



IndianaView Executive Summary



Remote Sensing Resources for Indiana

Promoting the Benefits of Remote Sensing Data and Applications

Geospatial Education Outreach Materials & Activities

The goal of a partnership with the Geography Educators' Network of Indiana (GENI) is to develop interactive class lessons directed towards high school students that utilize state-wide Landsat and orthographic images from familiar areas as they teach spatial technology skills. The lessons are being tied to the Indiana Academic Standards. This project was a result of a need identified by several IndianaView consortium members for education and outreach materials that use and highlight the state geospatial data initiatives currently underway.

The topic for the first interactive lesson is land-use/land-cover. A second topic will highlight drought. The technologies to be used for the geospatial inter-actives include ArcExplorer Online and MultiSpec. The data being used include that from Landsat and the aircraft orthographic and LIDAR data currently being collected for the state. The inter-actives will be available from the GENI web site (geni.iupui.edu) and will include images, map and videos along with the written lessons. Reviews of the first interactive will begin by March 2013.

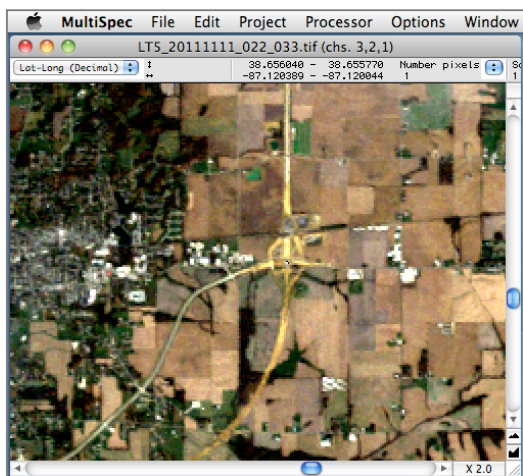
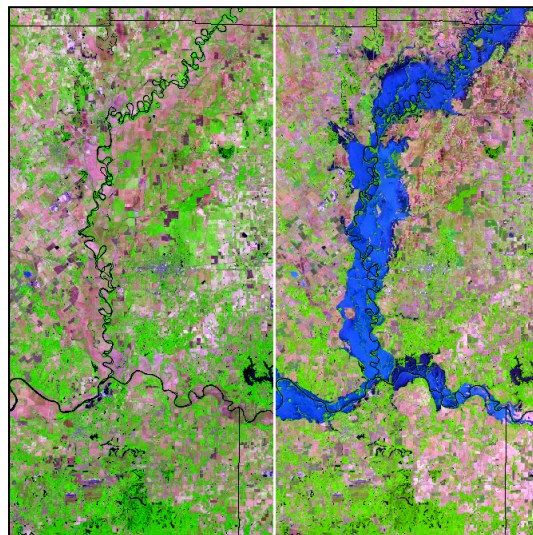


Illustration of the MultiSpec freeware application used for analysis of remotely sensing images by K-12, university and government educational activities. Natural color Landsat 5 image is of the construction of I-69 east of Washington, IN on Nov 11, 2011.



The 6/9/2007 (left) and 6/11/2008 (right) Landsat 5 images illustrate land cover change due to flooding (deep blue) of the White River in southwest Indiana in June 2008. Landsat 5 bands 5, 4, 3 displayed as red, green, blue.

Benefits of application(s) to Indiana

Billions of dollars have been spent by the federal government and private sector on satellite-based earth observing systems since the early 1970's. In response to this investment, the research community has developed practical applications for mapping, monitoring, and managing natural and environmental resources. Potential uses for remote sensing technology have been widely recognized over the years. Partners in the IndianaView consortium work to bridge the gap between the research and application communities in Indiana. An example is the Land Use in Central Indiana (LUCI) models developed by John Ottensmann using land cover maps derived from Landsat data to estimate urban land area. The model is being used by local governments to delineate planning areas, plan storm water management and assess development impact to name a few examples. (<http://luci.urbancenter.iupui.edu/>)

IndianaView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state.



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Other Projects

Mini-grants are used to fund projects conducted by the consortium partners to promote the use of remote sensing image data. The most recent mini-grant funded the creation of materials to promote the IndianaMap projects at statewide & national conferences.

IndianaView GloVis: <http://www.indianaview.org/glovis/index.html>. This portal provides easy access to analysis ready images of Indiana including Landsat TM & MSS, ASTER and other image data such as MODIS LAI products and NASS crop data layers. Links are provided to a portal operated by a partner consortium member, Indiana University, which provides the aircraft acquired orthographic image data and to IndianaMap that provides many geospatial layers of information operated by consortium members, IGIC & the Indiana Geological Survey. A link is also provided to a subscription service called PRESTIGE for near-real time MODIS and AVHRR data from Purdue's Terrestrial Observatory.

MultiSpec (<https://engineering.purdue.edu/~biehl/MultiSpec/>) is a free remote sensing application that is used for education and research. There were six updates during 2012. The next release in early 2013 will provide the capability for users to more easily combine the separate Landsat band files provided by USGS into a single image GeoTIFF file for analysis.



IndianaView participated in a geospatial outreach event led by the Indiana Geographic Information Council (IGIC) at the 2012 Indiana State Fair. The event was part of the Boy Scouts of America exhibit and highlighted the current geo-projects including the statewide orthophotography program, IndianaMap and IndianaView.

IndianaView Partners



INDIANA UNIVERSITY



Researchers and educators at partner institutions Indiana State University, Indiana University, Martin University, University of Notre Dame, the Indiana Geographic Information Council and CUSIS have participated in the IndianaView mini-grant program with projects involving K-12 education, general public outreach, research studies and educational lab development. Fact sheets are available at: <http://www.indianaview.org/apps.cfm>

Indiana University provides an easy access portal to the available aircraft-acquired orthographic data for Indiana (<http://gis.iu.edu/>) to augment the spacecraft-acquired data available on the IndianaView portal.

Partners have used the Landsat data available from the IndianaView GloVis portal and have shared image data from their own research libraries to be added to the portal.



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