Hope, Fear, and Worry: Emotional Geographies of Communities Affected by Climate Change

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Introduction

- The Global Ethnohydrology Study (GES) is a transdisciplinary, multi-year, multi-site research project, designed to survey cross-cultural water knowledge and norms.
- Since 2007, CAP-LTER and DCDC have sponsored GES's Phoenix site.
- GES 2014 focused on individuals' emotional responses to climate change in biophysically vulnerable communities.

What are emotional geographies?

- The study of emotional geographies focuses on how the world is experienced and constructed through emotions. While emotions have often been seen as part of the private domain, emotional geographies examines the role that emotions (and their environmental context) play in the public/policy sphere.

Data Collection

- A purposive sampling strategy was used to capture local residents' emotional reactions to past, present and future climate scenarios as well as respondent demographics.
- A total of 130 respondents participated in three communities:
  - Kodiak, AK: 38
  - Phoenix, AZ: 62
  - Mobile, AL: 30

Methods

- Used MAXQDA to autocode interviews for emotion terms
- Conducted keywords-in-context analysis (KWIC) to understand how people used emotion words

Research Questions

Who is most vulnerable to the psychological and emotional effects of climate change uncertainty?

How do livelihood, connection to place, and local ecology matter?

Sadness

- "Sad" occurs in 22 surveys from AZ, and 14 surveys each from AK and AL.
- Many respondents use "sad" in the context of the younger generation or their own children, particularly in comparing their experiences growing up to what they imagine for their children and the younger generation in the future.
- Respondents also use "sad" to talk about the way their relationship with their landscape is changing, and in terms of changing or loss of resource access.

"Sad that they have to deal with that [climate change] rather than working on medical research. I hate that we're going to have to spend a lot of money as a country or as a government when it's so needed elsewhere"
– AL resident

Hope

- "Hope" occurs in 7 of the surveys in AZ, 8 of the surveys in AK, and 3 surveys from AL.
- In AZ, "hope" occurs in the context of hoping that the climate doesn't change that much.
- In AK, it most often occurs in the context of hoping that people will be able to survive (in general and financially).
- In AL, it only occurs in the context of hope for the future generation.

"I hope I can keep my business alive for another 5 years. Then I will be 60 years old and have to go get a job so I can live out my life. I have no job retirement. I have lived off the land for too many years. I'm sad. I'm made. I'm to the point I almost don't care anymore."
– AK resident

Worry

- "Worried" occurs in 6 surveys from AZ, 10 surveys from AK, and 6 surveys from AL.
- In AZ, "worried" was most commonly used in reference to the future.
- In AK, it most commonly occurs in the context of changing future livelihoods.
- In AL, "worried" is most commonly used in the negative, in that people are not worried.

"I feel worried because security (like food and basic resources) is not certain in the future"
– AZ resident

Field Sites

Figure 1. Phoenix has a population of 6.8 million people with a highly diversified workforce. The IPCC suggests that areas in the Southwest, including Phoenix, are at high risk for increasing temperatures and reduced precipitation.

Figure 2. The greater Mobile, Alabama area has a population of approximately 195,000 people. The area has historically been sustained by fishing and farming, as well as tourism. Climate change predictions for the area primarily focus on ocean acidification and warming, sea level rise, and concerns about increasing frequency and/or intensity of tropical storms.

Figure 3. Kodiak has a population of just over 6,000 people, most of whom are employed in the commercial fishing industry or as wilderness guides. Climate change predictions in Alaska indicate glacial melt and warming temperatures; in Kodiak, ocean acidification and rising sea levels are the main concerns.

Future Research

- Ongoing keywords-in-context analysis to explore variation in word usage between sites
- Quantitative analysis that compares qualitative data with demographic data
- Classical content analysis using themes pulled from this dataset, as well as pulling from existing emotional geographies literature

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