Earth Observation Day
March 24, 2010

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Jay Morgan and Tom Mueller

America View

- What is America View?

AmericaView

Promoting and Supporting Civilian Remote Sensing Across the U.S.

via Competitive Funding from the U.S. Geological Survey

- ***Education,*** *training, professional development*
- ***Applied research****, technology transfer*
- ***Data archive****, distribution, support*

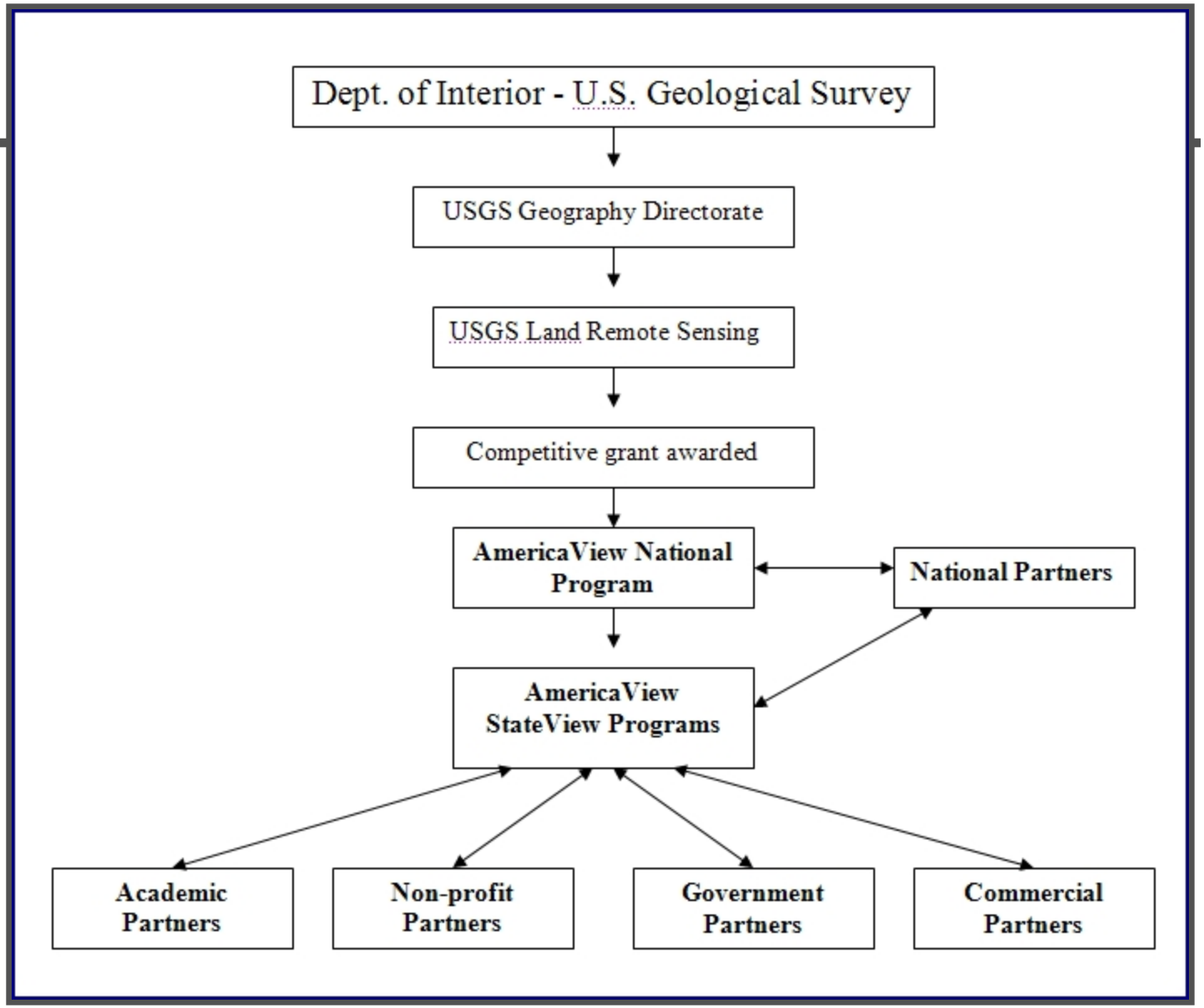
AmericaView – USGS History

- **USGS Land Remote Sensing Program at EDC**

AV funds provide support for continuity of **Landsat**, **EO-1**, **MODIS** and **ASTER** operations and data services

- **Selected EDC technical services supported by AV program funds:**

  - *USGS Global Visualization Viewer (GloVis)*
  - *MODIS Direct Broadcast*
  - *Seamless Data Distribution System (SDDS)*
  - *Facilitated Ordering & Data Discounts*

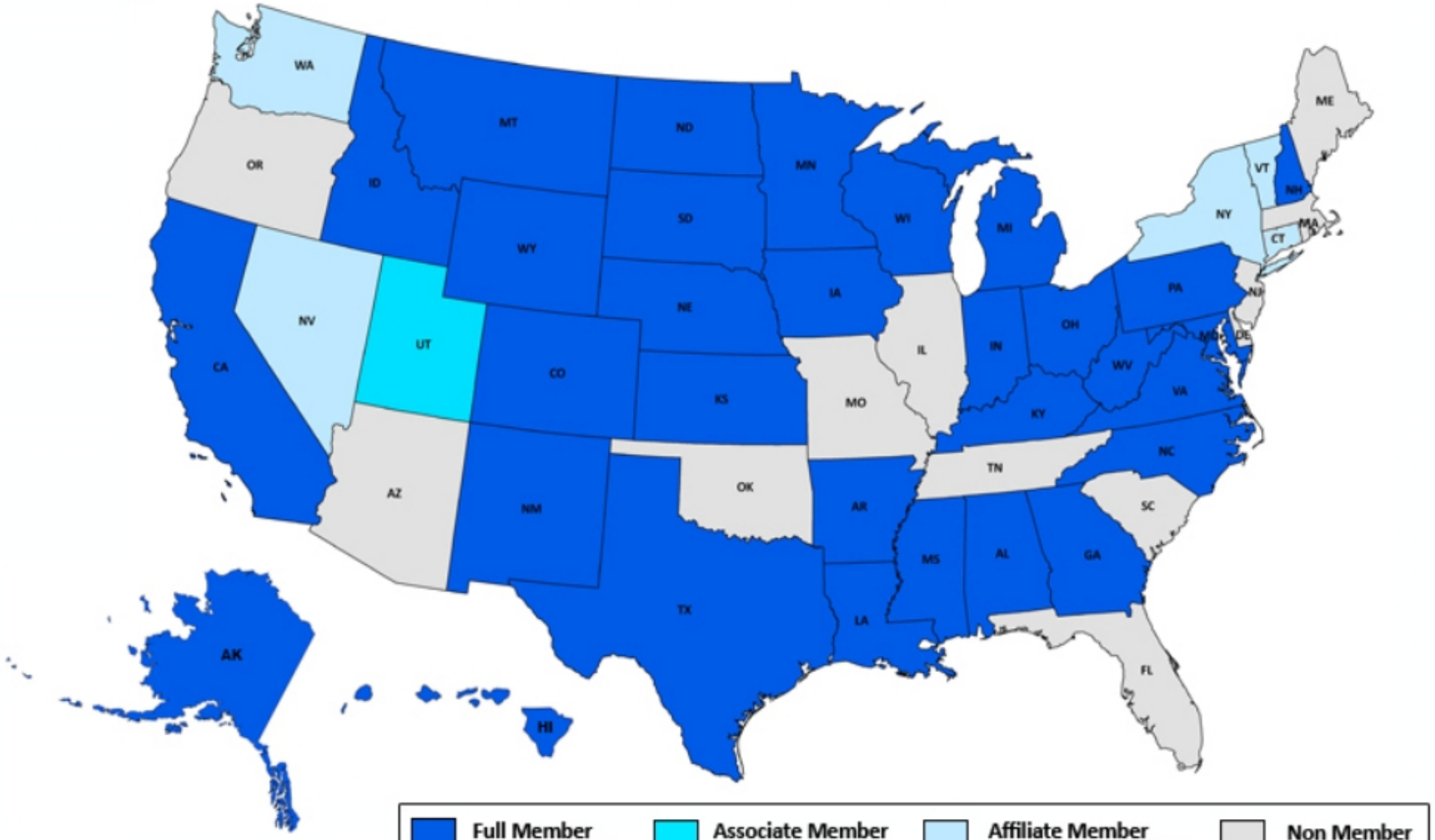

Dept. of Interior - U.S. Geological Survey
USGS Geography Directorate
USGS Land Remote Sensing
Competitive grant awarded
AmericaView National Program
National Partners
AmericaView StateView Programs
Academic Partners
Non-profit Partners
Government Partners
Commercial Partners

AMERICA VIEW

National Consortium For Remote Sensing Education, Research, and Applications

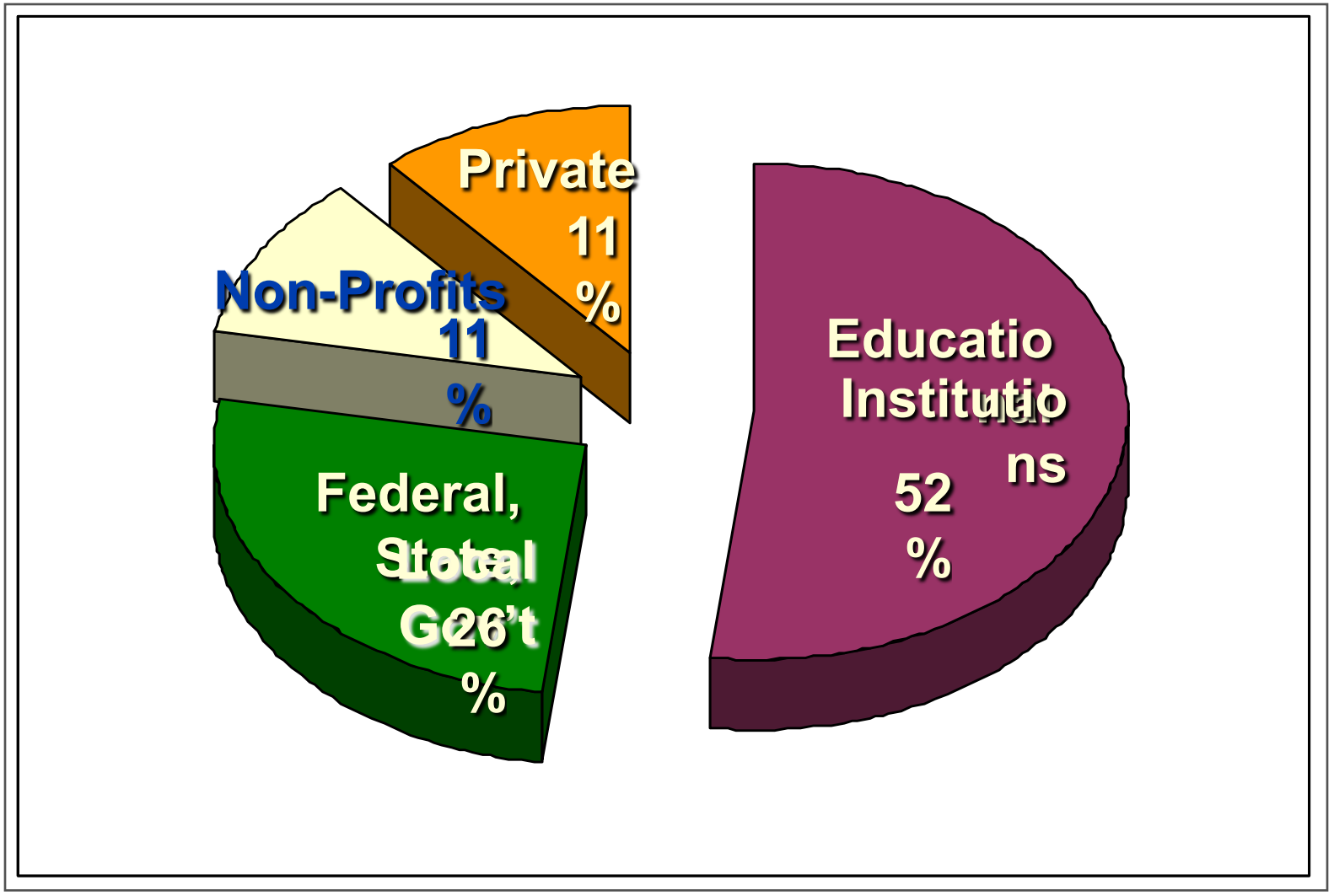
Delivering National Satellite Resources to Meet State Needs

Click on a state for StateView contact information.

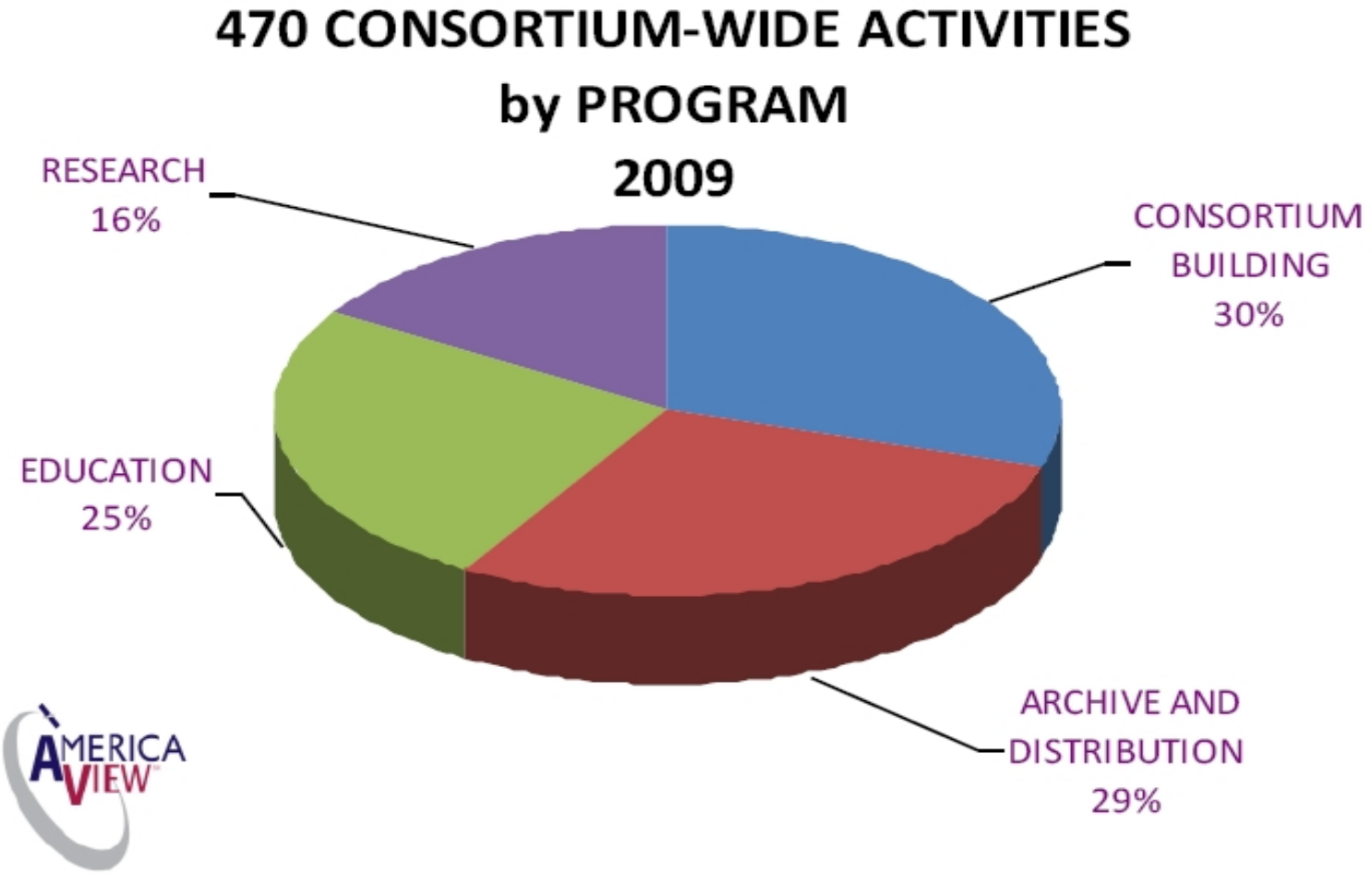


6/15/10

The AmericaView Consortium



The AmericaView Consortium



AV National Partners

- **GLOBE**
- **SPOT Image**
- **eMap International** (DG, GeoEye)
- **USDA - Foreign Ag. Service**
- **USDA - Forest Service**

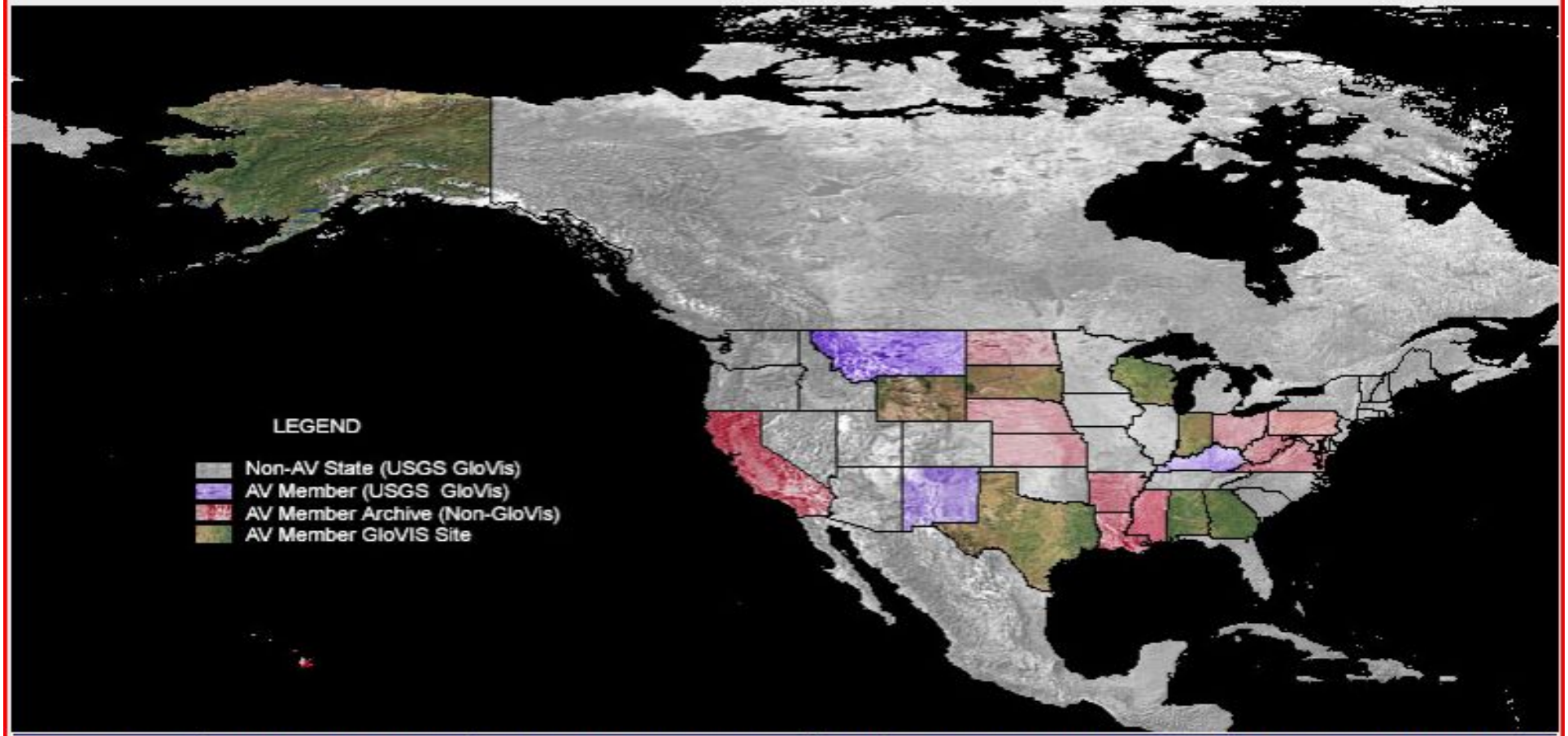
AmericaView Visualization Viewer

Hosted by the TexasView Remote Sensing Consortium

USGS Global Visualization Viewer

Select a Sensor, then click on the Locator Map to view satellite browse images in that area.

Latitude Longitude Select Sensor Landsat 7 ETM+ View Images

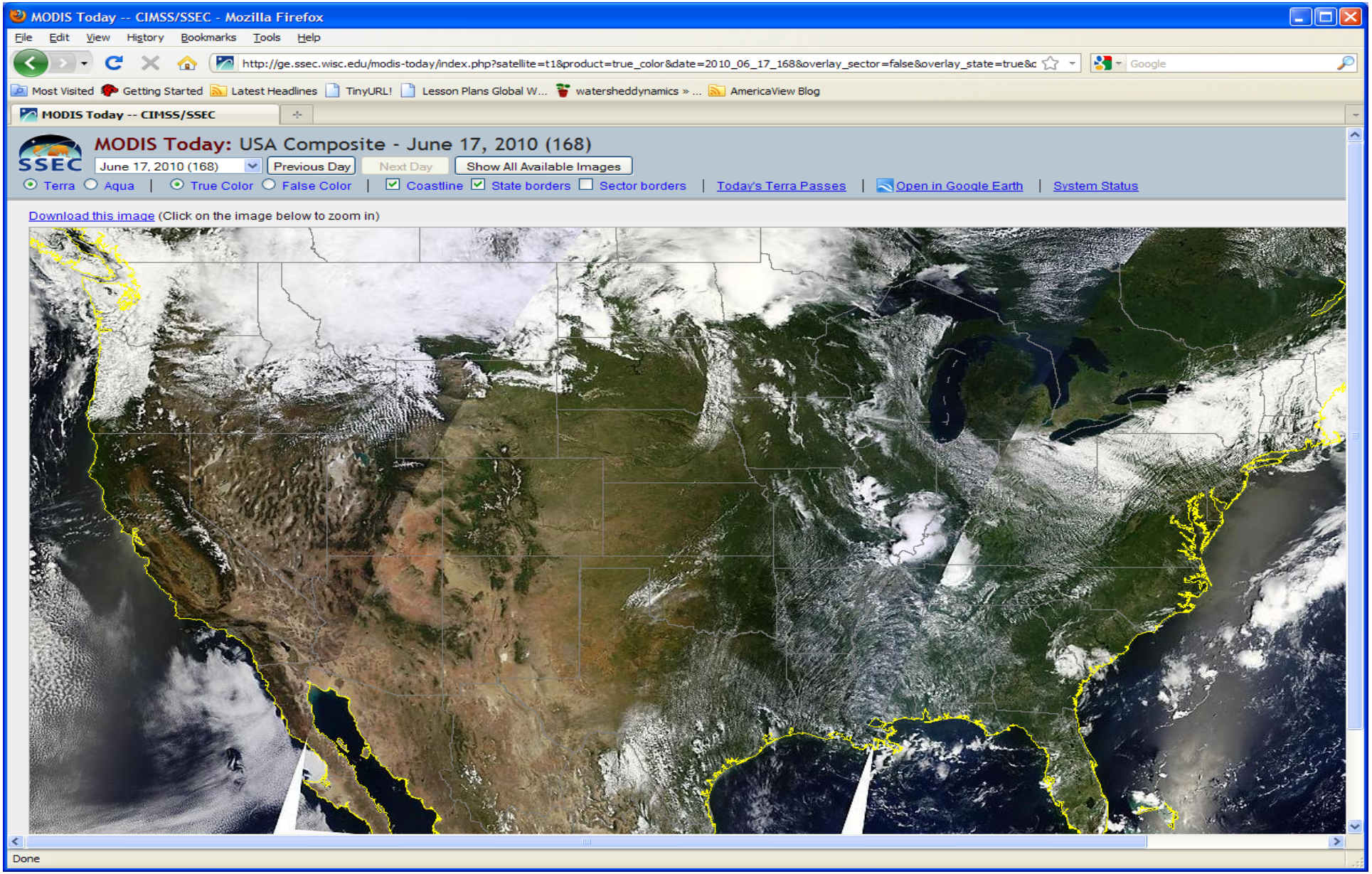


What's New! | Quick Start Guide | Browser Requirements | Help | About Browse Images | Download Source Code

AmericaView | TexasView | USGS Home | National Map | Forest Resources Institue | SFASU

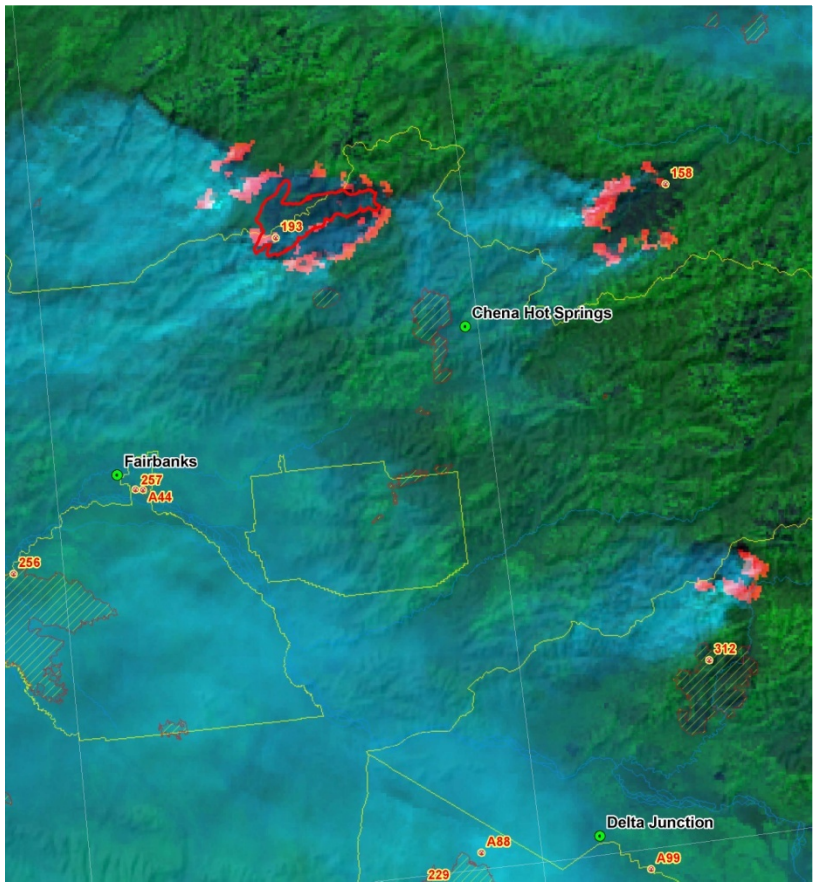
http://www.texasview.org/

WisconsinView MODIS



Wildfire Monitoring, Assessmen

Satellite Imagery Provides Essential Suppo
During Alaskan Wildfire



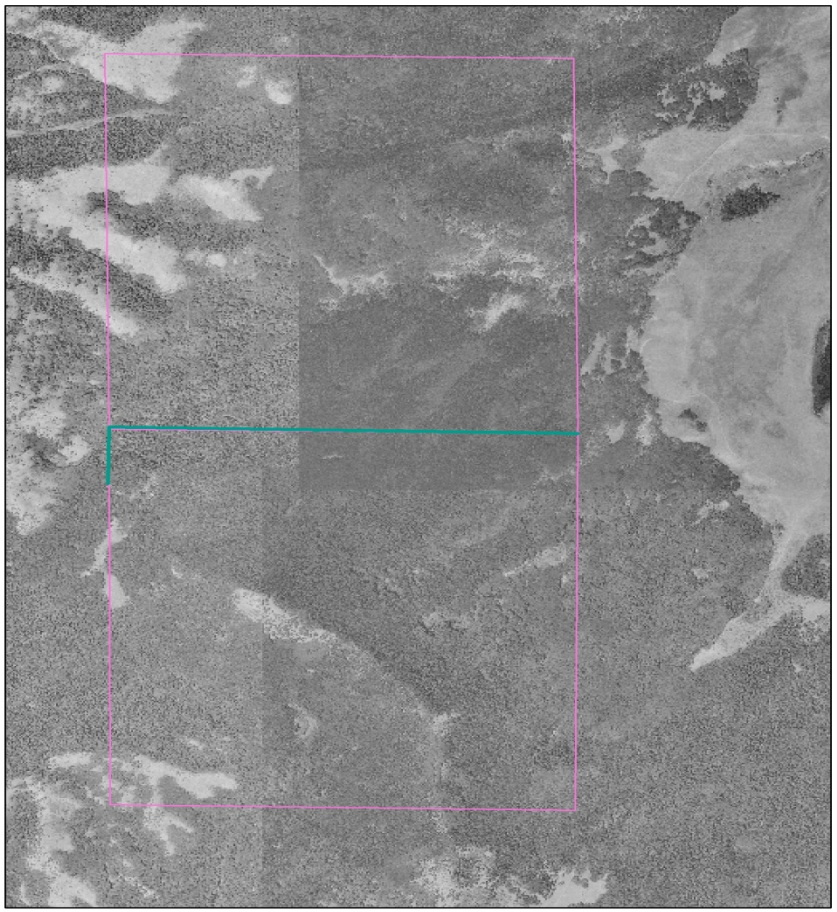
Hot Spot Mapping

Red points show the actively burning perimeter - the smoke was so thick that aircraft were grounded

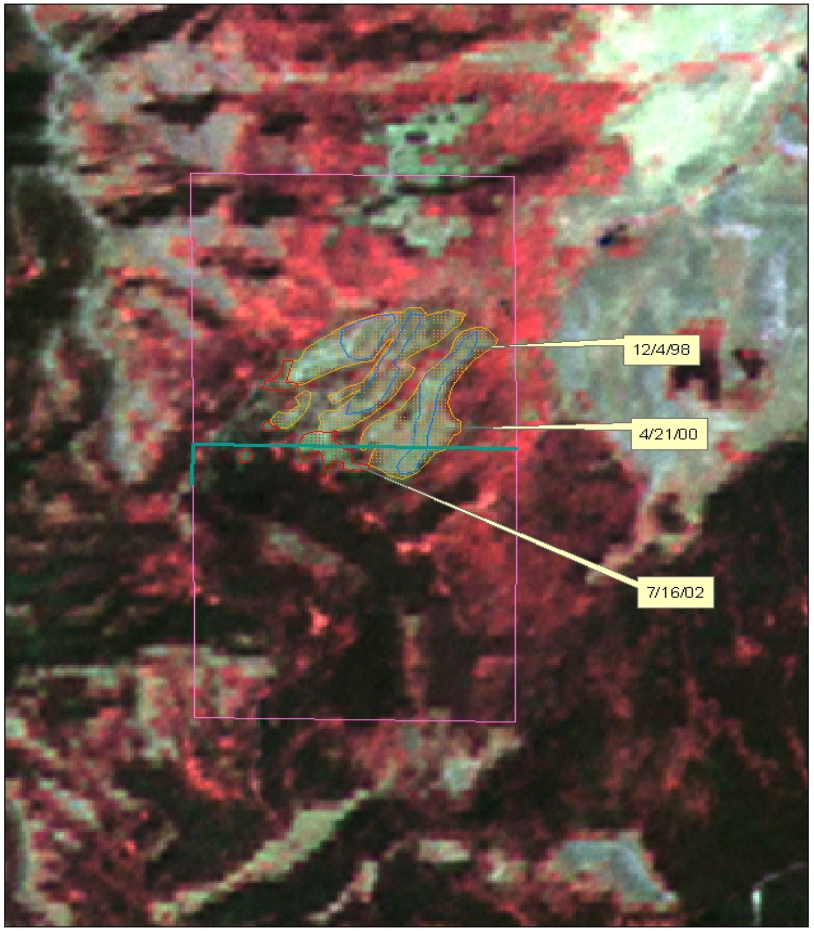
Only reliable information regarding the fire locations were from these hot spot points provided by AlaskaView.

Illegal Logging In the Medicine Bow National Forest

August 23, 1994 DOQQ



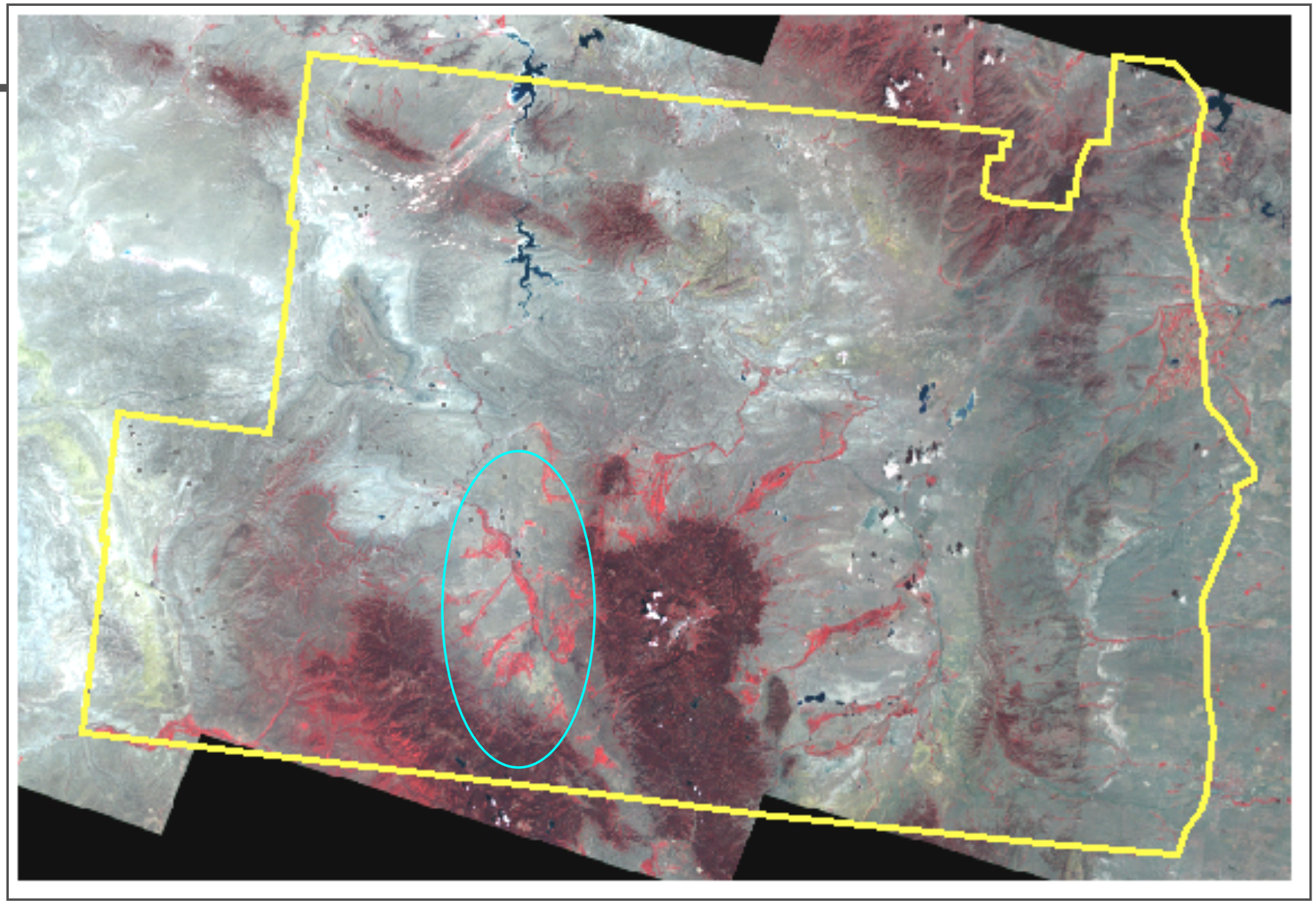
July 16, 2002 (4, 5, 2)



"BEFORE" - 1994 Aerial Photo from the *US Forest Service*

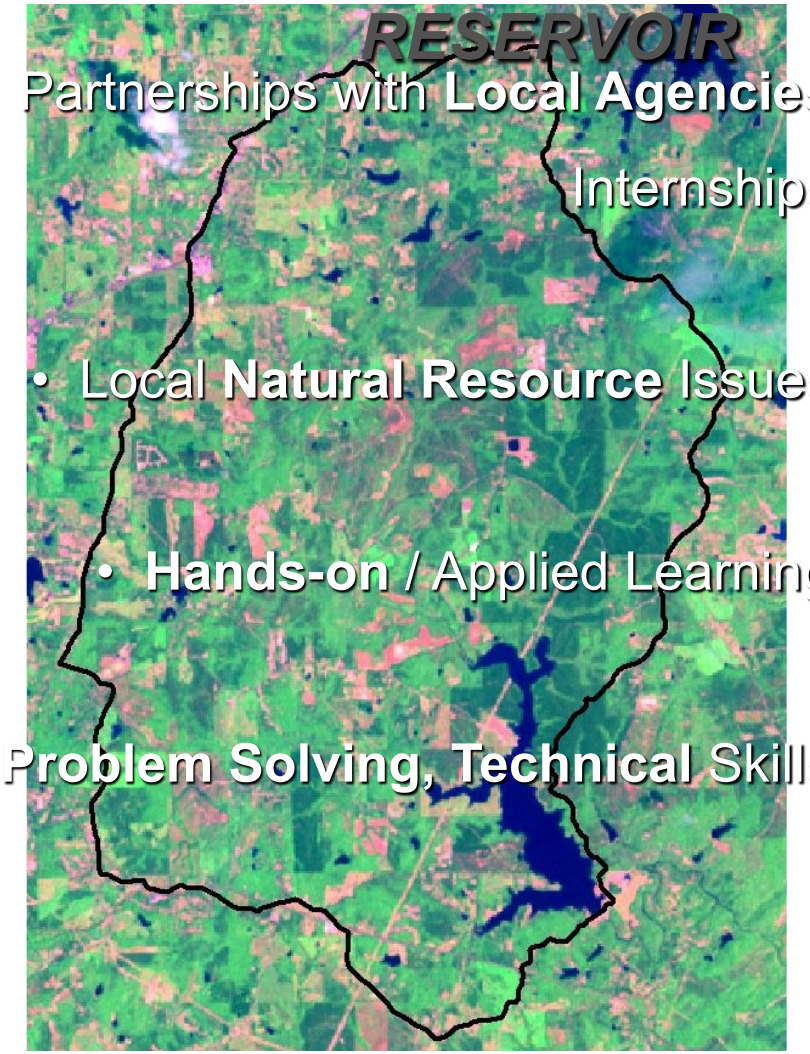
"AFTER" – 2002 Landsat 5 scene *from WyomingView*

Mule Deer (*Odocoileus hemionus*) Winter Range Cumulative Impacts Study



Undergraduate & Grad Education, Applied Research

SNAKE CREEK RESERVOIR



- Partnerships with **Local Agencies**
- Internships
- Local **Natural Resource** Issues
- **Hands-on** / Applied Learning
- **Problem Solving, Technical** Skills

K-12, Undergraduate, Graduate, and Professional Development

EDUCATION ACTIVITIES

2009

AmericaView K-12 Education

Earth Science **Content**

Standards-Based

Student-Based Inquiry Model

Local Data, Local Experiments

Graphing, Analysis, Interpretation

Teachers Present Findings

AmericaView K-12 Education

Ongoing and Future Activities

- **INCREASED** emphasis on **EDUCATION**

Community and Junior College Partnerships

K-12 Outreach, Professional Development

Ongoing and Future Activities

- **INCREASED** emphasis on **EDUCATION**

Community and Junior College Partnerships

K-12 Outreach, Professional Development

Earth Observation Day

GOALS OF EARTH OBSERVATION DAY

- To introduce teachers to remote sensing as a scientific and professional discipline and as a means to study and understand earth sciences and human/cultural systems
- To introduce teachers to instructional resources that will allow them to integrate the teaching and application of remote sensing and related geospatial technologies at K-12 levels into the teaching curriculum
- To teach educators how to make valid observations of the Earth, both on the ground and in the air/space using data from satellites
- To teach educators how to develop inquiry-based activities built around Earth observations
- To help create a network of teachers, professors, and scientists working together to support and enhance existing instructional remote sensing resources and create new resources

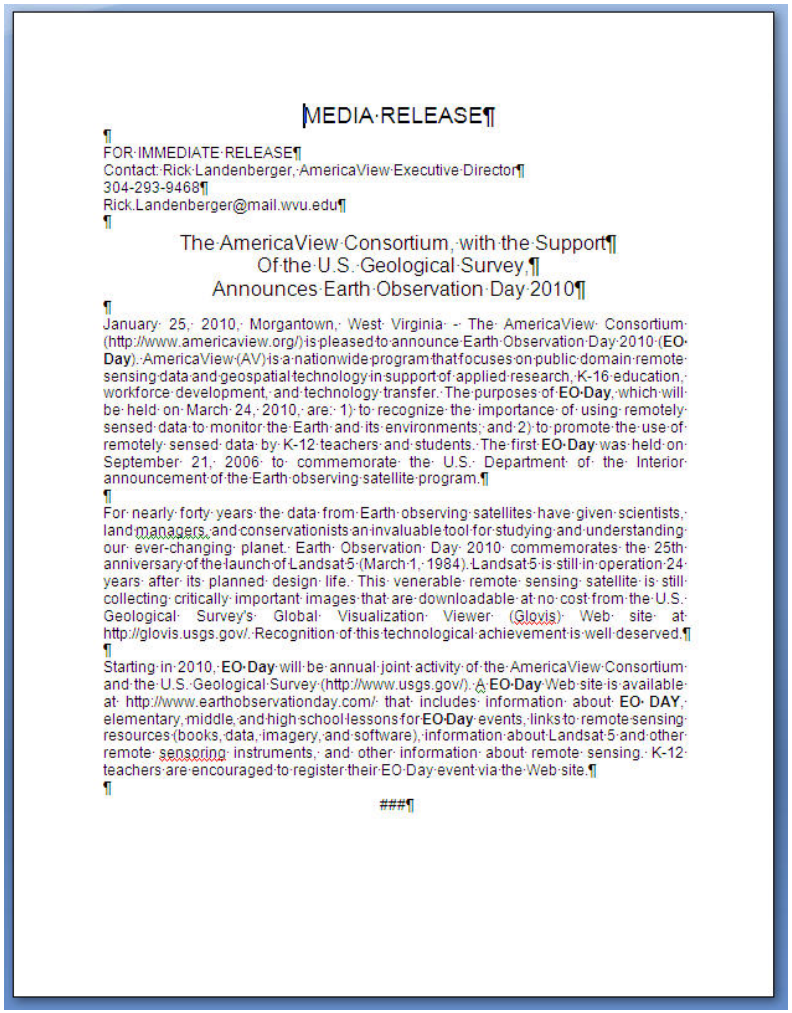
GOALS OF EARTH OBSERVATION DAY (CONTINUED)

- To connect K-16 educators with active remote sensing research efforts while at the same time providing researchers with outreach networks

PROJECT STATUS

- Acquired domain names for AmericaView
  - www.earthobservationday.com
  - www.earthobservationday.net
  - www.earthobservationday.org
- Established an account for AmericaView with FatCow Web hosting (http://www.fatcow.com)
  - $66.00/year
  - Unlimited disk space and bandwidth
- Developed “pre-launch” version of the Web site
- Developed, reviewed, and revised lessons for Earth Observation Day 2010
- Developed a logo for Earth Observation Day (thanks to Gail Nader)

EARTH OBSERVATION DAY 2010 MEDIA RELEASE



MEDIA RELEASE

FOR IMMEDIATE RELEASE
Contact: Rick Landenberger, AmericaView Executive Director
304-293-9468
Rick.Landenberger@mail.wvu.edu

The AmericaView Consortium, with the Support
Of the U.S. Geological Survey,
Announces Earth Observation Day 2010

January 25, 2010, Morgantown, West Virginia -- The AmericaView Consortium (http://www.americaview.org/) is pleased to announce Earth Observation Day 2010 (**EO Day**). AmericaView (AV) is a nationwide program that focuses on public domain remote sensing data and geospatial technology in support of applied research, K-16 education, workforce development, and technology transfer. The purposes of **EO Day**, which will be held on March 24, 2010, are: 1) to recognize the importance of using remotely sensed data to monitor the Earth and its environments; and 2) to promote the use of remotely sensed data by K-12 teachers and students. The first **EO Day** was held on September 21, 2006 to commemorate the U.S. Department of the Interior announcement of the Earth observing satellite program.

For nearly forty years the data from Earth observing satellites have given scientists, land managers, and conservationists an invaluable tool for studying and understanding our ever-changing planet. Earth Observation Day 2010 commemorates the 25th anniversary of the launch of Landsat 5 (March 1, 1984). Landsat 5 is still in operation 24 years after its planned design life. This venerable remote sensing satellite is still collecting critically important images that are downloadable at no cost from the U.S. Geological Survey's Global Visualization Viewer (Glovis) Web site at http://glovis.usgs.gov/. Recognition of this technological achievement is well deserved.

Starting in 2010, **EO Day** will be annual joint activity of the AmericaView Consortium and the U.S. Geological Survey (http://www.usgs.gov/). A **EO Day** Web site is available at http://www.earthobservationday.com/ that includes information about **EO DAY**, elementary, middle, and high school lessons for **EO Day** events, links to remote sensing resources (books, data, imagery, and software), information about Landsat 5 and other remote sensoring instruments, and other information about remote sensing. K-12 teachers are encouraged to register their EO Day event via the Web site.

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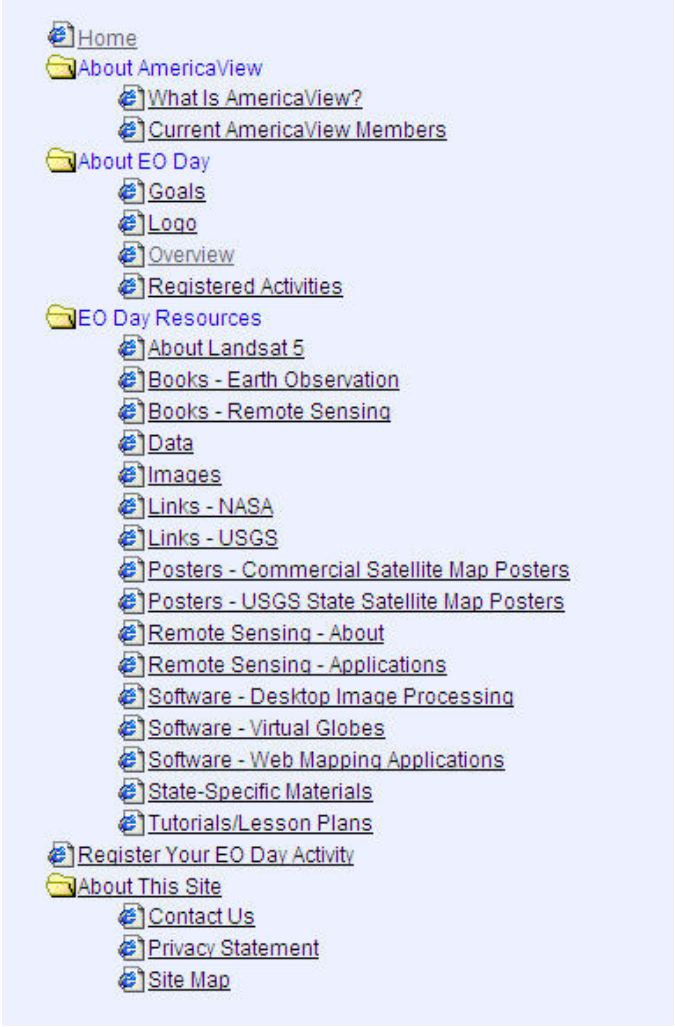
Earth Observation Day Website

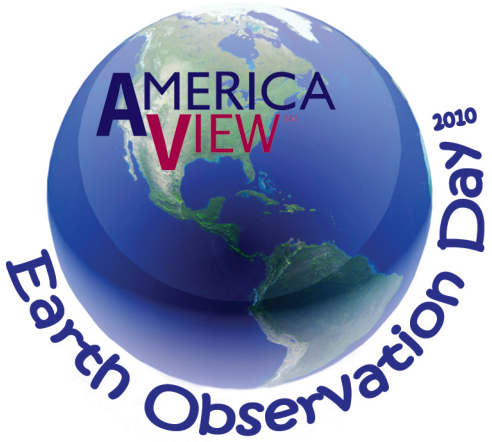
EO DAY WEB SITE STRUCTURE



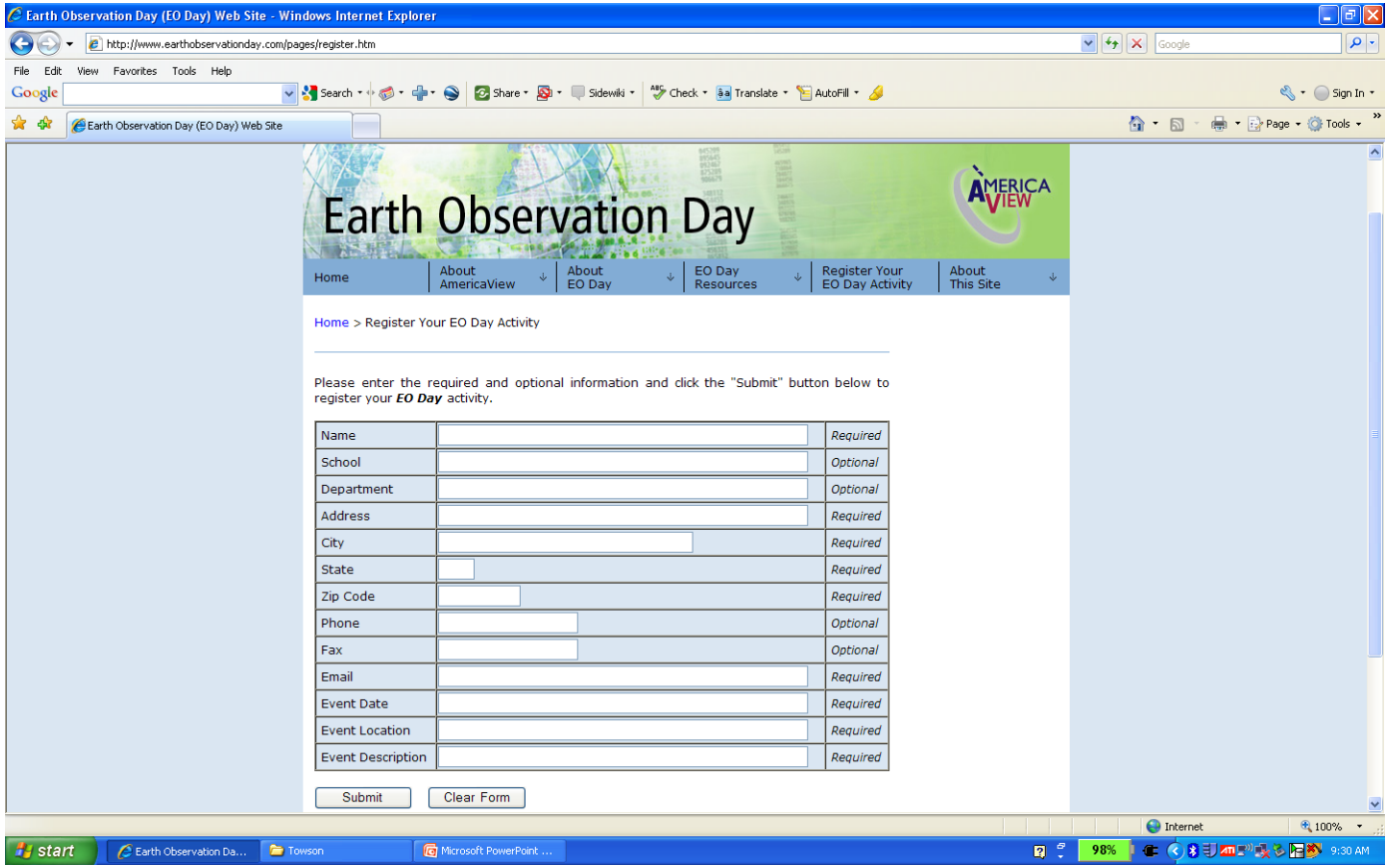
About Earth Observation Day section

- Goals
- Logo
- Overview
- Registered Activities

Logo



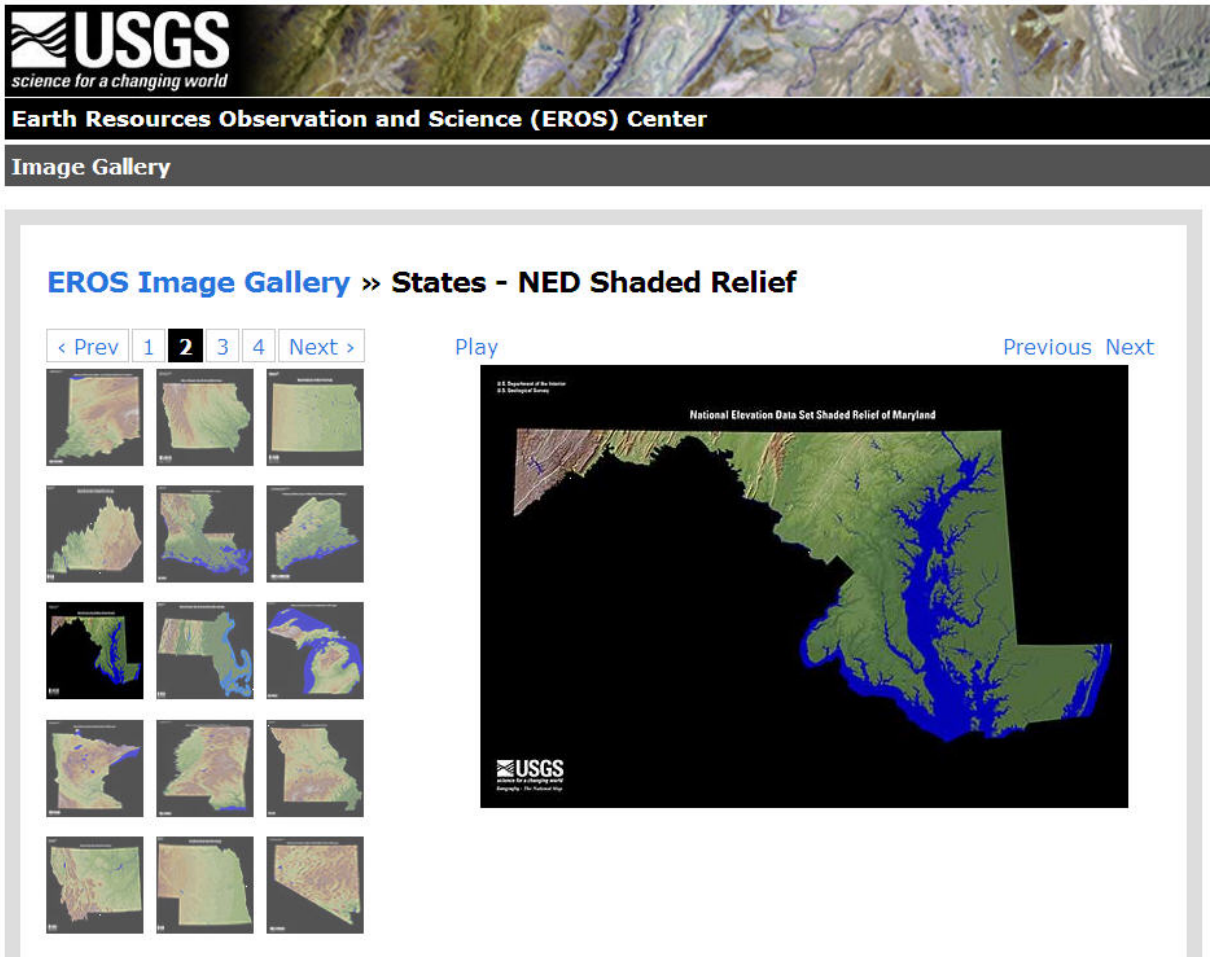
Registered Activities



EOD Resources

- Earth Observation Day Lessons
- Books
- Data and Images
- Posters
- Software

EARTH OBSERVATION DAY POSTERS



TO DO LIST – EARTH OBSERVATION DAY 2010

- Complete Web site (Web site to “go live” on March 8)
- Load USGS posters (.jpg format)
  - Waiting to receive DVD for USGS
  - Posters are available in .tif and .jpg format; .jpg format to be loaded due to size of .tif files
- Distribute media release via geospatial education discussion lists and the education email lists of StateView members
- Complete work on AmericaView Google Map and link to Web site
- Develop logo’ed merchandise for sale via Café Press
- Complete work on site search engine optimization to ensure highest possible ranking by browers (“pre-launch” version of Web site was deliberately hidden from Web browser spiders)
- Link site to Google Analytics

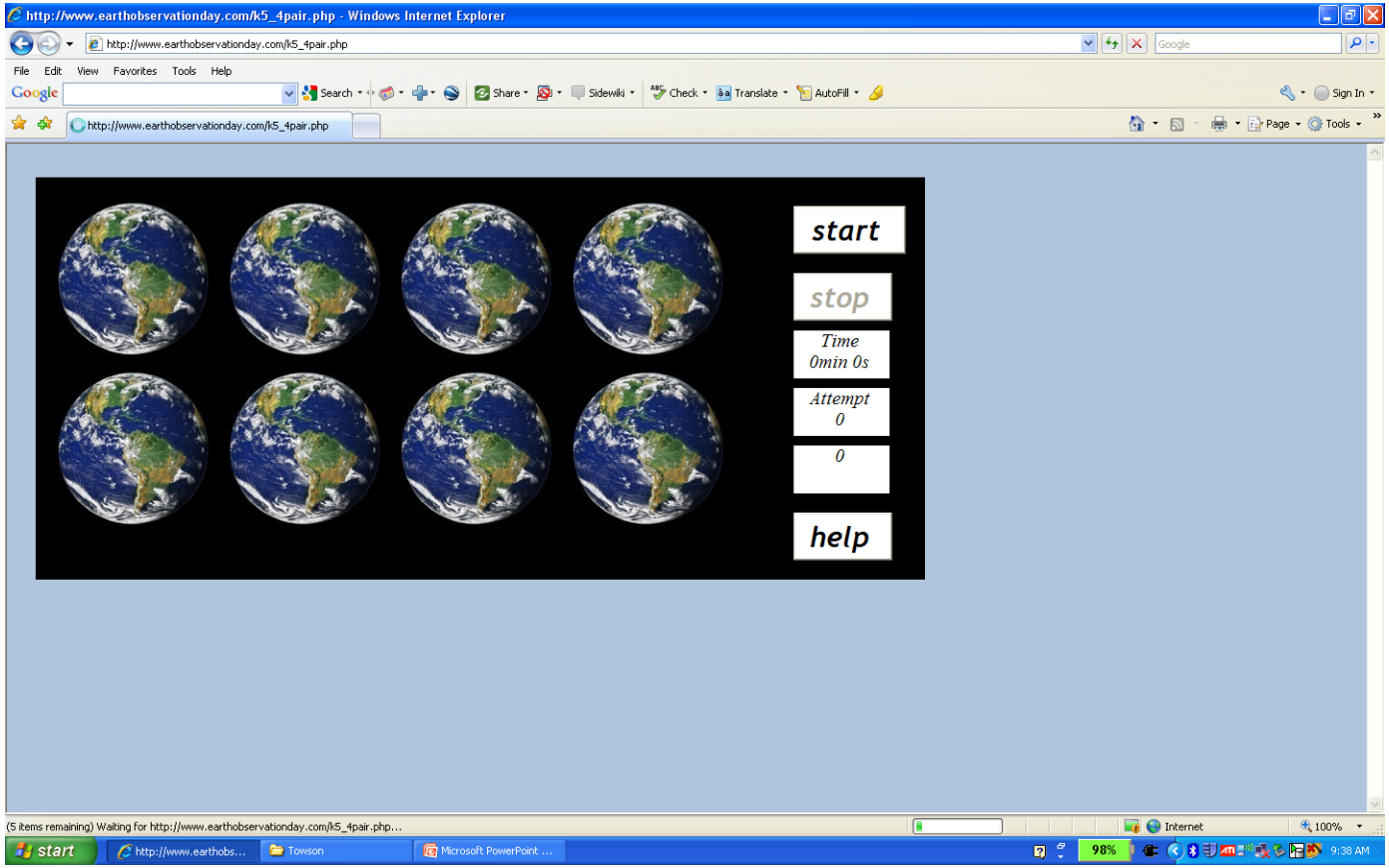
EARTH OBSERVATION DAY 2010 ACTIVITIES

- Memory Game
- Lessons
  - State Landsat Mosaic Puzzle (Grades K-2)
  - Interactive Introduction to Remote Sensing Imager (Grades K-5)
  - Introduction to Google Earth for Middle and High School
  - Middle and High School Land Use and Land Cover Introduction
  - Interactive Introduction to Land Cover Change Detection Utilizing Remote Sensing Imagery (Grades 6 – 8)
  - Interactive Introduction to Land Cover Change Detection Utilizing Remote Sensing Imagery (Grades 9 – 16)

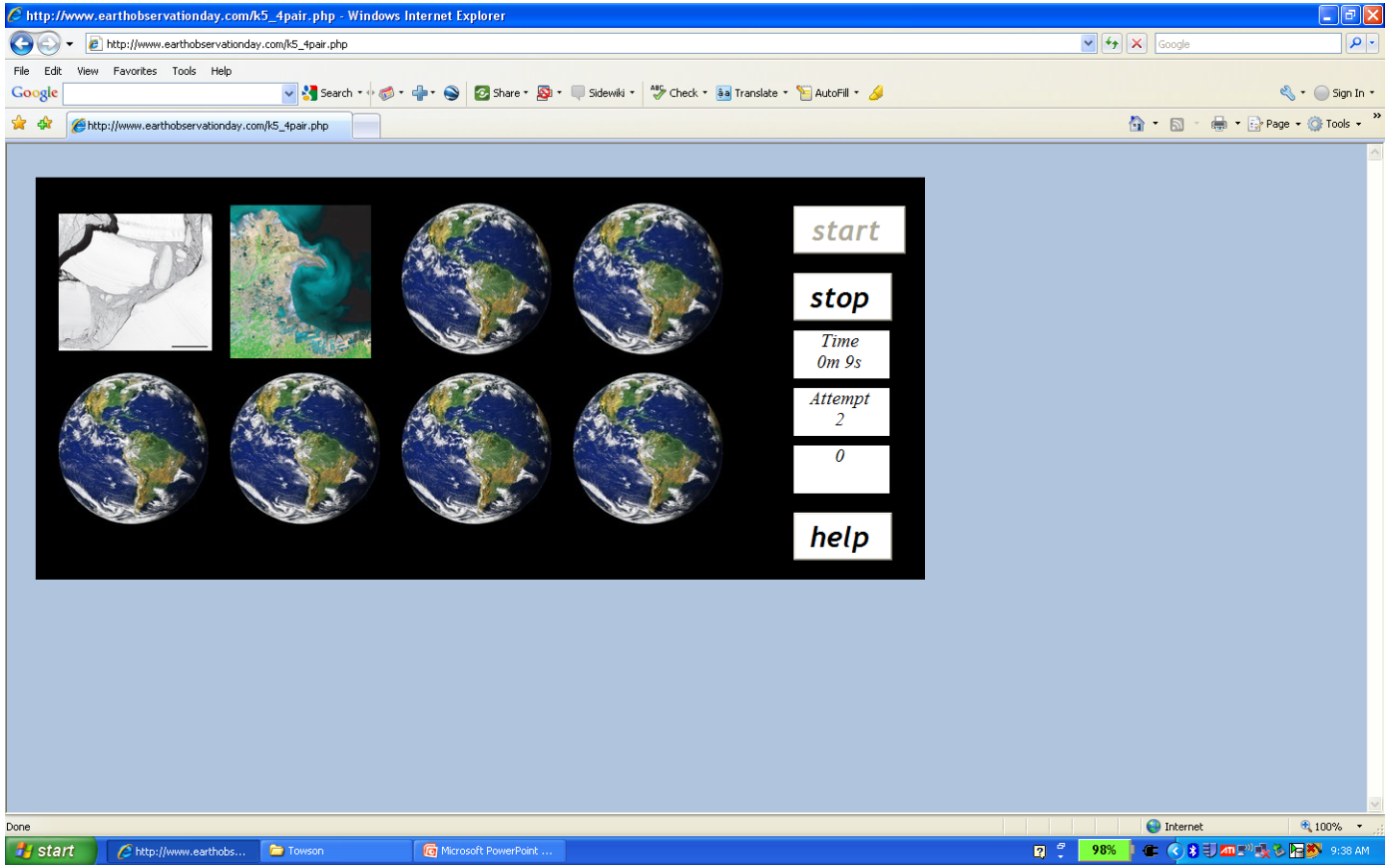
Memory Game

- 4 pairs for K – 5
- 6 to 8 pairs for Grade 6 – 8
- 10 to 14 pairs for Grade 9 – 12

Memory Game


http://www.earthobservationday.com/k5_4pair.php - Windows Internet Explorer
start
stop
Time
0min 0s
Attempt
0
0
help

Memory Game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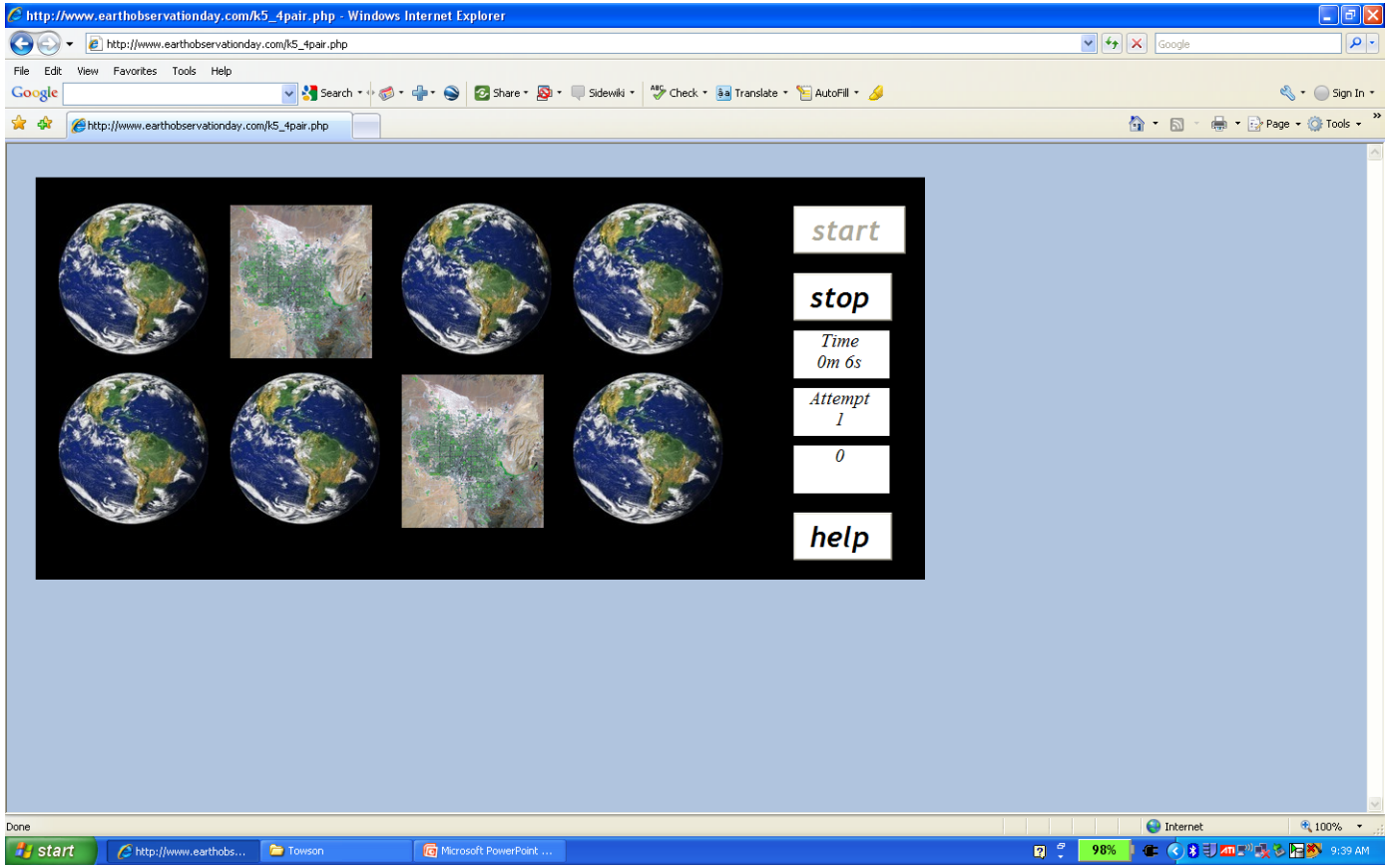
http://www.earthobservationday.com/k5_4pair.php
File Edit View Favorites Tools Help
start
stop
Time
0m 9s
Attempt
2
0
help
Done
start

Memory Game


http://www.earthobservationday.com/k5_4pair.php - Windows Internet Explorer
start
stop
Time
0m 6s
Attempt
1
0
help

K – 2nd grade: State Mosaic Puzzle

- Download Student Copies of State Mosaic Map
- Ask location questions
- Students create puzzle (10 to 15 pieces)
- What features did you use to assemble the puzzle? (Color, Pattern, Texture)

Modified for 3rd to 6th graders

- How large is the image?
- Identify 5 natural features (Forest, Mountains, Lakes and Rivers)
- Identify 2 to 3 human features (Dams, cities, transportation, etc)

- Terrain Quality to 3 (Elevation Exaggeration)
- Navigation Tools
- Different Layers
- Place mark
- Describe your home's topography
- Definitions

Understanding Land Use and Land Cover using Google Earth

- What is the predominant land use around your school? (and 2nd)
- Natural vs. Cultural Features
- 1 km image
- Create a Land Use and Land Cover Map

STATEVIEW PARTICIPATION

- Email the press release to teachers in your state
- Encourage teachers to use the lessons, the USGS posters, and other materials available on the Web site
- Provide assistance to selected teachers (if possible)
- Send information to the Education Committee chairs about any EO Day activities conducted in your state

California University of PA Celebration

- 100 students in Intro to Earth Sciences
- 74 students in Intro to Geography
- GIS Club – Memory Game and CAKE !

The Cake

FINAL OBSERVATIONS

- We developed Earth Observation Day from scratch
- It has taken longer to develop the lessons and the Web site than was initially anticipated
- We have developed quality content for teachers and students for Earth Observation Day 2010
- We are now prepared for future Earth Observation days
- Land Use / Land Cover 2011