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NSF for LPTC Center of Excellence

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Little Priest Tribal College (LPTC) Center of Excellence
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Background

LPTC, a tribal college with an enrollment of approximately 150 students, is located on the Winnebago Indian Reservation in Northeast Nebraska. In January 2003, efforts were begun to establish at the college; this center is known as Native IMAGE. Native IMAGE will be providing extensive Winnebago Geospatial data for those at LPTC and within the community to utilize for both educational and commercial purposes. In addition, the center will take a leadership and over-sight role in the development of the numerous endeavors that will be included in this grant proposal.

Specifically, several courses, programs, and activities will be established and developed proposal to enhance geoscience education and research on the Winnebago Reservation. These endeavors include geoscience course curriculum enhancement, faculty development, and geoscience equipment procurement as well as financial support, career development, internships, and other geoscience-focused academic activities.

The varied outreach and community enhancement activities planned through this proposal include: developing a community-wide geospatial workshop, expanding Nebraska Space Grant Consortium & the Experimental Program to Stimulate Competitive Research (see support letters in the Appendix) specialized outreach, integrating advanced technology into the Winnebago Public Schools (WPS) and LPTC curricula, increasing opportunities for scholarships, and disseminating geospatial data throughout not only the local tribal community, but the state and region as well.

The Intellectual Merit of the Proposed Activity. An innovative and co-operative relationship already exists between the University of Nebraska at Omaha Aviation Institute (UNOAI), the University of Nebraska at Lincoln Center for Land Management and Information Technologies (CALMIT), and Creighton University. This flourishing relationship will also provide guidance for enhancing and expanding current LPTC and WPS geoscience curricula, developing innovative geospatial outreach projects, and ensuring dissemination of geospatial data throughout the Winnebago community and the nation.

The Broader Impacts Resulting From The Proposed Activity. This proposal will also establish new collaborations between the partners and several Native American institutions of higher learning currently involved in the geosciences. In addition to the partners in this grant, the activities at several other tribal colleges will be closely monitored further collaborative opportunities. Discussions with several of these schools have already begun as a result of the recent Native View conference at EROS Data Center.

Specific Key Projects

Native IMAGE. The furtherance of Native IMAGE beyond the fetal stages is a major emphasis for this grant. Although a small leadership core is currently administering the Institute's effort, support for the expanded efforts will be necessary. Currently, the Institute is headed by a part-time director and a lead faculty member with some support from a USDA-funded extension agent. The employment of student laboratory and field study assistants as well as added support from other LPTC faculty and staff will also be needed

The Institute will provide training on Geographic Information Systems (GIS) and Airborne Remote Sensing (ARS) components as well as offer research opportunities in the other Geospatial fields. The development of accurate well-mapping, land-use, and precision farming are high priorities. Additionally, a complete inventory of the reservation lands and an analysis of past climate changes are preliminary GIS and ARS priorities; several of the LPTC academic partners have indicated a willingness to assist Native IMAGE in acquiring that information.

Geospatial Laboratory. Additionally, the community would have access to an innovative Geospatial laboratory that would offer a variety of GIS and ARS software, hardware, and equipment. Personnel of the Institute will organize regional Geospatial workshops and coordinate the enhancement of LPTC's traditional and on-line courses. Such workshops will allow LPTC and UNO to share collected data with the Winnebago community through specialized articles, posters, and presentations. The Institute will also establish an archiving process for local GIS and ARS data collection and thus, provide documentation for dissemination to other colleges and universities. The archiving of the location significant tribal cultural resources and historical sites will also be included.

Model Bison Pasture. A cornerstone project, currently in the conceptual stages, is the planning for and establishment of a Model Bison Pasture that would be the home for a portion of the tribal buffalo herd. This project will use the most current GIS and RS technology to help in the replication of the typical habitat found in a truly indigenous and well-controlled prairie setting. Both WPS and LPTC student and faculty researchers will begin observing and evaluating the herd in terms of their long-term health, development, and behavior. The model pasture will be a unique teaching and learning tool for the not only the educational system but for the community as well.

Prairie Grass and Indigenous Plant Project. There is considerable interest in this companion activity to the Model Bison Pasture activity. The science faculty and the students at LPTC are currently beginning to collect, categorize, and catalogue the specific flora that is present on the reservation. The plentitude of several unique species of grasses and plants make this an exciting endeavor.