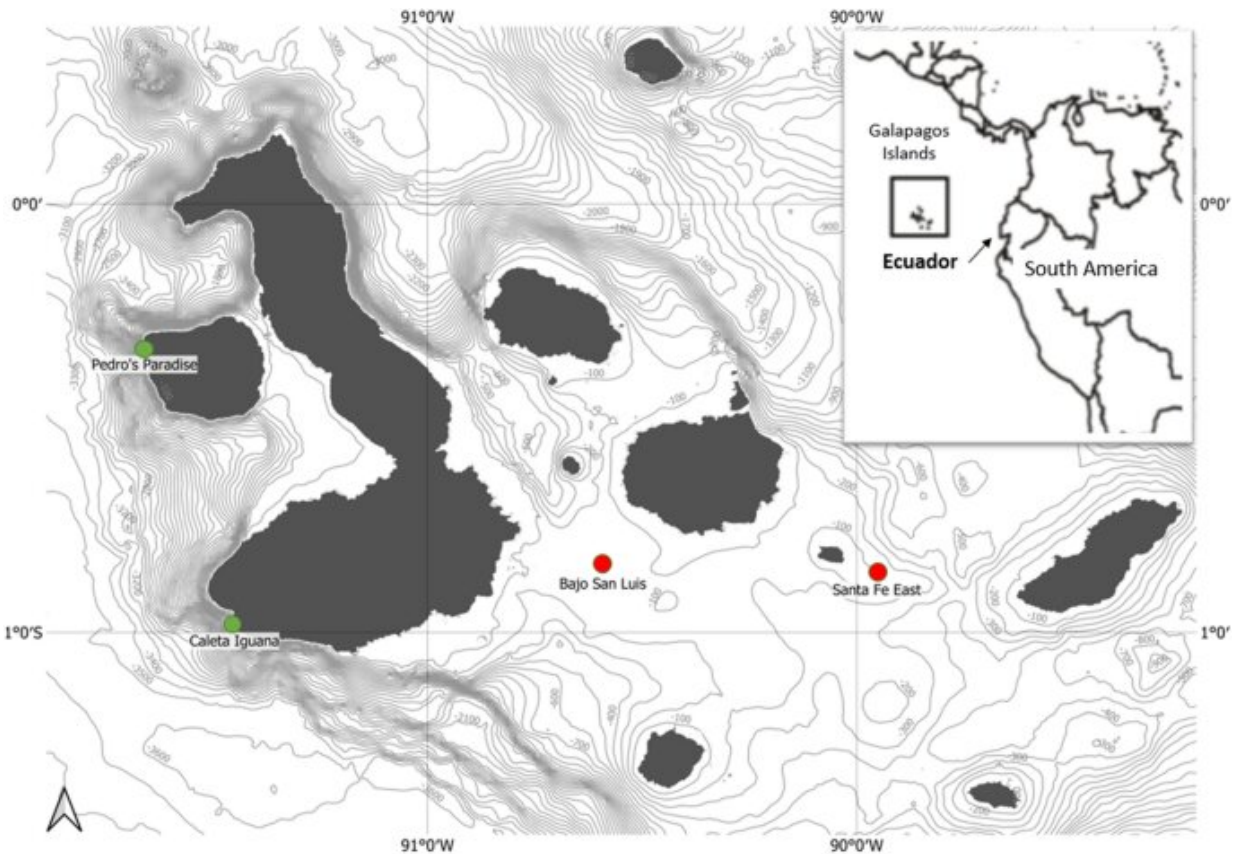


New tropical kelp forest discovered in the Galapagos Islands

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Location. Credit: *Marine Biology* (2022). DOI: 10.1007/s00227-022-04142-8

María Altamirano, with the Department of Botany and Plant Physiology of the University of Malaga, is a member of the scientific team that collaborates for the Seamounts Project. This project led by the Charles

Darwin Foundation (CDF) has discovered an extensive kelp forest on the summit of a seamount, at depths of ~ 50 m, in the south of the Galapagos Islands.

The significance of this research, published in the journal *Marine Biology*, lies in a new [kelp](#) species record for the region and, probably, for science. Thus, this research, conducted in collaboration with the Galapagos National Park Directorate and National Geographic, has discovered and characterized the ecology of this new ecosystem.

Refuges for diversity

Kelps are brown algal seaweeds, famous for reaching very large sizes, which form [marine forests](#) in high densities. Similar to [coral reefs](#) and mangroves, these forests are very important for the maintenance of marine biodiversity, as they provide protection and food for many species.

As kelps are cold-water species, most of these forests are found exclusively in warm-cold or polar regions and shallow [coastal areas](#) because they need constant light. However, this kelp [forest](#) of the Galapagos Marine Reserve is located in a tropical region away from coastal areas.

"This is the first time that such an extensive and dense kelp forest has been registered in this part of the Galapagos and at such depths, since what we found looks very different from the *Eisenia galapagensis* kelp species, discovered in this area in 1934," explains Salomé Buglass, CDF scientist and lead researcher, who adds that it is almost twice the normal size.

Remotely operated vehicles

As standard scuba diving is restricted to depths of 40 meters, CDF's research teams relied on new technologies, such as remotely operated vehicles (ROVs), to explore, document and characterize these deep-sea ecosystems.

In fact, thanks to the installation of a mechanical claw to the ROV, in 2018 Professor María Altamirano, who was in the archipelago as coordinator of a collaboration project of the University of Malaga, together with the researcher at the University of Granada Julio de la Rosa, were able to analyze specimens of this newly registered alga, "which is essential to determine its taxonomy and is still under study."

Explore and protect

"Despite their enormous importance as ecosystem engineers and as support for the fascinating marine life of the Galapagos Islands, the macroalgae of this area have been widely ignored among the marine ecosystems of the archipelago," says Altamirano. "This discovery offers the opportunity to highlight its significance as habitat for other [species](#) and their role in carbon sequestration within deep-sea areas."

The scientists conclude that knowing that there are entire marine forests teeming with life that we were unaware of at only 50 m depth, serves as a reminder of how much remains to be explored, discovered, learned and protected.

More information: Salome Buglass et al, Novel mesophotic kelp forests in the Galápagos archipelago, *Marine Biology* (2022). [DOI: 10.1007/s00227-022-04142-8](https://doi.org/10.1007/s00227-022-04142-8)

Provided by University of Malaga

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