

How have changing sea-levels influenced evolution on the Galapagos Islands?

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The Galapagos Islands have an iconic status in the history of evolutionary study, now new research shows that the islands' own geological past may have influenced the evolution of the chain's native species.

Writing in the *Journal of Biogeography*, Jason Ali and Jonathan Aitchison explore how fluctuating sea-level changes over thousands of years impacted the island chain's ecology. They estimate that when the sea retreated, most recently 20,000 years ago, the water would have been 144m below its current level.

As a result, Santa Cruz, the island in the center of the archipelago, would have expanded, enveloping many of the smaller [islands](#) while creating a series of shallow 'land bridges' between the volcanic outcroppings. Such bridges explain the range and diversity of the islands' species, such as snakes, geckos and iguanas, which appear landlocked to modern eyes.

"As soon as I saw that that half the islands in the archipelago were sat on a single, shallow, submarine platform, I realized that the implications for biology could be significant," said Dr. Ali. "My geological knowledge told me that sea-level falls must have regularly re-connected the islands, and that this must have profoundly shaped the landlocked biota's distribution, and very likely its composition."

More information: Jason R. Ali, Jonathan C. Aitchison, 'Exploring the

combined role of eustasy and oceanic island thermal subsidence in shaping biodiversity on the Galápagos,' *Journal of Biogeography*, [DOI: 10.1111/jbi.12313](https://doi.org/10.1111/jbi.12313)

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