

# Indigenous Climate Education Bibliography May 2022

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**Abstract.** This curated bibliography is part of the Livelihoods Knowledge Exchange Network (LiKEN) *Knowledge Sharing Network: Climate Education Centering Indigenous Knowledge Systems* project, which is intended to develop Indigenous Peoples-/Places-centered climate education resources for educators and students with an intended focus on supporting Indigenous Youth and preK-16 educators who wish to incorporate these scientific, literary, and narrative knowledges into curriculum. The literature list is comprised of publicly-accessible citations which were based on recommendations from a Council of Indigenous Scientist and Educators, as well as contributions from the Rising Voices Center for Indigenous Earth and Sciences network, and broadly reference Indigenous Climate Change perception, adaptation, and education (preK-16), and is published under Creative Commons International 4.0 for non-commercial use. Each entry includes keywords developed by the compilation team and an author(s)' abstract if available. This bibliography does not contain culturally-sensitive nor extractive data. It is not an exhaustive list, but rather is meant to be an openly accessible foundation for continued literary review and development to promote continued inclusion of highly-usable resources for students, educators, and leaders, in partnership with Indigenous Peoples, with the core values of: Sovereignty, Relationality, and Responsibility.

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## **Introduction**

In January 2021, Indigenous scholars and students from across Turtle Island and beyond were invited to form a Council of Indigenous Scientists and Educators, with a goal of knowledge sharing and community building to center Indigenous knowledge systems in climate education. This Council was tasked with a number of deliverables, including this list of literary resources centering Indigenous scholarship in fields relating to climate and education.

While all Indigenous works contribute to the larger fabric of Indigenous Knowledges and scholarship, this literary review focuses on climate and education as two fields with great potential and need for Indigenous Knowledge integration. In fact, a great deal of Indigenous scholarship already exists for these fields, but rarely in a consolidated place. The mission behind the creation of this open-access list of resources is to serve as a jumping off place for Indigenous learners, knowledge keepers, educators, and creators to build upon what is known individually and in community. This resource is also a tool for educators looking for ways to integrate Indigenous perspectives into classrooms, from elementary to college.

## **Design**

The members, partners, and relatives of the Council of Indigenous Scientists and Educators Knowledge Sharing Network represent decades of experience and expertise in climate sciences, education, and Indigenous Knowledges; all of whom were invited to share the citations of articles and other educational resources they've encountered or authored along their paths of scholarship. Also, a contribution form was shared with the Rising Voices Center for Indigenous and Earth Sciences email list-serve, also broadly inviting climate experts and Indigenous Peoples to share literary information to contribute to this list. Once entries were gathered, the project director and various members of the Council went through each entry, identifying details that would be helpful in determining whether the resource was relevant and accessible. To start, our review team searched for each entry online and found whether the piece or its abstract could be viewed publicly. Of the abstracts and/or full resources that could be found and reviewed, the entries were screened for relevance either by the key terms provided, by the abstract of the resource (if any), or by reading a portion of the piece itself. Our team was also interested in showcasing Indigenous authorship, and therefore worked

toward refining the entries with this in mind. To ensure accountability, if there was contention about authorship or validity of the entry, it was excluded from this list and may be included in a future revision.

Once the resource entries underwent this initial screening process, our team compiled over 150 resources into this literary review using a JDS L<sup>A</sup>T<sub>E</sub>X template by Adam Harper, the SIGCHI reference package, and compiled into a .bib file and .pdf using Overleaf.com. The resources that have available abstracts by the author(s) have been included.

Every resource also has a list of keywords developed by the Indigenous Climate Education Bibliography Team. During the first week of this literary project, our team conducted a test run of coding to ensure our keyword interpretations were relatively the same. Once an inter-coder reliability of our team had been confirmed, we divided remaining resources by individual and by week to prevent burnout. Note that the keywords presented in this bibliography are not the resources' official keywords by the resources' authors, however may include such keywords if available. The keywords developed for each resource, and presented in this bibliography, are intended to provide *context* for the following questions:

- **Which** Tribes or Nations are included? **Where** is it located? (Note that some entries are not specifically grounded and may be described by region or as intertribal.)
- **What** is it about? What is the main content, i.e methodologies, structure, and/or frames, etc.?
- **How** is this presented? (Book, Journal Article, Symposium, etc.)
- **Who** is this for? Who is the intended audience?

Following the order of (1) Which/Where, (2) What, (3) How, and (4) Who, the context areas are denoted in the keywords entries, separated by semicolons (;) with example below:

**Keywords:** *Western Tribes, US National Parks (WHICH/WHERE); Simulated Indigenous Management Model (SIMM), Restoration Ecology, National Parks, Indigenous Agroecology, Disturbance Ecology, Ecological Modeling, Human Impacts, Fire Ecology, Forestry (WHAT); Journal Article (HOW; Environmental Scientists, Restoration Ecologists, Community-Based Natural Resource Managers (WHO)*

As the process continued, new considerations emerged regarding the intentions of certain resources. Specific languages, particularly when referring to Indigenous Knowl-

edge, were evaluated by the team, and agreed to have very specific use. Thus, users will find the definitions or qualifiers our team had in mind when applying specific keywords. Here are some definitions and considerations below:

**Convergence Science:** An applied practice of using both Indigenous Sciences and Western Science to approach an observation (as opposed to a recommendation that the sciences be integrated)

**Ecocentrism:** A holistic frame to contextualize humans as integral to an ecosystem, rather than excluded from it

**Indigenous Knowledge:** Defined as coming from a specific place, storyteller, and/or tribal nation or culture

**Indigenous Knowledge Systems:** Content framed as a form of integrated Indigenous knowledge and lands, co-management, systems, etc. ontological/philosophical in nature

**Indigenous Research Ethics:** Generally utilizing a collaborative approach to knowledge and data sharing, centered within an Indigenous worldview, and shared with permission and free, prior, and informed consent of Indigenous Peoples (see United Nations Declaration on the Rights of Indigenous Peoples); accountable to the Places and Peoples in which a particular study is grounded

**Indigenous Women and Feminism:** Points to the relationship between Indigenous Women and Feminism

**Intertribal:** Indicates when an article is talking about a multitude of tribes and nations (usually without much specificity)

## **Intention**

While many entries were submitted and many hours spent working on this literary review, our team would like to acknowledge that this list is far from exhaustive and as all entries were entered by hand and from multiple sources, there may be errors such as publication date and/or format. We deeply appreciate all of our contributors, and we'd like for this project to continue by inviting our users to submit literary entries to be added to this resource with the hope of creating annual "editions" of this bibliography and to grow and acknowledge a network of Indigenous Climate Educators!

A "second edition" of this bibliography is planned to be produced in 2023, which will advance the design of this work, optimize and ensure that all citations are properly formatted and updated, and incorporate continued recommendations and acknowledge hopefully many more Indigenous Scientists, Educators, and More.

**Do you have citations or scholarly works of Indigenous climate education that you would like to see included? If so, you are encouraged to follow this project at <https://www.buildingafire.org/lit> and on the page find a link to submit additions and/or corrections through December, 2022.**



## Articles, Books, Collections, & Dissertations

**Abram, D. *The Spell of the Sensuous: Perception and Language in a More-Than-Human World*. Vintage Books/Random House, 1996**

**Keywords:** Intertribal; Perception, Deep Ecology, Experiential Learning, Conceptual Toolkit, Environmental Activism, Community Organization, Environmental Advocacy, Conservation, Magic, Phenomenology, Philosophy, Religious Ethics, Quality of Life, Environmental Quality, Ecocentrism; Book; Community Organizations, Researchers, Philosophers

**Adams, M. M., Benjamin, T. J., Emery, N. C., Brouder, S. J., and Gibson, K. D. The Effect of Biochar on Native and Invasive Prairie Plant Species. *Invasive Plant Science and Management* 6, 2 (2013), 197–207**

**Keywords:** West Lafayette, Indiana, San Carlos Apache; Big bluestem, *Andropogon gerardii* Vitman, *sericea*, *Lespedeza cuneata* (Dumont) G. Don, Black Carbon, Carbon Sequestration, Competition, Prairie Restoration, Replacement Series, Terra Preta, Indigenuity; Journal Article; Restoration Ecologists, Environmental Engineers, Plant Scientists

**Abstract:** Biochar, a carbon-rich product formed by the incomplete combustion of biomass, has been shown to improve soil quality and increase crop growth but has not been evaluated in prairie ecosystems. We assessed the response of a native perennial grass, big bluestem, and an invasive herbaceous perennial, *sericea*, to biochar amendments in two greenhouse experiments in 2010 and 2011. In the first experiment, big bluestem and *sericea* were grown in monoculture; the main treatments were soil type (silt, sand), percent biochar (0%, 1%, 2%, and 4%) and nitrogen (0 and 10 g N m<sup>-2</sup>). Big bluestem growth was increased by the addition of biochar, particularly in the sand soil. In contrast, *sericea* growth was either not affected or decreased when biochar was added to the soil, particularly at the higher biochar rates. Adding N to the soil appeared to increase *sericea* growth in the presence of biochar and the silt soil, which suggests that biochar may have reduced N availability. A replacement series was used in the second experiment to evaluate the effect of biochar on competition between the two species. Main treatments were biochar rates (0% and 2%), nitrogen rates (0 and 10 g N m<sup>-2</sup>) and the following big bluestem to *sericea* ratios: 6:0, 4:2, 3:3, 2:4, and 0:6. After 180 d, big bluestem height and biomass were significantly greater in biochar-amended

soils than in unamended soils. However, sericea height and biomass were unaffected by biochar amendments and the addition of biochar did not alter competitive outcomes. Competition between big bluestem and sericea was asymmetrical; sericea reduced the growth of big bluestem but big bluestem had relatively little effect on the growth of sericea. Our research suggests that biochar has the potential to increase the growth of big bluestem and may be a useful tool for prairie restoration.

**Agrawal, A. Dismantling the Divide Between Indigenous and Scientific Knowledge. *Development and Change* 26, 3 (1995), 413–439**

**Keywords:** Intertribal; Indigenous Knowledge, Development Theory, Sustainability; Journal Article; Researchers, Community Developers

**Abstract:** In the past few years Indigenous knowledge has emerged as a significant resource in development discussions. This paper interrogates the concept of indigenous knowledge and the strategies its advocates advance to promote development. The paper suggests that the concept of Indigenous knowledge, and its role in development, both are problematic issues as currently conceptualized. To productively engage Indigenous knowledge in development, we must go beyond the dichotomy of Indigenous vs. scientific and work towards greater autonomy for Indigenous Peoples.

**Alessa, L. N., Kliskey, A. A., and Williams, P. Forgetting Freshwater: Technology, Values, and Distancing in Remote Arctic Communities. *Society & Natural Resources* 23, 3 (2010), 254–268**

**Keywords:** Alaska Natives; Arctic Value systems, Trade-offs, Subsistence Use, Traditional Ecological Knowledge, Sustainability, Paradigm Change; Journal Article; Environmental Scientists, Restoration Ecologists

**Abstract:** Technology is often touted as a collective solution to environmental problems. However, what if technology results in trade-offs in long-term resilience that ultimately pose a critical vulnerability for society? In this study, we examine the change in values of freshwater from traditional to convenience-oriented values in remote, resource-dependent communities that are in the process of modernization. Individuals living in remote resource-dependent communities in Alaska were interviewed and asked a series of questions concerning their values toward freshwater and the importance of those values. As age of the individual decreased, traditional-subsistence val-

ues of water diminished, and both convenience and recreational values of water increased. Individuals from communities without municipal water systems expressed greater traditional-subsistence values and less convenience-oriented values than individuals from communities with municipal water systems. The data presented suggest that as communities increasingly adopt the dominant social paradigm associated with Western cultures, their values of freshwater change from traditional and cultural values to convenience and recreational values. The implications of this transformation in values are discussed as a form of technology-induced environmental distancing.

**Anderson, M. K., and Barbour, M. G. Simulated Indigenous Management: A New Model for Ecological Restoration in National Parks. *Ecological Restoration* 21, 4 (2003), 269–277. Special Issue: Native American Land Management Practices in National Parks**

**Keywords:** Western Tribes; US National Parks, Simulated Indigenous Management Model (SIMM), Restoration Ecology, National Parks, Indigenous Agroecology, Disturbance Ecology, Ecological Modeling, Human Impacts, Fire Ecology, Forestry; Journal Article; Environmental Scientists, Restoration Ecologists, Community-Based Natural Resource Managers

**Anderson, M. K. *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources*. University of California Press, 2005**

**Keywords:** California Tribes; Historicity, Ethnobotany, Ecosystem Management, Conservation, Fire Ecology, Wilderness Management, Foraging; Book; Researchers, Natural Resource Managers

**Abstract:** John Muir was an early proponent of a view we still hold today—that much of California was pristine, untouched wilderness before the arrival of Europeans. But as this groundbreaking book demonstrates, what Muir was really seeing when he admired the grand vistas of Yosemite and the gold and purple flowers carpeting the Central Valley were the fertile gardens of the Sierra Miwok and Valley Yokuts Indians, modified and made productive by centuries of harvesting, tilling, sowing, pruning, and burning. Marvelously detailed and beautifully written, *Tending the Wild* is an unparalleled examination of Native American knowledge and uses of California's natural resources that reshapes our understanding of native cultures and shows how we might begin

to use their knowledge in our own conservation efforts. M. Kat Anderson presents a wealth of information on native land management practices gleaned in part from interviews and correspondence with Native Americans who recall what their grandparents told them about how and when areas were burned, which plants were eaten and which were used for basketry, and how plants were tended. The complex picture that emerges from this and other historical source material dispels the hunter-gatherer stereotype long perpetuated in anthropological and historical literature. We come to see California's Indigenous people as active agents of environmental change and stewardship. *Tending the Wild* persuasively argues that this traditional ecological knowledge is essential if we are to successfully meet the challenge of living sustainably.

**Anderson, K., Clow, B., and Haworth-Brockman, M. Carriers of Water: Aboriginal Women's Experiences, Relationships, and Reflections. *Journal of Cleaner Production* 60 (2013), 11–17. Special Volume: Water, Women, Waste, Wisdom and Wealth**

**Keywords:** First Nations, Canada; Water Management, Women, Gender, Indigenous Knowledge Systems, Aboriginal Culture, Spirituality, Health, Health Canada, Relationship, Reciprocity, Narrative Inquiry; Journal Article; Indigenous Co-management Specialists, Natural Resource Managers, Researchers

**Abstract:** In many Aboriginal cultures, women have a special and distinct relationship to water, which is rooted in cultural beliefs, social practices and economic contexts as well as in women's role in reproduction. Yet Aboriginal women have often been excluded from discussions and decisions about water management, with the result that their knowledge has not necessarily been brought to bear on the development of protocols and practices. Including these women's views is critical if we hope to understand the spiritual, social, and cultural meanings as well as the economic and political importance of water quality and security. These perspectives, in turn, are essential for the formulation of appropriate and sustainable water management.

In 2010, we conducted interviews with 11 Aboriginal women elders from across Canada and, through grounded theoretical analysis, gained insight into their complex understandings of and relationships to water. Many participants drew attention to the spiritual significance of water, including their understanding of water as sentient with different levels of power and purpose. They also stressed that disrespect for or carelessness in managing the relationship with water affects spiritual and community well-

being as well as physical health. As we work to address issues of water quality and security, we need to be mindful of the complex meanings and purposes of water in the lives of Aboriginal women and their communities. We also need to recognize that the knowledge of Aboriginal women can contribute to improved water management policies and practices.

**Armstrong, J. C. *Constructing Indigeneity: Sylix Okanagan Oraliture and Tmixwcentrism*. PhD thesis, 2012**

**Keywords:** Sylix Okanagan; Environmental Ethics, Indigeneity, Indigenous Philosophy, Social Paradigm, Experiential Knowledge Systems, Oration, Language, Cultural Sovereignty, Ecological Conscience, Restoration Ecology, Interdependency, Indigenous Cultural Revitalization; PhD Dissertation; Cultural Preservationists; Epistemologists, Researchers

**Arnett, C. *Asserting Native Resilience: Pacific Rim Indigenous Nations Face the Climate Crisis*. *BC Studies* 179 (2013), 231–232**

**Keywords:** Pacific Islanders, Coastal Tribes, US Pacific Rim; Indigenous Resilience, Resurgence, Environmental Impact, Globalization, Anthology, Indigenous Cultural Perspectives, Community Organization, Climate Impacts, Public Narrative; Journal Article; Community Development Specialists, Researchers

**Bang, M. *Culture, Learning, and Development and the Natural World: The Influences of Situative Perspectives*. *Educational Psychologist* 50, 3 (2015), 220–233**

**Keywords:** Intertribal; Human Development, Learning, Situative Perspective, Cultural Perspective, Activity Systems, Cognition, Folkbiology, Humanist; Journal Article; Educators, Researchers

**Abstract:** The study of human learning and development from situative or sociocultural perspectives has had significant impacts on a wide range of scholarship largely driven by the theoretical and methodological focus on understanding the role of activity systems in cognition and development. This article first explores how situative perspectives have advanced fundamental knowledge about how culture and race impact learning and development and works to demonstrate how these understandings

have enabled new insights into folkbiological cognition. Traditional cognitive, cross-cultural, and situative perspectives with respect to folkbiology are compared and contrasted to demonstrate how situative perspectives enabled more complete understandings of the complexities of biological cognition. These complexities are conceptualized as the conceptual and epistemological ecologies of activity systems. Implications for education are considered.

**Bang, M., and Marin, A. Nature-Culture Constructs in Science Learning: Human/Non-Human Agency and Intentionality. *Journal of Research in Science Teaching* 52, 4 (2015), 530–544**

**Keywords:** Intertribal; Science Education, Educational Equity, Structural Principles, Nature-Culture Relations, Relationality, Generativity, Human Development, Agency, Pedagogy, Educational Policy, Ecocentrism; Journal Article; Educators, Researchers

**Abstract:** The field of science education has struggled to create robust, meaningful forms of education that effectively engage students from historically non-dominant communities and women. This paper argues that a primary issue underlying this ongoing struggle pivots on constructions of nature–culture relations. We take up structuration theory (Giddens, 1984. *The constitution of society: Outline of the theory of structuration*. Berkeley and Los Angeles, CA: University of California Press.) and decolonizing methodologies (Smith, 2012. *Decolonizing methodologies research and Indigenous peoples* (2nd. ed.). London: Zed Books.) to reflect on the structural principles of the settled expectations of nature–culture relations. We suggest that taken together both Giddens’ and Smith’s respective discussions of time-space relations provide a powerful framing for nature–culture relations. Carefully examining shifts in the temporal and spatial scales during moments of talk and action in out-of-school science activities may help to increase the field’s understanding of divergences, convergences, and productive generativity between Western science and Indigenous ways of knowing to create transformative science learning. Drawing on our work in community-based design research and studies of everyday parent–child interactions, we begin to describe emergent structural principles that may unsettle normative time-space and nature–culture relations. In addition, we describe specific practices and pedagogical forms that expand views of human and non-human agency, as well as present and possible socio-ecological futures.

**Barnhardt, R., and Oscar Kawagley, A. Indigenous Knowledge Systems and Alaska Native Ways of Knowing. *Anthropology & Education Quarterly* 36, 1 (2005), 8–23**

**Keywords:** Alaska Natives; Indigenous Knowledge Systems, Education, Native Science, Intergenerational Knowledge, Traditional Knowledge, Storytelling, Convergence Science, Relationality, Intersectionality, Complimentarity, Collaborative Research; Journal Article; Educators, Researchers

**Abstract:** Drawing on experiences across Fourth World contexts, with an emphasis on the Alaska context, this article seeks to extend our understandings of the learning processes within and at the intersection of diverse worldviews and knowledge systems. We outline the rationale for a comprehensive program of educational initiatives closely articulated with the emergence of a new generation of Indigenous scholars who seek to move the role of Indigenous knowledge and learning from the margins to the center of educational research, thereby confronting some of the most intractable and salient educational issues of our times.

**Bennett, T., Maynard, N., Cochran, P., Gough, R., Lynn, K., Maldonado, J., Voggeser, G., Wotkyns, S., and Cozzetto, K. Ch. 12 - Indigenous Peoples, Lands, and Resources. *Climate Change Impacts in the United States: The Third National Climate Assessment.*, J.M Melillo, Terese (T.C) Richmond, and G.W. Yohe, eds., *U.S. Global Change Research Program* (2014)**

**Keywords:** US Tribes, Alaska Natives; US National Climate Assessment, Climate Impacts, Food Insecurity, Water, Policy Analysis, Health, Hazard, Relocation, Inequity, Poverty, Environmental Science, Natural Resources Management; Report; Climate Adaptation Specialists, Researchers, Tribal Leaders

**Abstract:** The Peoples, lands, and resources of Indigenous communities in the United States, including Alaska and the Pacific Rim, face an array of climate change impacts and vulnerabilities that threaten many Native communities. The consequences of observed and projected climate change have and will undermine Indigenous ways of life that have persisted for thousands of years. Key vulnerabilities include the loss of traditional knowledge in the face of rapidly changing ecological conditions, increased food insecurity due to reduced availability of traditional foods, changing water availability, Arctic sea ice loss, permafrost thaw, and relocation from historic homelands.

**Berkes, F. Rethinking Community-Based Conservation. *Conservation Biology* 18, 3 (2004), 621–630**

**Keywords:** Intertribal; Participatory Management, Common Property, Community-Based Conservation (CBC), Complex Adaptive Systems, Socioecological Systems, Applied Ecology, Traditional Ecological Knowledge, Ecosystem Management, Environmental Ethics, Political Ecology, Adaptive Management, Interdisciplinary Conservation Science, Theory of Fields, Ecocentrism; Journal Article; Environmental Scientists, Restoration Ecologists, Researchers, Community Development Specialists

**Abstract:** Community-based conservation (CBC) is based on the idea that if conservation and development could be simultaneously achieved, then the interests of both could be served. It has been controversial because community development objectives are not necessarily consistent with conservation objectives in a given case. I examined CBC from two angles. First, CBC can be seen in the context of paradigm shifts in ecology and applied ecology. I identified three conceptual shifts - toward a systems view, toward the inclusion of humans in ecosystems, and toward participatory approaches in ecosystem management - that are interrelated and pertain to an understanding of ecosystems as complex adaptive systems in which humans are an integral part. Second, I investigated the feasibility of CBC, as informed by a number of emerging interdisciplinary fields that have been pursuing various aspects of couple systems of humans and nature. These fields - common property, traditional ecological knowledge, environmental ethics, political ecology, and environmental history - provide insights for CBC. They may contribute to the development of an interdisciplinary conservation science with a more sophisticated understanding of social-ecological interactions. The lessons from these fields include the importance of cross-scale conservation, adaptive comanagement, the question of incentives and multiple stakeholders, the use of traditional ecological knowledge, and development of cross-cultural ethic.

**Blanchard, P. L. *Our Squirrels Will Have Elephant Ears: Indigenous Perspectives on Climate Change in the South Central United States*. PhD thesis, 2015**

**Keywords:** South Central United States, Canada; Climate Perception, Inter-agency Development; Thesis; Researchers, Community Development Specialists

**Abstract:** As climate change impacts areas around the world Indigenous communities



are being impacted disproportionately. In the US a number of tribes are in differing levels of response and adaptation. In the south central U.S. there has been little research done and this study attempts to fill that gap and looks at how Native Americans in the SC region are identifying climate change. Through a series of workshops that collaborated with the South-Central Climate Science Center (SC-CSC) and other agencies to facilitate discussions with Native participants on their perspectives of climate change and variability, a space was created for indigenous peoples to communicate their stories of place in their own words in relation to climate change. Participants identified not only climate change mechanics but also the impacts that come from these and also shared varying levels of adaptation and preparedness.

**Borrows, J. Living Between Water and Rocks: First Nations, Environmental Planning and Democracy. *U. Toronto LJ* 47 (1997), 417**

**Keywords:** First Nations, Canada; Environmental Planning, First Nations Law; Legal Case Study; Policy Analysts, Researchers, Community Development Specialists

**Brayboy, B. M. J. Culture, Place, and Power: Engaging the Histories and Possibilities of American Indian Education. *History of Education Quarterly* 54, 3 (2014), 395–402**

**Keywords:** Intertribal; Education History, Indigenous Education, Educational Equity; Journal Article; Educators, Researchers

**Brayboy, B. M. J., Solyom, J. A., and Castagno, A. E. Indigenous Peoples in Higher Education. *Journal of American Indian Education* 54, 1 (2015), 154–186**

**Keywords:** Intertribal; Educational Equity, Indigenous Education, Racial Equity, Collaboration; Journal Article; Educators, Researchers

**Abstract:** This article reports findings from a recent survey of education research on the experiences, challenges, and achievement of American Indians in higher education. We offer information on those at predominately White institutions as well as those involved with tribal colleges and universities. Findings suggest racism and having work questioned by colleagues remains a challenge for students at predominantly White institutions. These findings remain stable for faculty members. Overall students and

faculty, regardless of institution type, report deep satisfaction in working with Native students and a majority indicate an ongoing desire to work in, with, and for Native communities.

**Bryant-Tokalau, J. *Indigenous Pacific Approaches to Climate Change: Pacific Island Countries*. Springer, 2018**

**Keywords:** Pacific Island Nations; Climate Change, Fresh Water, Health, Food Production, Community-Based Solutions, Traditional Ecological Knowledge, Education, Resilience, Resource Management, Governance, University; Book; Restoration Ecologists, Natural Resource Managers

**Byrd, J. *The Transit of Empire: Indigenous Critiques of Colonialism*. University of Minnesota Press, 2011**

**Keywords:** Intertribal; Imperialism, Colonization, Indigenous Futurity, Self-Determination, Agency, Identity and Place, University; Book; Researchers, Community Development Specialists

**Cajete, G. *Look to the Mountain: An Ecology of Indigenous Education*. Kivaki Press, 1994**

**Keywords:** Intertribal; Education, Teaching and Learning, Culture-Based Pedagogy, Traditional Values, Environmental Connection, Traditional Arts, Community, Spirituality, Identity, Ecology, Sustainability, Ethnoscience, Science, Curriculum, Education; Book; Educators, Researchers

**Cajete, G. *Native Science: Natural Laws of Interdependence*. Clear Light Publishers, Santa Fe, New Mexico, 2000**

**Keywords:** Intertribal; Indigenous Science, Comparative Understandings, Ecological Studies, Philosophy, History, Traditional Ecological Knowledge, Interconnection, Colonization, Spirituality, Traditional Solutions, Indigenous Sciences, Social Science, University; Book; Educators, Researchers

**Cajete, G. Indigenous Science, Climate Change, and Indigenous Community Building: A Framework of Foundational Perspectives for Indigenous Community Resilience and Revitalization. *Sustainability* 12, 22 (2020), 9569**

**Keywords:** Global; Indigenous Science, Climate Change, Indigenous Community, Self-Determination, Sustainability, Indigenous Peoples, Traditional Ecological Knowledge, Social and Environmental Justice, Indigenous Perspectives, Culturally Responsive Education, Applications of Traditional Ecological Knowledge, Knowledge Integration; Essay; Educators, Researchers

**Abstract:** This essay presents an overview of foundational considerations and perceptions which collectively form a framework for thinking about Indigenous community building in relationship to the tasks of addressing the real challenges, social issues, and consequences of climate change. The ideas shared are based on a keynote address given by the author at the International Conference on Climate Change, Indigenous Resilience and Local Knowledge Systems: Cross-time and Cross-boundary Perspectives held at the National Taiwan University on 13–14 December 2019. The primary audience for this essay is Indigenous Peoples and allies of Indigenous Peoples who are actively involved in climate change studies, sustainable community building, and education. As such, it presents the author’s personal view of key orientations for shifting current paradigms by introducing an Indigenized conceptual framework of community building which can move Indigenous communities toward revitalization and renewal through strategically implementing culturally responsive Indigenous science education, engaging sustainable economics and sustainability studies. As an Indigenous scholar who has maintained an insider perspective and has worked extensively with community members around issues of culturally responsive science education, the author challenges all concerned to take Indigenous science seriously as an ancient body of applied knowledge for sustaining communities and ensuring survival over time and through generations. The author also challenges readers to initiate new thinking about how to use Indigenous science, community building, and education as a tool and a body of knowledge which may be integrated with appropriate forms of Western science in new and creative ways that serve to sustain and ensure survival rather than perpetuate unexamined Western business paradigms of community development

**Cardinal, T., Murphy, M., and Huber, J. Movements Toward Living Relationally Ethical Assessment Making: Bringing Indigenous Ways of Being, Knowing, and Doing Alongside Narrative Inquiry as Pedagogy. *Revista Interuniversitaria de Formación del Profesorado. Continuación de la antigua Revista de Escuelas Normales* 33, 3 (2019)**

**Keywords:** First Nations, Canada; Relational Narrative Inquiry, Ethical Practices, Pedagogy, Storytelling, Assessment Making, University, Educators, Article, Indigenous Ways of Being; Journal Article; Educators, Researchers

**Abstract:** As teacher educators deeply committed to relational narrative inquiry and the centrality of living in relationally ethical ways alongside co-researchers, our initial turns toward living narrative inquiry as pedagogy were inspired by wanting to live in relationally ethical ways alongside undergraduate and graduate students. Following the sudden passing in 2015 of Singing Turtle Woman—Anishinabe Elder, scholar, and long-time friend and research collaborator Mary Isabelle Young, we often told and retold stories of how her teachings of Pimosayta (learning to walk together) and Pimatisiwin (walking in a good way) were continuing to guide us. In this midst we gradually realized that Mary’s teachings opened potential in conjunction with our desires to live/practice relationally ethical assessment making alongside students. As we engage in autobiographical narrative inquiry into our recent coming alongside undergraduate and graduate students, in two Assessment as Pimosayta courses in two differing teacher education programs in Canada, we show how our bringing Indigenous ways of being, knowing, and doing alongside our practicing narrative inquiry as pedagogy supported our movements toward living relationally ethical assessment making.

**Celermajer, D., Schlosberg, D., Rickards, L., Stewart-Harawira, M., Thaler, M., Tschakert, P., and Winter, C. Multispecies Justice: Theories, Challenges, and a Research Agenda for Environmental Politics. *Environmental Politics* 30, 1-2 (2021), 119–140**

**Keywords:** Global, Multispecies Justice, Environmental Justice, Environmental Political Theory, Liberal Theory, Challenges, Interdisciplinary, Decolonization, Liberal Discourse, University; Essay; Researchers, Policy Analysts

**Abstract:** This essay seeks to open a conversation about multispecies justice in environmental politics. It sets out some of the theoretical approaches, key areas of exploration, and obvious challenges that come with rethinking a core plank of liberal theory

and politics. First, we discuss some of the diverse scholarly fields that have influenced the emergence of multispecies justice. We then discuss core concerns at the centre of this reconfiguration of justice – including broadening conceptions of the subject of justice and the means and processes of recognition (and misrecognition). The importance of deconstructing and decolonising the hegemony of liberal political discourse is crucial, and is part of a larger project for multispecies justice to rework a politics of knowledge and practice of political communication. Finally, we begin to explore what a commitment to multispecies justice might demand of politics and policy.

**Chief, K. Emerging Voices of Tribal Perspectives in Water Resources. *Journal of Contemporary Water Research & Education* 163, 1 (2018), 1–5**

**Keywords:** Intertribal; Valuing Indigenous Perspectives, Water Resources, Climate Change, Water Quality, Tribal Colleges, Research, Indigenous Scholarship, Hydrologic Sciences, Academic Networking, Educational Needs, Economics, Place, University; Symposium; Community Development Specialists, Policy Analysts

**Chief, K., Emanuel, R., and Conroy-Ben, O. Indigenous Symposium on Water Research, Education, and Engagement. *Eos* 100 (2019)**

**Keywords:** Intertribal; Hydrology, Place-Based, Climate Impacts, Community Participation, Recruitment, Research, Resources, Knowledge Sharing, Collective Action, Policy, Governance, Summary, Community; Symposium; Researchers, Policy Analysts

**CTKW. Climate and Traditional Knowledges Workgroup. Guidelines for Considering Traditional Knowledges in Climate Change Initiatives, 2014**

**Keywords:** Intertribal; Indigenous Knowledges, Climate Change, Inter-governmental, Knowledge Accessibility, Climate Science, Knowledge Sharing, Toolkit; Workshop; Policy Analysts, Climate Adaptation Specialists, Researchers

**Cochran, P., Huntington, O., Pungowiyi, C., Tom, S., Chapin, F., Huntington, H., and Trainor, S. Indigenous Frameworks for Observing and Responding to Climate Change in Alaska. In *Special Issue: Climate Change and Indigenous Peoples in the United States*, J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 557-567. Springer, 2013**

**Keywords:** Alaska Native, Northern Indigenous Nations; Scientific Accessibility, Climate Science, Land Loss, Climate Impacts, Infrastructure, Indigenous Community Participation, Indigenous Knowledges, Climate Solutions, Integrative Perspectives, Knowledge Sharing, Meaningful Engagement, Community Leaders; Journal Article; Restoration Ecologist, Researchers

**Abstract:** Despite a keen awareness of climate change, northern Indigenous Peoples have had limited participation in climate-change science due to limited access, power imbalances, and differences in worldview. A western science emphasis on facts and an indigenous emphasis on relationships to spiritual and biophysical components indicate important but distinct contributions that each knowledge system can make. Indigenous communities are experiencing widespread thawing of permafrost and coastal erosion exacerbated by loss of protective sea ice. These climate-induced changes threaten village infrastructure, water supplies, health, and safety. Climate-induced habitat changes associated with loss of sea ice and with landscape drying and extensive wildfires interact with northern development to bring both economic opportunities and environmental impacts. A multi-pronged approach to broadening indigenous participation in climate-change research should: 1) engage communities in designing climate-change solutions; 2) create an environment of mutual respect for multiple ways of knowing; 3) directly assist communities in achieving their adaptation goals; 4) promote partnerships that foster effective climate solutions from both western and indigenous perspectives; and 5) foster regional and international networking to share climate solutions.

**Coulthard, G., and Simpson, L. Grounded Normativity/Place-Based Solidarity. *American Quarterly* 68, 2 (2016), 249–255**

**Keywords:** Intertribal; Place-Based, Solidarity, Tribal Governance, Sovereignty, Erasure, Colonization, Academia, Critical Co-Resistance, History, Reflection; Journal Article; Researchers

**Cozzetto, K., Chief, K., Dittmer, K., Brubaker, M., Gough, R., Souza, K., and Chavan, P. Climate Change Impacts on the Water Resources of American Indians and Alaska Natives in the US. In *Special Issue: Climate Change and Indigenous Peoples in the United States*, J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 61-76. Springer, 2013**

**Keywords:** Intertribal; Tribal Water Resources, Climate Impacts, Vulnerability Framework, Ecosystem, Water Management, Agriculture, Aquaculture, Sovereignty, Treaty Rights, Soil Quality, Research Inquiry; Journal Article; Researchers, Community Development Specialists, Climate Adaptation Specialists, Natural Resource Managers

**Abstract:** This paper provides an overview of climate change impacts on tribal water resources and the subsequent cascading effects on the livelihoods and cultures of American Indians and Alaska Natives living on tribal lands in the U.S. A hazards and vulnerability framework for understanding these impacts is first presented followed by context on the framework components, including climate, hydrologic, and ecosystem changes (i.e. hazards) and tribe-specific vulnerability factors (socioeconomic, political, infrastructural, environmental, spiritual and cultural), which when combined with hazards lead to impacts. Next regional summaries of impacts around the U.S. are discussed. Although each tribal community experiences unique sets of impacts because of their individual history, culture, and geographic setting, many of the observed impacts are common among different groups and can be categorized as impacts on—1) water supply and management (including water sources and infrastructure), 2) aquatic species important for culture and subsistence, 3) ranching and agriculture particularly from climate extremes (e.g., droughts, floods), 4) tribal sovereignty and rights associated with water resources, fishing, hunting, and gathering, and 5) soil quality (e.g., from coastal and riverine erosion prompting tribal relocation or from drought-related land degradation). The paper finishes by highlighting potentially relevant research questions based on the five impact categories.

**Cronon, W. *Changes in the Land: Indians, Colonists, and the Ecology of New England*. Hill and Wang, 2011**

**Keywords:** Intertribal; Colonial History, Tribal History, Environmental History, Capitalism, Ecosystems, Interdisciplinary, Relations, Ethnoecology; Book; Researchers

**Deloria, V. *Spirit & Reason: The Vine Deloria Jr. Reader*. Fulcrum Publishing, 1999**

**Keywords:** Intertribal; Philosophy, Education, Indians, Religion; Book; Researchers, Educators

**Abstract:** *Spirit & Reason* is a collection of the works of one of the most important thinkers of the twentieth century—Vine Deloria, Jr. Author of such classics as *Red Earth*, *White Lies*, and *God is Red*, Deloria takes readers on a momentous journey through Indian country and beyond by exploring some of the most important issues of the past three decades. The essays gathered here are wide-ranging and essential and include representative pieces from some of Deloria's most influential books, some of his lesser-known articles, and ten new pieces written especially for *Spirit & Reason*.

Tellingly, in the course of reviewing his body of work, Deloria found much that he had written in the past remained current and compelling because "people have not made much progress in resolving issues." Whether disputing theories of religion and science, examining the problems of modern education, or expounding on our understanding of the world, Deloria consistently urges readers toward an intimate connection with the world in which we live. For those familiar with Deloria's works as well as those discovering him for the first time, this essential anthology will teach, provoke, and enlighten in equal measure.

**Deloria, V. *Custer Died for Your Sins: An Indian Manifesto*. University of Oklahoma Press, 1969**

**Keywords:** Intertribal; White Saviorism, Institutions, Colonization, Treaty Histories, Historical Policy, Institutional Racism, Humor, Oppression, Assimilation, Leadership, Tribalism, Civil Rights; Book, Essay Collection; Researchers, Historians

**Deloria Jr, V. *Indian Education in America: 8 Essays*. American Indian Science & Engineering Society, Boulder, CO, 1994**

**Keywords:** Intertribal; Native Students, Western Knowledge, Tribal Context, Indigenous Knowledges, Higher Education, Sovereignty, Technology, Governance, Place-Based Identity, Community, Cultural Context, Reconciliation; Book, Essay Collection; Educators, Researchers



**Deloria, V. *Red Earth, White Lies: Native Americans and the Myth of Scientific Fact*. Fulcrum Publishing, 1997**

**Keywords:** Intertribal; Oral Tradition, Science, Geomythology and Indigenous Traditions, Indigenous Ontology, Colonization, Challenging Hegemonic Ahistoric Accounts, Knowledge Sovereignty; Book; Researchers, Epistemologists

**Abstract:** The book's particular focus is on a criticism of current models of migration to the New World, in particular the Bering land bridge theory. Deloria attempts to expose what he thought were fundamental weaknesses in this theory by detailing supposed archaeological inconsistencies and positing alternative hypotheses that he believed align better with his understanding of the origins of Native Americans. He argued that there was an earlier presence for Indigenous peoples in the Americas than what the archaeological record provides. In a similar vein, he criticized the so-called "overkill hypothesis", which proposes that humans migrating into the Americas were partially responsible, by over hunting, for the sudden and rapid extinction of North American mega-fauna during the Pleistocene epoch. Deloria believed that this hypothesis was racist; he contended that the Pleistocene extinction had no parallel on such a scale in Eurasia, which also experienced the sudden arrival of human hunters.

**Deloria, V. *Tribes, Treaties, and Constitutional Tribulations*. University of Texas Press, 1999**

**Keywords:** Intertribal; Federal Indian Law, Indigenous Philosophy, Religion, Ontology, Natural World; Book; Policy Analysts, Researchers

**Abstract:** Federal Indian law . . . is a loosely related collection of past and present acts of Congress, treaties and agreements, executive orders, administrative rulings, and judicial opinions, connected only by the fact that law in some form has been applied haphazardly to American Indians over the course of several centuries. . . . Indians in their tribal relation and Indian tribes in their relation to the federal government hang suspended in a legal wonderland.

In this book, two prominent scholars of American Indian law and politics undertake a full historical examination of the relationship between Indians and the United States Constitution that explains the present state of confusion and inconsistent application in U.S. Indian law. The authors examine all sections of the Constitution that explicitly

and implicitly apply to Indians and discuss how they have been interpreted and applied from the early republic up to the present. They convincingly argue that the Constitution does not provide any legal rights for American Indians and that the treaty-making process should govern relations between Indian nations and the federal government.

**Deloria Jr, V., and Wildcat, D. *Power and Place: Indian Education in America*. Fulcrum Publishing, 2001**

**Keywords:** Intertribal; Indigenous Knowledges, Pedagogy, Indigenous Ontology, Place-Based Sciences, Intersectional Academic Analysis; Book; Educators, Researchers

**Abstract:** *Power and Place* examines the issues facing Native American students as they progress through the schools, colleges, and on into professions. This collection of sixteen essays is at once philosophic, practical, and visionary. It is an effort to open discussion about the unique experience of Native Americans and offers a concise reference for administrators, educators, students and community leaders involved with Indian education.

**Deloria, V. *God is Red: A Native View of Religion*. Fulcrum Publishing, 2003**

**Keywords:** Intertribal; Religion, Cultural War, Indigenous Worldview, Indigenous Ontology, Indian Tribal Religion, Natural World, Moral Universe, Indigenous Ceremony; Book; Researchers

**Abstract:** Deloria, a prominent Native American educator, lawyer, and philosopher, has updated his classic work on native religion. In *God is Red* Deloria argues convincingly that Christianity has failed today's society, and describes basic tenets that underlie Native religions. His other works include *Behind the Trail of Broken Treaties* and *Custer Died for Your Sins*.

**Deloria, V. *The World we Used to Live In: Remembering the Powers of the Medicine Men*. Fulcrum Publishing, 2006**

**Keyword:** Intertribal; Indigenous History, Pre-Contact, Indigenous Praxis, Oral Tradition, Native Philosophy, Religion, Indigenous Cultural Revitalization; Book; Cultural Preservation Specialists, Researchers

**Deloria, V. *The Metaphysics of Modern Existence*. Fulcrum Publishing, 2012**

**Keywords:** Intertribal; American Societal Criticisms, Indigenous Epistemology, Indigenous Ontology, Philosophy, Indigenous Ways of Knowing; Book; Epistemologists, Researchers

**Deloria, V. *Indians of the Pacific Northwest: From the Coming of the White Man to the Present Day*. Fulcrum Publishing, 2016**

**Keywords:** Intertribal, Pacific Northwest Tribes; Indigenous Resilience, Indigenous People of the Pacific Northwest, Genocide, Imperialism, Colonization; Book; Researchers, Historians

**Abstract:** The Pacific Northwest was one of the most populated and prosperous regions for Native Americans before the coming of the white man. By the mid-1800s, measles and smallpox decimated the Indian population, and the remaining tribes were forced to give up their ancestral lands. Vine Deloria Jr., named one of the most influential religious thinkers in the world, tells the story of these tribes' fight for survival, one that continues today.

**Doyle, J., Redsteer, M., and Eggers, M. Exploring Effects of Climate Change on Northern Plains American Indian Health. In *Special Issue: Climate Change and Indigenous Peoples in the United States*. J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3):643-655. Springer, 2013**

**Keywords:** Intertribal, Northern Plains Tribes; National Climate Assessment, Climate Change Forecasting, Climate Science, Climate Impacts, Indigenous Experiential Knowledge; Journal Article; Environmental Scientists, Researchers

**Abstract:** American Indians have unique vulnerabilities to the impacts of climate change because of the links among ecosystems, cultural practices, and public health, but also as a result of limited resources available to address infrastructure needs. On the Crow Reservation in south-central Montana, a Northern Plains American Indian Reservation, there are community concerns about the consequences of climate change impacts for community health and local ecosystems. Observations made by Tribal Elders about decreasing annual snowfall and milder winter temperatures over the 20th century ini-

tiated an investigation of local climate and hydrologic data by the Tribal College. The resulting analysis of meteorological data confirmed the decline in annual snowfall and an increase in frost free days. In addition, the data show a shift in precipitation from winter to early spring. The number of days exceeding 90 °F (32 °C) has doubled in the past century. Streamflow data show a long-term trend of declining discharge. Elders noted that the changes are affecting fish distribution within local streams and plant species which provide subsistence foods. Concerns about warmer summer temperatures also include heat exposure during outdoor ceremonies that involve days of fasting without food or water. Additional community concerns about the effects of climate change include increasing flood frequency and fire severity, as well as declining water quality. The authors call for local research to understand and document current effects and project future impacts as a basis for planning adaptive strategies.

**Dittmer, K. Changing Streamflow on Columbia Basin Tribal Lands — Climate Change and Salmon. In *Special Issue: Climate Change and Indigenous Peoples in the United States*. J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 627-641. Springer, 2013**

**Keywords:** Columbia Basin Tribes; Columbia Basin, Climate Change Impacts, Pacific Decadal Oscillation, Snow Water Equivalent, Climate Change Adaptation; Journal Article; Environmental Scientists, Researchers, Climate Adaptation Specialists

**Abstract:** Over the last 100 years, linear trends of tributary stream-flow have changed on Columbia River Basin tribal reservations and historical lands ceded by tribes in treaties with the United States. Analysis of independent flow measures (Seasonal Flow Fraction, Center Timing, Spring Flow Onset, High Flow, Low Flow) using the Student t test and Mann-Kendall trend test suggests evidence for climate change trends for many of the 32 study basins. The trends exist despite inter-annual climate variability driven by the El Niño–Southern Oscillation and Pacific Decadal Oscillation. The average April–July flow volume declined by 16 %. The median runoff volume date has moved earlier by 5.8 days. The Spring Flow Onset date has shifted earlier by 5.7 days. The trend of the flow standard deviation (i.e., weather variability) increased 3 % to 11 %. The 100-year November floods increased 49 %. The mid-Columbia 7Q10 (the lowest flow averaged over a period of seven consecutive days) low flows have decreased by 5 % to 38 %. Continuation of these climatic and hydrological trends may seriously challenge the future of salmon, their critical habitats, and the tribal peoples who de-

pend upon these resources for their traditional livelihood, subsistence, and ceremonial purposes

**Black Elk. *The Sacred Pipe: Black Elk's Account of the Seven Rites of the Oglala Sioux*, vol. 36. University of Oklahoma Press, 1953**

**Keywords:** Oglala Lakota Sioux; Religion, Praxis, Indigenous Ways of Being, Harmony, Book, Indigenous Cultural Revitalization; Book; Epistemologists, Cultural Preservation Specialists; Researchers

**Abstract:** The Sacred Pipe, published as volume thirty-six in the Civilization of the American Indian Series, will be greeted enthusiastically by students of comparative religion, ethnologists, historians, philosophers, and everyone interested in American Indian life.

**Emanuel, R. *Climate Change in the Lumbee River Watershed and Potential Impacts on the Lumbee Tribe of North Carolina. Journal of Contemporary Water Research & Education* 163, 1 (2018), 79–93**

**Keywords:** Lumbee; Cultural Resurgence, Climate Change, Indigenous Knowledge, Climate Adaptation; Journal Article; Policy Analysts, Natural Resource Managers, Researchers

**Abstract:** A growing body of research focuses on climate change and Indigenous peoples. However, relatively little of this work focuses on Native American tribes living in the Atlantic Coastal Plain of the United States. The Lumbee Tribe of North Carolina is a large (60,000 member) Native American tribe located on the Coastal Plain in present day North Carolina (U.S.). The tribe has deep connections to the Lumbee River, which flows through a watershed dominated by extensive forested wetlands. In this paper, I outline key issues associated with climate change and water in the region, and I use long-term climatic and hydrologic datasets and analysis to establish context for understanding historical climate change in the Lumbee River watershed. Downscaled climate model outputs for the region show how further changes may affect the hydrologic balance of the watershed. I discuss these changes in terms of environmental degradation and potential impacts on Lumbee culture and persistence, which has remained strong through centuries of adversity and has also experienced a resurgence in recent years. I close by acknowledging the especially vulnerable position of the Lum-

bee Tribe as a non-federal tribe that lacks access to certain resources, statutory protections, and policies aimed at helping Native American tribes deal with climate change and other environmental challenges.

**Faircloth, S. Leadership in Indigenous Education: Challenges and Opportunities for Change. *American Journal of Education* 119, 4(2013), 481–486**

**Keywords:** Intertribal; Pedagogical Self-Determination, Indigenous Discourse, Culture War, Decolonization; Journal Article; Educators, Researchers

**Fenimore-Smith, J. The Power of Place: Creating an Indigenous Charter School. *Journal of American Indian Education* (2009), 1–17**

**Keywords:** Intertribal; Pedagogical Self-Determination, Indigenous Discourse, Culture War, Decolonization, Indigenous Educational Disparities, Culturally-Led Curriculum; Journal Article; Educators, Researchers

**Abstract:** Recognition of the disproportionately high failure rate of American Indian students in local public schools caused Tribal officials to consider development of a reservation-based charter high school. Eagle High School opened its doors August 30, 2004. This article presents the findings of a two-year study, which examined the struggles of the school staff as they sought to provide a culturally rich environment and curriculum that would engage and challenge students academically. Cummins' (1992) theory of cultural differences provides a schema for discussion of the findings. Analysis of the issues raised by the study foregrounds the complexity of factors affecting both the development of a culturally grounded charter school and the achievement of students attending the school.

**Ferkany, M., and Whyte, K. The Importance of Participatory Virtues in the Future of Environmental Education. *Journal of Agricultural and Environmental Ethics* 25, 3 (2012), 419–434**

**Keywords:** Intertribal; Participatory Virtues, Environmental Virtue, Environmental Education, Deliberative Democracy, Environmental Ethics Education, Environmental Politics, Wicked Problems, Deliberative Virtues, Intellectual Virtues; Journal Article; Educators, Policy Analysts, Researchers

**Abstract:** Participatory approaches to environmental decision making and assessment continue to grow in academic and policy circles. Improving how we understand the structure of deliberative activities is especially important for addressing problems in natural resources, climate change, and food systems that have wicked dimensions, such as deep value disagreements, high degrees of uncertainty, catastrophic risks, and high costs associated with errors. Yet getting the structure right is not the only important task at hand. Indeed, participatory activities can break down and fail to achieve their specific goals when some of the deliberators lack what we will call participatory virtues. We will argue for the importance of future research on how environmental education can incorporate participatory virtues to equip future citizens with the virtues they will need to deliberate about wicked, environmental problems. What is the role of education for deliberative skills and virtues relative to other aspects of environmental education, such as facts and values education? How important is it relative to careful design of the deliberative process? What virtues really matter?

**Fillmore, H., Singletary, L., and Phillips, J. Assessing Tribal College Priorities for Enhancing Climate Adaptation on Reservation Lands. *Journal of Contemporary Water Research & Education* 163, 1 (2018), 64–78**

**Keywords:** Intertribal; Education Disparities, Climate Change Adaptation, Indigenous Secondary School Success, Tribal Colleges and Universities, Indigenous Self-Determination; Journal Article Educators, Natural Resource Managers, Researchers

**Abstract:** On reservation lands, tribal colleges and universities (TCUs) are key to preparing indigenous communities to adapt to the effects of a changing climate. The original mission of TCUs, to improve access to higher education and to sustain the cultural heritage of indigenous people, facilitates close ties between TCU faculty and staff and the indigenous communities they serve. Since 1994, the land-grant status of TCUs allows access to limited federal funds in support of research, education, and outreach to improve food security, natural resource management, and rural quality of life, while expanding public access to higher education to underserved populations in remote rural areas. This study was designed to assess the priorities for enhancing climate adaptation on reservation lands. It summarizes the results of an assessment implemented at the 2016 Annual First Americans Land-Grant Consortium Conference. Study participants included faculty, administrators, outreach educators, support staff, and students representing 25 of the 37 TCUs in the United States. Results from this national assess-

ment suggest that in order for TCUs to effectively meet the climate adaptation needs of indigenous communities, additional fiscal and human resource investments are necessary. Specifically, this includes fiscal support to enhance climate science teaching, research, and professional development programs. Additional goals include creating or expanding food-sovereignty programs, increasing community outreach education, investigating climate change impacts on water resource quality, access, and related ecological services, and exploring renewable and alternative energy opportunities.

**Freeland, P. A. Climate Change in Native American Communities: Challenges of Comprehension, Context, & Communication. M.S. Thesis, Purdue University, West Lafayette, IN, 2014**

**Keywords:** Intertribal; Convergence Science, Climate Change, Knowledge Sovereignty, Climate Justice, Research Ethics, Tribal Colleges and Universities, Transcultural Honor, Pride, & Respect; Master's Thesis; Researchers

**Abstract:** Very little literature exists which details how climate change impacts Indian Country. This study first investigates how US newspaper stories published from 1991 to 2011 present American Indian/Alaska Native (AI/AN) perceptions, and observations, of environmental changes resulting from climatic change. Several specific risk, impacts, and vulnerabilities were documented, and observations of climate change from AI/AN perceptions were analyzed for content to identify three frames of perspective: pan-Indian, Tribally-specific, and individual perceptions. By law, ethical considerations are paramount when dealing with research in Native American tribes and communities. While each nation is supposed to review research to assess the risk and beneficence of research, in practice several tribes have neither a standing research ethics committee nor institutional review board. This research next details the methodology of contact, communication, and consideration when working with tribal nations in the US. This research further identifies the challenges of bridging information from Indigenous knowledge systems, public media, and western scientific methodologies, while complying with ethical standards, scientific objectivity, and transcultural honor, pride, and respect.



**Gautam, M., Chief, K., and Smith, W. Climate Change in Arid Lands and Native American Socioeconomic Vulnerability: The Case of the Pyramid Lake Paiute Tribe. In *Special Issue: Climate Change and Indigenous Peoples in the United States*. J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 585-599. Springer, 2013**

**Keyword:** Pyramid Lake Paiute; Climate Change Risk, Socioeconomic Vulnerability, Ecological Impacts, Adaptive Capacity, Sustainability-Based Values, Indigenous Natural Resource Management; Journal Article; Environmental Scientists, Natural Resource Managers, Climate Adaptation Specialists

**Abstract:** The case of the Pyramid Lake Paiute Tribe exemplifies tribal vulnerabilities as a result of climate change. Preliminary socio-economic data and analysis reveal that the tribe's vulnerability to climate change is related to cultural and economic dependence on Pyramid Lake, while external socio-economic vulnerability factors influence adaptive capacity and amplify potential impacts. Reduced water supplies as a consequence of climate change would result in a compounded reduction of inflows to Pyramid Lake, thus potentially impacting the spawning and sustenance of a cultural livelihood, the endangered cui-ui fish (*Chasmistes cujus*). Meanwhile, limited economic opportunities and dwindling federal support constrain tribal adaptive capacity. Factors that contribute to tribal adaptive capacity include: sustainability-based values, technical capacity for natural resource management, proactive initiatives for the control of invasive-species, strong external scientific networks, and remarkable tribal awareness of climate change.

**Gilio-Whitaker, D. *As Long as Grass Grows: The Indigenous Fight for Environmental Justice, from Colonization to Standing Rock*. Beacon Press, 2019**

**Keywords:** Oceti Sakowin Lakota; Story Telling, Indigenous Knowledge, Dakota Access Pipeline, Environmental Activism, Environmental Impact, Energy Policy, Climate Justice, Environmental Justice, Political Ecology, Conflict; Book; Policy Analysts, Researchers, Community Leaders

**Goeman, M. *Mark My Words: Native Women Mapping Our Nations.* University of Minnesota Press, 2013**

**Keywords:** Intertribal; Relationality, Positionality, Gendered Geographies, Epistemology, Spatial Decolonization, Women, Literature Review, Ecocentrism; Book; Researchers

**Grah, O., and Beaulieu, J. *The Effect of Climate Change on Glacier Ablation and Baseflow Support in the Nooksack River Basin and Implications on Pacific Salmonid Species Protection and Recovery.* In *Special Issue: Climate Change and Indigenous Peoples in the United States.* J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 657-670. Springer, 2013**

**Keywords:** Nooksack; Traditional Foods, Chinook Salmon, Glacial Ablation, Interagency Climate Adaptation, Hydrology; Journal Article; Environmental Scientists, Natural Resource Managers

**Abstract:** The Nooksack Indian Tribe (Tribe) inhabits the area around Deming, Washington, in the northwest corner of the state. The Tribe is dependent on various species of Pacific salmonids that inhabit the Nooksack River for ceremonial, commercial, and subsistence purposes. Of particular importance to the Tribe are spring Chinook salmon. Since European arrival, the numbers of fish that return to spawn have greatly diminished because of substantial loss of habitat primarily due to human-caused alteration of the watershed. Although direct counts are not available, it is estimated that native salmonid runs are less than 8 % of the runs in the late 1800's. In addition, climate change has caused and will continue to cause an increase in winter flows, earlier snowmelt, decrease in summer baseflows, and an increase in water temperatures that exceed the tolerance levels, and in some cases lethal levels, of several Pacific salmonid species. The headwaters of the Nooksack River originate from glaciers on Mount Baker that have experienced significant changes over the last century due to climate change. Melt from the glaciers is a major source of runoff during the low-flow critical summer season, and climate change will have a direct effect on the magnitude and timing of stream flow in the Nooksack River. Understanding these changes is necessary to protect the Pacific salmonid species from the harmful effects of climate change. All nine salmonid species that inhabit the Nooksack River will be adversely affected by reduced summer flows and increased temperatures. The most important task ahead is the planning for, and implementation of, habitat restoration prior to climate change becoming more threat-

ening to the survival of these important fish species. The Tribe has been collaboratively working with government agencies and scientists on the effects of climate change on the hydrology of the Nooksack River. The extinction of salmonids from the Nooksack River is unacceptable to the Tribe since it is dependent on these species and the Tribe is place-based and cannot relocate to areas where salmon will survive.

**Grande, S. *Red Pedagogy: Native American Social and Political Thought*. 2015**

**Keywords:** Intertribal; Indigenous Studies, Pedagogy, Critical Indigenous Studies, Educational Practice, Reconciliation Frameworks, Recognition-Based Politics, Educational Equity, Academic Policy, Refusal, Sovereignty, Academic Survivance, Multiculturalism, Humanism; Book; Educators, Researchers

**Green, D., and Raygorodetsky, G. *Indigenous Knowledge of a Changing Climate. *Climatic Change* 100, 2 (2010), 239–242***

**Keywords:** Intertribal; Climate Change Adaptation, Human Dimensions, Natural Resource Management, Indigenous Natural Resource Management, Environmental Policy, Global, Literature Review; Journal Article, Researchers, Climate Adaptation Specialists

**Greene, S. W. C. S. *The Impact of Integrating Traditional Ecological Knowledge in Summer Camps on Middle School Students' Understanding of the Nature of Science. Master of Science in Teaching (M.S.T.) in General Science, Portland State University. Center for Science Education, Portland, OR, 2019. Paper 5277***

**Keywords:** Atfalati, Cayuse, Clatskanie, Kalapuya, Nimiipuu (Nez Perce), Northern Paiute, Palouse, Tenino, Umatilla, Walla Walla, Wasco, Wishram Yakama; Traditional Ecological Knowledge Integration, Educational Practice, Pedagogy, Nature of Science, Convergence Science; Master's Thesis; Educators, Researchers

**Abstract:** The Nature of Science (NOS) and traditional ecological knowledge (TEK) have commonalities in the knowledge bases: they are both ways of explaining the natural world; founded on a set of practices and the historical accumulation of knowledge; and part of the education is learning practices and developing knowledge of the concepts that are foundational to the disciplines. Throughout the United States, schools are

attempting to strengthen students' understanding of NOS through various approaches, although few have adopted the integration of TEK into curriculum. This research assesses two summer camps for middle school students that are science focused, one with TEK integration and one with minimal TEK integration. Pre- and post- surveys and student work samples were analyzed to determine the impact of TEK integration on students' understanding of some of the NOS concepts. A significant increase was observed in the camp that integrated TEK, while no change was observed in students' understanding of NOS in the camp that had minimal TEK integration.

**Grossman, Z. Indigenous Nations' Responses to Climate Change. *American Indian Culture and Research Journal* 32, 3 (2008), 5–27**

**Keywords:** Intertribal; Indigenous Peoples Treaties, Tribes, International Policy Making, Climate Change, Natural Resource Management, National Congress of American Indians (NCAI), Global Indigenous Nations, Ecocentrism; Journal Article; Policy Analysts, Community Development Specialists, Climate Adaptation Specialists

**Abstract:** On August 1st, 2007, Indigenous nations from within the United States, Canada, Australia, and Aotearoa (New Zealand) signed a treaty to found the United League of Indigenous Nations. The Treaty of Indigenous Nations offers a historic opportunity for sovereign Indigenous governments to build intertribal cooperation outside the framework of the colonial settler states. Just as the Pacific Rim states have cooperated to limit Native sovereign rights and build polluting industries, Indigenous nations can cooperate to decolonize ancestral territories and protect their common natural resources for future generations. The treaty process has involved Indigenous political alliances such as the National Congress of American Indians (NCAI), the Assembly of First Nations (AFN) in Canada, and the Mataatua Assembly (including forty-four Maori tribes) in Aotearoa. The treaty identifies four main areas of cooperation: increasing trade among Indigenous nations, protecting cultural properties, easing border crossings, and responding to the urgent threat of climate change. The Treaty of Indigenous Nations builds a sense of community by including other tribal nations in the community, even those who live on the other side of imposed colonial borders or on the other side of the ocean. Indigenous peoples have survived the effects of colonialism and environmental destruction only by cooperating with each other. It is no longer just a good idea to build these relationships; climate change makes them much more urgent. This article explores some of the relationships being built, or that have

the potential to be built, among Indigenous nations, local governments, national governments, and international agencies.

**Gruenig, B., Lynn, K., Voggesser, G., and Whyte, K. Tribal Climate Change Principles: Responding to Federal Policies and Actions to Address Climate Change, note = Unpublished report. On file with: Tribal Climate Change Project, University of Oregon., 2015**

**Keywords:** US American Indians and Alaska Natives; US Climate Policy, Climate Risk and Vulnerability, Interagency Policy Making, Tribal Partnerships, Equity, Representation, Access, Support, Ethics; Report; Policy Analysts, Climate Adaptation Specialists

**Haig-Brown, H., Jackson, L., and Tailfeathers, E.-M. A. A Conversation with Helen Haig-Brown, Lisa Jackson, and Elle-Máijá Apiniskim Tailfeathers, With Some Thoughts to Frame the Conversation. *Biography* 39, 3 (2016), 277–306**

**Keywords:** Intertribal, Global; Poetry, Storytelling, Dialogue, Native Film and Media; Journal Article; Researchers, Artists

**Hatfield, S., Marino, E., Whyte, K., Dello, K., and Mote, P. Indian Time: Time, Seasonality, and Culture in Traditional Ecological Knowledge of Climate Change. *Ecological Processes* 7, 1 (2018), 1–11**

**Keywords:** Intertribal; Convergence Science, Epistemology, Observations of Change, Supporting Traditional Knowledge, Interviews, Climate Change Adaptation; Journal Article; Restoration Ecologist, Natural Resource Managers, Researchers

**Abstract:** Western climate science and Traditional Ecological Knowledge (TEK) represent complementary and overlapping views of the causes and consequences of change. In particular, observations of changes in abundance, distribution, phenology, or behavior of the natural environment (including plants and animals) can have a rich cultural and spiritual interpretation in Indigenous communities that may not be present in western science epistemologies. Using interviews with Indigenous elders and other Traditional Knowledge holders, we demonstrate that assumptions about the nature, perception, and utilization of time and timing can differ across knowledge systems in regard to climate change. Our interviewees' focus on relationality predisposes them to notice interactional changes among humans and other species, to be sensitive to smaller

scale examples of change, to be more likely to see climate change as part of a broader time scale, and to link changes to a greater suite of sociopolitical phenomena, including the long arc of colonialism. One implication of this research and the interactions among humans and other species is that policies restricting Native and non-Native access to resources (i.e., hunting and fishing) to certain calendar seasons may need to be revisited in a changing climate.

**Huntington, H. Using Traditional Ecological Knowledge in Science: Methods and Applications. *Ecological Applications* 10, 5 (2000), 1270–1274**

**Keywords:** Intertribal; Integrating Traditional Ecological Knowledge, Research Ethics, Convergence Science, Media Criticism, Case Study, Ecology, Qualitative Methodologies; Journal Article; Researchers

**Abstract:** Advocates of Traditional Ecological Knowledge (TEK) have promoted its use in scientific research, impact assessment, and ecological understanding. While several examples illustrate the utility of applying TEK in these contexts, wider application of TEK-derived information remains elusive. In part, this is due to continued inertia in favor of established scientific practices and the need to describe TEK in Western scientific terms. In part, it is also due to the difficulty of accessing TEK, which is rarely written down and must in most cases be documented as a project on its own prior to its incorporation into another scientific undertaking. This formidable practical obstacle is exacerbated by the need to use social science methods to gather biological data, so that TEK research and application becomes a multidisciplinary undertaking. By examining case studies involving bowhead whales, beluga whales, and herring, this paper describes some of the benefits of using TEK in scientific and management contexts. It also reviews some of the methods that are available to do so, including semi-directive interviews, questionnaires, facilitated workshops, and collaborative field projects.

**Jacobs, D., and Reyhner, J. *Preparing Teachers To Support American Indian and Alaska Native Student Success and Cultural Heritage*. ERIC Digest, 2002**

**Keywords:** Intertribal; Teacher Training Tools, Interconnectedness, Pedagogy, American Indian and Alaska Native, Educational Equity, Constructivist Approach, Cross-Cultural Education; Journal Article; Educators

**Jacobs, T., Alston, S., and Lynn, K. Legal Considerations for Climate Change Impacts on Tribes' Off-Reservation Resources, 2009**

**Keywords:** Intertribal; Climate Change Impacts, Subsistence Rights, Natural Resource Protection, Tribes Substantive Rights, Tribes Procedural Rights, Tribal Co-management, Land-Use, Conservation Trust; Legal Framework; Policy Analysts, Climate Adaptation Specialists

**Abstract:** Climate change will continue to negatively impact off-reservation resources and tribal members' access to these resources, including numerous animal and plant species and their related habitats that are relied upon for subsistence harvesting, cultural practices, and ceremonial purposes. This paper seeks to explore existing legal avenues available to tribes to protect their resources in order to prevent such an "ecological removal." By examining legal strategies that have been used to replace both on-reservation resources and treaty-protected off-reservation resources, we gain insight into avenues for protection that may be cultivated to protect additional off-reservation resources, including traditional subsistence resources that are vulnerable to climate change. This paper documents the impact of climate change on tribal nations and subsistence rights and describes the legal framework for off-reservation resource protection by exploring sources of substantive and procedural law available to tribes in the United States to protect resources. The paper also reviews avenues for protection of off-reservation resources.

**Jantarasami, L. C., Novak, R., Delgado, R., Marino, E., McNeeley, S., Narducci, C., Raymond-Yakoubian, J., and Singletary, L. Powys Whyte, K. Tribes and Indigenous Peoples. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment Volume II. Reidmiller, D.R., C.W Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.), US Global Change Research Program, Washington DC, USA, 2018**

**Keywords:** Intertribal; Climate Change, Economic Risk, Indigenous Health, Disconnection, Climate Impacts, Cultural Shifts, Disaster Management, Institutional Barriers, Land Access, Indigenous Knowledges, Self-Determination, Institutional Commitment, Chapter, Scholarship, National Climate Assessment; Report; Researchers, Climate Adaptation Specialists

**Johnson, A. N., Sievert, R., Durglo Sr, M., Finley, V., Adams, L., and Hofmann, M. H. Indigenous Knowledge and Geoscience on the Flathead Indian Reservation, Northwest Montana: Implications for Place-Based and Culturally Congruent Education. *Journal of Geoscience Education* 62, 2 (2014), 187–202**

**Keywords:** Flathead; Place-Based Education, Culturally Congruent Education, Geoscience, Instructional Best Practices; Journal Article; Educators, Researchers

**Abstract:** We investigated connections between the natural and the cultural history of the Flathead Indian Reservation through the integration of geoscience, traditional tribal knowledge, and oral narratives for the purpose of improving Earth Science education in the tribal community. The project served as an avenue for the incorporation of indigenous knowledge into science curricula by providing parallel perspectives for the same landscapes while considering compatibilities between Western science and Native knowledge. We developed educational resources through collaborations with local school communities, tribal elders, and cultural experts who approved the materials for general distribution. Participants identified multiple localities throughout the reservation that served as field sites critical to understanding geoscience concepts, tribal scientific knowledge, and oral histories. One such place (the Big Draw Valley west of Flathead Lake) figures prominently in both geoscience and indigenous accounts of the evolution of the land. Compatible perspectives of local landscape formation are indicated by similarities between the interconnected Earth Science and Native narratives. Indigenous knowledge reveals potential locations for additional scientific research that could prompt a reconsideration of current geoscience theories regarding the glacial history of the region. Preliminary research suggests that culturally congruent instruction using the Flathead Geoscience Education Project materials was effective in supporting increased American Indian student achievement in geosciences on the reservation. We believe that curricular materials similar to those produced during this project can also be developed for and successfully used in other tribal communities. 2014 National Association of Geoscience Teachers. [DOI: 10.5408/12-393.1]

**Kimmerer, R. Native Knowledge for Native Ecosystems. *Journal of Forestry* 98, 8 (2000), 4–9**

**Keywords:** Intertribal; Ecology, Conservation, Forestry, Co-management; Journal Article; Natural Resource Managers, Restoration Ecologists



**Abstract:** In an effort to restore forest health and diversity, US federal agencies are calling for management practices directed toward a "return to the presettlement equilibrium." Restoring forests to that presettlement structure and function is not possible without also understanding the relationship between the indigenous inhabitants and the land. Indigenous knowledge systems have much to offer in the contemporary development of forest restoration. Traditional knowledge is particularly useful in identifying reference ecosystems and in illuminating cultural ties to the land. Although Native peoples' traditional knowledge of the land differs from scientific knowledge, both have strengths that suggest the value of a partnership between them.

**Kimmerer, R. Weaving Traditional Ecological Knowledge into Biological Education: A Call to Action. *BioScience* 52, 5 (2002), 432–438**

**Keywords:** Intertribal; Convergence Science, Pedagogy, Integrating Traditional Ecological Knowledge, Curriculum Development; Journal Article; Educators, Restoration Ecologists

**Kimmerer, R. Searching for Synergy: Integrating Traditional and Scientific Ecological Knowledge in Environmental Science Education. *Journal of Environmental Studies and Sciences* 2, 4 (2012), 317–323**

**Keywords:** Intertribal; Convergence Science, Environmental Impact Analysis, Integrating Traditional Ecological Knowledge, Natural Resource Planning, Environmental Policy, Pluralism, Epistemology, Political Ecology, Holism, Humanism; Journal Article; Environmental Scientists, Researchers

**Abstract:** Scientific ecological knowledge (SEK) is a powerful discipline for diagnosing and analyzing environmental degradation, but has been far less successful in devising sustainable solutions which lie at the intersection of nature and culture. Traditional ecological knowledge (TEK) of indigenous and local peoples is rich in prescriptions for the philosophy and practice of reciprocal, mutualistic relationships with the earth. Scientists and policy makers all over the world are calling for incorporation of the wisdom of TEK into natural resource planning and environmental policy. TEK has a legitimate place in the education of the next generation of environmental scientists, yet this body of knowledge and the process by which it is generated are virtually absent from the environmental science classroom. Integrating TEK and SEK holds a great promise for

broadening and deepening the teaching of environmental science, yet the challenges to such integration are significant in the mainstream classroom. I have found that key elements of this integration include fostering intellectual pluralism in a student population largely unaware of other epistemologies by: (1) clear and disciplined analysis of how TEK and SEK are grounded in different worldviews. Mutually respectful evaluation of the divergences and convergences of these epistemologies creates the foundation for critical examination of how synergy might be created between them; (2) engagement of the indigenous pedagogy of direct, experiential learning in which the land and its inhabitants are recognized as primary knowledge sources; (3) holistic engagement of multiple elements of human capacity: mind, body, emotion, and spirit, not just the intellect which is exclusively privileged in conventional environmental science education; (4) recognition that in indigenous approaches, knowledge and responsibility are inextricably linked, so the course content and approach simultaneously cultivate the responsibility that accompanies knowledge acquisition, including protection and appropriate use of cultural knowledge; and (5) recognition that the mutually exclusive duality between matter and spirit which is essential to the scientific worldview is bridged in TEK where material and spiritual explanations, the secular and the sacred, may simultaneously coexist.

**Kimmerer, R. Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants. Milkweed Editions., 2013**

**Keywords:** Intertribal; Storytelling, Environmental Interpretation, Convergence Science, Indigenous Knowledge, Narrative Inquiry, Plant Identification; Book; Cultural Preservation Specialists, Environmental Scientists, Researchers

**Krupnik, I., and Jolly, D. The Earth Is Faster Now: Indigenous Observations of Arctic Environmental Change. Frontiers in Polar Social Science, 2002. Arctic Research Consortium of the United States**

**Keyword:** Inuit, Yupik, Inuvialuit; Indigenous Perspectives, Climate Impacts, Indigenous Knowledges, Polar Science, Partnerships U.S.-Canada, Environmental Change, Arctic, Collaboration, Research, Community-Based Approaches, Collection, Native Observations, Intergenerational, Ecology, Habitat, Unpredictable Weather, Seasonal Patterns, New Methodology, Social Science, Place-Based Research, Climate Research; Book; Environmental Scientists, Researchers, Policy Analysts

**LaDuke, W. *All Our Relations: Native Struggles for Land and Life*. South End Press, 1999**

**Keyword:** Intertribal, US Tribes and Alaska Natives, Indigenous Resistance, Cultural Protection, Environmental Protection, Activism, Self-Determination, Community, Indigenous Voices, Colonization, Indigenous Perspectives, Climate Futurity, Governance, Identity, Tradition, Indigenous Cultural Revitalization; Book; Cultural Preservation Specialists, Community Leaders, Researchers

**LaDuke, W. *Recovering the Sacred: The Power of Naming and Claiming*. South End Press, 2005**

**Keyword:** Intertribal; Narrative Collection, Social Analysis, Federal Indian Policy, Environmental Activism, Place-Based Identity, Social Justice, Spirituality, Community, Resource Extraction, Sacred Site Protection, Indigenous Research, Interviews, Indigenous Cultural Revitalization; Book; Policy Analysts, Cultural Preservation Specialists, Researchers

**LaDuke, W. *The Winona LaDuke Chronicles: Stories from the Front Lines in the Battle for Environmental Justice*. Fernwood Publishing, 2016**

**Keyword:** Intertribal, U.S.-Canada, Narrative Collection, Indigenous Communities, Resilience, Healing, Spirituality, Intergenerational, Life Philosophy, Humor, Self-Actualization, Climate Change, Human Rights, Indigenous Cultural Revitalization; Book; Community Development Specialists, Historians, Researchers, Community Leaders

**Long, J. W., Anderson, M. K., Quinn-Davidson, L., Goode, R. W., Lake, F. K., and Skinner, C. N. *Restoring California Black Oak Ecosystems to Promote Tribal Values and Wildlife*. *Gen. Tech. Rep. PSW GTR-252*. Albany, CA: US Department of Agriculture, Forest Service, Pacific Southwest Research Station. 110 p. 252 (2016)**

**Keyword:** California Tribes; Forest Management, Cultural Burn, Ecosystem Services, Landscape Restoration, Prescribed Burning, Ecological Resilience, Traditional Ecological Knowledge, Woodlands, Acorns, Sustainability, Tribal Values, Wildlife Habitat, Climate Change, Report; Journal Article; Restoration Ecologists Natural Resource Managers, Researchers

**Abstract:** This report synthesizes information to help promote the distinctive ecological and cultural benefits provided by California black oak. Production of abundant, high-quality acorns desired by Native Americans in California, as well as other valued services, requires the presence of mature, broad-crowned trees with low fuel levels and low pest levels. Although black oaks are vulnerable to intense fires, they depend on low-intensity, more frequent fires to reduce competition from conifers, pest loads, and build-up of fuels that promote intense fires. Traditional burning by Native Americans helped to promote these conditions historically; however, in many areas that have become overly dense, thinning, out-of-season burns, or relatively severe fires may be needed to reopen the forest and reduce fuel levels before a more customary use of fire can maintain desired outcomes. Applying a landscape-scale approach to black oak restoration can help sustain tribal values and wildlife habitat, as well as promote greater ecological resilience to drought and wildfire during this time of a warming climate.

**Long, J. W., Goode, R. W., and Lake, F. K. Recentring Ecological Restoration with Tribal Perspectives. *Fremontia* 48, 1 (2020), 14–19**

**Keyword:** North Fork Mono Tribe, California; Ecological Restoration, Ethics, Traditional Ecological Knowledge, Cultural Values, Indigenous Communities, Land Stewardship, Tribal Governance, Place-Based Reconnection, Cultural Resource Restoration, Ecological Relationships, Research, Projects; Journal Article; Restoration Ecologists, Cultural Preservation Specialists

**Abstract:** Ecological restoration is central to the well-being of Indigenous communities, who have tended, burned, and harvested a variety of resources across diverse ecosystems in California for millennia. Despite having more tribes and more Native Americans than any other state, California has less land under tribal control than most of the states west of the Continental Divide. Consequently, tribes in the state disproportionately depend on public lands for their well-being. However, through “ecocultural restoration,” both ecosystems and their interconnected Indigenous communities can once again flourish.

Here we describe several examples that show how expanding the scope and vision of ecological restoration can support the interests of American Indian Tribes and Indigenous communities in California. Through examples of meadow, oak grove, and cul-

tural resource restoration projects, many of which have been led by the North Fork Mono Tribe, we highlight several themes that illustrate how restoration can be broadened to recognize, include, and value Indigenous people and their relationships to ancestral lands in California.

**Louv, R. Last Child in the Woods: Saving our Children from Nature-Deficit Disorder, 2008**

**Keyword:** Global; Child Welfare, Nature, Nature Deficit, Children's Health, Mental Health, Research, Healing, Solutions, Actions, Community, Family; Book; Educators

**Lukacs, M. New Brunswick Fracking Protests are the Frontline of a Democratic Fight. *The Guardian* 21 (2013)**

**Keyword:** Mi'kmaq, Canada; Fracking, Indigenous Resistance, Shale Gas, Dominant Narratives, Protest, Police Intervention, Environmental Activism, Environmental Degradation, Water Protectors, Land Sovereignty, Governance, Treaty Rights; News Article; Policy Analysts, Researchers

**Lynn, K., Daigle, J., Hoffman, J., Lake, F., Michelle, N., Ranco, D., and Williams, P. The Impacts of Climate Change on Tribal Traditional Foods. In *Special Issue: Climate Change and Indigenous Peoples in the United States*. J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 545-556. Springer, 2013**

**Keyword:** Intertribal, U.S.; Traditional Foods, Climate Change, Climate Change Adaptation Strategies, Tribal Culture, Sustenance, Ecology, Ethnobotany, Land Sovereignty, Governance, Resource Management, Bodies of Government; Journal Article; Researchers, Natural Resource Managers, Policy Analysts

**Abstract:** American Indian and Alaska Native tribes are uniquely affected by climate change. Indigenous peoples have depended on a wide variety of native fungi, plant and animal species for food, medicine, ceremonies, community and economic health for countless generations. Climate change stands to impact the species and ecosystems that constitute tribal traditional foods that are vital to tribal culture, economy and traditional ways of life. This paper examines the impacts of climate change on tribal traditional foods by providing cultural context for the importance of traditional foods to tribal culture, recognizing that tribal access to traditional food resources is strongly

influenced by the legal and regulatory relationship with the federal government, and examining the multi-faceted relationship that tribes have with places, ecological processes and species. Tribal participation in local, regional and national climate change adaptation strategies, with a focus on food-based resources, can inform and strengthen the ability of both tribes and other governmental resource managers to address and adapt to climate change impacts.

**Mack, E., Augare, H., Cloud-Jones, L., David, D., Gaddie, H., Honey, R., and Wippert, R. Effective Practices for Creating Transformative Informal Science Education Programs Grounded in Native Ways of Knowing. *Cultural Studies of Science Education* 7, 1 (2012), 49–70**

**Keyword:** Intertribal, U.S.; Informal Science Education, Programs, Indigenous Communities, Science Education, Indigenous Knowledges, Best Practices, Research, Interviews, Indigenous Education, Guiding Principles, Community Needs, Teaching Methods, Study; Journal Article; Educators, Researchers

**Abstract:** There are a growing number of informal science education (ISE) programs in Native communities that engage youth in science education and that are grounded in Native ways of knowing. There is also a growing body of research focusing on the relationship between culture, traditional knowledge, and science education. However, there is little research documenting how these programs are being developed and the ways in which culture and Western science are incorporated into the activities. This study outlines effective practices for using Native ways of knowing to strengthen ISE programs. These effective practices may also be used to promote change in formal education. The authors combine an overview of current research in informal science education with personal interviews with educators engaged in ISE programs offered to youth both on and off tribal reservations as well as experts in Indigenous education. Participating individuals and programs included Native communities across the United States, including Alaska and Hawai'i. Keeping in mind that each community is unique, ISE programs that are grounded in Native ways of knowing will benefit by utilizing the effective practices outlined here as a guide for starting or strengthening existing ISE programs relevant to the needs of their communities.

**Maldonado, J., Shearer, C., Bronen, R., Peterson, K., and Lazrus, H. The Impact of Climate Change on Tribal Communities in the US: Displacement, Relocation, and Human Rights. In *Special Issue: Climate Change and Indigenous Peoples in the United States*. J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 601-604. Springer, 2013**

**Keyword:** Intertribal, U.S.; Coastal Areas, Climate Displacement, Climate Change, Governance, Cultural Preservation, Community, Health, Poverty, Justice, Tribal Strategies, Sovereignty, Human Rights Approaches, Advocacy, Relocation, Resettlement, Recommendations; Journal Article; Community Development Specialists, Policy Analysts, Climate Adaptation Specialists

**Abstract:** Tribal communities in the United States, particularly in coastal areas, are being forced to relocate due to accelerated rates of sea level rise, land erosion, and/or permafrost thaw brought on by climate change. Forced relocation and inadequate governance mechanisms and budgets to address climate change and support adaptation strategies may cause loss of community and culture, health impacts, and economic decline, further exacerbating tribal impoverishment and injustice. Sovereign tribal communities around the US, however, are using creative strategies to counter these losses. Taking a human rights approach, this article looks at communities' advocacy efforts and strategies in dealing with climate change, displacement, and relocation. Case studies of Coastal Alaska and Louisiana are included to consider how communities are shaping their own relocation efforts in line with their cultural practices and values. The article concludes with recommendations on steps for moving forward toward community-led and government-supported resettlement programs.

**Maldonado, J., Naquin, A., Dardar, T., Parfait-Dardar, S., and Bagwell, B. Above the Rising Tide: Coastal Louisiana's Tribal Communities Apply Local Strategies and Knowledge to Adapt to Rapid Environmental Change. In *Disasters' Impact on Livelihood and Cultural Survival: Losses, Opportunities, and Mitigation*. *Cultural Survival: Losses, Opportunities, and Mitigation*. M Companion, ed. CRC Press, 2015, 239–253**

**Keyword:** Louisiana Tribes; Environmental Impact, Knowledge Exchange, Mitigation, Community-Based Strategies, Indigenous Knowledges; Book Chapter; Community Development Specialists, Researchers, Policy Analysts, Climate Adaptation Specialists

**Maldonado, J. K., Pandya, R., and Colombi, B.** *Climate Change and Indigenous Peoples in the United States: Impacts, Experiences and Actions. Special Issue, Climatic Change 120(3).* Springer, 2013

**Keyword:** Indigenous Peoples, U.S.; Climate Change, Community-Based Strategies, Climate Impacts, Tribal Communities, Adaptation, Justice, Culture, Policy, Governance, Indigenous Knowledges, Traditional Foods, Resource Management, Displacement, Human Rights, Ecosystems, Colonialism; Journal Article; Environmental Scientists, Researchers, Policy Analysts, Climate Adaptation Specialists

**Maldonado, J., Lazrus, H., Gough, B., Bennett, S., Chief, K., Dhillon, C., Kruger, L., Morisette, J., Petrovic, S., and Whyte, K.** *The Story of Rising Voices: Facilitating Collaboration Between Indigenous and Western Ways of Knowing. In Responses to Disasters and Climate Change: Understanding Vulnerability and Fostering Resilience. M. Companion and M. Chaiken, eds.* CRC Press, 2016, 15–25

**Keyword:** Intertribal, U.S.; Self-Determination, Culture, Climate Impacts, Knowledge Exchange, Partnership, Indigenous Knowledges, Western Knowledge, Collaborative Strategies, Resilience, Place-Based Solutions, Adaptation, Sovereignty, Community Leaders, Scientists; Book Chapter; Community Development Specialists, Researchers, Climate Adaptation Specialists

**Maldonado, J., Wang, I., Eningowuk, F., Iaukea, L., Lascurain, A., Lazrus, H., Naquin, A., Naquin, J., Nogeuras-Vidal, K., Peterson, K., Rivera-Collazo, I., Souza, M., Stege, M., and Thomas, B.** *Addressing the Challenges of Climate-Driven Community-Led Resettlement and Site Expansion: Knowledge Sharing, Storytelling, Healing, and Collaborative Coalition Building. Journal of Environmental Studies and Sciences (11) (2021), 294–304*

**Keyword:** Intertribal, U.S., Louisiana Tribes, Pacific Islands, Puerto Rico, Alaska Natives; Coastal Areas, Climate Impacts, Policy, Culture, Identity, Displacement, Justice, Sustainability, Community-Based Solutions, Storytelling, Community Leaders, Governance, Research, Healing Processes, Community-Led Resettlement, Site Expansion, Indigenous Knowledges, Climate Adaptation, Coalitions, Knowledge Exchange, Qualitative Methodology; Journal Article; Community Development Specialists, Policy Analysts, Community Leaders, Climate Adaptation Specialists



**Manuelito, K. The Role of Education in American Indian Self-Determination: Lessons from the Ramah Navajo Community School. *Anthropology & Education Quarterly* 36, 1 (2005), 73–87**

**Keyword:** Navajo; Self-Determination, Community, Qualitative Research, Indigenous Epistemology, Community Schools, Indigenous Education, Federal Legislation; Journal Article; Educators, Policy Analysts

**Abstract:** Since 1975 the Indian Self-Determination and Educational Assistance Act has enabled American Indian communities to enact self-determination through community-based schooling. In this study conducted by a Navajo researcher, the Ramah Navajo community defined self-determination and how it was operationalized within the community and school. The study demonstrates how education based on Navajo epistemology has been integral to self-determination at Ramah, underscoring the importance of incorporating Native American epistemologies in schooling for Indigenous students.

**Maracle, L. *I am Woman: A Native Perspective on Sociology and Feminism*. Global Professional Publishing, 1996**

**Keyword:** Intertribal; Indigenous Womanhood, Culture, Spirituality, Identity, Empowerment, Feminism, Sociology, Impacts of Colonization; Book; Researchers

**Marino, E. *Fierce Climate, Sacred Ground: An Ethnography of Climate Change in Shishmaref, Alaska*. University of Alaska Press, 2015**

**Keyword:** Inupiaq; Ethnography, Climate Change, Subsistence, Sea Level, Environmental Policy, Displacement, Relocation, Community, Adaptation, Culture, Identity, Narratives, Place-Based; Book; Researchers

**Martinez, D. Protected Areas, Indigenous Peoples, and the Western Idea of Nature. *Ecological Restoration* 21, 4 (2003), 247–250**

**Keyword:** Oglala Lakota, Intertribal; Relocation, Disconnection, Place-Based, Indigenous Ecology, Wilderness, National Park Service, Governance, Forced Removal, Reciprocity, Relationship, Indigenous Peoples, Philosophy, Nature; Journal Article; Researchers

**Abstract:** In 1930, about four decades after the Oglala Lakota (Sioux) were forced to dramatically decrease the size of the reservation provided for them in the 1868 Fort Laramie Treaty and one year after the Congressional authorization of the Badlands National Monument, Lakota spiritual leader Black Elk observed that the United States government had “made little islands for us and other little islands for the four-leggeds,” (Neihardt, 1959, p. 9), and that these “islands” would become increasingly separated as time passed. History has proven Black Elk correct, not only in terms of actual acres allocated to wilderness and the “four-leggeds,” but in the way in which the National Park Service and other government agencies continue to foster an estrangement between indigenous activities and designated wild places. It may come as a surprise to some that some 70 years before the removal of Indians from the Badlands National Monument, many Americans perceived wilderness to be incomplete and unnatural without native peoples. Indians were seen as part of the natural world. For example, in 1833, George Catlin, the famous early 19th century painter of Indians from the Plains and Rocky Mountains, proposed that the government preserve large expanses of land in their “pristine beauty and wildness... where the world could see for ages to come, the native Indian in his classic attire, galloping his horse...amid the fleeting herds of elks and buffaloes.” Catlin called his vision a “nation’s Park, containing man and beast, in all the wild and freshness of their nature’s beauty.” (New York Daily Commercial Advertiser 1833, quoted in Spence 1999, p. 10) Perhaps even more surprising is the little-known fact that several American proponents of environmental preservation, including Washington Irving, John James Audubon, and Henry David Thoreau shared Catlin’s sentiments. “In Wildness is the preservation of the World,” Thoreau’s famous statement made shortly before his death in 1862, was voiced not only to save vast acreages of “wildness,” but Indians in their native “wild” habitat, thereby preserving, in Thoreau’s view, the keepers of true wisdom and wildness. This more complete wilderness was what Thoreau thought civilized Americans needed. (Note that Thoreau said “wildness,” not the popular misquote, “wilderness.”) The importance of wildness as an antidote to the abstracting and alienating tendencies of urban civilization remains a dearly held value by many modern environmentalists. Deep ecologist Jack Turner, who environmental poet Gary Snyder has likened to Thoreau, wrote in *The Abstract Wild* (1996): “In our effort to go beyond anthropogenic defenses of nature, to emphasize its intrinsic value and right to exist independently of us, we forget the reciprocity between the wild in nature and the wild in us, between knowledge of Protected Areas,

Indigenous Peoples, and The Western Idea of Nature.

**Maynard, N. *Native Peoples - Native Homelands Climate Change Workshop: Final Report. Circles of Wisdom: US Global Change Research Program, October 28-November 1, 1998, Albuquerque, New Mexico, 2002***

**Keywords:** American Indians, Alaska Natives; Climate change, Traditional Knowledge, Place, Indigenous, Climate Change Impacts, Culture, Indigenous Knowledges, Self-determination, Climate Justice; Workshop Report; Environmental Scientists, Climate Adaptation Specialists, Researchers

**Abstract:** The Native Peoples-Native Homelands Climate Change Workshop was held on October 28 through November 01, 1998, as part of a series of workshops being held around the U.S. to improve the understanding of the potential consequences of climate variability and change for the Nation. This workshop was specifically designed by Native Peoples to examine the impacts of climate change and extreme weather variability on Native Peoples and Native Homelands from an indigenous cultural and spiritual perspective and to develop recommendations as well as identify potential response actions. The workshop brought together interested Native Peoples, representatives of Tribal governments, traditional elders, Tribal leaders, natural resource managers, Tribal College faculty and students, and climate scientists from government agencies and universities. It is clear that Tribal colleges and universities play a unique and critical role in the success of these emerging partnerships for decision-making in addition to the important education function for both Native and non-Native communities such as serving as a culturally- appropriate vehicle for access, analysis, control, and protection of indigenous cultural and intellectual property. During the discussions between scientists and policy-makers from both Native and non-Native communities, a number of important lessons emerged which are key to building more effective partnerships between Native and non-Native communities for collaboration and decision-making for a more sustainable future. This talk summarizes the key issues, recommendations, and lessons learned during this workshop.

**Mbah, M., Ajaps, S., and Molthan-Hill, P. A Systematic Review of the Deployment of Indigenous Knowledge Systems Towards Climate Change Adaptation in Developing World Contexts: Implications for Climate Change Education. *Sustainability* 13, 9 (2021), 4811**

**Keywords:** Intertribal; Climate Change Adaptation, Indigenous Knowledges, Developing World, Climate Change Education; Journal Article; Educators, Researchers, Climate Education Specialists

**Abstract:** Countries in the developing world are increasingly vulnerable to climate change effects and have a lesser capacity to adapt. Consideration can be given to their indigenous knowledge systems for an integrated approach to education, one which is more holistic and applicable to their context. This paper presents a systematic review of the indigenous knowledge systems (IKSs) deployed for climate change adaptation in the developing world and advances implications for climate change education. A set of inclusion criteria was used to screen publications derived from two databases and grey literature searches, and a total of 39 articles constituted the final selection. Postcolonial theory's lens was applied to the review of the selected publications to highlight indigenous people's agency, despite IKSs' marginalization through colonial encounters and the ensuing epistemic violence. The categories of social adaptation, structural adaptation, and institutional adaptation emerged from the IKS-based climate change adaptation strategies described in the articles, with social adaptation being the most recurrent. We discussed how these strategies can be employed to decolonise climate change education through critical, place-based, participatory, and holistic methodologies. The potential outcome of this is a more relatable and effective climate change education in a developing world context.

**McGinty, M., and Bang, M. Narratives of Dynamic Lands: Science Education, Indigenous Knowledge and Possible Futures. *Cultural Studies of Science Education* 11, 2 (2016), 471–475**

**Keywords:** Intertribal; Indigenous Knowledges, Science Education, Settler Colonialism, Indigenous Genocide, Culture War, Climate Change, Climate Education, Ecocide, Property Laws; Journal Article; Researchers

**Abstract:** We aim to share some of our work currently focused on understanding and unearthing the multiplicities of ways the denial of culture in relation to science and

knowledge construction is embedded in issues of climate change and climate change education. The issues become more troubling when we consider how effects of climate change are manifesting locally in ways that force shifts in Indigenous ways of living while simultaneously nation-states seem to think that continued or increased control of Indigenous practice is warranted. For us, taking the implications of such approaches seriously requires significant consideration of how climate education impacts Indigenous learners and whether learning western climate science is indeed part of making real change important. In our work we have focused on the ways in which settler-colonialism and the resultant racialized hierarchies permeate science education and contribute to an expectation of human entitlement to land and a notion of land permanence.

**McGregor, D. Coming Full Circle: Indigenous Knowledge, Environment, and Our Future. *American Indian Quarterly* 28, 3/4 (2004), 385–410**

**Keywords:** Intertribal; Indigenous Knowledges, Traditional Ecological Knowledge, Convergence Science, Climate Change, Ecocatastrophe, Knowledge Equity; Journal Article; Researchers

**Abstract:** Traditional Ecological Knowledge (TEK) as a construct of broader society is a relatively recent phenomenon, and the field that supports the acquisition of environmental knowledge from Aboriginal people has rapidly grown over the last two decades. In part, TEK has emerged from the growing recognition that Indigenous people all over the world developed sustainable environmental knowledge and practices that can be used to address problems that face global society. David Suzuki, scientist and environmentalist, writes, "My experience with Aboriginal people convinced me ... of the power and relevance of their knowledge and worldview in a time of imminent global ecocatastrophe." The international community has also recognized the important role Indigenous people and their knowledge can play in global society. In 1987 the Report of the World Commission on Environment and Development (or the Brundtland Report) recognized the important role of Indigenous people in sustainable development. Five years later, at the United Nations Conference on Environment and Development, the Convention on Biodiversity (CBD) was signed, one of two legally binding agreements. The CBD reiterated the important role of Indigenous people and their knowledge for achieving sustainable environmental and resource management. Canada has responded to the challenges brought forth by the Convention on Biodi-

versity and the Brundtland Report and is incorporating TEK into various environmental decision-making processes. The field of TEK is well on its way to becoming firmly entrenched in the discourse on environmental management and decision making in Canada, particularly in the north where it is part of public policy. The practice and application of TEK research in Canada, and the specific research methods devised to access this knowledge from Aboriginal people, are approximately two decades old. In Indigenous communities themselves, however, the practice of TEK is thousands of years old.

**McGregor, D. Anishnaabe-Kwe, Traditional Knowledge and Water Protection. *Canadian Woman Studies* 26, 3 (2008)**

**Keywords:** Anishnaabe, Canada; Environmental Protection, Water Resources, Native Peoples, Traditions, Knowledge, Indigenous Women and Feminism, Indigenous Cultural Revitalization; Journal Article; Cultural Preservation Specialists, Researchers

**Abstract:** If Aboriginal women's contributions to sustainability do not currently have a place of honour in dominant western society, they are increasingly given this honour in Indigenous society as Aboriginal peoples and communities continue the process of decolonization and recreation. I have seen the recognition, acknowledgment, and respect of women's knowledge in Indigenous communities through my work. At the June 2006, Canadian Water Resources Association 59th Annual Conference in Toronto, Ontario, for example, where discussion centred on the dominant western worldview that the "water crisis" can be solved by science and technology, the session chair, Haudenosaunee scholar Dan Longboat, invited Elder Edna Manitowabi, Grandmother and Professor Emeritus at Trent University, to speak on Anishnaabe women's views of water. It was most welcome to hear a woman of Edna's distinction remind us that Aboriginal women have traditionally played important roles with respect to water and that their voices must be included in present-day discussions. Without the invitation extended by Mr. Longboat, however, the participants would never have been exposed to these views.

**McGregor, D. Honouring Our Relations: An Anishnaabe perspective. *Speaking for ourselves: Environmental Justice in Canada* 27 (2009), 27–41**

**Keywords:** Anishnaabe; Water, Environmental Justice, Indigenous Ontology, Post-Anthropocentricity, Relational Responsibility; Journal Article; Researchers

**Abstract:** My goal in this chapter is to discuss environmental justice from a First Nations perspective, using water issues as a specific example. I wish to do so from my own standpoint as an Anishnaabe woman from Wiigwaaskinga (Birch Island, Ontario). As I learn more teachings about water and the concept of “all our relations” I have come to understand that relationships based on environmental justice are not limited to relations between people but consist of those among all beings of Creation. From the perspective of the world view within which I am embedded, environmental justice is most certainly about power relationships among people and between people and various institutions of colonization. It concerns issues of cultural dominance, of environmental destruction, and of inequity in terms of how certain groups of people are impacted differently by environmental destruction from others, sometimes by design. But environmental justice from an Aboriginal perspective is more than all of these. It is about justice for all beings of Creation, not only because threats to their existence threaten ours but because from an Aboriginal perspective justice among beings of Creation is life affirming. Aboriginal authors such as Anishnaabe environmental activist Winona LaDuke refer to this as “natural law” (LaDuke, 1994). While people certainly have a responsibility for justice, so do other beings (e.g., water and medicinal plants).

**McGregor, D. Traditional Knowledge: Considerations for Protecting Water in Ontario. *International Indigenous Policy Journal* 3, 3 (2012)**

**Keywords:** First Nations, Canada; Traditional Knowledge, Water, Indigenous Peoples, Water Crisis, Indigenous Rights, Indigenous Cultural Revitalization; Journal Article; Natural Resources Managers, Policy Analysts

**Abstract:** In Canada, the water crisis increasingly felt around the world is being experienced primarily in small, usually Indigenous, communities. At the heart of this issue lies an ongoing struggle to have Indigenous voices heard in the decision-making processes that affect their lives, lands, and waters. As part of ancient systems of Traditional Knowledge (TK), Indigenous people bear the knowledge and the responsibility to care

for the waters upon which they depend for survival. A series of internationally developed documents has supported Indigenous peoples' calls for increased recognition of the importance of TK in resolving environmental crises, including those involving water. Ontario provincial and Canadian federal governments have been developing legislative and regulatory documents to help fend off further water-related catastrophes within their jurisdictions. Despite such efforts, a number of barriers to the successful and appropriate involvement of TK in water management remain. Based on years of community-based and policy-related research with First Nations people involved in water-related undertakings, this article highlights progress made to date, and provides Indigenous viewpoints on what further steps need to be taken. Key among these steps are the need to restore and maintain Indigenous access to traditional territories and ways of life, and the requirement for mutually respectful collaboration between TK and Western science.

**McGregor, D. Indigenous Women, Water Justice and Zaagidowin (Love). *Canadian Woman Studies* 30, 2-3 (2015)**

**Keywords:** Anishnaabe; Water Equity, Indigenous Women, Environmental Justice, Indigenous Cultural Revitalization, Indigenous Ontology; Journal Article; Researchers

**Abstract:** The principle of "zaagidowinza" or love is the central element in defining the equal distribution of water. The term love has several meanings in Anishinaabemowin, but we will see how the Anishinaabek legal principle achieves welfare or Mnaamodzawin. We will also see that the love principle was and still is included in the Mother Earth WaterWalks, which I will discuss in my text. I will consider the notion of environmental justice, water in particular. In this regard, the Anishinaabek not only consider the traumas suffered by the peoples and others which are due to the contamination of the water, etc., but they consider that the waters are sentient beings who need care to heal from these. trauma. Only when the waters are healed and able to fulfill their duty in the face of Creation, then the righteousness of the water will be recognized.

**McGregor, D. Mino-mnaamodzawin: Achieving Indigenous Environmental Justice in Canada. *Environment and Society* 9, 1 (2018), 7-24**

**Keywords:** First-Nations, Canada; Environment, Indigenous Environmental Justice, Indigenous Knowledges, Sustainability, Truth and Reconciliation; Journal Article; Re-



searchers

**Abstract:** This article explores the potential for advancing environmental justice (EJ) theory and practice through engaging with Indigenous intellectual traditions. When EJ is grounded in Indigenous epistemological and ontological foundations, a distinct EJ framework emerges, leading to a deeper understanding of Indigenous EJ and to a renewed vision for achieving it. I highlight the emergence of the Anishinaabe philosophy referred to as *mino-mnaamodzawin* (“living well” or “the good life”), common to several Indigenous epistemologies, that considers the critical importance of mutually respectful and beneficial relationships among not only peoples but all our relations (including all living things and many entities not considered by Western society as living, such as water and Earth itself). *Mino-mnaamodzawin* is suggested as a foundational contributor to a new ethical standard of conduct that will be required if society is to begin engaging in appropriate relationships with all of Creation, thereby establishing a sustainable and just world.

**McKinley, E. A., and Smith, L. T. *Handbook of Indigenous Education*. Springer, 2019**

**Keywords:** Intertribal; Indigenous Education, Aboriginal Education, Native Education, School Systems, Indigenous Curriculum Teaching and Learning, Indigenous Pedagogy, Indigenous Achievement, Indigenous Students, Colonialism and Education, Indigeneity; Book; Educators, Researchers

**Abstract:** This book is a state-of-the-art reference work that defines and frames the state of thinking, research and practice in indigenous education. The book provides an authoritative overview of the subject in one text. The work sits within the context of The UN Declaration of the Rights of Indigenous Peoples that states “Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations which shall be appropriately reflected in education” (Article 14.1). Twenty-five years ago a book of this nature would have been largely written by non-Indigenous researchers about Indigenous people and education. Today Indigenous researchers can write this work about and for themselves and others.

**Medin, D., and Bang, M. Culture in the Classroom. *Phi Delta Kappan* 95, 4 (2013), 64–67**

**Keywords:** Intertribal; Pedagogy, Learning Environments, Eurocentric Curriculum, Assimilation, Indigenous Ways of Being, Land Relationships, Oral Tradition, Convergence Science, Indigenous Knowledges; Journal Article; Educators, Researchers

**Abstract:** Reconstructing what counts as science is crucial for more equitable science education and science is not value neutral as it reflects a set of culturally embedded social endeavours. The information provided with the work, approaching an open discourse of nature and science, draws from a wide-range of fields including philosophy of science, social studies, psychology, education and cultural studies. Teachers of science and pedagogy will appreciate the text along with the collection of case studies included.

**Medin, D., and Bang, M. *Who's Asking?: Native Science, Western Science, and Science Education*. MIT Press, 2014**

**Keywords:** Intertribal; Eurocentric Critisms, Pedagogy, Academic Equity, Western Science, Indigenous Science; Journal Article; Educators, Researchers

**Michell, H., Vizina, Y., Augustus, C., and Sawyer, J. Learning Indigenous Science from Place: Research Study Examining Indigenous- Based Science Perspectives in Saskatchewan First Nations and Métis Community contexts, 2008**

**Keywords:** Canadian First Nations; Indigenous Science, K-12, Educational Equity, Place-Based Research, Participatory Action Research, Community-Based Participatory Research, Policy Development, Curriculum Development, Methods/Best Practices, Toolkit, Collaborative Work, Convergence Sciences, Integration, Pedagogy; Book; Educators, Researchers

**Milk, T. *Stories of Sacrifice and Survival: Discovering Student Life in the Early Years of Haskell Institute, 1884–1900*. University of Kansas, 2006**

**Keywords:** Intertribal; Haskell Institute, Education History, Bilingual Education, Multicultural Education, Native Studies, Indigenous Studies; Book; Educators, Historians, Researchers

**Abstract:** Haskell Institute (now Haskell Indian Nations University) is a unique institution that has evolved over the past 120+ years from a government-run boarding school into an institution of higher education. Various individuals have introduced a number of historical narratives about Haskell over time, each with their own purpose and interpretation. The older studies are focused on the institution itself and although the more recent theses and dissertations work to include a student perspective, there are no concrete stories of or connections made between actual students. In other words, the stories of the students are missing. It is that void that began this journey through the past. To start with, the process of historical inquiry generally, and as it is connected to this particular document, is discussed. Moreover, the actual process of historical research in this endeavor unfolds before a reader's eyes in a few of the stories in the text. Ultimately, this narrative uncovers, explores and shares some stories of students from the earliest years of Haskell Institute, 1884-1900. These stories illustrate strength, resilience and persistence in the young Native people who were subject to highly regulated and, oftentimes harsh, conditions. There are stories of student sacrifice, but at the same time, there are stories of student survival. Through the stories, a reader is introduced to little pieces of the lives of some of the 19th century Haskell students. In the end, the stories add further depth, another dimension even, to the historical knowledge of Haskell. These are stories that needed to be found, stories that needed to be remembered, stories that needed to be told and re-told.

**Nahban, G. *Singing the Turtles to Sea: The Comcáac (Seri) Art and Science of Reptiles*, 2003**

**Keywords:** Intertribal; Indigenous Ways of Knowing, Traditional Ecological Knowledge, Oral Tradition, Indigenous Science, Ethnobiology; Book; Researchers

**Nakashima, D., McLean, K., Thulstrup, H., Castillo, A., and Rubis, J. *Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation*, UNESCO and United Nations University Traditional Knowledge Initiative, 2012**

**Keywords:** Intertribal; Traditional Ecological Knowledge, Ethnoecology, Indigenous Peoples, Climate Change; Case Studies; Researchers, Climate Adaptation Specialists

**Abstract:** This unique transdisciplinary publication is the result of collaboration between UNESCO's Local and Indigenous Knowledge Systems (LINKS) programme, the

United Nations University's Traditional Knowledge Initiative, the IPCC, and other organisations. Chapters, written by indigenous peoples, scientists and development experts, provide insight into how diverse societies observe and adapt to changing environments. A broad range of case studies illustrate how these societies, building upon traditional knowledge handed down through generations, are already developing their own solutions for dealing with a rapidly changing climate and how this might be useful on a global scale. Of interest to policy-makers, social and natural scientists, and indigenous peoples and experts, this book provides an indispensable reference for those interested in climate science, policy and adaptation

**Nelson, M., Ed. *Original Instructions: Indigenous Teachings for a Sustainable Future*. Simon and Schuster, 2008**

**Keywords:** Intertribal; Ethnoecology, Philosophy of Nature, Climate Change, Indigenous Cultural Revitalization; Book; Researchers, Climate Adaptation Specialists

**Abstract:** Indigenous leaders and other visionaries suggest solutions to today's global crisis—Provided by publisher. For millennia the world's indigenous peoples have acted as guardians of the web of life for the next seven generations. They've successfully managed complex reciprocal relationships between biological and cultural diversity. Awareness of indigenous knowledge is reemerging at the eleventh hour to help avert global ecological and social collapse. Indigenous cultural wisdom shows us how to live in peace—with the earth and one another. Original Instructions evokes the rich indigenous storytelling tradition in this collection of presentations gathered from the annual Bioneers conference. It depicts how the world's native leaders and scholars are safeguarding the original instructions, reminding us about gratitude, kinship, and a reverence for community and creation. Included are more than 20 contemporary indigenous leaders—such as Chief Oren Lyons, John Mohawk, Winona LaDuke, and John Trudell. These beautiful, wise voices remind us where hope lies.

**Norton-Smith, K., Lynn, K., Chief, K., Cozzetto, K., Donatuto, J., Redsteer, M., Kruger, L., Maldonado, J., Viles, C., and Whyte, K. *Climate Change and Indigenous Peoples: A Synthesis of Current Impacts and Experiences*. Gen Rep. PNM-GTR, 2016**

**Keywords:** Intertribal; Climate Change, Indigenous, Climate Adaptation, Traditional Knowledge; Report; Policy Analysts, Researchers

**Abstract:** A growing body of literature examines the vulnerability, risk, resilience, and adaptation of indigenous peoples to climate change. This synthesis of literature brings together research pertaining to the impacts of climate change on sovereignty, culture, health, and economies that are currently being experienced by Alaska Native and American Indian tribes and other indigenous communities in the United States. The knowledge and science of how climate change impacts are affecting indigenous peoples contributes to the development of policies, plans, and programs for adapting to climate change and reducing greenhouse gas emissions. This report defines and describes the key frameworks that inform indigenous understandings of climate change impacts and pathways for adaptation and mitigation, namely, tribal sovereignty and self-determination, culture and cultural identity, and indigenous community health indicators. It also provides a comprehensive synthesis of climate knowledge, science, and strategies that indigenous communities are exploring, as well as an understanding of the gaps in research on these issues. This literature synthesis is intended to make a contribution to future efforts such as the 4th National Climate Assessment, while serving as a resource for future research, tribal and agency climate initiatives, and policy development.

**Panther, C. P. *The Power of Vision*. PhD thesis, Lewis and Clark College, 2019**

**Keywords:** Intertribal; Education Leadership, Native American Studies, Business Education, Leadership Theory, Servant Leadership, Indigenous Cultural Revitalization, Sports, Vision; PhD Dissertation; Educators

**Abstract:** *The Power of Vision* contributes to the knowledge of Indigenous leaders, leadership, and leadership theory, with a particular focus on the element of values, vision, stewardship, and service. The qualitative study utilized a theoretical framework of servant leadership, Freirean pedagogy, and Mezirow's transformative learning theory to explore the lived experiences of six Indigenous people representing six Indigenous Nations, as well as an ally to the Indigenous community, who have dedicated their lives to sport as collegiate athletes, professional athletes, Olympians, sport movement creators, and/or sneaker innovators. Portraits are presented of each individual that detail the creation of movement(s) the individual visioneered to advocate for, and/or create access to, sport for Indigenous youth. The movement(s) challenge the continued impacts of colonization, oppression, and trauma across the United States and/or

Canada. The initial conceptual framework proved to be useful in describing aspects of their leadership but limited overall, as the narratives of these individuals revealed distinct collective values, agency, dedication, and aspects of vision that focused on renewing the strength of their respective Nations.

**Deloria, V., Wildcat, D., and Pavlik, S. *Destroying Dogma: Vine Deloria, Jr. and His Influence on American Society*. Fulcrum Publishing, 2006**

**Keywords:** Intertribal; Indigenous Philosophy, Genocide, Legal Status of Indigenous People in the United States, Indigenous Politics; Book; Researchers, Epistemologists, Policy Analysts

**Paris, D., and Winn, M. T. *Humanizing Research: Decolonizing Qualitative Inquiry with Youth and Communities*. Sage Publications, 2013**

**Keywords:** Intertribal; Case Study Research, Ethnography, Narrative Research; Book Chapter; Educators, Researchers

**Abstract:** What does it mean to be a “worthy witness” in qualitative inquiry with communities, and how can researchers become “a friend who understand fully”? In the opening quotes, participants in our work expressed how they viewed our presence in their work and worlds. Joseph Ubiles, also known as “Poppa Joe” in Maisha’s earlier work, and “Rahul” (a pseudonym for the youth quoted by Django) capture a particular methodology that seeks to decolonize and thus humanize the research process. We use the verb seek because we, like the contributing authors in the chapters that follow, are still in the process of “becoming” as we grapple with the tensions that arise from being primarily concerned about equity and social justice while simultaneously engaging in research with youth and communities. In the first quote, borrowed from Maisha’s research with her teacher/comrade/friend Joseph Ubiles, Joseph was reflecting on the many months of fieldwork Maisha had done with him and the African American, Dominican, Puerto Rican, and West Indian youth poets in his Bronx, New York, classroom (see Fisher, 2007). For Joseph, Maisha’s presence and participation—through her ethnographic inquiry using video, field notes, and interviews to document and analyze the dialogue between his teaching and the work of the youth poets—made him “feel valued.” And while Joseph did not ask for or even need Maisha’s approval, he, like many teachers, was in his classroom with his students wanting a partner to join him in forging

literate identities with youth marginalized by systems of inequality. Through a collaborative effort, Maisha became a co-teacher with Joseph and reflected on her practice as a researcher as much as Joseph reflected on his practice as a teacher. It was through this collaboration that Joseph deemed Maisha a “legitimate” partner in his work, one who was “worthy witnessing” as opposed to solely gathering data for a study.

**Peltier, S. *Valuing Children’s Storytelling from an Anishinaabe Orality Perspective*. Doctoral dissertation, Nipissing University, 2010**

**Keywords:** Anishinaabe; Oral Tradition, Storytelling In Education, Indigenous Cultural Revitalization: Doctoral Dissertation; Educators

**Abstract:** Aboriginal children do not have the same degree of academic success as non-Native students. My cultural membership as an Anishinaabe person and my professional experience providing speech and language pathology services in First Nation communities, fuel my commitment to facilitating positive change. Educational outcomes can be improved with understanding First Nation children’s distinct speech and language characteristics, communicative contexts and usage patterns, and the development of more effective approaches for these children. This research supports a paradigm shift. It has examined Anishinaabek children’s narrative structure and content through an ethically derived investigation, that is, an exploration from within the students’ own culture, language, and community. Such an approach is effective in curbing the application of inappropriate ethically derived procedures, those borrowed from the well-established clinical body of knowledge and recommended assessment procedures based on Western perspectives. This investigative process reveals features of Anishinaabek children’s stories and narrative components that are highly valued by Elders, who are teachers of language in the First Nation community. The Systematic Analysis of Language Transcripts (SALT) software program provides analysis of the story transcripts. The Elder components are assigned codes used for hand-coding and for comparison, the Narrative Structure Score (NSS) grammar is applied using SALT. A protocol for “revaluating” Anishinaabek children’s stories has emerged for educators and speech language practitioners. Oral language supports literacy development, and this research supports teachers to increase opportunities for oral storytelling in the classroom, thus enhancing educational and social experiences of Aboriginal children and all learners in the classroom.

**Peltier, S. Assessing Anishinaabe Children's Narratives: An Ethnographic Exploration of Elders' Perspectives. *Canadian Journal of Speech-Language Pathology & Audiology* 38, 2 (2014)**

**Keywords:** Anishinaabe; Narratives, Indigenous Research Methodology, Children's Stories, Elders, Storytelling Circles, First Nations Oral Tradition, Language Assessment, Aboriginal English Dialects; Journal Article; Educators

**Abstract:** This paper reports on an ethnographic research project conducted to explore the narrative skills of a group of eight Anishinaabe children. An emically-derived methodology was developed to examine narrative skills and the results were compared to those obtained using a scoring system developed for narrative analyses with majority culture English speaking children. The research illustrates that narrative analyses derived from a Western based perspectives, such as the Narrative Scoring Scheme (NSS) from the Systematic Analysis of Language Transcripts (SALT) software, is not always congruent with a narrative analysis based on the Anishinaabe perspective that reveals culturally relevant preferences for components of narratives based on the perceptions of Elders who value Aboriginal orality. The application of a Western based narrative analysis tool placed a different emphasis on what was valued as a 'good' narrative and these evaluations did not consistently reflect Anishinaabe orality values and perspectives. The research addresses culturally appropriate practices for eliciting and assessing the narrative performance of Anishinaabe children and provides an opportunity to understand the research participants in their own context while exploring culturally-specific meanings behind the data

**Peltier, S. *Demonstrating Anishinaabe Storywork Circle Pedagogy: Creating Conceptual Space for Ecological Relational Knowledge in the Classroom*. Doctoral dissertation, Laurentian University of Sudbury, 2016**

**Keywords:** Anishinaabe; Indigenous Knowledge, Aboriginal Education, Anishinaabe Education, Indigenous Philosophy, Indigenous Ecology, Anishinaabe Relational Knowledge, Anishinaabe Pedagogy, Indigenous Research Methodology, Case Study Narrative, Elementary Classroom, Storytelling, Identity, Community, Story Circles, Aboriginal Educational Praxis; PhD Dissertation; Educators

**Abstract:** Aboriginal education reform policies, Truth and Reconciliation initiatives, and climate change indicators signal opportunity and an urgency for action to effect



positive change through relationship with Aki<sup>1</sup>. Aboriginal peoples' ancient and wholistic ways of knowing, being, doing, and feeling are touchstones to support timely transformative processes in education and Canadian society. Current educational initiatives emphasize learning Aboriginal content and the integration of historical perspectives and contemporary arts into the Ontario curricula. This case study of 17 participants in a grade 4/5 classroom explores a research journey in northeastern Ontario demonstrating how the oral tradition and an Anishinaabe storywork Circle pedagogy create conceptual space for Anishinaabe ecological relational knowledge within the urban public school classroom. An Anishinaabe shared learning process devoid of power imbalance draws on the life experience of each student and educator in a culture and land-based approach. This study addresses the following research questions: What is Anishinaabe ecological relational knowledge and what principles and concepts of Anishinaabe ecological relational knowledge are made visible in a public school classroom? How is Anishinaabe ecological relational knowledge socially enacted in the classroom? How does the teacher's perception of Anishinaabe ecological relational knowledge transform their pedagogy? A critical Indigenous<sup>2</sup> research theory and qualitative methodological approach bring forward a narrative inclusive of teacher and elementary student voices and participant researcher reflections and query. <sup>1</sup> Aki is the Anishinaabemowin term for "Land". Anishinaabemowin refers to the Aboriginal languages of the Anishinaabek people, spoken by the Algonquin, Chippewa, Delaware, Mississauga, Odawa, and Ojibway and Pottawatomi people of the Great Lakes Region. <sup>2</sup> The term Indigenous refers to the first peoples that occupied the continents of the world and is used in this research context to refer to all first peoples-unique in our own cultures-but common in our experiences of colonialism and our understanding of the world (Wilson, 2008, p. 15). Anishinaabe cultural ecological relational knowledge refers to a specific area of Indigenous knowledge that suits the study's local context regarding Anishinaabe cultural origins, linguistic family, and community traditions. An animated learning process and experience incorporates life experience, relational collectivity, and inner knowing for Anishinaabe cultural ecological relational knowledge regarding the self in relationship with Aki and each other. The 'school yard as classroom' is utilized and this is especially supportive for First Nation students in transition to the city. Students' and educators' engagement in an inclusive community of respect and mutual understanding supports exploration of biophilia (the love of nature) and balanced relationships. The incorporation of Anishinaabemowin (Ojibway language)

conveys worldview perspectives and exemplifies the Indigenous paradigm and ways of knowing. The Anishinaabe storywork Circle process builds identity and supportive relationships which are strongly associated with school success of particular relevance for Aboriginal student engagement in school. Classroom teacher praxis is stimulated in response to Anishinaabe ecological relational knowledge and an Anishinaabe storywork Circle pedagogy. A robust process for change emerges through an examination of ecological systems theory. The impacts of relationshipbuilding, creation of a kind, respectful and inclusive classroom environment to interrupt systemic hegemony and racism are discussed.

**Pewewardy, C. Learning Styles of American Indian/Alaska Native Students: A Review of the Literature and Implications for Practice. *Journal of American Indian Education* 41(3) (2002), 22–56**

**Keywords:** Intertribal; Literature Review, Learning Styles, Educational Equity, Stereotype Threat, Historicity, Field Dependency, Strengths-Based Learning, Reflectivity, Pedagogy, Androgogy, Student Success, Noncognitive Development, Curriculum Development, American Indian Education; Journal Article; Educators

**Abstract:** A review of theories, research, and models of the learning styles of American Indian/Alaska Native students reveals that American Indian/Alaska Native students generally learn in ways characterized by factors of social/affective emphasis, harmony, holistic perspectives, expressive creativity, and nonverbal communication. Underlying these approaches are assumptions that American Indian/Alaska Native students have been strongly influenced by their language, culture, and heritage, and that American Indian/Alaska Native children's learning styles are different—but not deficient. Implications for interventions include recommendations for instructional practice, curriculum organization, assessment, and suggestions for future

**Pewewardy, C., and Hammer, P. *Culturally Responsive Teaching for American Indian Students*. ERIC Digest, 2003**

**Keywords:** Intertribal; Culturally Responsive Teaching, Literature Review, Educational Equity, Curriculum Development, American Indian Education; Journal Article; Educators

**Abstract:** This Digest makes the case that culturally responsive teaching cannot be

approached as a recipe or series of steps that teachers can follow to be effective with American Indian and Alaska Native (AI/AN) students. Instead, it relies on the development of certain dispositions toward learners and a holistic approach to curriculum and instruction. This Digest uses a five-part conceptual framework first derived from the broader multicultural literature by Nawang Phuntsog (1998), and ties these concepts to recent research in AI/AN education.

**Pugh, P., McGinty, M., and Bang, M. Relational Epistemologies in Land-Based Learning Environments: Reasoning About Ecological Systems and Spatial Indexing in Motion. *Cultural Studies of Science Education* 14, 2 (2019), 425–448**

**Keywords:** Intertribal; Curriculum Development, Learning Styles, Socio-cultural Integration, Ecocentrism, Relationality, Relational Epistemology, Spatial Indexing, Geosemiotics, Youth Engagement; Journal Article; Educators, Researchers

**Abstract:** Social and cultural practices in learning settings are sites for leveraging and/or re-mediating sustainable and just conceptions of nature-culture relations to meet changing environmental demands of 21st century. In this study, we take a microethnographic (Gee and Green, 1998) approach to examine sense-making among three youth while engaged in a walking activity in which they were asked to embody a plant during a summer land-based educational program focused on supporting Native youth to engage in cultural practices of reading the land. We found that the micro-practice of spatial indexing dynamically mediated sense-making about ecological systems

**Redsteer, M., Kelley, K., Francis, H., and Block, D. Accounts from Tribal Elders: Increasing Vulnerability of the Navajo People to Drought and Climate Change in the Southwestern United States. In *Indigenous Knowledge for Climate Change Assessment and Adaptation, Part III: Facing Extreme Events*, D. Nakashima, I. Krupnik, and J. Rubis, eds. 171-87. *Cambridge University Press* (2018)**

**Keywords:** Navajo; Land-Base, Climate Change Impacts, Climate Risk, Climate Vulnerability, Geospatial Data, Drought, Reduced Snowfall, Surface Water, Cultural Erosion, Desertification, Local Knowledge, Co-management, Tribal Consultation, Ecological Analysis; Journal Article; Environmental Scientists, Policy Analysts, Researchers

**Abstract:** The largest U.S. American Indian reservation is the Navajo Nation of Arizona, New Mexico, and Utah, in the southwestern United States. Today, the Navajo land base is more than 65,700 km<sup>2</sup> (25,350 mi) approximately the size of Iceland. People currently living on these Native lands are an exception in North American society as their traditional lifestyle requires intimate knowledge of the ecosystem, knowledge that has been passed on for generations through oral traditions. This remote and ecologically sensitive semi-arid region has suffered prolonged drought combined with increasing temperatures. These changes, in addition to challenging socioeconomic circumstances, are significantly altering the habitability of a region already characterized by harsh living conditions. We present lifetime observations of 73 Native American elders from the Navajo Nation that provide a record of ecosystem change and changing landscape conditions. This information, which complements the scant long-term meteorological records and historical documentation for the region, serves to further refine our understanding of the historical trends and local impacts of climate change and drought. Among the most cited changes was a long-term decrease in the amount of annual snowfall in the latter half of the 20th century, a transition from wet conditions to dry conditions in the 1940s, and a decline in surface water features. Other noted changes include the disappearance of springs, and of plant and animal populations (particularly medicinal plants, cottonwood trees, beavers, and eagles). The lack of available water, in addition to changing socioeconomic conditions, was mentioned as a leading cause for the decline in the ability to grow corn and other crops. Changes in the frequency of wind, sand and dust storms (more frequent in the 1950s and increasing in the 1990s) were also observed. We conclude that a long-term drying trend and decreasing snowpack, superimposed on regional drought cycles, will magnify the cultural erosion and desertification of the Navajo Nation and leave its people increasingly vulnerable to climate extremes.

**Reo, N., and Parker, A. Re-thinking Colonialism to Prepare for the Impacts of Rapid Environmental Change. In *Special Issue: Climate Change and Indigenous Peoples in the United States*, J. Maldonado, R. Pandya, and B. Colombi, eds. *Climatic Change* 120(3): 671-682. Springer, 2013**

**Keywords:** Intertribal; Eco-historical Analysis, Historicity, Ecocentrism, Environmental Interpretation, Interdisciplinary Collaboration, Human Dimensions of Climate Change, Reciprocity, Feedback Loops, Demographics, North Eastern United States; Journal Article; Researchers

**Abstract:** This essay demonstrates how key concepts from ecology can be applied within historical analyses in order to gain insights regarding contemporary environmental change. We employ a coupled human and natural systems conceptual framework in a nascent historical analysis of rapid societal and environmental change in colonial New England, where European colonization led to stark and rapid transformations. Introduced diseases reduced indigenous communities to a fraction of their pre-contact levels. European agriculture and associated pest species, deforestation and overharvest of ecologically influential species were among key aspects of the rapid changes in colonial New England. Crosscontinental biotic introductions initiated reinforcing feedback loops that accelerated the transition of human and natural systems into novel states. Integrating colonial history and ecology can help identify important interactions between human and natural systems useful for contemporary societies adjusting to environmental change.

**Reyhner, J., and Jacobs, D. Preparing Teachers of American Indian and Alaska Native Students. *Action in Teacher Education* 24, 2 (2002), 85–93**

**Keywords:** Intertribal; Literature Review, Best Practice Anthology, American Indian Education, Pedagogy, Intercultural Communication, Student Success, Teacher Education; Book; Educators

**The Rising Voices Center for Indigenous and Earth Sciences. *Adaptation to Climate Change and Variability: Bringing Together Science and Indigenous Ways of Knowing to Create Positive Solutions. Workshop Report, National Center for Atmospheric Research, Boulder, CO, 2014***

**Keywords:** Intertribal; Indigenous Research Ethics, Environmentalism, Forced Displacement, Climate Impacts, Indigenous Spirituality, Indigenous Lifeways, Resource Extraction, Pollution, Climate Adaptation Planning; Report; Environmental Scientists, Community Development Specialists, Climate Policy Analysts, Researchers

**Abstract:** Over seventy participants in Rising Voices convened for a second time at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado on June 30–July 2, 2014 to discuss what the science, information, support and research needs are of Indigenous communities to facilitate respectful and appropriate adaptation solutions to climate change and variability. Rising Voices is a community of engaged Indige-

nous leaders, Indigenous and non-Indigenous environmental experts, students, and scientific professionals across the United States, including representatives from Tribal, local, state, and federal resource management agencies, academia, Tribal colleges, and research organizations.

**The Rising Voices Center for Indigenous and Earth Sciences. *Centering Justice in the Convergence of Sciences, Communities, and Actions. Workshop Report, National Center for Atmospheric Research, Boulder, CO, 2022***

**Keywords:** Intertribal; Convergence Science, Reciprocity, Climate Impacts, Ecosystem Restoration, Indigenous Lifeways, Restoring Relationships, Traditional Knowledges, Healing, Mind/Body/Spirit; Workshop Report; Environmental Scientists, Community Development Specialists, Climate Scientists, Restoration Ecologists

**Settee, P. Honouring Indigenous Science Knowledge as a Means of Ensuring Western Science Accountability. Master's thesis, University of Manitoba, Manitoba, 1999**

**Keywords:** Swampy Cree, First Nations; Traditional Knowledge, Power Relationships, Educational Equity, Indigenous Knowledge Systems; Book Chapter; Educators

**Simpson, L. Anticolonial Strategies for the Recovery and Maintenance of Indigenous Knowledge. *American Indian Quarterly* (2004), 373–384**

**Abstract:** Intertribal; Indigenous Knowledge Systems, Literature Review, Cultural Sovereignty, Historicity, Pedagogy, Research Ethics, Anticolonialism, Indigenous Cultural Revitalization Liberation Ecology; Journal Article; Researchers

**Simms, W. *Cultural Identification and Cultural Mistrust: A Study Among Native American Indian College Students*. Doctoral dissertation, Oklahoma State University, 1995**

**Keywords:** Intertribal; American Indian Higher Education, Student Success, Epistemology, Curriculum Development, Androgogy, Intercultural Integration, Pan-Indian; Book Chapter; Educators

**Simms, W. F. The Native American Indian Client. *Diversity in College Settings: Directives for Helping Professionals* (1999), 21**

**Keywords:** Muscogee/Euchee, Intertribal; Sense of Belonging, American Indian Higher Education, Androgogy, Talking Circles, Counseling Methods, Educational Equity, Critical Cultural Consciousness, Interventionism; PhD Dissertation; Educators, Researchers

**Smith, H. Disrupting the Global Discourse of Climate Change: The Case of Indigenous Voices. In *The Social Construction of Climate Change: Power, Knowledge, Norms, Discourses*. Routledge, 2016, 197–216**

**Keywords:** Intertribal; Climate Change Adaptation, Indigenous Knowledge Systems, Ecocentrism; Book Chapter; Policy Analysts, Researchers

**Abstract:** In May 2005, I attended a conference in Montreal, sponsored by Natural Resources Canada, on the topic of adapting to climate change. During that conference there were several sessions on climate impacts in the Arctic. One of the speakers was an Inuit hunter, John Keogak, from the Western Arctic (see Knotsch, Moquin and Keogak 2005). He gave one of the most compelling testimonies about climate change impacts that I have ever had the privilege to hear. He spoke of changing wind patterns that affected ice flows, of the change to his home and way of life, and his fear that there is no future for his grandchildren. He also challenged us, “the south and the wealthy” to remember the lives of those in Canada’s north. This eloquent gentleman put a much needed human face on the issue of climate change. He reminded me of the voices, human and natural, that are too often marginalized from the world of targets, timetables, science and international negotiation. He challenged my/our Western ways of knowing through his expression of traditional environmental knowledge (TEK), counseled us all to remember our connection to the land, and turned my/our sense of geographic space upside down as he spoke from the north to the south and from the local to the global.

**Souza, K., and Tanimoto, J. *PRiMO IKE Hui Technical Input for the National Climate Assessment*. PRiMO IKE Hui Meeting, Hawai‘i, January 12, 2012**

**Keywords:** Intertribal; Pacific Islands, Climate Risk, Climate Impacts, Climate Vulnerability, Facilitation, Co-Management, Intercultural Policy Making, Observed Cli-

mate Changes, Process Mapping; Report; Policy Analysts, Community Development Specialists, Climate Adaptation Specialists

**Abstract:** The Pacific Islands are especially vulnerable to the impacts of climate change and variability, including: sea-level rise, ocean acidification, droughts, increased extreme weather events and others. Resilient coastal communities plan for and take deliberate actions to reduce risks from coastal hazards, accelerate recover from disaster events, and adapt to changing conditions related to climate change. The Pacific Risk Management ‘Ohana (PRiMO) is a network of federal, state, local, private sector partners committed to enhancing the resilience of Pacific Island communities through risk management. PRiMO recognizes the value of collective action and works through partnerships to improve coordination, build regional capacity in risk management, and strengthen and sustain resilient communities. The Indigenous Knowledge and Education (IKE) Hui is a working group of the larger PRiMO body dedicated to increasing awareness and incorporation of indigenous and local knowledge into the work that we do and the decisions that we make. Because of the connection to the various agencies and organizations involved in PRiMO, the IKE Hui is uniquely qualified to serve as organizer and host of this meeting to gather information on Pacific Island perspectives on climate change.

**Sparrow, E. B., Gordon, L. S., Kopplin, M. R., Boger, R., Yule, S., Morris, K., Jaroensutasinee, K., Jaroensutasinee, M., and Yoshikawa, K. Integrating Geoscience Research in Primary and Secondary Education. In Geoscience Research and Outreach: Schools and Public Engagement. Tong, V. ed. Springer (2014), 227–250**

**Keywords:** Alaska Natives; Convergence Science, Geoscience, Policy Making, Interdisciplinary Research, Epistemology, Phenology, Mapping Environmental Change, Alaska Natives, Climate Change Adaptation, Content Development; Journal Article; Environmental Scientists, Researchers

**Abstract:** The Monitoring Seasons Through Global Learning Communities project, also known as Seasons and Biomes, engages primary and secondary students in earth system and environmental science research in the learning of science in schools. The overall goal of this inquiry- and project-based International Polar Year (IPY) project is to increase precollege students’ understanding of the earth system. This project brings together students, educators, communities, and scientists in locally and glob-



ally relevant studies and provides opportunities for students to participate in IPY activities during and beyond the fourth IPY and to contribute to earth science studies. Seasons and Biomes primary approach is through teacher professional development (PD) workshops. We developed a PD workshop model that combines earth system science content, measurement protocols, a student scientific investigation model, and best teaching practices. We conducted regional, national, and international PD workshops for educators and scientists who in turn teach their students and/or train other teachers/trainers. More than 1,400 teachers and trainers in 50 countries have participated in Seasons and Biomes PD workshops, reaching more than 21,000 students. Students also participated in global learning community projects such as Pole-to-Pole Videoconferences, the Ice e-Mystery Polar e-Book project, GS-Pals (school to school across countries, web-based discussions and collaborations facilitated by GLOBE Alumni), and Mt. Kilimanjaro expeditions (mountain trek and virtual journey). Integrating geoscience research in precollege schools has resulted in numerous student research projects as well as data contributions to ongoing studies of the earth system. Additionally, project evaluation results and evidence submitted by teachers on student learning suggest high program implementation and understanding of earth system science and the science process.

**Swan, C., Naquin, A., and Tom, S. Building Respectful Solutions. *Forced Migration Review* 49 (2015), 100**

**Keywords:** Alaska, Louisiana, Isle de Jean Charles Tribe, Kivalina, Newtok; Coastal Erosion, Indigenous Perspectives, Relocation, Migration, Barriers, Hurricanes, Funding, Community; Essay; Policy Analysts, Climate Adaptation Specialists

**Swisher, K. Why Indian People Should Be the Ones to Write About Indian Education. *American Indian Quarterly* 20, 1 (1996), 83–90**

**Keywords:** Intertribal, U.S.; Self-Determination, Indigenous Education, Indigenous Perspectives, Representation, Indigenous Cultural Revitalization; Journal Article; Educators, Researchers

**Abstract:** In the spirit of self-determination, Indian people should be the ones to write about Indian education. Only American Indians and Alaska Natives themselves have the depth of experience and understanding and the insider view necessary to ask the

appropriate questions and find appropriate answers. Discusses steps needed to alter the direction of research and writing in Indian education.

**Tuck, E. Re-visioning Action: Participatory Action Research and Indigenous Theories of Change. *The Urban Review* 41, 1 (2009), 47–65**

**Keywords:** Intertribal; Indigenous Perspectives, Participatory Action Research (PAR), Theories of Change, Comparative Study, Indigenous Epistemology, Sovereignty, Contention, Balance, Relationship; Journal Article; Researchers

**Abstract:** This article observes that participatory action research (PAR), by nature of being collaborative, necessitates making explicit theories of change that may have otherwise gone unseen or unexamined. The article explores the limits of the reform/revolution paradox on actions and theories of change in PAR. Citing examples from two recent youth PAR projects on educational issues, the author submits that when met with such a paradox, one can only move to a new vantage point. Four alternative vantage points, drawn from Indigenous epistemologies, are illustrated; they are sovereignty, contention, balance, and relationship.

**Tuck, E., and Yang, K. Decolonization is Not a Metaphor. *Decolonization: Indigeneity, Education & Society* 1, 1 (2012), 1–40**

**Keywords:** Intertribal; Decolonization, Indigenous Sovereignty, Settler Colonialism, Land Sovereignty, Settler Guilt, Evasion, Human Rights, Social Justice, Comparative Case Study, Alliances, Abolition, Pedagogy, Decolonizing Education; Journal Article; Researchers

**Abstract:** Our goal in this article is to remind readers what is unsettling about decolonization. Decolonization brings about the repatriation of Indigenous land and life; it is not a metaphor for other things we want to do to improve our societies and schools. The easy adoption of decolonizing discourse by educational advocacy and scholarship, evidenced by the increasing number of calls to “decolonize our schools,” or use “decolonizing methods,” or, “decolonize student thinking”, turns decolonization into a metaphor. As important as their goals may be, social justice, critical methodologies, or approaches that decenter settler perspectives have objectives that may be incommensurable with decolonization. Because settler colonialism is built upon an entangled triad structure of settler-native-slave, the decolonial desires of white, non-white,

immigrant, postcolonial, and oppressed people, can similarly be entangled in resettlement, reoccupation, and reinhabitation that actually further settler colonialism. The metaphorization of decolonization makes possible a set of evasions, or “settler moves to innocence”, that problematically attempt to reconcile settler guilt and complicity, and rescue settler futurity. In this article, we analyze multiple settler moves towards innocence in order to forward “an ethic of incommensurability” that recognizes what is distinct and what is sovereign for project(s) of decolonization in relation to human and civil rights based social justice projects. We also point to unsettling themes within transnational/Third World decolonizations, abolition, and critical space-place pedagogies, which challenge the coalescence of social justice endeavors, making room for more meaningful potential alliances.

**Tuck, E., and Yang, K., Eds. *Youth Resistance Research and Theories of Change*. Routledge, 2013**

**Keywords:** Intertribal; Youth Resistance, Youth Movements, Theories of Change, Educational Research, Social Change, Complexity, Justice, Neoliberalism, Uprising, Collaboration, Interviews, Essays, Perspectives; Book; Researchers

**Tuck, E., Guess, A., and Sultan, H. Not Nowhere: Collaborating on Selfsame Land. *Decolonization: Indigeneity, Education & Society* 26, June (2014), 1–11**

**Keywords:** Intertribal; Collaboration, Space-Place, Black Identities, Land Identity, Decolonization, Settler Colonialism, Relationships, Indigenous Futurity, Dispossession, Anti-Blackness, Indigenous Sovereignty, Black Futurity, Black Optimism, Theory; Journal Article; Community Development Specialists

**Tuck, E., McKenzie, M., and McCoy, K. Land Education: Indigenous, Post-Colonial, and Decolonizing Perspectives on Place and Environmental Education Research. *Environmental Education Research* 20(1): 1-23. 1–23**

**Keywords:** Intertribal; Land Education, Environment, Indigenous Perspectives, Decolonization, Settler Colonialism, Indigenous Cosmologies, Indigenous Agency, Resistance, Place-Based Education; Editorial; Researchers

**Abstract:** This editorial introduces a special issue of Environmental Education Research titled 'Land education: Indigenous, post-colonial, and decolonizing perspectives on place and environmental education research.' The editorial begins with an overview of each of the nine articles in the issue and their contributions to land and environmental education, before outlining features of land education in more detail. 'Key considerations' of land education are discussed, including: Land and settler colonialism, Land and Indigenous cosmologies, Land and Indigenous agency and resistance, and The significance of naming. The editorial engages the question 'Why land education?' by drawing distinctions between land education and current forms of place-based education. It closes with a discussion of modes and methods of land education research.

**Tuck, E., and Fine, M. Inner Angles: A Range of Ethical Responses To/With Indigenous/Decolonizing theories. In *Ethical Futures in Qualitative Research: Decolonizing the Politics of Knowledge*. N.K Denzin and M.D. Giardina, eds. Left Coast Press, 145-168. 2007**

**Keywords:** Navajo, Ute; Four Corners, Relationships, Balance, Hegemony, Colonization, Guilt, Obscurity, Indigenous Theories, Decolonization Theories, Epistemology, PAR, Self-Determination, Indigenous Sovereignty, Social Justice; Book Chapter; Researchers

**Abstract:** This chapter is organized around four corners. Not the four opposing corners of a square, but a circle in quadrants, and in the center, an inner circle made by the corners of the perpendicular lines. Let's not mistake these angles as opposite angles of a square, but read them as the intimately bound corners of a circle-not too much travel between them, like standing on the four corners of the U.S. states of Utah, Colorado, New Mexico, and Arizona that meet on the lands of Navajo and Ute nations. Rather than a series of sequential recommendations, this chapter seeks to move-no, grapple-through the four corners, not as a progression, but as an assemblage, an accumulation of offerings. These inner angles are in balance, linked, not linear, and this chapter pauses in each of their territories: (1) the hegemonic voice-over of colonization; (2) that which is obscured by colonizers' guilt; (3) how indigenous and decolonizing theories might already inform an epistemological shift; and (4) PAR praxes participatory action research praxes as praxes of self-determination. This chapter takes up theories and theorists who emphasize decolonization as a central project, not only for indigenous communities but also non-indigenous communities: for indigenous sovereignty

to be taken seriously as a prerequisite to democracy, decolonization must be a common project on multiple social justice agendas.

**Tuck, E., and Yang, K. What Justice Wants. *Critical Ethnic Studies* 2, 2 (2016), 1–15**

**Keywords:** Intertribal; Justice, Critical Ethnic Studies, Resistance, Settler Colonialism, Structured Harm, Sovereignty, Academia, Community, Critical Conversations, Law and Policy, Multiple Perspectives, Institutions, Intersectionality, Colonization; Journal Introduction; Researchers

**Tuck, E., and Yang, K. Late Identity. *Critical Ethnic Studies* 3, 1 (2017), 1–19**

**Keywords:** Intertribal; Critical Ethnic Studies, Social Identity, Self-Actualization, Colonization, Temporality, Intersectionality, Relationships, Multiple Perspectives; Journal Introduction; Researchers

**Tuck, E., and Yang, K., Eds. *Toward What Justice?: Describing Diverse Dreams of Justice in Education*. Routledge, 2018**

**Keywords:** Intertribal; Cultural Knowledges, Education, Justice, Multiple Perspectives, Social Justice, Projects, Intersectionality; Book; Researchers

**United Nations General Assembly. *United Nations Declaration on the Rights of Indigenous Peoples*, 2007**

**Keywords:** Intertribal; International Policy Making, Treaties, Human Rights, Indigenous Rights, Cultural Sovereignty, Humanism, Self-Determination, Nationality, Cultural Revitalization, Spiritual Freedom, Educational Equity, International Law, Freedom From Oppression, Ecocentrism; United Nations Declaration; Policy Analysts

**USGCRP. *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment. Volume II.* Reidmiller, D.R. and Avery, C.W. and Easterling, D.R. and Kunkel, K.E. and Lewis, K.L. and Maycock, T.K. and Stewart, B.C. eds. U.S. Global Change Research Program. Washington, D.C. U.S.A., 2018**

**Keywords:** US Tribal Nations; Climate Science, Climate Change scientific assessment, State Climate Summaries, US Global Change Research Program Indicators and Scenario Products, Climate Risk, Sectoral Analysis, Representative Concentration Pathways (RCP) Scenarios, National Climate Assessment Regions, Risk Framing, Water system, Energy system, Land-use, Forests, Biodiversity, Ecosystems, Coastal effects, Oceans and Marine resources, Agriculture, Rural, Built environment, Urban systems, Transportation, Air quality, Human health, Tribes and Indigenous peoples, Complex systems, Adaptation actions, Mitigation, Emissions reduction; National Climate Assessment; Policy Analysts, Climate Adaptation Specialists, Researchers

**Abstract:** The Global Change Research Act of 1990 mandates that the U.S. Global Change Research Program (USGCRP) deliver a report to Congress and the President no less than every four years that “1) integrates, evaluates, and interprets the findings of the Program . . . ; 2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and 3) analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years.”<sup>1</sup> The Fourth National Climate Assessment (NCA4) fulfills that mandate in two volumes. This report, Volume II, draws on the foundational science described in Volume I, the Climate Science Special Report (CSSR).<sup>2</sup> Volume II focuses on the human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways. Where possible, NCA4 Volume II provides examples of actions underway in communities across the United States to reduce the risks associated with climate change, increase resilience, and improve livelihoods. This assessment was written to help inform decision-makers, utility and natural resource managers, public health officials, emergency planners, and other stakeholders by providing a thorough examination of the effects of climate change on the United States.

**Vinyeta, K., and Lynn, K. Exploring the Role of Traditional Ecological Knowledge in Climate Change Initiatives. Gen. tech. rep. pnw-gtr-879., US Department of Agriculture, Portland, OR, 2013**

**Keywords:** Intertribal; U.S., Traditional Ecological Knowledge, Indigenous Communities, Climate Impacts, Climate Initiatives, Adaptation, Sustainability, Land Management, Knowledge Exchange, Indigenous Science, Literature Review, Federal Policies, Climate Research, Education; Regional Report; Researchers, Policy Analysts

**Abstract:** Indigenous populations are projected to face disproportionate impacts as a result of climate change in comparison to non-Indigenous populations. For this reason, many American Indian and Alaska Native tribes are identifying and implementing culturally appropriate strategies to assess climate impacts and adapt to projected changes. Traditional ecological knowledge (TEK), as the indigenous knowledge system is called, has the potential to play a central role in both indigenous and nonindigenous climate change initiatives. The detection of environmental changes, the development of strategies to adapt to these changes, and the implementation of sustainable land-management principles are all important climate action items that can be informed by TEK. Although there is a significant body of literature on traditional knowledge, this synthesis examines literature that specifically explores the relationship between TEK and climate change. The synthesis describes the potential role of TEK in climate change assessment and adaptation efforts. It also identifies some of the challenges and benefits associated with merging TEK with Western science, and reviews the way in which federal policies and administrative practices facilitate or challenge the incorporation of TEK in climate change initiatives. The synthesis highlights examples of how tribes and others are including TEK into climate research, education, and resource planning and explores strategies to incorporate TEK into climate change policy, assessments, and adaptation efforts at national, regional, and local levels.

**Vinyeta, K., Whyte, K., and Lynn, K. Indigenous Masculinities in a Changing Climate: Vulnerability and Resilience in the United States. Enarson., E, and Pease, B. eds. In *Men, Masculinities and Disaster*. Routledge, 2016, 140–151**

**Keywords:** Intertribal, U.S.; Indigenous Peoples, Vulnerability, Resilience, Gender, Social Impacts, Ecological Impacts, Climate Change, Indigenous Masculinity, Settler Colonialism, Health, Migration, Displacement, Economic Development, Cultural Iden-

tity; Journal Article; Researchers

**Abstract:** Gender shapes Indigenous vulnerability and resilience due to the coupled social and ecological challenges of climate change in Indigenous communities in the United States (Maynard, 1998; Grossman and Parker, 2012; Bennett et al., 2014; Maldonado et al., 2014; Whyte, 2014). Despite its relevance, little research has analyzed the ways in which gender shapes climate change experiences. Even less research has focused on the impacts of climate change on Indigenous masculinity. With this backdrop, we foreground Indigenous men and masculinities with respect to climate change vulnerability and resilience. We open this chapter by briefly describing pre-contact Indigenous conceptions of gender in the US, followed by a discussion of how settlement has affected gender roles, relations and gendered traditional knowledge in Indigenous communities. We then describe some of the ways in which Indigeneity and masculinity are intersecting (or may intersect) with climate change in four key arenas: health, migration and displacement, economic and professional development, and culture. We follow this with a discussion of Indigenous men's roles in political resistance and climate change resilience. We conclude by summarizing the key implications for Indigenous climate change initiatives and for the ongoing reconstruction and reassertion of Indigenous gender identities.

**Voggesser, G., Lynn, K., Daigle, J., Lake, F., and Ranco, D. Cultural Impacts to Tribes from Climate Change Influences on Forests. In *Climate Change and Indigenous Peoples in the United States: Impacts, Experiences and Actions. Special Issue, Climatic Change 120(3): 615-625. Springer, 2013***

**Keywords:** Intertribal; Climate Impacts, Forestry, Fire Management, Subsistence Living, Climate Risk, Ecology, Co-Management, Natural Resource Management, Climate Adaptation Strategies; Journal Article; Environmental Scientists, Researchers

**Abstract:** Climate change related impacts, such as increased frequency and intensity of wildfires, higher temperatures, extreme changes to ecosystem processes, forest conversion and habitat degradation are threatening tribal access to valued resources. Climate change is and will affect the quantity and quality of resources tribes depend upon to perpetuate their cultures and livelihoods. Climate impacts on forests are expected to directly affect culturally important fungi, plant and animal species, in turn affecting tribal sovereignty, culture, and economy. This article examines the climate impacts on



forests and the resulting effects on tribal cultures and resources. To understand potential adaptive strategies to climate change, the article also explores traditional ecological knowledge and historical tribal adaptive approaches in resource management, and contemporary examples of research and tribal practices related to forestry, invasive species, traditional use of fire and tribal-federal coordination on resource management projects. The article concludes by summarizing tribal adaptive strategies to climate change and considerations for strengthening the federal-tribal relationship to address climate change impacts to forests and tribal valued resources.

**Whyte, K. Justice Forward: Tribes, Climate Adaptation and Responsibility. In *Climate Change and Indigenous Peoples in the United States: Impacts, Experiences and Actions. Special Issue, Climatic Change 120(3): 517-530. Springer, 2013, 517–530***

**Keywords:** Intertribal; Environmental Justice and Indigenous Peoples, Climate Justice and Indigenous Peoples, Climate Adaptation Ethics; Journal Article; Researchers, Policy Analysts

**Abstract:** Federally-recognized tribes must adapt to many ecological challenges arising from climate change, from the effects of glacier retreat on the habitats of culturally significant species to how sea level rise forces human communities to relocate. The governmental and social institutions supporting tribes in adapting to climate change are often constrained by political obstructions, raising concerns about justice. Beyond typical uses of justice, which call attention to violations of formal rights or to considerations about the degree to which some populations may have caused anthropogenic climate change, a justice framework should guide how leaders, scientists and professionals of all heritages and who work with or for federally-recognized tribes understand what actions are morally essential for supporting tribes' adaptation efforts. This paper motivates a shift to a forward-looking framework of justice. The framework situates justice within the systems of responsibilities that matter to tribes and many others, which range from webs of inter-species relationships to government-to-government partnerships. Justice is achieved when these systems of responsibilities operate in ways that support the continued flourishing of tribal communities.

**Whyte, K. Indigenous Women, Climate Change Impacts, and Collective Action. *Hypatia* 29, 3 (2014), 599–616**

**Keywords:** Intertribal; Gender and Climate change, Climate Justice, Indigenous Peoples; Journal Article; Researchers

**Abstract:** Like other communities, Indigenous peoples must adapt to climate-induced ecological variations like sea level rise, glacier retreat and shifts in the habitat ranges of different species. In ongoing conversations on climate change, some Indigenous women articulate how seriously they take the specific responsibilities they perceive themselves to have within the systems of responsibilities that matter to their communities. Such responsibilities can range from acting as custodians and teachers of local ecological knowledge to acting as conveners of political movements aiming at respectful co-existence with neighbors. For these Indigenous women, the responsibilities that they assume in their communities can expose them to harms stemming from climate change and other environmental changes. Yet at the same time, their commitment to these responsibilities motivates them to serve as enablers of adaptation and mitigation efforts. This paper offers a starting point for the following positions: Some Indigenous women have their own unique capacities for collective action that advance adaptation and mitigation. Non-Indigenous parties' political responsibilities should involve deferring to Indigenous women's own knowledges of and motivations for collective action. Deference can be expressed through political institutions that bolster the conditions needed to support Indigenous women's collective actions. In many cases, deference is incumbent on Indigenous national governments and political organizations. Further work beyond this paper should seek to further clarify the political reforms needed to support Indigenous women's collective agencies for adapting to and mitigating climate change.

**Whyte, K. Indigenous Peoples, Adaptation and the Responsibility of Settler States. *Ethics and the Anthropocene* (2015), 1–23**

**Keywords:** Intertribal; Climate Adaptation, Intertribal, Policy, Political Ecology, Conflict Analysis; Journal Article; Researchers, Climate Adaptation Specialists

**Abstract:** Indigenous peoples must adapt to a number of climate change impacts that threaten to harm their cultural and political self determination. Industrial settler states, such as the U.S. or Canada, have responsibilities to indigenous peoples that flow from

how their industrial activities have factored into anthropogenic climate change. This essay describes two kinds of responsibility, impending and pending. Impending responsibility requires settler states to live up to the ramifications of developmental paths that they continue to pursue and that are at odds with indigenous cultural and political self-determination. Yet concepts of impending responsibility can tend to propose solutions that remain silent on the underlying political relations between indigenous peoples and settler states that threaten the viability of such solutions. Pending responsibility demands that settler states acknowledge that today's political relations with indigenous peoples descend from structures of settler colonialism designed to limit indigenous adaptation to environmental change. So it is no surprise that these political relations are morally and practically problematic today for adaptation. Pending responsibility requires settler states to engage in a long needed process of political reconciliation with indigenous peoples that would radically restructure such political relations in ways that are flexible enough to facilitate styles of indigenous adaptation that accord with indigenous cultural and political self-determination.

**Whyte, K., and Cuomo, C. Ethics of Caring in Environmental Ethics. In *The Oxford Handbook of Environmental Ethics*. S. Gardiner and A. Thompson, eds. Oxford University Press, 2016, 234–237**

**Keywords:** Intertribal; Caring, Indigenous, Relational Responsibility, Interdependence, Women, Knowledge, Remediation, Indigenous Feminism, Environmental Ethics, Direct Environmental Action, Ecocentricity, Environmental Feminism, Indigenous Epistemology; Journal Article; Researchers

**Abstract:** Indigenous ethics and feminist care ethics offer a range of related ideas and tools for environmental ethics. These ethics delve into deep connections and moral commitments between nonhumans and humans to guide ethical forms of environmental decision making and environmental science. Indigenous and feminist movements such as the Mother Earth Water Walk and the Green Belt Movement are ongoing examples of the effectiveness of on-the-ground environmental care ethics. Indigenous ethics highlight attentive caring for the intertwined needs of humans and nonhumans within interdependent communities. Feminist environmental care ethics emphasize the importance of empowering communities to care for themselves and the social and ecological communities in which their lives and interests are interwoven. The gendered, feminist, historical, and anticolonial dimensions of care ethics, indigenous ethics, and

other related approaches provide rich ground for rethinking and reclaiming the nature and depth of diverse relationships as the fabric of social and ecological being.

**Whyte, K. Is it Colonial Déjà Vu? Indigenous Peoples and Climate Injustice. In *Humanities for the Environment: Integrating Knowledge, Forging New Constellations of Practice*. J. Adamson and M. Davis, eds. Routledge, 2017, 88–105**

**Keywords:** Intertribal; Environmental Sustainability, Climate Change, Humanities for the Environment, Indigenous Climate Justice, Colonial Ecocide, Indigenous Socio-Economic Disparities, Cyclical Historical Events; Journal Article; Researchers

**Abstract:** Indigenous peoples are emerging as among the most audible voices in the global climate justice movement. As I will show in this chapter, climate injustice is a recent episode of a cyclical history of colonialism inflicting anthropogenic (human-caused) environmental change on Indigenous peoples (Wildcat). Indigenous peoples face climate risks largely because of how colonialism, in conjunction with capitalist economics, shapes the geographic spaces they live in and their socio-economic conditions. In the U.S. settler colonial context, which I focus on in this chapter, settler colonial laws, policies and programmes are ‘both’ a significant factor in opening up Indigenous territories for carbon intensive economic activities and, at the same time, a significant factor in why Indigenous peoples face heightened climate risks. Climate injustice, for Indigenous peoples, is less about the spectre of a new future and more like the experience of déjà vu.

**Whyte, K. Indigenous Climate Change Studies: Indigenizing Futures, Decolonizing the Anthropocene. *English Language Notes* 55, 1 (2017), 153–162**

**Keywords:** Intertribal; Anthropogenic Climate Change, Climate Justice, Ecocide, Indigenous Climate Resiliency Plans, Salish-Kootenai, Inuit, Indigenous Intertribal Climate Studies, Indigenous Women, Carbon Markets; Journal Article; Researchers, Climate Adaptation Specialists

**Abstract:** Indigenous and allied scholars, knowledge keepers, scientists, learners, change-makers, and leaders are creating a field to support Indigenous peoples’ capacities to address anthropogenic (human-caused) climate change. Provisionally, I call it Indigenous climate change studies (Indigenous studies, for short, in this essay). The studies

involve many types of work, including Indigenous climate resiliency plans, such as the Salish-Kootenai Tribe's Climate Change Strategic Plan that includes sections on "Culture" and "Tribal Elder Observations," policy documents, such as the Inuit Petition expressing "the right to be cold," conferences, such as "Climate Changed: Reflections on Our Past, Present and Future Situation," organized by the Indigenous Peoples Climate Change Working Group, and numerous declarations and academic papers, from the Mandaluyong Declaration of the Global Conference on Indigenous Women, Climate Change and REDD to a special issue of the scientific journal *Climatic Change* devoted to Indigenous peoples in the U.S. context.

**Whyte, K. What Do Indigenous Knowledges Do For Indigenous Peoples? In *Traditional Ecological Knowledge: Learning from Indigenous Practices for Environmental Sustainability*. M. K. Nelson and D. Shilling, eds. Cambridge University Press, 2017**

**Keywords:** Intertribal; Indigenous Knowledge, Indigenous Governance, Traditional Ecological Knowledge, Indigenous Resurgence, Knowledge Convergence, Sustainability, Ecocentricity, Knowledge Hierarchy, Western Science; Journal Article; Researchers

**Abstract:** This essay is written to address conversations about the best ways to engage in knowledge exchange on important sustainability issues between Indigenous knowledges and fields of climate, environmental and sustainability sciences. In terms of sustainability, a crucial facet of the self-determination of peoples such as Indigenous nations and communities is the responsibility and the right to make plans for the future using planning processes that are inclusive, well-informed, culturally-relevant, and respectful of human interdependence with nonhumans and the environment. Indigenous knowledges often play a crucial role in Indigenous planning processes. In my work, I have found that scientists often appreciate what I will call here the supplemental-value of Indigenous knowledges — the value of Indigenous knowledges as inputs for adding (i.e. supplementing) data that scientific methods do not normally track. In the domain of supplemental-value, Indigenous people's planning processes will improve, in turn, by having access to the supplemented and hence improved science. But it is also the case that Indigenous knowledges have governance-value. That is, they serve as irreplaceable sources of guidance for Indigenous resurgence and nation-building. Scientists should appreciate governance-value because it suggests that for some Indigenous peoples in knowledge exchange situations, we need to be assured that the flourishing

of our knowledges is respected and protected. I hope to make the case for why it is important for scientists who work with Indigenous peoples to understand governance value in the hopes that this understanding will improve their approaches to knowledge exchange with Indigenous peoples

**Whyte, K. *Reflections on the Purpose of Indigenous Environmental Education. Handbook of Indigenous Education. E.A. McKinley and L. Tuhiawai-Smith, eds. Springer, 2019***

**Keywords:** Intertribal, Environmental Justice, Indigenous Knowledge, Land Education, Place-Based Education, Indigenous Ecology, Relational Responsibilities, Indigenous Research Ethics, Gender Justice; Journal Article; Educators, Researchers

**Abstract:** The essay offers reflections on the purpose of Indigenous environmental education. Indigenous peoples engage in wide-ranging approaches to environmental education that are significant aspects of how they exercise self-determination. Yet often such educational practices are just seen as trying to genuinely teach certain historic traditions or scientific skill-sets. Through reviewing the author's experiences and diverse scholarly and practitioner perspectives, the essay discusses how Indigenous environmental education is best when it aims at cultivating qualities of moral responsibilities including trust, consent and accountability within Indigenous communities. The concept of collective continuance is one way of thinking about how moral responsibilities play significant roles in contributing to social resilience. Understanding education in this way can be used to address some of the major issues affecting Indigenous peoples everywhere, including environmental justice, gender justice and the resurgence of traditions.

**Whyte, K. *Settler Colonialism, Ecology, and Environmental Injustice. Environment and Society 9, 1 (2018), 125–144***

**Keywords:** Anishinaabe; Anticolonialism, Climate Justice, Decolonization, Resilience, Resurgence, Sustainability; Journal Article; Researchers

**Abstract:** Settler colonialism is a form of domination that violently disrupts human relationships with the environment. Settler colonialism is ecological domination, committing environmental injustice against Indigenous peoples and other groups. Focusing on the context of Indigenous peoples' facing US domination, this article investi-

gates philosophically one dimension of how settler colonialism commits environmental injustice. When examined ecologically, settler colonialism works strategically to undermine Indigenous peoples' social resilience as self-determining collectives. To understand the relationships connecting settler colonialism, environmental injustice, and violence, the article first engages Anishinaabe intellectual traditions to describe an Indigenous conception of social resilience called collective continuance. One way in which settler colonial violence commits environmental injustice is through strategically undermining Indigenous collective continuance. At least two kinds of environmental injustices demonstrate such violence: vicious sedimentation and insidious loops. The article seeks to contribute to knowledge of how anti-Indigenous settler colonialism and environmental injustice are connected.

**Whyte, K. Too Late for Indigenous Climate Justice: Ecological and Relational Tipping Points. *Wiley Interdisciplinary Reviews: Climate Change* 11, 1 (Jan/Feb, 2020), 603**

**Keywords:** Intertribal; Climate, Nature, Ethics, Climate Change and Global Justice, Climate Adaptation, Indigenous Governance, Indigenous Nationhood, Kinship Relationships, Ecocide, Western Climate Nihilism; Journal Article; Researchers

**Abstract:** It may be too late to achieve environmental justice for some indigenous peoples, and other groups, in terms of avoiding dangerous climate change. People in the indigenous climate justice movement agree resolutely on the urgency of action to stop dangerous climate change. However, the qualities of relationships connecting indigenous peoples with other societies' governments, nongovernmental organizations, and corporations are not conducive to coordinated action that would avoid further injustice against indigenous peoples in the process of responding to climate change. The required qualities include, among others, consent, trust, accountability, and reciprocity. Indigenous traditions of climate change view the very topic of climate change as connected to these qualities, which are sometimes referred to as kin relationships. The entwinement of colonialism, capitalism, and industrialization failed to affirm or establish these qualities or kinship relationships across societies. While qualities like consent or reciprocity may be critical for taking coordinated action urgently and justly, they require a long time to establish or repair. A relational tipping point, in a certain respect, has already been crossed, before the ecological tipping point. The time it takes to address the passage of this relational tipping point may be too slow to generate the

coordinated action to halt certain dangers related to climate change. While no possibilities for better futures should be left unconsidered, it's critical to center environmental justice in any analysis of whether it's too late to stop dangerous climate change.

**Wildcat, D. We Are All Related: Indigenous People Combine Traditional Knowledge, Geo-Science to Save Planet. *Tribal College Journal of American Indian Higher Education* 20, 2 (2008), 24–27**

**Keywords:** Intertribal; Tribal Colleges, Climate Adaptation, Intertribal Policy, Educational Equity, Facilitation, Intercultural Communication; Journal Article; Educators

**Abstract:** Through a new working group, tribal colleges and universities (TCUs) are playing a critical leadership role in addressing some of the most difficult climate-related problems now facing the planet. Because of their unique cultural character, TCUs have an important voice. The American Indian and Alaska Native Climate Change Working Group was formed in June 2006, and in the past two years, it has taken significant steps. It brought some of the nation's leading scientists together with some of Indian Country's most respected elders. Working with National Aeronautics and Space Administration (NASA) and the American Indian Higher Education Consortium (AIHEC), the tribal colleges have involved students in climate research in their own backyards. And they have begun training tribal college students to create digital films and documentary film archives about changes in landscapes and seascapes. The working group is a network of many organizations and individuals in which TCUs constitute the central nodes. The group includes federal agencies, national scientific centers, tribal and intertribal organizations, non-governmental organizations, and, more recently, private sector partners. This article describes how the working group emerged and discusses the working group's four major accomplishments.

**Wildcat, D. *Red Alert!: Saving the Planet with Indigenous Knowledge*. Fulcrum Publishing, 2009**

**Keywords:** Intertribal; Climate Risk, Intertribal, Policy Development, Educational Equity, Humanism, Climate Impacts, Indigenous Realism; Book; Natural Resource Managers, Educators, Researchers



**Wildcat, D. Introduction: Climate Change and Indigenous Peoples of the USA. In *Climate Change and Indigenous Peoples in the United States: Impacts, Experiences and Actions. Special Issue, Climatic Change 120(3): 509-515. Springer, 2013***

**Keywords:** Intertribal; Climate Change Perception, Indigenous Knowledge Systems, Climate Risk, Climate Vulnerability; Special Issue Introduction; Researchers, Climate Adaptation Specialists

**Abstract:** 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.

**Williams, T., and Hardison, P. Culture, Law, Risk and Governance: Contexts of Traditional Knowledge in Climate Change Adaptation. In *Climate Change and Indigenous Peoples in the United States: Impacts, Experiences and Actions. Special Issue, Climatic Change 120(3): 531-544. Springer, 2013***

**Keywords:** Intertribal; Indigenous Knowledge Systems, Climate Risk, Climate Adaptation, Policy Development, Research Ethics, Cultural Context, Legal Contexts, Intellectual Property, Risk Contexts, Coast Salish, Indigenous Governance, Indigenous Cultural Revitalization; Journal Article; Policy Analysts

**Abstract:** Traditional knowledge is increasingly recognized as valuable for adaptation to climate change, bringing scientists and indigenous peoples together to collaborate and exchange knowledge. These partnerships can benefit both researchers and Indigenous peoples through mutual learning and mutual knowledge generation. Despite these benefits, most descriptions focus on the social contexts of exchange. The implications of the multiple cultural, legal, risk-benefit and governance contexts of knowledge exchange have been less recognized. The failure to consider these contexts of knowledge exchange can result in the promotion of benefits while failing to adequately address adverse consequences. The purpose of this article is to promote awareness of these issues to encourage their wider incorporation into research, policy,

measures to implement free, prior and informed consent (FPIC) and the development of equitable adaptation partnerships between Indigenous peoples and researchers.

**Wolf, K. Indigenous Food Sovereignty in the United States: Restoring Cultural Knowledge, Protecting Environments. *Transmotion* 5, 2 (2019), 167–170**

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