



PROTECTING OUR HOME

Native Leaders, Tribal Colleges, Western Scientists Collaborate



ADDRESSING THE IMPACTS OF CLIMATE CHANGE

*“Our Mother Earth has a fever.
We must work together to make her well.”*

This heart felt appeal by Arvol Looking Horse, Lakota elder and spiritual leader, set the tone of the Native Peoples Native Homelands Workshop as he addressed the nearly 400 attendees who gathered at Prior Lake, MN, November 2009. His words are also a potent description of the mission of the workshop convened by the National Aeronautics and Space Administration (NASA) in partnership with the American Indian Higher Education Consortium (AIHEC) and the nation’s 36 Tribal Colleges and Universities.

In 1998, Nancy Maynard, currently NASA Tribal College and University Project Manager, realized that Native peoples had been left out of the United States National Climate Change Assessment process. To make sure Native peoples would be included in that U.S. assessment, she put together the first Native Peoples Native Homelands Climate Change Workshop.

Tribal Colleges and Universities

Ilisagvik College, AK
Diné College, AZ
Tohono O’odham Community College, AZ
Haskell Indian Nations University, KS
Bay Mills Community College, MI
Keweenaw Bay Ojibwa Community College, MI
Saginaw Chippewa Tribal College, MI
Fond du Lac Tribal and Community College, MN
Leech Lake Tribal College, MN
White Earth Tribal and Community College, MN
Blackfeet Community College, MT
Chief Dull Knife College, MT
Fort Belknap College, MT
Fort Peck Community College, MT
Little Big Horn College, MT
Salish Kootenai College, MT
Stone Child College, MT
Little Priest Tribal College, NE
Nebraska Indian Community College, NE
Institute of American Indian Arts, NM
Navajo Technical College, NM
Southwestern Indian Polytechnic Institute, NM
Cankdeska Cikana Community College, ND
Fort Berthold Community College, ND
Sitting Bull College, ND
Turtle Mountain Community College, ND
United Tribes Technical College, ND
College of the Muscogee Nation, OK
Comanche Nation College, OK
Oglala Lakota College, SD
Sinte Gleska University, SD
Sisseton Wahpeton College, SD
Northwest Indian College, WA
College of Menominee Nation, WI
Lac Courte Oreilles Ojibwa Community College, WI
Wind River Tribal College, WY

“Mother Earth is a source of life, not a resource.”

Arvol Looking Horse



Environmental lake project, Saginaw Chippewa Tribal College.



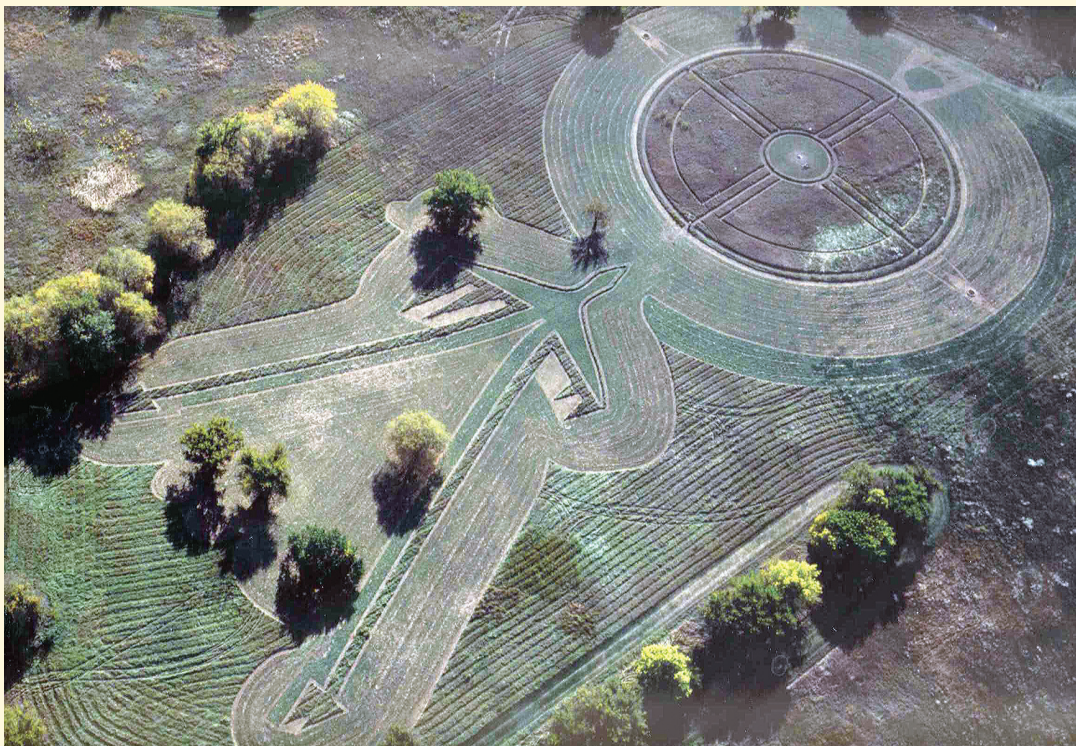
Boys & Girls Club harvesting corn from college land lab, Fort Berthold Community College.



Pine Marten research, Lac Courte Oreilles Ojibwa Community College.



Forestry program, Salish Kootenai College.



Medicine wheel, Haskell Indian Nations University. Copyright by Jon Blumb.

Native leaders, elders, scholars, and tribal college students joined scientists and researchers from NASA, the National Oceanic and Atmospheric Administration (NOAA), and other organizations to collaborate during the 2009 meeting. Native peoples, with their often close physical relationship with their environment, provided the spiritual component of the climate change discussion. Both scientists and Native peoples found common ground at the workshop: a passionate love of the Earth and a desire to heal it.

As noted by Bob Gough and Pat Spears (co-chairs of the first Native Peoples Native Homelands Workshop convened over a decade ago), NASA shares a perspective on the Earth quite similar to that held by many Native peoples. From its unique vantage point in space, NASA is perhaps the only government agency to see the Earth as a unique, complex, and unified living system.

In the spirit of community so typical of Native peoples' approach to problem solving, AIHEC and NASA partnered with a cross section of Native and scientific organizations to put together the workshop. Partners included Honor the Earth, Haskell Indian Nations University, Indigenous Environmental Network, Intertribal Council on Utility Policy, the National Indian Gaming Association, and NOAA.

This gathering of seemingly disparate groups demonstrates the ability of AIHEC and NASA to leverage the strengths of these organizations to address the impacts of climate change. They brought Western scientists together with some of the best minds and spirits in Indian Country.

Their goal is to guide Tribal Colleges and Universities (TCUs) as they strengthen their science and math programs and respond to climate change in their communities. Tribal colleges have the chance to be at the forefront

of this issue as they contribute on-the-ground scientific research and help to restore tribal economies by providing curriculum and green jobs training.

This second Native People Native Homelands Workshop came 11 years after the first U.S. workshop on Climate Change Impacts on Native Peoples and Native Homelands, also sponsored by NASA. The report from the first workshop, "Circles of Wisdom," was ultimately included in the U.S. National Climate Change Assessment issued in 1998. The 2009 workshop was designed to create a plan of action on climate change by Native peoples. This plan, according

to organizers, will be an essential contribution to the next U.S. National Climate Change Assessment.

At the conclusion of the 2009 workshop, participants issued the "Mystic Lake Declaration," a document that offered solutions to help tribal communities and policy makers address the impact of climate change on Indigenous peoples, cultures, and lands. A number of attendees presented the declaration in Copenhagen at the United Nations Climate Change Conference in November 2009.

Hopefully, collaborative efforts such as these workshops can bring home the reality of climate change by drawing on the wealth of human resources available from Indigenous peoples and tribal colleges.

The workshop participants pray that the world will listen.

CLIMATE CHANGE IN INDIAN COUNTRY

Indigenous peoples are uniquely vulnerable to the impacts of climate change, according to information in the Climate Change and Pacific Rim Indigenous Report presented at the Native People Native Homelands Workshop.

The report, published by the Northwest Indian Applied Research Institute and Evergreen State College, indicates that the subsistence lifestyles of many Indigenous peoples place them on the front lines of climate change. Many tribes are located in areas especially sensitive to changes in temperature and precipitation, such as the Southwest, semi-arid High Plains, and the Arctic. The limited land base of tribes in the United States provides few opportunities to expand or relocate when resources shrink or when their homes become uninhabitable.

George Brower, Inupiat whaling captain from Barrow, AK, presented powerful testimony at the workshop about his peoples' experience with climate change. Shorelines in many villages are eroding at a rapid rate, threatening homes, he noted. This erosion is caused in part by the lack of sea ice, which had previously protected the shore from storms.



Undercutting and collapse of permafrost blocks in Alaska.
Photo by Gary Clow, U.S. Geological Survey.

Rapid melting of pack ice is also stranding polar bears on shore, cutting off their access to traditional hunting routes.

Changes in sea ice have undermined his community's ability to harvest whales and other animals central to their subsistence diet. It has become more dangerous to venture out onto changing sea ice to hunt. He noted that isolated Alaskan villages with their limited access to transportation depend upon their traditional ways of hunting, fishing, and gathering to survive. "We can't just drive to the store and buy a loaf of bread or a gallon of milk," he commented.

Sarah Trainor, professor at the University of Alaska and coordinator for the Alaska Center for Climate Assessment and Policy, presented data from the U. S. Global Change Research Program detailing dramatic climate changes in the Arctic.

Over the past 50 years, Alaska has warmed at more than twice the rate of the rest of the United States, according to Trainor. Its annual average temperature has increased 3.4 degrees Fahrenheit while winters have warmed even more, with an increase of 6.3 degrees Fahrenheit.

Data from the U.S. Global Change Research Program demonstrates the far-reaching impact of climate change. During the 1990s, for instance, rising temperatures in south-central Alaska allowed spruce beetles to survive over the winter and kill more trees. Large areas of dead trees contributed to more wildfires, reducing animal habitat and thus resulting in less wild game. Wild game makes up the majority of rural Native Alaskans' diet. When people become more dependent upon processed foods, they suffer from diseases such as diabetes, cancers, and cardiovascular disease.

The effects of climate change are deeply interwoven, says Casey Kahn-Thornbrugh (Mashpee Wampan sag), geography instructor, who brought four students from the Tohono O'odham Community College to the Native People Native Homelands Workshop. The students designed and implemented research projects exploring the impact of climate



l'itoi (onions), Tohono O'odham Community College.

change on their community in the Sonoran Desert of Arizona.

In the course of their research, the students found that invasive plant species that flourish in higher temperatures are forcing out Native plants, such as the organ pipe cactus. Invasive buffalo grass, for instance, quickly turns brown in the dry months and becomes flammable leading to more wildfires than in the past.

There is a great deal of community interest in the impact of climate change on the Tohono O'odham Reservation, according to Kahn-Thornbrugh. "The goal at TOCC is to bring together traditional knowledge to know about climate change and modern science to deal with it."

MELDING SCIENCE AND SPIRIT

Beginning a presentation with a song at a scholarly meeting of scientists is highly unorthodox. But at the Native peoples workshop, it was a fitting way to demonstrate Native peoples' concern about climate change. Their deep concern transcends words because climate change is a threat to Mother Earth.

Well-known educator and scholar Henrietta Mann (Cheyenne) sang in her language. Although few understood the literal meaning of the words, the song reached a place in the heart beyond understanding but deep in knowing. Her song, she explained, was a prayer of gratitude for life, at once a celebration and a thanksgiving that mere spoken words could not convey. Her simple act, offered so humbly, spoke volumes about the role spirituality plays in Indigenous knowledge.

This acknowledgement of the human spirit's relationship to the Earth is at the heart of Native ways of knowing. Such knowledge may be among the greatest gifts that Native people have to share with scientists and the world, notes George Sielstad, an earth systems scientist, who spoke at the workshop. Formerly with the University of North Dakota, Sielstad is currently a senior research scientist with the Bay Area Research Institute, Lafayette, CA. We are all a part of nature, not apart from it, observes Sielstad. "The natural world governs everything we do," he says.

"In the Western world people think that they're not part of nature unless they're out camping; they have forgotten that we are part of nature even at home in the city. Indigenous peoples understand this."

Elders and leaders from throughout Indian Country, such as Albert White Hat and Arvol Looking Horse (both Lakota) and Billy Frank (Nisqually), chairman of the Northwest Indian Fisheries Commission, spoke of the nature of place-based Native religions and the responsibility of caring for the land inherent in these ways.

"We know that as human beings we are but one small part of the whole of existence, and we are not gods," said Mann. "As such we have a responsibility for the space we occupy on this great sacred circle of life, the Earth." All life, she explained, is not only related but is interdependent as well. "We must remind ourselves that we are interdependent upon all life forms for our continued existence."

Mutuality and reciprocity are Indigenous hallmarks in this interdependent world, as are respect and love, she noted. "We have a responsibility to teach the world to be environmentally literate; they have been illiterate for too long."

Elders described the Earth as mother or grandmother, a relative with whom human beings must renew their relationship. Arvol Looking Horse called upon conference attendees to "come together in spirit with a good heart and mind and be messengers to the environment." He said, "Mother Earth is a source of life, not a resource."

Many people in mainstream America are asleep to the natural world, notes Nancy Maynard. Gatherings such as the Native Peoples Native Homelands Workshop give Western scientists the opportunity, often for the first time, to spend time with Native people and learn more about the human dimension of climate change. Scientists are inspired by Native peoples' deep connection with the environment and their shared concern for the Earth.

Beau Mitchell (Chippewa Cree), coordinator of the Sustainable Development Institute at the College of Menominee Nation, notes that the scientists seemed surprised by the passion Native elders and spiritual leaders expressed for the Earth. "It was good to have the scientists hear the Indigenous perspective about our lands. It's hard to put that kind of emotion into a scientific report."

"We have a responsibility to teach the world to be environmentally literate... ."

Henrietta Mann



Henrietta Mann

Billy Frank

Arvol Looking Horse

Nancy Maynard

Beau Mitchell

NASA TRIBAL COLLEGE AND UNIVERSITY PROJECT

The NASA Tribal College and University Project (TCUP) is a science, technology, engineering, and mathematics educational (STEM) grant and mentoring program. The overall goal of NASA TCUP is to expand opportunities for TCU students in the nation's STEM workforce through capacity building, infrastructure development, research experience, outreach, and information exchange. The program responds to a Presidential Executive Order directing government agencies to ensure that the nation's TCUs have full access to federal programs benefiting other higher education institutions. In these efforts, NASA has partnered with AIHEC, which was established by and for the tribal colleges.

The recent Native Peoples Native Homelands Workshop is part of NASA's latest initiative that emphasizes specific climate change action steps. In 1998, NASA convened the first Native Peoples workshop as part of its efforts to improve understanding of climate change. The first workshop provided Native peoples with the opportunity to provide input for a section of the National Assessment addressing the impacts of climate change on Natives. NASA is now reaching out to TCUs to help ensure that Native voices are heard in the national dialogue about climate change.

The success of the new initiative depends upon the involvement of tribal college students, according to Nancy Maynard. Native students can play a key role in finding ways for Native peoples to successfully adapt to the impacts of climate change on their lands. One of the goals of the recent Native Peoples Native Homelands Workshop and the TCUP

initiative is to help train and prepare future Native leaders.

To this end, NASA has sponsored a number of programs at TCUs, through AIHEC, including a videography project entitled, "Where Words Touch the Earth." As they create 15-minute videos, students document climate change and its environmental and cultural impacts. Students interview elders and other community members about past changes in climate and the environment, thus documenting important Indigenous knowledge. The project helps students learn and understand the underlying science of those processes responsible for change in their environments while learning valuable job skills such as videography, lighting, sound recording, editing, and production. This project also underscores the importance of preserving Indigenous knowledge, which is usually transmitted orally and might be lost when elders pass on.

By partnering with the TCUs, scientists gain an appreciation for the extent of climate change impacts on Indigenous peoples and a historical perspective, notes Maynard. "Combining Indigenous peoples' in situ observations with Western scientific data is really important because it provides unique, ground truth data as well as the essential cultural context," she says.

Qualitative data gained from projects such as previous video programs have been lacking



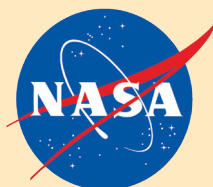
Solar, wind generator built by Navajo Technical College energy system students.

in the climate change discourse, according to William Van Lopik, professor at the College of Menominee Nation. The Sustainable Development Institute at that tribal college is currently working on a video for the NASA "Where Words Touch the Earth" project. "This type of data will describe how global warming has changed Native people's lives," says Van Lopik.

To involve more tribal college students in NASA's undergraduate and internship programs, NASA and AIHEC created a new TCU-based "externship" model. The externship accommodates those students with family or personal obligations that would otherwise prevent them from participating in a typical NASA internship away from home. Following research training that is held at a tribal college, students conduct community-based research at their own TCUs.

Working with AIHEC, NASA encourages student projects that are directly relevant to local, tribal, climate change impacts, thus demonstrating the value of earth science and STEM education to help address local issues.

NASA is reaching out to TCUs in its efforts to help ensure the inclusion of the Native voices in the national dialogue about climate change.



GLOBAL WARMING 101

The only remaining valid question about global warming is “how much and how fast, and how will the change impact different geographic regions.”

Nancy Maynard

The U.S. Environmental Protection Agency provides a simple explanation for the phenomena of climate change. Energy from the sun drives the Earth’s weather and climate. The Earth absorbs energy from the sun and also radiates energy back into space. However, greenhouse gases in the atmosphere, such as carbon dioxide, absorb much of this energy that would go back into space. Because the atmosphere then radiates most of the energy back to the Earth’s surface, our planet is warmer. Without this natural greenhouse effect, life on our planet as we know it today would not be possible; temperatures would be nearly 60 degrees Fahrenheit lower than they are now.

Global warming is caused when excess carbon dioxide, methane, and other greenhouse gases create a blanket around our Earth, preventing it from radiating excess heat and energy back out into space, according to George Sielstad. By continually burning more fossil fuels such as oil, coal, and gas, Sielstad noted, people are adding unprecedented amounts of these insulating gases to our atmosphere.

The insulation created by greenhouse gases causes the Earth’s temperature to rise, which melts glaciers and sea ice, changes weather patterns, and raises sea levels. When reflective sea ice and snow melt, it increases absorption

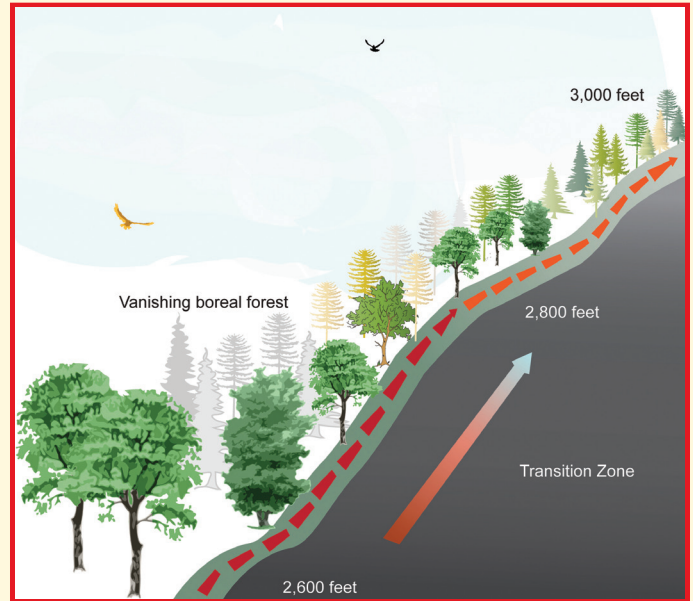
of the sun’s heat and further increases warming.

The 18th century Industrial Revolution increased mechanization and reliance on fossil fuels. Since then, the Earth’s carbon dioxide concentration has increased by 35 percent, according to the Arctic Climate Impact Statement sponsored by the Arctic Council and International Arctic Science Committee.

The Earth’s average surface temperature has increased by about 1.2 to 1.4 degrees Fahrenheit in the last 100 years, with the most dramatic increase since 1990 as reported by NASA and NOAA. Researchers agree that human activities caused these changes.

Keeping our planet’s temperature on an even keel is central to our survival, Sielstad commented. He described the last 15,000 years as a “sweet spot” of gentle, predictable temperature changes on Earth, coinciding with the growth of human civilization, as we know it. He points to data gathered from air bubbles trapped in ancient ice cores to verify this theory. The extreme changes wrought by global warming will be outside our realm of human experience.

Changes in our water supply will be one of the most serious problems caused by global warming, according to Sielstad. At the Native Peoples Native Homelands Workshop, he explained that the Great Plains,



As climate warms, hardwood trees out-compete evergreen trees that are adapted to colder conditions.
Image credit: U.S. Global Change Research Program, (www.globalchange.gov).

for instance, will experience more extreme weather patterns with greater flooding and more droughts, which will affect food crop production.

Heat causes greater plant and ground evaporation, creating more intense droughts. Conversely more water is then stored in the atmosphere, causing more intense rain patterns and greater risk of flash flooding. Since the Great Plains region is one of the six greatest food suppliers to the planet, it holds a crucial role for the whole world, noted Sielstad.

Currently 80 percent of the world’s energy is derived from fossil fuels. Continuing this rate of nonrenewable fuel consumption is like conducting a dangerous experiment with the whole planet, according to Sielstad. “It’s reckless and foolish to gamble with something that has been so kind to us.”

Polar bears along Arctic sea ice.
Photo by Jessica K Robertson, U.S. Geological Survey.



ENVIRONMENTAL JUSTICE FOR INDIAN COUNTRY

The Native Peoples Native Lands Workshop was designed to create an Indigenous response to the challenge of climate change. Native leaders, scholars, activists, and students responded to the challenge in true modern warrior style with real, workable solutions. Participants advocated reservation and community-based renewable energy; creation of efficient, sustainable housing; healthy foods; and most importantly, solutions with enough economic resilience to create lasting response to climate change.

Billy Frank pointed out that Indigenous peoples will lead the world as the population seeks to restore balance to the environment. "Natural resources are who we are, our lives, our cultures. We are the ones who live on the rivers, the oceans, the mountains, the prairies. When the world comes to our door for answers, we have to tell them the truth."

To lead the world in creating solutions, however, Indigenous peoples must first liberate themselves from a colonial paradigm that prevents them from responding to needs in their communities, according to Winona LaDuke (Anishinaabe), executive director of Honor the Earth. Dependence upon U.S. governmental and similarly styled tribal leadership dampens self-determination, noted LaDuke. "We should not wait for permission from someone in Washington to control our destinies," she said. The creator intended Indigenous peoples to be self-determining, she added.

Native peoples can also be viewed as the most historically adaptable and resilient population on Earth.



TCU straw bale training, United Tribes Technical College.

"Citizen activism changes the dynamics and encourages us to create energy and economic alternatives in our own communities." LaDuke remarked that Indigenous grass roots activism has a strong history of success, such as helping to stop the proliferation of nuclear power plants in the 1980s and the recently passed Navajo Green Economy Bill. That legislation will help the Navajo Nation focus on small-scale community development for a more sustainable economy.

She encouraged tribal college students to get into tribal leadership and change the dynamics of dependence upon a Western-style, wasteful economy.

Duane Jackson, Jr. (Spirit Lake Sioux Nation), a student at United Tribes Technical College in Bismarck, ND, was impressed and inspired by the passion of tribal activists at the workshop. Listening to the presenters gave him a greater perspective on his studies in Environmental Science, he says. He hopes to take the enthusiasm and knowledge he gained at the workshop back to his tribe. After graduation he plans to work with his tribe to create workable responses to climate change. "It is time for young people to pick up that passion and heartache for the land and do the things we need to do to save it."



Parching wild rice, Leech Lake Tribal College.



TRIBAL COLLEGES AND CLIMATE CHANGE

Tribal colleges have a tremendous opportunity to play active roles in addressing climate change issues within their communities and the entire country, according to Daniel Wildcat (Yuchi member of the Muscogee Nation of Oklahoma), director of Haskell Indian Nations University's Environmental Research Studies Center. Major scientific organizations such as NASA are beginning to recognize the value of Indigenous knowledge, which is deep, intergenerational, and empirical. TCUs are centered in the hearts of communities that possess this knowledge and can play central roles in developing curriculum and research to advance this way of knowing, according to Wildcat.

TCUs are already involved in a number of exciting programs addressing climate change in their communities, including curriculum development, student research, and other projects.

Blackfeet Community College, in Browning, MT, developed its Associate of Applied Science Degree in Natural Resource Management in 1995 as a result of the tribe's efforts in alternative energy, especially wind. Currently the college produces 50 percent of its own energy from wind turbines, according to Terry Tatsey (Blackfeet), director of USDA and vocational education programs at the tribal college. Students are now working on a totally off-grid system relying upon both solar and wind. Recently, the college installed two hybrid wind turbines, which have solar panels and a backup generator. The building powered by these turbines is off-grid, but the hybrid system means it will always have electricity, regardless of weather.

"We've had students from the University of Montana alternative energy program visit us to get hands-on experience that is lacking at their school," he notes. The Blackfeet always talk about things coming full circle, according to Tatsey. Our work on alternative energy reflects this philosophy, which is also contained in our origin stories, he remarks.

The Sustainable Development Institute (SDI) at the College of Menominee Nation in Wisconsin is another example of the holistic approach to climate change taken by Indigenous peoples. The SDI serves as the mechanism by which the Menominee disseminate their expertise, experience, and knowledge of sustainability into new sectors of the economy

through scholarship, academic preparation, research and development projects, and policy recommendations.

TCUs can collect the type of qualitative and quantitative data that will help guide their tribes as they create plans to address climate change, according to Melissa Cook (Menominee), director of the SDI. "People who live closest to the land can see it the best. People in urban areas don't see it as closely and personally."

AIHEC is currently working with 19 faculty members from six TCUs to develop collaborative curriculum on climate change. Funded by the National Science Foundation, the course was taught for the first time during the winter 2009 semester at five colleges including College of Menominee Nation, Diné College, Haskell Indian Nations University, Northwest Indian College, and Tohono O'odham Community College.

Because of a variety of constraints, including a lack of resources and difficulty recruiting faculty to teach in remote areas, TCUs sometimes lack the breadth and depth of Western science available at mainstream institutions, notes Carrie Billy (Navajo), AIHEC's president and CEO. Using Internet-based, distributed teaching methodologies, the new course

"Thanks to the visionary people here on the Blackfeet Reservation, we are on the cusp of a new movement."

Terry Tatsey

leverages expertise from instructors at multiple institutions. "We're also integrating social networking technologies that college students already use, such as Facebook," says Billy.

Using Flip cameras, students create videos about climate change in their regions and share them with students at other TCUs, allowing them to engage in online discussions and cultural exchanges. The Introduction to Climate Change course is designed to make science more accessible and relevant for freshman and sophomore undergraduates. The course incorporates local Indigenous knowledge to help empower students to seek positive solutions to the impacts of climate change in their own communities.

The TCU curriculum project, overall, will show that for Native peoples, climate change is not abstract; it is about changes to places they call home. According to Wildcat, "Post-industrial economies have lost this essential sense of connection to their landscapes."

Bergey turbine, Blackfeet Community College.



FUTURE PATH

Presenters at the Native Peoples Native Homelands Workshop compared Indigenous peoples to the miner’s canary. Just as the canary was carried by miners into coal mines to detect poisonous gas, Native peoples are the first to feel the effects of climate change. The only problem with the analogy is that the canary has to die to save the miner, according to tribal chairman Frank Ettawageshik (Little Traverse Bay Band of Odawa Indians). “It is not our intention to die in the process of addressing climate change,” Ettawageshik told the panel from the White House Council on Environmental Quality.

Survival and responsibility underscored the solutions proposed by participants of the Native Peoples Native Homelands Workshop as they crafted their Indigenous response to climate change. At its conclusion, attendees created a document detailing solutions to address the impacts of climate change on Indigenous cultures, peoples, and lands. The “Mystic Lake Declaration” was presented at the United Nations Climate Change Conference in Copenhagen in November 2009.

Excerpts from the “Mystic Lake Declaration”

- △ An affirmation of the sovereignty of Indigenous nations
- △ An expectation of full representation in agreements regarding climate change policies
- △ A call to stop the disturbance of sacred sites worldwide
- △ Reminders of the human responsibility to care for the Earth
- △ A call to end the United States’ and other industrialized countries’ addiction to fossil fuels and a moratorium on all new exploration for oil, gas, coal, and uranium
- △ A call for binding carbon emission reduction targets of 40 percent by the year 2020 and 95 percent by 2050
- △ A call to abandon false solutions to climate change such as carbon capture and sequestration
- △ A recommendation that the United States sign on to the Kyoto Protocol and the 2007 United Nations Declaration on the Rights of Indigenous Peoples
- △ A declaration of traditional lands as Food Sovereignty Areas
- △ A rejection of intellectual property rights over genetic resources and traditional knowledge of Indigenous peoples
- △ A call to transition away from the patterns of an industrialized mindset that has created climate change problems
- △ Determination to assume a leadership role in supporting a green economy
- △ Ensure funding for Native schools to build future leadership
- △ A promise to the world community to fulfill the sacred responsibilities of Indigenous peoples to care for and respect the Earth and redouble efforts to enable sustainable, life-enhancing economies

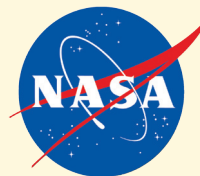


Native Peoples Native Homeland Workshop

Abigail Jones (Potawatomi), research intern at Haskell Indian Nations University in Lawrence, KS, challenged the Council on Environmental Quality and others to seek input from Indigenous peoples when creating policies addressing climate change. “We have our own tribal scholars and scientists. We are conducting our own research and doing our own reports.” She encouraged the mainstream scientific community to stop seeing Native American nations as dependent nations and to see Native scientists as colleagues. “Please stop doing research about us; do it with us.” This call for collaboration permeated discussions about solutions to climate change.

Native peoples have a long history of resilience and survival that they have achieved through community collaboration, notes Nancy Maynard. “They have much to teach us.” Indeed, the Climate Change and Pacific Rim Indigenous Nations report notes that although Native peoples are on the frontlines of climate change and the first to feel its effects, they can also be viewed as the most historically adaptable and resilient population on Earth. Unlike the non-Native population, Indigenous peoples still have “community” and leadership that responds to community.

Billy Frank summed up the conference message well. “Today we are talking about survival. Our technology can put it back together for Mother Earth. All we are doing is passing this message forward.”



AIHEC is the collective spirit and unifying voice of our nation's Tribal Colleges and Universities (TCUs). AIHEC provides leadership and influences public policy on American Indian higher education issues through advocacy, research, and program initiatives; promotes and strengthens Indigenous languages, cultures, communities, and tribal nations; and through its unique position, serves member institutions and emerging TCUs.

Created as an agency of the U.S. government in 1958, NASA's mission is to pioneer the future in space exploration, scientific discovery, and aeronautics research.

NASA and AIHEC partner to promote the development of Native scientific programs and initiatives at TCUs.



Photo by Mary Annette Pember

"Natural resources are who we are, our lives, our cultures. We are the ones who live on the rivers, the oceans, the mountains, the prairies. When the world comes to our door for answers, we have to tell them the truth."

Billy Frank

For more information on the tribal colleges and their work on environmental science and sustainability, contact:

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www.aihec.org
www.nasa.gov
www.globalchange.gov
www.nativepeoplesnativehomelands.org

AIHEC recognizes the special talents of Monty Little (Navajo), Diné College, in helping with the design of this summary.



Climate Change

"MOTHER EARTH IS A SOURCE OF LIFE, NOT A RESOURCE."

Arvol Looking Horse