Forest Vegetation Types in the Vicinity of Eielson High School

Pat Cromer and Larry Terch
-Ben Eielson High School
Geos 595 GIS/GPS for Alaskan Teachers

2/5/2005
Content

- Project Goals and Objective
- Standards
- Data
- Approach
- Examples of GIS
- Conclusions
- Where we are going
- Acknowledgements
Project Goals

- Develop a GIS project that students can use to determine forest vegetation types near Eielson High School.
Project Objectives

- Generate a GIS project that incorporates forest vegetation types in the vicinity of Eielson High School.
- Use GPS to locate specific sites to be used to collect field data.
- Make the GIS project available to students to add data collected from specified locations.
Science and Math Standards

- Understand that scientific knowledge is validated by repeated specific experiments that conclude similar results.
- Collect and make factual reporting of data.
- Design and conduct scientific investigations using appropriate instruments.
- Collect, organize, analyze, interpret, represent, and formulate questions about data.
- Explore problems and describe results using graphical, numeric, and other mathematical models or representations.
Data

- Maps
  - Vegetation type, parcels, roads, and water feature from Fairbanks North Star Borough GIS.
- Satellite image from GINA UAF.
- Field photos taken at GPS coordinates near Eielson High School.
Approach

- Layer existing forest vegetation type data on layers showing physical landmarks.
- Generated a theme with georeferenced field collection sites linked to photos from each site.
- Generated a theme with the location of Eielson High School.
Vegetation Types, Parcels, Roads, Field Sites and School

- Separate themes for each set of data.
- Satellite image is under the forest vegetation theme and can be seen when forest vegetation is not selected.
Satellite Image

- Forest type turned off to show satellite image
- The other themes are shown over the image
Photos linked to specific sites

- A photo is linked to each specific field site.
Conclusion

- GIS is a useful tool to help students study, collect, and analyze data.
- The visual geospatial display makes it easier to recognize patterns that might otherwise be missed.
- GIS/GPS can be used to facilitate the collection of additional information from specific locations.
Future Direction

- Student collected geospatial data will be added to the GIS as attributes to current and future field collection sites.
Acknowledgements

- Fairbanks North Star Borough for information and use of their GIS
- UAF GINA for Satellite images
- UAF Department of Geology and Geophysics
  - In particular: Anupma Prakash, Gary Cooper, Bill Witte, Rebecca Lees
- ARSC visualization lab
- Neal Brown
- NASA for funding the class.
- The members of the Geos 595 class