

Ancient and Modern Indigenous Responses to Climate Change

Grant McCall, Anthropology, Tulane University

Katherine Nelson, Anthropology, Tulane University

William Balée, Anthropology, Tulane University

Rather than reiterating the effects of greenhouse gasses, and bombarding the audience with messages to stop driving cars, the three anthropologists who spoke at this lecture provided information about human responses to drastic weather changes in ancient history.

The first speaker, Grant McCall, an anthropologist who specializes in the peoples of Africa's Namib Desert, discussed temperature changes that have occurred in different eras. He demonstrated key data that showed fluctuating oxygen levels in the atmosphere. One graph was very similar to that used by Al Gore in "An Inconvenient Truth." It demonstrated how global temperatures have consistently fluctuated over time.

McCall suggested that drastic changes in weather often result in cultural changes to the surrounding communities. For example, sudden weather shifts during the Upper Pleistocene Era brought about new patterns of technology like arrowheads and art forms like beads. He also provided a graph that demonstrated the impact of decline in "environmental richness." A "problem zone" occurs when natural resources cannot provide for existing populations and so population declines. Typically, after a major catastrophe, human groups become more efficient. This leads to a more strategic use of resources and organization and then population expands.

McCall concluded by discussing how disruptions in the warm water ocean current have caused some of these drastic temperature changes in the past. He suggested the present climate situation could lead to another disruption. "Consequences of this are really unpredictable," he says. "Historically...it hasn't been good."

Katherine Nelson, who studies the communities of the Egyptian desert, suggests that human populations have been very adaptable to climate change. She focused specifically on periods of drought in Northern Africa. The early Neolithic period was marked by heavy rainfall and saw a rise and diversity in wild animal populations and plant life. Also the use of new technology among the peoples of this area, like pottery, emerged. By the late Neolithic period (5000 years ago) a drastic drought transformed the area to a dry desert and the people of this area were forced to adapt. In response, they domesticated cattle, built wells and landscape links to the Nile River. In doing so, they formed lasting bonds with the agriculturists in the area. Artwork also changed, while large stone calendars marked the seasons. This represented a shift in social structure revealing that communities in this region were now "thinking about seasons and the bigger picture."

Finally, William Balée discussed Modern Indigenous Responses to extreme weather changes. In a region of Bolivia, there are a series of "raised" fields and "mounds" of earth. These are partially constructed out of the remains of ceramic materials from past settlements. In February of 2007, a flood devastated this region. Those indigenous people, who knew about these mounds and raised fields and were able to seek refuge there, escaped disaster. In Florida, similar mounds have been created and residents have discovered that they can plant certain trees and vegetation to secure these formations at a safe distance from the salt-water line. When the 2004 tsunami hit the Andaman Islands off the coast of India, the indigenous inhabitants observed the ocean tide recede, understood the significance and were able to escape to high ground in time. The modern locals, on the other, hand could not read this natural sign. They were advised not to evacuate by the government and thousands died.

Discussion

The question and answer section provided some interesting comparisons between indigenous and modern society. For example modern society is now using more energy to feed

people than ever before owing to high-energy agricultural inputs, transportation and markets. According to Balée hunting and gathering is the most efficient method for food production. Mechanized agriculture is the least efficient. Fossil fuels are becoming more expensive therefore it will be "harder to feed people" under these circumstances. When asked if ancient people adapted better to climate changes, Nelson responded that indigenous communities often have detailed knowledge of their environments. Now that we are more knowledgeable on a global scale, there is a "disconnect" between humans and their environment and between what's actually happening and what we think is happening.

Reported by:

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