

Easter Island: The Inevitable Link Between Climate and Culture

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ABSTRACT

This investigation is a survey of scientific literature pertaining to changes in Easter Island culture and climate throughout its human history. It looks at predictions for future environmental changes presented in the form of environmental measurements. In addition to analyzing published information on climate and culture, this research looks at artifacts such as a cast of a Rapa Nui *moai* as well as a birdman staff.

This research investigates how climate change in the Pacific Ocean impacts culture change of Easter Island. The environment been affected by anthropogenic factors, including of deforestation by the first peoples to settle on Easter Island in 300-400 CE. Today, tourism on Rapa Nui and the high carbon emission rate that results may also be one of the factors that is helping to speed the process of climate change.

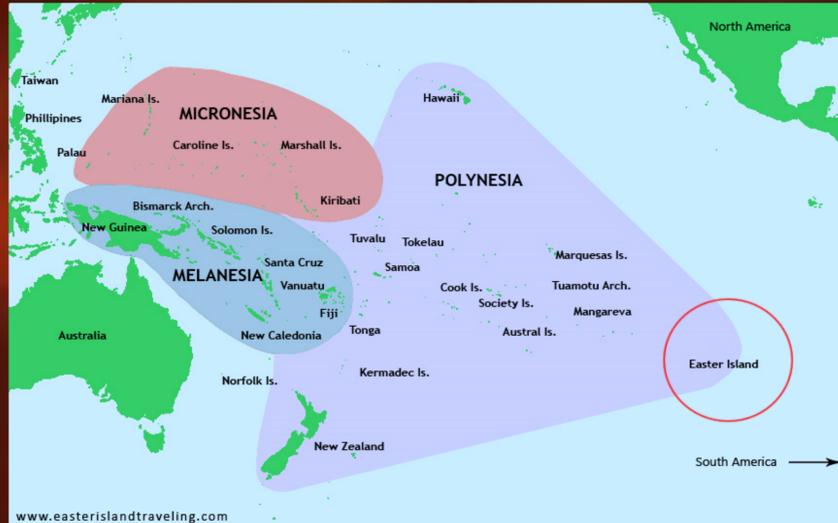
This environmental impact can affect peoples' way of life and livelihood on the island especially because of rising sea levels that may cause the island to become inhabitable, resulting in a loss of sense of community. With the impacts of climate change expected to increase in the future, this is an important time to consider the anthropological dimension of climate change on vulnerable Pacific Islands

What Are Those Giant Heads?

One of the most well-known and intriguing aspects of Easter Island culture is its collection of *moai*, or statues made from volcanic rock. *Moai* are embodiments of important figures, including deities and ancestral chiefs and stand on ahu or shrines. Hundreds of years ago, these statues could be found at several sites on the island, facing outward to the ocean. Over the years, however, due to conflicts such as clan wars on the island numerous *moai* have been destroyed, although several were later rebuilt.

On an expedition to the island in the 1930s, scientists from the American Museum of Natural History created a cast of a *moai* for the museum's Pacific Peoples' Hall. The cast was made with with difficult under adverse circumstances by one of the expedition staff, Toshio Aseida. It is evidence of the collaborative society that created these statues. The collection at the museum does not yet have many contemporary examples of the culture that exists there today. However, due to changes in climate, the island and the culture of its face ecological threats to their homes and livelihoods.

Map of Easter Island (Rapa Nui) in relation to other Pacific islands



Children from Easter Island (above) may experience changes in their culture in the coming years. One aspect of Rapa Nui culture is represented by the birdman staff (left), which belonged to a specific clan.

CLIMATE CHANGE: A SET OF PREDICTED MEASUREMENTS

Climate Parameter	Projected Change for Easter Island in 2100
Annual average temperature increase	A1B: 1.4° C - Global average: 2.8°C A2: 1.8° C - Global average: 4.0°C Heat waves likely to increase in intensity and duration.
Rainfall	-10% to -15% annually -20% to -30% during summer -5% to -10% during winter Dry spells and storm intensity likely to increase.
Sea Level Rise	A1FI : 0.26 – 0.79m Global average for A1FI: 0.26-0.59
Winds	-As the Hadley cell expands and weakens the SE trades may weaken but dominate for a greater period of the year. -Winter storms may increase in intensity.
Wave climate	Southerly swells may increase due to stronger mid latitude and Antarctic storms.
Climate drivers	General background climate likely to move to more "El Nino like" conditions.

Results: Climate Change & Artifacts

AMNH houses several artifacts that tell stories about the history and material culture of Easter Island, such as the Birdman staff:

- The staff came from the Birdman tribe of Easter Island
- This was a clan in Easter Island who focused on a specific god of theirs--Make-make
- Make-make is believed to oversee fertility
- The Birdman contest was held annually between Easter Island cults to determine the Birdman of the Year

CONCLUSIONS

Although much research has been done on climate change, not much has been done to investigate how the people feel their culture is being affected by it. Ethnographic, qualitative surveys are useful tools for determining peoples' perceptions on this topic. Surveys can assess complex personal perspective on many issues, including: how do you feel your cultural practices are changing? How do you think your children will be impacted? Although research alone is not a conservation effort, it can be seen as the first step in finding out how to help.

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