

The New York Times

How Ancient Humans Reached Remote South Pacific Islands

NICHOLAS ST. FLEUR

NOV. 1, 2016



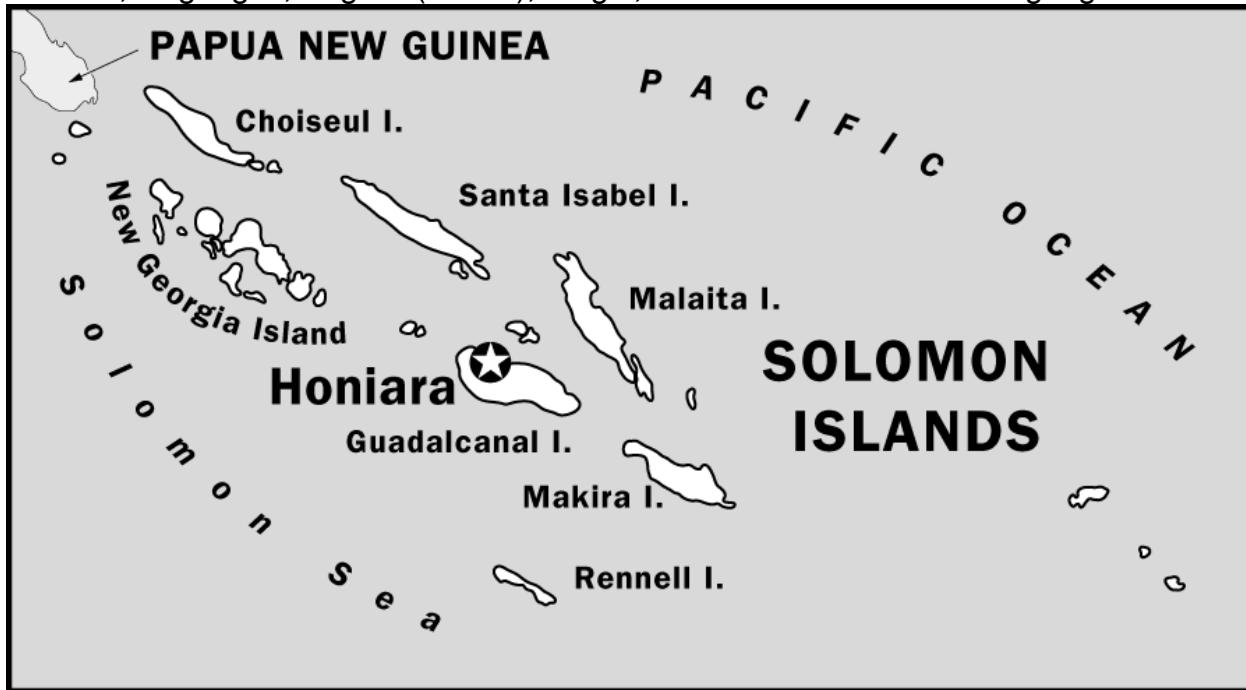
A man competes in a canoe race in Tahiti. Researchers found that remote islands in the Pacific Ocean could not be settled by ancient people until they mastered technology that allowed them to travel against the wind. Credit: Education Images/UIG, via Getty Images

Some 3,400 years ago, before the Iron Age or the rise of Ancient Greece, people on the Solomon Islands¹ left their white sandy shores for the cerulean² seas of the South Pacific. Their adventures brought humanity to the most remote reaches of Oceania³, like the tropical islands of Hawaii, Tonga and Fiji.

"The first ones were traveling into the unknown," said Alvaro Montenegro, a geographer and climatologist from Ohio State University. "They would leave the coast, and it would disappear behind them."

Archaeological evidence suggests that after setting sail from the Solomon Islands, people crossed more than 2,000 miles of open ocean to colonize islands like Tonga and Samoa. But after 300 years of island hopping, they halted their expansion for 2,000

¹ Solomon Islands: noun: a country that consists of a group of islands in the southwestern Pacific, to the east of New Guinea; pop. 595,600 (est. 2009); capital, Honiara; languages, English (official), Pidgin, and local Austronesian languages.



² cerulean: adjective: deep blue in color like a clear sky

³ Oceania: noun: an area that encompasses the islands of the Pacific Ocean and adjacent seas

years more before continuing — a period known as the Long Pause that represents an intriguing puzzle for researchers of the cultures of the South Pacific.

"Why is it that the people stopped for 2,000 years?" said Dr. Montenegro. "Clearly they were interested and capable. Why did they stop after having great success for a great time?"

To answer these questions, Dr. Montenegro and his colleagues ran numerous voyage simulations and concluded that the Long Pause that delayed humans from reaching Hawaii, Tahiti and New Zealand occurred because the early explorers were unable to sail through the strong winds that surround Tonga and Samoa. They reported their results last week in the journal of the Proceedings of the National Academy of Sciences.

"Our paper supports the idea that what people needed was boating technology or navigation technology that would allow them to move efficiently against the wind," Dr. Montenegro said.

The researchers studied climate data from the area to better understand the environmental conditions the explorers would have faced on their journeys. They also examined data on El Niño and La Niña conditions as well as wind and current directions and intensities.

Their computer simulations showed that the wind was an essential part of the early human expansion to these islands. While they sailed east from the Solomon Islands to Tonga and Samoa, the wind was at their backs, providing a smooth trip forward that let them populate islands like Fiji and Vanuatu. But after reaching this part of the Pacific, Samoa in particular, the environmental conditions changed significantly. At that point, instead of traveling with the wind they needed to travel against it to progress across the long distances.

Once they found a way to conquer the wind, the ancient people ended their 2,000-year hiatus, and over a period of a few hundred years colonized the rest of Oceania, such as the islands of Hawaii, Tahiti and New Zealand.