



## Southeast Ocean and Coastal Acidification Network

### "Crumbling Coral: Cold-water Reefs in the Acidic Northeast Pacific and their Implications for Other Regions of the USA"

**Tuesday May 5,  
12pm EDT**

Please join SOCAN for our next webinar **Tuesday May 5, 12pm EDT**. It is titled "Crumbling Coral: Cold-water Reefs in the Acidic Northeast Pacific and their Implications for Other Regions of the USA" presented by Leslie Wickes and Peter Etnoyer, NOAA National Centers for Coastal Ocean Science Center for Coastal Environmental Health and Biomolecular Research.



Leslie Wickes, NOAA NCCOS Center  
for Coastal Environmental Health and  
Biomolecular Research

#### *Abstract*

Cold-water reefs are fragile, complex ecosystems that extend into the bathyal depths of the ocean, creating three-dimensional structure and habitat for deep-water invertebrates and fishes. The most prolific cold-water reef-building coral is *Lophelia pertusa*, which occurs at depths where aragonite saturation is three to four times lower than their shallow-water reef counterparts. The current study employed an unprecedented number of ROV dives (n=564, 2003-2014) to document the widespread distribution of a reef-building coral on the U.S. West Coast for the first time, providing empirical evidence of species survival but loss of reef integrity in the naturally acidified conditions. The study found that while *Lophelia* can persist in the corrosive waters, framework extent, linear extension and skeletal densities were greatly reduced relative to regions such as the North Atlantic and US South Atlantic Bight, where the coral forms more expansive reefs of robust skeleton. Preliminary findings in the South Atlantic Bight suggest corrosive water will also be impinging on *Lophelia* reefs in this region. The future health of these SAB reefs may depend on both the degree and rate of change, necessitating new monitoring efforts to evaluate carbonate chemistry with respect to cold-water reefs in the Southeast region.

#### *Brief Biography*

Leslie Wickes is a marine biologist working at NOAA's National Center for Coastal Ocean Science in Charleston, SC. Beginning at the Pennsylvania State University, followed by Temple University and the College of Charleston, she has researched deep-sea corals off the West Coast, Gulf of Mexico, Caribbean and South Atlantic Bight. Now at NOAA, she's involved in multiple projects that relate to coral health and condition, both with respect to oil exposure following Deepwater Horizon and climate change.

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