

Project Update July 2024

When we started the Galapagos Reef Revival project we were a bit wary of the incoming 2023-2024 El Niño which was forecast as one of the strongest ENSO events of the decade.

Nevertheless, we thought it to be the perfect opportunity to study coral resilience and test coral restoration during extreme bleaching events. Thankfully, things turned out differently.

During the cold months of the year (July - December) the water was warmer than normal, (around 26 °C), more than 5 °C above average, but having coincided with the Galapagos cold season meant that overall SST temperatures were buffered by the strong influence of the cold-water Humboldt current, keeping the corals healthy and strong even during the height of El Niño.

Interestingly, as soon as the warm season started (January-June), the influence of el Niño decreased, allowing water temperatures to return to normal. This unique year has provided a warmer-than-usual winter season, and a normal summer, thus keeping water temperatures in the Galapagos moderate (25-29 °C) and allowing for excellent coral development and growth.

I'm pleased to say that this year has provided the best coral survivorship and growth rates so far. Our coral nursery boasts survivorship of over 91.6% on a greater diversity and number of corals. This fortunate scenario allowed us to prove coral restoration feasibility in the Galapagos even with extreme ENSO conditions, perhaps proving the theories that Galapagos may be one of the last cold spots in the Equatorial Pacific. In any case, we feel very blessed to have had such favourable conditions, strikingly different from those observed on other coral reef ecosystems around the world. The only downside to this is that we were not able to test for coral bleaching resilience, and therefore we were not able to select for the most heat-resistant corals, but we are aiming to test this hypothesis in laboratory conditions soon.

Our project was hoping to count with co-funding from Patagonia foundation, nevertheless, we have not been able to gain their support, which has limited our work to a smaller nursery than we were hoping for. Nevertheless, it has proven extremely usefull to prove coral restoration feasibility during this dynamic season.