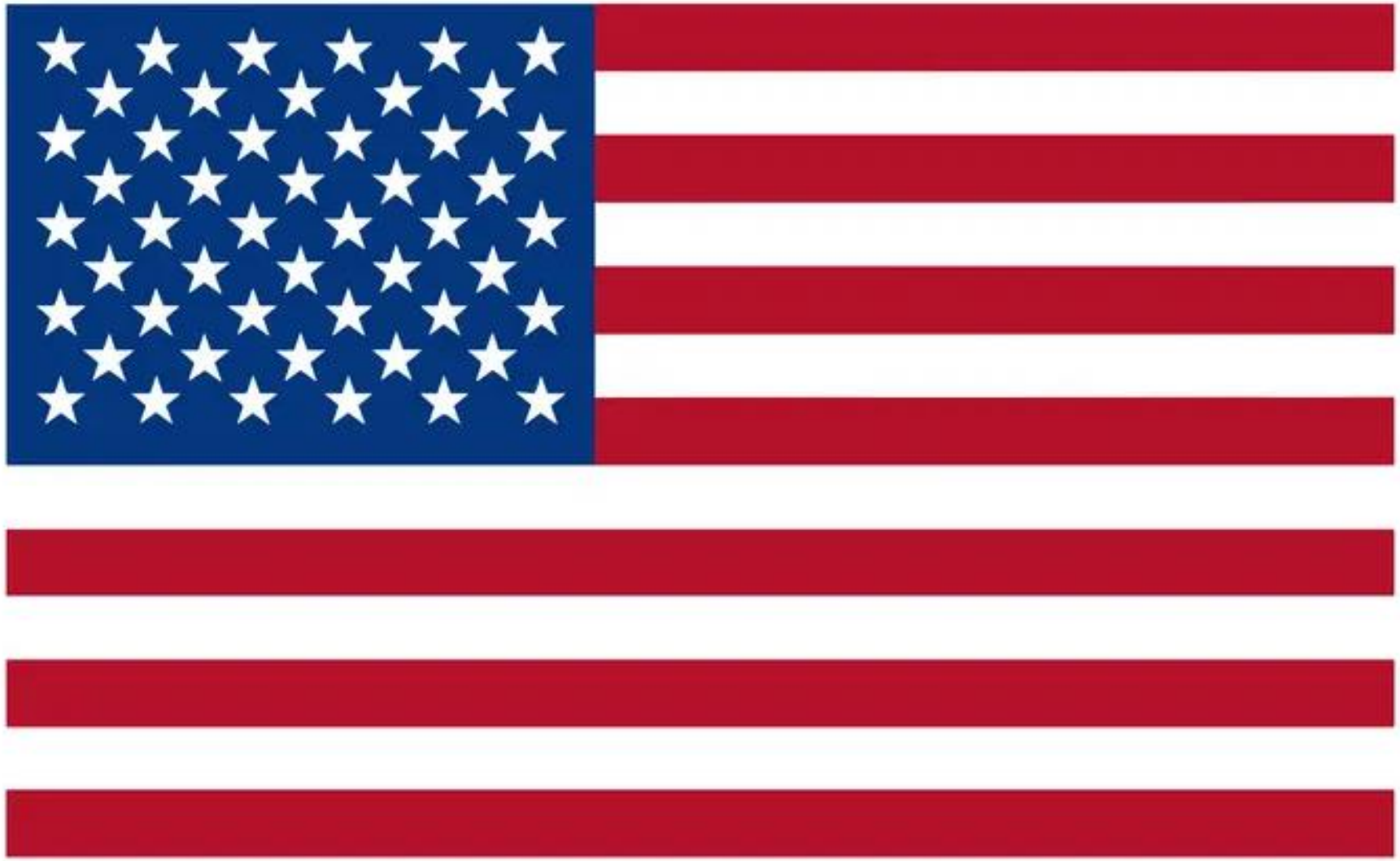
South Orange County Beach Coalition

March 18, 2026

OC Sailing & Events Center

Katrina Foley
Supervisor - Fifth District



II. Roll Call

III. Land Acknowledgement

Orange County is within the unceded traditional territory of the Acjachemen and Tongva Peoples. The Acjachemen share territory with their relatives and neighbors: Tongva to the north and south to Newport Beach as well as the Luiseño to the east and south.

These native peoples are still here and remain as Nations with international relationships. With this acknowledgment, we pay respect to and honor the original traditional stewards of what is now known as Orange County, the Acjachemen and Tongva past, present, and future.

IV. Consent Calendar

A. Minutes February 18, 2026

V. Discussion Items

OC Beach Coalition

Anteater Tracks

Date: 3/18/2026

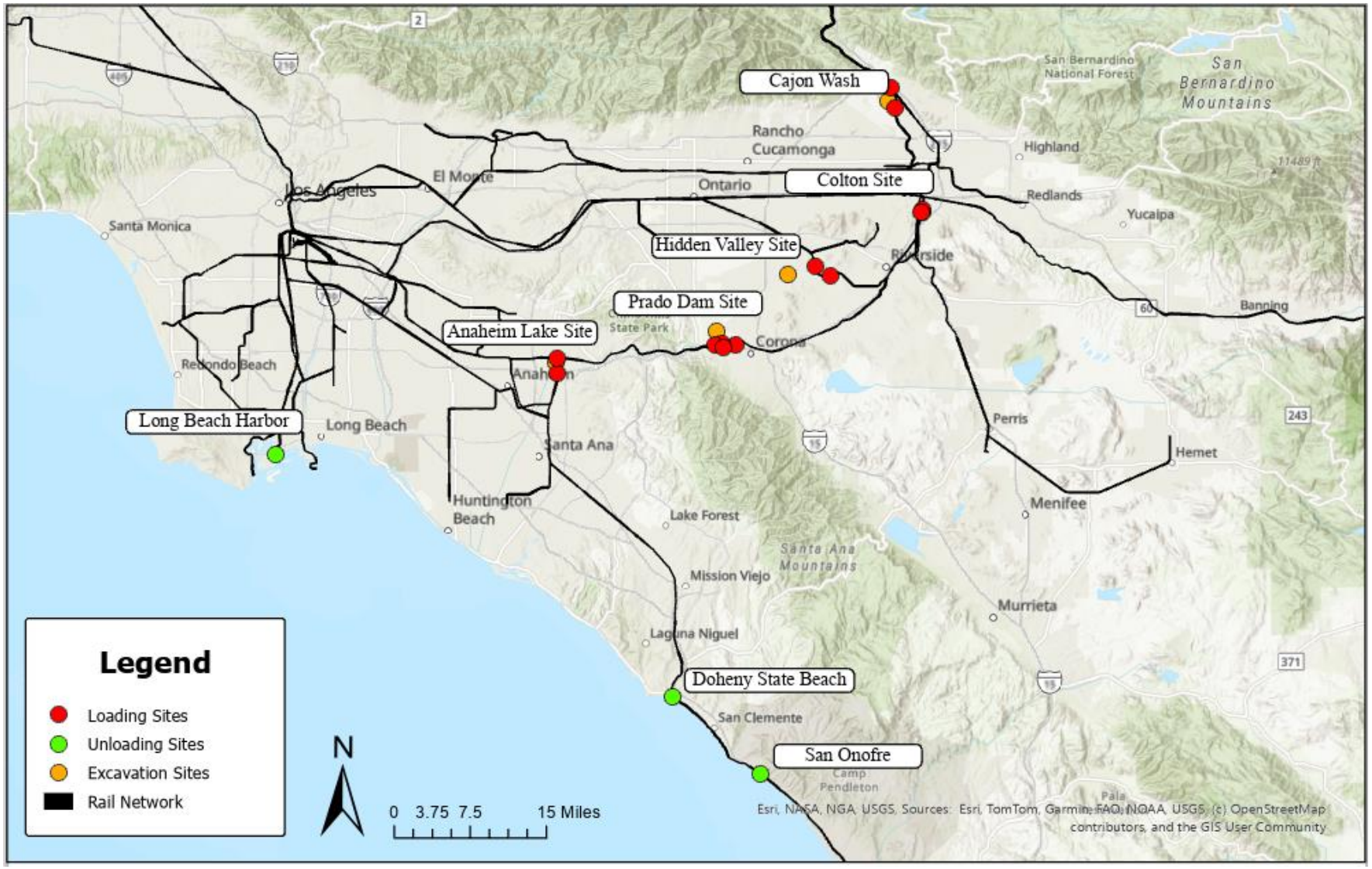
Agenda

Sediment by Rail Feasibility Assessment

OCWD is collaborating with the UCI M.Eng Team to evaluate Sediment removal strategies from the Prado Dam and along the Santa Ana River. Providing sand to the coastal communities by rail where beach nourishment is needed.

A Quick Thank You

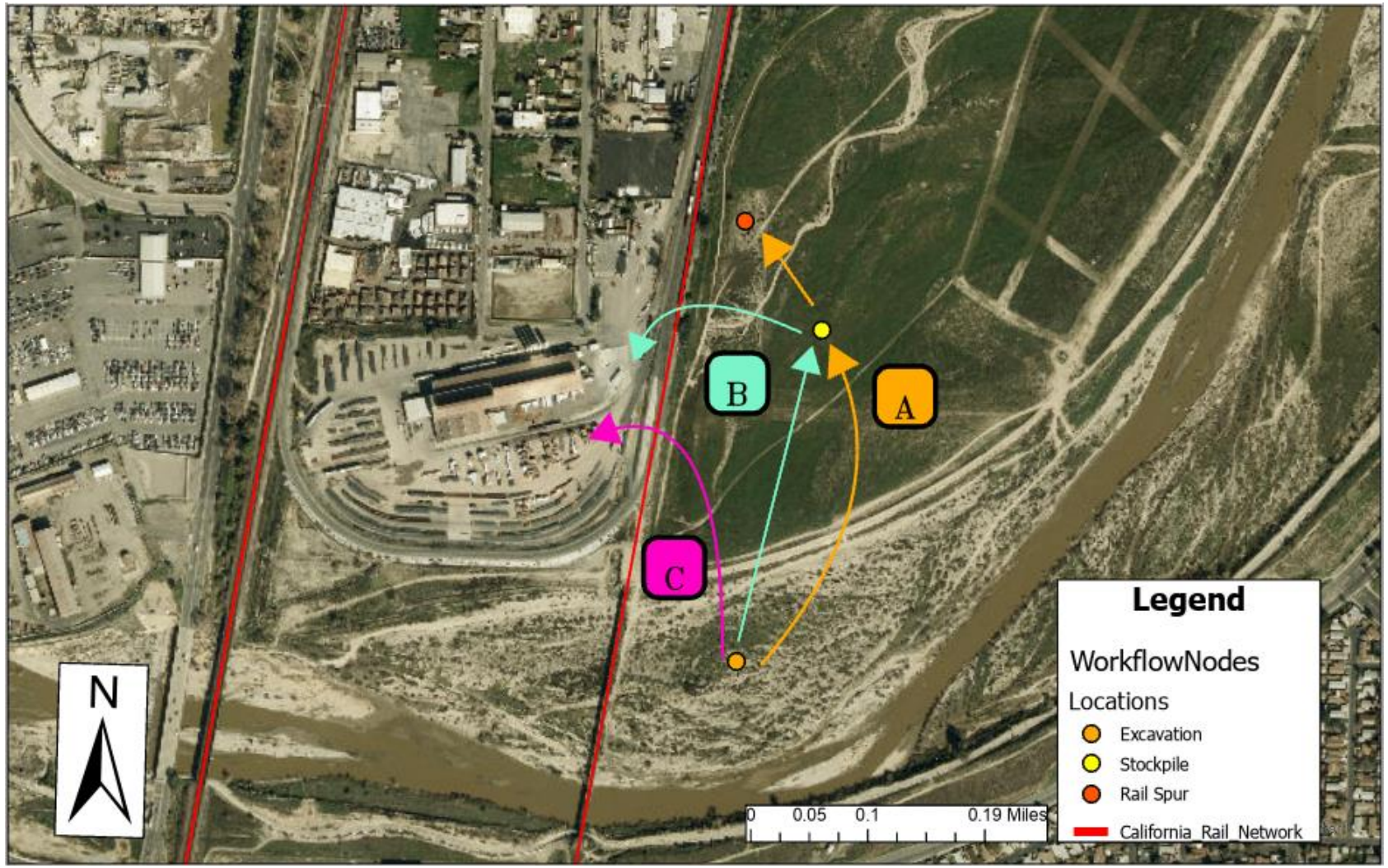
Overall Plan

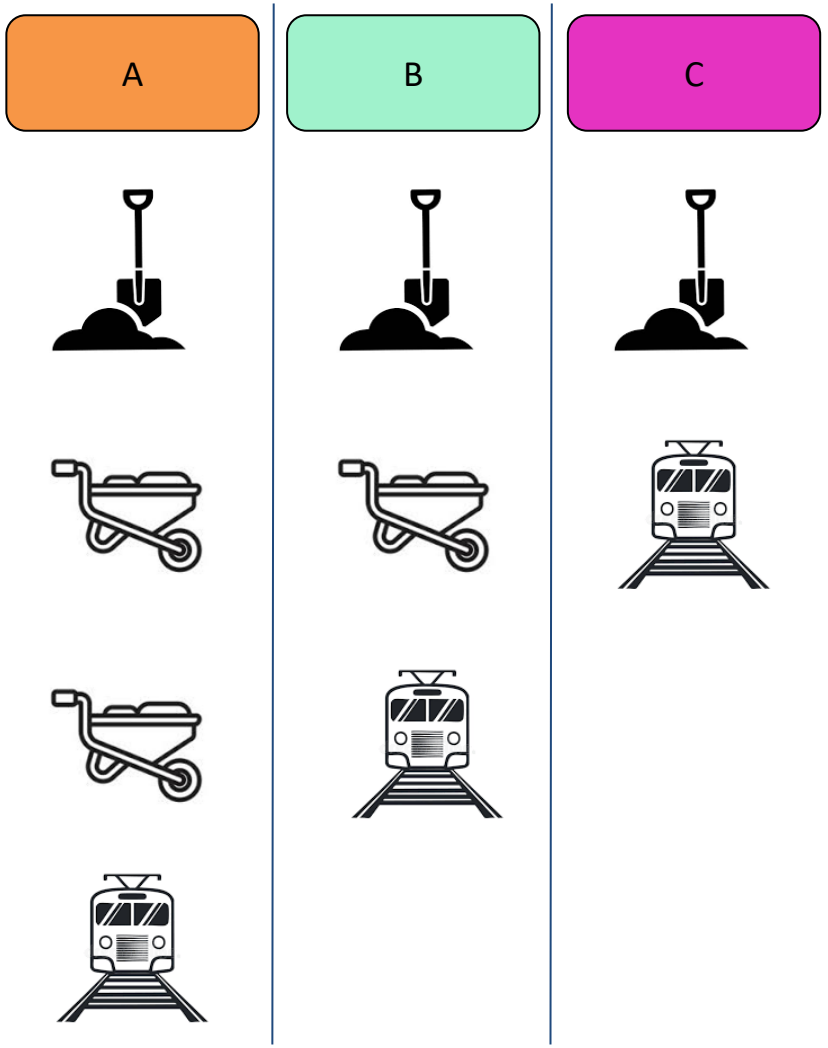


Overall Plan

Excavation	Loading	Transportation	Unloading
			
5 Sites Roughly 1,500,000y^3 sediment available this year	12-17 Sites (Stockpile/Staging, Already Owned Rail Spurs, Potential Rail Spurs)	3-5 Methods (Rail, Trucking, Conveyor, Slurry Pipeline)	1-3 Sites Potential methods - Atop beach - In Ocean - Slurry Cannon

Upstream Site Example - Colton





SCENARIO COMPARISON COLTON

Scenario	A	B	C
Sediment Trap (y^3)	150,000	150,000	150,000
Tradeoffs	Controllable schedule, excavation. More infrastructure.	Controllable excavation. Unpredictable schedule	Highest upside for cost. No control.
Constraints	Cost	Value	Reliability
Rail	**Build Rail Spur** (Transport at own site)	**Borrow Rail Spur** (Rent from existing)	**Borrow Rail Spur** (Rent from existing)
Excavation	Constant	May decrease due to private rail spur	May decrease due to private rail spur
Equipment (Crew Size)	3	1-3	1-3
Stockpile (y^3)	150,000	150,000	**0**
Cost Estimate Up Front	$11m-14m	$8m-10m	$7m-9m

NOTE: Relative Cost will increase for Scenario C due to less cars per travel.

Upstream Constraints - General

- Control District → Project Permitting
- Santa Ana Sucker fish → Project Permitting
- Least Bell's Vireo → Project Timeline/Permitting
- Storm Season → Project Timeline

Downstream Site Example - Doheny Beach

Downstream Site Example - Doheny Beach

Spoke with Professionals in Rail Industry.

- Permitting (Parking Lot, Below Grade)
- Scheduling (Ideal work hours due to tourism)

Future Direction

Excavation/ Loading

- Rail based transportation pays off over longer relative distances. Our goal is to provide a comparison model between the benefits of rail, and the transload costs that come with the transportation method.
- Ideally reduce trucking costs and therefore transload costs via conveyor or effective planning.

Unloading

- Conduct economic analysis comparing unloading methods.
- Map rough designs at downstream sites based on unloading methods.

Thank you

COASTAL FRONTIERS

South Orange County Shoreline Condition Overview

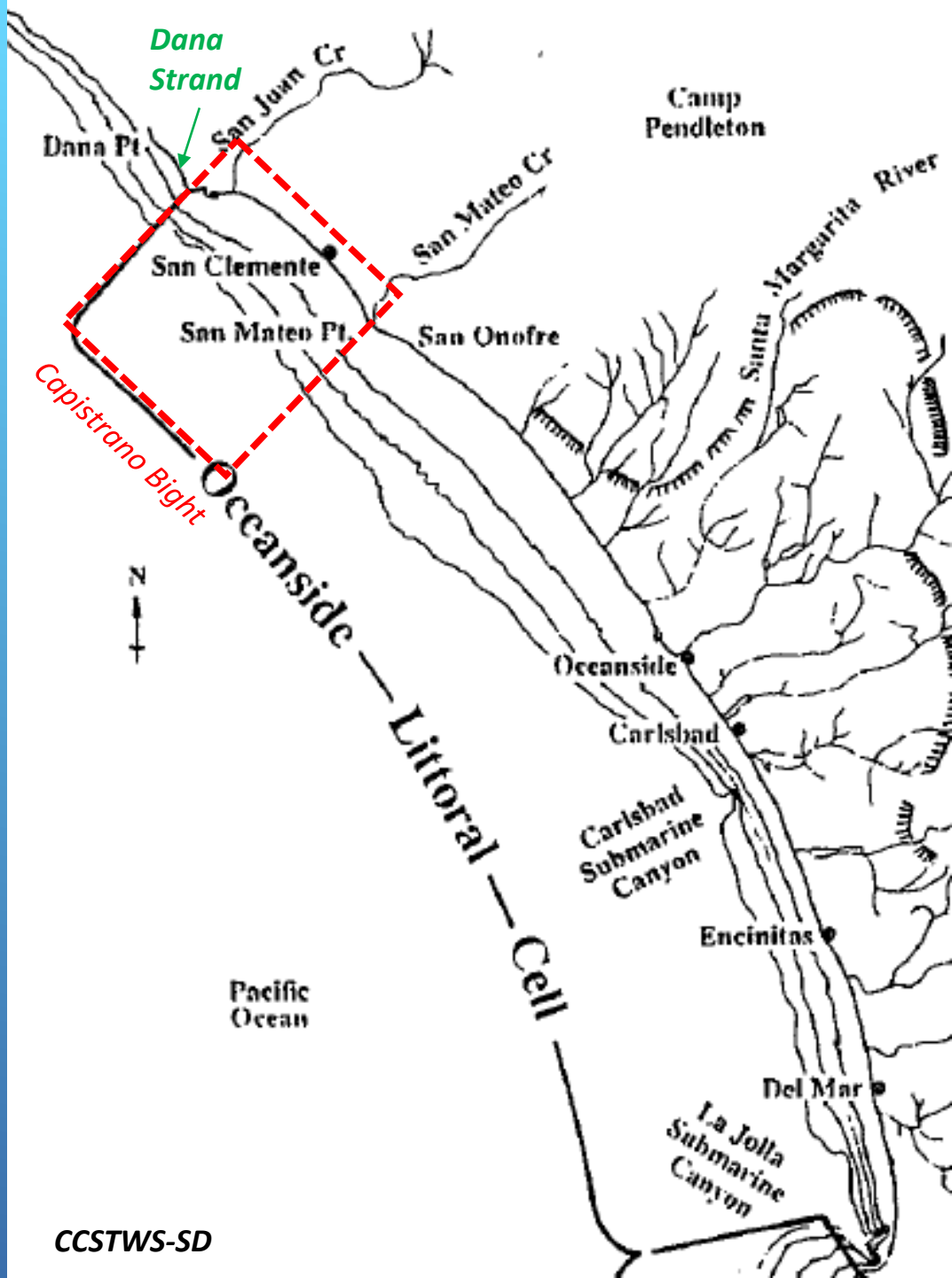
South Orange County Shoreline Coalition

Overview

1. Background
2. Shoreline Monitoring Programs
   - Nigel Shores/Dana Strand
   - Capistrano Bight
3. Findings
   - Fall 2025 Condition
   - Long-term Shoreline Evolution
4. San Clemente OSSI Overview

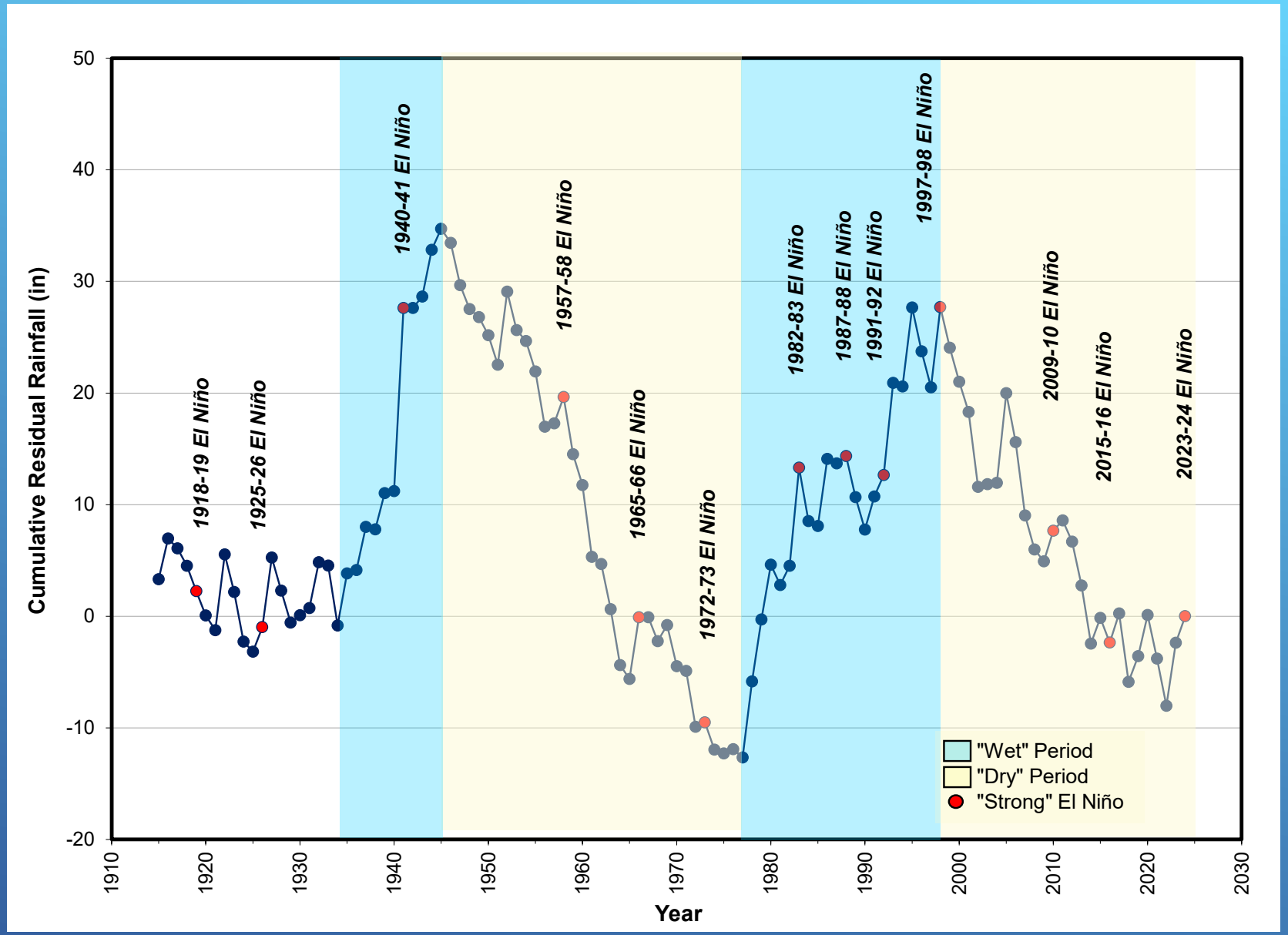
Regional Setting

- **Dana Strand**
  - Laguna Sub-cells
  - *Pocket Beach*
  - *< 1 mile of shoreline*
- **Capistrano Bight**
  - North End of Oceanside Littoral Cell
  - *Dana Point to San Mateo Point*
  - *~ 7.5 miles of shoreline*
  - *Multiple Jurisdictions/Stakeholders*
- **Highly Developed Shoreline**
- **Limited Natural Sediment Supply**
- **Infrequent Beach Nourishment**



CCSTWS-SD

Precipitation Trends



Beach Nourishment

Historical (pre-1970)

- 1,300,000 cy - San Juan Creek
- 900,000 cy - Camp Pendleton Terrace Deposits
- 125,000 cy - Dana Point Harbor

Recent (2000-Present)

- 57,000 cy – North Beach (2005, 2016, 2024, 2025)
- 65,000 cy – Doheny/Capo Beach (2023, 2024)
- 196,000 cy – USACE San Clemente (2024)

Planned (2026 +)

- 251,000 cy every 6 years – USACE
- ~540,000 cy – OCTA
- 1,600,000 cy – SANDAG RBSP III

Shoreline Monitoring Programs

Measure Changes in Shorezone

- 4 Sites (Nigel Shores/Dana Strand)
- 12 Sites (Doheny to Cotton's Point)
- Fall and Spring Beach Profile Surveys

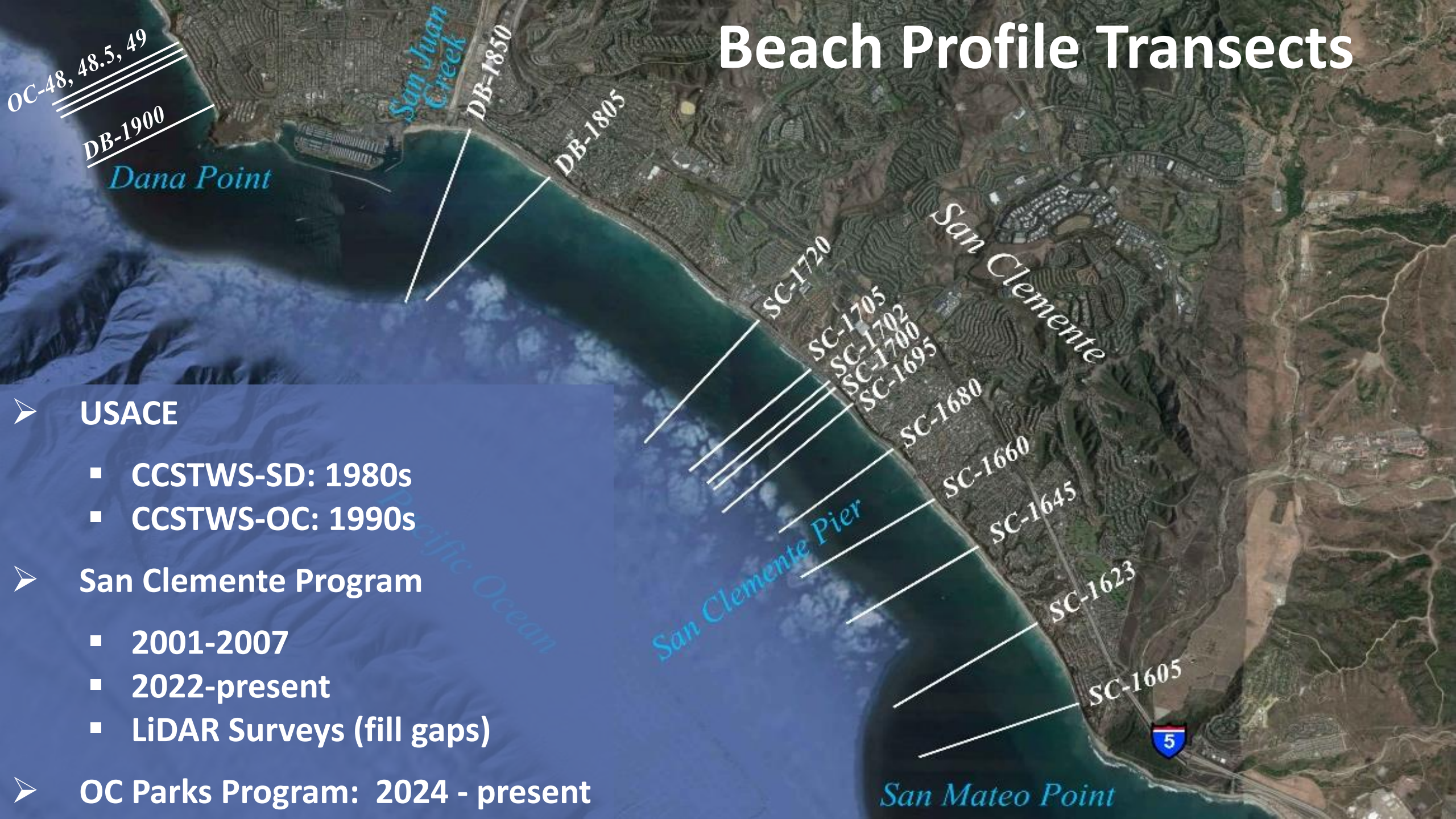
Evaluate and Plan Shoreline Projects

- USACE Nourishment
- Opportunistic Nourishment
- Nature-based Adaptation
- SANDAG RBSP III
- OCTA ROW & Facilities Planning Study
- Nigel Shores Revetment

Document Impact of Natural Events

- El Niño
- SLR

Beach Profile Transects



- **USACE**
  - CCSTWS-SD: 1980s
  - CCSTWS-OC: 1990s
- **San Clemente Program**
  - 2001-2007
  - 2022-present
  - LiDAR Surveys (fill gaps)
- **OC Parks Program: 2024 - present**

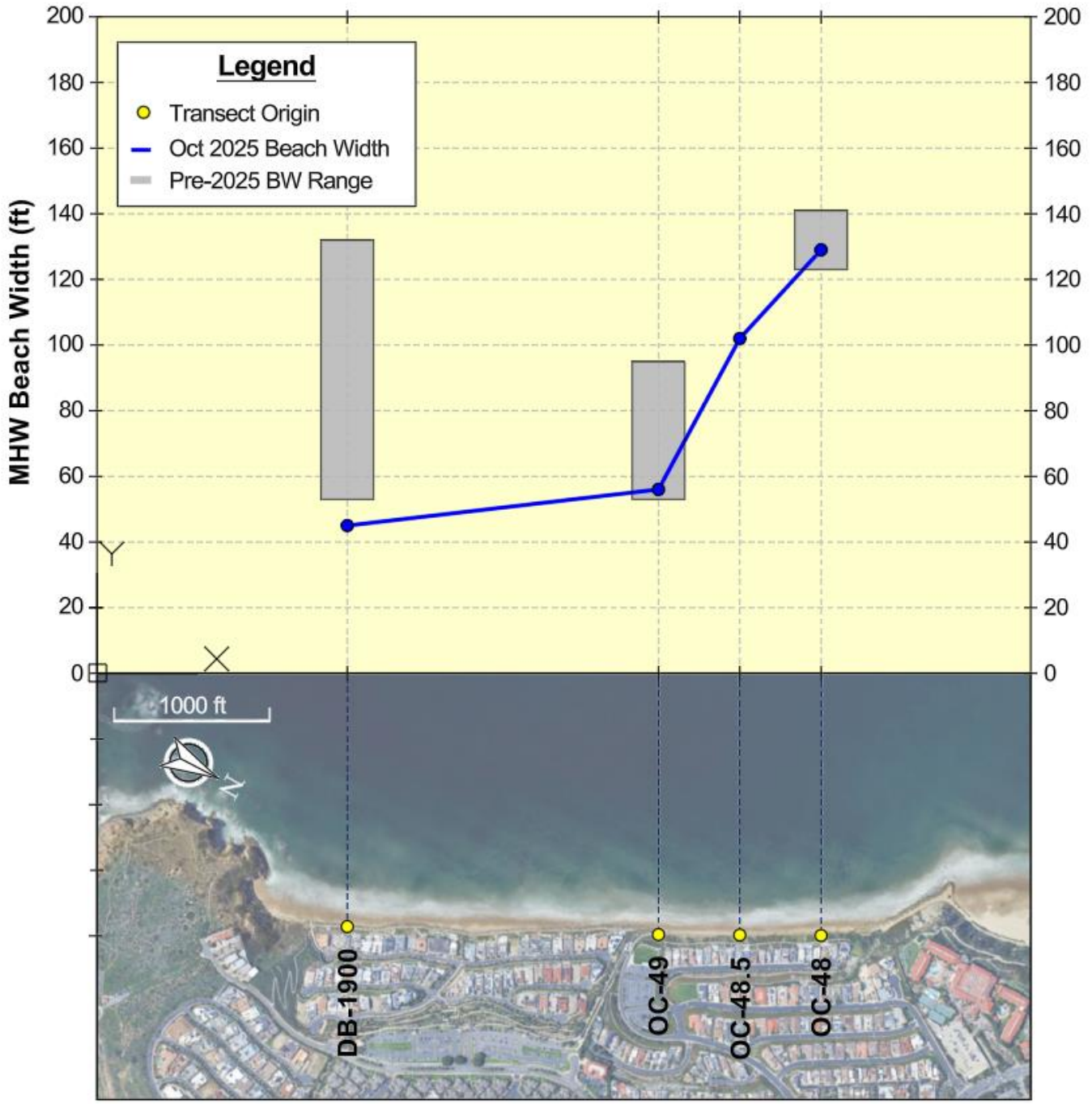
Beach Profile Survey

Findings

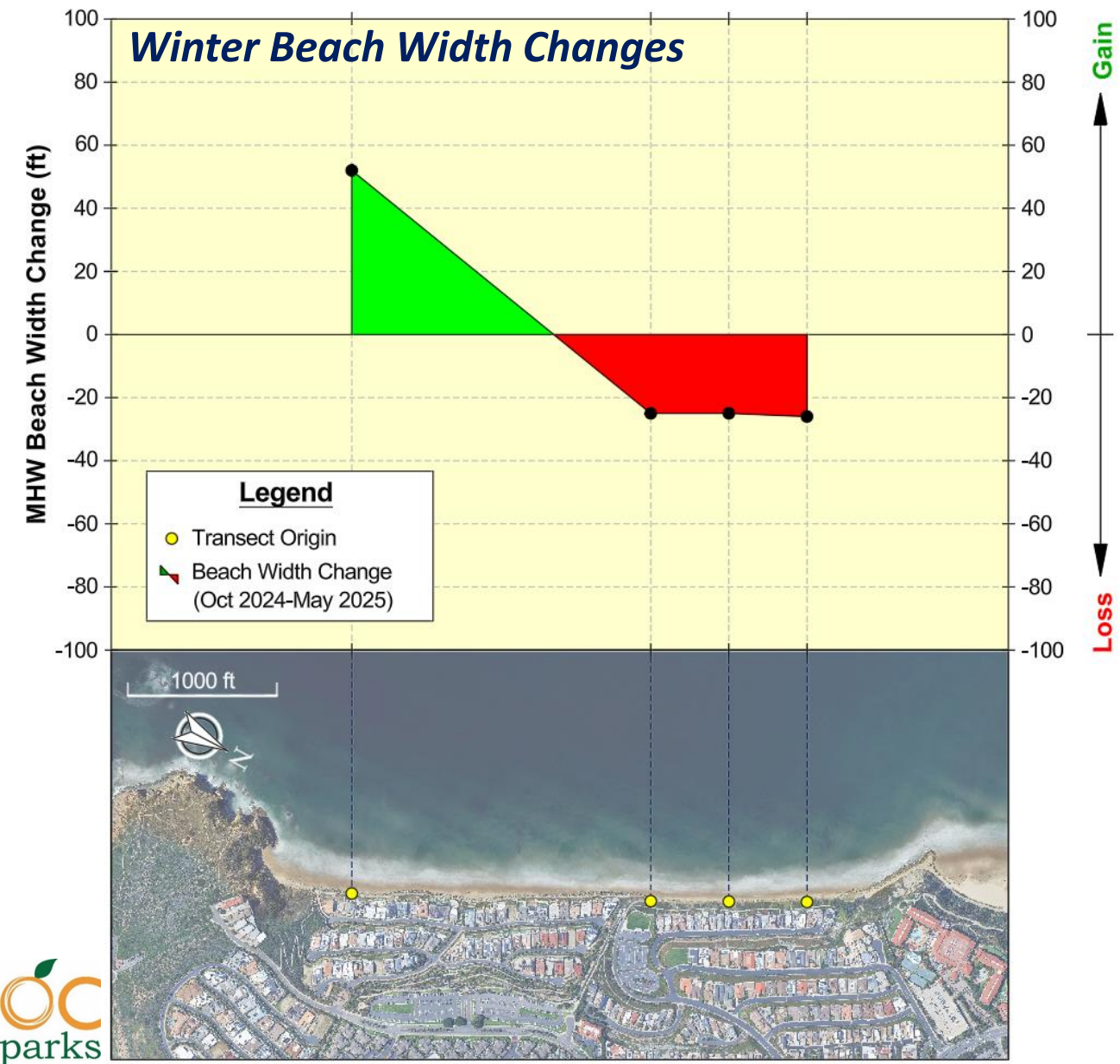
- Fall 2025 Condition
- Long-Term Shoreline Evolution

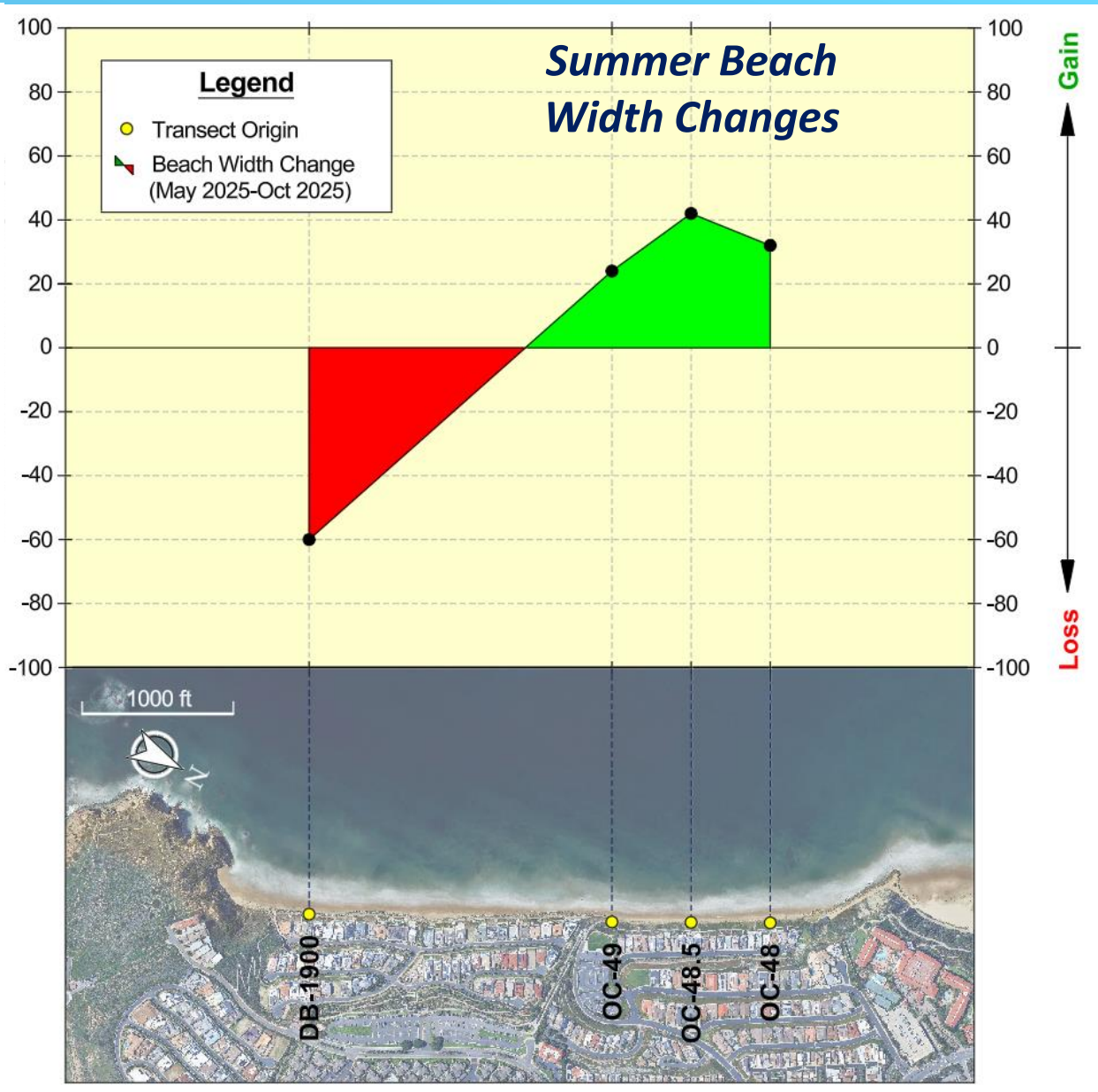
Fall 2025 Beach Widths
Dana Strand

- **Range: 45 ft to 129 ft**
- **Near Historical Minimums:**
  - **DB-1900**
  - **OC-49**
- **Average:**
  - **OC-49**



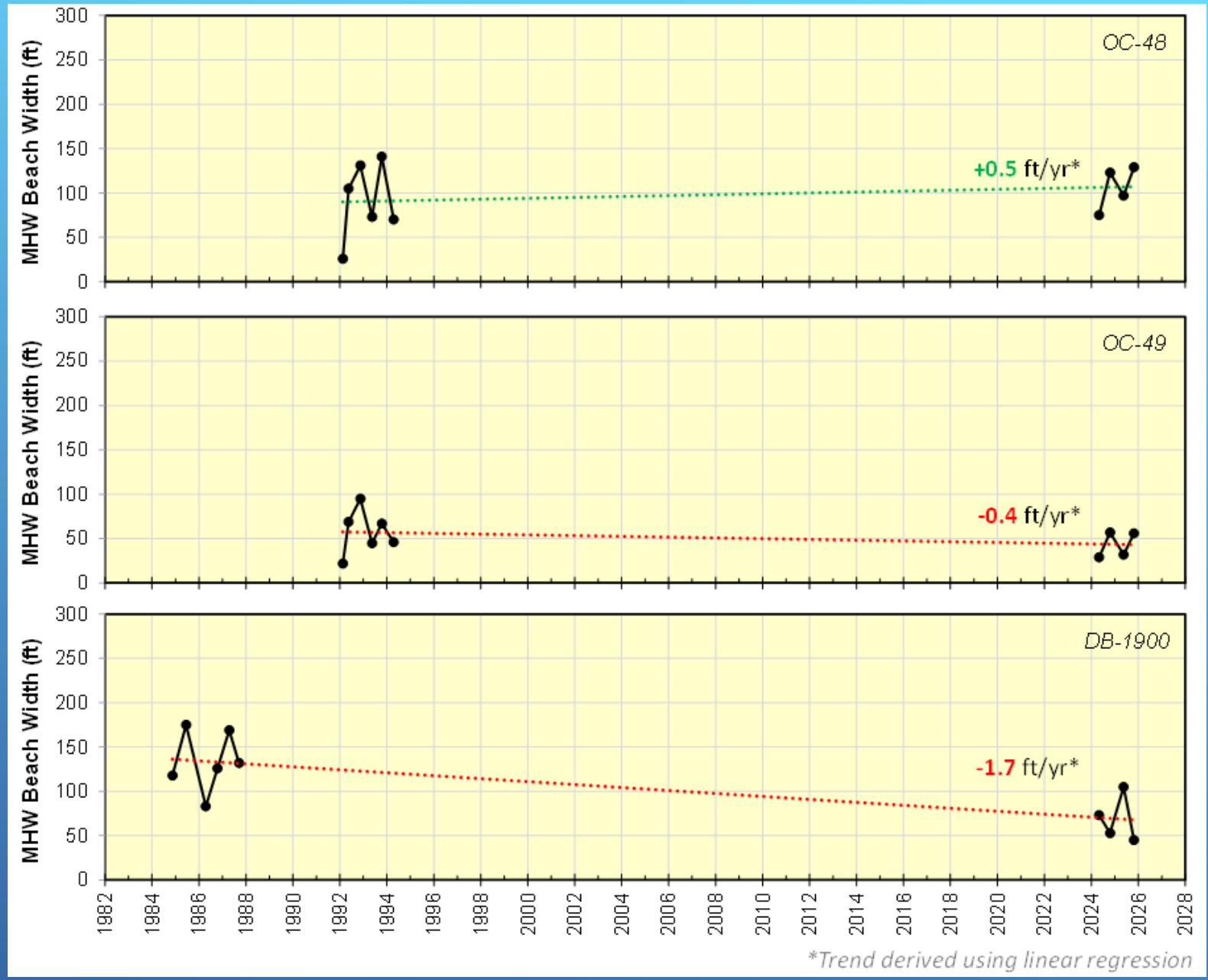
Seasonality - Dana Strand





Long-Term Changes Dana Strand

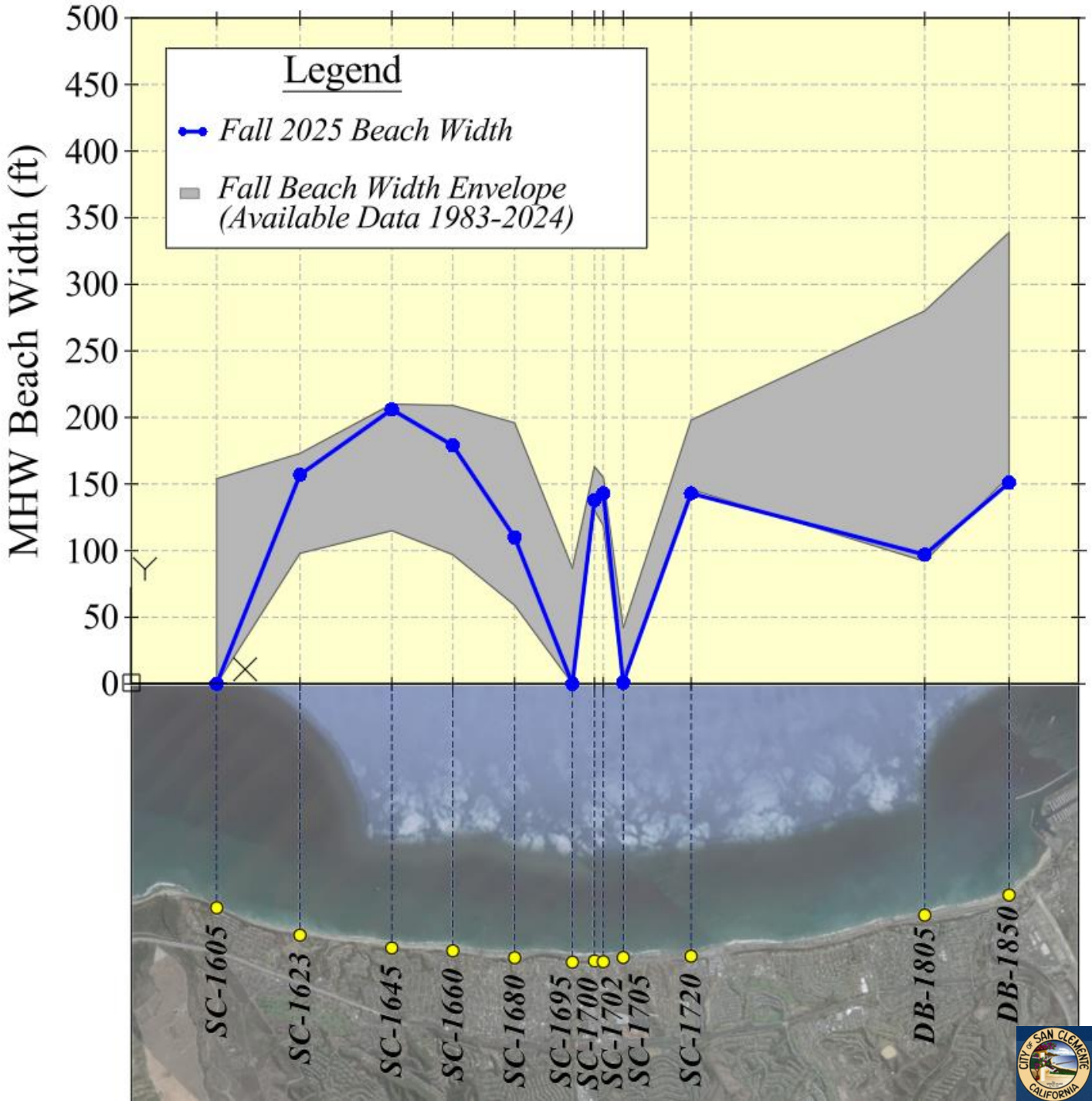
- **OC-48**
  - 2 ft net loss
  - +0.5 ft/yr
- **OC-49:**
  - 39 ft net loss
  - -0.4 ft/yr
- **DB-1900**
  - 73 ft net loss
  - -1.7 ft/yr



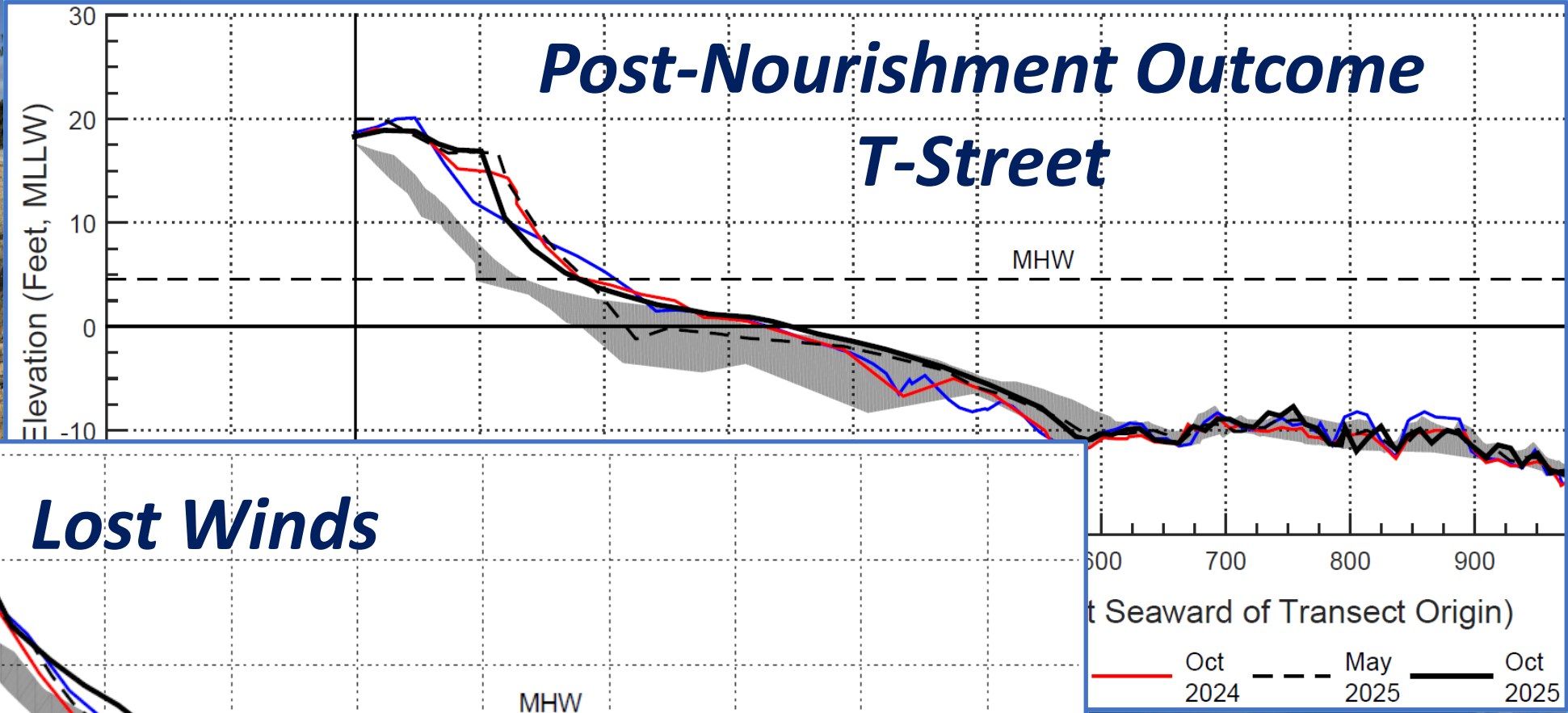
net change based on longest Fall-Fall period

Fall 2025 Beach Widths
Capistrano Bight

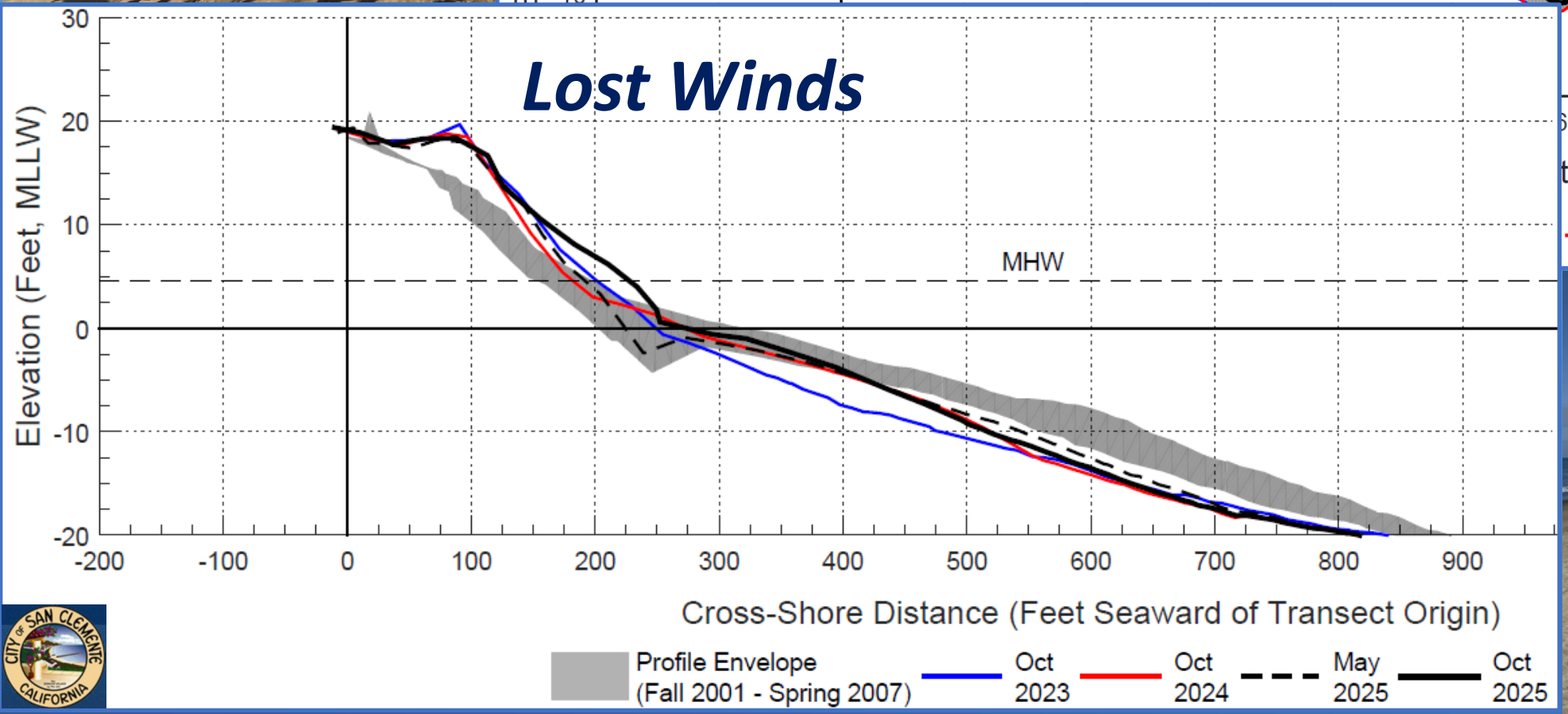
- **Range: 0 ft to 206 ft**
- **Near Historical Minimums:**
  - Doheny SB thru Capo Shores
  - Djie (Mariposa Point)
  - Cottons
- **Average:**
  - North Beach
  - Linda Lane
- **Above Average:**
  - T-Street thru San Clemente SB

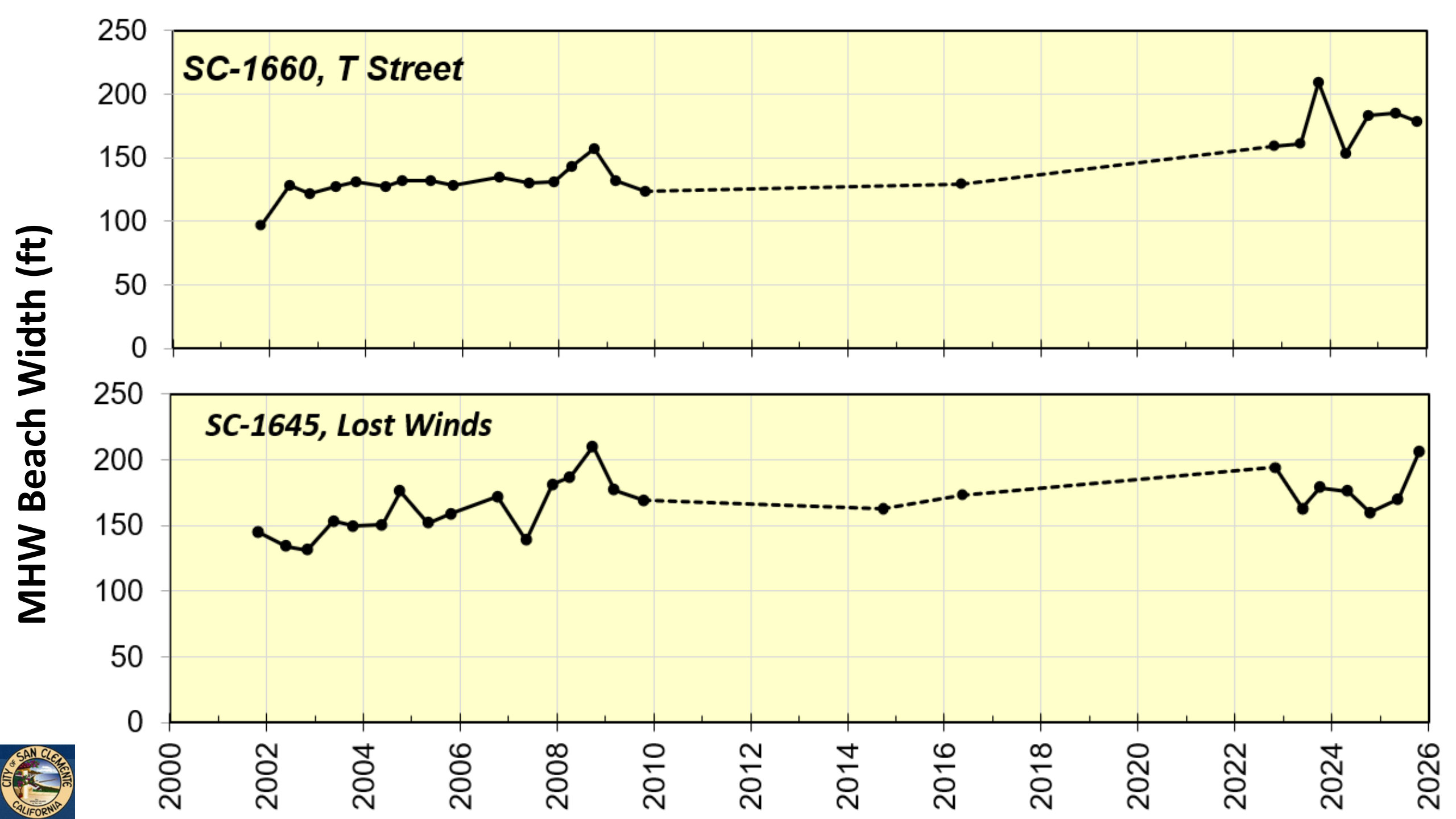


Post-Nourishment Outcome
T-Street



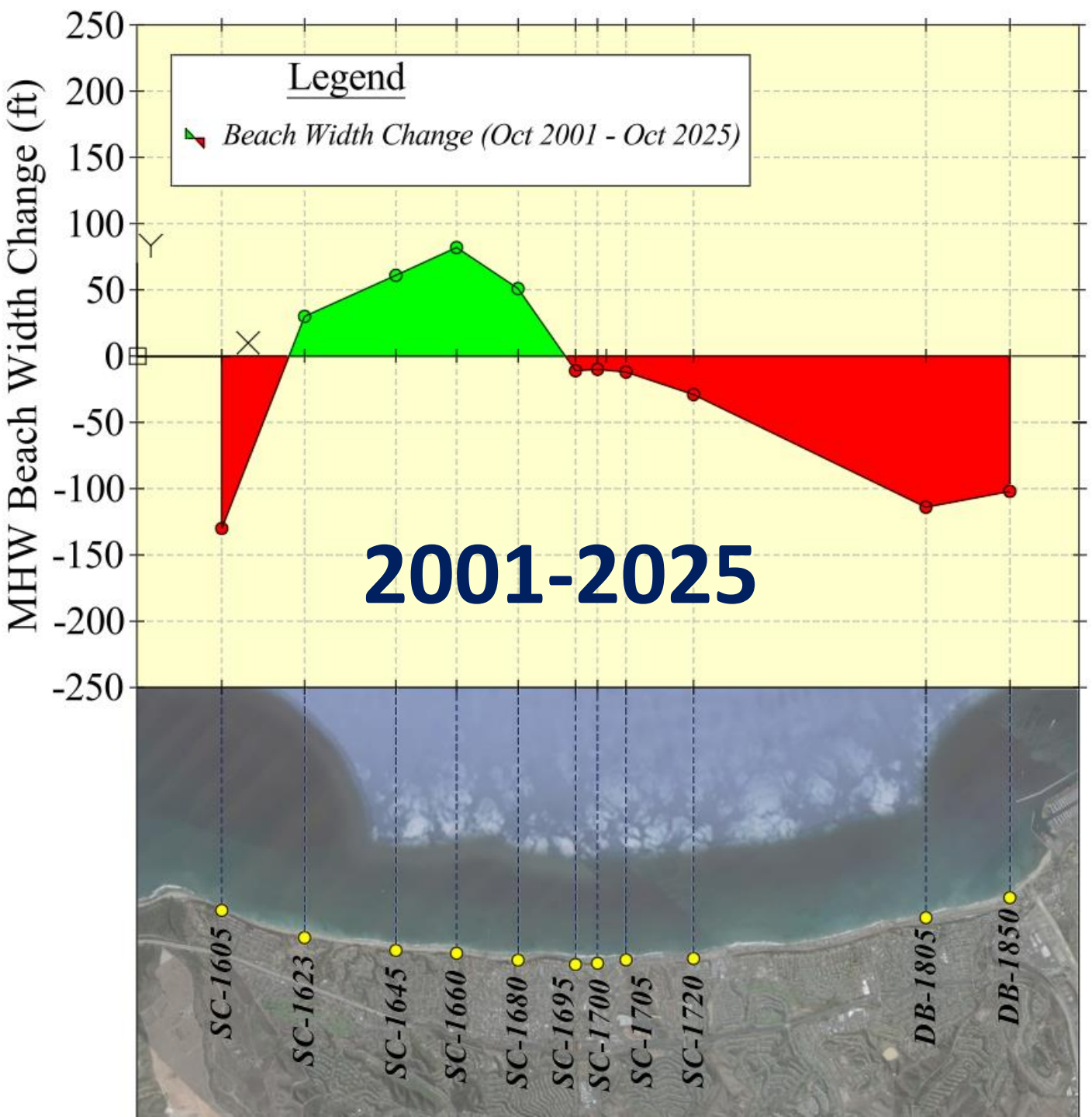
Lost Winds




SC-1660, T Street
SC-1645, Lost Winds
MHW Beach Width (ft)
250
200
150
100
50
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
2026

Net Beach Width Change 2001 to 2025

- **Gains**
  - Linda Lane thru State Beach
  - Max advance: 82 ft (T-Street)
- **Losses**
  - Doheny thru Mariposa Pt
  - Cottons
  - Max retreat: 130 ft (Cottons)

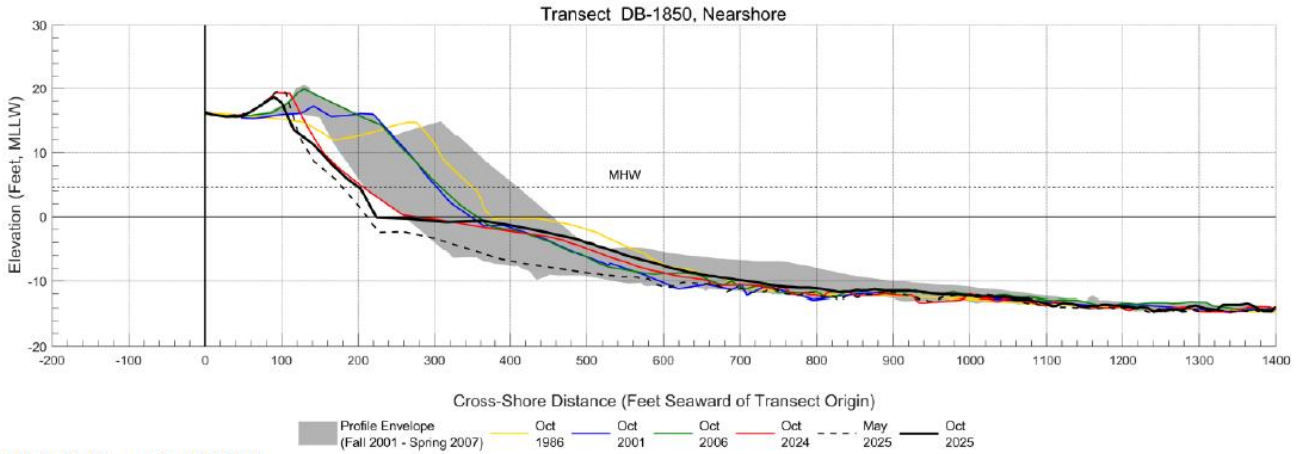


Beach Area within San Clemente Jurisdiction

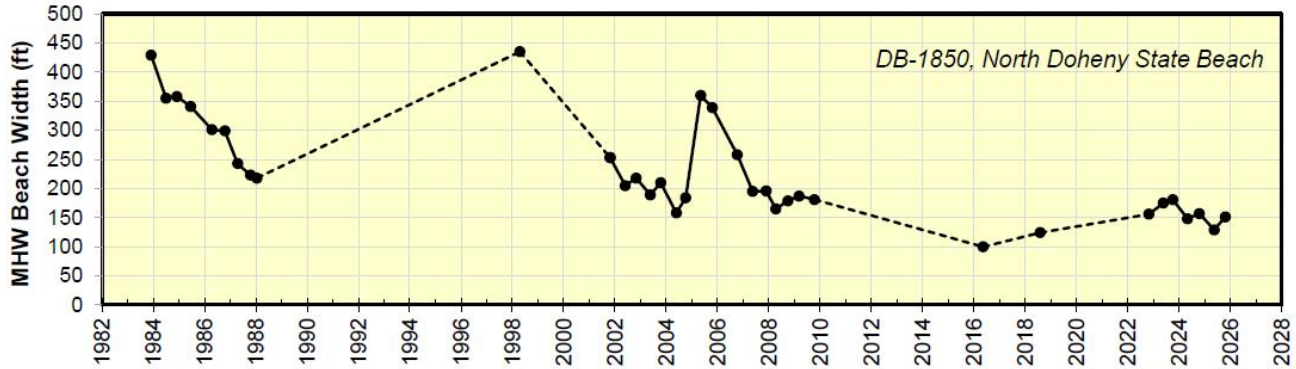
Transect DB-1850: North Doheny State Beach

Coastal Frontiers

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 151 ft *(narrowest Fall beach width on record)*

Historical Range (Fall only, 1983-2024) = 156 – 429 ft

Winter Seasonal Change (Oct 2024 - May 2025) = -28 ft

Summer Seasonal Change (May 2025 – Oct 2025) = +22 ft

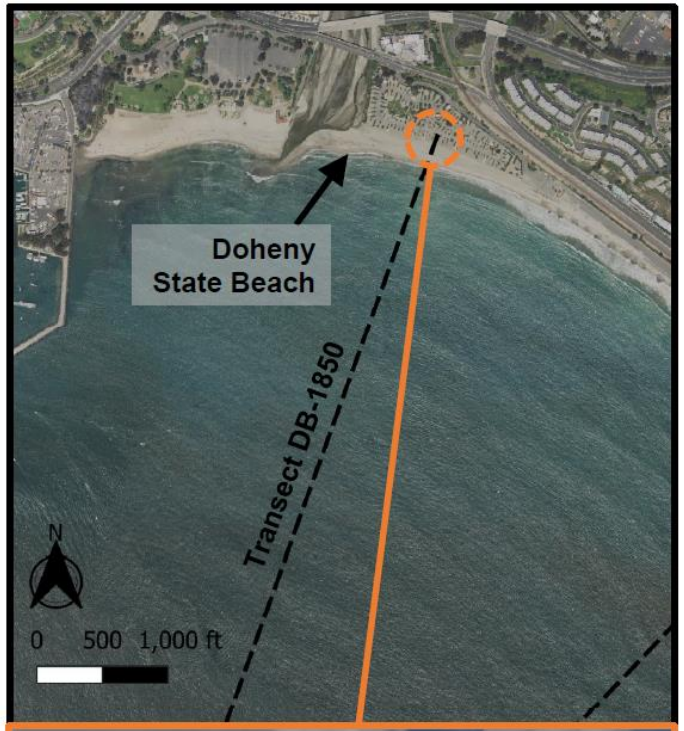
Annual Change (Oct 2024 – Oct 2025) = -6 ft

Beach Width Trends

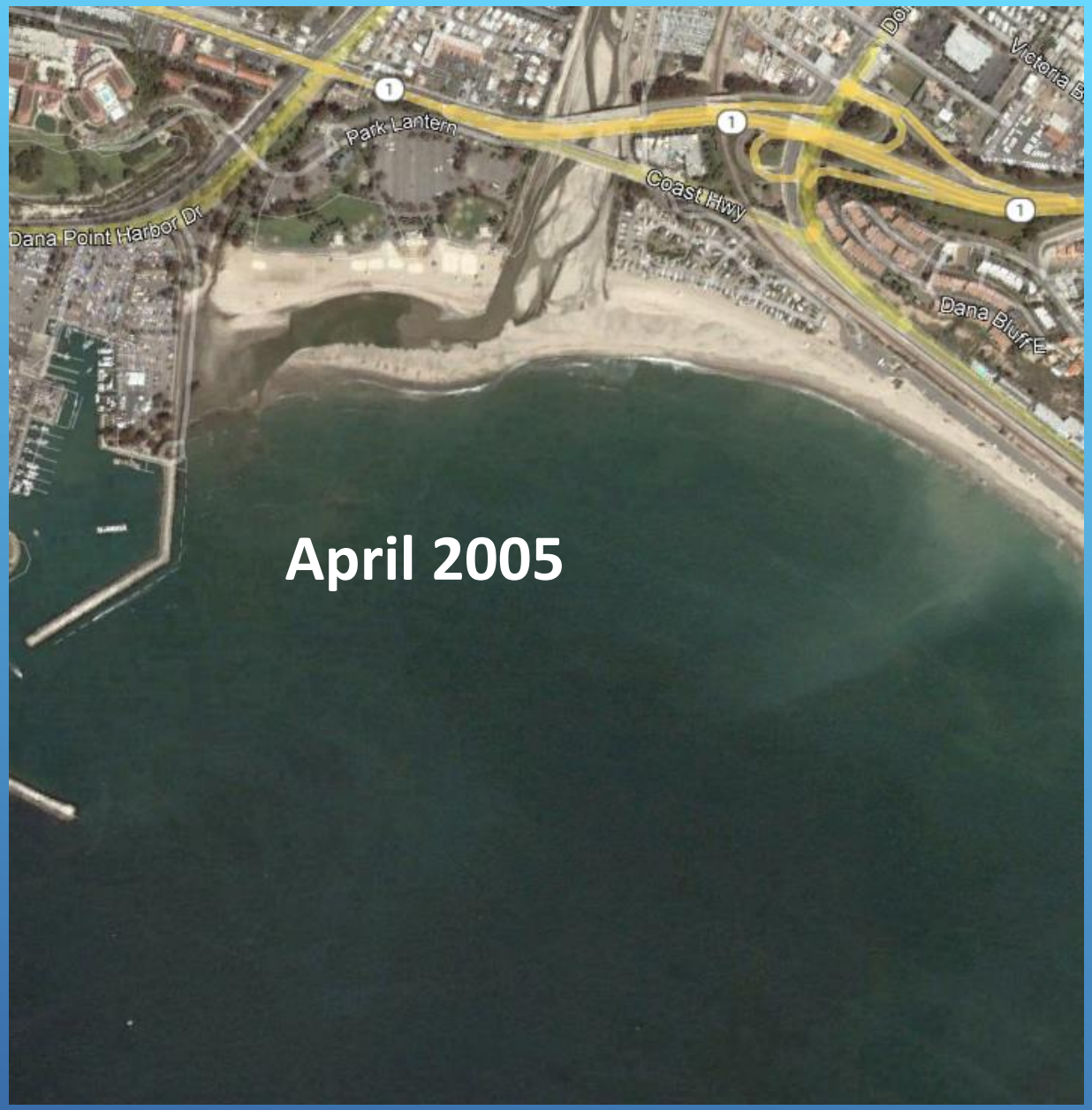
Period	Trend*	Net Change
Dec 1983 – Oct 2001:	-0.9 ft/yr	-176 ft
Oct 2001 – Oct 2025:	-3.8 ft/yr	-102 ft

** Trend derived using linear regression*

Location Map



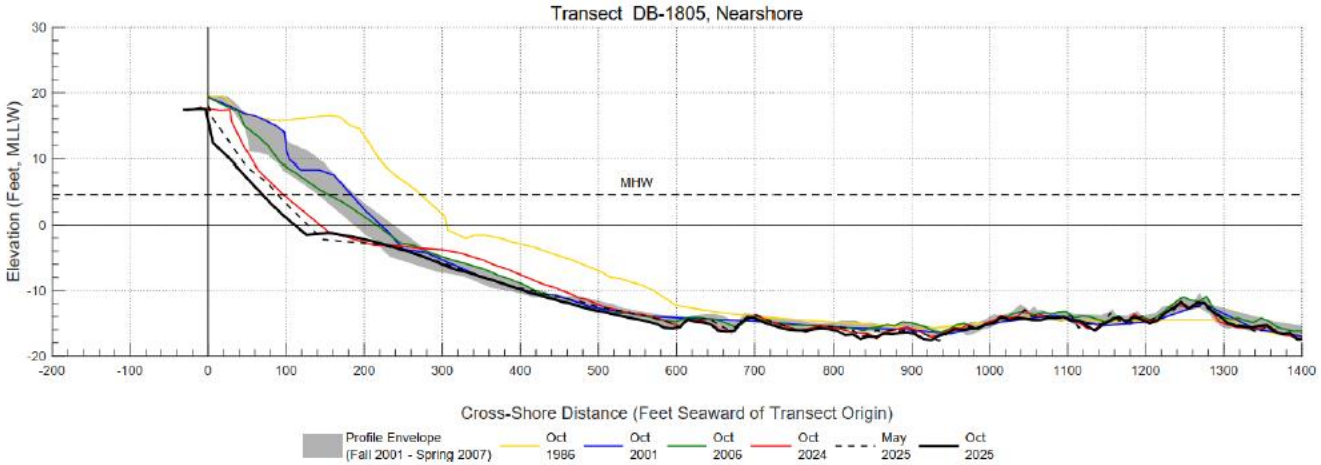
Transect DB-1850 (N. Doheny State Beach)



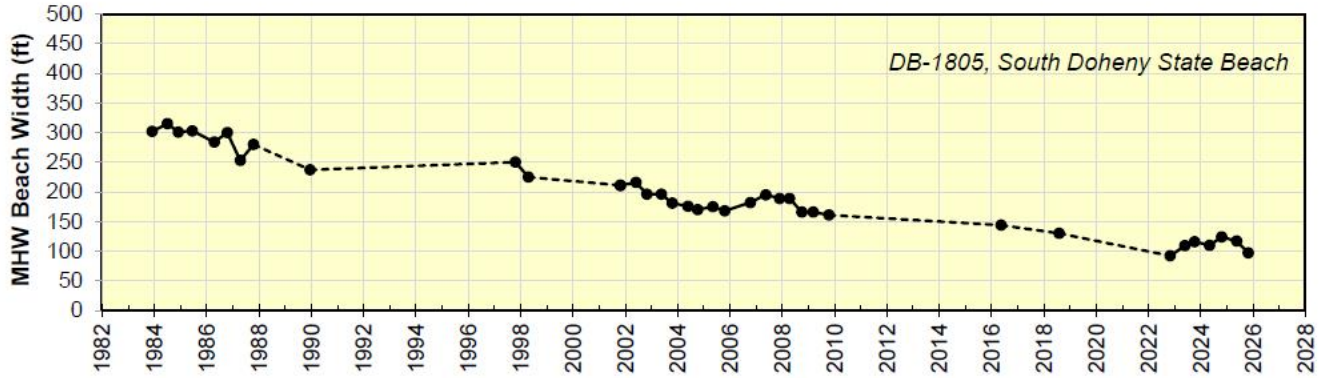
Transect DB-1805: South Doheny State Beach

COASTAL FRONTIERS

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 97 ft

Historical Range (Fall only, 1983-2024) = 92 – 302 ft

Winter Seasonal Change (Oct 2024 - May 2025) = -7 ft

Summer Seasonal Change (May 2025 – Oct 2025) = -20 ft

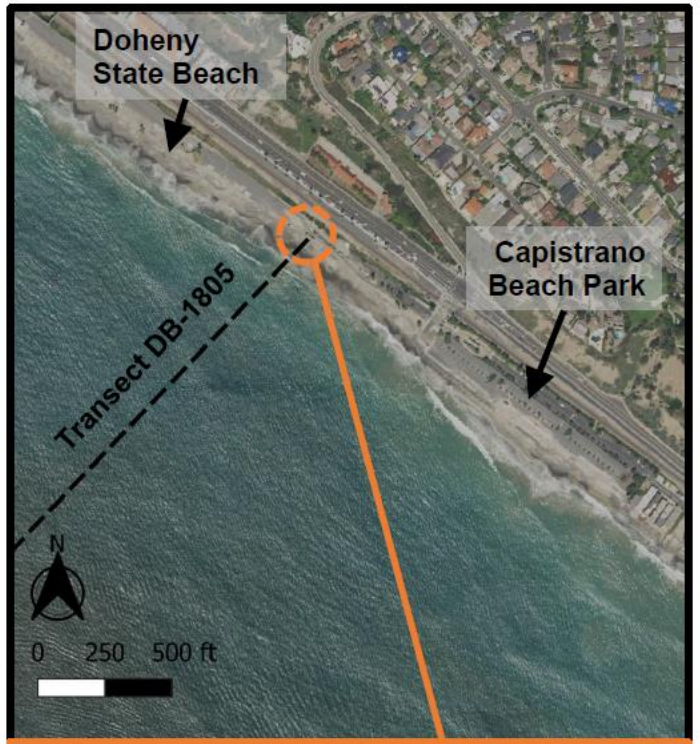
Annual Change (Oct 2024 – Oct 2025) = -27 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	-5.0 ft/yr	-91 ft
Oct 2001 – Oct 2025:	-4.0 ft/yr	-114 ft

** Trend derived using linear regression*

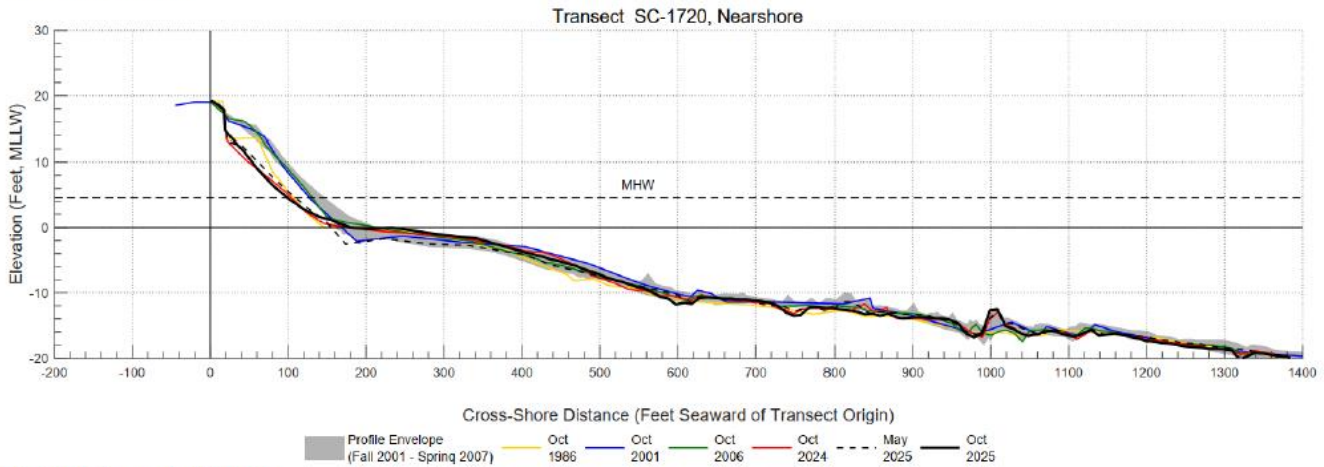
Location Map



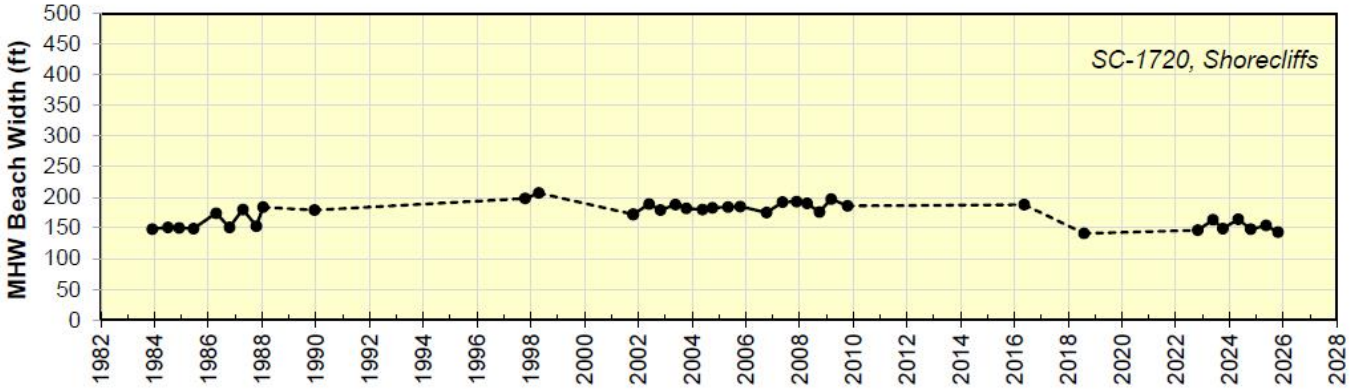
Transect SC-1720: Shorecliffs

Coastal Frontiers

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 143 ft *(narrowest Fall beach width on record)*

Historical Range (Fall only, 1983-2024) = 146 – 198 ft

Winter Seasonal Change (Oct 2024 - May 2025) = +6 ft

Summer Seasonal Change (May 2025 – Oct 2025) = -11 ft

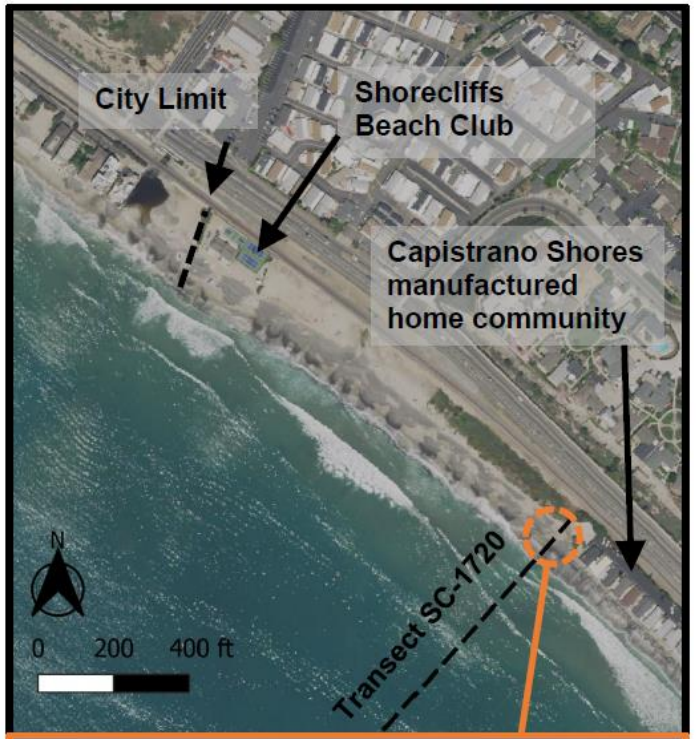
Annual Change (Oct 2024 – Oct 2025) = -5 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	+2.4 ft/yr	+24 ft
Oct 2001 – Oct 2025:	-1.6 ft/yr	-29 ft

** Trend derived using linear regression*

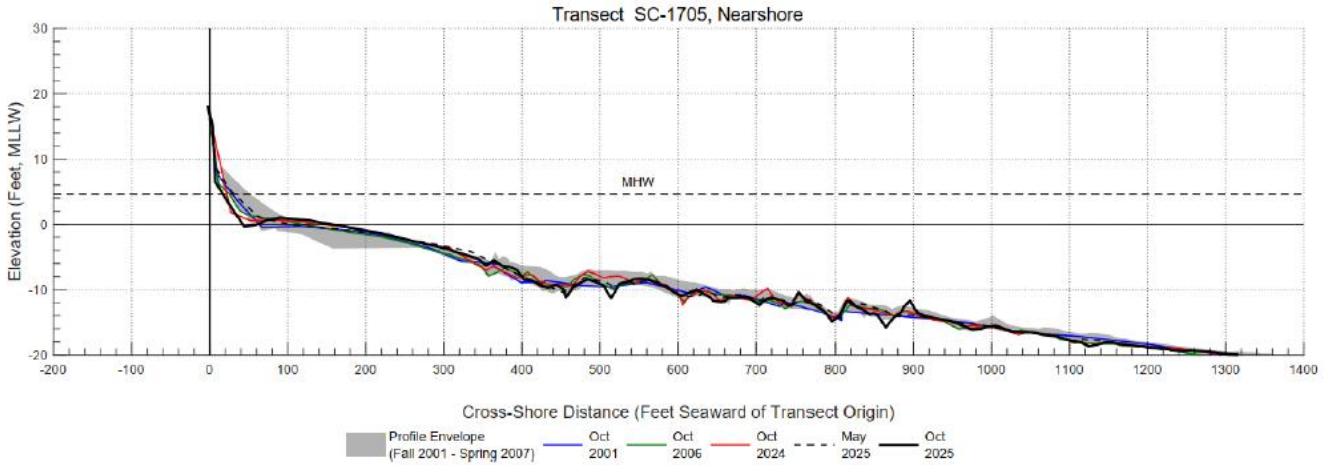
Location Map



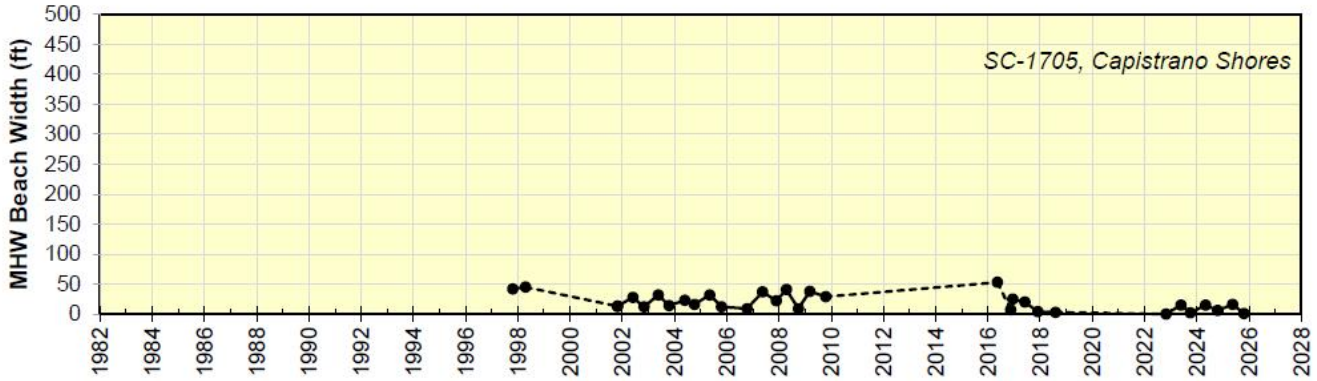
Transect SC-1705: Capistrano Shores Manufactured Home Community

COASTAL FRONTIERS

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 1 ft

Historical Range (Fall only, 1983-2024) = 0 – 42 ft

Winter Seasonal Change (Oct 2024 - May 2025) = +10 ft

Summer Seasonal Change (May 2025 – Oct 2025) = -15 ft

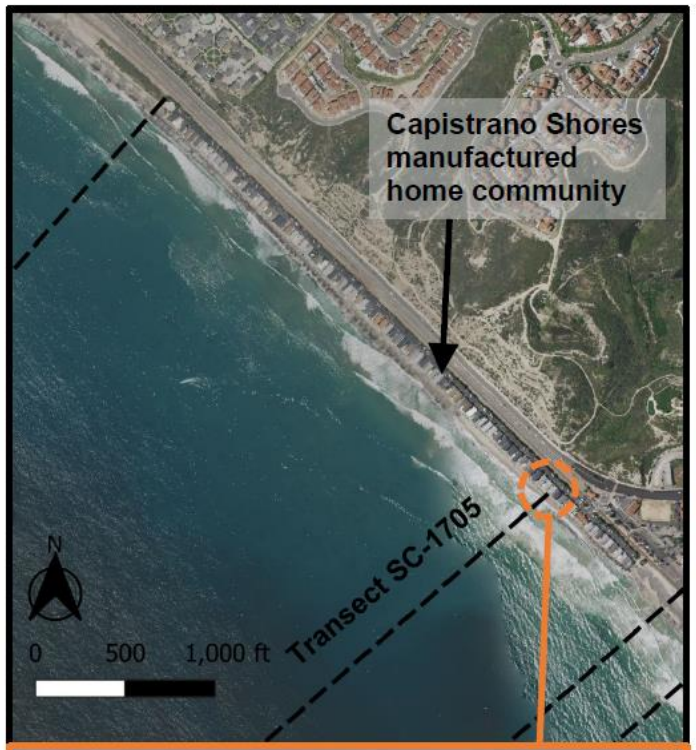
Annual Change (Oct 2024 – Oct 2025) = -5 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	--	--
Oct 2001 – Oct 2025:	-0.6 ft/yr	-12 ft

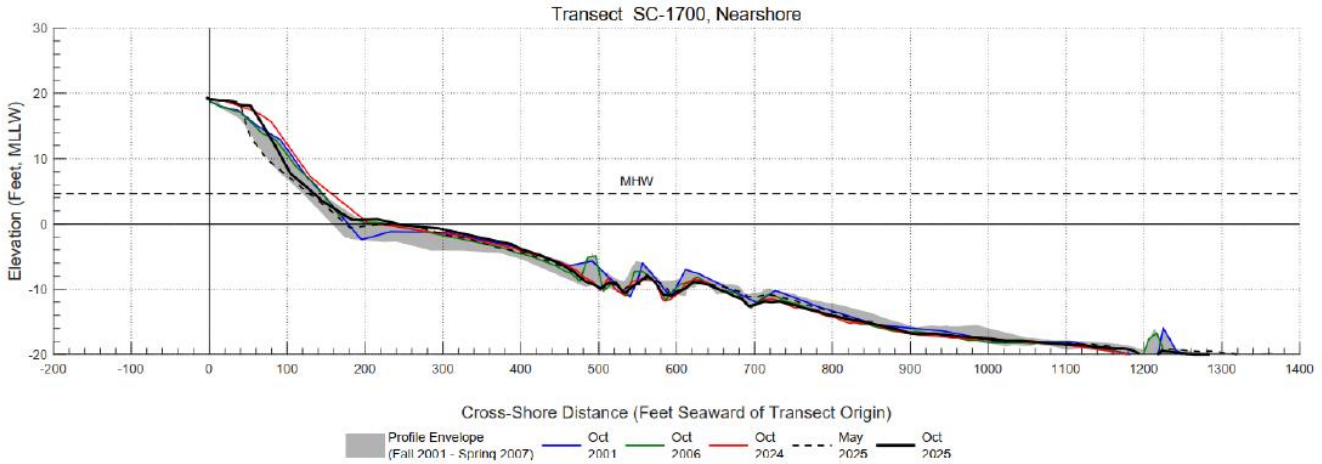
** Trend derived using linear regression*

Location Map

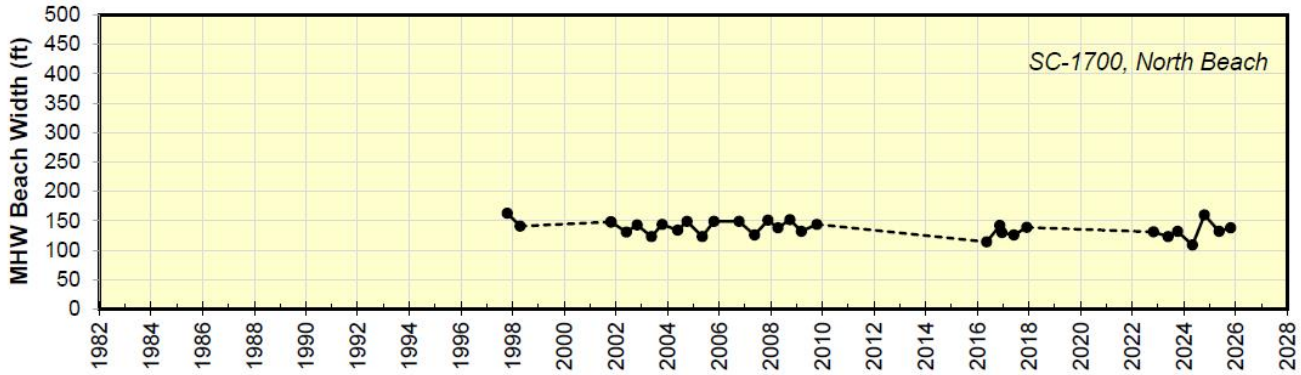


Transect SC-1700: North Beach

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 138 ft

Historical Range (Fall only, 1983-2024) = 130 – 163 ft

Winter Seasonal Change (Oct 2024 - May 2025) = -28 ft

Summer Seasonal Change (May 2025 – Oct 2025) = +6 ft

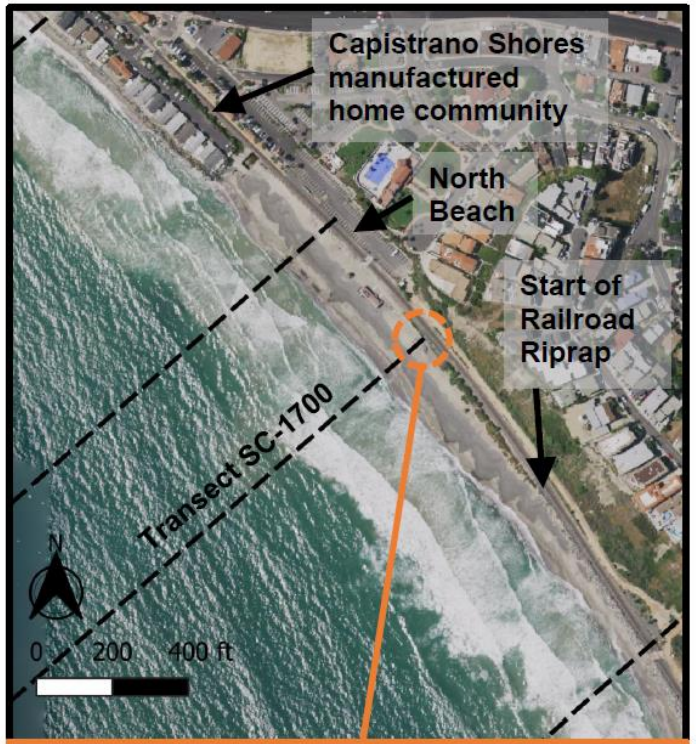
Annual Change (Oct 2024 – Oct 2025) = -22 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	--	--
Oct 2001 – Oct 2025:	-0.4 ft/yr	-10 ft

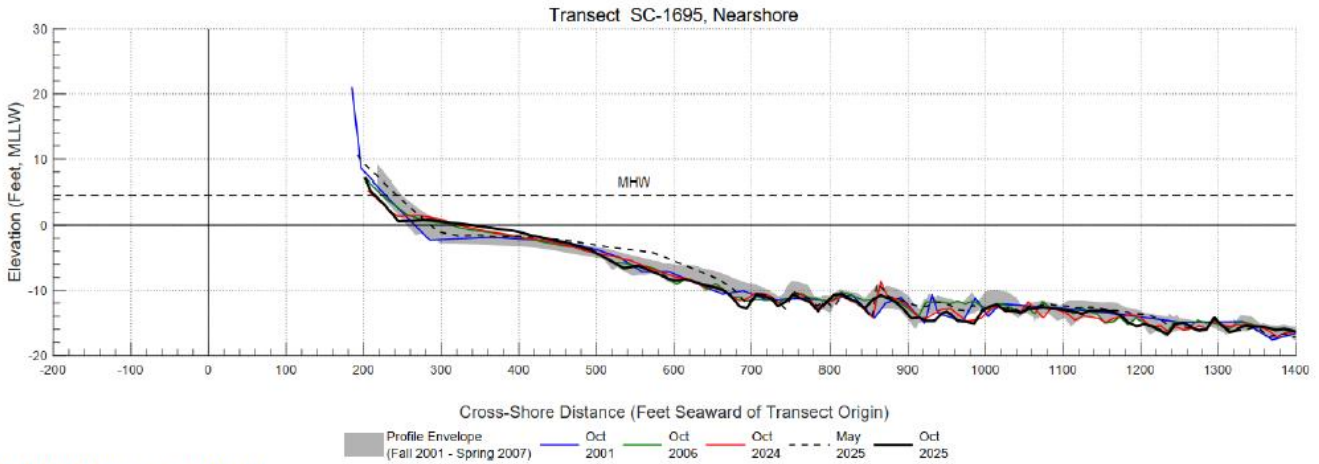
** Trend derived using linear regression*

Location Map

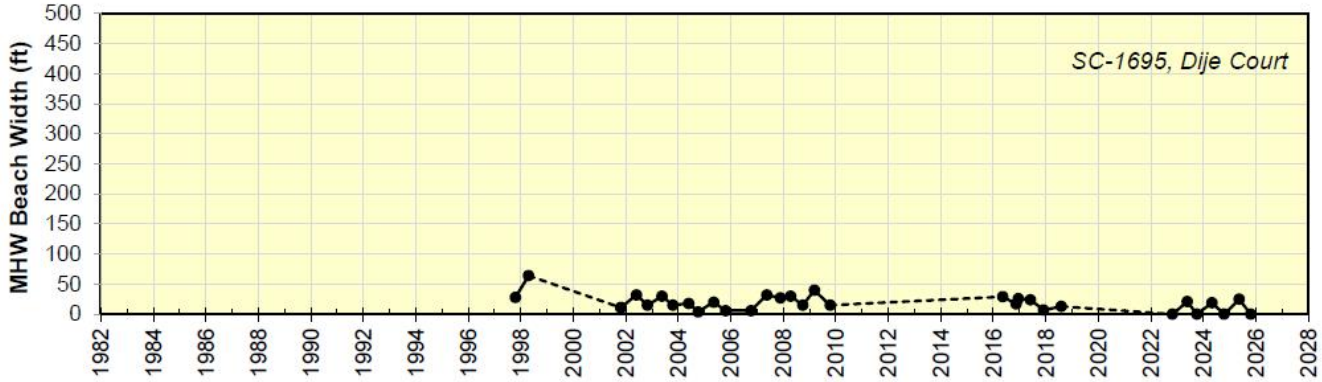


Transect SC-1695: Dije Court

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 0 ft

Historical Range (Fall only, 1983-2024) = 0 – 28 ft

Winter Seasonal Change (Oct 2024 - May 2025) = +25 ft

Summer Seasonal Change (May 2025 – Oct 2025) = -25 ft

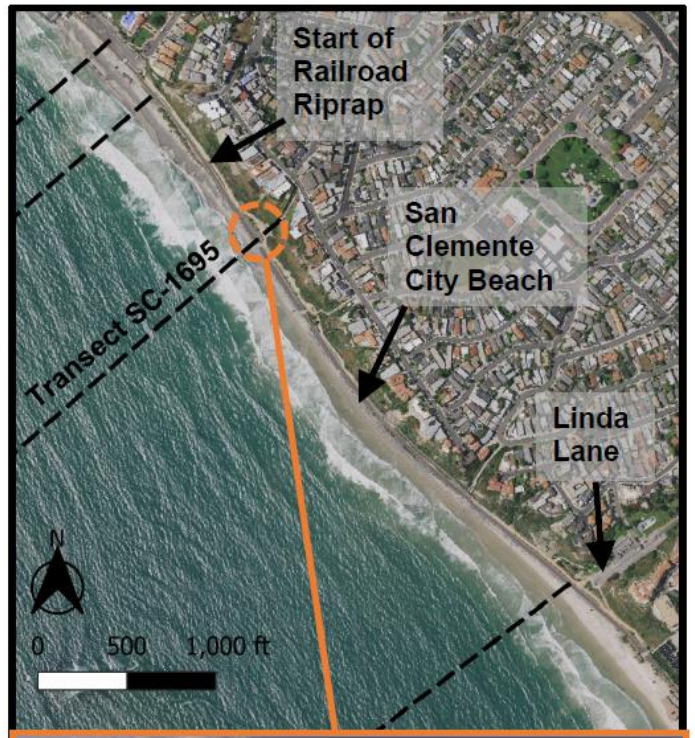
Annual Change (Oct 2024 – Oct 2025) = 0 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	--	--
Oct 2001 – Oct 2025:	-0.4 ft/yr	-11 ft

** Trend derived using linear regression*

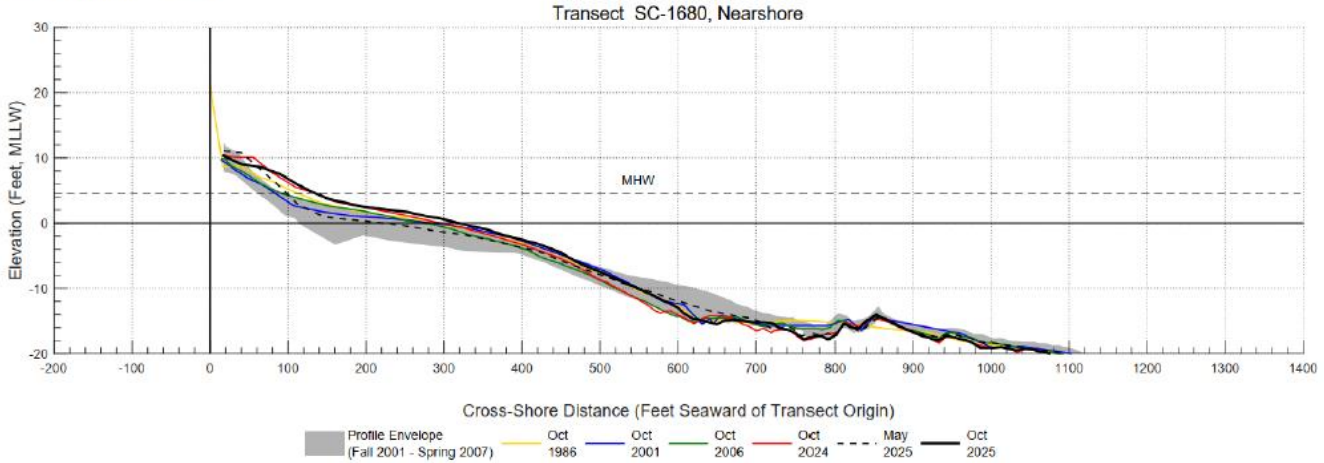
Location Map



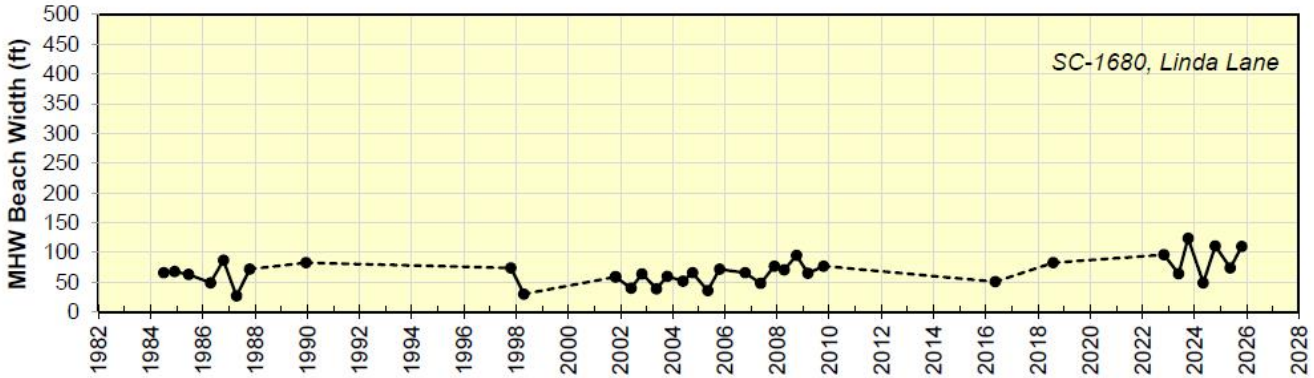
Transect SC-1680: Linda Lane

Coastal Frontiers

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 110 ft

Historical Range (Fall only, 1983-2024) = 59 – 124 ft

Winter Seasonal Change (Oct 2024 - May 2025) = -37 ft

Summer Seasonal Change (May 2025 – Oct 2025) = +36 ft

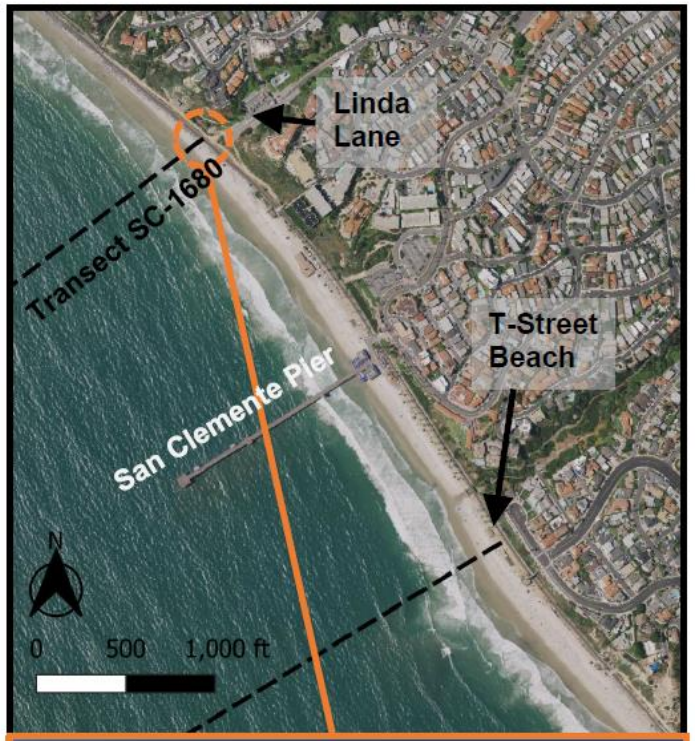
Annual Change (Oct 2024 – Oct 2025) = -1 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	--	--
Oct 2001 – Oct 2025:	+1.6 ft/yr	51 ft

** Trend derived using linear regression*

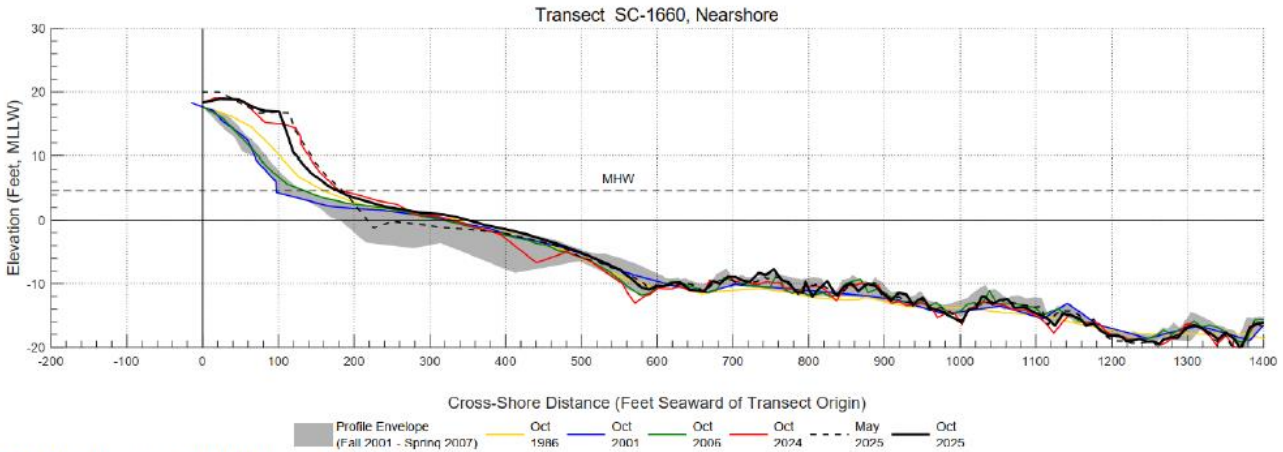
Location Map



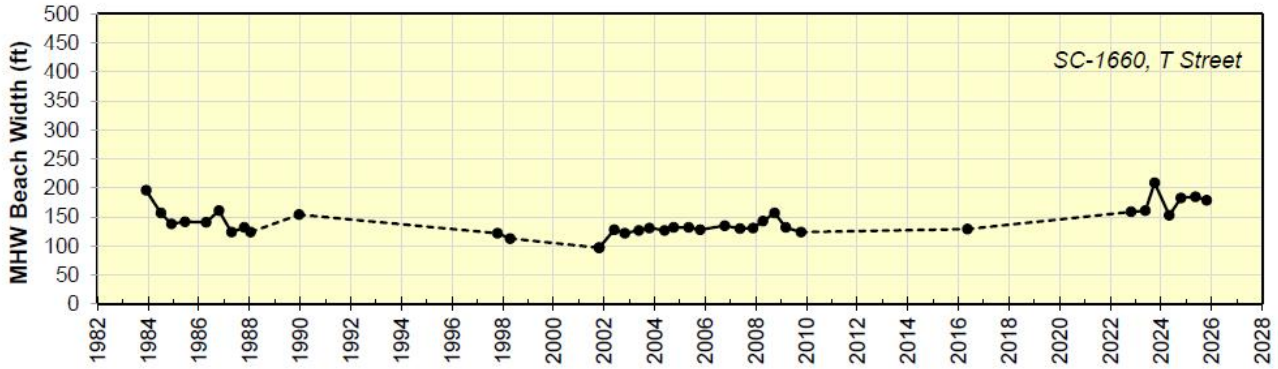
Transect SC-1660: T-Street

Coastal Frontiers

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 179 ft

Historical Range (Fall only, 1983-2024) = 97 – 209 ft

Winter Seasonal Change (Oct 2024 - May 2025) = +2 ft

Summer Seasonal Change (May 2025 – Oct 2025) = -6 ft

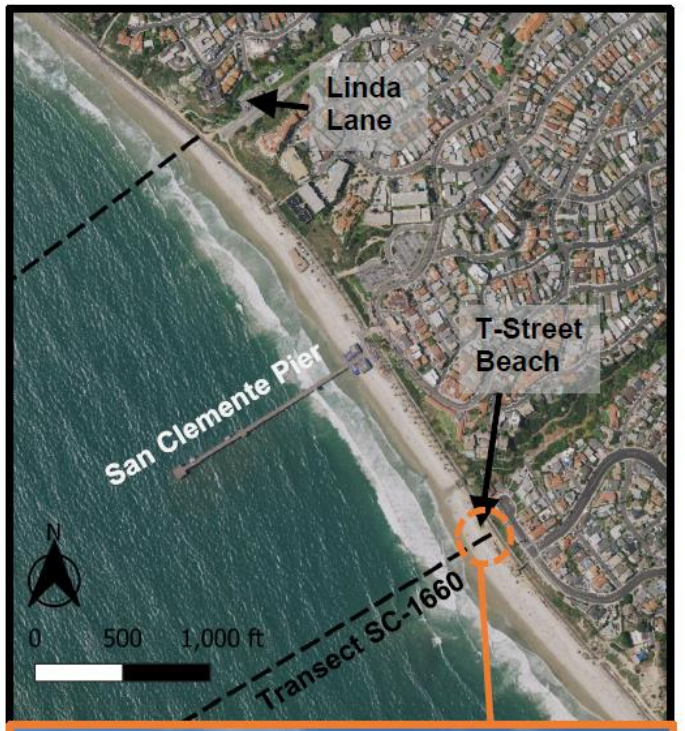
Annual Change (Oct 2024 – Oct 2025) = -4 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	-3.1 ft/yr	-99 ft
Oct 2001 – Oct 2025:	+2.4 ft/yr	82 ft

** Trend derived using linear regression*

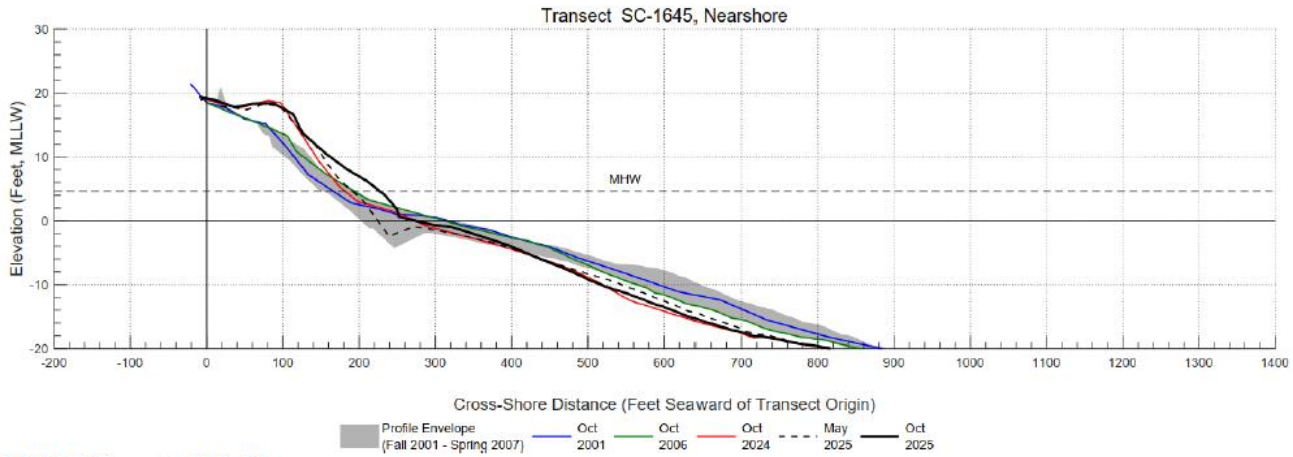
Location Map



Transect SC-1645: Lost Winds

Coastal Frontiers

Beach Profiles



MHW Beach Width

Beach Width

October 2025 = 206 ft

Historical Range (Fall only, 1983-2024) = 131 – 210 ft

Winter Seasonal Change (Oct 2024 - May 2025) = +10 ft

Summer Seasonal Change (May 2025 – Oct 2025) = +36 ft

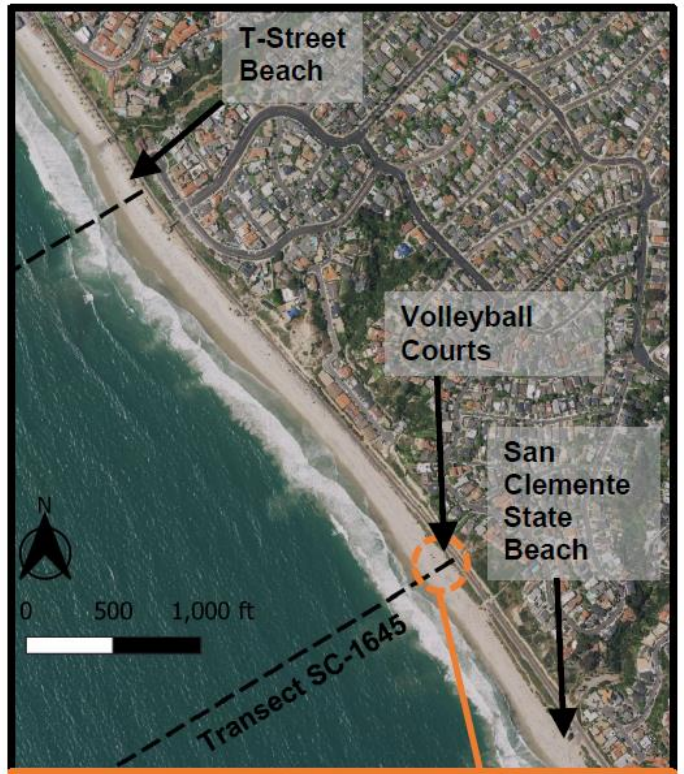
Annual Change (Oct 2024 – Oct 2025) = +46 ft

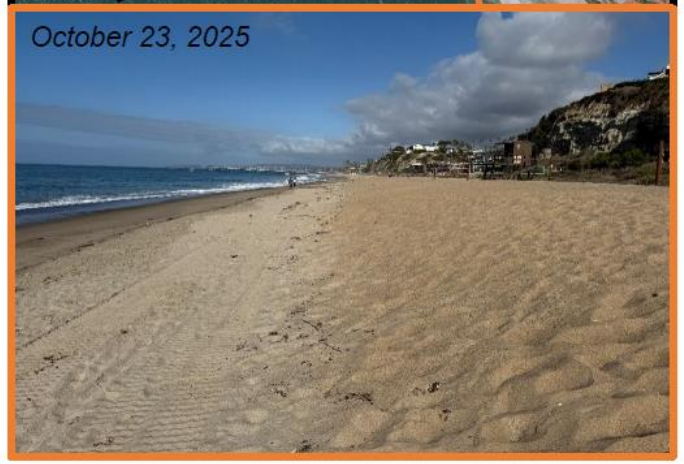
Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	--	--
Oct 2001 – Oct 2025:	+1.2 ft/yr	61 ft

** Trend derived using linear regression*

Location Map

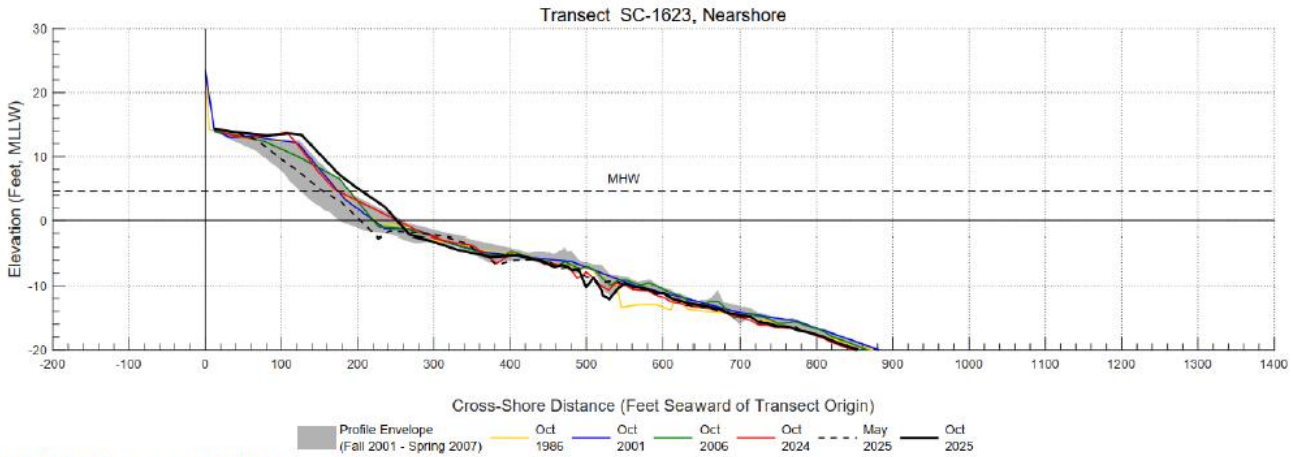




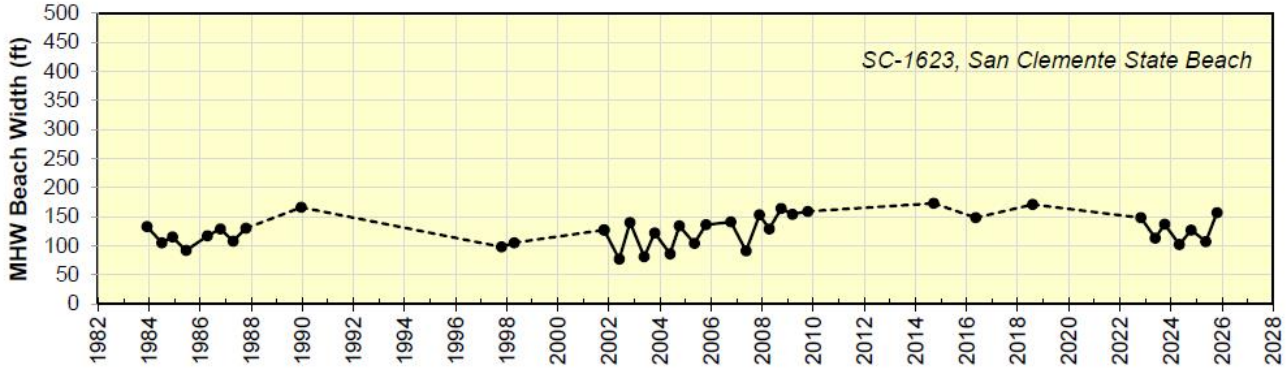
Transect SC-1623: San Clemente State Beach

Coastal Frontiers

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 157 ft

Historical Range (Fall only, 1983-2024) = 98 – 173 ft

Winter Seasonal Change (Oct 2024 - May 2025) = -20 ft

Summer Seasonal Change (May 2025 – Oct 2025) = +50 ft

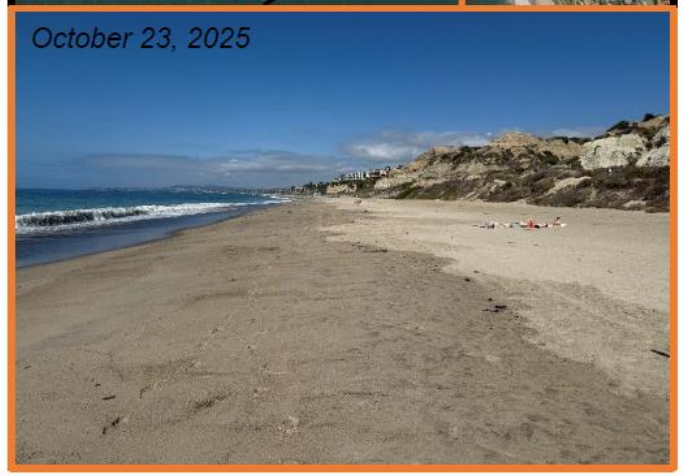
Annual Change (Oct 2024 – Oct 2025) = +30 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	-0.2 ft/yr	-6 ft
Oct 2001 – Oct 2025:	+0.8 ft/yr	30 ft

** Trend derived using linear regression*

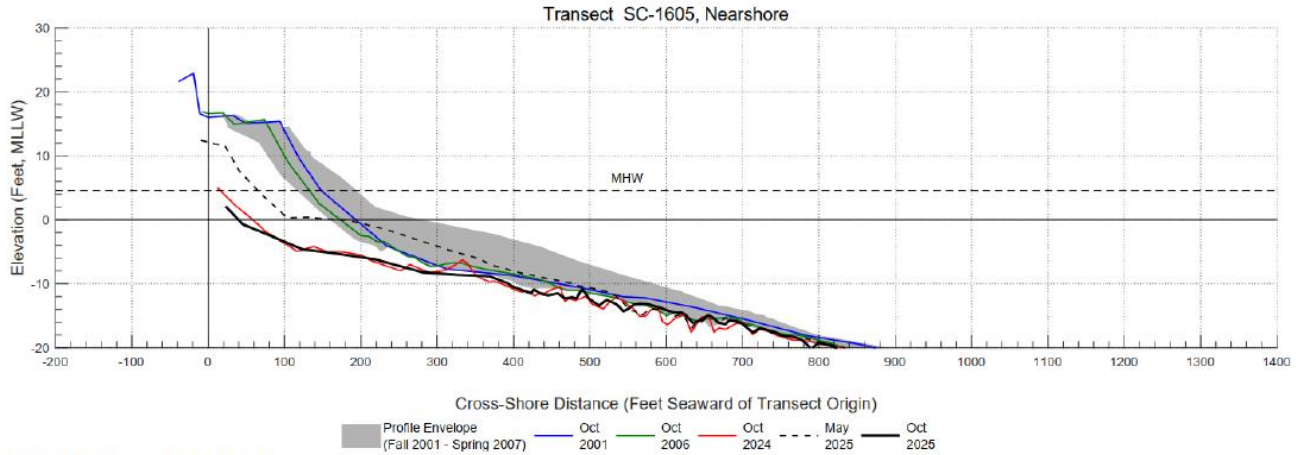
Location Map



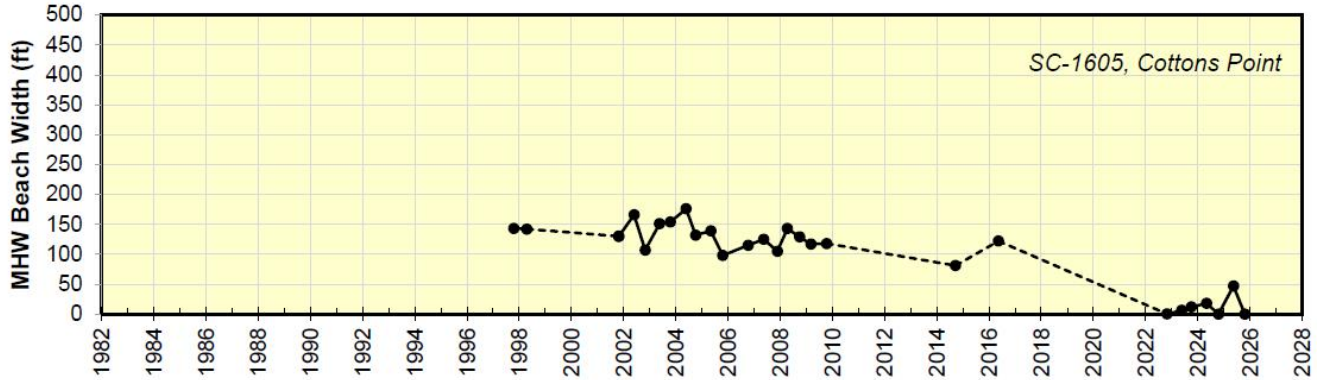
Transect SC-1605: Cottons Point

Coastal Frontiers

Beach Profiles



MHW Beach Width



Beach Width

October 2025 = 0 ft

Historical Range (Fall only, 1983-2024) = 0 – 154 ft

Winter Seasonal Change (Oct 2024 - May 2025) = +47 ft

Summer Seasonal Change (May 2025 – Oct 2025) = -47 ft

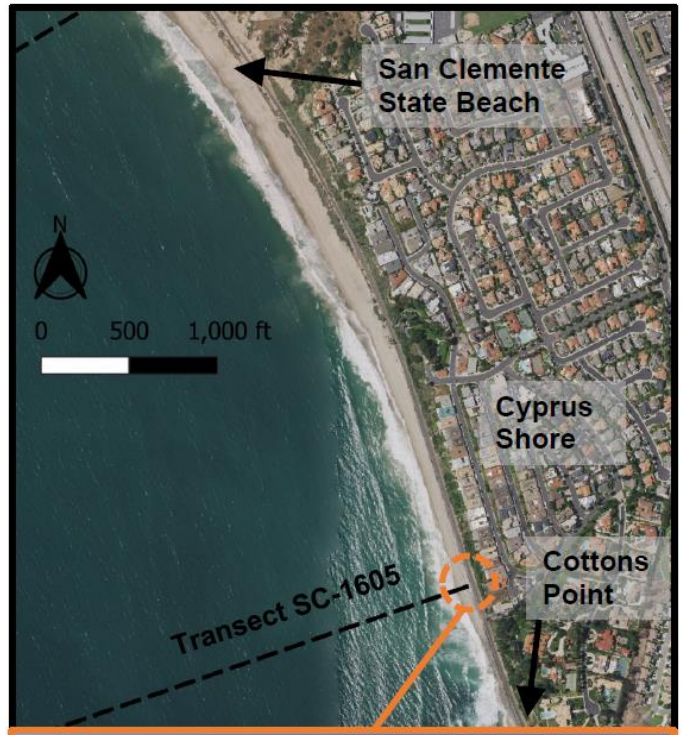
Annual Change (Oct 2024 – Oct 2025) = 0 ft

Beach Width Trends

Period	Trend*	Net Change
Dec 1983 – Oct 2001:	--	--
Oct 2001 – Oct 2025:	-6.1 ft/yr	-130 ft

** Trend derived using linear regression*

Location Map



Summary – Capistrano Bight

Fall 2025 Shoreline Condition

- Beach Widths: 0 to 206 ft
- Narrow: Doheny thru Capo Shores, Dije, Cottons
- Average: North Beach, Linda Lane
- Above Ave: T-Street thru State Beach

Post Nourishment Outcome

- Sustained Gains at T-Street
- Migration to Adjacent Beaches

Long-Term Changes

- Losses from Doheny thru Mariposa Pt
- Gains in Pier Bowl/State Beach Area
- Losses at Cotton's Pt

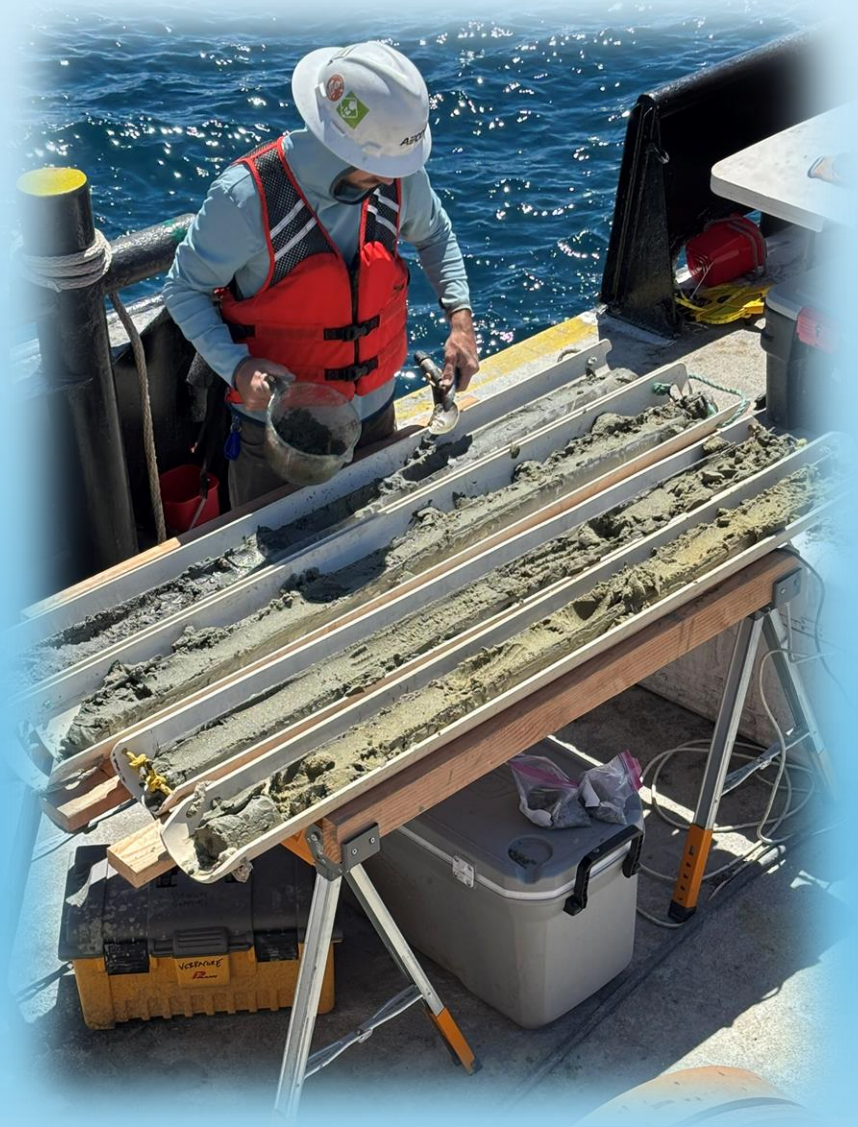
City of San Clemente Offshore Sand Source Investigation

Project Update

- **Program Overview**
- **Phase 1 Findings**
- **Phase 2 Plan**

Project Overview

- **Objective: Locate and verify sand sources**
  - Best sand as close as possible
  - Sufficient quantities to support multiples projects
- **Key Exploration Parameters**
  - Water depth: 35 to 60 ft
  - Sand Thickness > 10 ft
  - San Clemente Beaches D_{50} = 0.12 to 0.31 mm



Candidate Borrow Site *(North to South)*	Distance from Pier	Anticipated Grain Size (D_{50} mm)	Probability of Finding Suitable Sand
Surfside / Sunset	28.3 NM	~ 0.30 mm	High
Huntington Beach	24.2 NM	0.24 mm	Med-High
Santa Ana River	19.8 NM	0.14-0.19 mm	Medium
Dana Point	4.3 NM	< 0.09 to 0.18 mm	Low
Doheny	2.9 NM	< 0.09 mm	Very Low
North Beach	1.3 NM	< 0.09 to 0.18 mm	Low
San Clemente South	1.6 NM	< 0.09 mm	Very Low
San Mateo Point	3.4 NM	unknown	Med-low
San Onofre (Agra)	6.5 NM	unknown	Medium
Camp Pen. (Las Pulgas)	11.1 NM	unknown	Medium
Santa Margarita River	14.5 NM	< 0.2 mm to cobble	Med-low

Phase 1 Exploration Program

➢ Exploration Program

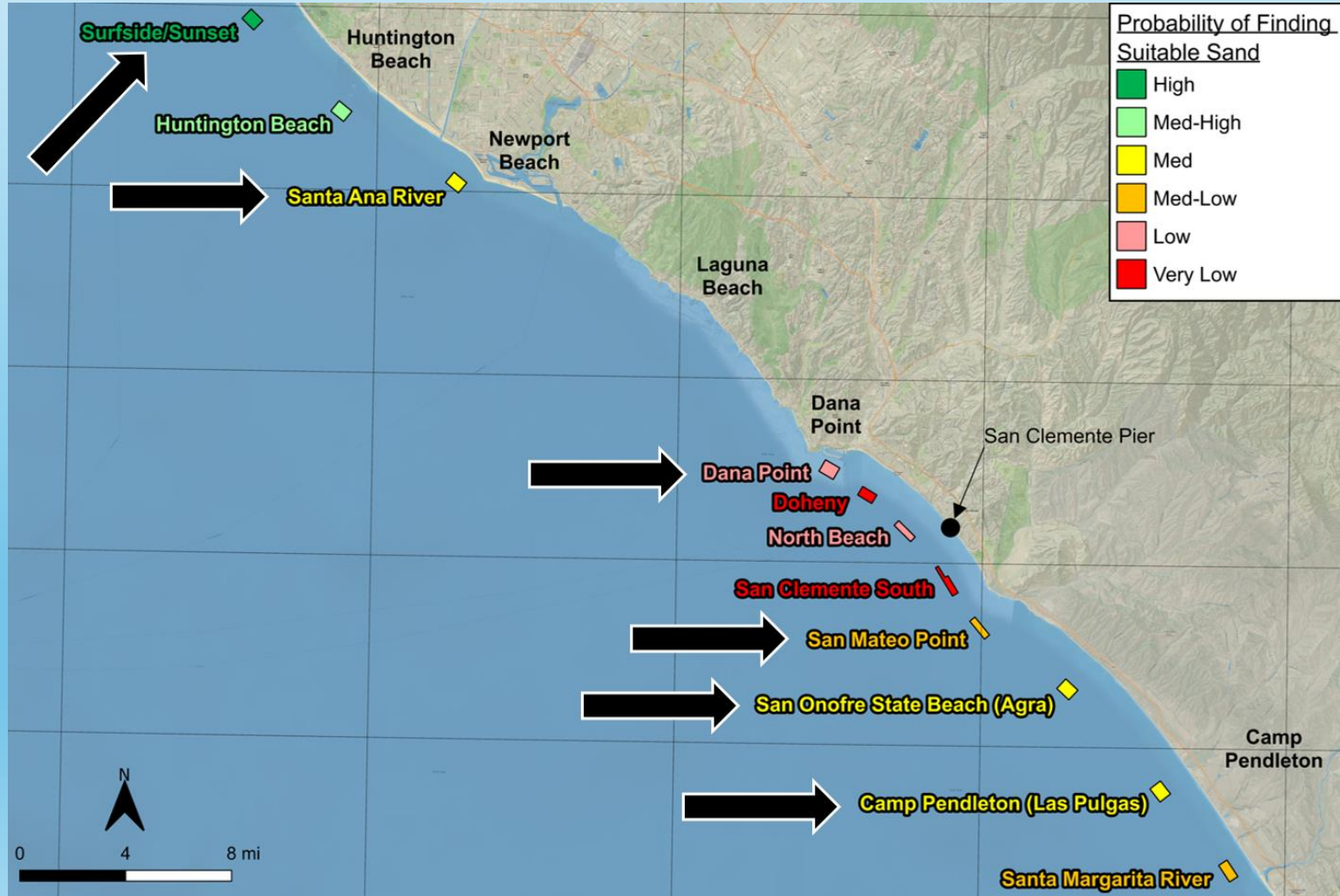
- **10-day vibracore sampling program**
- **Sites investigated**

S. Orange County

- Dana Point
- San Mateo
- San Onofre
- Camp Pendleton

N. Orange County

- Surfside-Sunset
- Santa Ana River



Phase 1 Findings

Unsuitable Eliminate from Consideration		**Promising** Needs More Investigation		**Suitable** DMMT-Permitting-Engineering Phase		**Not Explored**
Dana Point (3 cores)	D_{50} < 0.07mm > 50% fines	**San Onofre** (14 cores)	*Top 7 ft* D_{50} = 0.08 to 1.65 mm 6 to 44% fines Most promising material nearest shoreline	**Surfside – Sunset** (7 cores)	*Top 5 ft SW Corner* D_{50} ~ 0.20 mm < 10 % fines *Top 7 ft SW Corner* D_{50} ~ 0.17 mm < 10 % fines	**Huntington Beach**
San Mateo (4 cores)	D_{50} < 0.09mm ~ 40% fines	**Santa Ana** (2 cores)	D_{50} ~ 0.15 - 0.21 mm < 10% fines			~~Doheny~~ ~~North Beach~~ ~~San Clem S.~~ ~~Santa Marg.~~
Camp Pendleton (1 core)	D_{50} < 0.07mm ~ 90% fines					

Next Steps – Phase 2

- Acquire CA State Land Permit — April
- Prepare Phase 2 SAP — April
- Develop Phase 2 Exploration Plan — May
  - San Onofre
  - Santa Ana
  - Huntington Beach
  - Surfside-Sunset?
- Execute Phase 2 Exploration — Summer
  - 5-7 day program
  - Prioritize sites
- Prepare SAPR and Final Report — December

Questions

VI. Public Participation

VII. Executive Officer Comments and Report

VIII. Coalition Member Comments and Report

IX. Adjournment

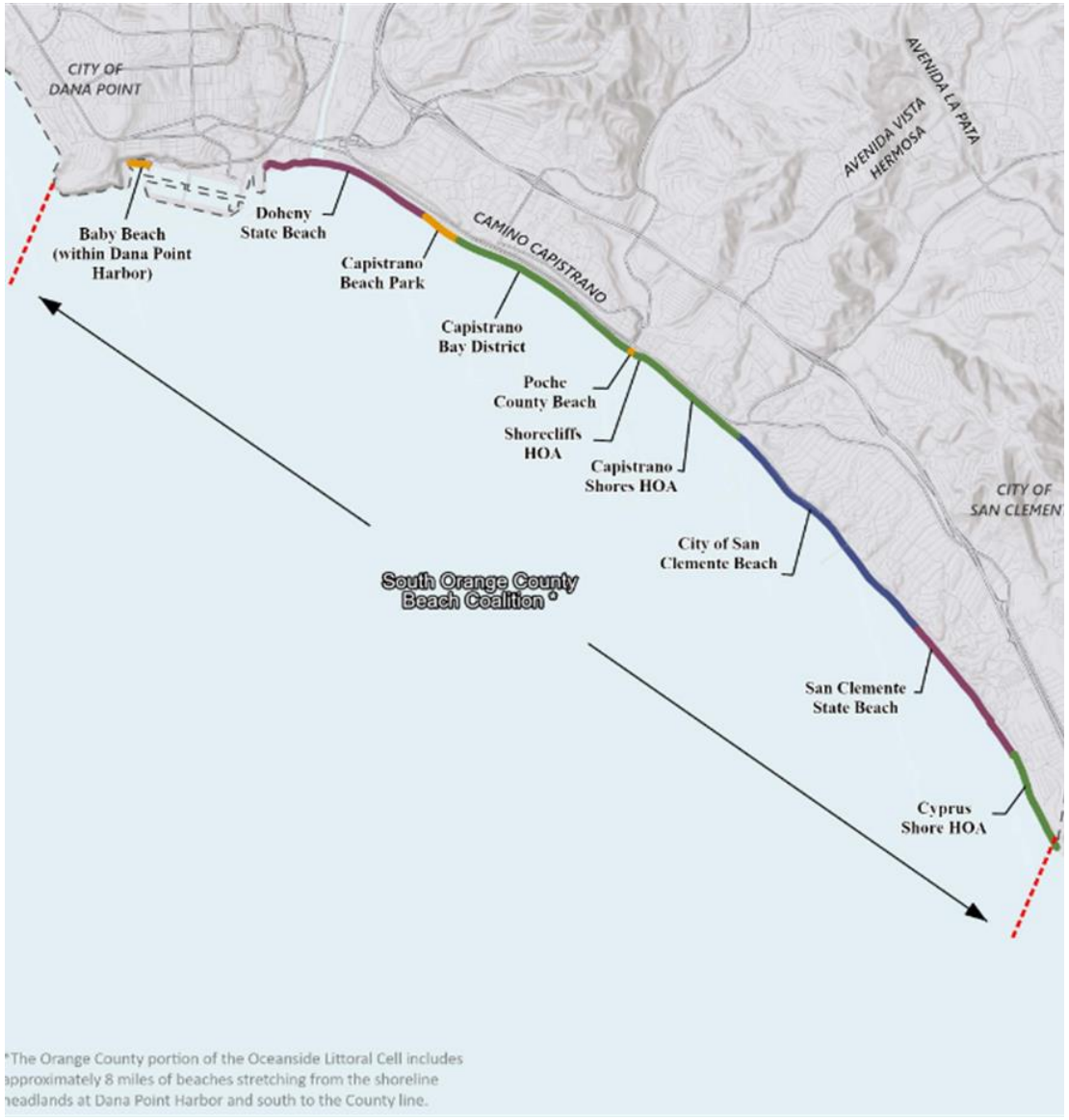
- Next Meeting: April 15, 2026, at 4:00 p.m.

Thank you!

SouthCoastalResilience@ocparks.com

South Orange County Beach Coalition

Katrina FOLEY
Supervisor - Fifth District



Vision

Restore, protect, and preserve sandy public beaches and the critical infrastructure located along the coastline of south Orange County.

Mission

Foster greater cooperation toward the maintenance and enhancement of beaches. Decrease jurisdictional silos and increase collaboration for coastal resilience.

Goals

A. Increase collaboration across jurisdictions, agencies, and stakeholders for

B. Identify green, grey, and hybrid solutions to replenish and retain sand and minimize coastal erosion. while preserving, reestablishing, and enhancing the natural coastal habitat where possible.

C. Support regional projects and collaborations to increase sand supply, mitigate the impacts of sea level rise, protect critical infrastructure, and decrease coastal erosion.

D. Identify funding opportunities to increase efficiency of financial resources and decrease the individual financial burden for jurisdictions, agencies, and beachfront communities.

E. Develop a coastal resiliency maintenance and enhancement plan and implementation strategy.

F. Maintain, preserve, and enhance coastal recreation, heritage & culture, as well as public access to the coastline.

Objectives

A. Develop a robust understanding of sediment dynamics to enable recommendations and activities to enhance coastal resiliency. Collect, share and analyze relevant data and recommend activities to enhance coastal resiliency.