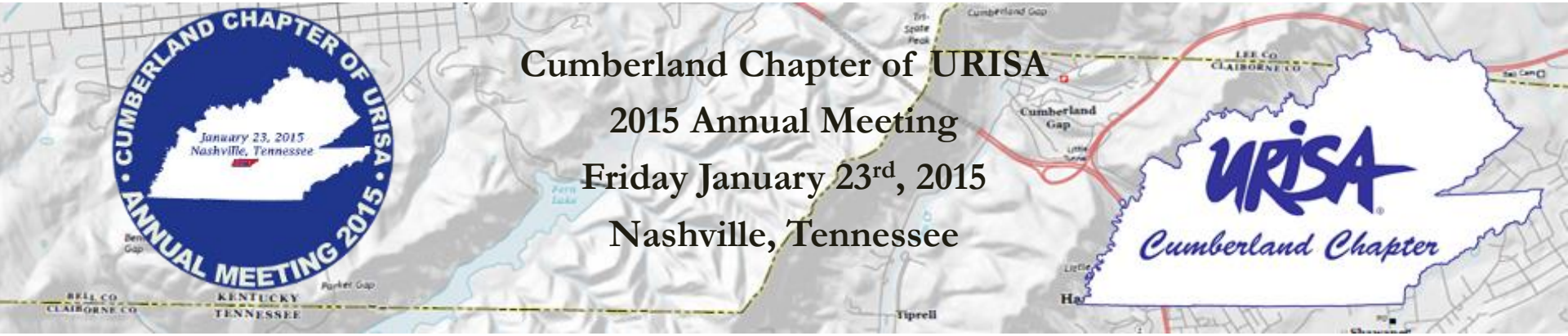
OPEN DATA:

Realizing The Essence and Promise of GIS; With Examples from Kentucky and Others

Demetrio P. Zourarakis, Ph.D., GISP, CMS-GIS/LIS, CMS-RS

GIS/RS Analyst, Kentucky Division of Geographic Information



Cumberland Chapter of URISA

2015 Annual Meeting

Friday January 23rd, 2015

Nashville, Tennessee

… In the beginning

Open Government Data Principles

Government data shall be considered open if it is made public in a way that complies with the principles below:

1. Complete *All public data is made available. Public data is data that is not subject to valid privacy, security or privilege limitations.* 2. Primary *Data is as collected at the source, with the highest possible level of granularity, not in aggregate or modified forms.* 3. Timely *Data is made available as quickly as necessary to preserve the value of the data.* 4. Accessible *Data is available to the widest range of users for the widest range of purposes.* 5. Machine processable *Data is reasonably structured to allow automated processing.* 6. Non-discriminatory *Data is available to anyone, with no requirement of registration.* 7. Non-proprietary *Data is available in a format over which no entity has exclusive control.* 8. License-free *Data is not subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privilege restrictions may be allowed.* Compliance must be *reviewable*.

The Annotated 8 Principles of Open Government Data
December 7-8, 2007 – Sebastopol, CA
http://opengovdata.org/

COMMONWEALTH OFFICE OF TECHNOLOGY
Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT

… In the beginning (II)

The Open Definition

The **Open Definition** sets out principles that define "openness" in relation to **data and content**.

It makes **precise** the meaning of "open" in the terms **"open data"** and **"open content"** and thereby ensures **quality** and encourages **compatibility** between different pools of open material.

It can be summed up in the statement that:

"Open means **anyone** can **freely access, use, modify, and share** for **any purpose** (subject, at most, to requirements that preserve provenance and openness)."

Put most succinctly:

"Open data and content can be **freely used, modified, and shared** by **anyone** for **any purpose**"

http://opendefinition.org/

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

e

The White House
Office of the Press Secretary

E-Mail Tweet Share +

For Immediate Release May 09, 2013

Executive Order -- Making Open and Machine Readable the New Default for Government Information

EXECUTIVE ORDER

- - - - - - -

MAKING OPEN AND MACHINE READABLE THE NEW DEFAULT
FOR GOVERNMENT INFORMATION

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. General Principles. Openness in government strengthens our democracy, promotes the delivery of efficient and effective services to the public, and contributes to economic growth. As one vital benefit of open government, making information resources easy to find, accessible, and usable can fuel entrepreneurship, innovation, and scientific discovery that improves Americans' lives and contributes significantly to job creation.

Decades ago, the U.S. Government made both weather data and the Global Positioning System freely available. Since that time, American entrepreneurs and innovators have utilized these resources to create navigation systems, weather newscasts and warning systems, location-based applications, precision farming tools, and much more, improving Americans' lives in countless ways and leading to economic growth and job creation. In recent years, thousands of Government data resources across fields such as health and medicine, education, energy, public safety, global development, and finance have been posted in machine-readable form for free public use on Data.gov. Entrepreneurs and innovators have continued to develop a vast range of useful new products and businesses using these public information resources, creating good jobs in the process.

To promote continued job growth, Government efficiency, and the social good that can be gained from opening Government data to the public, the default state of new and modernized Government information resources shall be open and machine readable. Government information shall be managed as an asset throughout its life cycle to promote interoperability and openness, and, wherever possible and legally permissible, to ensure that data are released to the public in ways that make the data easy to find, accessible, and usable. In making this the new default state, executive departments and agencies (agencies) shall ensure that they safeguard individual privacy, confidentiality, and national security.

LATEST BLOG POSTS

January 22, 2015 11:19 AM EST
Upskill America: The President's Plan to Help Hardworking Americans Earn Higher-Paying Jobs
The President is calling on businesses across the country to "Upskill America" -- to help workers of all ages earn a shot at better, high-paying jobs, even if they don't have higher education.

January 22, 2015 11:02 AM EST
Happening Today: YouTube Creators Interview President Obama Live from the White House
Watch President Obama's interview with YouTube creators live on Thursday, January 22, at 5:00 p.m. Eastern on WhiteHouse.gov/Live and YouTube.com/WhiteHouse.

January 21, 2015 5:36 PM EST
Precision Medicine: Improving Health and Treating Disease
Last night, at his 2015 State of the Union Address, President Obama announced that he is launching a new precision medicine initiative that will help deliver the right treatment to the right patient at the

COMMONWEALTH OFFICE OF TECHNOLOGY
DGI Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT

http://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government-

Sec. 3. Implementation of the Open Data Policy. To facilitate effective Government-wide implementation of the Open Data Policy, I direct the following:

(a) Within 30 days of the issuance of the Open Data Policy, the CIO and CTO shall publish an open online repository of tools and best practices to assist agencies in integrating the Open Data Policy into their operations in furtherance of their missions. The CIO and CTO shall regularly update this online repository as needed to ensure it remains a resource to facilitate the adoption of open data practices.

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

http://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government-

Results (1): Data.gov

https://www.data.gov/

137,331 datasets found

Filter by location Clear

Enter location...

Map data CC-BY-SA by OpenStreetMap
Tiles by MapQuest

Topics A-Z 1-9 Clear All

- AAPI (1963)
- Safety (520)
- Climate (461)
- Energy (419)
- Ocean (300)

Show More Topics

Topic Categories

Consumer Complaint Database

Consumer Financial Protection Bureau —These are complaints we've received about financial products and services.

CSV JSON XML

Federal Logistics Information System Web Search (WebFLIS)

Department of Defense —Federal Logistics Information System Web Search (V essential information about supply items including the National Stock Number

Excel

National Stock Number Extract

General Services Administration —National Stock Number extract includes the National Stock Numbers (NSNs), NSN item name and descriptions, and current

Excel

Business Identification Numbers Cross-referencing (BINCS) Syste

Department of Defense —The Business Identification Number Cross-reference all-in-one search engine that identifies foreign and domestic government/comn

HTML

U.S. International Trade in Goods and Services

US Census Bureau, Department of Commerce —Monthly report that provides including imports, exports, and balance of payments for goods and services. Sta

Federal

Dataset Type A-Z 1-9 Clear All

- geospatial (95507)
- non-geospatial (41824)

Tags A-Z 1-9 Clear All

- oceanography (28009)
- boundaries (12118)
- united states (8007)
- coral (7817)
- animal-studies (7431)

Show More Tags

Formats A-Z 1-9 Clear All

- HTML (29633)
- XML (20488)
- ZIP (16177)
- PDF (10926)
- CSV (10190)

Show More Formats

DTV Reception Maps

Federal Communication technology that has tran to offer...

TXT

Food Access Researc

Department of Agricultu access indicators for low

HTML HTML HTML

American Communit

US Census Bureau, Depa information such as age, data.

csv/txt, xls

Climate Data Online

National Oceanic and At or CDO provides access service. Users can find a

HTML

Great Chile Earthqua

National Oceanic and At Mw 9.5 ea instrum

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

http://catalog.data.gov/dataset#

Results (2): ArcGIS Open Data

- Data Driven Detroit (D3)
- Maryland iMAP

https://opendata.arcgis.com/about

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

http://d3.d3.opendata.arcgis.com/

DATA DRIVEN DETROIT OpenData BETA

COMMONWEALTH OFFICE OF TECHNOLOGY

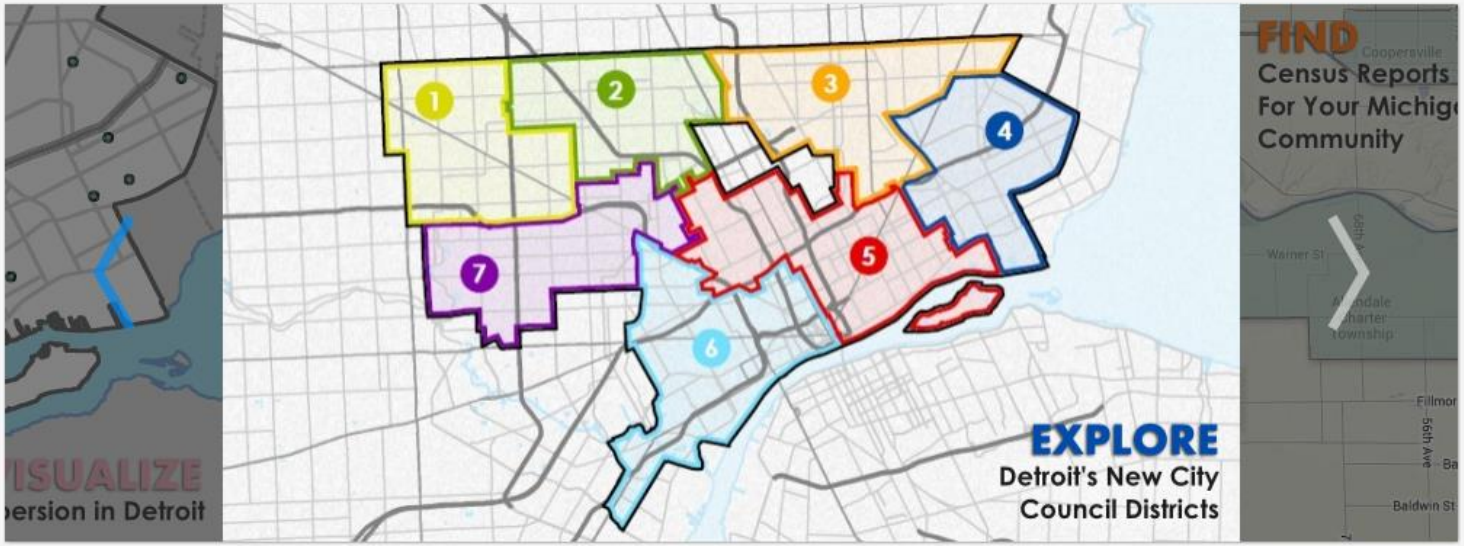
DGI Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

DATA DRIVEN DETROIT

A MICHIGAN NONPROFIT ASSOCIATION AFFILIATE MNA

PROJECTS | DATA & MAPPING | MEDIA CENTER | ABOUT US | ASK D3 | BLOG



OUR SERVICES

Data Driven Detroit assists our community partners by specializing in the following areas:

- Data Collection
- Mapping &Visualization
- Data Analysis
- Information Accessibility
- Data-Driven Outcomes

RECENT BLOG POSTS

JAN 12

Four Seasons of Data: Celebrating 15 Months of Motor City Mapping

By Diana Flora Since October 2013, Data Driven Detroit (D3) has had the pleasure of collaborating on Motor City Mapping, a massive project that has included hun . . .

DEC 23

Motor City Mapping Mini-Grants Come to a Successful Close

By Stephanie Edlinger Partners/Funders Data Driven Detroit Michigan Nonprofit Association LOVELAND Technologies Rock Ventures, LLC Detroit Blight Removal Task F . . .

DEC 23

City of Change: Toward a Neighborhood-Level Analysis

City of Change: Toward a Neighborhood-Level Analysis Over the past several weeks, the City of Change series has looked at how Detroit's residential neighborhood . . .

DEC 18

Detroit Innovation Insights

Photo courtesy of Urban Innovation Exchange, December 2014. Three years ago, D3 and Urban Innovation Exchange (UIX) set out to learn more about urban innovators . . .

DEC 16

City of Change: Dynamics and Impact Potential in Detroit's Neighborhoods

City of Change is a Data Driven Detroit (D3) blog series analyzing changes in Detroit's residential neighborhoods from 2009 through 2014. This series is a colla . . .

DEC 9

City of Change: Detroit's Continuing Mortgage Crisis

City of Change is a Data Driven Detroit (D3) blog series analyzing changes in Detroit's residential neighborhoods from 2009 through 2014. This series is a colla . . .

Copyright © 2013 Data Driven Detroit. All Rights Reserved.

Log In

COMMONWEALTH OFFICE OF TECHNOLOGY

DGI Kentucky Division of Geographic Information

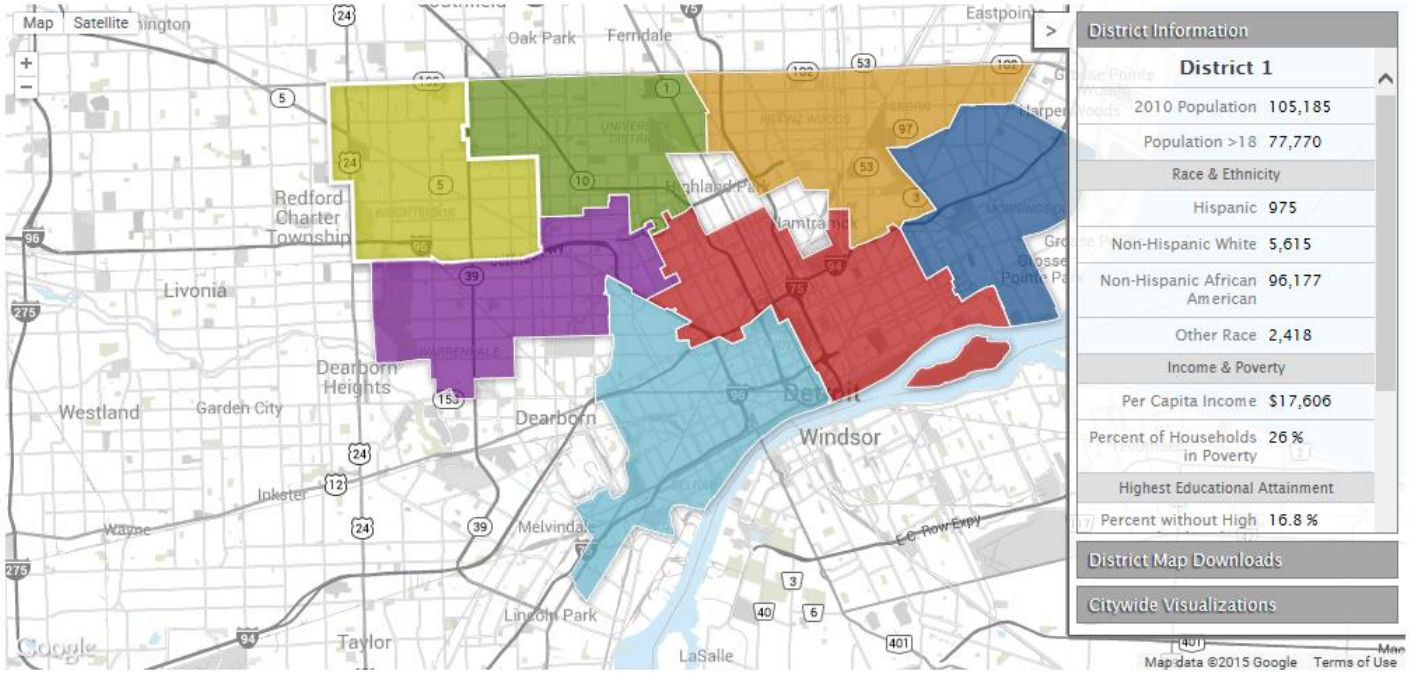
Kentucky UNBRIDLED SPIRIT

DETROIT ELECTIONS

City Council Districts

This year's upcoming municipal election will be the first time in nearly 100 years that Detroiters will elect the city council from defined districts. Historically, Detroit's nine City Council members have been elected at-large with each of them representing the city as a whole rather than a particular district. However, with the passing of Detroit's new City Charter, which took effect on January 1, 2012, only two members are elected at-large, and seven members are elected by district.

Use this interactive tool to explore the new districts!

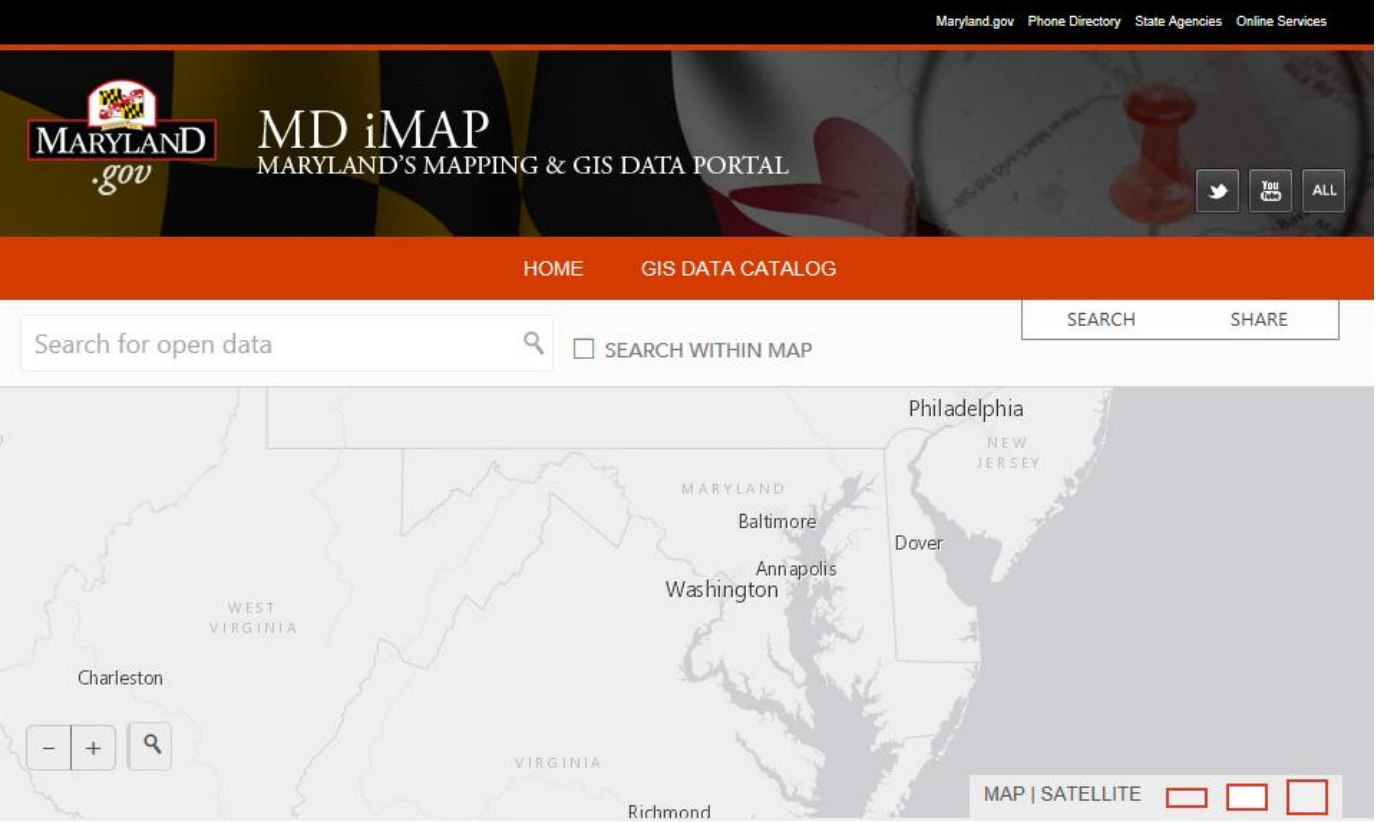


Note on Source: All figures have been calculated by aggregating census block group data to council districts. There are minor differences between council district boundaries and the boundaries of block groups.

See Also

- **Publius**:
  View ballots, find your polling location, and read about candidates.
- **Interactive Candidate Map**:
  In May 2013, the Detroit News released a map listing residents intending to run for Detroit City Council.
- **Council District Series**:
  Visit the Detroit Free Press for Rochelle Riley's series of articles examining Detroit's new City Council districts.

COMMONWEALTH OFFICE OF TECHNOLOGY
DGI Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT



GIS Data Categories

Agriculture
Biota
Boundaries
Business Economy
Demographics
Elevation
Environment
Geoscientific
Health
Historic
Hydrology
Imagery
Location
Planning Cadastre
Public Safety
Society
Structure
Transportation
Utility
Weather

http://imap.maryland.opendata.arcgis.com/

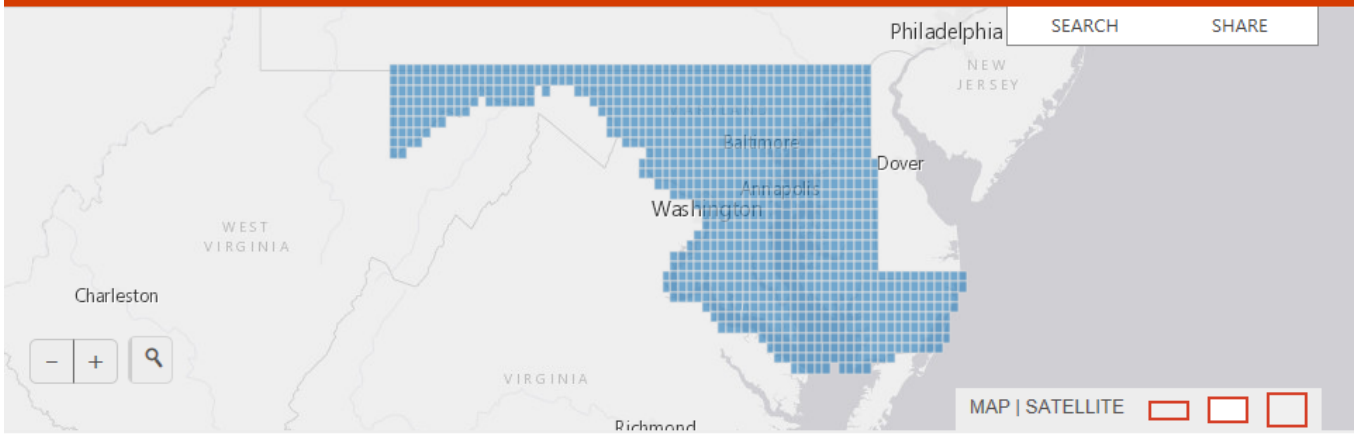
COMMONWEALTH OFFICE OF TECHNOLOGY
DGI Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT

MARYLAND .gov

MD iMAP
MARYLAND'S MAPPING & GIS DATA PORTAL

ALL

HOME GIS DATA CATALOG



NAIP Imagery Grid 2007

SUBSCRIBE DOWNLOAD DATASET

Details Table Charts

DESCRIPTION

This data layer contains the index grid for the National Agriculture Imagery Program (NAIP) 2007 imagery. The NAIP program is administered by the U.S. Department of Agriculture Farm Service Agency and has been established to support two main FSA strategic goals centered on agricultural production. Owner: U.S.

DATASET ATTRIBUTES

NAIP 2007 Coverage Text	TRUE (882), FALSE (85) ...(1 more)
Photo Date Date or Time	06/08/2007 to 09/23/2007
Quarter Quad Abbreviation Text	Wango322 (1), Accid422 (1), Accid122 (1), Grant422 (1), Grant122 (1) ...(934 more)

ABOUT

Maryland GIS Data Catalog: Imagery

By mdimapdatacatalog on December 11, 2014

Updated: 15 days ago

Source http://imagery.geodata.md.gov/ima...
Metadata Maryland Historic NAIP Imagery...
Licensing This service, or any portion there...

TAGS

imagery | NAIP | agriculture | vector | WFS | MD | MD iMap | National Agriculture Imagery Program

COMMONWEALTH OFFICE OF TECHNOLOGY

DGI Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

Abbreviation Text	Grant422 (1), Grant122 (1) ...(934 more)
Quarter Quad Name Text	FRIENDSVILLE NW (1), FRIENDSVILLE NE (1), ACCIDENT NW (1), ACCIDENT NE (1) ...(968 more)
GIS Shape Geometry	
GIS Shape Area (m) Number	min: 21.04 max: 63,247,005.49 avg: 62,004,803.41 count: 972
GIS Object ID Unique id	min: 1 max: 972 avg: 486.5 count: 972
GIS Shape Length (m) Number	min: 22.54 max: 32,078.46 avg: 31,682.69 count: 972

RELATED DATASETS

NAIP Imagery Grid 2011

NAIP Imagery Grid 2005

NAIP Imagery Grid 2009

MD Agricultural Land Preservation Foundation Easements

Kentucky Geography Network - Windows Internet Explorer

http://kygeonet.ky.gov/

Kentucky from Above :: The Ke... | Kentucky Geography Network | Folder: ElevationServices

File Edit View Favorites Tools Help

Google Search Share More Sign In

Page Safety Tools

Kentucky.gov

Kentucky Geography Network

Explore the Commonwealth!

Home | Commonwealth Map | KyGeoportal | KyFromAbove | KyGovMaps | Mobile Apps | gis.ky.gov

KyGeoNet News

Commonwealth Map Base Updated

The newly updated Commonwealth Map base now includes all KyFromAbove Imagery from the 2012 acquisition period. Improved symbology and labeling enhances the base and the imagery layers are now visible 2 levels higher than before. Like the new cached street base, this service was also designed to work well in conjunction with Esri's base maps.

The Commonwealth Map

TCM Simple Map Viewer

DGI Releases New Cached Street Base for the Commonwealth

Kentucky's GIS users now have another base map option that focuses primarily on streets, airports, rail, and hydrography. The service was designed to work well with Esri's base maps and includes all the layers in the Commonwealth Map Base with the exception of imagery layers. The new base map can be accessed within the Commonwealth Map by selecting the "KyStreets" button in the base map switcher at the top of the viewer.

The Commonwealth Map

KyStreet Base Simple Map Viewer

2012 KyFromAbove Imagery Available for Download

One Foot resolution orthoimagery collected in 2012 by the KyFromAbove Program is now available for download from the KyGeoNet. Use the link below to access the metadata and FTP link for this newly available data.

Geoportal Link

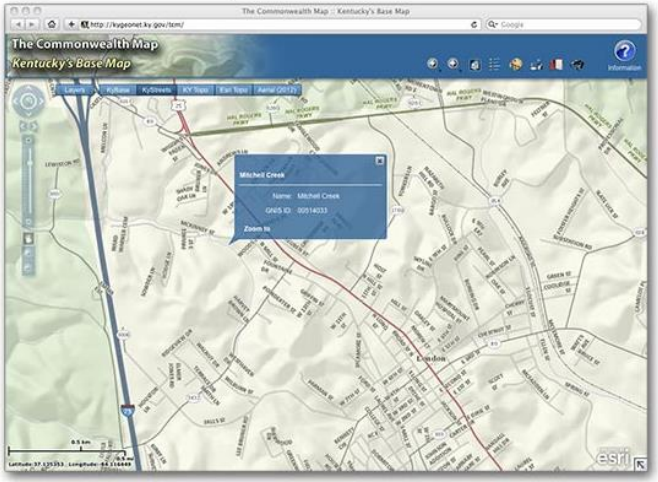
Download KyFromAbove Imagery using the Commonwealth Map

You can now download the new KyFromAbove 6 Inch Aerial Photography directly from the Commonwealth Map. Simply turn on the "Data Tiles Grid (6 Inch Aerials -2012)" in the Layers listing and zoom into one of the available areas. Click in a 5K tile and you'll be presented with a popup that includes the tilename, direct FTP link to the imagery for that tile, and the year it was acquired.

The Commonwealth Map

Welcome to the Kentucky Geography Network. The KyGeoNet is the Geospatial Data Clearinghouse for the Commonwealth of Kentucky. A variety of datasets can be located and downloaded, static map products can be viewed, and many web mapping applications and services are easily accessible. Use the powerful search capabilities of the Kentucky Geoportal to locate maps and geographic data content for a particular part of the state or search based on keyword or content type. If you're not looking for data but want to explore some web maps please browse the currently highlighted content using the KyGovMaps page or check out our guidance documents on how to connect directly to our ArcGIS Server services.

New Cached Street Base Map



http://kygeonet.ky.gov/

COMMONWEALTH OFFICE OF TECHNOLOGY

DGI Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

Kentucky Geography Network

Explore the Commonwealth!

Login Register Help About Feedback

HOME SEARCH BROWSE

Search

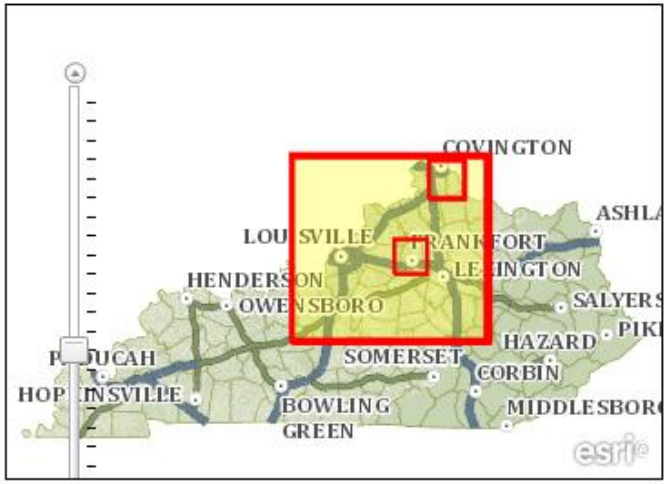
KYAPED Search

Records shown from: KyGeoNet
Click here to select different site or configure search.

Choose Content Type & Data Category
Clear

WHERE

Anywhere Intersecting Fully within



Results 1-10 of 22 record(s) 1 2 3 > Last

Expand results Zoom To Results Zoom To Searched Area

- KYAPED Project Area 1 - Franklin County 6 Inch Imagery
- KYAPED Project Area 1 - Northern Kentucky 6 Inch Imagery
- KYAPED Project Area 1 - One Foot Imagery
- KYAPED Project Area 1 Image Frame Centroids
- KYAPED Project Area 1 Flight Paths
- KYAPED Project Area 1 Image Frames
- KYAPED Project Area 1 - One Foot Imagery Index Grid
- KYAPED Project Area 1 - Franklin County 6 Inch Imagery
- KYAPED Project Area 1 - Northern Kentucky 6 Inch Imagery
- KYAPED Project Area 1 - Northern Kentucky 6 Inch Imagery Index Grid

See results through REST
API: GEORSS ATOM HTML FRAGMENT KML JSON CSV

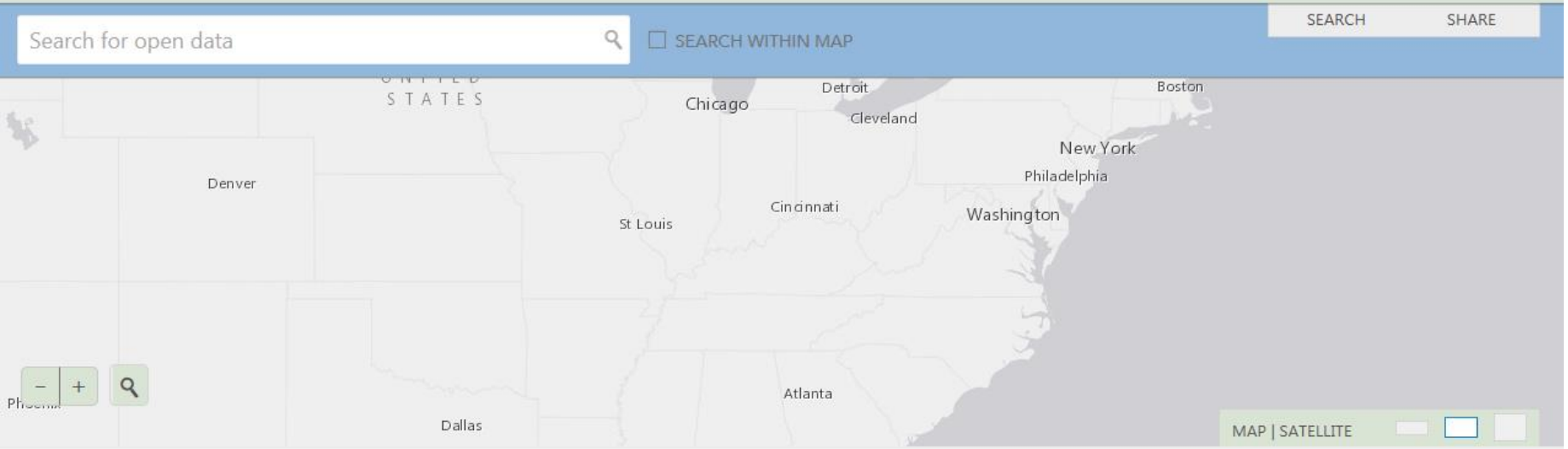
http://kygisserver.ky.gov/geoportal/catalog/main/home.page

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

Kentucky Open GIS Data



Explore the Commonwealth!

Welcome to the Open GIS Data Site for the Commonwealth of Kentucky. Datasets featured on this site will be of interest to a broad range of audiences including those involved in research, community planning, economic development, education, decision-support, engineering, and public policy. More resources will be added to the site over the next few months.

For direct access to the Commonwealth's Geospatial Data Clearinghouse, visit Kentucky's Geoportal or browse a variety of interactive maps and apps on our KyGovMaps page. Kentucky's GIS Community actively works to provide quality geospatial resources to everyone. *Explore the Commonwealth!*

Panoramic View of Wolfe County, Kentucky

http://kygovmaps.kygeonet.opendata.arcgis.com/

COMMONWEALTH OFFICE OF TECHNOLOGY

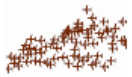
Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

Open GIS Data Resources

Ky Railroads WGS84WM
This dynamic map service includes Existing Rail Infrastructure data in the Commonwealth of Kentucky.
BY KENTUCKY_DGI DECEMBER 11, 2014

Ky City Points WGS84WM
This map service provides access to City Locations in the Commonwealth of Kentucky.
BY KENTUCKY_DGI DECEMBER 11, 2014



Ky Airports WGS84WM
This dynamic map service includes Existing Airports in the Commonwealth of Kentucky.
BY KENTUCKY_DGI DECEMBER 11, 2014

Ky USGS Gages WGS84WM
This map service provides access to hydrologic gauges as maintained by the USGS for the Commonwealth of Kentucky.
BY KENTUCKY_DGI DECEMBER 11, 2014

Ky Schools WGS84WM
This map service provides access to School locations in the Commonwealth of Kentucky. Locations and attributes may be dated.
BY KENTUCKY_DGI DECEMBER 11, 2014

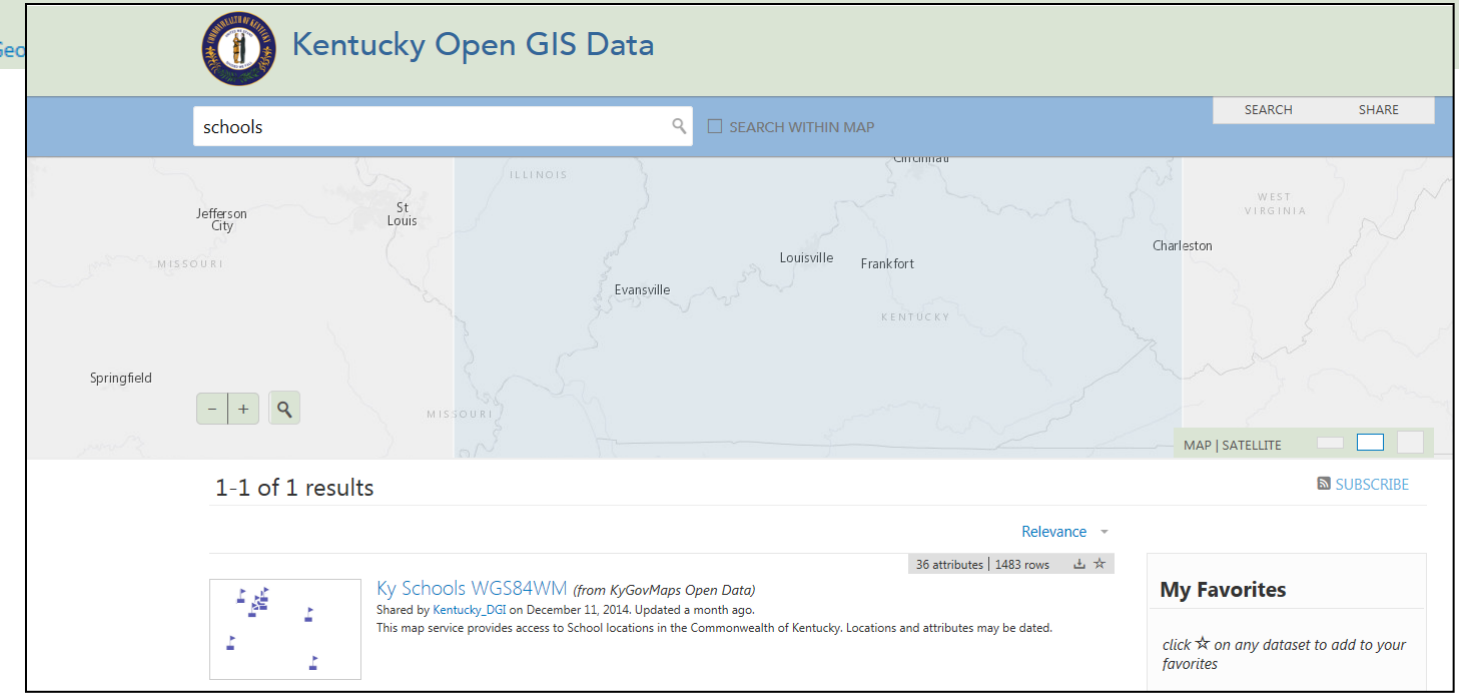
Ky Hospitals WGS84WM
This map service provides access to Hospital locations in the Commonwealth of Kentucky.
BY KENTUCKY_DGI DECEMBER 11, 2014

Ky Federal Trailheads WGS84WM
This map service includes trailhead locations

Ky Tourism Regions WGS84WM
This map service provides access to the Tourism

Ky UKAG Weather Forecasts WGS84WM

Contact Us | KyGeoNet | KyGovMaps | KyGeo

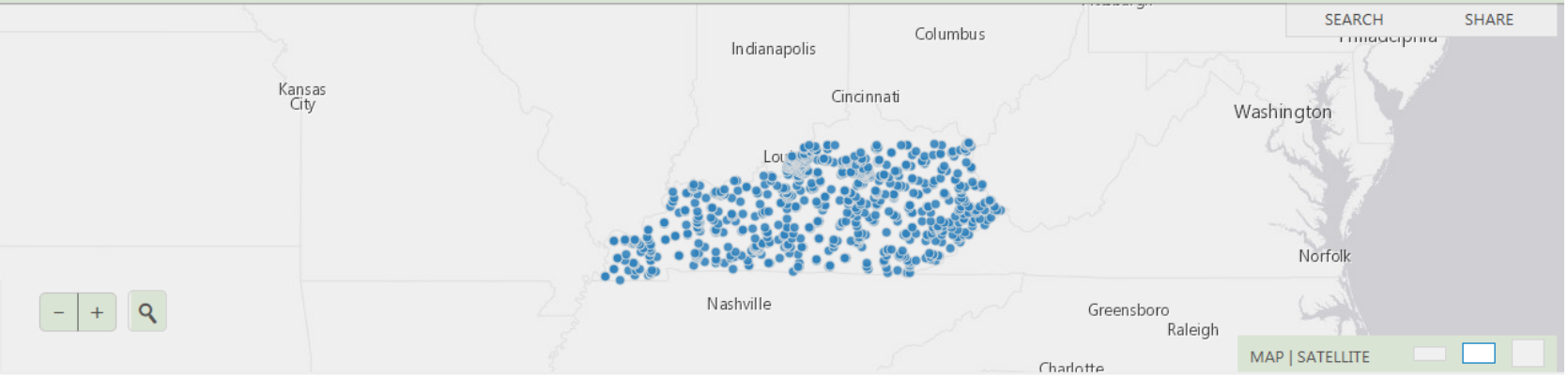


COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

Kentucky Open GIS Data



Ky Schools WGS84WM

SUBSCRIBE | DOWNLOAD DATASET

Details | Table | Charts

DESCRIPTION

This map service provides access to School locations in the Commonwealth of Kentucky. Locations and attributes may be dated.

DATASET ATTRIBUTES

ADDNAME Text	KIPDA (240), BGADD (229), NKADD (142), BRADD (105), LTADD (87) ...(11 more)
ATT_ISSUES Text	
ATT_SOURCE Text	Brent West (152), Mike Burke (62), Charlotte Sue Chowning (35) ...(192 more)
CITY Text	Louisville (148), Lexington (69), Bowling Green (33), Owensboro (27) ...(357 more)
CLASSIFICA Text	Elementary School (738), Four-year High School (227), Middle or Upper Elementary School (221) ...(11 more)
COMMENTS Text	Incorporated city is Powderly. (4), Incorporated city is Hebron Estates. (3) ...(19 more)

ABOUT

KyGovMaps Open Data
By Kentucky_DGI on December 11, 2014
Updated: a month ago

Source http://kygisserver.ky.gov/arcgis/rest/services/WG...
Metadata Ky Schools WGS84WM
Licensing Creative Commons Attribution

TAGS

school | schools | education

http://kygovmaps.kygeonet.opendata.arcgis.com/datasets/8aa43965adaf409e8966c6c16c79971c_0

COMMONWEALTH OFFICE OF TECHNOLOGY
Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT

EXAMPLE 1 - KYAPED – LiDAR DEM

- Aerial
- Nominal Pulse Spacing 1 meter or better
- About 70% of state covered
- Conforms to USGS (and FEMA) standards
- KY From Above partners get point cloud
- 5 foot DEMs are available to the public

COMMONWEALTH OFFICE OF TECHNOLOGY
DGI
Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT

Folder: /

kyraster.ky.gov/arcgis/rest/services

ArcGIS REST Services Directory

Home > services

JSON | SOAP

Folder: /

Current Version: 10.11

View Footprints In: ArcGIS.com Map

Folders:

- ElevationServices
- ImageServices
- TestMapServices
- Utilities

Services:

None

Supported Interfaces: RE

ElevationServices/Ky_DEM_K

kyraster.ky.gov/arcgis/rest/services/ElevationServices/Ky_DEM_KYAPED_5FT_Hillshade/ImageServer

ArcGIS REST Services Directory

Home > services > ElevationServices > Ky_DEM_KYAPED_5FT_Hillshade (ImageServer)

JSON | SOAP | WMS

ElevationServices/Ky_DEM_KYAPED_5FT_Hillshade (ImageServer)

View In: ArcGIS JavaScript ArcGIS.com Map Google Earth ArcMap

View Footprint In: ArcGIS.com Map

Service Description: This Dynamic Image Service provides access to a 5 Foot Digital Elevation Model (DEM) with a hillshade function ap
service as it becomes available through the KYAPED Program.

Name: ElevationServices/Ky_DEM_KYAPED_5FT_Hillshade

Description: This Dynamic Image Service provides access to a 5 Foot Digital Elevation Model (DEM) with a hillshade function applied for
becomes available through the KYAPED Program.

Single Fused Map Cache: false

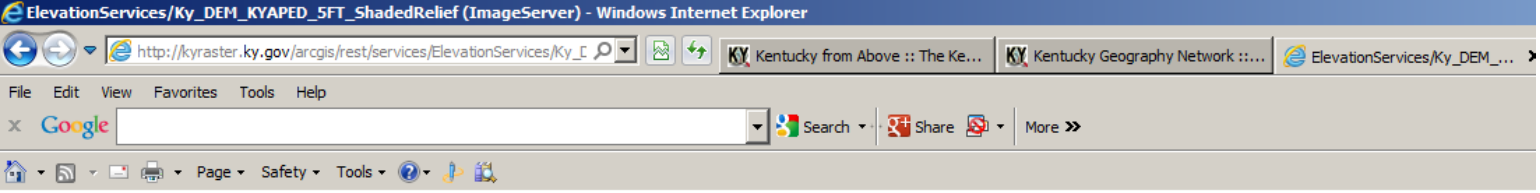
Extent:

XMin: 3798940
YMin: 3356425
XMax: 6019070
YMax: 4308265
Spatial Reference: 102763 (3089)

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT



ArcGIS REST Services Directory

Home > services > ElevationServices > Ky_DEM_KYAPED_5FT_ShadedRelief (ImageServer)

JSON | SOAP | WMS

ElevationServices/Ky_DEM_KYAPED_5FT_ShadedRelief (ImageServer)

View In: ArcGIS JavaScript ArcGIS.com Map Google Earth ArcMap

View Footprint In: ArcGIS.com Map

Service Description: This Dynamic Image Service provides access to a 5 Foot Digital Elevation Model (DEM) with a Shaded Relief function applied f
service as it becomes available through the KYAPED Program.

Name: ElevationServices/Ky_DEM_KYAPED_5FT_ShadedRelief

Description: This Dynamic Image Service provides access to a 5 Foot Digital Elevation Model (DEM) with a Shaded Relief function applied for select
it becomes available through the KYAPED Program.

Single Fused Map Cache: false

Extent:

XMin: 3798940
YMin: 3356425
XMax: 6019070
YMax: 4308265
Spatial Reference: 102763 (3089)

Initial Extent:

XMin: 3798940
YMin: 3356425
XMax: 6019070
YMax: 4308265
Spatial Reference: 102763 (3089)

Full Extent:

XMin: 3798940
YMin: 3356425
XMax: 6019070
YMax: 4308265
Spatial Reference: 102763 (3089)

Pixel Size X: 5.0

http://kyraster.ky.gov/arcgis/rest/services/ElevationServices/Ky_DEM_KYAPED_5FT_ShadedRelief/ImageServer

My Map - Internet Explorer

http://dcm.maps.arcgis.com/home/webmap/viewer.html?useExistingI=1

My Map

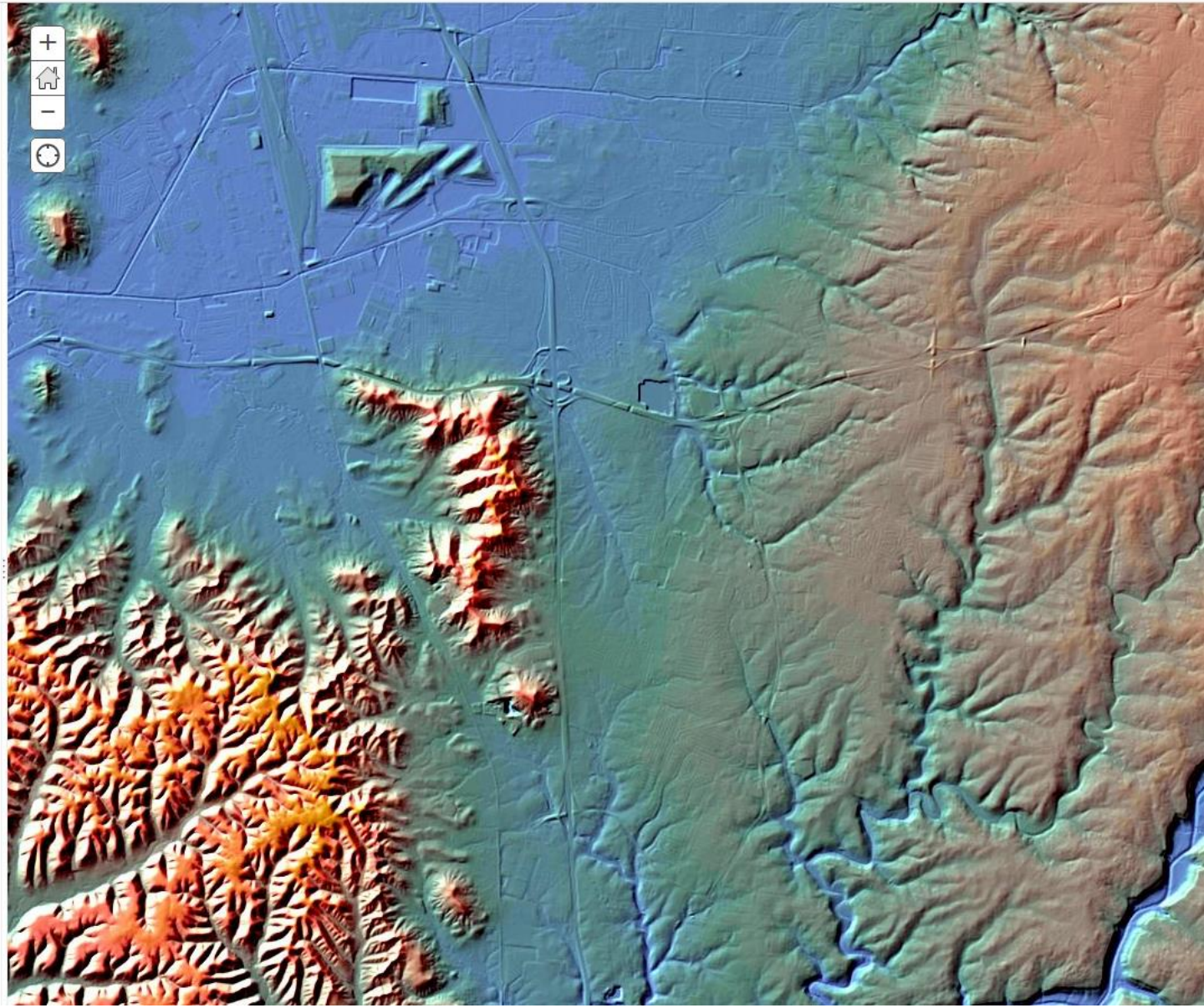
HOME My Map NEW MA

Details | Add | Basemap | Save | Share | Print | Directions | Measure | Bookmarks | Find address or place

About | Content | Legend

Contents

- [x] Ky DEM KYAPED 5FT ShadedRelief
- Topographic



COMMONWEALTH OFFICE OF TECHNOLOGY

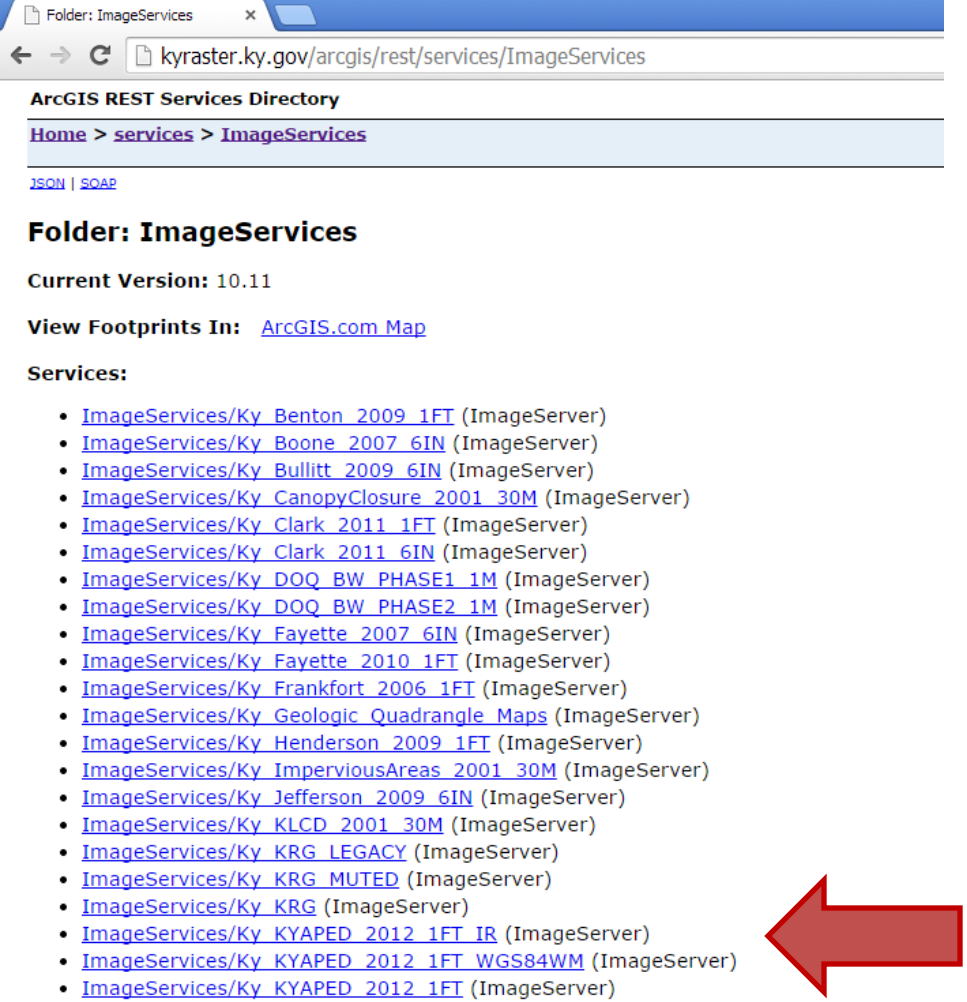
DGI Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

EXAMPLE 2: KYAPED – Aerial Multispectral Data

- Aerial
- Orthorectified – high quality, numerous GCPs
- High spatial resolution (6 inch, 1 foot)
- Standard spectral resolution (4 bands)
- Standard radiometric resolution (8-bit depth)
- Episodic revisits (*funding dictates frequency*!)
- Spatial accuracy: meter-range

COMMONWEALTH OFFICE OF TECHNOLOGY
DGI
Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT



COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

My Map - Internet Explorer

http://dcm.maps.arcgis.com/home/webmap/viewer.html?useExisting=1

My Map

HOME My Map NEW MAP Demetrio

Details Add Basemap Save Share Print Directions Measure Bookmarks Find address or place

Image Display

Set image display for: Ky_KYAPED_2012_1FT_IR

Renderer

User Defined Renderer

RGB composite

1 2 3

Requesting band information...

Image Enhancement

Apply contrast enhancements to improve the image display.

Stretch Type:

Standard Deviation

Trim extreme pixel values beyond 2 standard deviations.

Dynamic range adjustment

Gamma: 0.1 10

COMMONWEALTH OFFICE OF TECHNOLOGY

DGI Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

EXAMPLE 3: NAIP (multispectral)

- Aerial
- Orthorectified – high quality, numerous GCPs
- High spatial resolution (1 meter)
- Standard spectral resolution (4 bands)
- Standard radiometric resolution (8-bit depth)
- Periodic revisits (*every two years*)

  2004, 2006, 2008, 2010, 2012, 2014
- Spatial accuracy: meter-range

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

My Map - Internet Explorer

http://dcm.maps.arcgis.com/home/webmap/viewer.html?featurecollection=http%3A%2F%2Fkyraster.ky.gov%2Farcgis%2Frest%

ImageServices/Ky_NAIP_2012_... | My Map

HOME | My Map | NEW MA

Details | Add | Basemap | Save | Share | Print | Directions | Measure | Bookmarks | Find address or place

Image Display

Set image display for: Ky_NAIP_2012_1M

Renderer

User Defined Renderer

RGB composite

4 | 1 | 2

Image Enhancement

Apply contrast enhancements to improve the image display.

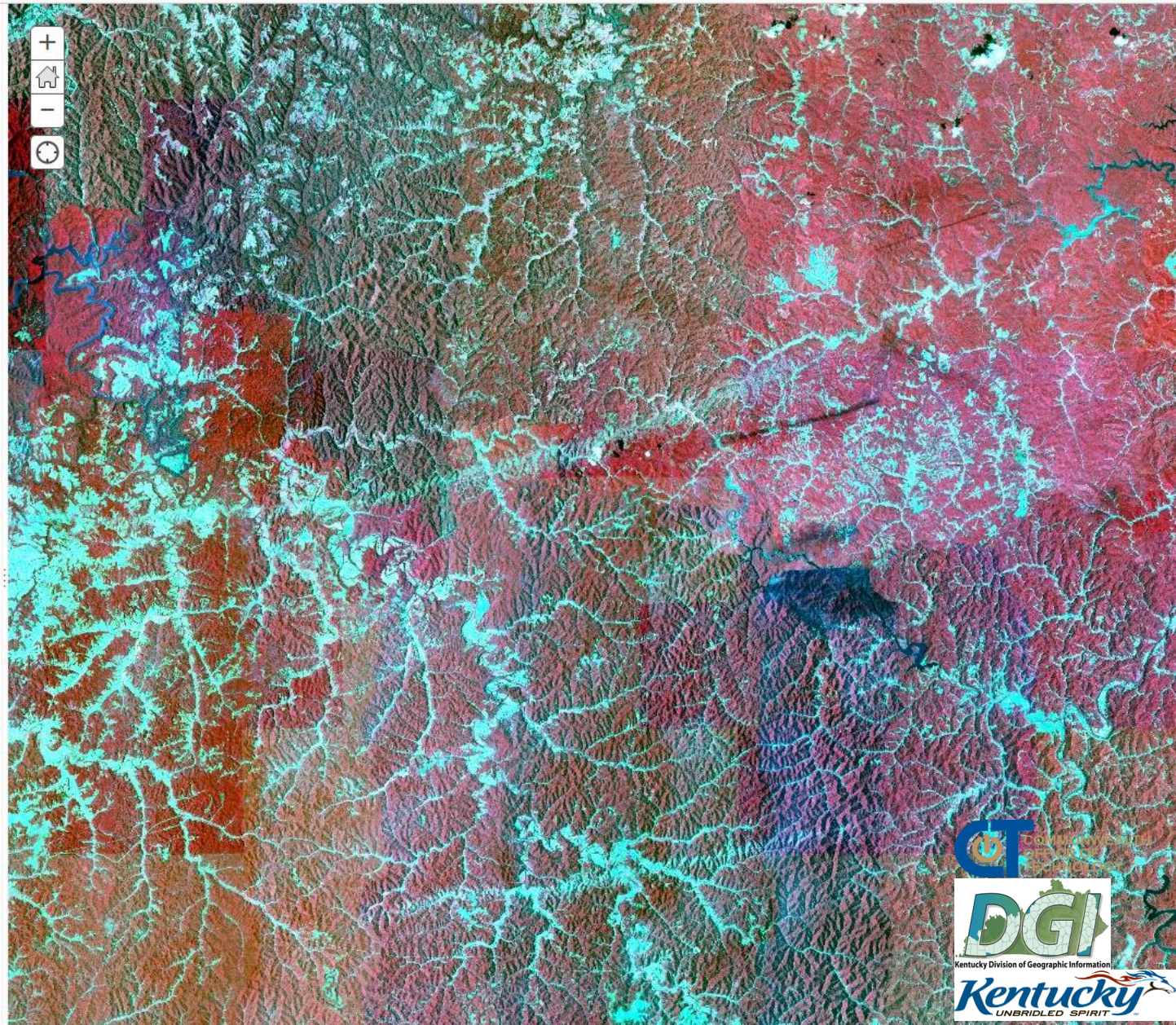
Stretch Type:

Standard Deviation

Trim extreme pixel values beyond 2 standard deviations.

☑ Dynamic range adjustment

Gamma: 0.1 — 10



EXAMPLE 4: Story Maps

COMMONWEALTH OFFICE OF TECHNOLOGY

DGI

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

Kentucky Story Maps

This group includes Kentucky-specific Story Map and Map Tour applications created with esri's arcgis.com templates. Use these applications to explore the Commonwealth!

Search maps

KyFromAbove - Imagery
Web Mapping Application by Kentucky_DGI. Last modified Jan 6, 2015.
This Story Map Series provides an overview of imagery acquired through the KyFromAbove Program.
(201 views)

Kentucky's Recreational Resources
Web Mapping Application by Kentucky_DGI. Last modified Jan 6, 2015.
This story map series references web maps that include information about multi-use trails, state park facilities, hunting, fishing, and wildlife viewing opportunities in Kentucky.
(303 views)

KyFromAbove - Elevation
Web Mapping Application by Kentucky_DGI. Last modified Jan 6, 2015.
This Story Map Series provides an overview of LiDAR-derived elevation data acquired through the KyFromAbove Program.
(174 views)

Kentucky's Frontier Trails
Web Mapping Application by Kentucky_DGI. Last modified Dec 3, 2014.
This custom Story Map application is an online companion to the printed map product entitled "Kentucky's Frontier Trails"
(11 views)

Kentucky State Park Lodges
Web Mapping Application by Kentucky_DGI. Last modified Feb 5, 2014.
This custom Story Map features the Lodges found at State Parks in the Commonwealth of Kentucky.
(414 views)

Kentucky Bourbon Trail Craft Tour
Web Mapping Application by Kentucky_DGI. Last modified Jan 29, 2014.
This custom story map features the Kentucky Bourbon Trail Craft Tour.
(24 views)

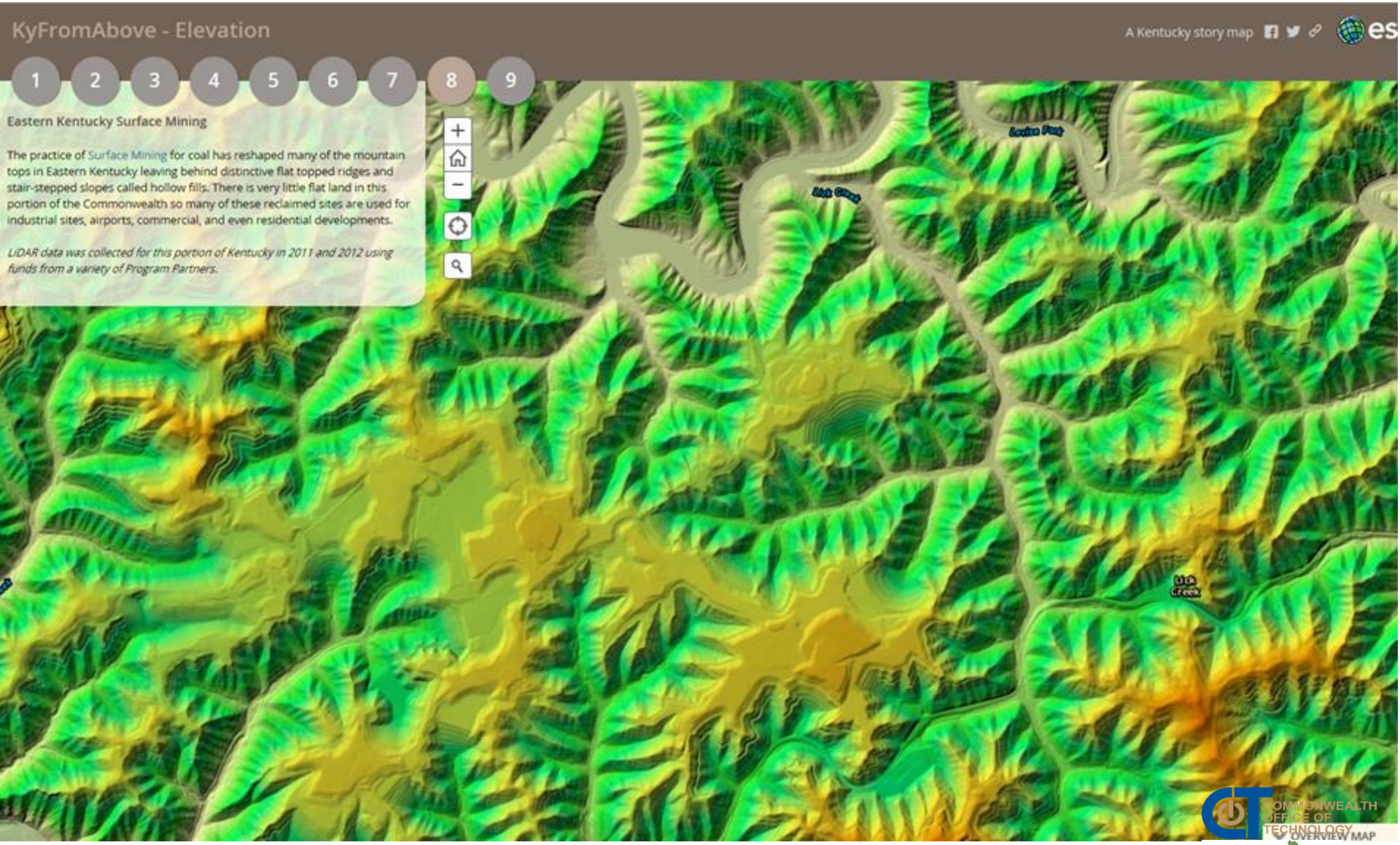
This group includes Kentucky-specific Story Map and Map Tour applications created with esri's arcgis.com templates. The Kentucky Division of Geographic Information collaborated with the appropriate agencies to prepare the content for each application. Use these applications to explore the Commonwealth!

parks.ky.gov
www.kentuckytourism.com
Kentucky Geological Survey
Kentucky Division of Forestry
kygeonet.ky.gov
kygovmaps

Click here to learn more about Storytelling with maps.

http://kygeonet.ky.gov/govmaps/KyStoryMapsGallery/

COMMONWEALTH OFFICE OF TECHNOLOGY
DGI Kentucky Division of Geographic Information
Kentucky UNBRIDLED SPIRIT



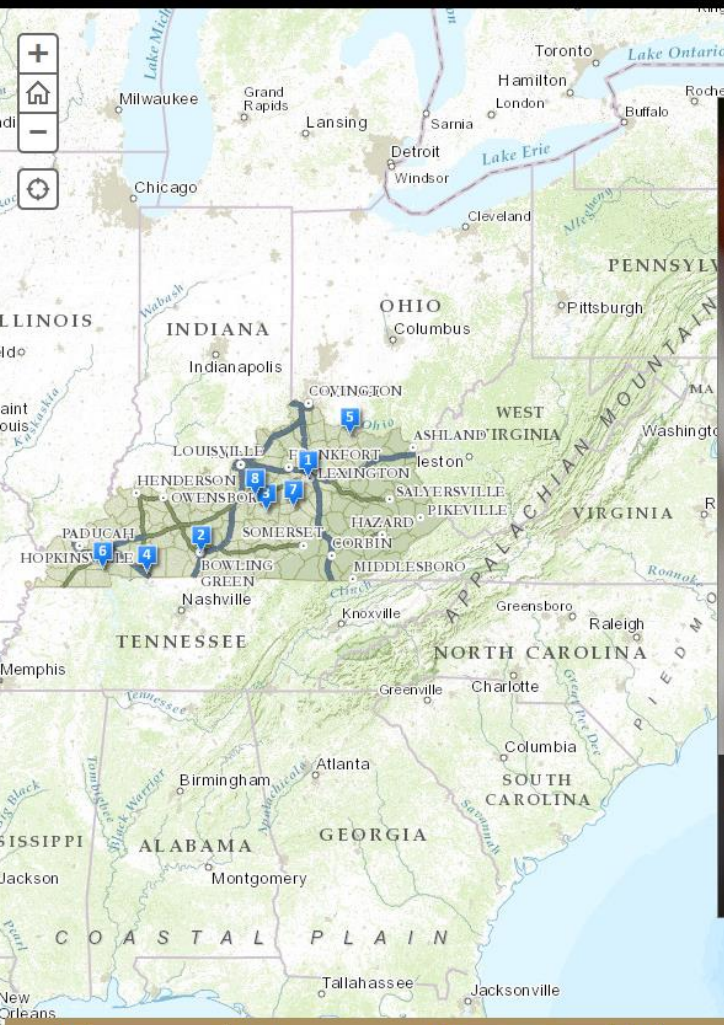
http://kygeonet.ky.gov/StoryMaps/KyFromAboveElevation/

KENTUCKY BOURBON TRAIL CRAFT TOUR

The essential adventure for Bourbon enthusiasts

Kentucky Bourbon Trail Craft Tour

KyGeoNet | KyGovMap



Welcome to the Kentucky Bourbon Craft Tour!

The Kentucky Bourbon Trail Craft Tour ® is an essential adventure for Bourbon enthusiasts. Winding through the hills and fields of Kentucky, this tour takes you further into the Kentucky Bourbon industry than ever before. This innovative tour is fo those looking to experience Kentucky Bourbon at its very core. Try new brands and collect all eight distillery stamps to earn an exclusive reward through our Passport program!

1 Barrel House Distilling Co.
2 CORSAIR DISTILLERY
3 LIMESTONE BRANCH DISTILLERY
4 MB ROLAND DISTILLERY
5 1876 POGUE
6 Silver Trail Distillery
7 WILDERNESS TRACE DISTILLERY
8 Willett DISTILLERY

COMMONWEALTH OFFICE OF TECHNOLOGY

DGI Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT

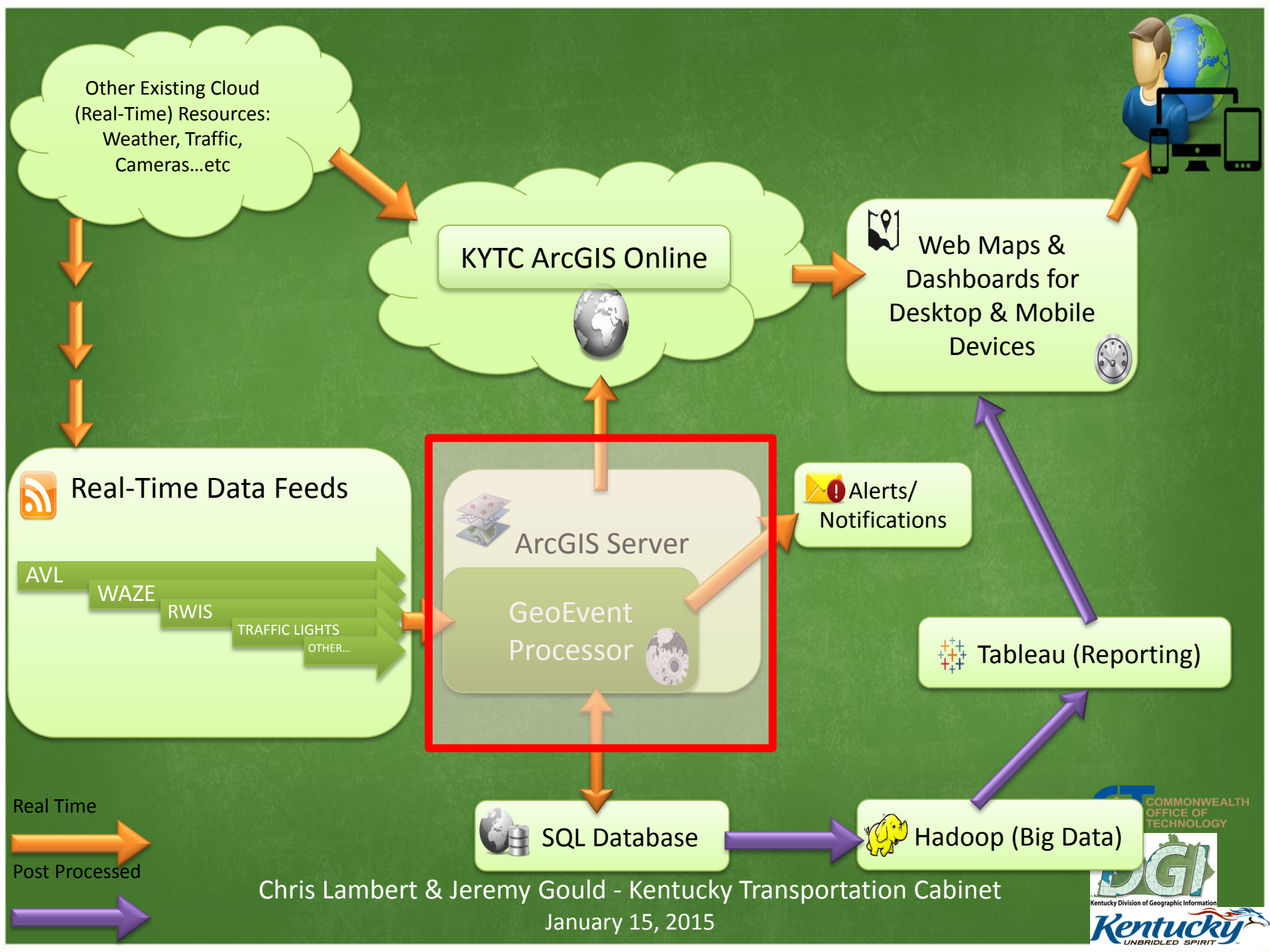
http://kygeonet.ky.gov/StoryMaps/KyBourbonTrailCraftTour/#

EXAMPLE 5: Crowdsourcing/Data Mining/Mobile GIS

COMMONWEALTH OFFICE OF TECHNOLOGY

Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT



Chris Lambert & Jeremy Gould - Kentucky Transportation Cabinet

January 15, 2015

Thank you.

Questions?

Contact Information:

Demetrio P. Zourarakis

demetrio.zourarakis@ky.gov
502-564-6246

http://gis.ky.gov

KENTUCKY

COMMONWEALTH OFFICE OF TECHNOLOGY

DGI
Kentucky Division of Geographic Information

Kentucky UNBRIDLED SPIRIT