



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***

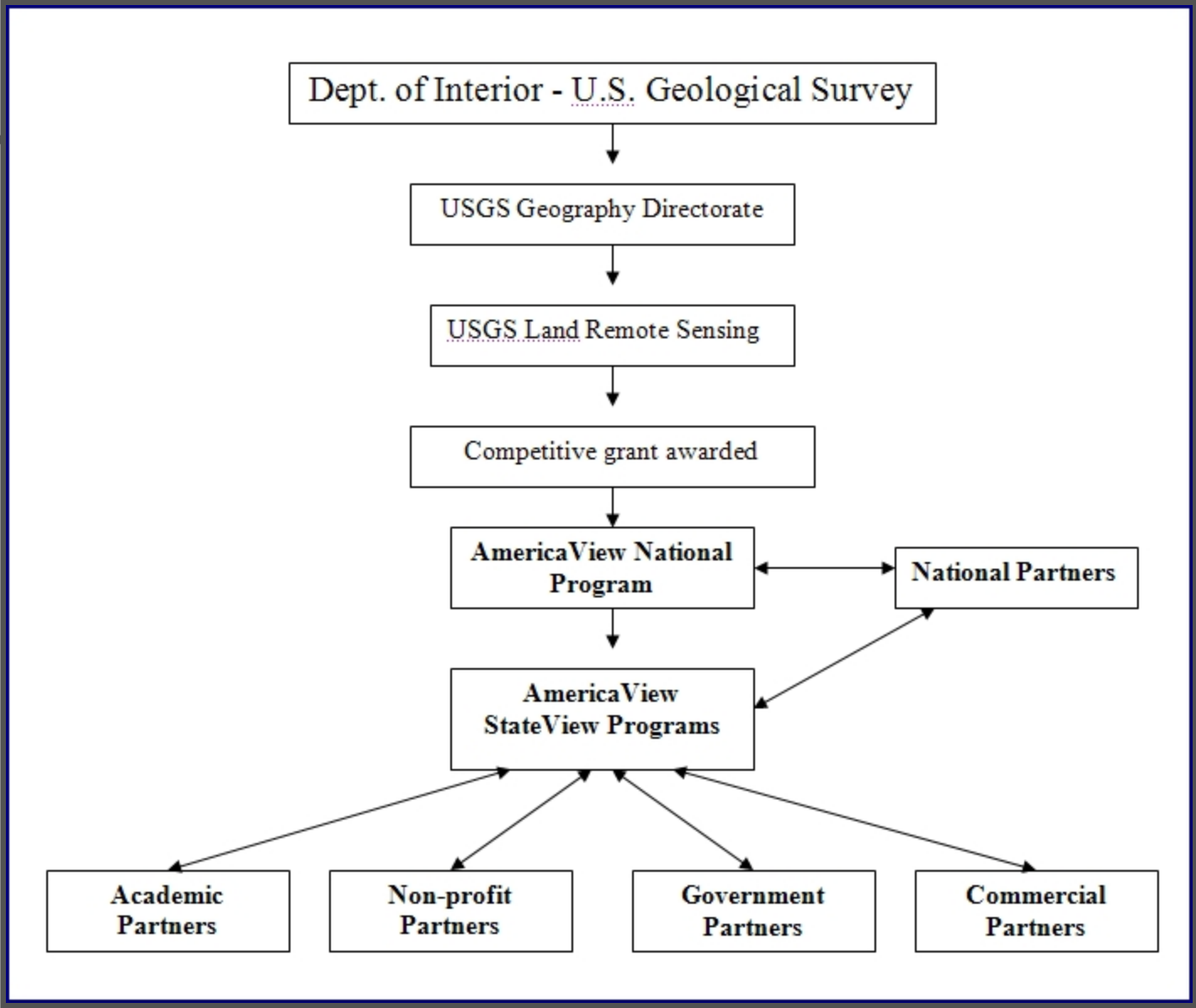
AmericaView – USGS History

- **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:**

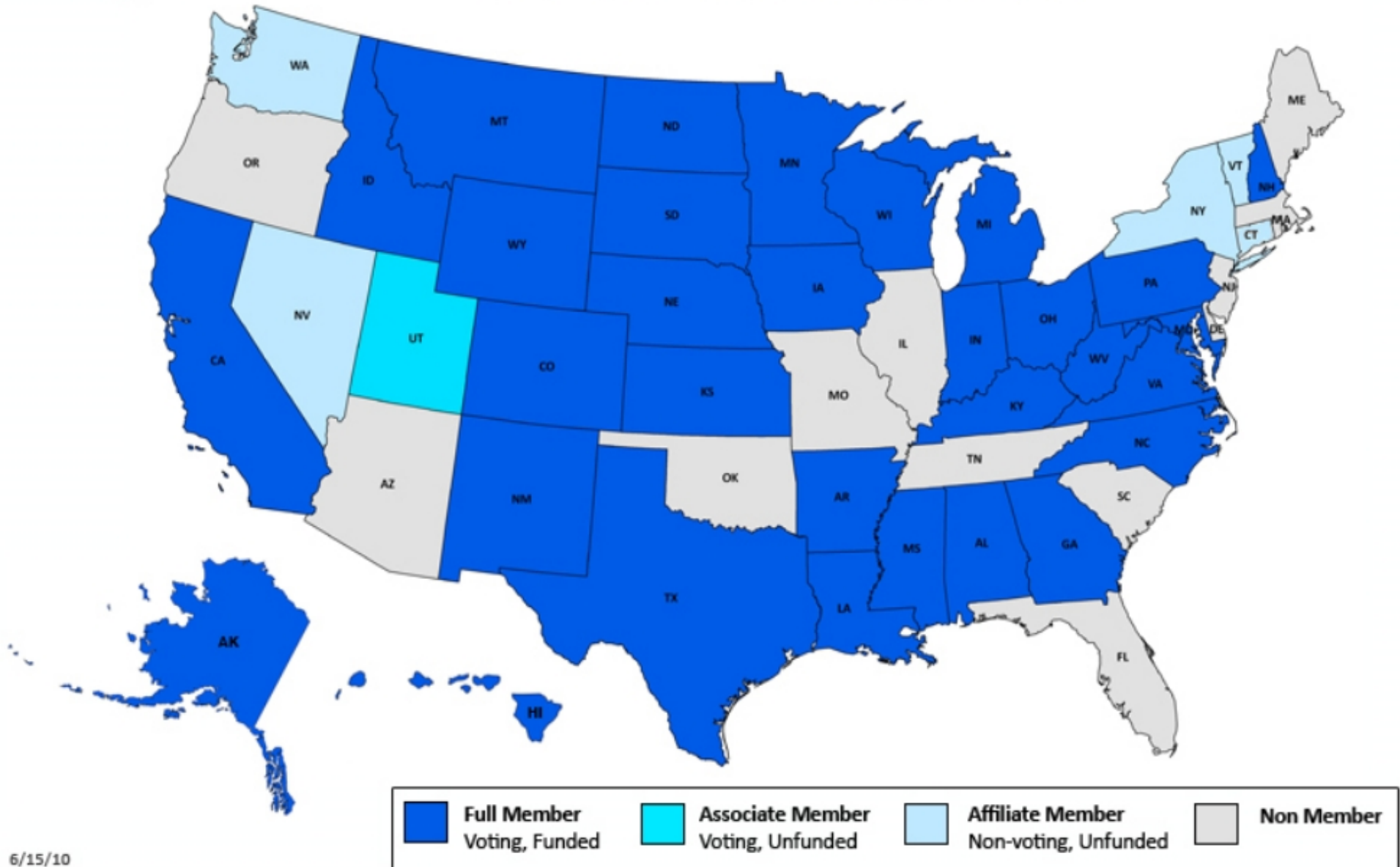
- *USGS Global Visualization Viewer (GloVis)*
 - *MODIS Direct Broadcast*
- *Seamless Data Distribution System (SDDS)*
 - *Facilitated Ordering & Data Discounts*



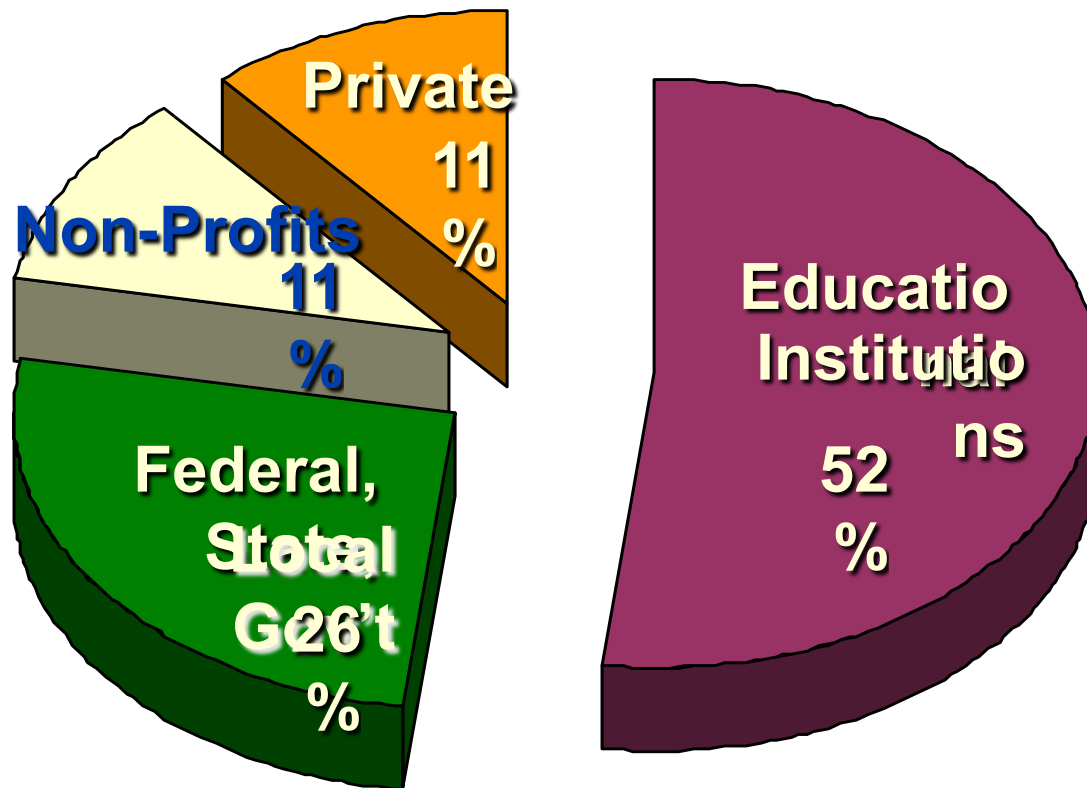


National Consortium For Remote Sensing Education, Research, and Applications
Delivering National Satellite Resources to Meet State Needs

Click on a state for StateView contact information.



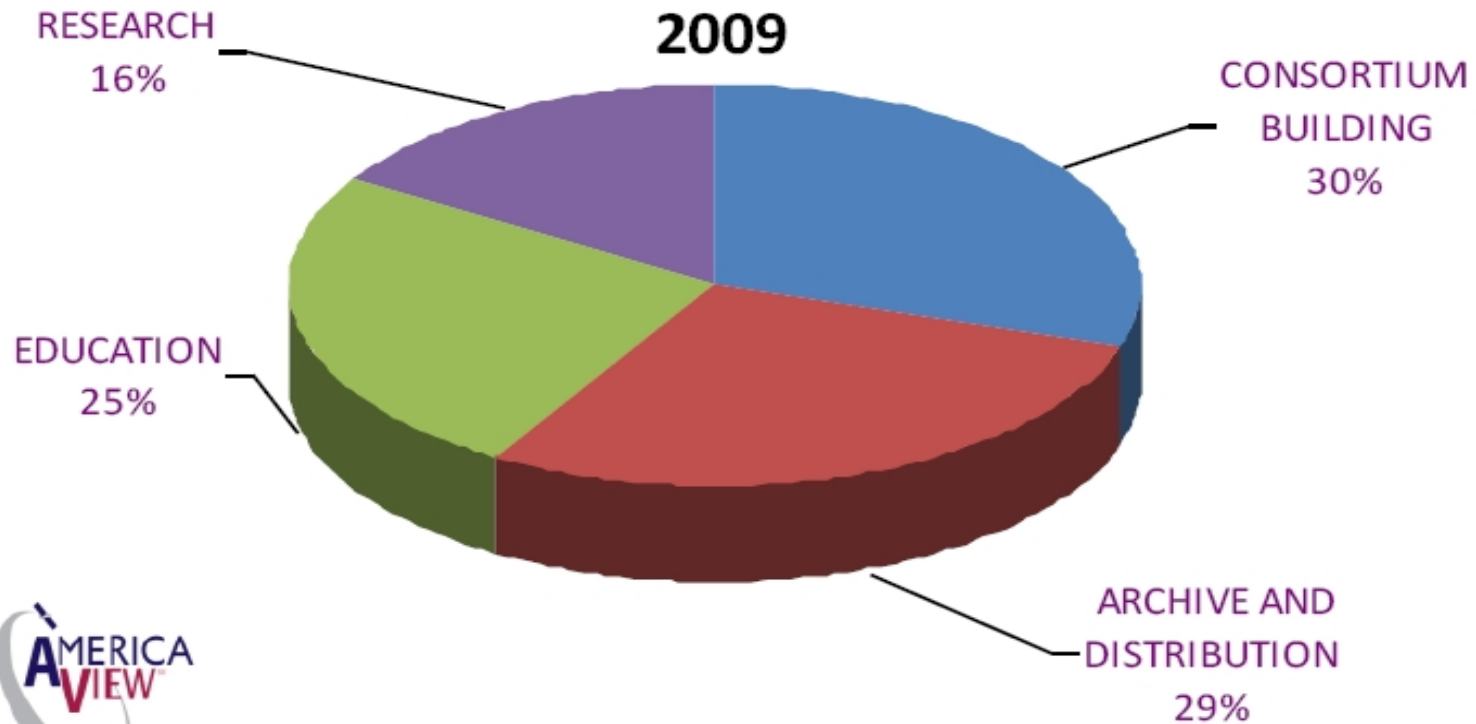
The AmericaView Consortium



The AmericaView Consortium

470 CONSORTIUM-WIDE ACTIVITIES by PROGRAM

2009



AV National Partners

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



AmericaView Visualization Viewer



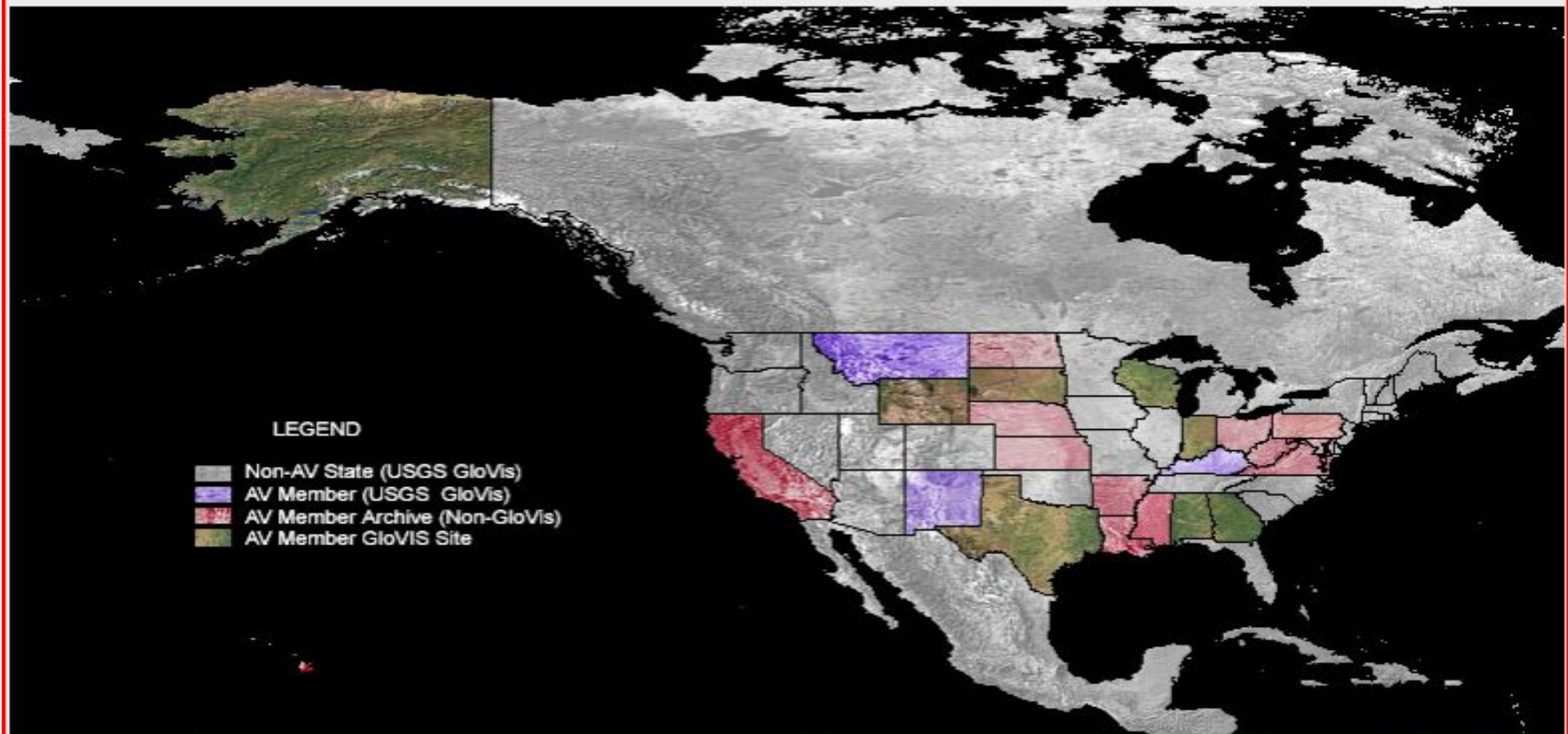
Hosted by the TexasView Remote Sensing Consortium



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



[What's New!](#) | [Quick Start Guide](#) | [Browser Requirements](#) | [Help](#) | [About Browse Images](#) | [Download Source Code](#)

[AmericaView](#) | [TexasView](#) | [USGS Home](#) | [National Map](#) | [Forest Resources Institute](#) | [SFASU](#)

<http://www.texasview.org/>

WisconsinView MODIS

MODIS Today -- CIMSS/SSEC - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://ge.ssec.wisc.edu/modis-today/index.php?satellite=t1&product=true_color&date=2010_06_17_168&overlay_sector=false&overlay_state=true&c

Most Visited Getting Started Latest Headlines TinyURL! Lesson Plans Global W... watersheddynamics > ... AmericaView Blog

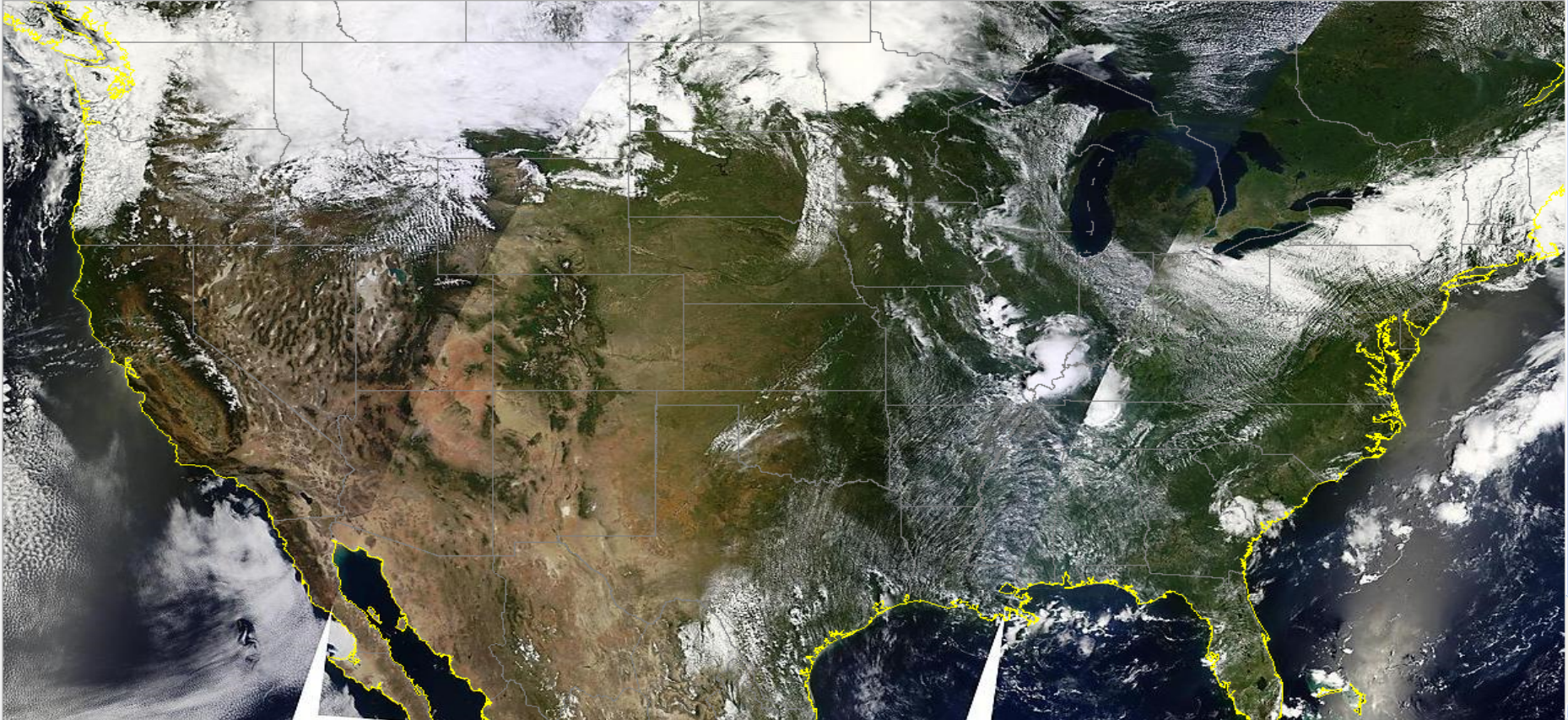
MODIS Today -- CIMSS/SSEC

SSEC MODIS Today: USA Composite - June 17, 2010 (168)

June 17, 2010 (168) Previous Day Next Day Show All Available Images

Terra Aqua | True Color False Color | Coastline State borders Sector borders | [Today's Terra Passes](#) | [Open in Google Earth](#) | [System Status](#)

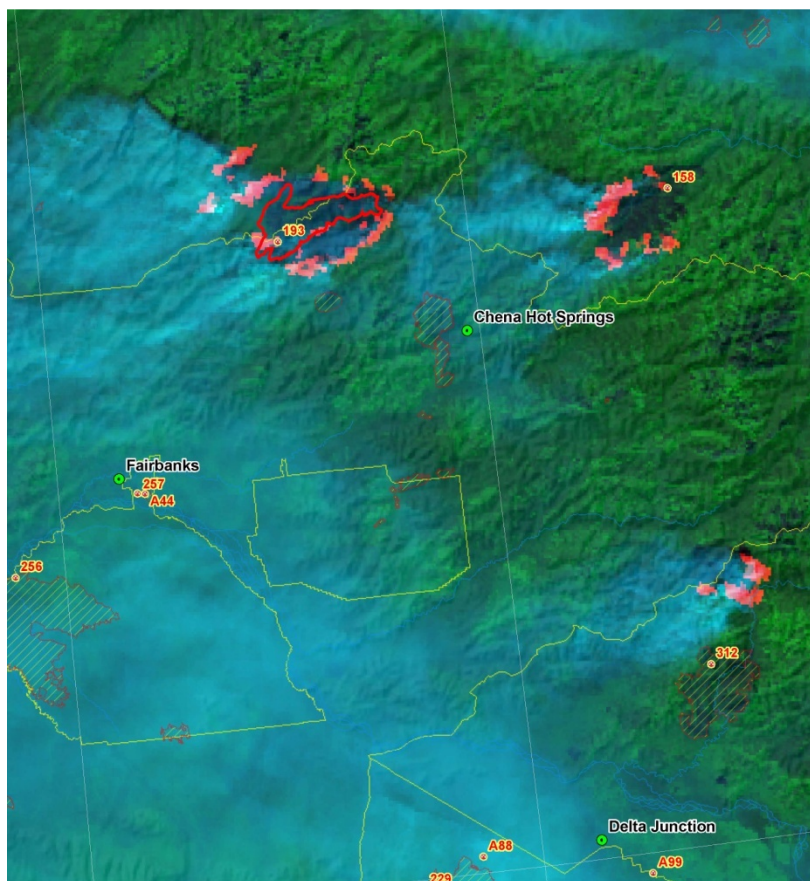
[Download this image](#) (Click on the image below to zoom in)



The image is a satellite composite of the United States, showing state borders and coastlines. The map is displayed in a true color format, with green representing vegetation and brown representing land. The coastline is highlighted in yellow. The map is overlaid on a grid of latitude and longitude lines. The image is displayed in a browser window with a status bar at the bottom showing 'Done'.

Wildfire Monitoring, Assessment

Satellite Imagery Provides Essential Support During Alaskan Wildfire



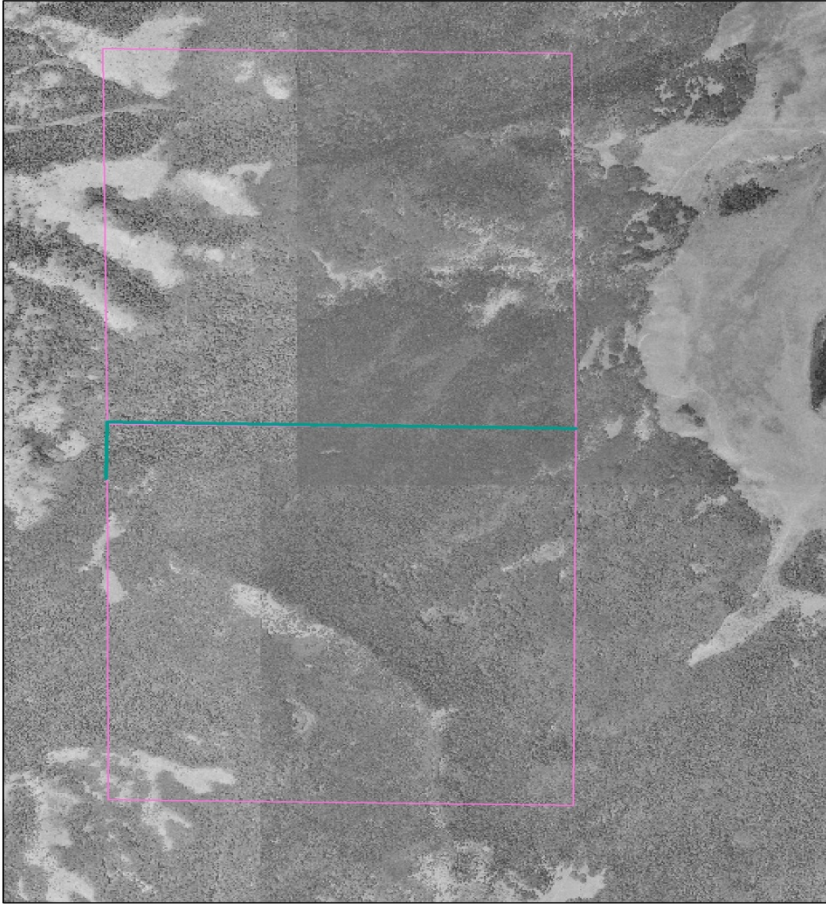
Hot Spot Mapping

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

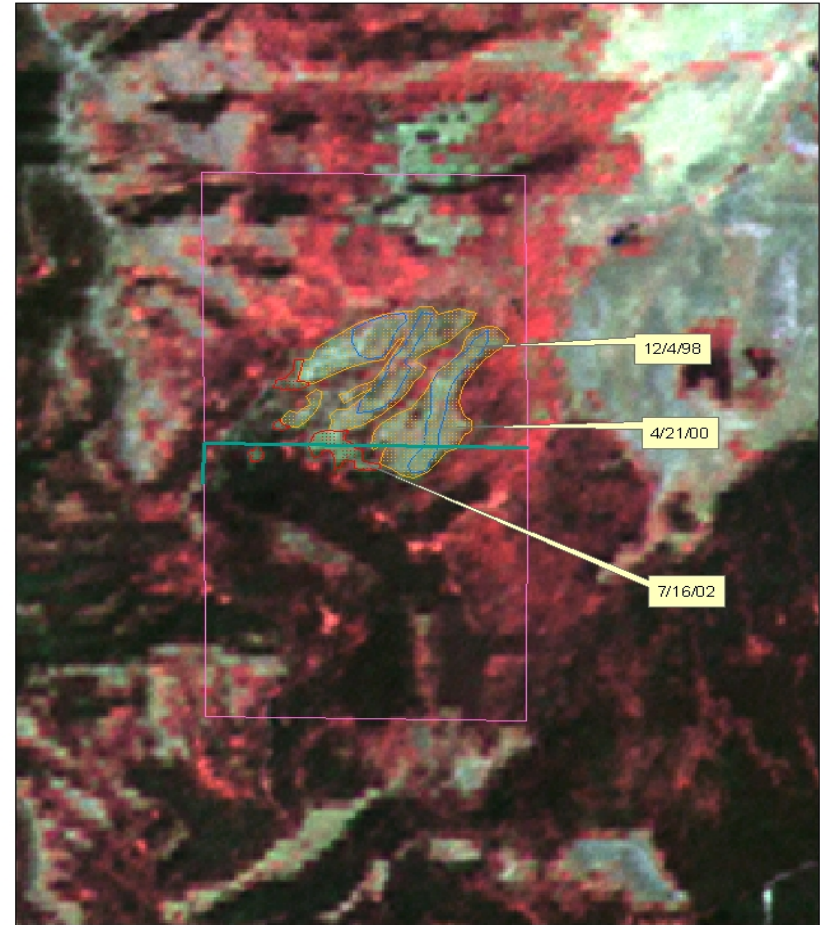
Only reliable information regarding the fire locations were from these hot spot points provided by AlaskaView.

Illegal Logging In the Medicine Bow National Forest

August 23, 1994 DOQQ



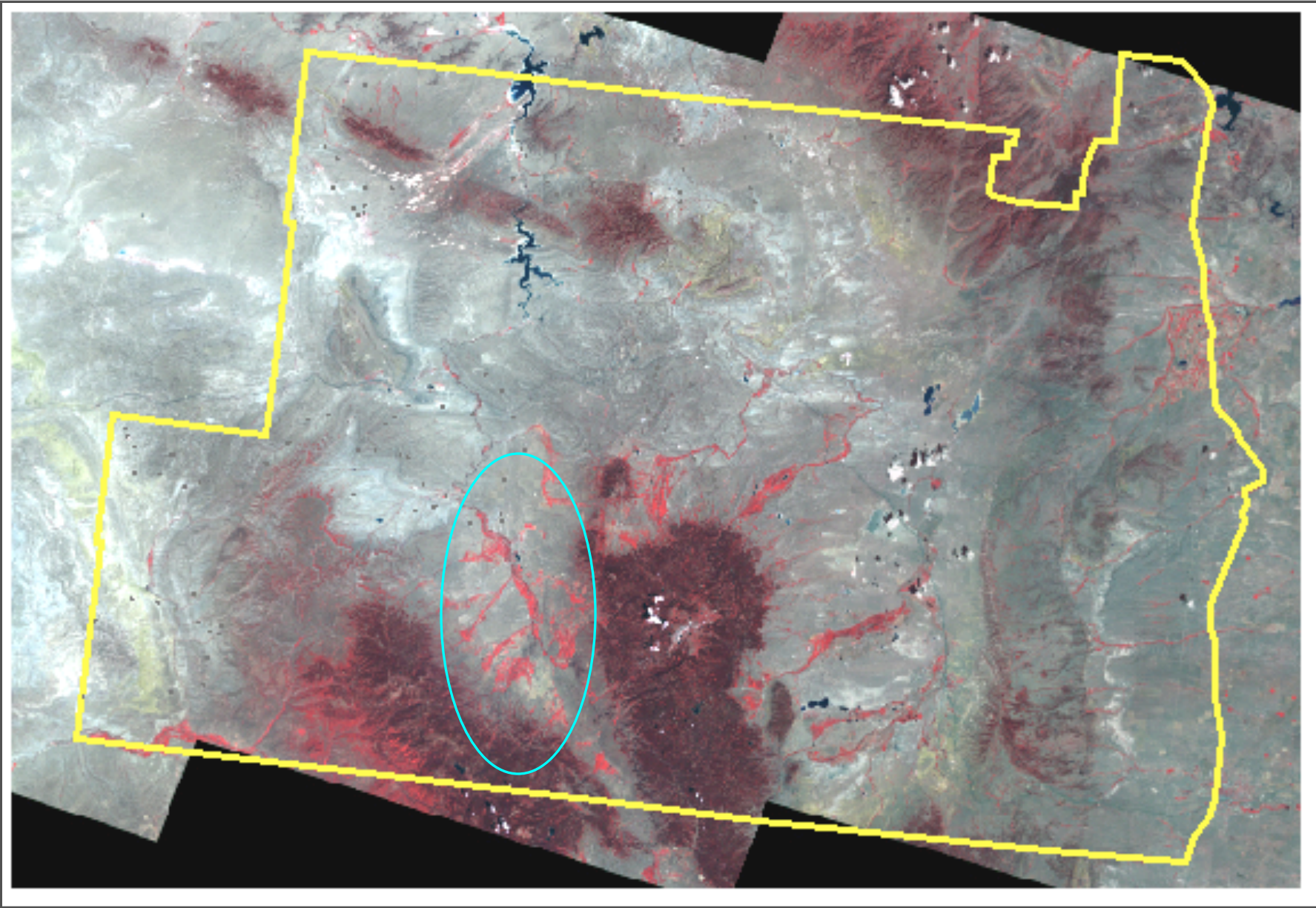
July 16, 2002 (4, 5, 2)



“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

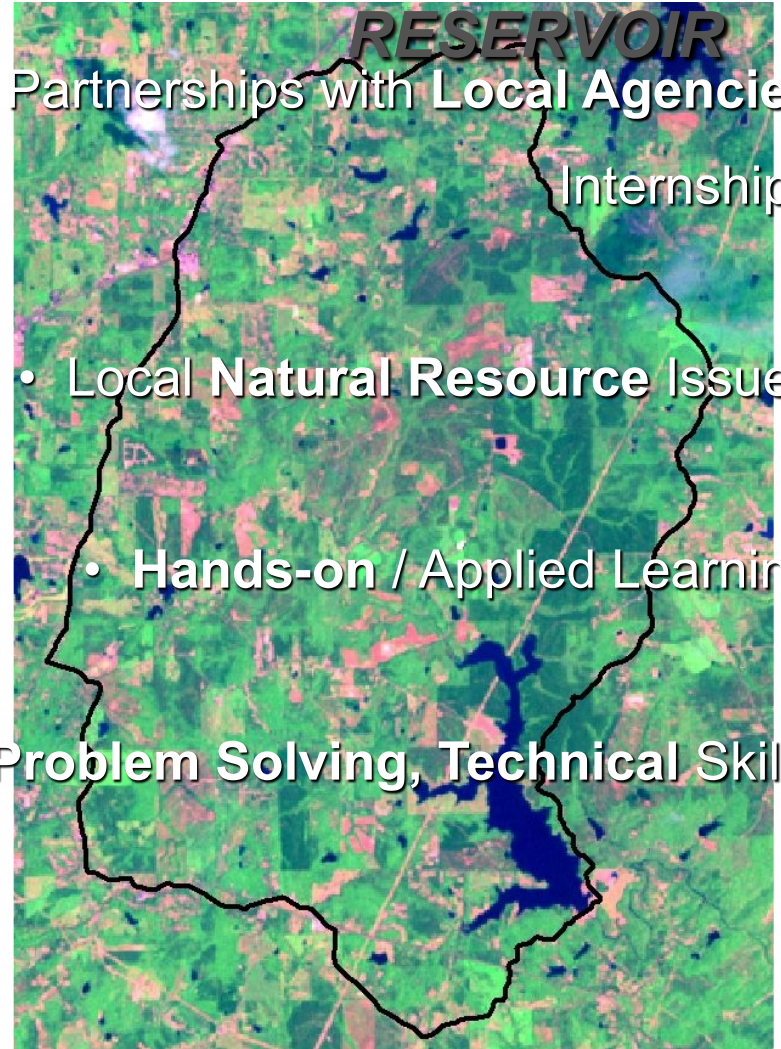


Undergraduate & Grad Education, Applied Research

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



Inner City Schools

Rural Schools

At-Risk Youth

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/>). An 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 sensing instruments, and other information about remote sensing. K-12 teachers are encouraged to register their EO-Day event via the Web site.

###

Earth Observation Day Website

The screenshot shows the Earth Observation Day (EO Day) website in a Windows Internet Explorer browser window. The browser's address bar displays the URL <http://www.earthobservationday.com/>. The website's header features a large banner with the text "Earth Observation Day" and the "AMERICA VIEW" logo. Below the banner is a navigation menu with links for "Home", "About AmericaView", "About EO Day", "EO Day Resources", "Register Your EO Day Activity", and "About This Site".

The main content area includes a "Home" section with the following text:

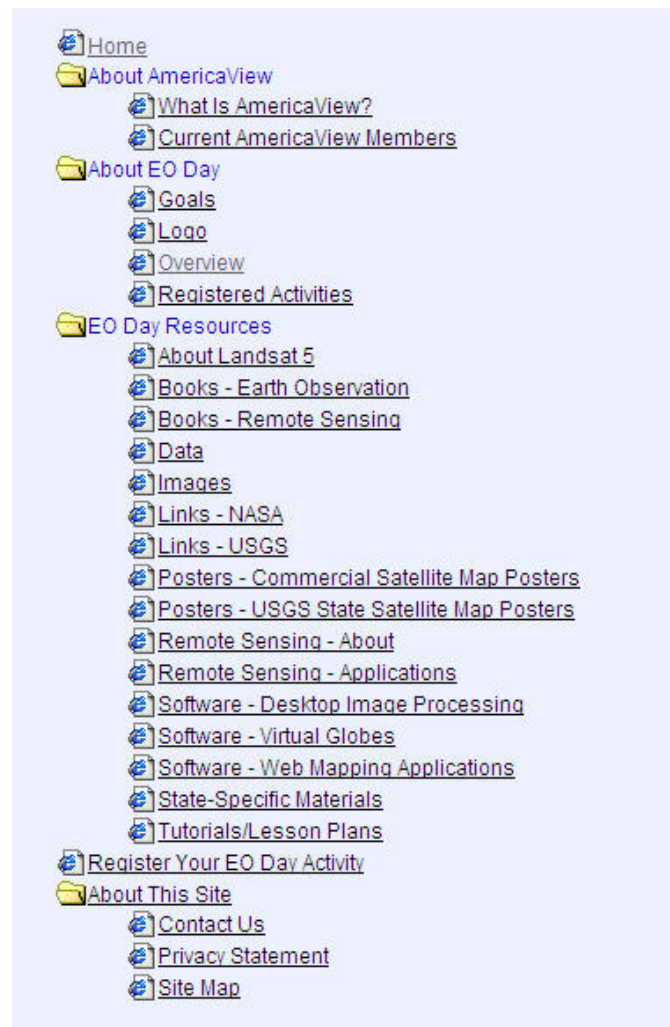
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Below the text is an image of the Landsat 5 satellite in orbit. To the right of the main text is a "Recommended Reading" section featuring the book "Introduction to Remote Sensing (4e)" by J. B. Campbell, published by The Guilford Press in 2008. A "Buy from amazon.com" button is provided for the book.

The browser's taskbar at the bottom shows the Windows Start button, several open applications including "Earth Observation Da...", "CaliforniaView Contac...", "Towson", and "Microsoft PowerPoint ...", and system tray icons for Internet, 97% battery, and the time 9:26 AM.

EO DAY WEB SITE STRUCTURE



About Earth Observation Day section

- Goals
- Logo
- Overview
- Registered Activities

Logo



Registered Activities

Earth Observation Day (EO Day) Web Site - Windows Internet Explorer

http://www.earthobservationday.com/pages/register.htm

File Edit View Favorites Tools Help

Google Search

Earth Observation Day (EO Day) Web Site

Earth Observation Day

AMERICA VIEW

Home About AmericaView About EO Day EO Day Resources Register Your EO Day Activity About This Site

Home > Register Your EO Day Activity

Please enter the required and optional information and click the "Submit" button below to register your **EO Day** activity.

Name	<input type="text"/>	Required
School	<input type="text"/>	Optional
Department	<input type="text"/>	Optional
Address	<input type="text"/>	Required
City	<input type="text"/>	Required
State	<input type="text"/>	Required
Zip Code	<input type="text"/>	Required
Phone	<input type="text"/>	Optional
Fax	<input type="text"/>	Optional
Email	<input type="text"/>	Required
Event Date	<input type="text"/>	Required
Event Location	<input type="text"/>	Required
Event Description	<input type="text"/>	Required


Submit Clear Form

start Earth Observation Da... Towson Microsoft PowerPoint... Internet 98% 9:30 AM

EOD Resources

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

EARTH OBSERVATION DAY POSTERS



USGS
science for a changing world

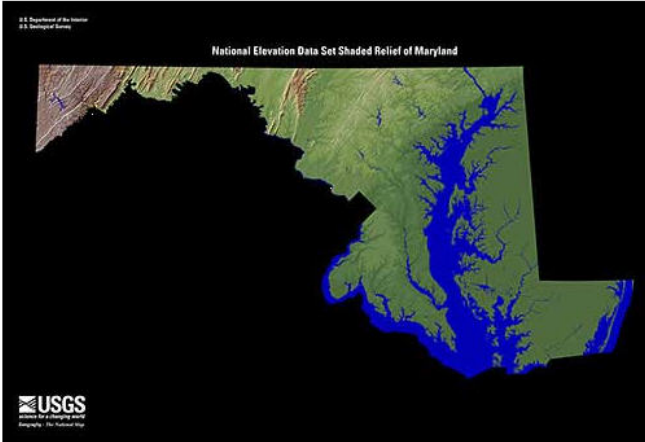
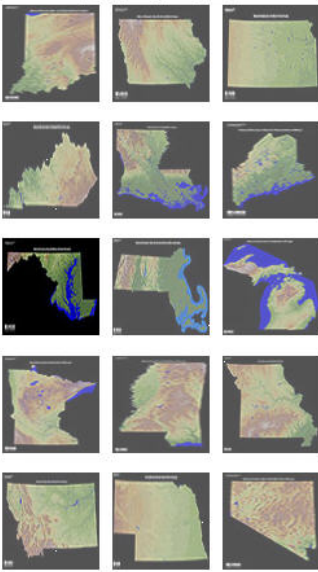
Earth Resources Observation and Science (EROS) Center

Image Gallery

EROS Image Gallery » States - NED Shaded Relief

< Prev 1 **2** 3 4 Next >

Play Previous Next



U.S. Department of the Interior
U.S. Geological Survey

National Elevation Data Set Shaded Relief of Maryland

USGS
science for a changing world
Geography. It's Different.™

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 browsers (“pre-launch” version of Web site was deliberately hidden from Web browser spiders)
- Link site to Google Analytics

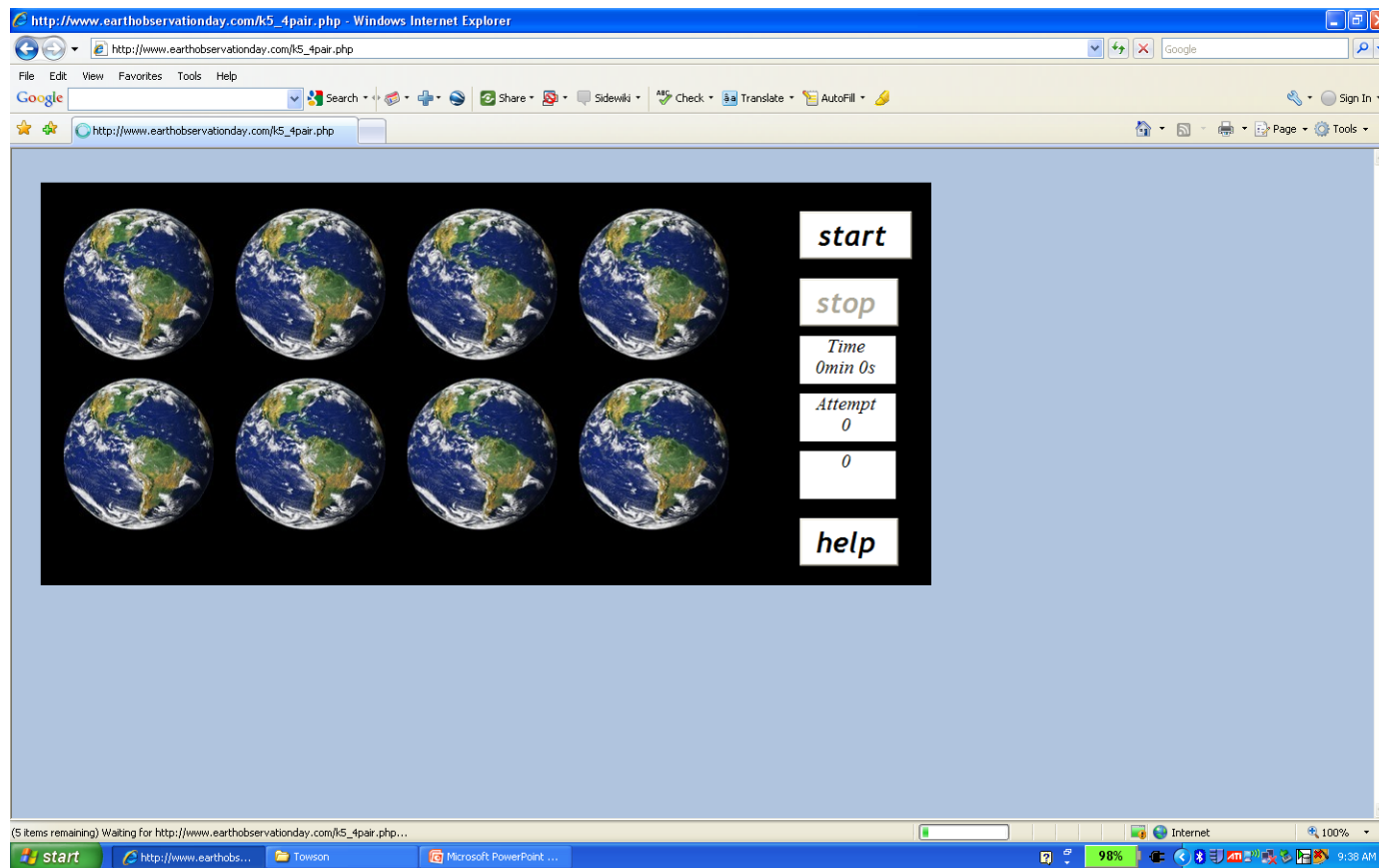
EARTH OBSERVATION DAY 2010 ACTIVITIES

- 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)

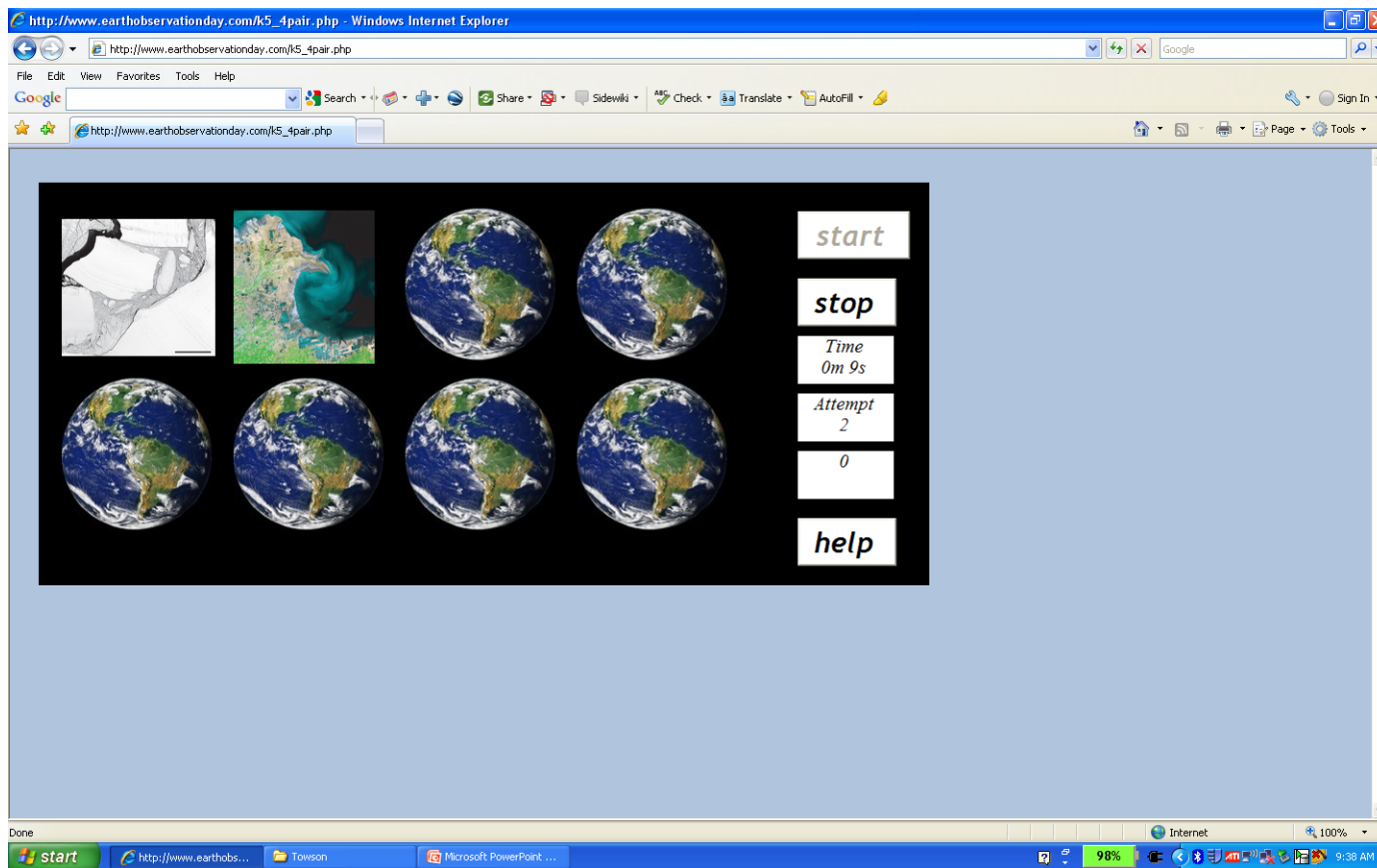
Memory Game

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

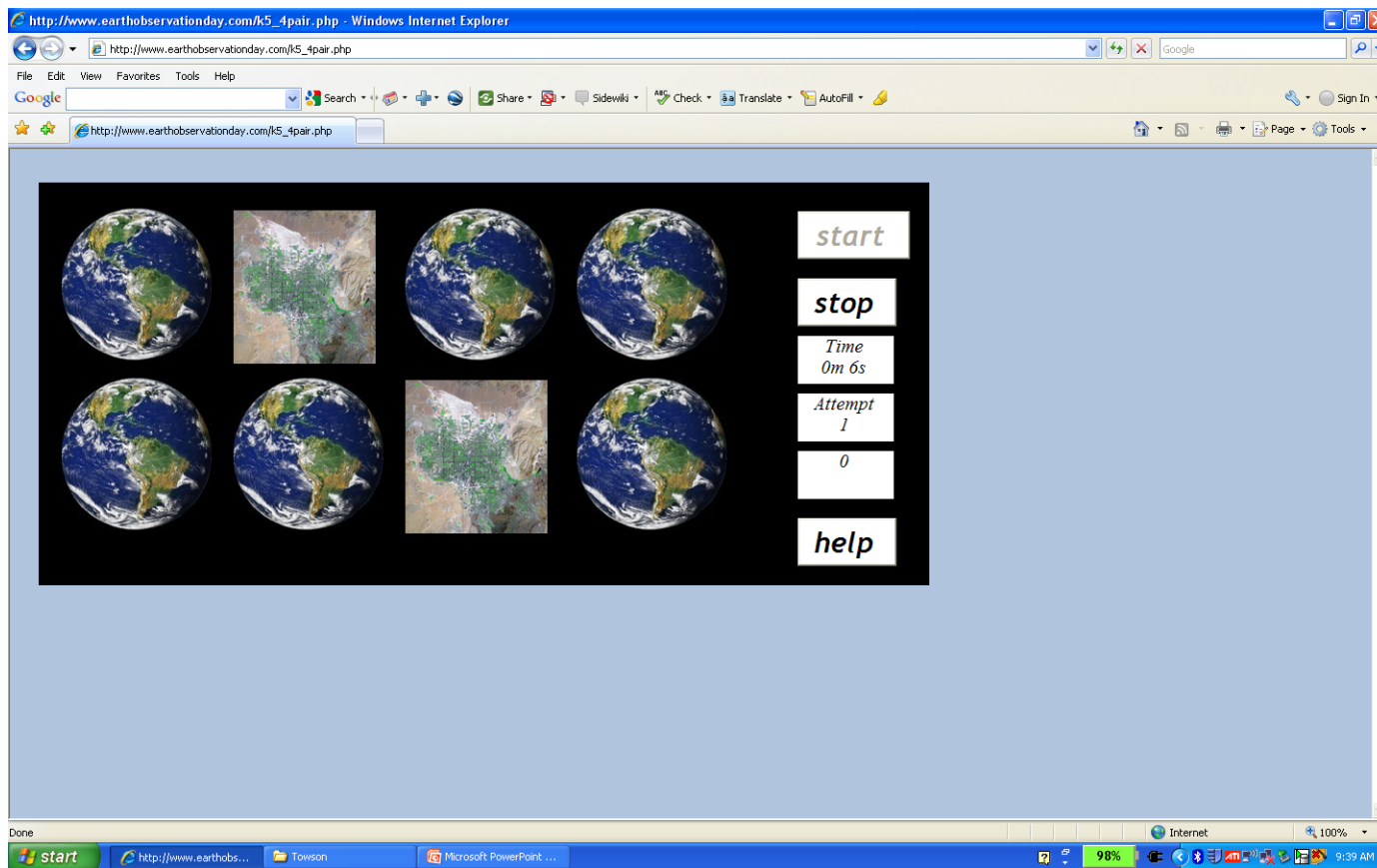
Memory Game



Memory Game



Memory Game



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)

Introduction to Google Earth for Middle and High School

- 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