

OUTREACH EVENT REPORT AND RECOMMENDATIONS

Attendee's Name and Report Writer:

**Joseph Kerski, Geographer:
Education/GIS, USGS, Denver, Colorado.**

Location: Antelope, South Dakota

Purpose:

- 1) Teach GIS class as part of Sinte Gleska University's "Geography for Teachers" course.
- 2) Meet with SGU faculty to coordinate Fall semester 2002 Distance Learning course in GIS.
- 3) Write proposal for National Indian Education Association (NIEA) workshop on GIS with James Rattling Leaf.

Dates: 15-16 August 2002

Background

Cooperation among Native American governments, scientists, and educators, and the USGS builds Tribal capabilities to more effectively manage Tribal resources, plan for the future, and to improve the education of future generations of Tribal leaders. Working with Native Americans is one of USGS Central Region Director Tom Casadevall's priorities.



Joseph Kerski, USGS, left, and Peggy Tilgner, education professor at Sinte Gleska University, right, worked together to incorporate GIS into Dr Tilgner's "Geography for Teachers" course.

My work with the Rosebud Sioux tribe was the direct result of a historic agreement from Fall 2000. At that time, Lionel Bordeaux, President of Sinte Gleska University, and Chip Groat, Director of the USGS, signed an agreement to work together to improve science education for Native students. Sinte Gleska is a tribal university with undergraduate and graduate programs. Its Baccalaureate of Science Degree is being supported by USGS technology and professional development available through the USGS' EROS Data Center. The Rosebud Sioux and the USGS intended for the agreement to be a mutually beneficial relationship that will help train Tribal students for data management careers. James Rattling Leaf of the Sicangu Policy Institute at the University, and Eugene Napier of the USGS EDC were instrumental in making the agreement a reality.

Prior Work with Rosebud Sioux and SGU

I have been working with the Rosebud Sioux tribe since 1999, when James Rattling Leaf and I participated in an

Internet and GIS institute at Northern Arizona University in Flagstaff. During the Fall of 2001, we, together with Jhon Goes in Center, conducted a GIS presentation at the National Indian Education Association (NIEA) conference in Billings. We plan to conduct a workshop at the Fall 2002 NIEA conference in Albuquerque and operate an exhibit together. We began discussing a series of GIS workshops on Rosebud during 2001, and it was wonderful this summer to see these dreams become reality.

James has been working with MapTrails, the USGS, I Cubed, the Upper Midwest Aerospace Consortium, the Bureau of Indian Affairs, and Berry and Associates to create a demonstration interactive mapping and data project on CD-ROM. This CD contains maps, satellite imagery, aerial photographs, Corona photographs, photographs present and historical, land types, features, video, songs, and other data that are linked to maps. He is expanding the data to 20 communities and will work it into the curriculum of secondary and elementary education. I demonstrated the CD to the attendees and James arranged for each of them to have their own copy.

I worked with James Rattling Leaf to conduct a three-day GIS workshop for tribal environmental, biological, land, cultural resource, and other tribal professionals from 4-6 June 2002. Email me at jjkerski@usgs.gov for a copy of this report, or view it online at: http://rockyweb.cr.usgs.gov/public/outreach/sgu_j02.pdf.

About Sinte Gleska University

Sinte Gleska University, is a Tribal College that has been serving American Indian students for over 32 years. It was named

after Sinte Gleska, a Lakota leader during the 19th Century. It was the first tribal college to gain accreditation certification and is one of two tribal colleges offering a baccalaureate accreditation. Approximately 900 students attend the University and its web site is: <http://www.sinte.edu>.



Building adjacent to technology center where the GIS class was conducted.

Acknowledgements

It was an honor and privilege to work with the Rosebud Sioux and the workshop attendees. I appreciate all the work that Dr Peggy Tilgner did to ensure the workshop's success. She provided much background in geography during the week before I arrived so that the teachers were better prepared to work with GIS. I thank James Rattling Leaf for bringing the computer projector, and for the fact that he and Bill Ackard met with me concerning the Fall 2002 GIS course at Sinte Gleska University.

I thank the attendees of the workshop for taking time out of their busy schedules to attend the Geography for Teachers course. These are people who will be teaching in their own classrooms soon, and I have confidence that they will do an excellent job. I also appreciated the USGS' support of my participation in this event. I look forward to

working with the Rosebud Sioux tribe and Sinte Gleska University in the future.



Southwest entrance to the Rosebud Sioux reservation, photographed on 6 June 2002.

Description of GIS Class



Most of the participants in the GIS workshop appear in this photograph, which I took during our field work GPS activity. We are standing next to a survey marker.



The GIS course began with examining world demographic variables with ArcVoyager. We then examined three ArcIMS sites: National Atlas, Terraserver, and GeoMac. Next, we examined earthquakes and South Dakota physical and cultural characteristics to end Day 1.



Day 2 began with an examination of local Census data for Rosebud, DRGs and DOQs for the campus and surroundings, and a discussion and field work activity involving GPS.



Attendees collecting coordinates using GPS. We also collected attributes (wind speed) with each coordinate pair so that thematic point maps could be constructed within the GIS.



Sinte Gleska University's technology building, where the training was held, is a beautiful spot near a reservoir just east of Mission, South Dakota. Eventually, more buildings of the university will be constructed near this site. Photographed on 16 August 2002.



The GIS workshop was held in one of the technology labs at Sinte Gleska University's Technology Building.

Materials

At the workshop, I distributed Indian lands maps, GIPs, fact sheets, GIS-based lesson plans, a GIS in education information sheet that I would like to make into an official fact sheet, posters, and map indexes with a focus on geography, GIS, and digital spatial data. I ordered and we used Rosebud

Sioux USGS-generated data, such as DLG, DRG, and DOQ data. We also used data from the Bureau of the Census and from the Upper Midwest Aerospace Consortium.



Teachers reviewing GIS and geography-related materials that I distributed at the workshop.

Fall GIS Course

I am pleased to report that Leland Bordeaux, Vice President of the University for Academic Affairs, has given approval for a full-semester GIS course at SGU for this fall. I will be the instructor of this distance learning course. The course materials will be posted on: <http://rockyweb.cr.usgs.gov/public/outreach/sgugis>.

I met with James Rattling Leaf and Bill Ackard, professor in the Cultural Resource Management program at SGU to work on the course logistics. It will run from the last week of August to the first week of December 2002. It will consist of readings, hands-on lessons, quizzes, and a research project, all focusing on the application of GIS technology and tools to issues associated with the Rosebud Sioux or those that are otherwise of interest to the students. The course is listed in the Lakota Studies Department, LS 400./600: Special

Topics: Introduction to Geographic Information Systems and Science.

It is our hope that this course is only the beginning of a full GIS program at SGU.

NIEA Proposal

James and I discussed our plans and we created a proposal for this fall's National Indian Education Association workshop. This year, we would like to conduct a hands-on workshop, which would build on the GIS presentation that we gave last year at NIEA in Billings. The 2002 NIEA conference will take place during the first week of November in Albuquerque. Carrie Jucht at EDC is coordinating the exhibit and we will be located adjacent to an exhibit from SGU. Mark Barber, Carrie Jucht, and I plan to staff the exhibit.

Recommendations

1) As I mentioned in June, the Rosebud Sioux is an excellent government organization to partner with. James Rattling Leaf is one of the best networked people I know. He is connected with numerous projects of scientific and educational nature, such as the Upper Midwest Aerospace Consortium, NativeView, and AmericaView.

I believe that the USGS should continue to expand its MOU with the tribe and play a major role in helping students, educators, and tribal professionals use our data. I definitely feel that our partnership with the Rosebud Sioux is one of the very best agreements we have, and it needs to be continued and supported.

2) SGU can provide the USGS with input to its publications, data sets, software, and other items related to science and education. We can also provide data and

assistance to the tribal professionals, educators, and students as they use GIS and USGS spatial data.

3) It is not enough to tell **what** products are available from the USGS. The value-added in our involvement in education is that we work with educators to demonstrate **how** our products can be used in conjunction with educational standards and with the goals of the Tribe.

When we get involved with educators and data users--getting their input and working with them--we can understand how to best meet their needs.

4) Thanks to Carrie Jucht, I recently found out that South Dakota became the second state (following Montana) with a statewide ArcView site license agreement with ESRI for all K-12 schools. This will be a huge step forward for the teachers in the workshop and others throughout the state, as it will bring ArcView GIS software to each school. It is still imperative, though, that ongoing training and support be provided so that the GIS does not become "shelfware."



Going home... but I am scheduled to conduct a Distance Learning GIS course this fall at Sinte Gleska University.

****end of report****



Walking on the prairie to the next field site...