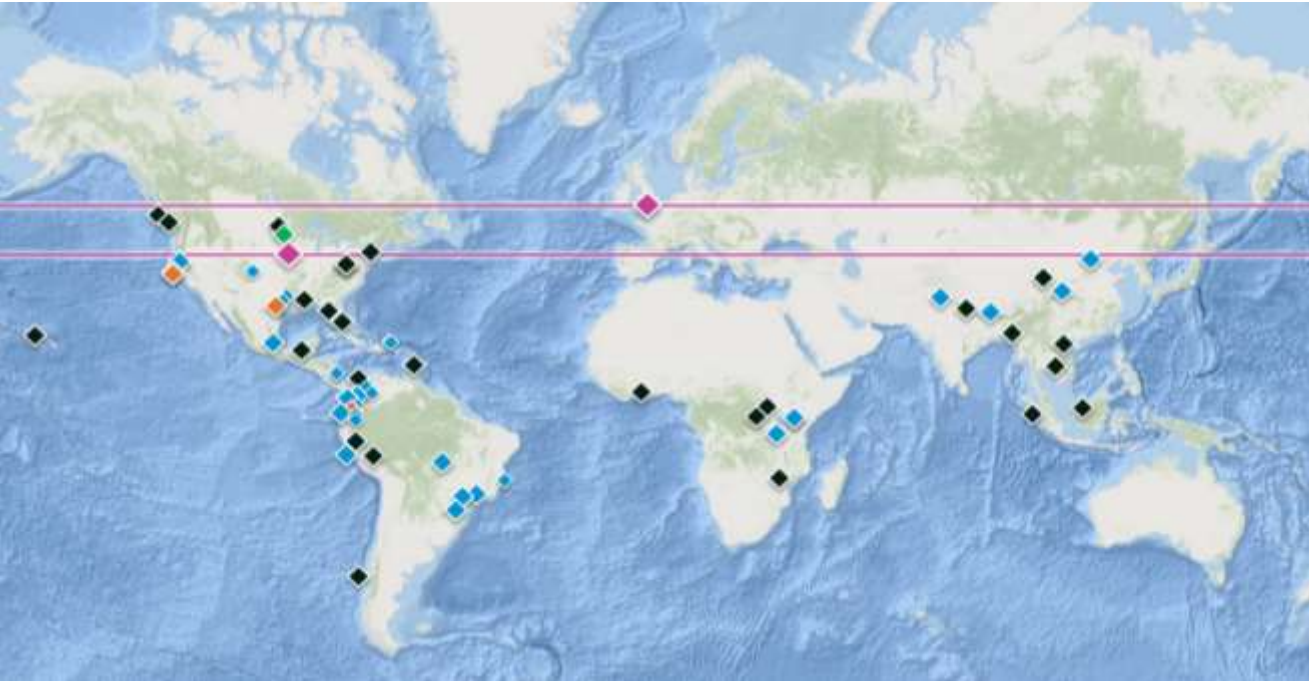
1.4m SLR inundation (COSMOS, OCOF, etc)

US Federal Government is changing,
but there will be bright spots,
opportunities. Look for them, grab
them.

Also, work at other levels—state and
local governments, private sector,
multi-laterals, NGOs, public-private
partnerships...



Where we work



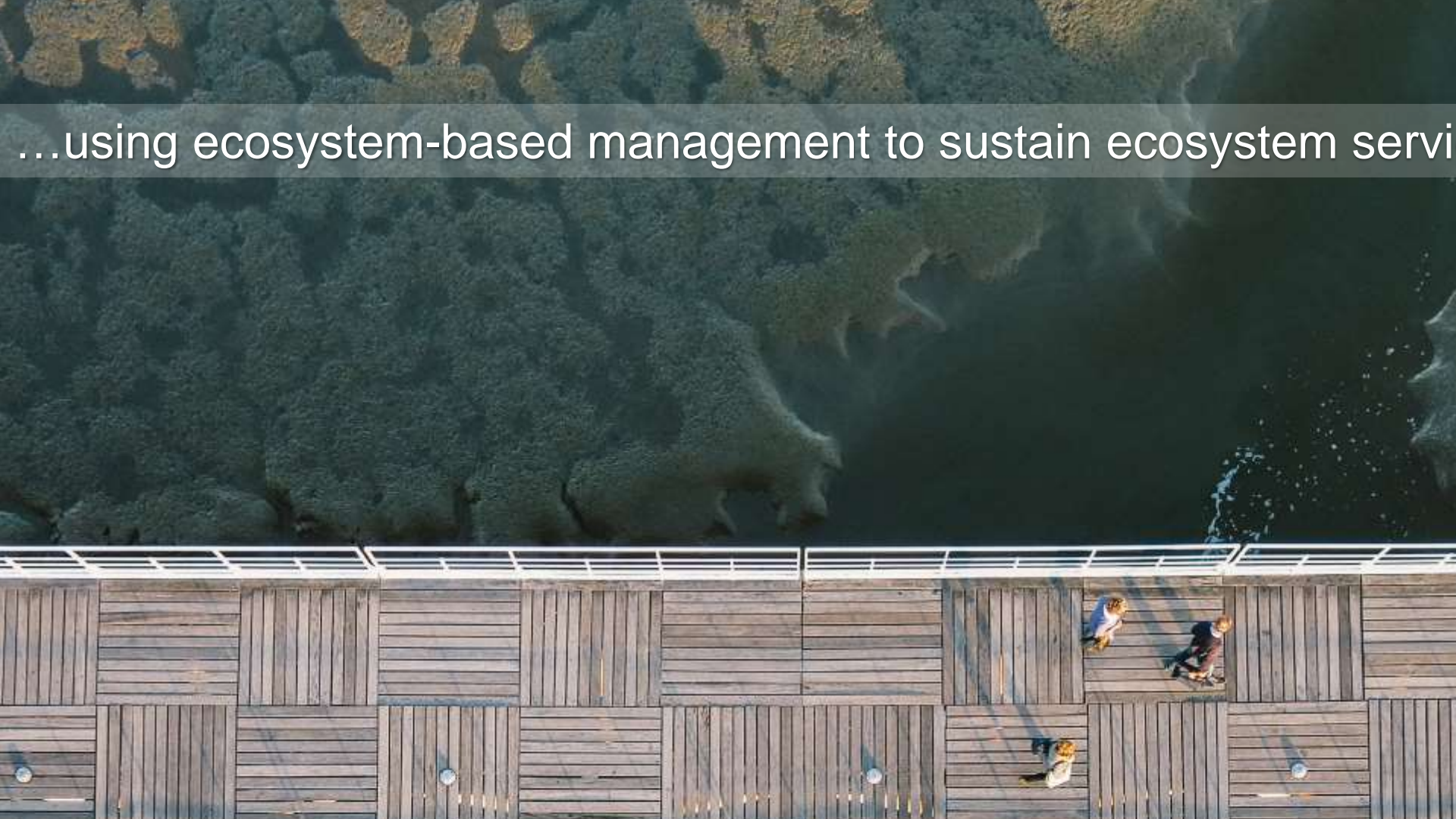
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A full-page photograph of a shepherd in a hat and jacket herding a large flock of white sheep in a grassy field. A small black and white dog is also visible. The background features rolling green hills and dense forests under a hazy sky. A semi-transparent grey banner is overlaid across the middle of the image.

improve the well-being of people and nature

...using ecosystem-based management to sustain ecosystem servi



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