

2003

## Native IMAGE Overview

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*NATIVE IMAGE*  
Institute for Managing Applications  
of Geospatial Extension

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Dr. Henry R. Lehrer, Director  
Jan Bingen, Assistant Director

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# Little Priest Tribal College

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# Native IMAGE Components

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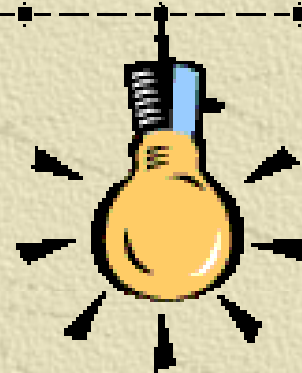
- ✦ Coordinate the collection of extensive geospatial data for use at LPTC and within the Winnebago community
- ✦ Provide training to ensure the utilization of this geospatial data for both educational and commercial purposes
- ✦ Enhance public and education outreach initiatives

# Areas of Emphasis

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Infrastructure



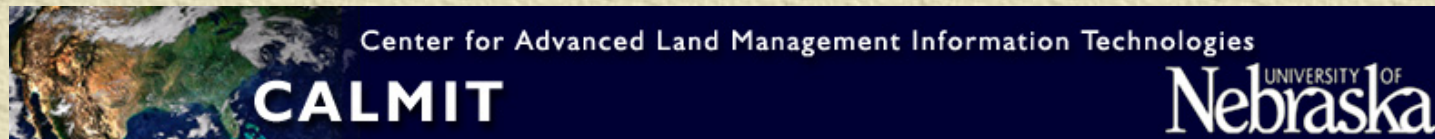
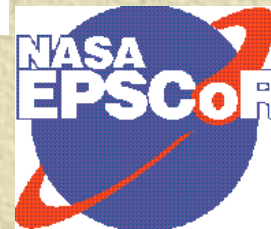
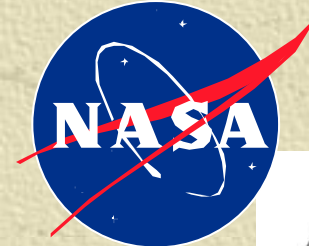
Motivation



Curriculum



# Academic and Industry Collaborations



# Community Infrastructure Building

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## ✦ GS Resource and Inventory Survey

What resources/skills are already available?

- ✦ Tribal
- ✦ USDA  UNITED STATES DEPARTMENT OF AGRICULTURE
- ✦ Bureau of Indian Affairs 
- ✦ State & County Extension Agents
- ✦ Citizens or other stakeholders with interest or experience in GS



# Other Partnerships

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## ✦ Cooperative Extension



## ✦ Nebraska GIS/LIS Association

## ✦ Nebraska GIS Steering Committee

## ✦ Intertribal GIS Council





# Establish a Native Image Office

## January 2003

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# LPTC GS Technical Advisory Committee

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- ✦ Academics (UNO, UNL, or Wayne State)
- ✦ Industry and Employers
- ✦ Governmental Officials
- ✦ GS Experts (EROS, CALMIT, ESRI)
- ✦ Other tribal college GS personnel (Sinte Gliska, Salish Kootenai, Dine, Native Vision, etc.)



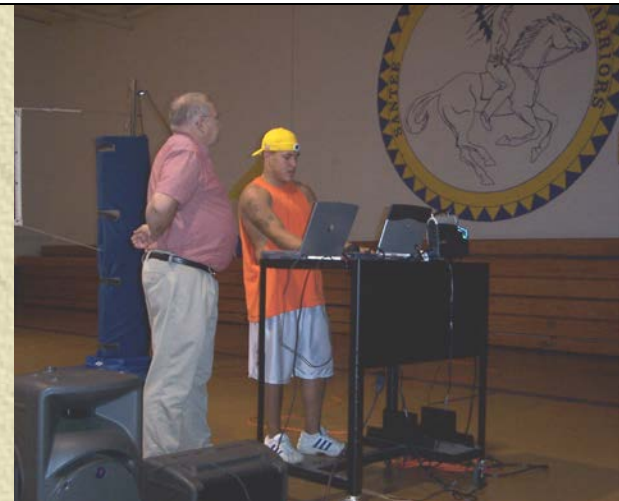
# Motivation



- ✦ Student Intern
  - ◆ Paid position
  - ◆ Summer and school year
- ✦ Community GS Open House
  - ◆ LPTC
  - ◆ Dinner
  - ◆ Lectures by GS Experts
  - ◆ Hands-on activities



Santee Geoscience Night



# Typical GIS Project





# Family Geoscience (FGS)

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- ✦ Based on the very successful Family Aeronautical Science in grades 5 & 6
- ✦ Focus is grades 7 & 8
- ✦ Will occur initially at Winnebago Public Schools (WPS)
- ✦ Exported to other reservation schools in successive years



# Community Involvement

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## ✦ GS Club

- ✦ LPTC-based including WPS students and faculty
  - A Saturday program
  - LPTC Extension Agent lead
  - USDA funded
- ✦ Field trips and field research
- ✦ Other special LPTC events



# Faculty Development

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- ✦ Summer fellowships
- ✦ Workshop attendance
- ✦ Research mentoring
- ✦ Instructional design assistance
- ✦ STEM alignment
- ✦ Technology integration



Workshop Attendance

# Native IMAGE Team

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# The "Team" at work

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# Native IMAGE 1 and 2

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# Geospatial Data Samples

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Color Infrared Images of Nebraska's Winnebago Reservation  
Captured September 6, 2002

A NASA Nebraska EPSCoR & UNL CALMIT Collaborative Effort

# GS Bridge Program

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- ✦ We found that LPTC and WPS have not been working together
- ✦ We are now jointly working together on GS curriculum
  - ◆ These things take years
- ✦ A pipeline concept in GS from K to 14

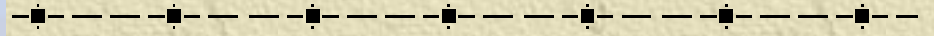


# LPTC GIS Curriculum Integration

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- ✦ As much integration of GS in the STEM program as possible
- ✦ ArcView and GPS modules in Computer Science courses
- ✦ Remote Sensing and GPS in Prairie Grass Restoration Project
- ✦ Use of GIS in cultural and historical cataloguing

# Model Bison Pasture Development



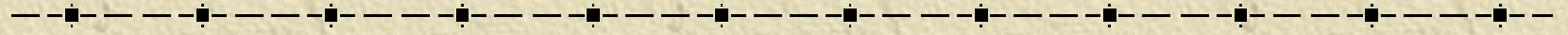


# Community Development

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## ✦ *Native IMAGE* will:

- ✦ Provide training on Geographic Information Systems and Remote Sensing,
- ✦ Supply the Winnebago community with informational resources regarding well-mapping, land-use, and precision agriculture,
- ✦ Support outreach endeavors that expose the community to new technology, and
- ✦ Develop strong linkages with the Winnebago Public Schools.



- ✦ We have so much to do but we are started
- ✦ The response that has been received from everyone we have come into contact with has been heart-warming and extremely supportive
- ✦ Although we are newcomers to the GIS arena, if Native IMAGE can help you in any way, do not hesitate to ask!