

Study: Septic tanks affect coastal water quality

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PALO ALTO, CA — California Sea Grant researchers have strong evidence that residential septic tanks in Northern California are leaking nitrogen and phosphate into coastal waters that can trigger algae blooms, according to a March 11 California Sea Grant [news release](#) published by the University of California at San Diego.

Reporting in the journal *Limnology and Oceanography*, the research team reports finding elevated levels of these “nutrients” in the surf zone during periods of high groundwater flows to the beach.

Following one of these freshwater pulses, they observed a four-day elevation in chlorophyll-a levels — a proxy for phytoplankton concentrations. Though it is extremely difficult to attribute any single algae bloom to the presence of higher-than-normal nutrient levels, the general link between nitrification and algae blooms is known to occur in both saltwater and freshwater ecosystems, according to the release.

Alexandria Boehm is a professor in the Department of Civil and Environmental Engineering at Stanford University and part of the research team. Boehm is quoted in the release as saying, “Our project is one of the first in California to show definitively that septic tanks can affect coastal water quality through submarine groundwater discharge.”

Recognizing the potential environmental implications for beach, ocean and river ecosystems, the California legislature has directed the State Water Resources Control Board to establish regulations on septic systems. California and Michigan are the nation’s only two states without statewide regulations on septic systems.