

GIS Data Resources in the Commonwealth

KYTC TransGIS Mini-Conference

April 9th, 2013





- The KyGeoNet has over 600 Published Items.
- The KyGeoNet and its associated services receive several million server requests per month from over 20,000 unique visitors.
- Over 310 layers at all State Government GIS user's fingertips
- Data access is fast and all resources are the most current

So where do all these resources come from?

Where does it come from?

- Registered Publishers document data resources using the FGDC Metadata Standard
- Registered Publishers “publish” these data resources to the Geoportal on the KyGeoNet
- Once a data resource is published, it can be added to KyVector or KyRaster
- The majority of all Publishers are from within State Government
- Some Local and Federal Agencies also contribute



ArcGIS Layerfiles

(SDE & Image Server)

Web Mapping Services

(Image Services & Map Services)

Microstation

(select datasets are available in Microstation)

Geoportal

<http://kygisserver.ky.gov/geoportal>

(intended for external users)

KyGovMaps

<http://kygeonet.ky.gov/govmaps>

(easy to use site for non-GIS users)

The screenshot shows the Kentucky Geography Network website. The header includes the site name and navigation links: Home, Commonwealth Map, Geoportal, KyFromAbove, KyGovMaps, Mobile Apps, and gis.ky.gov. The main content area features several news items:

- KyGeoNet News**
 - KyFromAbove Data Available**: Select datasets from the 2012 KyFromAbove effort are now available for download or access via the KyGeoNet's ArcGIS Server Image Services. All of the 6" imagery for Franklin, Kenton, Campbell, Oldham, Jefferson, and Bullitt Counties is available and the new 5' DEMs are online for over 40% of the Commonwealth. Use the Geoportal to search for the image services that are associated with these resources.
 - Commonwealth Map Updated**: The Commonwealth Map has received several updates over the past few weeks. Forested areas information was added at some of the initial scales, road data was updated, and 2012 KyFromAbove imagery was added for Boone, Fayette, and Jessamine Counties. Symbology and labeling was also adjusted a bit and the underlying service was given a bit more horsepower. Another update is planned for mid-2013 that will include new imagery for the entire 2012 KyFromAbove acquisition area.
 - Connecting to Kentucky's ArcGIS Server Services**: Use the links below to download guidance on how to connect to the Commonwealth's ArcGIS Server Services.
 - [Connecting in ArcMap](#)
 - [Connecting with a Browser](#)
 - 2012 NAIP Imagery Published**: The 2012 1-Meter NAIP Imagery from USDA is now available for download by 20K tile and can be accessed via an Image Service. Enjoy!
- New 5 Foot DEM Data Available**: A small inset window shows a 3D topographic map of a region in Kentucky, colored by elevation (green for lower elevations, yellow and orange for higher elevations).

The footer contains: Home | Disclaimer | Contact | Kentucky.gov
Copyright © 2013 Commonwealth of Kentucky
Last Updated April 4, 2013
Social media sharing icons for Facebook, Twitter, and LinkedIn.



Kentucky Aerial Photography & Elevation Data (KYAPED) Program

Program Goals

- To acquire statewide leaf-off color aerial photography for the entire Commonwealth
- To acquire high-resolution elevation data for the entire Commonwealth
- Pool funding resources from Local, Regional, State, and Federal Agencies

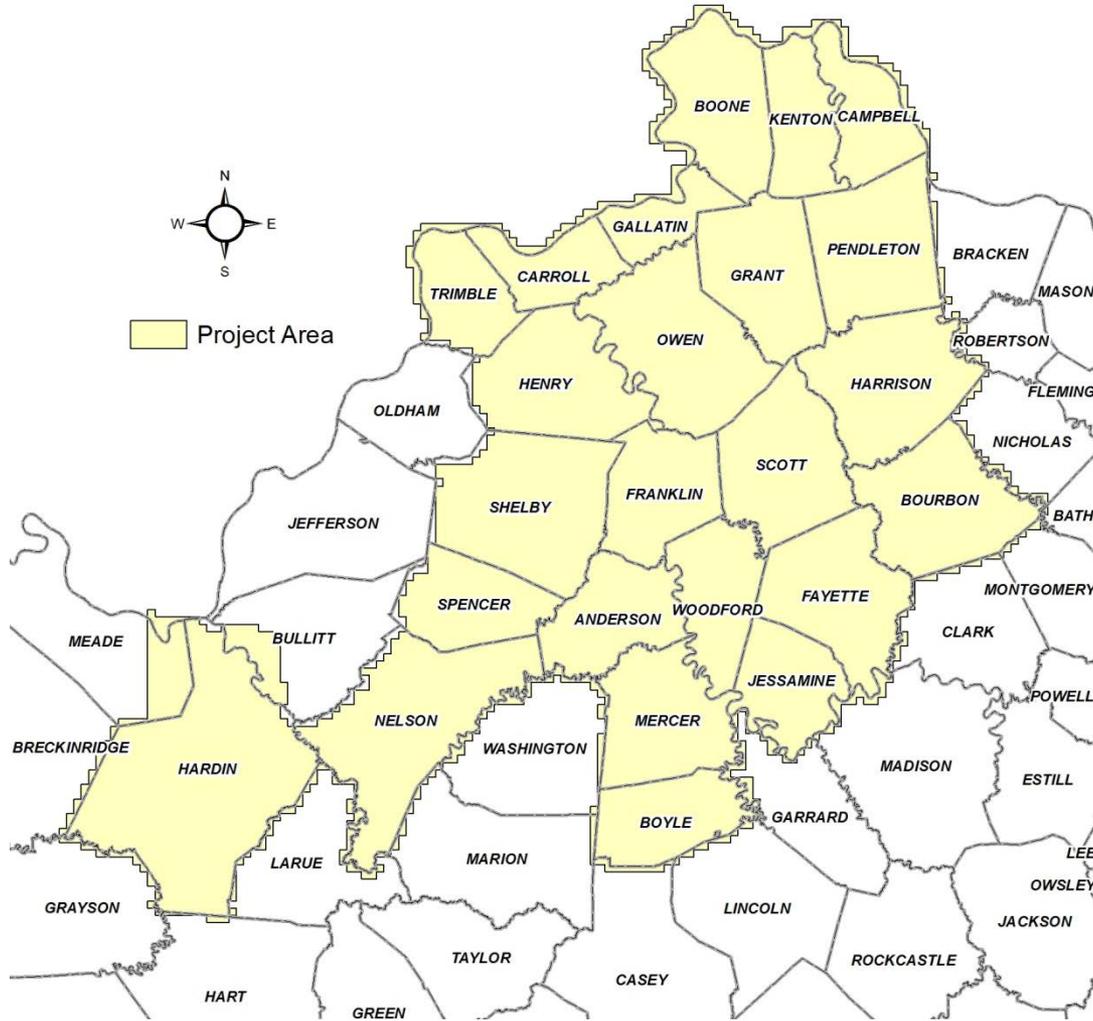
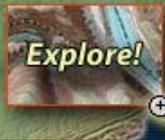
- Photo Science was selected through the standard RFP Process
- GRW Engineers is a subcontractor to Photo Science
- Both are Kentucky-Based firms out of Lexington, Kentucky



- Kentucky Transportation Cabinet (KYTC)
- Kentucky Division of Abandoned Mine Lands (AML)
- Kentucky Division of Geographic Information (DGI)
- Kentucky Division of Water (DOW)
- United States Geological Survey (USGS)
- National Geospatial Intelligence (NGA)
- Boone County Planning Commission (BCPC)
- Frankfort Plant Board (FPB)
- Louisville-Jefferson County Information Consortium (LOJIC)
- Northern Kentucky Area Planning Commission – LINK GIS
- Fort Knox
- Hardin County
- Kentucky State University (KSU)



- Full-Resolution 4-band TIFF Imagery
- Classified Point Cloud in LAS Format
- Volume-based pricing
- Opportunity to purchase planimetric, contours, TINs and other types of derivative data
- Opportunity to QA/QC data for their area
- Use of Commonwealth's Purchasing Mechanism





GIS

Kentucky Division of
Geographic Information
gis.ky.gov



Sample Image (NAIP 2010)



GIS

Kentucky Division of
Geographic Information
gis.ky.gov



Sample Image (KYAPED 2012)

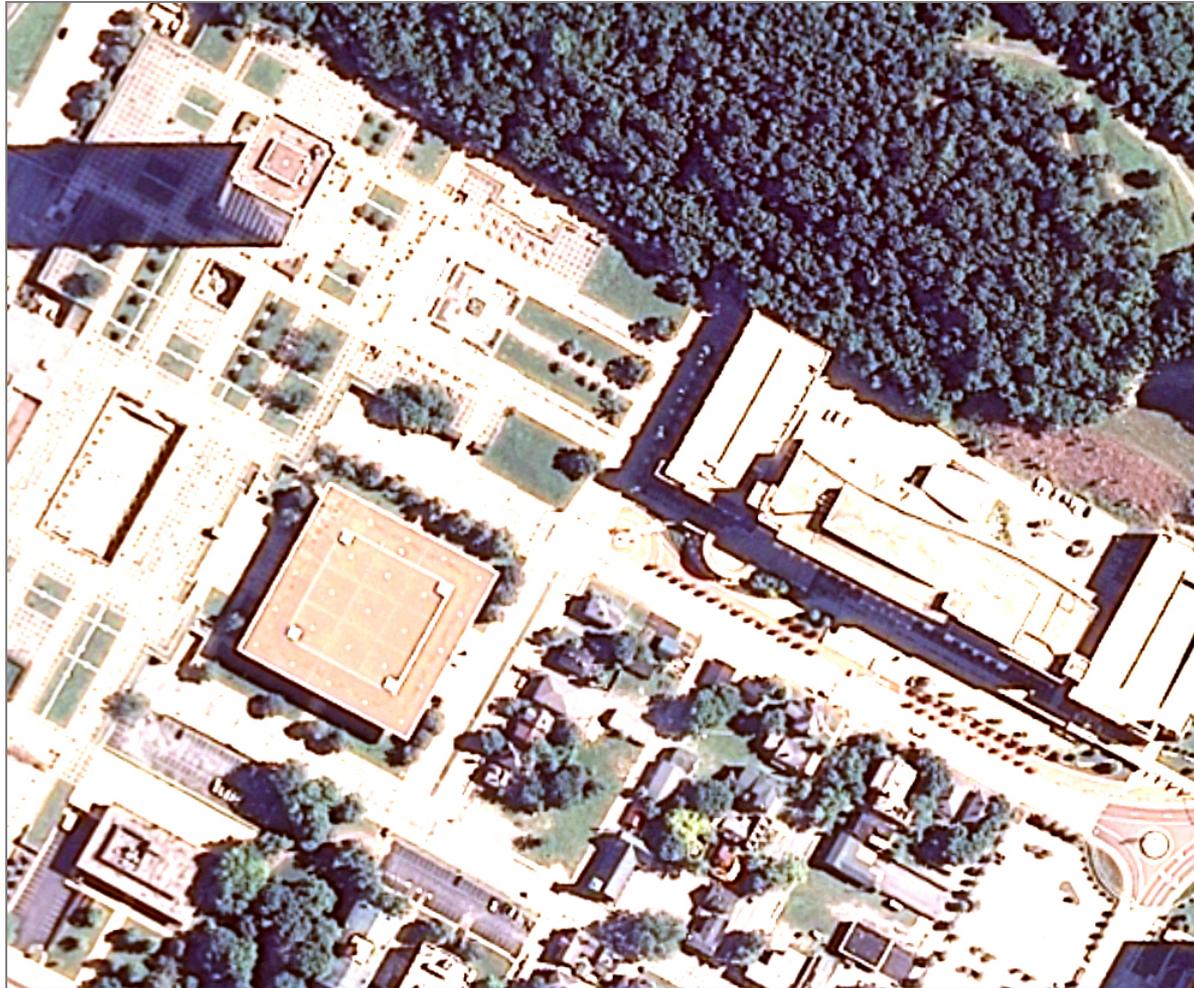


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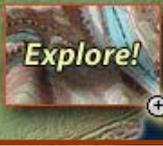


Sample Image (NAIP 2010)



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Sample Image (KYAPED 2012)

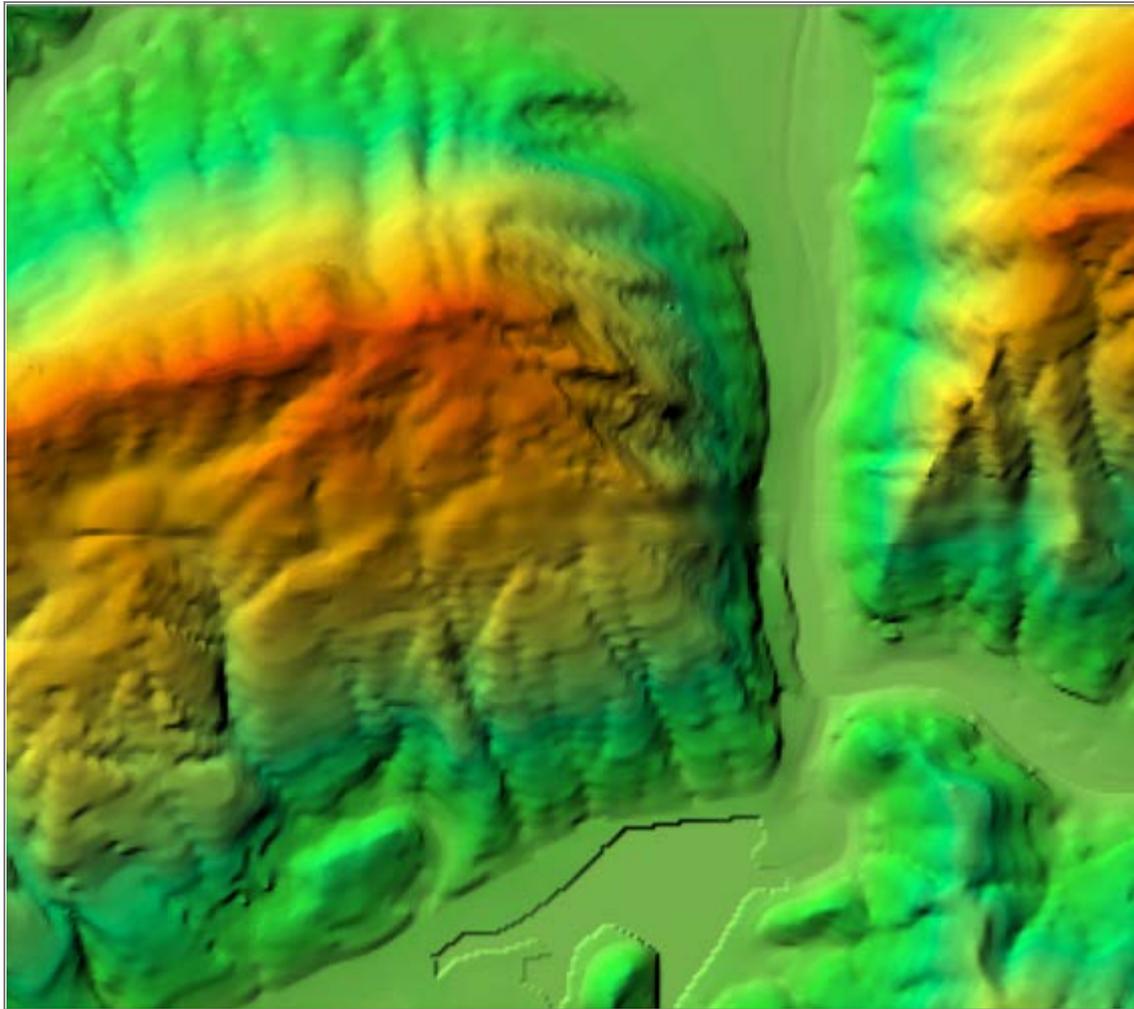


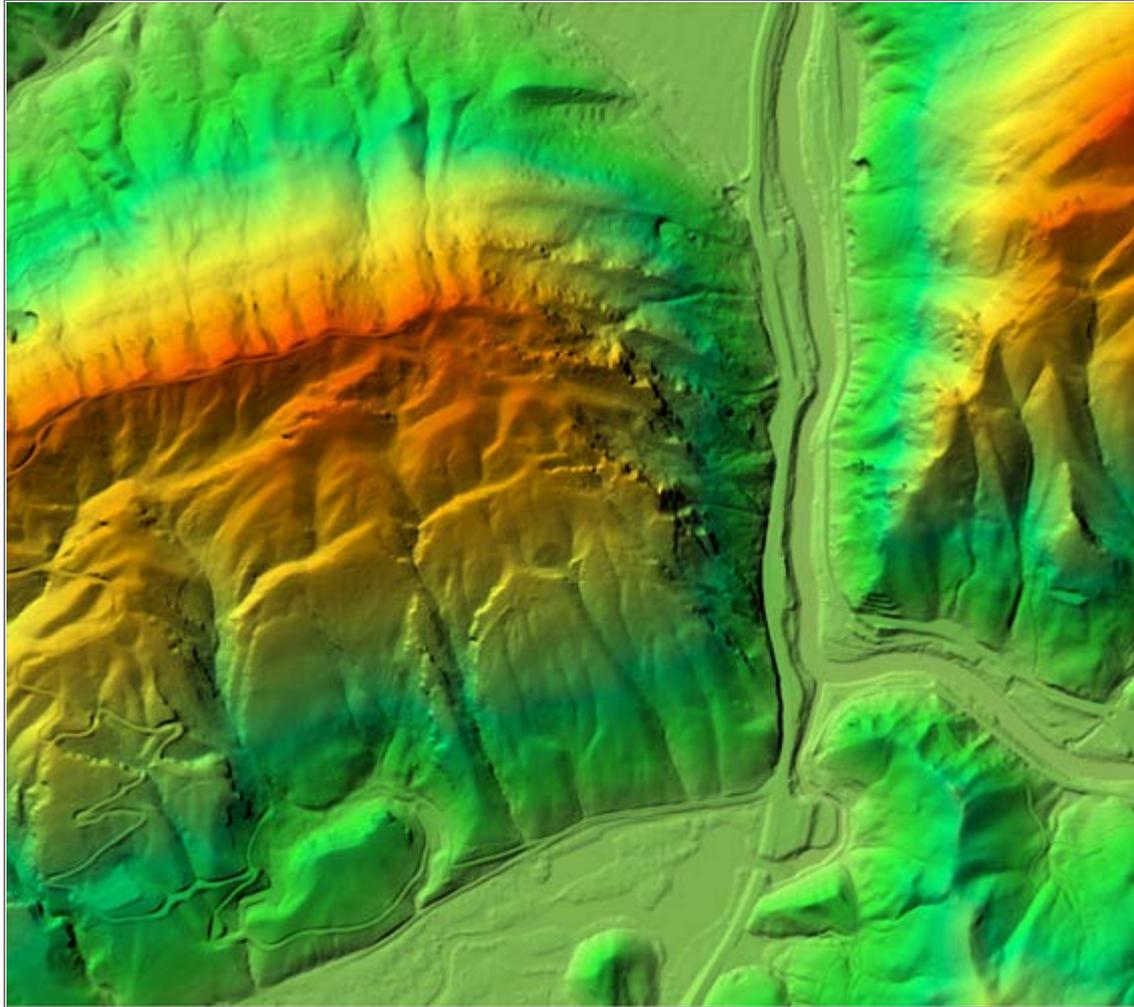
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Elevation Data – 10 Meter





GIS

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Elevation Data – 10 Meter



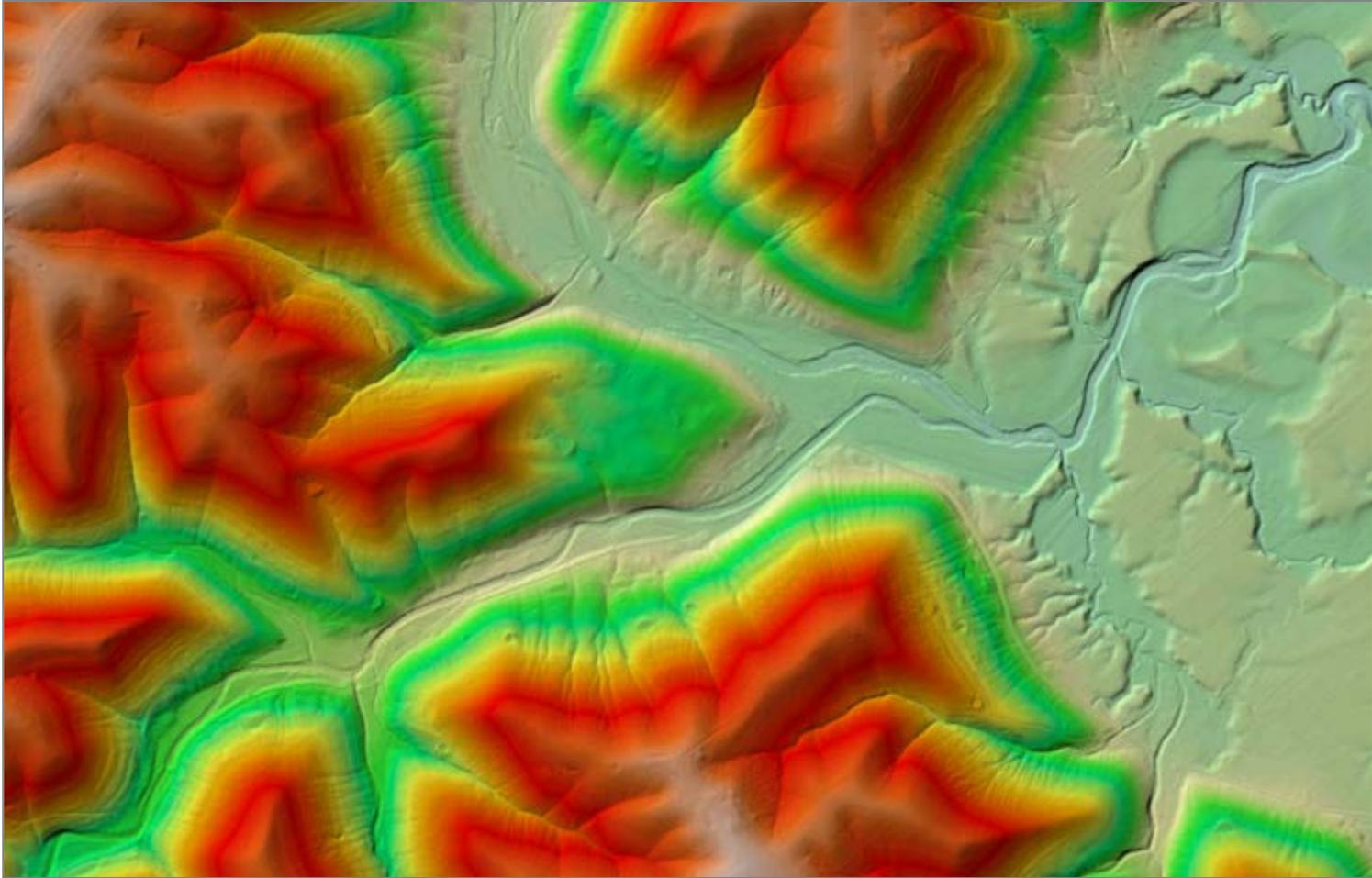


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Elevation Data (KYAPED 2012)

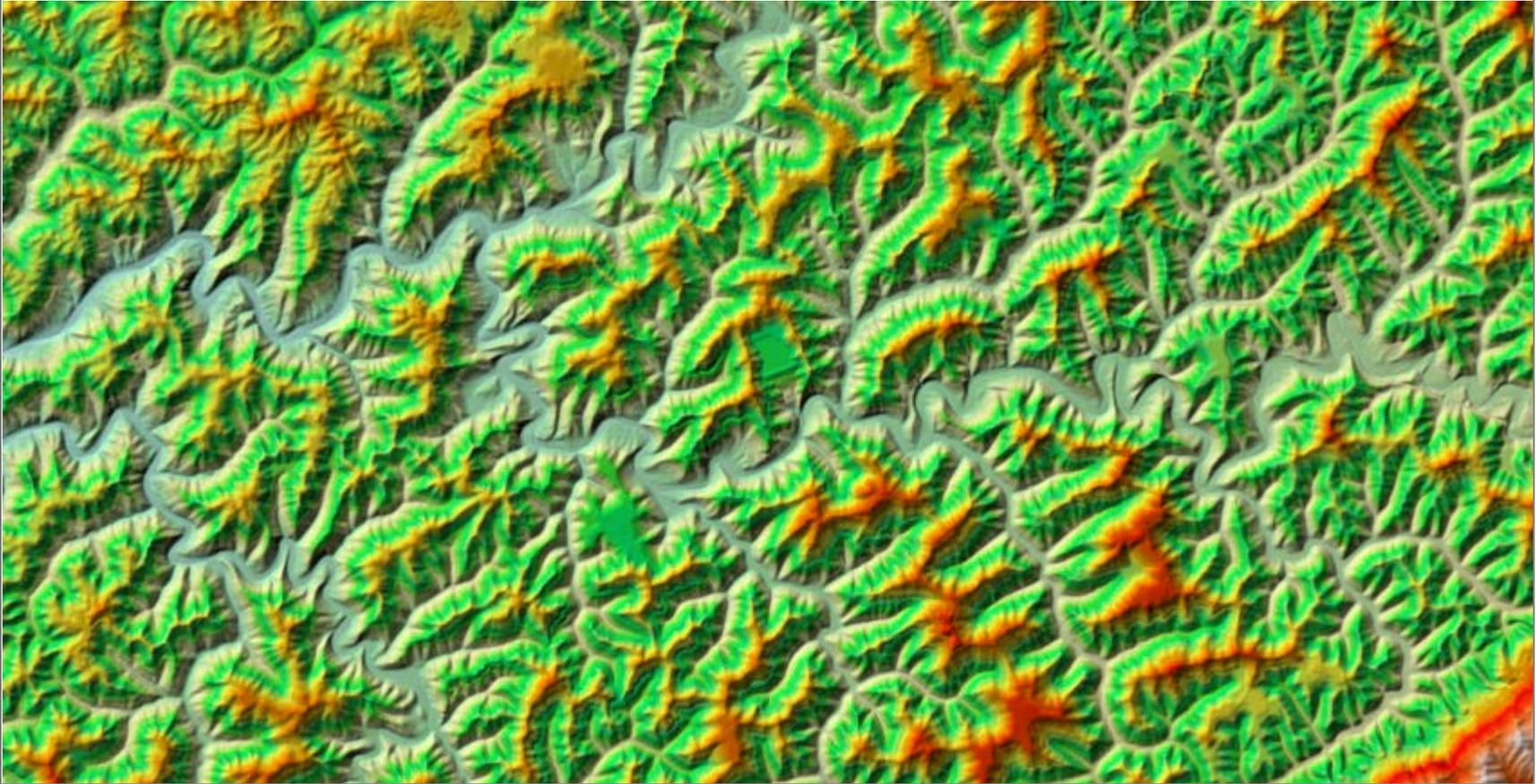


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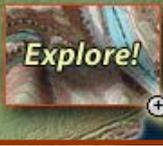


Elevation Data (KYAPED 2012)

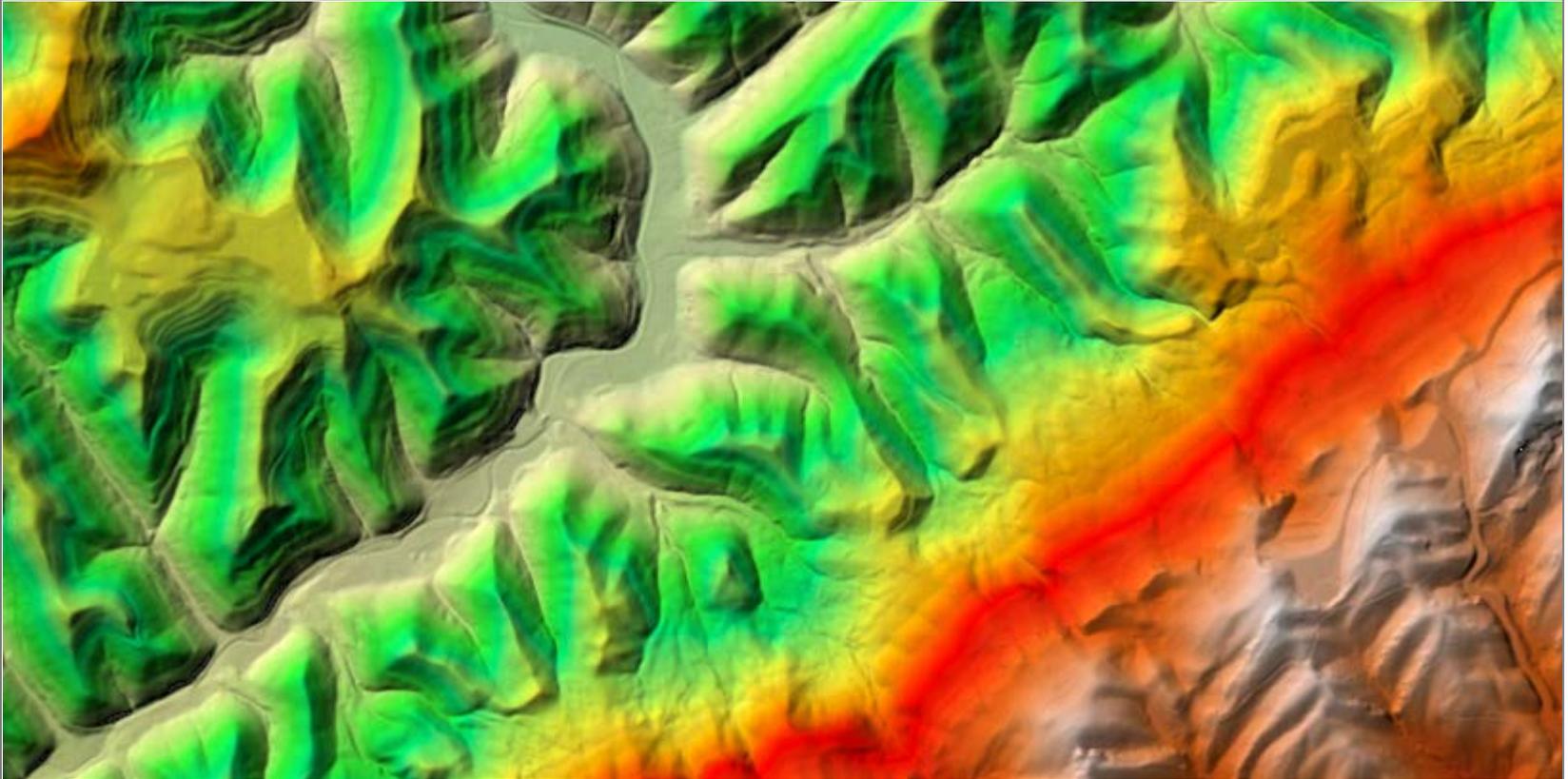


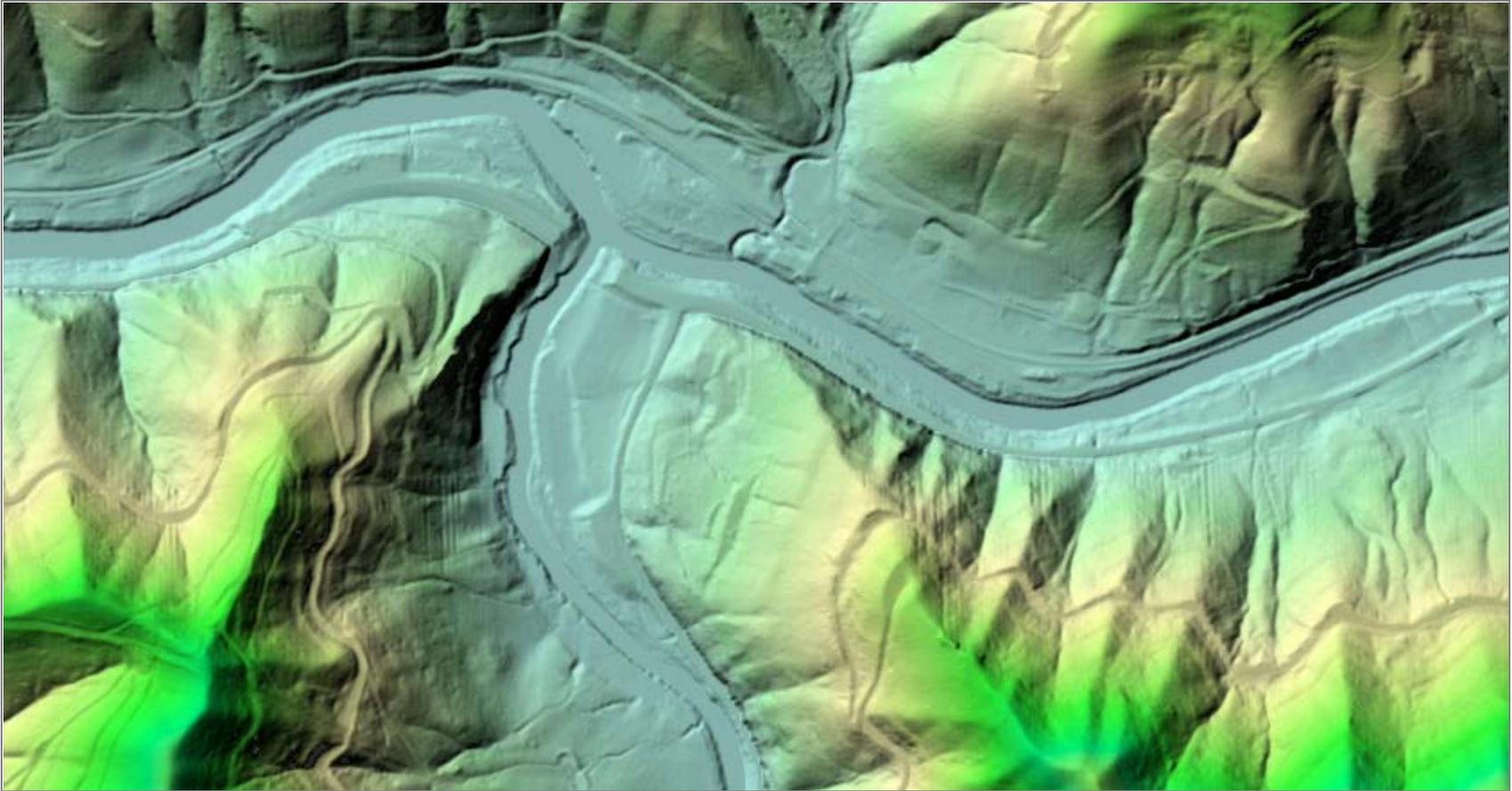
GIS

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Elevation Data (KYAPED 2012)



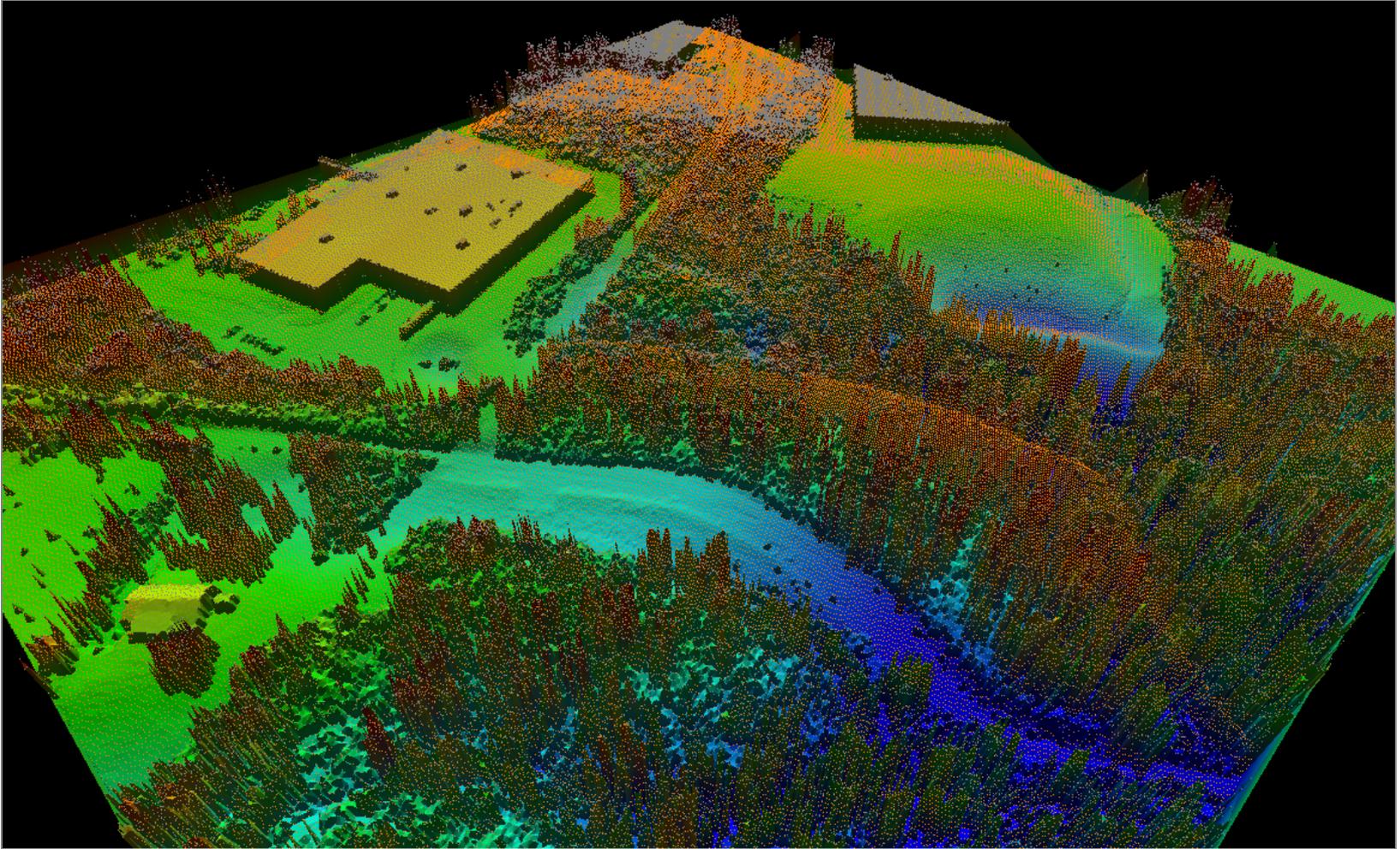


GIS

Kentucky Division of
Geographic Information
gis.ky.gov



Point Cloud (KYAPED 2012)





The screenshot displays the VOICE web application interface. At the top, the browser address bar shows the URL `voice.photoscience.com/Voice/`. The application header includes the text "VOICE™ Virtual On-line Inspection, Checking & Editing" and "POWERED BY PHOTO SCIENCE".

The main interface features a satellite map of a racetrack and surrounding residential/commercial areas. On the left side, there are two panels:

- Search Panel:** Includes a search layer dropdown set to "5K Tiles", a "Show" dropdown set to "All", a "County" dropdown set to "Anderson", and an "Imagename" dropdown set to "N088E270". There are "Search" and "Clear" buttons.
- Review Panel:** Includes an "Update status of tile" section with an "Image Number" input field and a "Pass Tile - Review Complete: Tile Pass" button. Below this is a "Create a QC call" section with the instruction "Select an issue type and draw a rectangle around the area of concern". Three issue types are listed with corresponding colored boxes: "Seamline Anomaly" (purple), "Elevation Anomaly" (orange), and "Image Anomaly" (green).

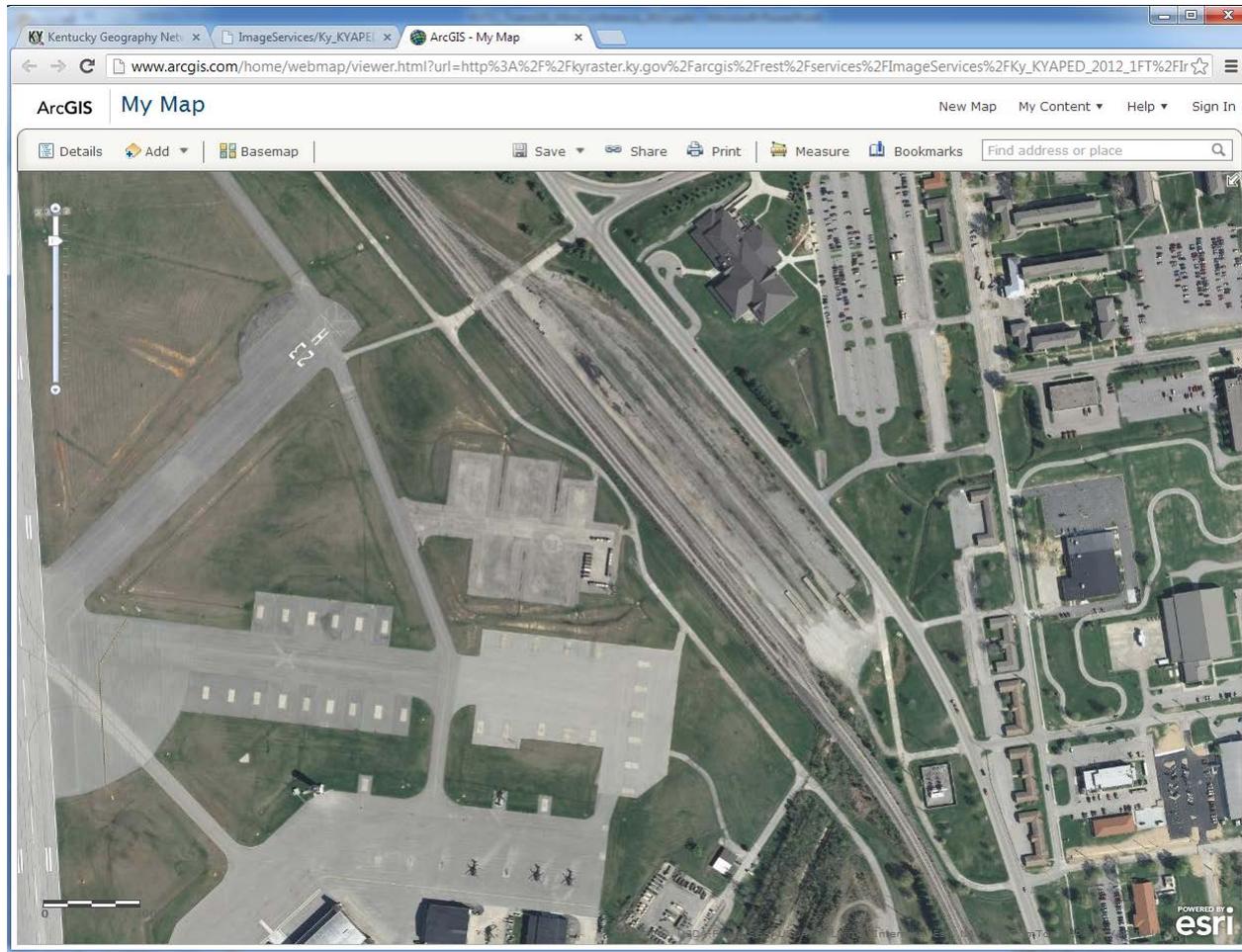
At the bottom of the map, there is a scale bar showing "Scale 1:4,514" and "500 ft", and coordinate information: "Latitude: 38.044270 Longitude: -04.611153". The bottom of the browser window shows the Windows taskbar with the system clock displaying "1:57 PM 9/26/2012".



- All priority areas have been delivered on schedule
- Review has been completed on 11 of the 12 Priority Areas
- 100% of the LiDAR data collected has been delivered
- All Program Partner data has been distributed
- Image Server Services are being created as final data is received
- The remaining data is being staged for distribution processing



- **Franklin County 6" Imagery**
(Download & Image Service)
- **LOJIC (Jefferson, Oldham, & Bullitt) 6" Imagery**
(Download & Image Service)
- **LINK-GIS (Kenton & Campbell) 6" Imagery**
(Download & Image Service)
- **All LiDAR-derived Digital Elevation Models (5' DEMs)**
(Download & Image Service)
- **Select 1' Imagery from Project Area #1**
(Image Service)
- **LAS Files**
(Available only via internal network share)





- Program will focus on extreme Western Kentucky
- There will be **NO Federal Funding** in 2013
- City of Florence will acquire 6 inch imagery
- Paducah/McCracken County is doing a full buy-up
(Elevation & Imagery)

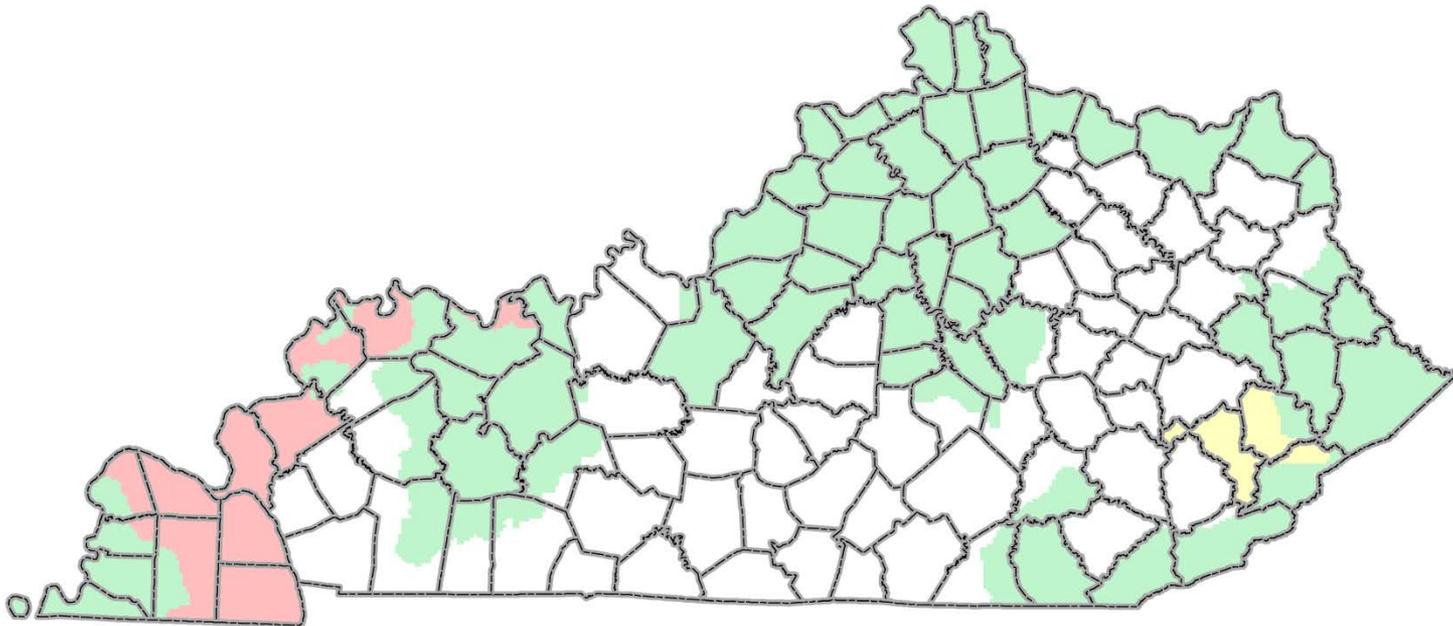
Program Partners for 2013

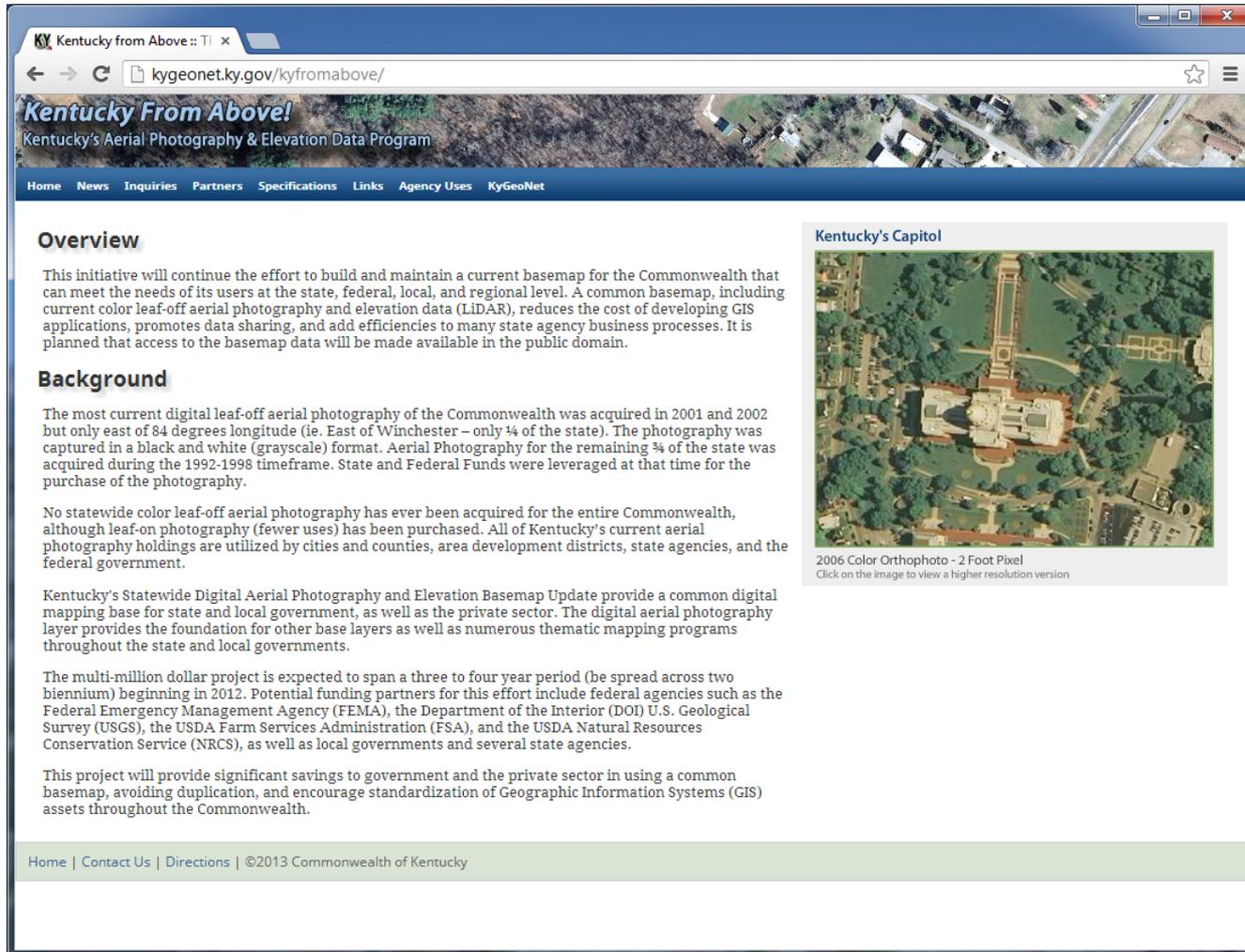
*Kentucky Transportation Cabinet
Division of Geographic Information
Paducah/McCracken County
City of Florence*



Elevation Data Status

-  Existing Elevation Data
-  Winter 2012 Collection
-  2013 Acquisition





The screenshot shows a web browser window with the address bar displaying kygeonet.ky.gov/kyfromabove/. The page title is "Kentucky From Above" and the subtitle is "Kentucky's Aerial Photography & Elevation Data Program". The navigation menu includes: Home, News, Inquiries, Partners, Specifications, Links, Agency Uses, and KyGeoNet.

Overview

This initiative will continue the effort to build and maintain a current basemap for the Commonwealth that can meet the needs of its users at the state, federal, local, and regional level. A common basemap, including current color leaf-off aerial photography and elevation data (LiDAR), reduces the cost of developing GIS applications, promotes data sharing, and add efficiencies to many state agency business processes. It is planned that access to the basemap data will be made available in the public domain.

Background

The most current digital leaf-off aerial photography of the Commonwealth was acquired in 2001 and 2002 but only east of 84 degrees longitude (ie. East of Winchester – only ¼ of the state). The photography was captured in a black and white (grayscale) format. Aerial Photography for the remaining ¾ of the state was acquired during the 1992-1998 timeframe. State and Federal Funds were leveraged at that time for the purchase of the photography.

No statewide color leaf-off aerial photography has ever been acquired for the entire Commonwealth, although leaf-on photography (fewer uses) has been purchased. All of Kentucky's current aerial photography holdings are utilized by cities and counties, area development districts, state agencies, and the federal government.

Kentucky's Statewide Digital Aerial Photography and Elevation Basemap Update provide a common digital mapping base for state and local government, as well as the private sector. The digital aerial photography layer provides the foundation for other base layers as well as numerous thematic mapping programs throughout the state and local governments.

The multi-million dollar project is expected to span a three to four year period (be spread across two biennium) beginning in 2012. Potential funding partners for this effort include federal agencies such as the Federal Emergency Management Agency (FEMA), the Department of the Interior (DOI) U.S. Geological Survey (USGS), the USDA Farm Services Administration (FSA), and the USDA Natural Resources Conservation Service (NRCS), as well as local governments and several state agencies.

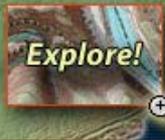
This project will provide significant savings to government and the private sector in using a common basemap, avoiding duplication, and encourage standardization of Geographic Information Systems (GIS) assets throughout the Commonwealth.

Kentucky's Capitol



2006 Color Orthophoto - 2 Foot Pixel
Click on the image to view a higher resolution version

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Questions?

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