Relational Poverty: ***Coastal events and precarious human populations***

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NSF Scoping Session on Coastlines and People

Introduction

Around the world the impact of chronic environmental conditions and episodic coastal events affect communities differently. These dynamics disproportionately threaten already fragile communities.

What is a precarious community?

- People who live non-secure lives as a function of the resources they use or the environment in which they live (e.g., fisher folk whose livelihoods are based on one fish species or people who have been racially and economically segregated into low-lying, flood-prone areas or environmentally toxic lands)
- People move to avoid sea level rise or other chronic conditions or acute events. In new settings, people's employment opportunities and connections to friends and family change.

What are chronic conditions and episodic environmental events?

- Persistent, long-term change and periodic, short-term impacts (e.g., ocean acidification, storms, thermal stress, hypoxia, runoff and dead zones, changing vegetation on coastlines)

How do the effects of climate change impact precarious communities?

- Human infrastructure and natural environments on coastlines are changing; these changes are likely to affect precarious people and communities differently because of pre-existing disadvantages.
    a. Increased economic instability for precarious communities (i.e., depending on single source of income, renters not in control of property, high-cost of living on coasts and low-wage economy, people making a living from casual and low-wage labor).
    b. Reduced natural resource quality and abundance may lead further to acute, long-term public health issues and reductions in ecosystem services (e.g. food and water contamination, over-extraction, habitat degradation)

Idea

- Evaluate the impact of coastal events and conditions on vulnerable human communities

Recommendations

- Utilize a multidisciplinary, integrated approach to evaluating the effects of coastal events and environmental conditions on human communities.

    - Example: ocean acidification/hypoxia and the influence on livelihoods and connections to the land--fishing and tourism
        - Natural Sciences: resource quality and sustainability (e.g., water quality, modeling fish populations--estimating harvest size)
        - Economic (e.g., fishery loss → loss of jobs and revenue and decline in recreational fishing and tourism)
        - Regulatory structure (e.g., fisheries, water regulation)
- Collect data to help mitigate disparities in human health and socio-economic impacts
    - Example: local government taxation structure and its influence on displacement and land use
        - Economics and Geography (e.g., public finance, space, decision making)
        - Political Science (e.g., voting; public attitudes; policy feedbacks; interest group mobilization and tax deductions)
        - Sociology (e.g., inequality and mechanisms for maintaining and creating disparities)
- Examine the definition, creation, and reproduction of precarious communities (i.e., how precarious communities form and are perpetuated in societies)
    - Example: developing in low-lying/flood prone areas
        - Economic (e.g., instead of home buyout programs to move whole communities, consider investing in the elevation of homes and providing other mitigation incentives)
        - Public Policy (e.g., if building in physically vulnerable areas consider codifying minimum height requirements to build and rebuild, or do not build in these areas)
        - Natural Sciences (e.g., restoring and maintaining natural systems to alleviate impacts from flooding events (i.e., keeping green areas green))

Impact/Value

- Conclusions will improve understanding and support development of public policy and social programs to mitigate disparities in human health and socio-economic status
- Working with disadvantaged communities could contribute to lessening inequality and improving environmental stewardship
- Communicating risk mitigations, public policies, and public health and safety to media and a large audience

Reasoning and supporting evidence

- Historical racial and economic segregation systematically places certain communities in environmentally vulnerable locations
- Urban planning initiatives insufficiently protect precarious communities; more physical and natural structures and systems can be developed to increase resiliency of human communities

Questions

- How to model complex systems?
- What are ecological outcomes, and how do they link to cultures, communities, and economies?
- How do regulatory structures influence and respond to changes in the natural and physical world? In turn, how do we describe those changes in the natural and physical world?
- How do we work in communities?
    - Through community groups: What kinds? How are they mobilized?
- What are implications for differential access?
    - Electronic engagement: data scientists scrape twitter feeds, and map use of cities via geolocated tweets

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