

Introduction: climate change and indigenous peoples of the USA

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This special issue of *Climatic Change*, dedicated to the examination of impacts of climate change on indigenous peoples and their homelands, and proposed strategies of adaptation, constitutes a compelling and timely report on what is happening in Native homelands and communities. Indigenous peoples and marginalized populations are particularly exposed and sensitive to climate change impacts due to their resource-based livelihoods and the location of their homes in vulnerable environments. While these articles focus on indigenous peoples found within the borders of the USA, J. Maldonado et al. point out in their contribution, “The Impact of Climate Change on Tribal Communities in the U.S.: Displacement, Relocation, and Human Rights,” that indigenous communities around the world face similar issues and will likely find the contributions here valuable.

These articles confirm what those of us who have been paying attention to our homelands already know: the world we live in is changing, not the interior spaces and places where the majority of us situated in the midst of the modern industrial and postindustrial societies spend our days and nights, but the world of unbounded landscapes and seascapes that constitute what humankind denominates the natural world. Climate change, however, is only one of many drivers of change. Its effects cannot be isolated from the multiple social, political, economic, and environmental changes confronting present-day indigenous and marginalized communities. Indigenous peoples have long and multi-generational histories of interaction with their environments that include coping with environmental uncertainty, variability, and change. Collectively, these articles give us a glimpse of the day-to-day climate change reality those native people experience who still find their tribal identities and lifeways in practical activities situated in the symbiotic relationships of the nature–culture nexus.

This article is part of a Special Issue on “Climate Change and Indigenous Peoples in the United States: Impacts, Experiences, and Actions” edited by Julie Koppel Maldonado, Rajul E. Pandya, and Benedict J. Colombi.

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These articles highlight why awareness of climate change is so high among indigenous peoples of the USA when compared to most citizens of the USA. Unlike most citizens who form opinions about climate change based on cable news networks, internet sites, and even paper news publications, American Indian and Alaska Native awareness of climate change is the result of practical lifeway experiences and sensitivity to the rhythms of seasons that make them particularly knowledgeable about what is going on where they live. The recent UNESCO and UN publication of *Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation* (2012) by D.J. Nakashima et al. documents that indigenous peoples have been able to draw on a long multi-generational transmission of traditional ecological knowledges (TEKs) to demonstrate keen response and adaptation capabilities in the face of climate change.

Unlike the increasingly geographically mobile population of the USA, indigenous peoples draw on practical lifeway experiences—not one person’s experience—but that of entire nations and communities to share multi-generational “deep spatial” knowledges of empirical landscapes and seascapes. In scientific terms, these traditional knowledges (TKs) and/or TEKs are much akin to longitudinal case or field studies, with two exceptions: modern scientific studies are lucky to be designed and funded for a decade or two and they almost never have the rich experiential character of TKs. Also, to reiterate, indigenous peoples’ awareness of climate change effects and possible adaptation strategies to address those effects are born of practical lifeway exigencies and experiences accumulated over extremely long periods of time in particular places where home is identified with ecosystems and natural environments, not street addresses.

The useful knowledge of climate change and its challenges to Native people and native homelands offered here is far from exhaustive. The population of American Indians/Alaska Natives in the USA is approximately 5.2 million and Hawaiian Natives/Pacific Islanders number approximately 1.2 million. Few people realize that there are 566 federally recognized tribes and, at least, 34 state-recognized tribes across the USA situated in every type of environment found in the USA. This issue of *Climatic Change* deals with a good sample of those tribes and those willing to read every article presented here will glimpse the “big picture” of Native America too few Americans recognize: the history of this blue green planet—what many indigenous peoples throughout the Americas call Mother Earth—is essentially a story of intertwined ecological and cultural diversity.

This “big” history of people and places on the planet is now more important for the public to understand than any single national, biographical, or episodic-based history for a number of reasons, but one stands out. American Indian and Alaska Native cultural and lifeway diversity expressed through the symbiotic nature–culture nexus reminds all of us that our human responses to climate change will require diverse strategies that fit the people and places of the planet—in all of their diversity. There is no silver bullet or one-size-fits-all solution for addressing the impacts of climate change.

The contribution, “Indigenous Frameworks for Observing and Responding to Climate Change in Alaska,” by P. Cochran et al. is invaluable for emphasizing the importance of the inclusion indigenous peoples, their complex worldviews, and TKs in understanding climate change and adaptation strategies required to deal with climate change impacts. Cochran et al. document the complementary features of indigenous worldviews and the traditional knowledges they produce relative to Earth system science and persuasively argue for their necessary inclusion in climate change research, especially for the ethical framework they provide. Cochran et al. state, “From this knowledge emerges an indigenous sense of place, language, ceremonies, cultural identities, and ways of life that provide an ethical framework that guides responses to change.” An overarching theme that emerges throughout this