exchange program this fall when it received a university affiliation grant to work with a Russian university, Gorno-Altaisk State University, in





On page...

3......Indigenous Earth Science 4-5.....TIO Training

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6.....HERS Profile 7......NAOMI Seminar Program

from Kansas State University and the University of Kansas, was awarded a grant from the Association Liaison Office for University Cooperation in Development under a cooperative agreement with the U.S. Agency for International Development. As is the case with many rural communities in the U.S., poor drinking water is a significant

the center of Siberia. Students and faculty from the two institutions are developing culturally appropriate methods to allow communities in both the Altai Republic (Russia) and on tribal lands in the U.S. to assess the quality of their own drinking water. The partnership, which also includes support services

Haskell students Tina Scott and Sheldon Selwyn review maps of Siberia as Drs. cause of health problems for young children in the Larry Erickson and Cynthia Annett discuss the project.

Altai Republic of Russia. Haskell and Gorno-Altaisk State will work together to develop a model program for community-based monitoring of drinking water quality to be used by remote villages which have little infrastructure for drinking water purification or sewage treatment. The

HERS Center, Kansas State University, and the Center for Russian and East European Studies at the University of Kansas are providing expertise in environmental assessment, language, and cultural understanding, to help build the institutional capacity at Haskell and Gorno-Altaisk State. Over the next three years, students, faculty, and staff from Haskell and Gorno-Altaisk State will work together to integrate training programs in water quality assessment with traditional ecological knowledge. The goal is to develop methods to help traditional and indigenous peoples in the Altai Republic capture and interpret traditional knowledge about water, and to make a comparison with North American indigenous teachings on the environment. By stressing community ownership of traditional knowledge, and by providing

communities with the tools necessary for the application of western scientific knowledge for water quality assessment and database compilation, individual communities will become empowered to more actively engage in discussions with governmental and international organizations devising economic development programs for the region. **■continued on page 8** HERS begins new role as satellite training

Office traveled from as far away as Alaska and New Administration, Emissions Inventory, and Reviewing State Title V Permits. York to attend. Deb Madison (Fort Peck Tribes in Montana), Pat Tribal staff who complete the series are prepared to enroll in specialty courses offered by ITEP or Ellsworth (Northern Arizona University), David Pierotti (University of New Mexico), and Lee other entities. All ITEP training courses have a workshop

and support

chemistry lab to

workshop

for the workshop. Dr. Dennis O'Malley opened the

Grooms (U.S. Environmental Protection Agency, Region 7 Kansas City) served as

askell Indian Nations University hosted an

"Introduction to Air Quality Management"

tribal workshop October 26-29, 1999

Participants representing 17 tribes and a BIA Field

instructors for the workshop.

Staff in the HERS Center at Haskell provided coordination

Tanya Haviland and Darren Shields, both from the lowa Tribe of Oklahoma, prepare to take a pH reading. participants for several hands-on activities during the Major topics in the workshop included: the concept of pH, criteria pollutants and the National Ambient Air Quality Standards, air toxics, use of a PM10 air sampler, major provisions of the Clean Air Act and its application to tribes, and components of a tribal air quality program. The Institute for Tribal Environmental Profes-

sionals (ITEP) at Northern Arizona University developed the four-day training course and has presented it at Haskell four times since February 1997. This entry-level workshop is part of ITEP's American Indian Air Quality Training Program

Indigenous earth science curriculum offer unique perspectives by Patterson T. Yazzie, Haskell Indian Nations University s part of a continuing effort to recruit and retain Native American students in science fields at colleges and universities, the Haskell Environmental Research Studies Center (HERS), in

group activities. This approach encourages group interaction so that participants get to know one another and share concerns and ideas. Networking after the workshop is the goal of this format. The instructional team for each workshop includes an experienced tribal environmental manager who can speak to the day-to-day needs and problems tribal staff will encounter. Haskell recently became a satellite center for

format, incorporating hands-on work and small

The core of the training program is a series of

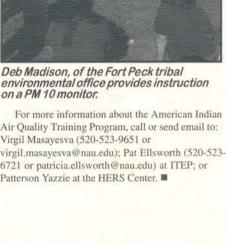
six workshops: Introduction to Air Quality Manage-

ment, Developing a Tribal Air Program, Fundamen-

tals of Air Pollution Technology, Air Quality Program

ITEP and in that capacity will offer multiple air

quality training workshops beginning in the fall of 2000.



knowledge of Canada's Indigenous peoples. Mary Lou Bevier from the Unversity of British Columbia and Judy Thompson from the Northwest Indian College are developing this section of the supple-Wildcat will coordinate the Alaskan supplement

Denver USGS office. Charles Ginsbach and Sheldon Selwyn spent eight weeks in Denver and Yellowstone National Park working with USGS Ginsbach worked with Lisa Morgan, a geologist from the Denver USGS office, at Yellowstone

Geological Survey (USGS); professionals from Diné College, Northwest Community College in Prince Rupert, BC; University of British Columbia; and Dr. Stan Grant, are developing an Indigenous Earth

The internship provided Selwyn and

Ginsbach with new experiences and knowledge in a natural setting.

ments covering the Great Plains. The introductory set introduces basic earth science concepts by drawing upon Indigenous knowledge of the earth's geographic and geologic features and processes. The target date to have the first set of supplements available on the internet is early next spring. Some of the stories and tribal knowledge utilized are the Lakota, Omaha, Cheyenne, and Pawnee Nations. Additional course supplements on geographic

areas found in the northern Rockies incorporate the

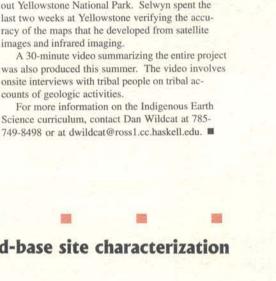
workshop site by Brenda L. Brandon, Haskell Indian Nations University hough the sun was competing with gentle prairie rains, many travelers enjoyed the cool relief from the Kansas summer heat as they gathered in Lawrence at Haskell Indian Nations University. Participants assembled at the Haskell National Training Center on June 21, 1999, to take part in a weeklong Comprehensive Environmental

Ginsbach's immediate supervisor but also a mentor and taught him different methods of sample collecting and data interpretation. Selwyn worked with Ray Kokali and Dr.

National Park collecting lava flow samples and mapping the lake bottom of the Yellowstone Lake. On his time off from his internship, Ginsbach volunteered to work on Bison Management research conducted by the University of Wisconsin. Morgan

onsite interviews with tribal people on tribal accounts of geologic activities. For more information on the Indigenous Earth Science curriculum, contact Dan Wildcat at 785-749-8498 or at dwildcat@ross1.cc.haskell.edu. ■

course was delivered at ten locations this year and is one of many CEC courses offered to environmental professionals across the nation at no cost. The Haskell Environmental Research Studies (HERS) Center sponsored this event in order to provide a unique training opportunity to tribal environmental professionals, Haskell environmental



The Field-Based Site Characterization Technologies

science program instructors, and students. The TIO course offered an efficient means of delivering outreach to tribes dealing with hazardous substances on their lands. It also provided the opportunity for tribal environmental professionals to meet with one another and with representatives from state and government agencies to share knowledge and concerns about current site cleanup activities. The Field-Based Site Characterization Technologies course is a rigorous three-day course designed to provide participants with an overview of a wide

array of technologies that can be used on site to characterize the chemical and physical nature of a hazardous waste site. Course goals include matching field-based site characterization technologies to specific hazardous waste site project objectives, Randy Gee (Cherokee) participates in the immunoassay as Wade Gregson, Nebraska DEQ, looks describing practical limitations and advantages of

(CERCLA) training course. Tribal environmental techniques and organic and inorganic chemical department professionals traveled from Oklahoma and Kansas homelands to join Kansas Department of Health and Environment (KDHE), Nebraska Depart-

mission to advocate more effective, less costly approaches to environmental cleanup. Through educational efforts, TIO works with agencies at all levels, including consultants, firms, and technology developers, to provide information related to the deployment of state-of-the-art cleanup technologies. Southwest Oklahoma Tribal Environmental Consor-This portion of the course examines the preparation

of data quality objectives and methods for conduct-

ing data quality assessments. Given in succession,

At Haskell, participants gained valuable insight

the training session lasts five days.

(TIO). As the newest EPA office, the TIO has a

characterization technologies. In order to assist participants in their efforts to

utilizing each technology, and providing hands-on experience with some of the common field-based

technologies. Vendors demonstrated geophysical

Participants view a borehole sampling apply field-based site characterization technologies, the Strategies for Field-Based Analytical and Sampling Technologies course introduced basic steps in planning for site characterization and other sampling and analysis activities in a two-day session.

from the TIO course. ITEC is using field-based technologies to characterize water quality on tribal lands. The course offered insight into the types of equipment that ITEC could benefit from purchasing. "Because ITEC is involved in assisting tribes with remedial investigation projects, the interest of other

tium, Davidson has the opportunity to share her

Through this course, you trained the trainer.' Randy Gee of the Cherokee Nation, a member of

knowledge with other tribes. In Davidson's words,

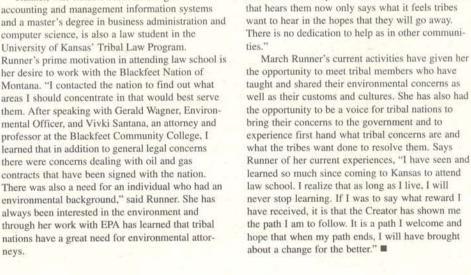
technology. She made contacts with vendors that later demonstrated their products at a tribal groundwater management workshop in Oklahoma. Davison indicated that the information gained from the second portion of the TIO course would be used in development of a tribal groundwater management plan to assist in achieving data quality

objectives and sampling plans. As a member of the

to test water using major analytical laboratory methods," she said. Currently, the DTEP is setting in motion a plan to utilize immunoassay analyses to characterize pesticide contamination in surface and groundwater. Through the TIO workshop, Davidson gained experience with immunoassay

Department is concerned with equal March Runner disbursement of services to all communities in the United States. It has been designated to deal primarily with low income and minority communities. Runner works with tribal nations located in Region 7, which includes the Kickapoo, Prairie Band of Potatawatomi, Sac & Fox, Winnebago, Santee Sioux, Iowa, and Omaha nations. She is currently focusing her attention on the Santee Sioux, assisting them with grant funded projects addressing water and pesticide on their land. Runner, who holds a bachelor's degree in

other environmental specialists to the training. Prairie Band Potawatomie representatives were focusing on applying knowledge to solid waste management plans. Haskell's atmosphere provided workshop participants with an environment conducive to networking with HERS representatives, visiting with Haskell instructors and alumni, and creating contacts with other tribes. To find out more about the TIO and CERCLA courses, visit their respective websites at www.clu-in.org and www.trainex.org.



and Patterson T. Yazzie Medicine Wheel Graphic Leslie Evans **Advisory Board Members** Don Aragon, Karl Burgher, Sharon Crowley, Ray Haner, Sadie Hoskie, Ella Mulford, Steve Semken, Charlie Shaiffer, Gerald Wagner, Benjamin Whiting

by phone at 785-749-8498; by e-mail at hers@gissrv.haskell.edu; or by mail at HINU, **Building Water Resource Programs: A Tribal Perspective** and The Effects of the Nuclear Policy Act of 1997 on Native Americans Native American Environmentalism at the Cusp of the Millennium

A Native American Viewpoint A European Viewpoint A Roundtable Discussion A Roundtable Discussion, Part II The Badlands Bombing Range Project Basin Creek Mine Closure Reclamation Techniques Topics in Pollution Prevention—Vehicle Maintenance

exchanges ■ continued from page 1 Wendy Griswold of the HERS Center and Dr. Cynthia Annett of the Centerfor Russian and East , European Studies (KU) will travel to Siberia in December to initiate work on the exchange. Annett has been working in the Altai Republic since 1993, and initiated cooperative work with Drs. Nikolai Malkov and Victor Lukvanenko at Gorno-Altaisk State on a previous USAID-sponsored project to investigate land-use management practices in the Republic. Malkov, an ornithologist in the department of sciences, and Lukyanenko, who is dean of Languages at Gorno-Altaisk State, serve as coprincipal investigators for the current project and

The main organizer of the workshop was March Runner of the Blackfeet Nation in Montana, Runner currently works parttime with the EPA Region 7 Environmental Justice Department. The Environmental Justice

Available Videotapes These tapes are available through interlibrary loan from Kansas State University's Hale

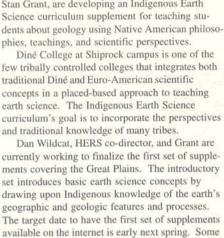
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center for air quality by Patricia Ellsworth, Northern Arizona University

(AIAQTP) which began in 1993 with funding from the U.S. EPA. The AIAQTP seeks to fulfill the mandate of the 1990 Clean Air Act to offer Native American tribes full partnership in the management of air quality on tribal lands.



brought to Haskell by the CERCLA Education Center (CEC), a training forum under the directive of the EPA's Office of Solid Waste and Emergency Response (OSWER) Technology Innovation Office

from all aspects of the training. Haskell instructors and students were particularly impressed with the the Intertribal Environmental Consortium (ITEC), also found value in sharing the information gained instructors' descriptions of how the technologies staff members has been sparked in attending the course," said Gee. Other tribal professionals that attended the course included Raescha Dinning of the Quapaw Tribe of Oklahoma, and John Rupnicki and Jason

HERS Profile: Runner follows path to help tribes by Wendy Griswold, Kansas State University his summer, the Environmental Protection Agency, Region 7, sponsored a Tribal Multi-

> contracts that have been signed with the nation. There was also a need for an individual who had an environmental background," said Runner. She has always been interested in the environment and through her work with EPA has learned that tribal nations have a great need for environmental attor-

155 Indian Avenue, Box 5001, Lawrence, KS, 66046. Wetland Ecology and Indian Culture Microscale Chemistry in Your Classroom Environmental Justice in Indian Country All Things Are Connected: The Sacred Circle of Life Series Air—Ensuring Quality for the Future Biology of the Earth-All Things Are Connected Water—Going Beneath the Surface of An Issue

Geoscience Education in Native American Communities

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8

The NAOMI Program and HERS: New Opportunities in Environmental Re-Bold print indicates current videos available at no cost to participants in the

collaboration with scientists from the United States with several Alaska Natives. The HERS web site will facilitate dissemination of the curriculum supplements. The project also funded internship opportunities with the USGS for two Haskell students at the

not only was

to work with several

James Crock, both from the USGS Denver office, on water and mineral samplings. A major part of his

Haskell serves as field-base site characterization

ment of Environmental Quality (NDEQ), and EPA Region 7 representatives in anticipation of gaining knowledge of and experience with new field-based site characterization technologies. The Field-Based Site Characterization Technologies course and the Strategies for Field-Based Analytical and Sampling Technologies course were

Response, Compensation and Liability Act

Auvil of the Prairie Band Potawatomi Nations. Dinning's interest in the course was to become familiar with air-monitoring equipment. Meredith Garvin of the Quapaw Nation inquired about sending Rebecca Davidson, Western Delaware Environmental Office, and Jamison Bear, HINU instructor, gain hands-on experience with a petrochemical analysis for soils. work and when they can be applied in the field. Manuals from both courses are proving to be excellent technical references. Tribal professionals showed special interest in the hands-on training. Rebecca Davidson, now working for the Western Delaware Tribal Environmental Programs (DTEP), explained the importance of tribes gaining knowledge of field-based site characterization technologies. "Smaller environmental departments do not have the setup and expertise

Media Workshop, hosted by Haskell Indian Nations University. The workshop brought together tribal representatives and EPA staff to discuss environmental concerns of import in Indian Country.

> and a master's degree in business administration and computer science, is also a law student in the University of Kansas' Tribal Law Program. Runner's prime motivation in attending law school is her desire to work with the Blackfeet Nation of Montana. "I contacted the nation to find out what areas I should concentrate in that would best serve them. After speaking with Gerald Wagner, Environmental Officer, and Vivki Santana, an attorney and professor at the Blackfeet Community College. I learned that in addition to general legal concerns there were concerns dealing with oil and gas

Library, formerly Farrell Library. You may also request copies by contacting HERS Biology of the Earth—Our Connection to the Land

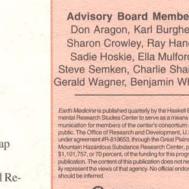
Haskell Environmental Seminar Series. All other tapes are available for \$5.00 each (includes shipping and handling).

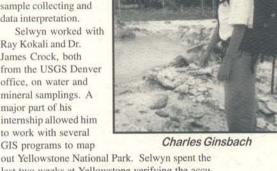
The first exchange will occur in summer of 2000

will host visits by Haskell students when they travel to Siberia.

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Participants observe use of EM-31DC, an active electromagnetic induction technique. According to Runner, an important challenge facing tribal environmental programs is that they are not given the same concern and project support that Hispanic, Black, Asian and White communities are receiving. She said that tribal environmental programs have difficulty obtaining information that is not made readily available to them and feel they must take what is handed out from the government. Runner believes tribes should determine their needs





and stop letting the environmental government staff determine what they need. She said, "the majority of tribes, unfortunately, have very little income to meet the environmental needs that exist on their lands and are under the whims of EPA." Runner's list of environmental issues plaguing tribal nations includes clean drinking water; preventing contamination of lands from misuse of pesticides; damage done to lands by dams

"If I was to say what reward I have

received, it is that the Creator has

shown me the path I am to follow."

that have been constructed to help large urban cities;

housing constructed 30 years ago; and problems of

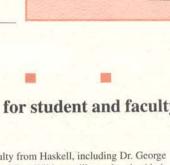
as adults. Says Runner, "Tribal nations need a voice that is heard to help resolve these issues. The voice

asthma, diabetes, and TB as a result of a combination of all the items above that effect children as well

the fight against lead poisoning resulting from

George Godfrey Dan Wildcat

www.nass.haskell.edu/HERS/HERS.html Center Directors **TOSNAC Coordinator** Brenda L. Brandon Supporting Faculty and Associates Cynthia Annett Bill Curtis Rhonda LeValdo Dennis O'Malley David Pierotti Mike Tosee



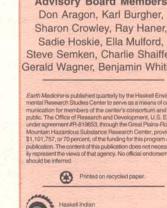
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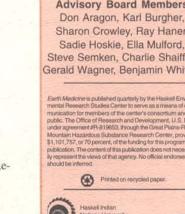
Comparison of Native American and European Worldviews Series

Editors Wendy Griswold

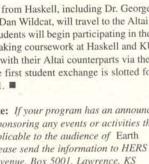








Live Teleconference: An Environmental Legacy for Our Grandchildren



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Environmental Impacts of Gold Mining Operations Near the Fort Belknap Haskell project provides opportunity for student and faculty

and working with their Altai counterparts via the

when faculty from Haskell, including Dr. George Godfrey and Dan Wildcat, will travel to the Altai Republic. Students will begin participating in the program by taking coursework at Haskell and KU

internet. The first student exchange is slotted for summer 2001. ■ Editor's Note: If your program has an announcement, or is sponsoring any events or activities that would be applicable to the audience of Earth Medicine, please send the information to HERS at 155 Indian Avenue, Box 5001, Lawrence, KS 66046; fax to 785-832-6637; or email to hers@gissrv.haskell.edu.

Haskell Environmental Research Studies Center