

Biology Seminar



Biology Graduate Student Association and Department of Biological Sciences
Fri. 2/5@4pm in SCI B133

Holy CAAU! Impacts of The Blob on Coastal Seabirds



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In 2013, the North Pacific began a warming trend that continues to the present. Known as “the Blob,” this persistent lens of anomalously warm water has been linked to a wide range of ecosystem impacts, from range extensions to harmful algal blooms to mass mortality of marine upper trophics including marine mammals and seabirds. In 2014-15, untoward numbers of Cassin’s Auklets (*Ptychoramphus aleuticus*) washed ashore starting in northern California (Nov) and progressing northward into northern Oregon and the outer coast of Washington (Dec-Feb). Three citizen science programs with hundreds of trained data collectors monitoring over 200 beach sites at least monthly documented monthly carcass encounter rates 1-3 orders of magnitude above regional long-term averages. Across the four month event, more than 8,000 carcasses were found, indicating that total deposition may have been in the hundreds of thousands. We used a multivariate approach to begin exploring relationships between annualized auklet encounter rates in the highest deposition area (43-48.5° N) in Oct-Feb, focusing on four nonexclusive forcing factors: colony production, food type and availability, post-breeding habitat availability, and winter storminess. Preliminary analyses suggest that introgression of the “wrong” type of food – smaller, less energetically valuable copepods - may have stressed dispersing auklets, and that this stressed population may have simultaneously been compressed into remnant cold water concentrated along the coastline as seasonal upwelling broke down and downwelling pushed offshore anomalously warm water to shore.

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