

JACOBSEN PILOT SERVICE, INC.
LOS ANGELES AND LONG BEACH HARBORS

===== PILOT SERVICE =====
U.S. FEDERAL LICENSED PILOTS

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November 15, 2020

Dr. Clarissa Anderson
Executive Director
Southern California Coastal Ocean Observing System
Scripps Institution of Oceanography
9500 Gilman Drive, 0206
La Jolla, CA 92093-0214

Dear Dr. Anderson:

All of us at JACOBSEN PILOT SERVICE, INC., strongly endorse the valuable data and services provided by the Southern California Coastal Ocean Observing System (SCCOOS) at the Scripps Institution of Oceanography, University of California San Diego.

Our Pilots have been using this valuable information for many years now. We navigate some of the largest Very Large Crude Carriers (VLCC) that come into American waters and it's critical for us to monitor the swells closely so we can reduce the chance that the vessel will pitch or roll to a point of touching bottom. Also, during storm conditions we use the offshore wave data to predict the wave patterns at our Pilot Boarding area to ensure we can transfer our pilots onto the ships safely.

A successful project that we have completed is the PROTIDE program. <https://polb.protide.eu/PROTIDEPoLB> This predictive modeling program takes information from CDIP offshore wave buoys and calculates if it is safe for us to bring in deep draft (VLCC's). This project is a partnership between SCCOOS/CDIP, Port of Long Beach, State of California (OSPR), Marathon Oil Company, the Marine Exchange, and our piloting company. The goal is to assure that our under keel clearance along the entire route into the port is safe at any given swell condition. PROTIDE has proven effective and is used continuously on VLCC's and will most likely be expanded to other type of vessels soon.

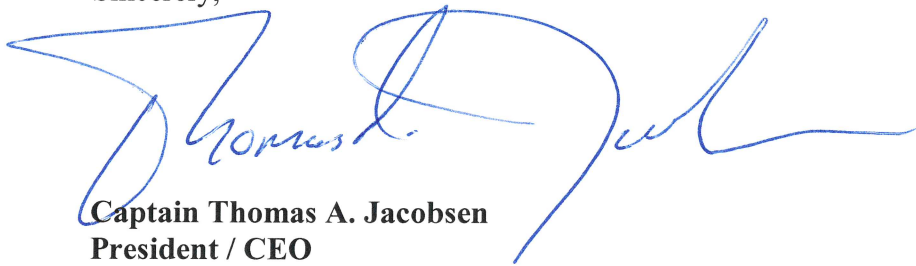
As a science-based decision support system, the Ocean Observing System's work interactively with local, state and federal agencies, resource managers, industry, policy makers, educators, scientists and the general public to provide data, models and products that advance our understanding of the current and future state of our coastal and global environment. SCCOOS focuses on coastal observations and product development to

provide information necessary to address issues marine operations, coastal hazards, climate variability and change, and ecosystems, fisheries, and water quality

I understand that SCCOOS is funded primarily by the National Oceanic Atmospheric Administration (NOAA). Sustained funding for SCCOOS will be crucial to the maintenance of the program's ocean observing network and to the continuity of the important data products and services that these observations enable.

Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Thomas A. Jacobsen". The signature is stylized and fluid, with a large initial "T" and "J".

Captain Thomas A. Jacobsen
President / CEO

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