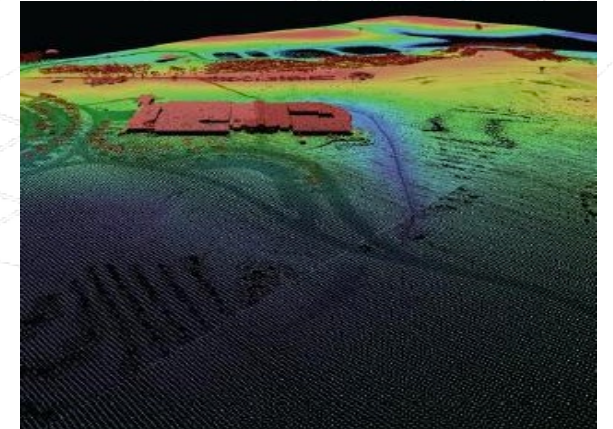
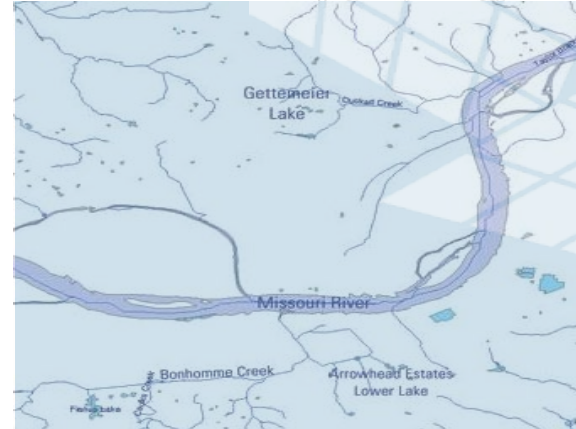
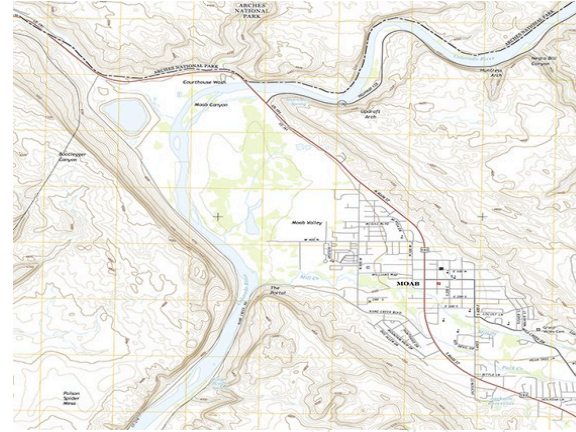




# Discovering The National Map



# + Department of the Interior

2

- U.S. Geological Survey
  - Bureau of Indian Affairs
  - Bureau of Indian Education
  - Bureau of Land Management
  - Bureau of Ocean Energy Management
  - Bureau of Reclamation
  - Bureau of Safety and Environmental Enforcement
  - Bureau of Trust Funds Administration
  - National Park Service
  - Office of Surface Mining Reclamation and Enforcement
  - U.S. Fish and Wildlife Service

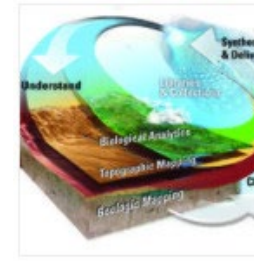


# + U.S. Geological Survey

## Mission

To monitor, analyze, and predict current and evolving dynamics of complex human and natural Earth-system interactions and to deliver actionable information at scales and timeframes relevant to decision makers and societal priorities.

## Mission Areas



Core Science Systems



Ecosystems



Energy and Minerals



Natural Hazards



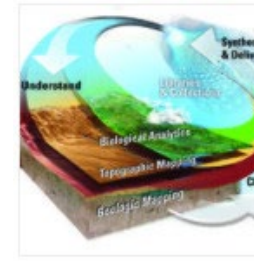
Water Resources

# + Core Science Systems

Focus on:

- Conducting research
- Gathering information
- Providing technical expertise
- Building and facilitating partnerships
- **Creating new geospatially enabled data**
- **Providing a framework for the data to be shared**

## Mission Areas



## Core Science Systems

4



## Ecosystems



## Energy and Minerals



## Natural Hazards



## Water Resources



# The Mission of the National Geospatial Program

*Provide Topographic Information for the Nation*



advance science



support government



enlighten citizens



enable decision making



# NGP has a Broad Portfolio

Board on Geographic Names



Geospatial Information Response Team



Center of Excellence for Geospatial  
Information Science



3D Elevation Program



3D Hydrography Program



The National Map



# Geographic Names Information System (GNIS)

- Database of the U.S. Board on Geographic Names (BGN)
- Created to promulgate all names for Federal Government use
- Developed 40+ years ago, evolved from paper to digital environment
- Contains over 1 million features
- GNIS users are from Federal, Tribal, State, local agencies and the general public
- Contains historical and variant name information



## Public Search Page:

[edits.nationalmap.gov/apps/gaz-domestic/public/search/names](https://edits.nationalmap.gov/apps/gaz-domestic/public/search/names)

## Download GNIS Data:

[usgs.gov/geonames/download-gnis-data](https://usgs.gov/geonames/download-gnis-data)



Search

Useful Links

Help

Official Replacement Names  
for Sq\_\_\_

NAMES

Name

Name

Fountain Creek

Names search mode

Includes Keywords ▾

☒ Include variants

Feature ID

Designation ▾

Feature Classes

Stream

Decision Type ▾

Decision Authority ▾

Decision Date

RESET

QUERY

Total: 21

Belle Fountain Creek

1561530 • Stream • Green Lak...

Details Pin

Fountain Creek

1381889 • Stream • Trinity...

Details Pin

Fountain Creek

434713 • Stream • Wayne...

Details Pin

Fountain Creek

1357623 • Stream • Menard...

Details Pin

Fountain Creek

1284709 • Stream • Maury...

Details Pin

Fountain Creek

49197 • Stream • Ashley Count...

Details Pin

Fountain Creek

193719 • Stream • Pueblo...

Details Unpin

Fountain Creek

408582 • Stream • Iroquois...

Details Pin



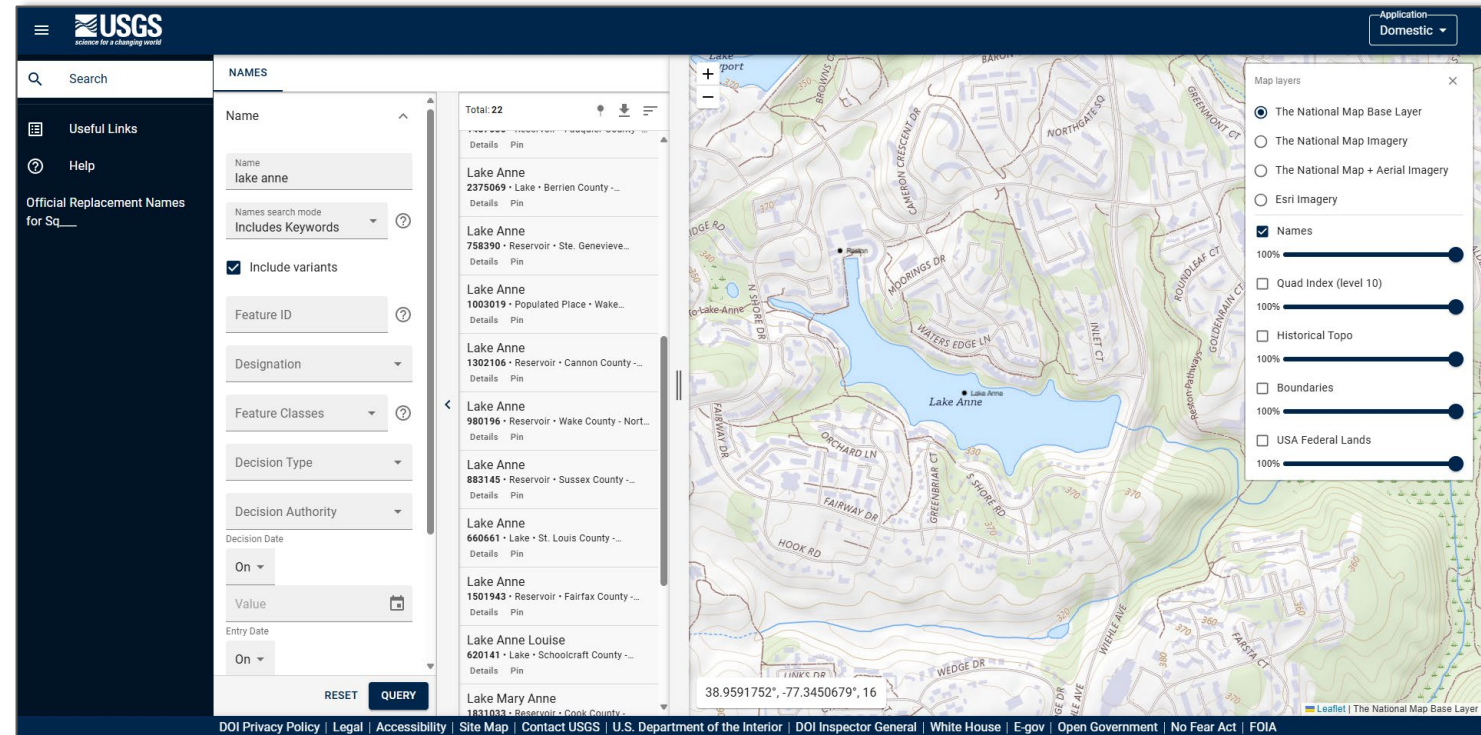


# Geographic Names Information System (GNIS)

## ■ Domestic Names Search Tool



## ■ NGP Training Video Lesson 14a - Searching for Domestic Names in the Geographic Names Information System



+

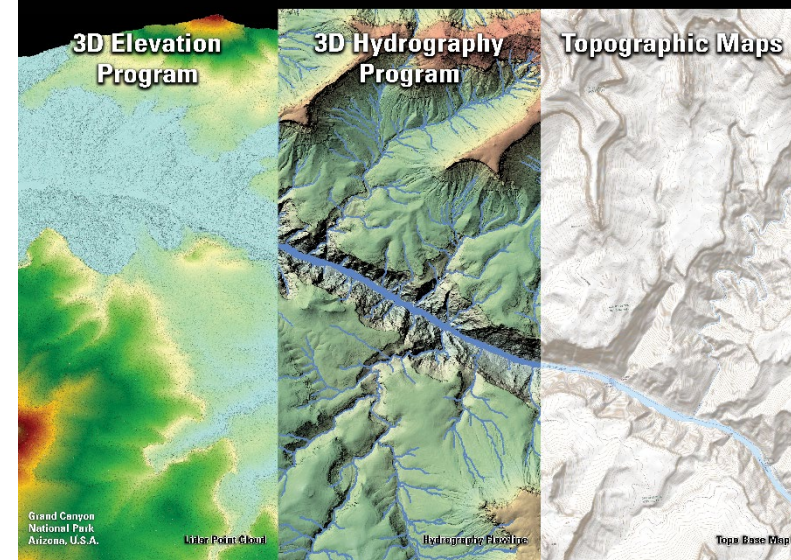
# The National Map

*Topographic data and map products, and a range of related applications and map services*

- Topographic maps and services
  - OnDemand Topo (topoBuilder), US Topo, Historical Topographic Maps
- Geospatial data
  - Foundational – elevation, hydrography, and geographic names
  - Curated - structures, transportation, and boundaries
  - Context - landcover and orthoimagery
- Public domain - available free of charge
- Built on partnerships and standards



## National Geospatial Program





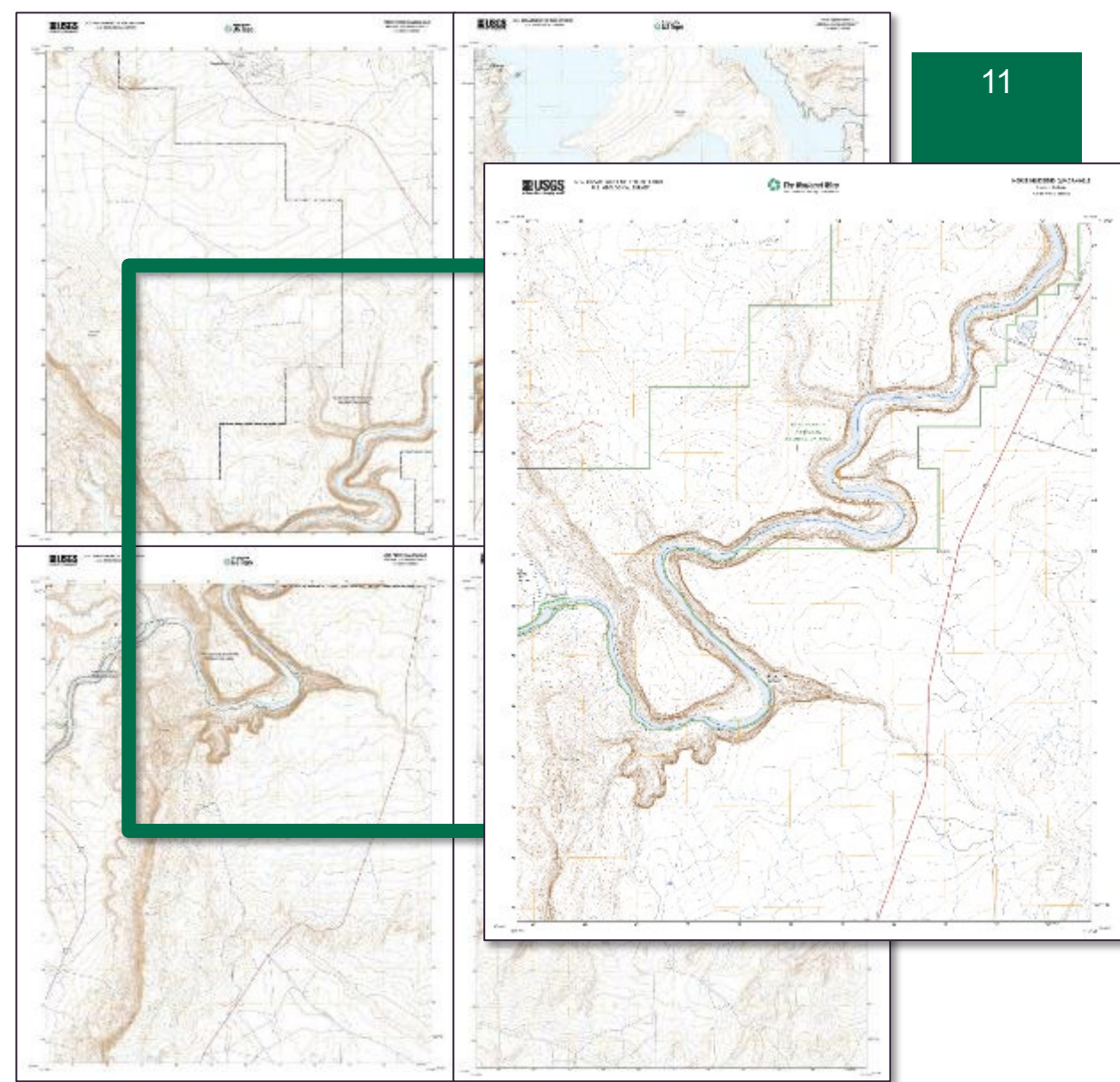
# + Topographic Maps

11



Historical

US Topo



OnDemand Topo



# topoBuilder is...



**on demand**



**where you  
want**



**multi-scale**



**the best  
available  
data**



① Map Types

② Maps

③ Cart 0

## Maps

Select area of interest on the map

☒ Display Grid

### 7.5-Minute Topo



UNSELECT ALL HIDE OPTIONS EDIT LAYERS

☒ 7.5-Minute Topo 1

User Defined Content

Format

PDF

Contour Smoothing

Low

Medium

High

BACK TO TOP

DELETE

ADD

GO TO CART

SELECT BY GRID(S)

CUSTOM SELECT

MOVE

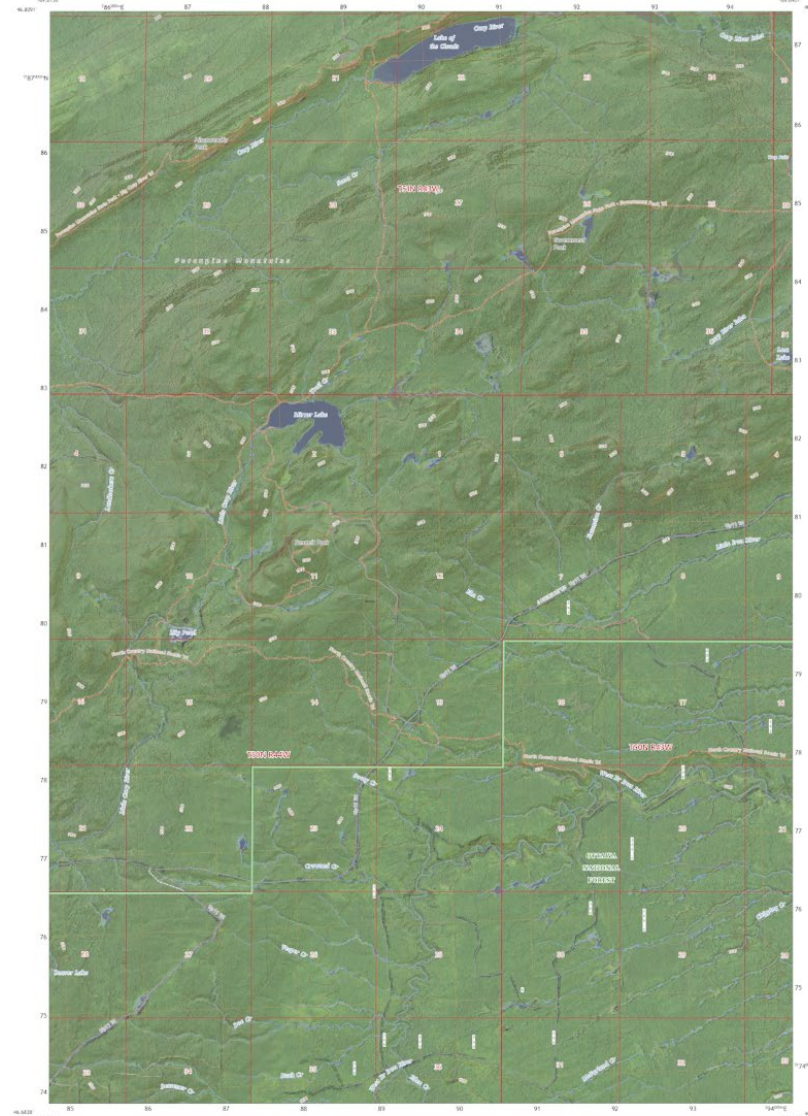
2 mi

USGS The National Map

USGS U.S. DEPARTMENT OF THE INTERIOR U.S. GEOLOGICAL SURVEY

The National Map OnDemand Topo

7.5-MINUTE TOPO QUADRANGLE Contour Interval: 7.5-MINUTE TOPO

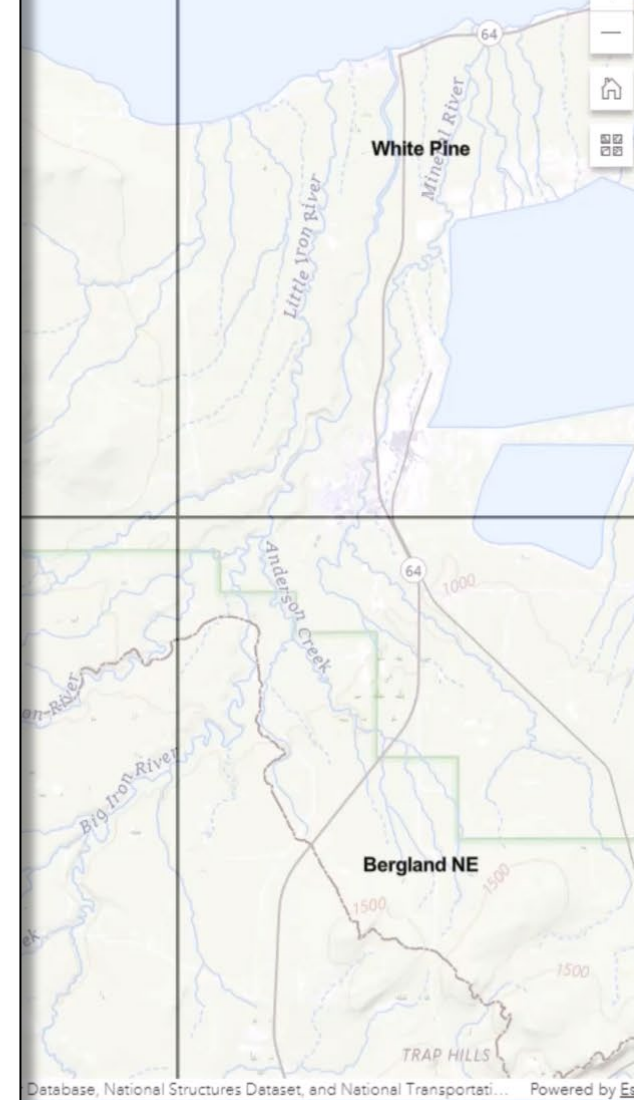

Produced by the United States Geological Survey  
World Aeronautical Chart (WAC) data is derived from the National Aeronautics and Space Administration (NASA) and is the best available at the time of map production. The National Aeronautics and Space Administration (NASA) is not responsible for any errors or omissions in this data.  
This map is a digital document. Reproduction may be generated for this map using the National Map OnDemand Topo application. The National Map OnDemand Topo application is available at: <https://nationalmap.gov/topo/>  
Learn About The National Map: <https://nationalmap.gov/>

7.5-MINUTE TOPO, MI  
2014

SCALE 1:24,000


ROAD CLASSIFICATION  
Expressway  
Major Road  
Minor Road  
Unimproved Road  
Trail  
Fence  
Check with Local Office for more information.  
7.5-MINUTE TOPO, MI  
2014

porcupine mountains X



Database, National Structures Dataset, and National Transportati... Powered by Esri


The National Map  
Your Source for Topographic Information



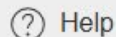


## topoBuilder Application v: 3.0

## ① Map Types

## ② Maps

③ Cart 0



## Map Types

Select an OnDemand Topo type, click Next

### 7.5-Minute Topo



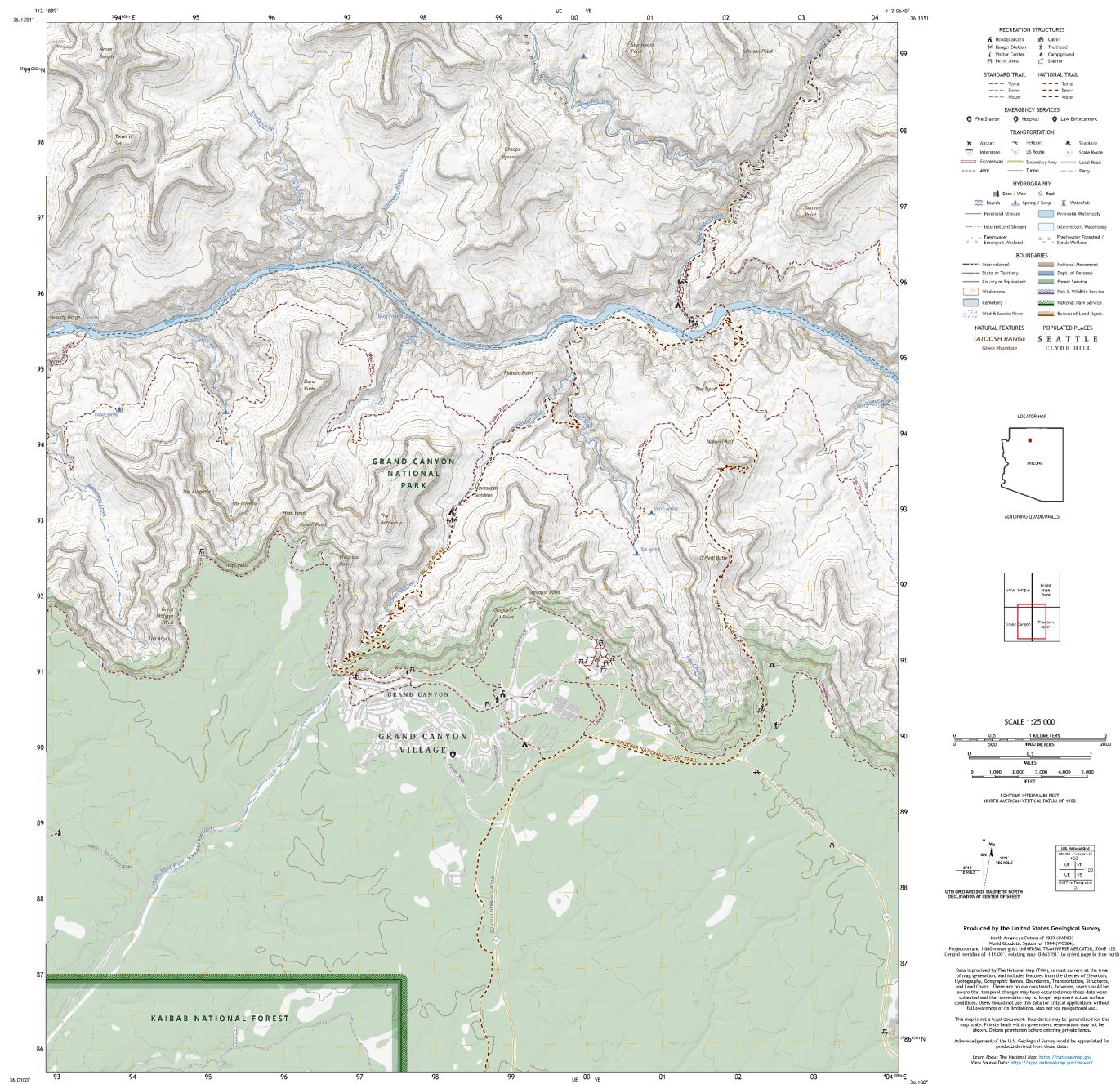
## 25K Recreational Topo



## 100K Topo



NEXT



June 17, 2025

U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

ov/



# + OnDemand Topo

- <https://topobuilder.nationalmap.gov/>



- [NGP Training Video Lesson 17.1 – Intro to topoBuilder](#)
- Enables users to request customized USGS-style topographic maps

An infographic for topoBuilder, a web application for creating custom topographic maps. The background is a dark green with a subtle topographic map pattern. The infographic is divided into two main sections. The top section, titled "What you want", "Where you want", and "Content you want", describes the user's requirements. The bottom section, titled "Web Application", "When you want", and "Delivered to You", describes the process and timeline. The central part of the infographic features the "topoBuilder" logo and the text "Custom Topographic Maps On Demand". A QR code is also present in the center. The bottom of the infographic includes the USGS logo, the National Map logo, and the text "U.S. Department of the Interior" and "U.S. Geological Survey".

**What you want**  
On-demand topographic map, created by you, using the best available data of The National Map

**Where you want**  
Center your map anywhere in the United States or territories

**Content you want**  
Select The National Map content of interest to you

**topoBuilder**  
Custom Topographic Maps On Demand

**Web Application**  
Visit [topobuilder.nationalmap.gov](https://topobuilder.nationalmap.gov/) to request your custom topographic map today

**When you want**  
Order turnaround is 5 days or less

**Delivered to You**  
Once order is complete, you will be emailed a link to download your free map

Learn more: [USGS.gov/programs/national-geospatial-program/topobuilder](https://usgs.gov/programs/national-geospatial-program/topobuilder)

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

The National Map  
Your Source for Topographic Information

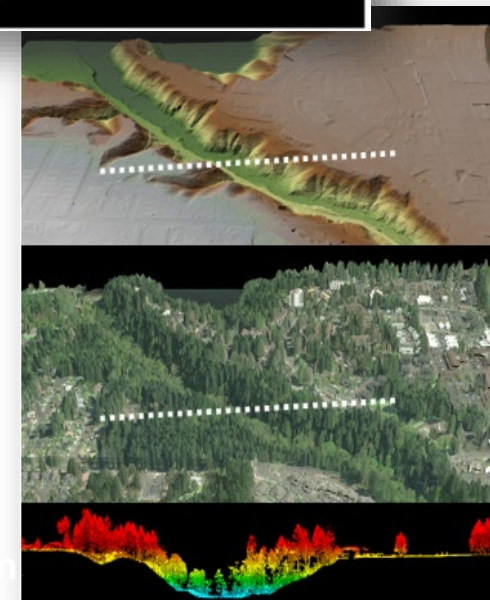
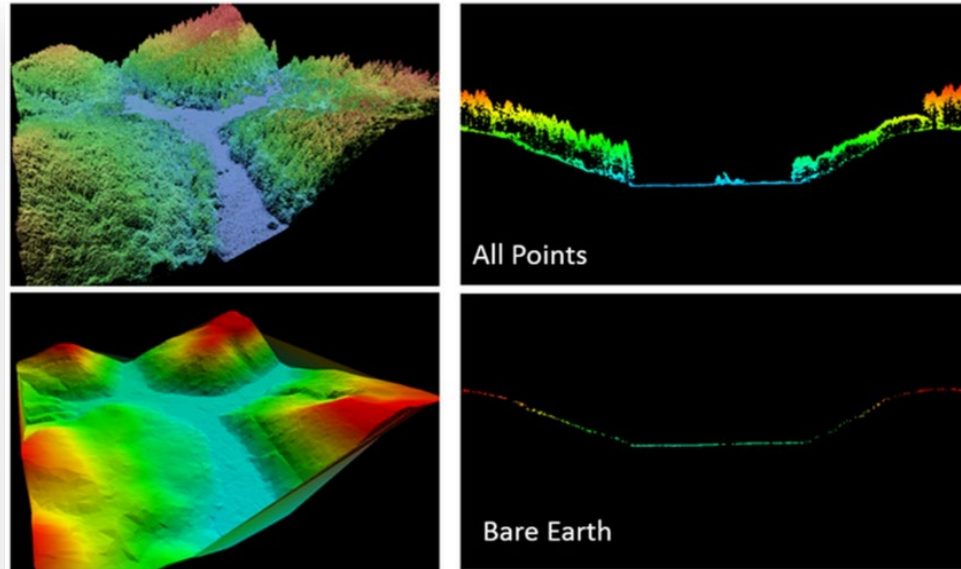
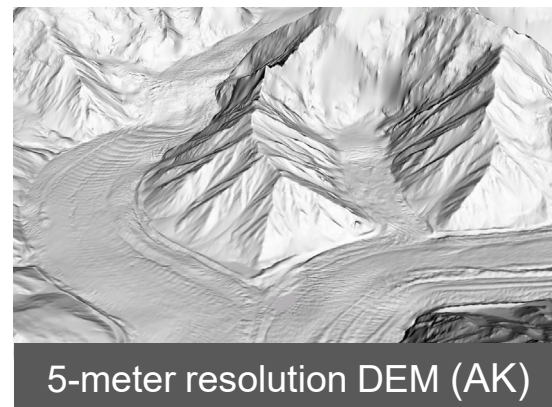
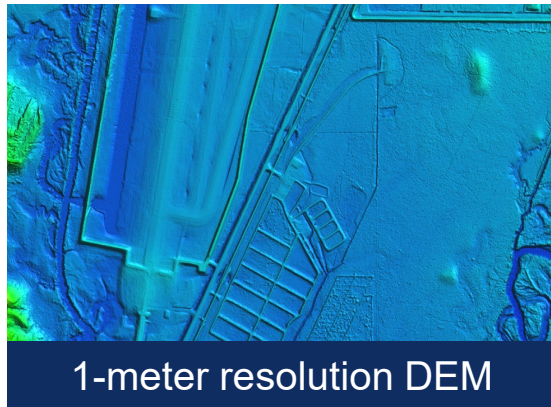
# + Topographic Data: Elevation

16

## 3DEP Lidar Products

Digital Elevation Models

Lidar Point Clouds



← Bare earth DEM

← Lidar point cloud  
(colorized by aerial  
photo)

← Lidar profile



potree.org - github - twitter

EN - FR - DE - JP

Appearance

Print button: 9100

Tools

Scene

Export:  
JSON DXF

Objects

☒ Point Clouds

☒ USGS\_LPC\_IL\_4County\_Co

☒ Measurements

☒ Annotations

☒ Other

☒ Camera

Properties

Point size: 3.00

Point sizing

FIXED

Shape

SQUARE

Opacity: 1.00

Attribute

Intensity Gradient

Intensity

Range: 0 to 65536

Gamma: 1.00

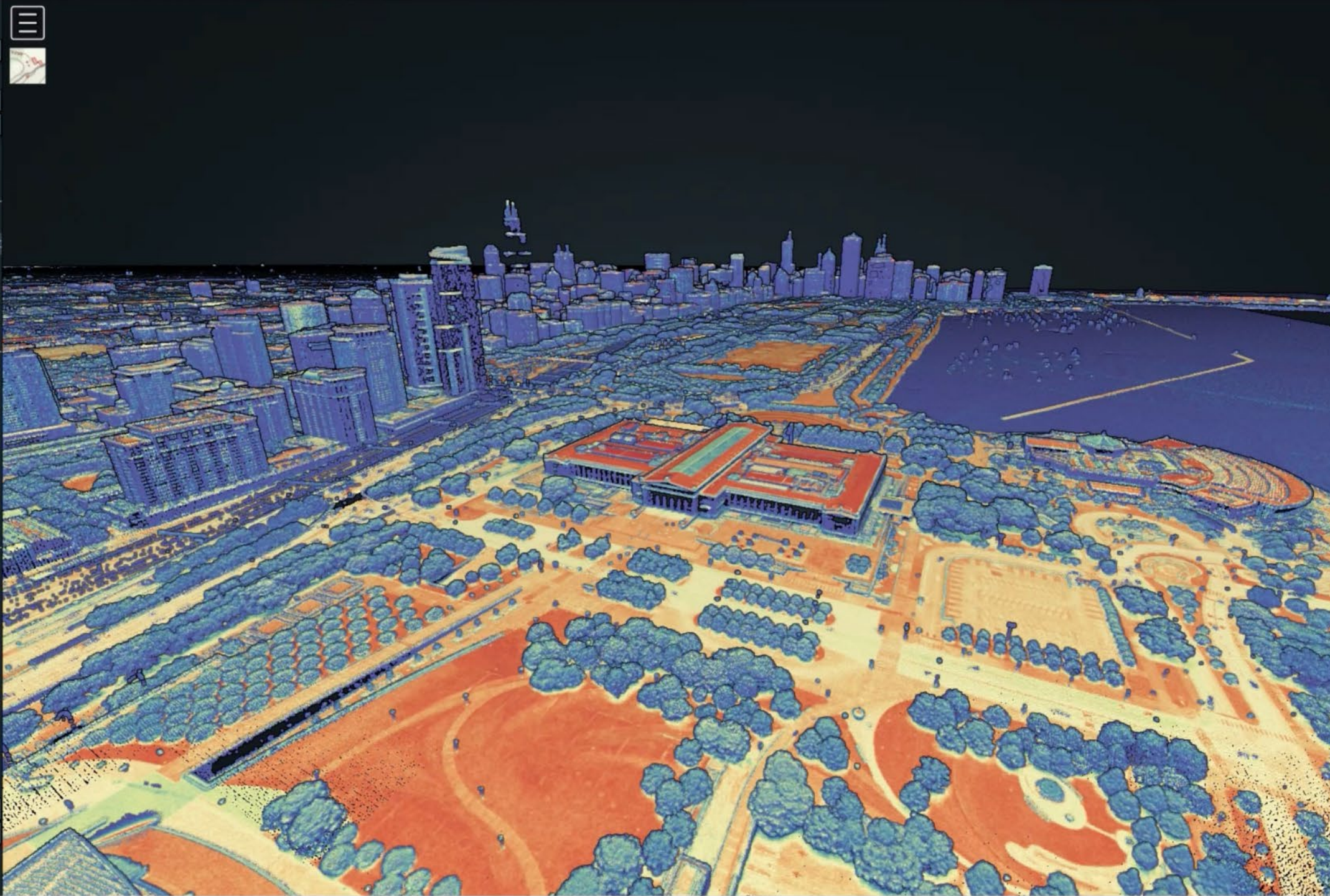
Brightness: 0.00

Contrast: 0.00

GPS Time

Filters

About





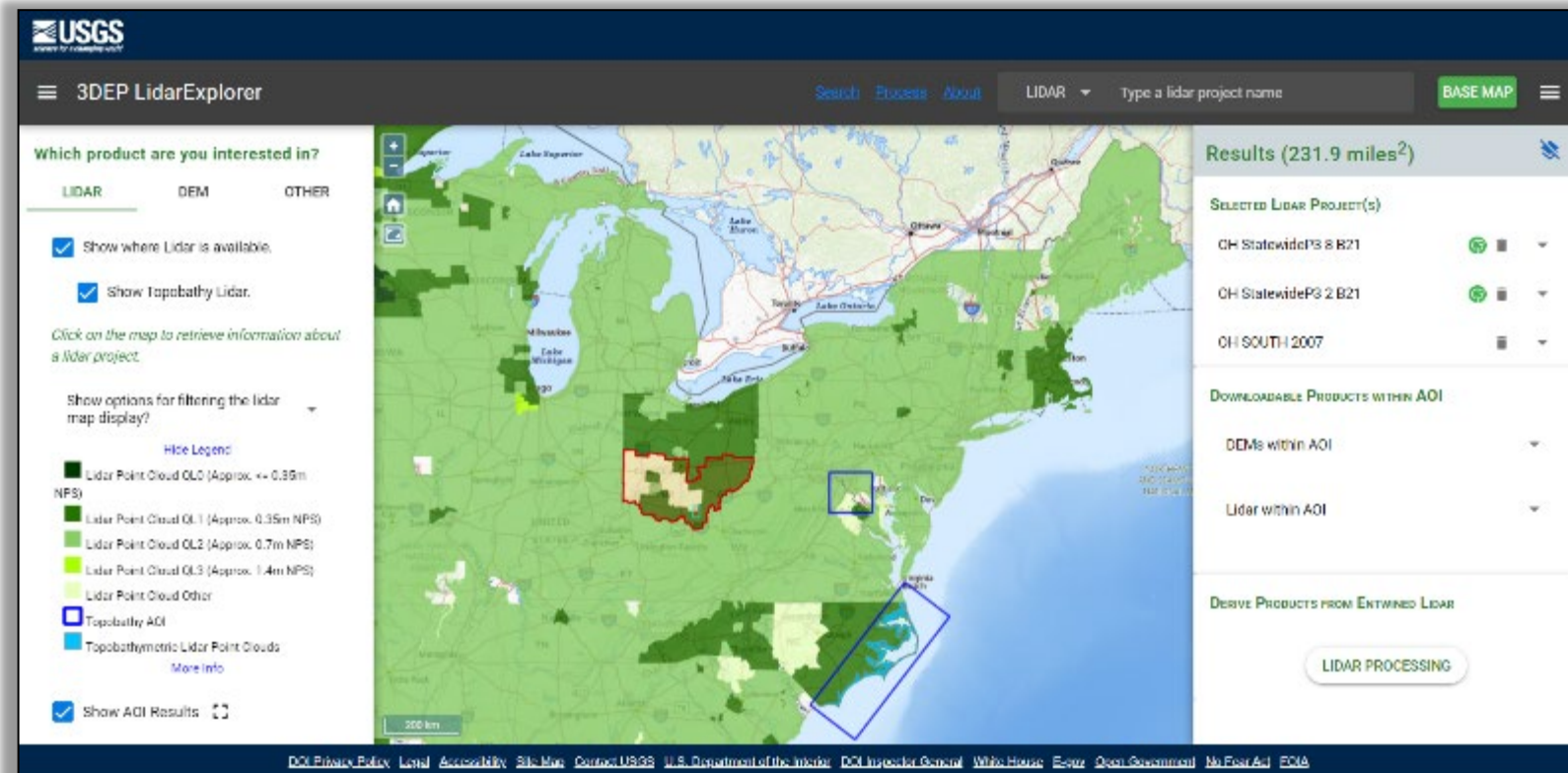
+

# 3DEP LidarExplorer

- [usgs.gov/NationalMap/LidarExplorer](https://usgs.gov/NationalMap/LidarExplorer)



- [NGP Training Video Lesson Lesson 10k1 – Using LidarExplorer](#)



- Allows users to search and visualize Light Detection and Ranging (lidar) and its derived products. Users can find lidar, DEM, topobathymetric, and orthorectified radar image (ORI) data.
- Uses Entwine Point Tile (EPT) format to help visualize projects in a web-based 3D viewer for quick views of the data.
- Allows for cloud processing

# + Topographic Data: Hydrography

19

## Legacy Products



### National Hydrography Dataset



### Watershed Boundary Dataset

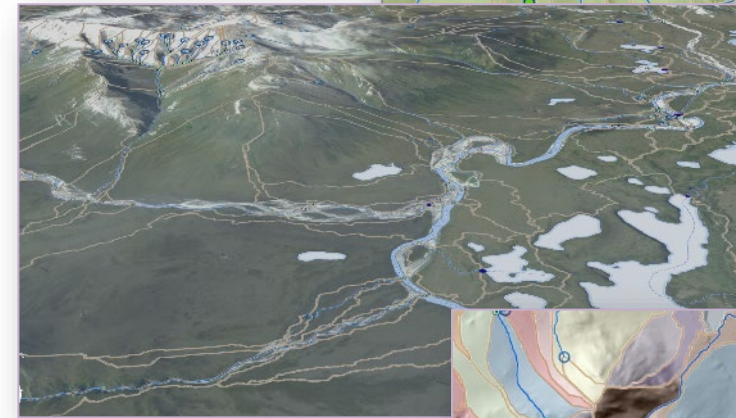
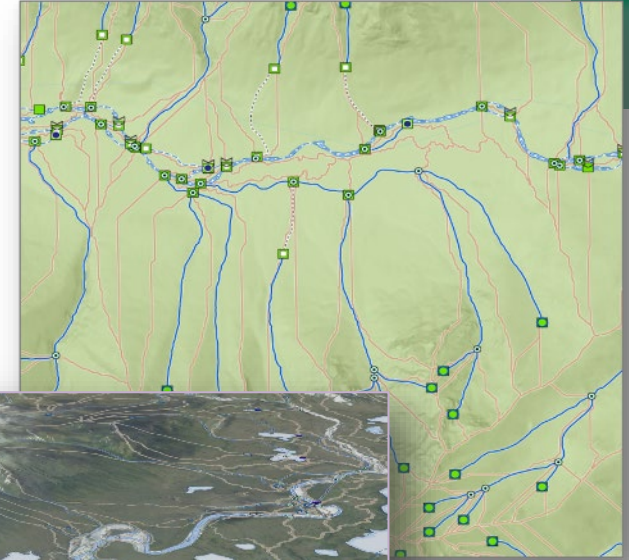


### NHDPlus High Resolution

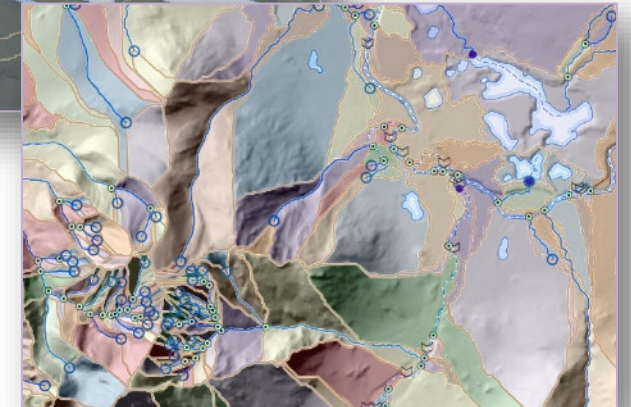


## 3D Hydrography Program(3DHP)

3DHP Data  
-new model  
-z-values  
-catchments  
-more!



-web services  
-downloadable data





# + 3DHP ArcGIS Service

20



## HydroLocation - Reach Code, External Connection

### featuretype

- ☐ Reachcode End
- ☒ Reachcode Start
- ☒ External Connection

## Flowline

- ☒ Flowline
  - Canal
  - Drainageway
  - Elevation Breaching Connector
  - Hydro Unenforced Connector
  - River
  - Surface Connector
  - Waterbody Connector

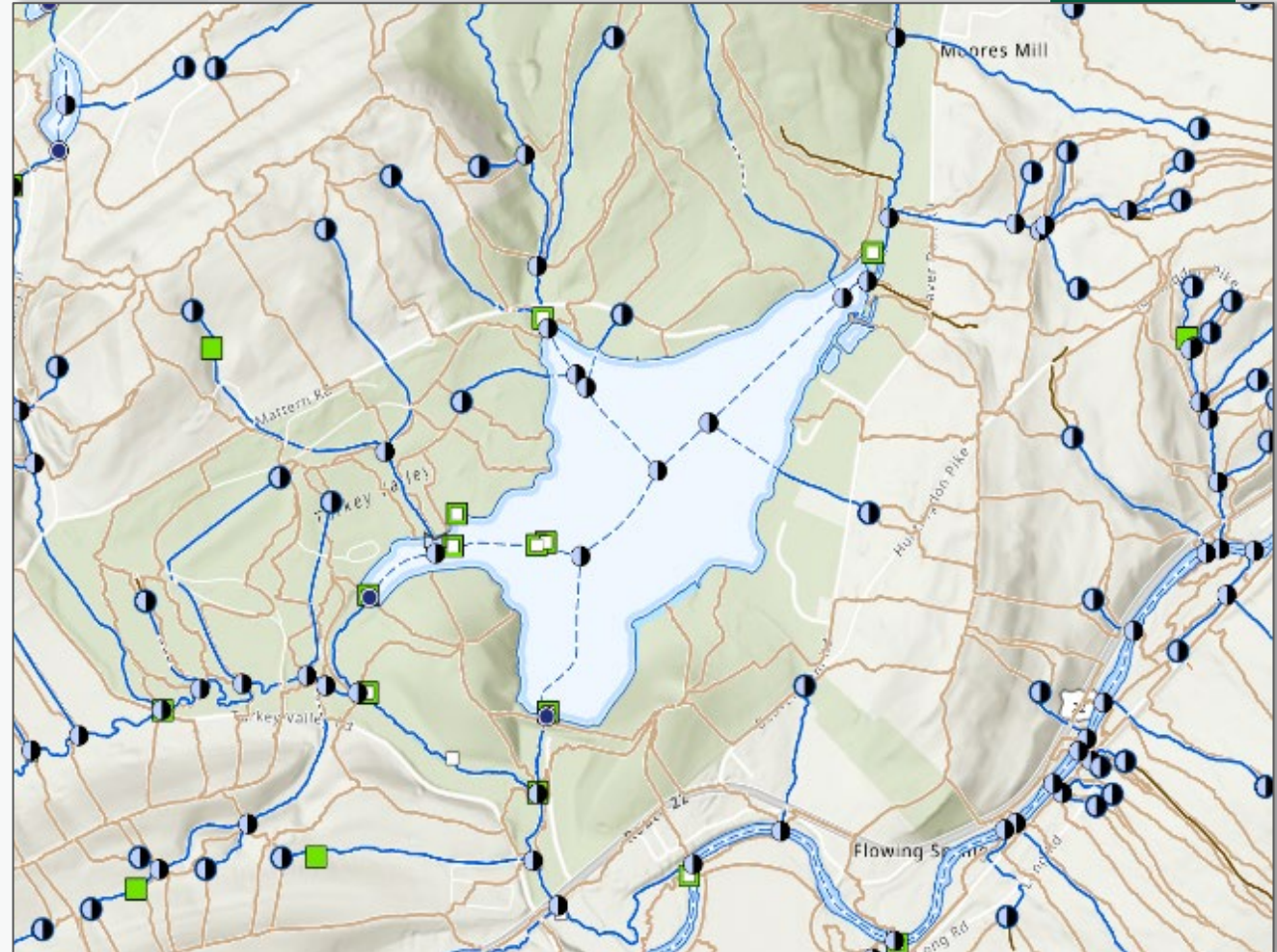
## Waterbody

- ☒ Waterbody
  - Canal
  - Lake
  - Ocean or Great Lake
  - River

## DrainageArea



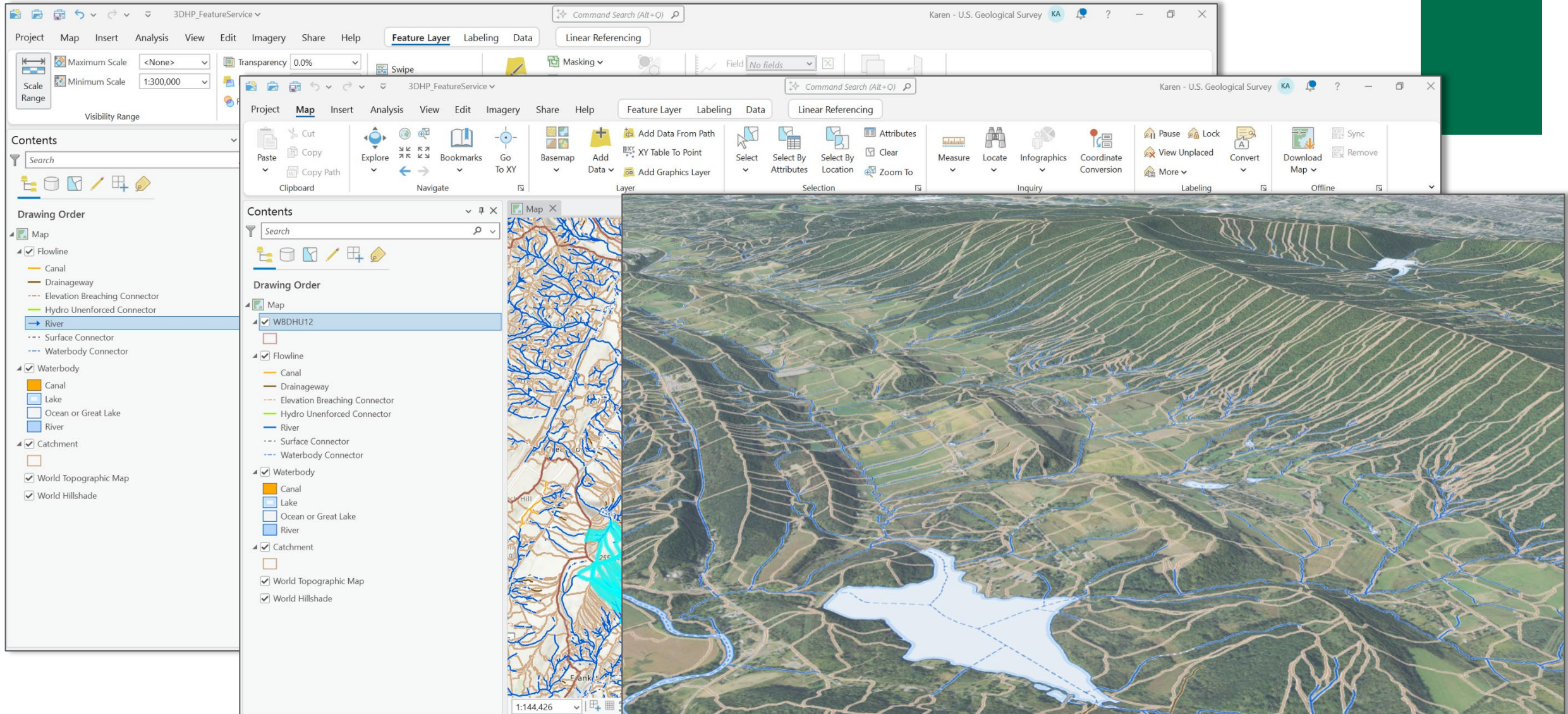
## Catchment





# + 3DHP ArcGIS Feature Services

21

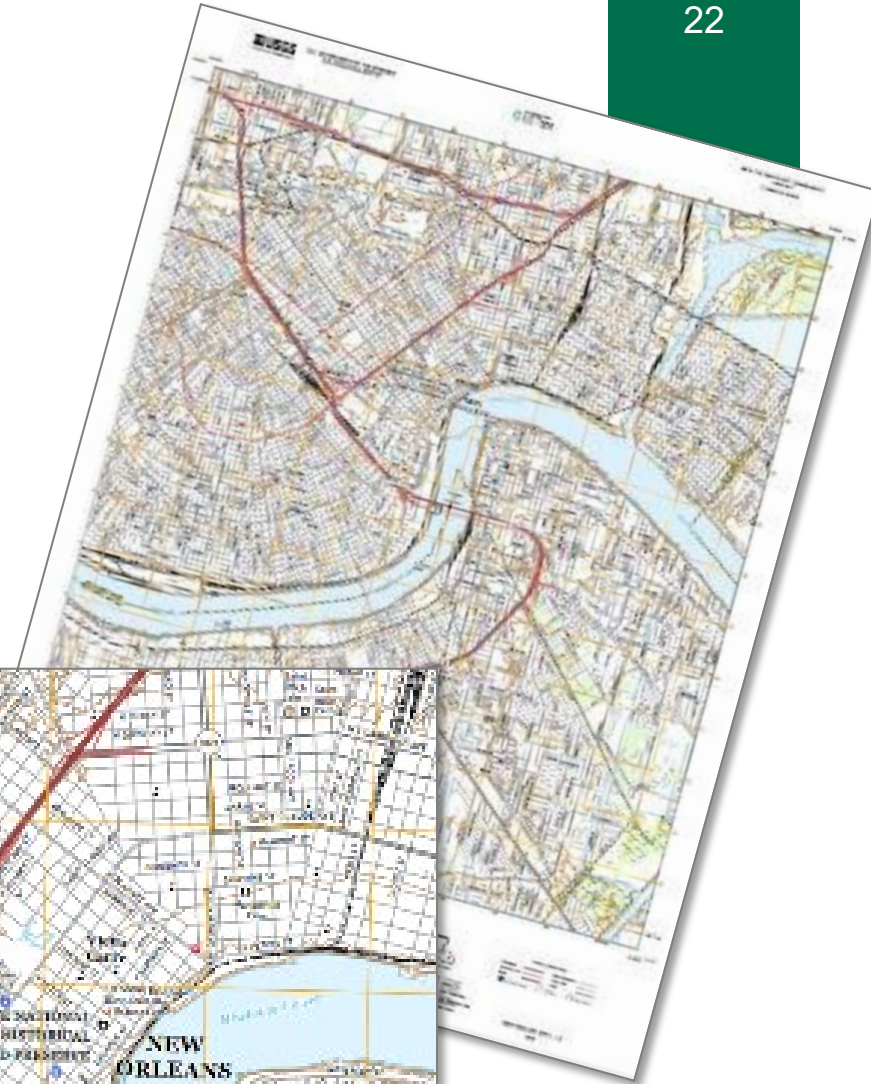
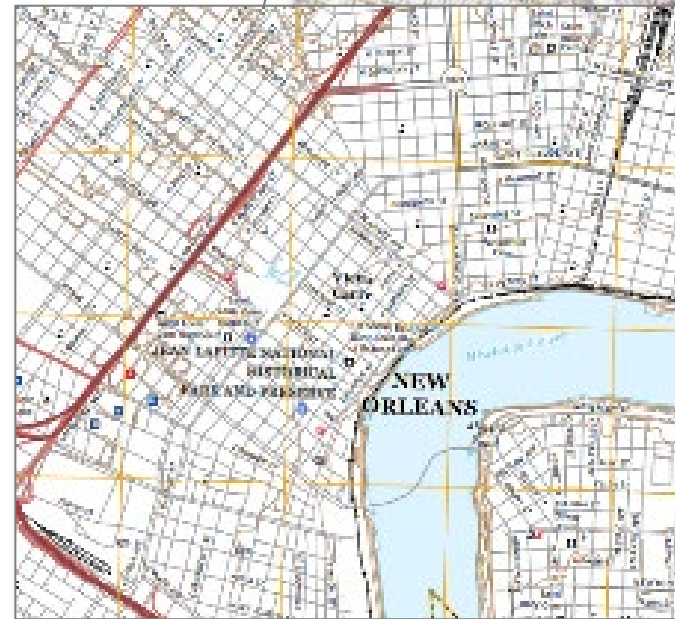


[apps.nationalmap.gov](https://apps.nationalmap.gov)



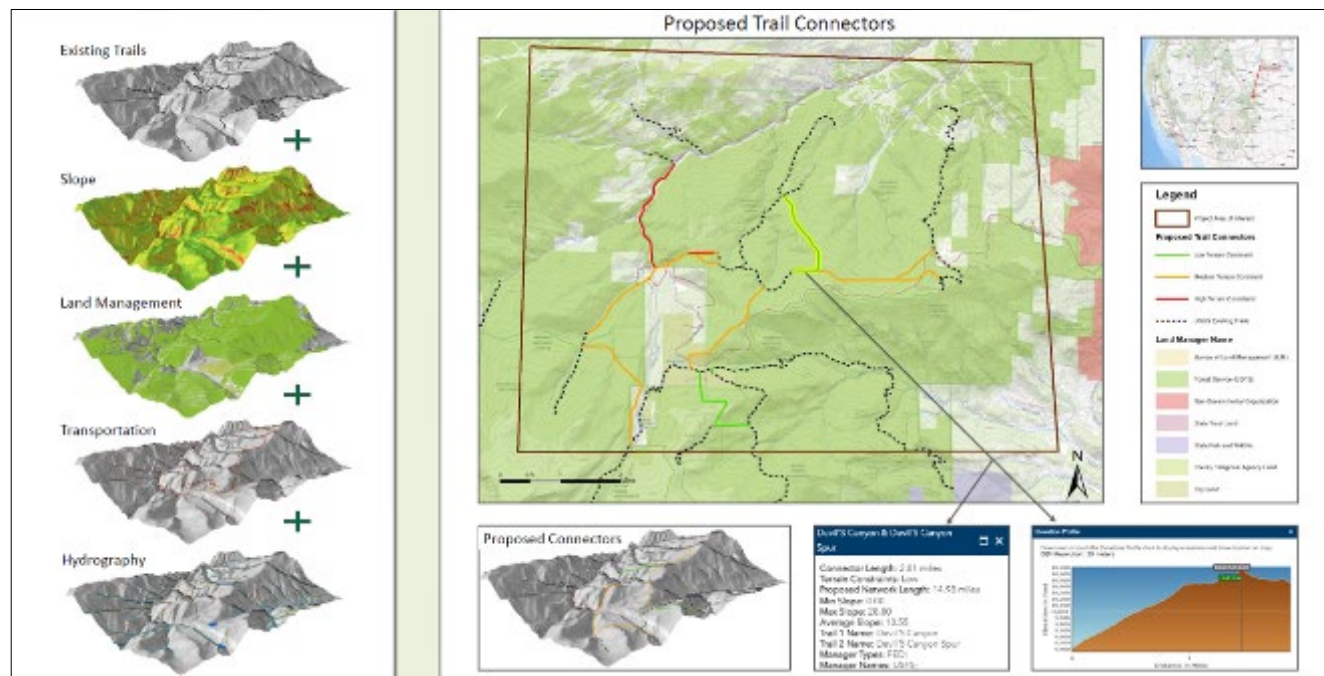
# + TNM Support Theme Data

- Boundaries, Transportation, Structures, Imagery, Land Cover
- Foundation for representing the topography, natural landscape, and manmade environment of the United States and U.S. territories
- Nationally consistent and up-to-date data
- Framework to contextualize
- Evolving product with continuously improving content



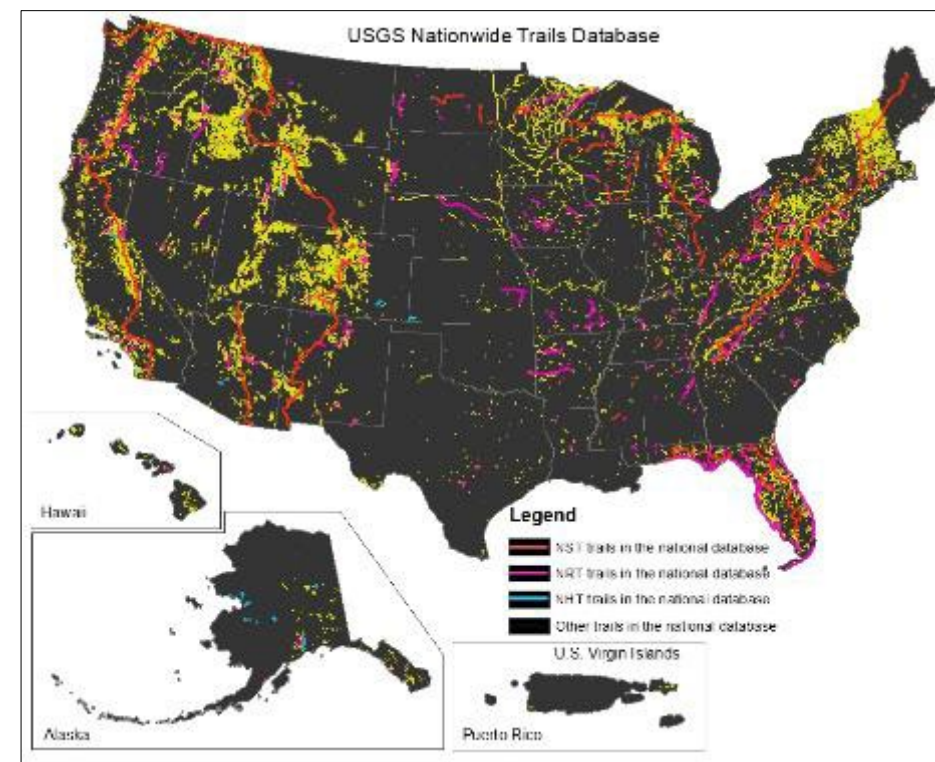
# NGP – National Digital Trails Project

*“Providing data and tools to enable land managers to visualize opportunities to increase connectivity within the existing trail networks and to improve access to federal lands.”*



The web-based trail route planning tool promotes connectivity between trails and improves access to public lands.

- ~290K miles of trails
- 5 federal agencies
- 36 states
- 4 trail orgs
- Public domain
- Authoritative
- Promotes planning & sharing





# Partnerships

- The National Map relies on relationships with partners and users – **you are important to us!**
- National Map Liaisons across the country working with States, Tribes, local governments
- Other UE staff outreaching to Federal partners and to national organizations
- If you have questions – contact us – we are here to help!

[usgs.gov/UserEngagement](https://usgs.gov/UserEngagement)



## USGS National Map Liaisons Engagement Areas



+

# Data Access

- The National Map – Data Delivery Homepage

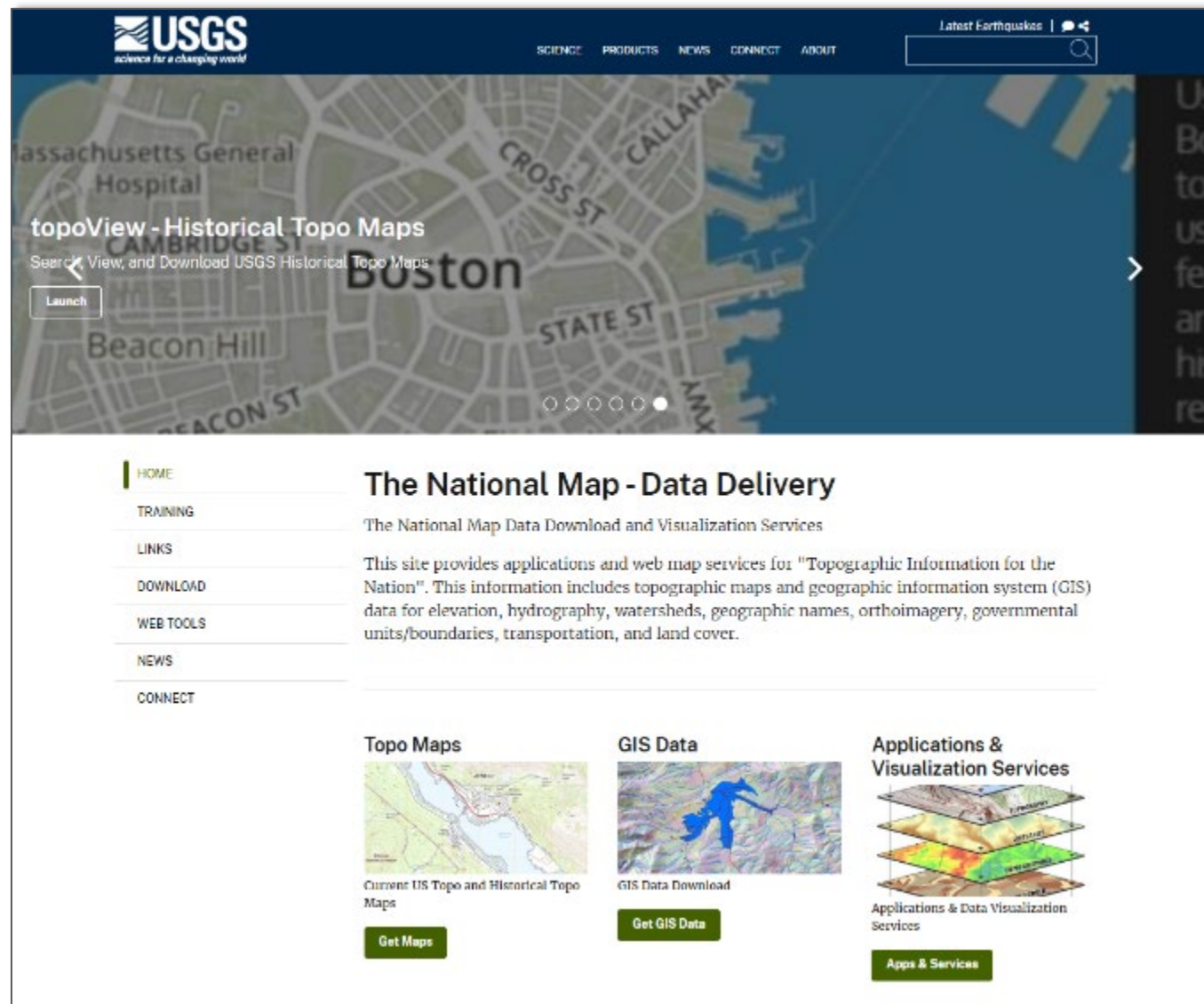
[usgs.gov/NationalMap/data](https://usgs.gov/NationalMap/data)

- Landing page quick access to....

- Applications and Visualization Services

- Topo Maps

- GIS Data





# The National Map Services

Expand All

Collapse All

Reset

Show only these categories ▾

Base Maps (Cached)

Availability/Index Overlays (US Topo, 3DEP...)

Land Cover

Theme Overlays (NHD, Names, Elevation, Transportation...)

Natural Hazards

Other Featured Data

Web Feature Services (WFS)

WCS Services

Other Services

[Get Notifications about Changes to our Services](#)

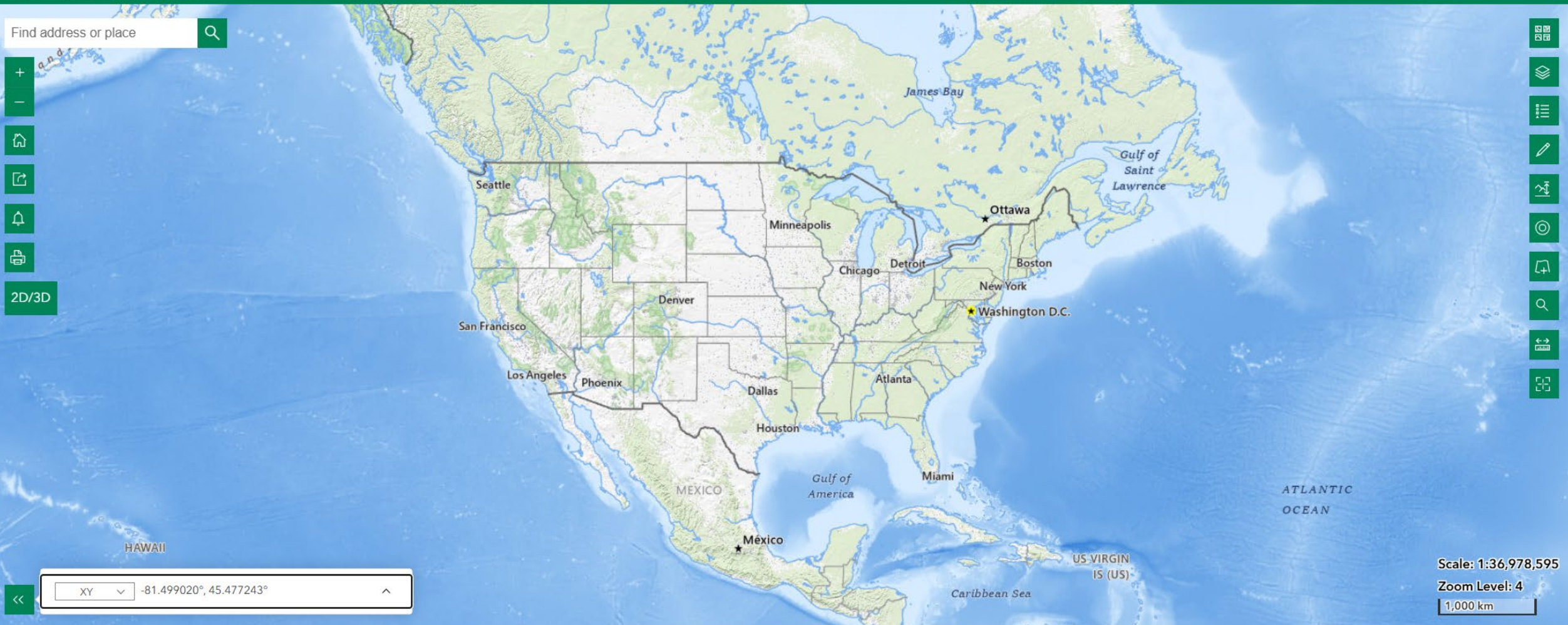
Find address or place



2D/3D



XY  -81.499020°, 45.477243°



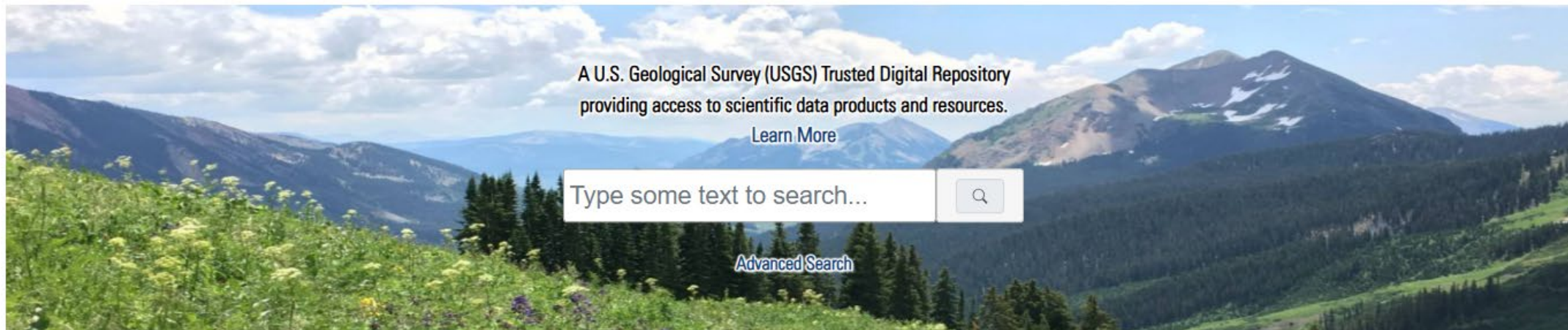
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau... Powered by Esri



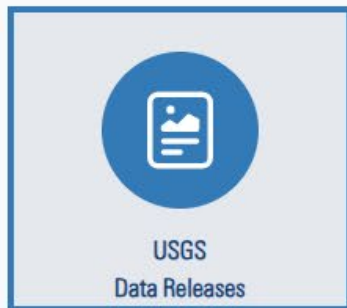


ScienceBase

LOGIN



## Browse ScienceBase Categories



USGS  
Data Releases



Maps and  
Map Services



Photo  
Collections



ScienceBase  
Communities



[sciencebase.gov/catalog](https://sciencebase.gov/catalog)

# Data Access Links

## 1. ScienceBase

[sciencebase.gov/catalog](https://sciencebase.gov/catalog)

## 2. The National Map Viewer

TNM Video Series: Lessons 3a - 3c

<https://apps.nationalmap.gov/viewer/>

## 3. The National Map Services

TNM Video Series: Lessons 5a – 5b

<https://apps.nationalmap.gov/services/>

## 4. The National Map Downloader

TNM Video Series: Lessons 4a - 4d

<https://apps.nationalmap.gov/downloader/>

## 5. Rockyweb (Cloud Storage links)

<https://rockyweb.usgs.gov/vdelivery/Datasets/Staged/Elevation/>

## 6. 3DEP LidarExplorer

[TNM Video Series: Lesson 10k1](#)

<https://apps.nationalmap.gov/lidar-explorer/>

## 7. US Interagency Elevation Inventory (USIEI)

[TNM Video Series: Lesson 11a](#)

<https://coast.noaa.gov/inventory/>

## 8. topoBuilder

[TNM Video Series: Lesson 17.1](#)

<https://topobuilder.nationalmap.gov/>



# Where are you going to explore first?



Cynthia Ritmiller  
[critmiller@usgs.gov](mailto:critmiller@usgs.gov)  
303-202-4550