

# Scientists identify seamounts as significant, unexplored territory

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Scientists from NOAA and Texas A&M University-Corpus Christi were astounded to find that seamounts, mountains that rise from the seafloor, rank as some of the most common ocean habitats in the world. Their findings are published in a new study and reverse previous beliefs about the prevalence of seamounts, which are treasure troves of marine biodiversity.

"Unlike beaches or even coral reefs, most people will never see a seamount, but this study shows that they are clearly one of the predominant ecosystems on the planet," said Peter Etnoyer, Ph.D., principal investigator of the study and marine biologist at NOAA's Center for Coastal Environmental Health and Biomolecular Research.

"We can only hope that through this study, people begin to realize what a vast unknown the ocean represents, and what a vital role it plays on Earth."

Although researchers have thoroughly explored some 200 seamounts and mapped and sampled a hundred others, this study is the first to estimate that more than 45,000 seamounts dot the ocean floor worldwide — a total of roughly 28.8 million square kilometers or an area larger than the continent of South America. The discovery was made possible using satellite altimetry data that measured incredibly slight changes in the sea surface height that, along with statistical analysis models, indicated the presence of these submerged mountains.

"Seamounts are biodiversity 'hotspots', with higher abundance and

variety of life forms than the surrounding seafloor," said Tom Shirley, Ph.D., contributing author of the study and a conservation scientist with the Harte Research Institute at Texas A&M University-Corpus Christi. "In fact, new species are observed or collected on nearly every submersible dive." Two dozen new species of corals and sponges, for example, have been collected from seamounts in the Gulf of Alaska since 2002.

Seamounts not only make up the largest area of [ocean](#) habitat, they are also highly productive environments that can serve as habitats for important commercial fish species like orange roughy and sablefish.

**More information:** This research, which is the first-ever comparison of the size of oceanic and land habitats, is featured in the journal *Oceanography*: [www.tos.org/oceanography/issue ...\\_1/23-1\\_etnoyer2.pdf](http://www.tos.org/oceanography/issue ..._1/23-1_etnoyer2.pdf) .

Provided by NOAA

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