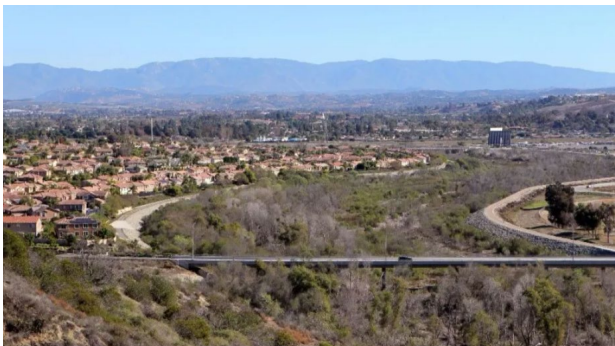
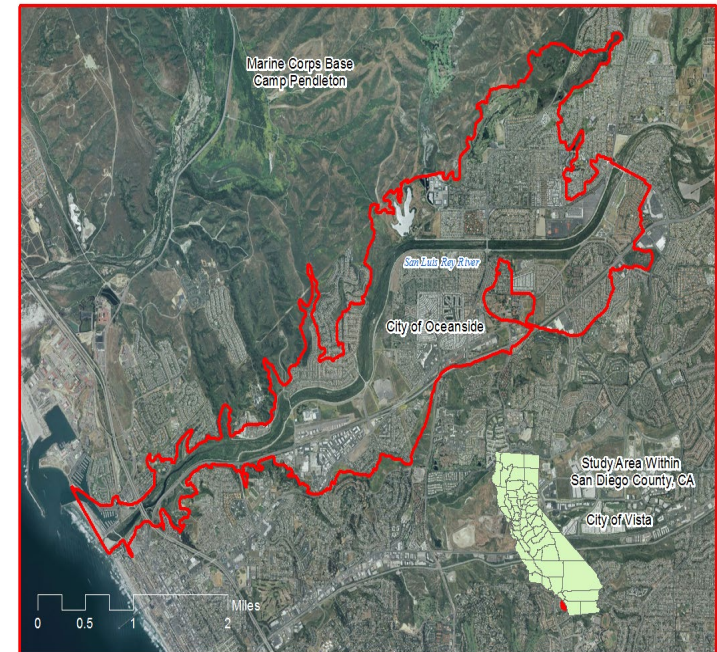




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BLUF:

- Sediment and vegetation management plans to attain and maintain authorized flow conveyance in the channel.
- Sediment removal and mitigation plan requires investigation of sources and sinks of the sandy sediment.
- Coupling the Adaptive Hydraulics (AdH) and StWave models to investigate the sandy sediment that has historically blocked the SLRR mouth.



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Objectives:

- This RSM project straddles a unique environment where inland and coastal processes interact.
- Flood control measures for the inland are directly dependent upon the understanding of the causes of the SLRR mouth blockage by sand, and the magnitude of the sand transport through wave driven longshore transport.

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District/Other USACE PDT Members:

John Petrie, SPL

Moosub Eom, SPL

Juila Zimmerman, ERDC, CHL

Sara Lytle, ERDC, CHL

Stakeholders/Partners

City of Oceanside, and Camp Pendleton, Navy.

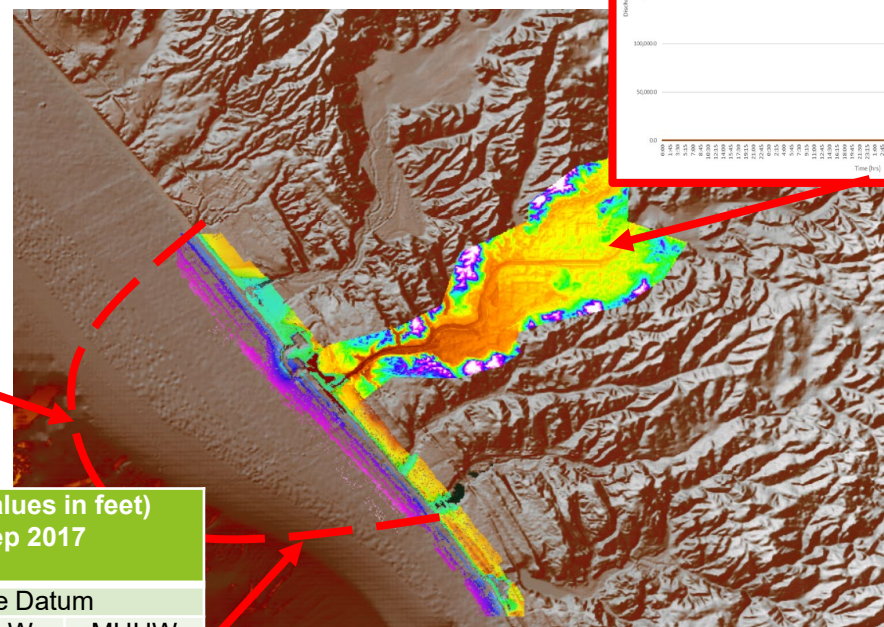
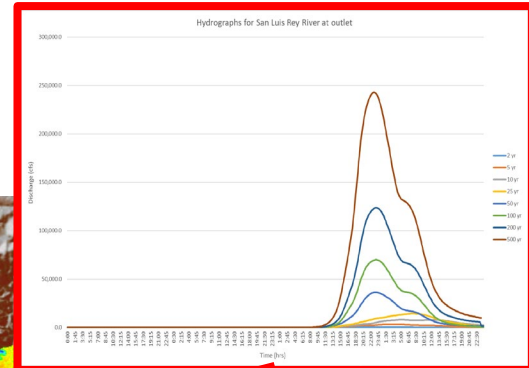
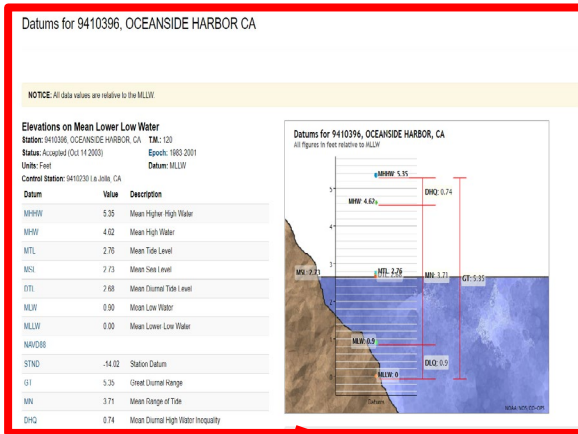


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Accomplishments:



Reference Datums: NAVD88, MLLW, and MHHW (all values in feet)
 Station: 9410230, La Jolla, CA - Version of Data: 20 Sep 2017
 Units: Feet - Based on Tidal Epoch: 1983 – 2001

Description	Name	Reference Datum		
		NAVD88 (feet)	MLLW (feet)	MHHW (feet)
Extreme High Water (25 Nov 2015)	EHW	7.62	7.81	2.49
Highest Astronomical Tide (08 Sep 1987)	HAT	6.95	7.14	1.82

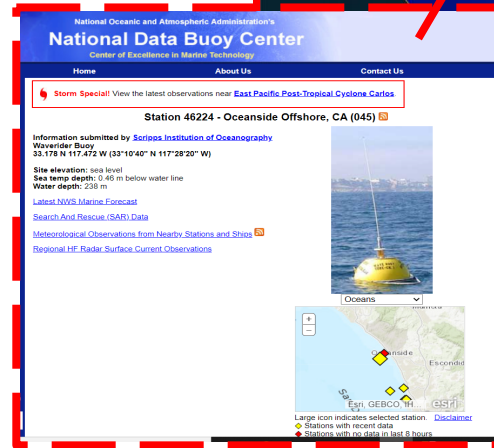
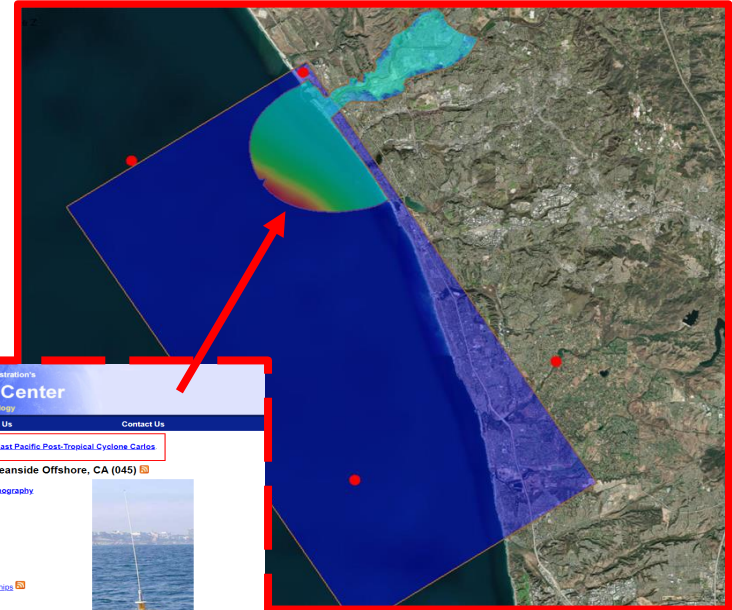
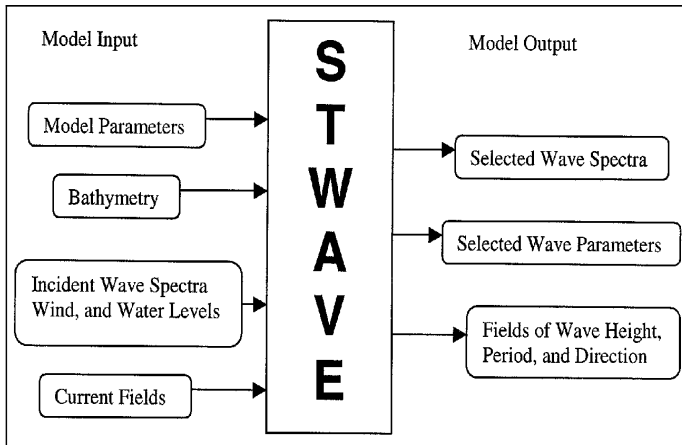


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Accomplishments:

Steady-state spectral WAVE (STWave)

- Steady-state
- 2D Finite difference
- Spectral model



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A path forward toward implementation:

- **Countermeasure Analysis**

The combined AdH-StWave model will be simulated with various shoaling countermeasures to analyze the efficacy of each, and possible consequences for downwind regions.



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How is this project benefiting the USACE and Nation?

This research offers the USACE and stakeholders an analysis of various shoaling counter measure alternatives for SLRR flood mitigation project.

This funding led to the development and application of a combined AdH/StWave model for the mouth of the San Luis Rey River. Coupling AdH and StWave models to model the system is invaluable in understanding the interplay between the inland and the coastal environment, and develop strategies for longshore shoaling counter-measures.

This effort will allow for the design of mitigation options and reduction or elimination of future sediment removal activities.

The primary benefit of this effort will be the transfer of knowledge learned to other areas on the West Coast that suffer from the blockage of conveyance due to longshore transport.

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Thank you!

Questions.