Stephanie Rojas

From: O'Day, Christopher <coday@moffattnichol.com>
Sent: Wednesday, February 4, 2026 9:30 AM
To: City Clerk
Subject: FW: Moffatt & Nichol Oceanside City Council Letter
Attachments: MN_Oceanside_City_Council_Letter.pdf

Christopher O'Day, EIT
Coastal Scientist

Moffatt & Nichol
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E coday@moffattnichol.com

From: O'Day, Christopher <coday@moffattnichol.com>
Sent: Wednesday, February 4, 2026 9:23 AM
To: Council@oceansideca.org
Cc: Webb, Chris <cwebb@moffattnichol.com>; Anghera, Shelly <sanghera@moffattnichol.com>; Charles Bowen <cbowen@sosoceanside.com>; Bob Ashton <bashton@sosoceanside.com>; Jayme Timberlake <jtimberlake@oceansideca.org>; Matt Caulfield <mpcaulfield@yahoo.com>
Subject: Moffatt & Nichol Oceanside City Council Letter

Dear Honorable Mayor and City Councilmembers of Oceanside,

I am writing to respectfully submit the attached letter expressing my professional endorsement regarding the timing and placement of sediment from the US Army Corps of Engineers' Oceanside Harbor dredging program.

The letter summarizes findings from a recent comprehensive coastal study I co-authored and offers my personal and professional perspective on how dredging timing and sand placement can better align with established coastal processes and improve shoreline outcomes in Oceanside.

I appreciate your consideration of this endorsement as you evaluate potential adjustments to the Harbor dredging program, and I thank you for your continued attention to science-based coastal management.

Respectfully,

Christopher O'Day, EIT
Coastal Scientist

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February 4, 2026

Honorable Mayor and Members of Oceanside City Council
300 North Coast Highway
Oceanside, CA 92054

Attn: City of Oceanside

Subject: Oceanside Harbor Dredging Timing and Sand Placement

Dear Mayor and Councilmembers,

My name is Christopher O'Day, and I am a Coastal Engineer with Moffatt & Nichol in Carlsbad, CA. Over the past year, our team prepared a comprehensive technical report for Save Oceanside Sand entitled "Del Mar Boat Basin's Effect on Oceanside Beaches," which synthesized more than 70 years of coastal studies, historic shoreline data, and updated analyses to better understand sediment dynamics and shoreline change along the Oceanside coastline. As both an author of that report and a practicing coastal scientist with direct familiarity with Oceanside, I am writing to share my professional and personal perspective on the importance of harbor dredging timing and sand placement practices.

While the primary objective of our study was to document the long-recognized downcoast effects of the Del Mar Boat Basin and Oceanside Harbor on sediment transport, our work also examined the operational effectiveness of ongoing dredging and bypassing practices. That analysis revealed that, in addition to the structural impacts of the harbor itself, when and where dredged sand is placed has a measurable influence on whether that material provides lasting shoreline benefit or is rapidly lost back into the harbor entrance or offshore.

A consistent conclusion across decades of literature, updated shoreline datasets, and expert discussions is that spring dredging and near-harbor placement are poorly aligned with the dominant sediment transport processes affecting Oceanside's beaches. Our analysis of satellite-derived shoreline change data shows persistent accretion north of the harbor and chronic erosion south of the harbor that is only temporarily offset by nourishment or bypassing events. In particular, sand placed too close to the harbor and during periods of dominant northern littoral transport often returns quickly to the entrance channel, resulting in inefficient reuse of sediment with limited downcoast benefit in areas that are most critically affected by shoreline erosion.

Conversely, when sand placement more closely aligns with natural processes, shoreline response improves. Both historic records and recent monitoring indicate that fall sand placement, followed by winter wave conditions, offers the greatest opportunity for dredged material to move southward and persist on chronically eroded beaches in South Oceanside. This finding is reinforced by findings in our literature review and by expert consensus that seasonal wave climate, offshore island sheltering, and transport reversals must be accounted for in sediment management decisions.

Based on the full body of evidence reviewed in our study, I respectfully offer the following conclusions for Council's consideration:

- Shifting harbor dredging from spring to fall is well-supported by both historic and modern coastal science and is likely to increase the efficiency and longevity of placed sand.
- Relocating or extending receiver sites farther south reduces the likelihood that placed sand will be transported back into the harbor during seasonal littoral transport reversals.
- Dredging practices that better emulate natural pre-harbor construction sediment transport events will improve the probability that mandated navigation dredging also produces meaningful public shoreline benefits.

I appreciate the City's ongoing efforts, including the proposed trial of fall dredging, to incorporate best available science into coastal management decisions. Based on our work, I believe that optimizing dredging timing and sand placement represents one of the most practical and immediately actionable steps available to improve erosional effects on Oceanside's shoreline and support long-term shoreline resilience.

Thank you for the opportunity to share these findings and perspectives. I would be pleased to discuss any aspect of this work in greater detail.

Respectfully,

Christopher O'Day, EIT
Coastal Engineer
Moffatt & Nichol

Stephanie Rojas

From: Thomas Schmiderer
Sent: Tuesday, February 3, 2026 4:58 PM
To: City Clerk
Subject: FW: Support shifting annual Oceanside Harbor dredging from spring to fall
Attachments: Flick_Oceanside-Council_20250204.pdf

-----Original Message-----
From: Reinhard Flick <rflick@ucsd.edu>
Sent: Tuesday, February 3, 2026 4:57 PM
To: City Council <Council@oceansideca.org>
Cc: Jayme Timberlake <JTimberlake@oceansideca.org>; bashton@sosoceanside.com; Charles Bowen <cbowen@sosoceanside.com>; Matt Caufield <mpcaulfield@yahoo.com>; cwebb@moffattnichol.com
Subject: Support shifting annual Oceanside Harbor dredging from spring to fall

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Esteemed City Council of Oceanside,

Please consider my strong endorsement of the Oceanside City staff recommendation to shift the annual US Army Corps of Engineers dredging of Oceanside Harbor from spring to fall for reasons outlined in the attached.

In my opinion, shifting the dredging schedule to fall is long overdue based on the wave induced longshore sand transport in Oceanside. Spring placement puts sand right back into the harbor in summer and deprives beaches south of the pier of sand perpetuating chronic shortages in south Oceanside.

Thank you for considering my opinions on this important matter.

Respectfully,

Reinhard E. Flick, PhD
Coastal Oceanographer
Scripps Institution of Oceanography UCSD

Public Comment City of Oceanside, CA
City Council Meeting February 4, 2026
Agenda Item 9

Reinhard E. Flick. Ph.D.
Scripps Institution of Oceanography (SIO), University of California San Diego

Support Staff Recommendation to Shift Oceanside Harbor Dredging from Spring to Fall

Thank you for the opportunity to support the Oceanside City Staff recommendation to shift annual harbor dredging to the fall to extend shoreline benefits, enhance coastal resilience, and increase operational predictability.

In my opinion shifting the dredging schedule to fall is long overdue based on the wave induced longshore sand transport in Oceanside.

Spring placement puts sand right back into the harbor in summer and deprives beaches south of the pier of sand perpetuating chronic shortages in south Oceanside.

The staff report (File # 26-1221) explaining the reasons for shifting dredge timing was prepared by Jayme Timberlake, your Coastal Zone Administrator. In my view Ms. Timberlake is currently the most capable and knowledgeable local coastal staff person in San Diego County.

Public comment from the Save Oceanside Sand (SOS) public interest advocacy group contained in their February 3 email to you from Executive Director Robert Ashton also provides compelling reasons to shift dredging from spring to fall, as well as for placing the dredged sand farther south than is current practice. While I have advised SOS in these matters, I have no organizational or monetary connections with them.

As widely acknowledged, creation of the Del Mar Boat Basin during WWII and subsequent construction of the Oceanside Harbor jetties interrupt the natural movement of littoral sand and divert sand offshore in Oceanside.

Recent studies (*e.g.* Moffatt & Nichol 2025, Brown, 2025) and numerous older works cited in the Staff Report suggest a delicate balance of southward and northward sand movement along Oceanside beach south of the harbor.

Oceanside is in the wave shadow of Santa Catalina Island, which substantially shelters the beach from west and northwest wave exposure. On the other hand, Oceanside is wide-open to southerly approaching waves, most importantly summer “south swell” generated by fierce Southern Ocean winter storms off Antarctica. The shorter-period north and west approaching waves produce beach sand transport southward as well as offshore, while the longer period south swell moves sand back to the north and often onshore.

Wave-induced sand transport estimates using SIO Coastal Data Information Program (CDIP) wave data show that in Oceanside the southward and northward rates and amounts of annual-average sand movement are closely balanced, suggesting that the classical strong net southward “river-of-sand” concept is weaker than on beaches to the south. This close balance

creates a “tug-of-war” between southward sand transport in winter and south swell transport reversal toward the north in summer.

This finding indicates two things: First, placing dredged sand from Oceanside Harbor between it and the pier in the spring invites near-immediate sand movement to the north in the following summer. This puts sand right back into the harbor mouth and toward adjacent beaches creating shoals that are a proven hazard to boating. Second, spring placement deprives beaches south of the pier of dredged sand that would more likely be available if dredging were done in the fall, thus contributing to the perpetual chronic sand shortages in south Oceanside.

My coastal oceanography qualifications to render these opinions are summarized in the attached resume. In short, I have studied California coastal processes at SIO since 1970. I was the Staff Oceanographer for the California Department of Boating and Waterways and California State Parks for 36 of those nearly 56 years. I represented these agencies at the SANDAG Shoreline Preservation Working Group from 1984 to 2020 and remain as SIO’s representative.

References

Brown, E.B., 2025. *Decadal Variability in Wave Climate and Shoreline Change in Oceanside, California, A Thesis submitted in partial satisfaction of the requirements for the degree Master of Science,* La Jolla, CA: University of California San Diego, 54 pp.

Moffatt & Nichol, 2025. *Del Mar Boat Basin’s Effect on Oceanside Beaches*, *Final Report Produced For Save Oceanside Sand*, *November 14, 2025,* Carlsbad, CA: Moffatt & Nichol, 71 pp.

REINHARD E. FLICK, Ph.D.
Coastal Oceanographer
Research Associate
Scripps Institution of Oceanography
La Jolla, CA 92093-0209
rflick@ucsd.edu

Education

Ph.D. Oceanography, Scripps Institution of Oceanography, University of California San Diego, 1978
B.S. Physics, Cooper Union for the Advancement of Science and Art, New York, NY, 1970

Positions

Scripps Institution of Oceanography, Research Associate, 1984-present
California Department of Parks and Recreation, Staff Oceanographer, 2013-2020
California Department of Boating and Waterways, Staff Oceanographer, 1984-2013
TerraCosta Consulting Group, Principal and Consulting Oceanographer, 2006-2021
Scripps Institution of Oceanography, Assistant Research Oceanographer & Academic Administrator, 1978-1984
Scripps Institution of Oceanography, Research Assistant & Graduate Student, 1970-1977
Mid Ocean Dynamics Experiment (MODE) Summer Institute, Boulder, CO, Fellow, summer 1972
R.V. Thomas Washington, Pacific Ocean Kuroshio Cruise, Scripps Institution of Oceanography, summer 1971
R.V. Chain Cruise 99, Indian Ocean, Woods Hole Oceanographic Institution, summer 1970
Woods Hole Oceanographic Institution, Woods Hole, MA, Summer Fellow, 1969
United Nations Headquarters, NY, Statistical Clerk, summers 1967, 1968

Experience

Academic research, lecturing, administration, and contract management; consultant and expert witness, and public service in ocean temperature, salinity, and wave climate change; nearshore and beach processes, including waves, tides, sea level, coastal erosion, development, evolution, and storm damage
Published 90 scientific works, 100's of technical reports and abstracts, given scores of presentations
Yesterday Camp, Antarctica - Response of the Ross Ice Shelf to Wave Induced Vibrations, 2014
SERDP-funded Navy study, *A Methodology for Assessing the Impact of Sea Level Rise on Representative Military Installations on the Southwestern United States,* 2009-2013
Executive Editor, *Shore & Beach*, American Shore and Beach Preservation Association, 2004-2010
National Academy of Sciences Committee, *Restoration and Protection of Coastal Louisiana*, 2005
California Shore and Beach Preservation Association, Director, 1984-2004, President, 1991-1996
Cabrillo National Monument Foundation, Trustee 1997-2003
Los Peñasquitos Lagoon Foundation, Board of Trustees 2025-present

Awards and Memberships

CA State Parks Director's (Inaugural) Adaptation Award, 2018
Joe Johnson Outstanding Service Award, *California Shore and Beach Preservation Association*, 2016
Morrough P. O'Brien Award, *American Shore and Beach Preservation Association*, 2002
The Oceanography Society, Life Member
American Geophysical Union

Personal

Born Freiburg, West Germany; speaks German fluently; immigrated to New York City 1951; resides in Escondido, CA; enjoys classic British cars, stamp collecting, ham radio amateur license K6REF; volunteer Maritime Museum San Diego; NAUI open water certified SCUBA diver; US Coast Guard Master Credential (in continuity); ASA certified sailing instructor; American Red Cross Water Safety Instructor.