

Scientists offer guidelines for coping with climate change in Alaska

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Coping with the devastating effects of climate change in Alaska will require institutional nimbleness and a willingness among those living at lower latitudes to “share the pain,” according to the authors of a paper published this week in the *Proceedings of the National Academy of Sciences*.

The interdisciplinary team of ecologists and social scientists put forward broad strategic guidelines for dealing with dramatically warmer temperatures in Alaska.

“Alaska is way ahead of most of the world in the degree to which it’s already experiencing the effects of global warming,” said coauthor Erika Zavaleta, an associate professor of environmental studies at the University of California, Santa Cruz.

“It’s warmer and drier, winter ice melts earlier, and forests are under siege from longer, more severe wildfire seasons,” she said. “We need broad policy strategies to deal with the changes, not just reactively but proactively.”

In the paper, “Policy Strategies to Address Sustainability of Alaskan Boreal Forests in Response to a Directionally Changing Climate,” the authors emphasize linkages between global-scale changes and local-scale dynamics, and they present a scientific rationale for a cohesive policy response based on four broad policy strategies:

- **Adaptability**--Given the unknown trajectories of climate change effects in coming decades, policies must emphasize adaptability and nimbleness; institutions that can adapt and innovate, from the community to agency level, will be of greatest value.
- **Resilience**—For key parts of Alaska’s economy, ecology, and culture to persist in the face of all this change, social and ecological policies should maximize the involvement of local users in subsistence resource management decisions and should encourage diversity, both economic and ecological. For example, economic diversification away from overwhelming reliance on oil would help buffer the state’s economy from abrupt or catastrophic changes, said Zavaleta.
- **Reduce vulnerability**--The psychological divide between Alaska and the rest of the United States must be bridged to encourage people in the “Lower 48” to change their behavior and slow global warming, while also working to protect Alaskans who are threatened by ice too thin to support snow machines, coastal erosion, and hard-to-read environmental hazards. “There’s a disconnect between those whose behavior causes climate change and the people who are being most impacted by it,” said Zavaleta.
- **Transformation**--Institutional barriers to major change must be overcome to facilitate transitions to new strategies, such as adoption of energy policies that could reduce rural Alaskan dependence on oil.

“We tried to address what this crisis will require at all levels, from the individual to the institutional,” said Zavaleta, who has conducted research in Alaska for more than a decade. “The bottom line is that we need a broad approach that remains flexible and responsive to changing circumstances. But we need to get started. Climate change is happening, and in Alaska, people, infrastructure, and vast natural resources are already vulnerable.”

The interdisciplinary team was made up of five ecologists, two anthropologists, a political scientist, an economist, and a historian, who call for the simultaneous pursuit of all four areas of strategic change.

Source: University of California, Santa Cruz

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