

University of Minnesota Morris Digital Well

## University of Minnesota Morris Digital Well

---

Campus News Archive

Campus News, Newsletters, and Events

---

6-25-2010

### Morris Wind-STEP program encourages American Indian high school students to consider science and math careers

University Relations

Follow this and additional works at: [https://digitalcommons.morris.umn.edu/urel\\_news](https://digitalcommons.morris.umn.edu/urel_news)

---

#### Recommended Citation

University Relations, "Morris Wind-STEP program encourages American Indian high school students to consider science and math careers" (2010). *Campus News Archive*. 1507.

[https://digitalcommons.morris.umn.edu/urel\\_news/1507](https://digitalcommons.morris.umn.edu/urel_news/1507)

This News Article is brought to you for free and open access by the Campus News, Newsletters, and Events at University of Minnesota Morris Digital Well. It has been accepted for inclusion in Campus News Archive by an authorized administrator of University of Minnesota Morris Digital Well. For more information, please contact [skulann@morris.umn.edu](mailto:skulann@morris.umn.edu).

#### Contact

Melissa Weber, Director of Communications  
Phone: 320-589-6414, [weberm@morris.umn.edu](mailto:weberm@morris.umn.edu)

Jenna Ray, Editor/Writer  
Phone: 320-589-6068, [jrray@morris.umn.edu](mailto:jrray@morris.umn.edu)

### **Morris Wind-STEP program encourages American Indian high school students to consider science and math careers**

*Summary: The program is funded through a National Science Foundation grant.*

(June 25, 2010)-Nine American Indian high school students converged on the Morris campus in June 2010 to participate in the first University of Minnesota, Morris Wind-STEP Program, a learning and research opportunity. The Science, Technology, Engineering, and Mathematics Talent Expansion (STEP) Program seeks to encourage American Indian students to pursue degrees and careers in science, technology, engineering, and mathematics in an effort to address the need for scientists in the United States.

Participants included Dallas Farmer and Keyshia Graves from the Lake Traverse Reservation Echo Clarke, Alexis Fast Wolf, Delayne Ghost, Sylas Running Eagle, and Destiny Watson from the Pine Ridge Reservation and Sophia Blue and Cody Randt from the Upper Sioux Agency.

#### Students explore wind turbine siting

The focus of Wind-STEP is wind energy and it's application to the needs and wants of reservation communities. The STEP participants spent two weeks developing a wind turbine siting analysis for the Upper Sioux Agency. The analysis included researching zoning regulations to determine appropriate setbacks for structures, roads, and wetlands. They reviewed Federal Aviation Administration (FAA) and Federal Communication Commission (FCC) regulations to determine the impact to the study area related to runway glide path for the local municipal airport and communication infrastructure such as AM and FM radio, television, and microwave. The students analyzed historical severe weather and created a density surface for tornado risk using historical tornado tracks from the National Weather Service (NWS). The mapping and analysis was performed using Environmental Systems Research Institute's (ESRI) ArcGIS software. For the project, the students used a 350 theoretical tower height.

At the end of the two weeks, the students presented their findings to the Upper Sioux Agency Tribal Council. While their analysis determined that there was not a suitable location for siting a wind turbine within the study, the students recommended that further study of the runway glide path and discussion with the FAA was warranted. A suitable area was found outside the Upper Sioux Agency, and the students recommended that the suitable area be considered for future incorporation into the Upper Sioux Agency. The severe weather analysis indicated that the study area is at low risk (2 on a 1-10 scale) for severe storms.

#### Exposure to college environment

The students visited Morris's wind turbine, toured the campus biomass facility, and met with several groups on campus to discuss renewable energy and reducing carbon footprints. In addition, the Wind-STEP participants met new people, made new friends, learned from each other and supported each other in a college setting. James Cotter, professor of geology, Lea Gilbertson, geology instructor, and Douglas Adams, visiting specialist in GIS, served as mentors for the students.

Tracy Peterson, Morris's Multi-Ethnic Student Program associate director, says, "Pre-college enrichment programs are important because they provide academic skills and motivation, as well as exposure to a college environment, that enable American Indian youth to gain a desire to do well in high school and aspire to go to college. Such programs give students the opportunity to leave their homelands and have an experience that will allow them to dream about and set goals for their future, to build frameworks for the college and career experiences, and acquire knowledge of the steps they need to take to make them a reality. Without early exposure to pre-college programs, many students will not seek out the help of these programs because they drop out of school or just don't see college as a real or relevant option."

The University of Minnesota, Morris Wind-STEP is funded by a grant from the National Science Foundation STEP program.

Photo from left: Dallas Farmer, Lake Traverse Reservation, Ember Phillips '12, program assistant, Sophia Blue, Upper Sioux Agency, Destiny Watson, Pine Ridge Reservation, Delane Ghost, Pine Ridge Reservation, Echo Clarke, Pine Ridge Reservation, Doug Adams, visiting specialist in GIS, Cody Rand, Upper Sioux Agency, Sylas Running Eagle, Pine Ridge Reservation, Ashleigh Thomson '13, program assistant, Alexis Fast Wolf, Pine Ridge Reservation, Lea Gilbertson, geology instructor, not pictured—Jim Cotter, geology professor

Through personal and academic discovery, the University of Minnesota, Morris provides opportunities for students to grow intellectually, engage in community, experience environmental stewardship and celebrate diversity. A renewable and sustainable educational experience, Morris prepares graduates for careers, for advanced degrees, for lifelong learning, for work world flexibility in the future, and for global citizenship. Learn more about Morris at [morris.umn.edu](http://morris.umn.edu) or call 888-866-3382.