

The GIS Center at ISU: Research and Initiatives for the Intermountain West

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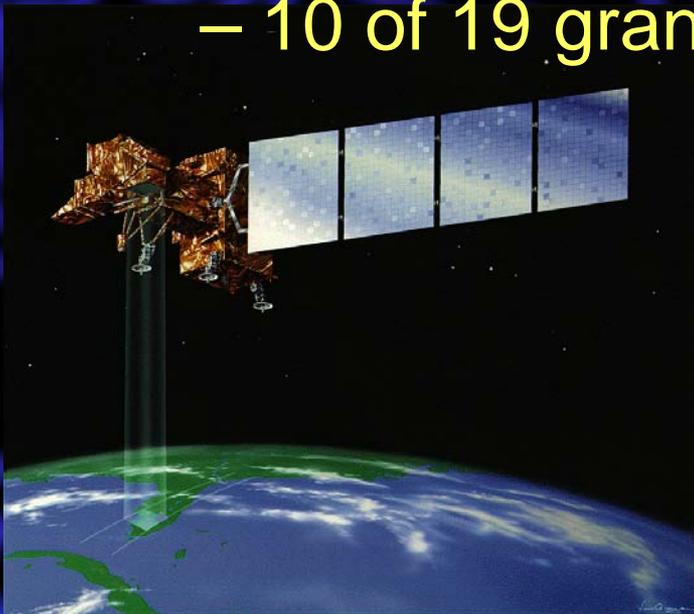
Research Focus

- Spatial analysis of land cover change in semiarid environments using **multispectral satellite imagery** and **GIS**



Role of Landsat

- Landsat 5 TM: Key imagery for many GIS Center projects and publications
 - 13 of 31 publications relied upon LT5
 - 10 of 19 grants relied upon LT5



Current Research

- Post-fire effects following the 2006 Crystal Fire
 - Examine changes in land cover and primary productivity using Landsat and MODIS
 - NDVI and fPAR
 - Explore diurnal fluctuations in NDVI

Initiatives to Support the Scientific Community

- Pursuing the development and implementation of a **Research Data Management** plan for the University
 - Following our GIS Data Retention and Deletion policy
- And for the state, in collaboration with initiatives at the University of Idaho

Why?

- Untold millions of dollars have been spent to conduct research
- However, many (most?) of the results and scientific datasets are lost for future endeavors when the grant closes

How?



But What About...

- “We put our data on the Internet so anyone can use it”



A screenshot of a Bing search results page for the query "semiarid rangeland research data". The page shows the Bing logo, navigation tabs (Web, Images, Videos, Shopping, News, Maps, More, MSN, Hotmail), and a search bar containing the query. Below the search bar, there are several search results listed, including "Measured Sediment Yield Rates From Semiarid Rangeland Watersheds", "Use of ground-based remotely sensed data for surface energy balance...", "ARS Project: SOIL EROSION, SEDIMENT YIELD, CONSERVATION STRUCTURES...", "Biophysical characterization and management effects on semiarid...", and "SOIL MOISTURE EVALUATION USING RADAR AND OPTICAL REMOTE SENSING IN...". The page also includes a "RELATED SEARCHES" section with links like "NRCS Rangeland Data Forms" and "School Data", and a "SEARCH HISTORY" section showing the current search. The page is dated 1-10 of 14,100 results.

No one finds it...

- There is a lot of good geospatial data available
- The challenge is finding it...
- **Data Discovery!**

Possible Solutions

- Policies and standards at the organization/institution level
- XML, metadata, and web services exposed on the Internet
- ***SmartSearch*** capabilities
- Data ***clouds*** at the state, regional, or national level

A true willingness to share



Any how about....

- Distributed computing like:
 - Boink
 - Folding@Home
- Why not process the 1M+ LT scenes in the same way?
 - TOA
 - WELD, etc.

Thanks

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