

Relationships First and Always: A Guide to Collaborations with Indigenous Communities

An EDI Community Paper to the 2020 Planetary Science and Astrobiology Decadal Survey 2023—2032

Lead Co-Authors:

Kat Gardner-Vandy, PhD, Choctaw Nation of Oklahoma – Oklahoma State University

Dr. Gardner-Vandy lives on the lands of the Muscogee (Creek) Nation in what is today known as Tulsa, OK and works on the lands of the Wichita people and Osage Nation in what is today known as Stillwater, OK.
918.633.8458 kat.gardner-vandy@okstate.edu

Daniella Scalice – NASA Ames Research Center

Ms. Scalice lives and works on the lands of the Piscataway People in what is today known as Annapolis, MD.
831.247.6728 daniella.m.scalice@nasa.gov

This paper is submitted as part of a collaborative effort organized by the Equity, Diversity, and Inclusion Working Group (EDIWG), a cross Assessment Group (AG) committee.

Co-Authors

Juan Carlos Chavez, PhD, Yaqui Sonora Tribal Affiliation, Blue Marble Space Institute of Science
Dominique M. David-Chavez, PhD, Arawak Taíno, Colorado State University & Native Nations Institute
Kathryne J. Daniel, PhD, Chickasaw/Comanche heritage, Bryn Mawr College
Eddie Gonzales, Apache, NASA GSFC
Annette Lee, PhD, mixed-race Lakota, Ojibwe, and D/Lakota communities, St. Cloud State University, Mni Sota Makoce (Land Where the Water Reflects the Sky), Minnesota, U.S.
Jonathan Waterhouse, S'Klallam, Chippewa, Cree, National Geographic Explorer
Research Scientist, University of Idaho
Joseph M. Yracheta, MS Pharmaceuticals, DrPH Candidate, *P'urhépecha*, Mexican Pueblo Originario, Native BioData Consortium
George Gorospe, Laguna Pueblo, NASA ARC
Jackie Goordial, PhD, University of Guelph, Canada

Maui Hudson, Whakatohea, Te Mahurehure, Ngā Ruahine, The University of Waikato, New Zealand
Stephanie Russo Carroll, Dr.P.H., M.P.H., Ahtna-Native Village of Kluti-Kaah, Native Nations Institute, University of Arizona
Jodie Williams, Anishinaabe, First Nations, Metis, and Inuit Education Association of Ontario
Timothy J. McCoy, PhD, Smithsonian Institution, Citizen of the Miami Tribe of Oklahoma
Carole Cadue-Blackwood, LMSW, Enrolled member of the Kickapoo Tribe in Kansas and Cultural Advisor
Jeff Atencio, Citizen of Ohkay Owingeh, Rainstorm Consulting, LLC
Lauren Seyler, PhD, Stockton University
Alice Carron, ArtReach International, LLC
Nathalie Cabrol, PhD, NASA ARC/SETI Institute
Jane Anderson, PhD, New York University
Michael Kirk, PhD, NASA GSFC

Endorsements

Moses Milazzo, PhD, Other Orb, LLC
Timothy Holt, University of Southern Queensland
Michaela Leung, University of California, Riverside
Jamie Foster, PhD, University of Florida
Phoebe Farris, PhD, Powhatan-Pamunkey, Contributing Arts Editor, Cultural Survival Quarterly
Pauline Chinn, EdD, University of Hawai'i at Mānoa
Carolina Michel (Sandra Carolina Londoño), PhD, Chandler-Gilbert Community College
Rebecca J. Smith, Stony Brook University
Shawn Domagal-Goldman, PhD, NASA GSFC
Julie Rathbun, PhD, Planetary Science Institute
Tori Hoehler, PhD, NASA Ames Research Center
Monica Vidaurri, NASA GSFC
Maria Steinrueck, University of Arizona

Ayodele Adekunle Faiyetole, PhD, Founder at EarthSpace, and Senior Lecturer at the Federal University of Technology Akure, Nigeria
Jacob Richardson, University of Maryland
Alessandra Springmann, University of Arizona
Kevin Hand, PhD, Jet Propulsion Laboratory
Maggie McAdam, PhD, NASA ARC
Steve Semken, PhD, Arizona State University
Kunio M. Sayanagi, PhD, Hampton University
Michelle Viotti, PhD, Jet Propulsion Laboratory
Rory Barnes, PhD, University of Washington
Penelope Boston, PhD, NASA ARC
Marcella Yant, Lockheed Martin, Miami Tribe of Oklahoma
Shoshanna B. Cole, PhD, Space Science Institute
Matthew Tiscareno, SETI Institute

Abstract: Relationship building between Indigenous communities and scientists must be the foundation of all collaborations. Agencies should fund initiatives in relationship building and create an Office of Tribal relations as a supporting framework (§ 4). Guidelines for relationship building are provided (§ 5).

1. Introduction

Here in the US, we are in the midst of a great national reckoning. We have an extraordinary opportunity to acknowledge our roles in structural racism, reexamine biases, and engage in co-creating initiatives that honor the lives and livelihoods of Black, Indigenous, and People of Color. Every aspect of our lives remains deeply rooted in colonialism, which by definition marginalizes and eliminates Indigeneity. By applying a lens of racial justice and the sharp focus of history, we can examine how Western/Eurocentric cultures have interacted with Indigenous communities and, looking forward, imagine how they can coexist and thrive.

This document outlines recommendations for working with Indigenous communities under the knowledge that **relationship building with the communities is first and foremost the foundation upon which all collaborations should be centered**. This includes defining a series of wise practices for collaborating with Indigenous communities, in planetary science/astrobiology and across all fields of Science, Technology, Engineering, and Math (STEM). These wise practices apply whether the outputs are educational programs, research collaborations, or other endeavors. The onus is on the Western scientific community, through a foundation of relationship and trust, to understand that Indigenous and Western knowledge systems can reflect, resonate with, and reinforce one another, and can affirm and build upon each other when treated as equally valid, valuable, and vital.

2. Background/Findings

2.1 Historical Context and Current Approaches. The history of interaction between Western and Indigenous cultures is an ongoing narrative of colonialism, genocide, land theft, broken treaties, assimilation, erasure, extraction, and appropriation. The US is home to 574 federally-recognized, culturally-unique Indian Nations (NCAI, 2020), yet mainstream American consciousness homogenizes the individual nature of Indigenous communities. Settler-colonialism established practices of extraction and appropriation of Indigenous lands, cultures, and knowledges. Within research contexts, Indigenous peoples were objectified for purposes of study. These legacies remain and continue to inform research practices that are disrespectful, uneven, and inequitable.

For science and education, this narrative is defined by Western cultural hegemony and cognitive imperialism in which Western pedagogies and values dominate and those of Indigenous knowledges are marginalized. These approaches have resulted in lasting impacts on who is recognized as legitimate, identified as expert, and allowed to participate in the scientific enterprise broadly, and have defined the experience of many BIPOC scholars (Blanchard, 2020).

In educational programs, Indigenous youth often receive STEM instruction from non-Native educators in one of two ways: without a cultural component (“STEM-only”) or with one that is presented secondarily (“STEM-first”). These scenarios reemphasize the imbalanced power dynamic of Western dominance. The absence of proper education on Indigenous histories and cultures has led to several states mandating the inclusion of Indigenous content within school curriculum. Scenarios wherein non-Native educators attempt to convey Indigenous content in the absence of Indigenous voice or participation have increased. Much of the time, these efforts at best misrepresent and at worst tokenize and continue to minimize Indigenous culture (Williams, 2020). In most cases, Western pedagogies prevail (Cote-Meek, 2014).

The story is similar with scientific research conducted by Western scientists on the lands/waters/plants/animals/skies of Native communities. Indigenous knowledges are rarely sought and generally regarded as unscientific and therefore of little value. When Indigenous knowledges are included, such as in climate studies, the vast majority (87%) practice an extractive model in which outside researchers use Indigenous knowledges with minimal participation or decision-making authority from communities who hold them (David-Chavez & Gavin, 2018). Inclusion of community members in the research is typically relegated to the purveyance of services such as being a local guide or transporting gear vs. as a knowledge holder or cultural authority. Occasionally, young people may be included in the research in an internship capacity, and frequently there is an offering of a lecture about the science for the community. Data and samples are often extracted without community input, spiritual permission, or reciprocity. Data sets typically fail to include proper provenance on whose lands, waters, or skies they were collected. Publications resulting from this research rarely include acknowledgement, let alone co-authorship (Anderson & Christen, 2019). When the research is completed, there is typically no ongoing relationship or connection.

When using Indigenous words as names for celestial bodies (Tiscareno, 2020), the hubris of assumptive right of access by the Western “discoverer” to the cultural/intellectual property of the language is starkly apparent, even when the intention may be to honor the Indigenous culture from which the word is taken. In most cases, the word is simply appropriated, without asking permission from cultural leaders—the extractive “take” scenario. In some cases, permission is sought and granted—the “ask and take” scenario. This scenario, however, without the presence of relationship and trust between the scientists and the Native community, is an “ask, take, and leave” scenario. Co-discovery and co-authorship are all but unheard-of.

2.2 Indigenous Knowledge. Despite this, Indigenous communities past and present are inherently ‘scientific.’ Indigenous knowledges and languages hold profound understandings of the nature of the physical Universe and reflect sophisticated cosmologies. Indigenous technologies have been and continue to be made possible by a deep knowledge of what today are called physics, mathematics, and engineering.

Indigenous communities are the experts of their lands/waters/plants/animals/skies, as reflected in longitudinal (millennia), high-resolution data sets (David-Chavez & Gavin, 2018). These data sets are intersectional across many Western scientific disciplines, including astronomy, geography/geology, climate and environmental science, oceanography, ecology, biology, and agriculture, reflecting the interdisciplinary aspirations we hold for the sciences today. Indigenous methodologies for data curation and knowledge dissemination may differ from those of Western science, yet are no less accurate or valid.

3. Motivations for Relationship-Building

Structural racism is a societal problem. It has been created by those in power based on White/Eurocentric values and philosophies, and those who have benefitted most have the most responsibility to make change. The solution lies in working together and shifting the focus from benefit sharing to power sharing. Relationship and trust are outcomes of sharing power, not precursors to it.

The need for relationship and trust is reflected in Indigenous metaphysics and worldviews of the Universe as a place of interconnectedness, interdependence, and relationality (Littlebear, 2020; Deloria, 1973; Cajete, 2000). Everything flows from relationships, all are co-creators, all

are responsible for one another, and reciprocity is the norm. Ideal relationships will continuously honor the sovereignty and self-determination of all Native Nations, Tribes, Bands, and communities, and celebrate each one as a unique entity. Ideal relationships embody the values of humility, gratitude, and respect at the center of Indigenous culture. **The purpose of relationship and trust is to facilitate co-creativity and service.** In this task, motivations must be clear. There is much talk about the motivation for Equality, Diversity and Inclusion (EDI) efforts being driven by the fact that diverse teams produce more innovative results. However, there are better motivations to be had:

‘Diverse perspectives yield the best science’ is a true statement, but it’s one that commodifies the lived experience of marginalized people by reducing them to their contributions to productivity. It’s a capitalistic framework that shirks the basic truth that cultivating a field where the norm is respecting the humanity and validity of all people is the right thing to do for no reason other than that it is right (Ivory, 2020).

No other motivations are needed. We co-create with Indigenous communities because it is the right thing to do.

4. Recommendations for Agencies and the Scientific/STEM Education Community

Our key recommendation is for agencies, scientists, and educators to engage in relationships and build trust with Indigenous communities, so that when agency funding is being considered for research collaborations and educational programs involving Indigenous communities and their lands/waters/plants/animals/skies, partnerships are at the ready and efforts can be co-creative. In the absence of relationship and trust, activities risk being *STEM-only* or *STEM-first*, failing to center community needs, places, perspectives, pedagogies, and cultures, and reinforcing damaging power dynamics.

We recommend that agency solicitations reflect this crucial component of building relationship and trust and provide funding for those activities directly. **We recommend agencies design a special two-part solicitation architecture that begins with a solicitation focused exclusively on investment in relationship-building activities,** allowing for flexibility based on the unique context of each Native Nation, Tribe, Band, or community involved and the amount of time needed (3-5 years min). The second part is a solicitation for programs and collaborations when the relationship has reached a point that parties are ready to start co-creating or co-researching. This part must be flexible, as it cannot be known at the beginning of the process exactly when the need for these funds will arise. Relationships and collaborations need the flexibility and support to progress at “the speed of trust.” Agencies need to be prepared to continue investing in these collaborations for the long-term.

To mobilize individual or small teams of scientists to engage in relationship building and eventual programs and collaborations with Indigenous communities, **we recommend agencies implement a small grants program for awarded investigators.** Even ~\$10-20K could catalyze a new relationship, and/or enable scientists to participate in and add value to the activities of other teams that are more advanced in their programs and collaborations.

To ensure co-created programs and collaborations are progressing authentically and appropriately, **we recommend agencies stand up an Office of Tribal Relations.** Such an Office could manage and coordinate all the tribal-related work going on in the agency or parts thereof, helping to avoid duplication and enhance connectivity. It could administer funding to supplement ongoing activities and/or respond to emerging opportunities. Staff would be experienced and fluent in the dynamics of these relationships and the nuances of the work. The

Office could serve as the agency's single touchpoint to Indigenous communities, as current paradigms create confusion with numerous programs, offices, and personnel. It can serve the agency by ensuring their policies and practices are consistent with Indigenous communities' needs, thoughts, and desires on research and education. Most importantly, the Office's main goal would be to provide care, guidance, support, networking, and professional development to all, and serve to uplift and center the voices of Native employees of the agency.

As researchers, educators, and institutions become more open to developing relationships with Indigenous communities, research and training on the issues of cultural and intellectual property, Indigenous data sovereignty, and processes of knowledge management should be foundational for any program or collaboration with Indigenous communities to ensure Indigenous knowledges are not being misappropriated (Anderson & Hudson, 2020).

5. Guidelines for Building Relationships and Trust

The following steps are intended to help guide the process of relationship building for citizens of the planetary science/astrobiology community. It must be noted that each Indigenous community is a unique entity; the process for relationship building with one will not look the same with another.

5.1 Before Initiating a Relationship. Endeavor to learn as much as possible about the history and culture of the Indigenous community being approached, seeking primary sources of information and practicing healthy critique otherwise. This includes honoring Indigenous communities' knowledges about their places and the cosmos. Understanding the importance of Elders in the community is essential to understanding the community as a whole. Most importantly, self-reflect and prepare for an ongoing effort to sustain a lasting relationship; such efforts take time. If upon reflection it is found that the initiator is not prepared for the responsibility of relationship building, co-creation, and service, **we recommend suspending the initiative and returning to the idea only when such a commitment is feasible.**

5.2 Initiating a Relationship. Initial communications should not carry an "ask," such as attending an event you're hosting to give a performance, cultural activity, or blessing. Such an ask is extractive, disrespectful, and offensive if not done in the context of relationship and trust. Do not approach an Indigenous community with your research project or educational program set. Ensure your ideas percolate with those of your Indigenous partners. **Let go of your need to be the expert.** Prioritize the needs and vision being articulated by the community. Begin with an introduction, and clearly articulate a desire to truly know one another and one day co-create and serve the community. If such an invitation is received and supported, begin the process of getting to know one another. If invited, visit the community in their space, bringing your whole self to such meetings, ready to communicate with and learn from each other.

Gift-giving is an important gesture when visiting a community. If a meeting occurs at an institution instead of on Indigenous land, the host should still offer a gift and celebrate the gathering by providing food. **Listen more than you speak.** Resist any urge to control or drive the conversation. Be humble in your role as guest and learner and offer gratitude for the opportunity to receive knowledge. Finally, always follow up with notes of gratitude, recognizing that the Indigenous community is under no obligation to commit to a relationship with you.

5.3 Building Relationships. Once a relationship is started, be prepared to spend the time necessary to cultivate the relationship consistently and indefinitely. Create and hold space for the community to lead and direct. Prioritize the Indigenous community as a source of credible information. Ensure the needs of the community shape the shared vision for the collaboration. Be flexible if the needs of the community change. Trust is the key. If trust is not present or is lost, the relationship is lost. If you say you are going to do something, do it.

Share of yourself. Send notes/emails and making calls to the community to ask how people are doing. Show up to the community if there is an emergency and/or help organize a local response. If you become aware of a community-wide or public event, make sure to attend, and while doing so, be willing to engage in the community fully. Ensure the relationship with the community is not simply a scientific endeavor for your institution.

5.4 Ensuring Lasting Relationships. Together with your Native partners, it may be required to seek blessings and permission from tribal leadership (Tribal Council or other governing body) to continue the relationship. Doing so may result in Resolutions of Support, Memoranda of Understanding, and/or official commitment of resources. Follow your partners' leadership in how to move forward in this process. Ensure the community/tribe is properly represented in the grants you write together (PI, Co-PI, Co-I, etc.). Budget to compensate individuals for their expertise at the same rate as non-tribal consultants. Support tribes in enacting Indigenous Data Sovereignty, the right of Indigenous Peoples to self-determine the access, use, reuse, and attribution for their knowledges, information, and data (Snipp, 2016). Ensure relationships and contributions are properly identified in publications and reports, including co-authorship, acknowledgements, and/or using tools that clarify Indigenous interests in the research, data, and collected traditional knowledge (Anderson & Hudson, 2020).

If plans change from the institution or if there is a job change or retirement, plans need to be made in advance to ensure that relationships and collaborations continue. Include many members of your institution/scientific community in the relationship. This will safeguard the relationship that was built and maintain trust.

6. Impacts: Hallmarks of Healthy Programs and Collaborations

6.1 Privileging Indigenous Knowledges in Educational Collaborations. Bringing Indigenous culture into the classroom to improve student learning is important (Reyhner, 2015), and it matters significantly *how* it is done. In co-creating educational opportunities for Indigenous communities, interweaving cultural traditions, arts (STEM-to-STEAM), language, and community partnerships is key in order to provide authentic service (Lopez et al., 2013; Walkngstick & Bloom, 2013). Centering Indigenous language in learning environments is imperative for Indigenous students' sense of identity and academic success (Reyhner, 2017).

Reframing STEM education for Indigenous youth from a conversation about their achievement and survival in a Western world to one about the vitality of community and sustainability requires that we actively reconfigure what counts as science learning and who is teaching it (Bang, et al., 2009). Representation and role modeling by Indigenous leaders and educators has significant effects on Native learners' sense of belonging (Covarrubias, 2015). Indigenous knowledges must be taught by Indigenous educators using Indigenous pedagogies, *before* the Western science component is offered. In this way, Indigenous science is the lens through which corresponding Western STEM concepts are shared and viewed. Indigenous learners then become grounded in Indigenous science and in the understanding that their culture,

and they as part of that culture, are inherently scientific. They understand that learning Western science can flow naturally for them and that they, too, may want to pursue becoming an Indigenous scientist. This has lasting implications for the diversity of the STEM workforce, and more importantly, for Indigenous youth and communities towards healthy social, cultural, and economic lifeways.

Numerous examples demonstrate how this balance may be achieved, including but not limited to: The Loololma Model (Gilbert, 2011); The *ašiihkiwi neehi kiišikwi myaamionki* curriculum (McCoy et al., 2011); NASA and the Navajo Nation (Bartels, 2019; Indian Country Today, 2016; Barney-Nez et al., 2016); Haida Geoscience Curriculum (Smythe, 2019); Native Skywatchers (Lee, 2020); Arctic and Earth SIGNs (Sparrow, 2020); Sharing the Skies (Maryboy & Begay, 2020), ‘Imaloo Astronomy Center (Kimura, 2020), and many, many more.

6.2 *Research Collaborations between Western Scientists and Indigenous Communities, Lands, Waters, Plants, Animals, and Skies.*

David-Chavez and Gavin (2018) lay out levels of community participation in a spectrum from Contractual to Indigenous (see Figure 1), and provide guidance for responsible research practices to achieve a vision in which science is no longer complicit in continuing the legacy of colonialism. We envision a future for research collaborations wherein Western scientists do not consider a place (land, water, or sky) to become their field site or study site without first forming relationship with the Indigenous community to which the wellbeing of that place has been entrusted, without first seeking permission to be a guest in that place, without first working closely with the community to ensure the research will be co-conducted, and carried out for the health of the place and in service to the goals of the community.

Robin Wall Kimmerer offers metaphors of autonomy and co-existence between the two knowledge systems that compromises the integrity of neither. With the “Three Sisters Garden,” she describes a system of knowledge mutualism, with Indigenous knowledge as the corn, the elder knowledge, the intellectual scaffold which guides the scientific knowledge, the beans, which enrich the symbiosis (Kimmerer, 2020). The squash creates a climate for multiple species of knowledge to grow, and she adds a fourth sister—us—to tend the whole garden. In this paradigm, a research priority is identified: models of mutually beneficial relationships between land and people based on Indigenous science. Working in this way opens up pathways to reconciliation (Littlebear, 2020) and restoration.

Whether it is weaving, braiding, or integrating, when the knowledge and wisdom resident in both Indigenous and Western STEM are brought together into collaborations and programs, there are undoubtedly profound and lasting impacts. **None of this is possible without the foundation of relationship and trust.**



Figure 1. From David-Chavez, 2018: Scale for assessing levels of Indigenous community participation based on who has authority over the research process.

7. References

- Anderson, J. & Christen, K. (2019). Decolonizing Attribution: Traditions of Exclusion. *Journal of Radical Librarianship*, Vol. 5 pp. 113–5
- Anderson, J., & Hudson, M. (2020). [The TK and Biocultural \(BC\) Labels Initiative: Overview](#). A presentation to the NASA AI/AN Working Group.
- Bang, M., Medin, D., and Cajete, G. (2009). [Improving Science Education for Native Students: Teaching Place Through Community](#). University of Washington's Science Education, Vol. 12, No. 1.
- Barney-Nez, A., Carron, A., and Scalice, D. (2016). [NASA and the Navajo Nation](#). A presentation to the NASA AI/AN Working Group.
- Bartels, M. (2019). [NASA and Navajo Nation Partner in Understanding the Universe](#). Space.com.
- Blanchard, P. (2020). *In Review*. Centering Native Voices within Earth Sciences: An Inquiry into Opportunities and Challenges Experienced by Native Students, Early-Career Scholars and Scientists. *Earth's Future*, American Geophysical Union. Online ISSN: 2328-4277.
- Cajete, G. (2000). *Native Science: Natural Laws of Interdependence*. Clear Light Publishers.
- Cote-Meek, S. (2014). *Colonized Classrooms: Racism, Trauma, and Resistance in Post-Secondary Education*. Fernwood Publishing.
- Covarrubias R, and Fryberg SA. (2015). The impact of self-relevant representations on school belonging for Native American students. *Cultur Divers Ethnic Minor Psychol*. 2015;21(1):10-18. doi:10.1037/a0037819.
- David-Chavez, D. and Gavin, M. (2018). [A global assessment of Indigenous community engagement in climate research](#). *Enviro. Research Letters* 13, 123005.
- Deloria, V. (1973). *God is Red: A Native View of Religion*. Fulcrum Publishing.
- Gilbert, W. S. (2011). Developing culturally based science curriculum for Native American classrooms. In J. Reyhner, W. S. Gilbert & L. Lockard (Eds.). *Honoring our heritage: Culturally appropriate approaches to indigenous education* (pp. 43–55). Northern AZ Univ.
- Indian Country Today. (2016). [Weaving Diné Knowledge With NASA Science for Community Education](#).
- Ivory, K. (2020). [#BlackInAstro Experiences: KeShawn Ivory](#). An invited contribution to *Astrobites: The ASTRO-PH Reader's Digest*.
- Kimmerer, R. (2020). [The Fortress, The River, and the Garden: A Model for Integration of Science and Indigenous Knowledge](#). Indigenous Education Institute, Webinar Series.
- Kimura, K. (2020). [‘Imaloa: Sharing Hawai‘i’s Legacy of Exploration](#). Indigenous Education Institute, Webinar.
- Lee, A. (2020). [Native Skywatchers](#).
- Little Bear, L. (2020). [Rethinking our Science: Blackfoot Metaphysics Waiting in the Wings](#). From the Indigenous Education Institute's Webinar Series.
- Lopez, F. A., Heilig, J. V., & Schram J. (2013). A story within a story: Culturally responsive schooling and American Indian and Alaska Native achievement in the National Indian Education Study. *American Journal of Education*, 119, 513-538.
- Maryboy, N., and Begay, D. (2020). [Sharing the Skies](#). Indigenous Education Institute.
- McCoy, T., Ironstrack, G., Baldwin, D., Strack, A. J., & Olm, W. (2011). *ašihkiwi neehi kiišikwi myaamionki* (Earth and Sky: The Place of the Myaamiaki). Miami Tribe of Oklahoma.
- National Congress of American Indians. (2020). [Tribal Nations & the United States: An Introduction](#).
- Reyhner, J. (Ed.) (2015). *Teaching Indigenous students: Honoring place, community, and culture*. U of OK Press.
- Reyhner J. (2017). Affirming identity: The role of language and culture in American Indian education. *Cogent Education*, 4(1340081).
- Smythe, W. (2019). [Fostering Indigenous K-12 Geoscience Leaders: Community-Centered Geoscience Experiences and Curriculum](#). A pres. to the NASA AI/AN Work. Grp.
- Snipp, CM. 2016. [What does data sovereignty imply: what does it look like?](#). In: Kukutai and Taylor, J (eds.), *Indigenous Data Sovereignty Toward an Agenda*, pp. 39-55 Canberra, Australia: Australian National University Press.
- Sparrow, E. (2020). [Arctic and Earth SIGNs: Exploring the impacts & feedbacks of a warming Arctic. Engaging learners in STEM using GLOBE & NASA Assets](#).
- Tiscareno, M *et al.* (2020). *Planetary Nomenclature and Indigenous Communities*.
- Walkingstick, J. & Bloom, L. A. (2013). Creating community and support using Native American values in an inclusive third grade setting: An action research case study. *Journal of Curriculum and Instruction*, 7(1), 55-78.
- Williams, J. (2020). [Gwaayaksichikweyan~Making Things Right](#). A presentation to the NASA AI/AN Working Group.