



# topoBuilder and OnDemand Topo

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# topoBuilder is...

...an application to make your own topographic map

...created **on demand**

...centered **where you want**

...in **multiple formats**

...with the **best available** National Map data





# topoBuilder supports...

...responsible **resource management**

...sustainable **energy development**

...natural hazard **risk reduction**

...**recreation** and **tourism**

...**public health** and **security**



# Demo

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



# Open the app, select map type

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topoBuilder Application v: 1.0.0 User Guide

① Map Types

② Maps


③ Cart 0

④ Help

### Map Types

Select a map type, then click Next

☒ 7.5 Minute Topo



**NEXT**


Find address or place

+

-

Home

Layers



600 mi

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 GI... Powered by Esri



# Zoom to your area of interest

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topoBuilder Application

[User Guide](#)

① Map Types  
② **Maps**  
③ Cart 0  
④ Help

**Maps**  
Select area of interest on the map  
Zoom in to display Grid

7.5-Minute Topo

Select a map to begin

SELECT BY GRID(S)  
CUSTOM SELECT  
MOVE

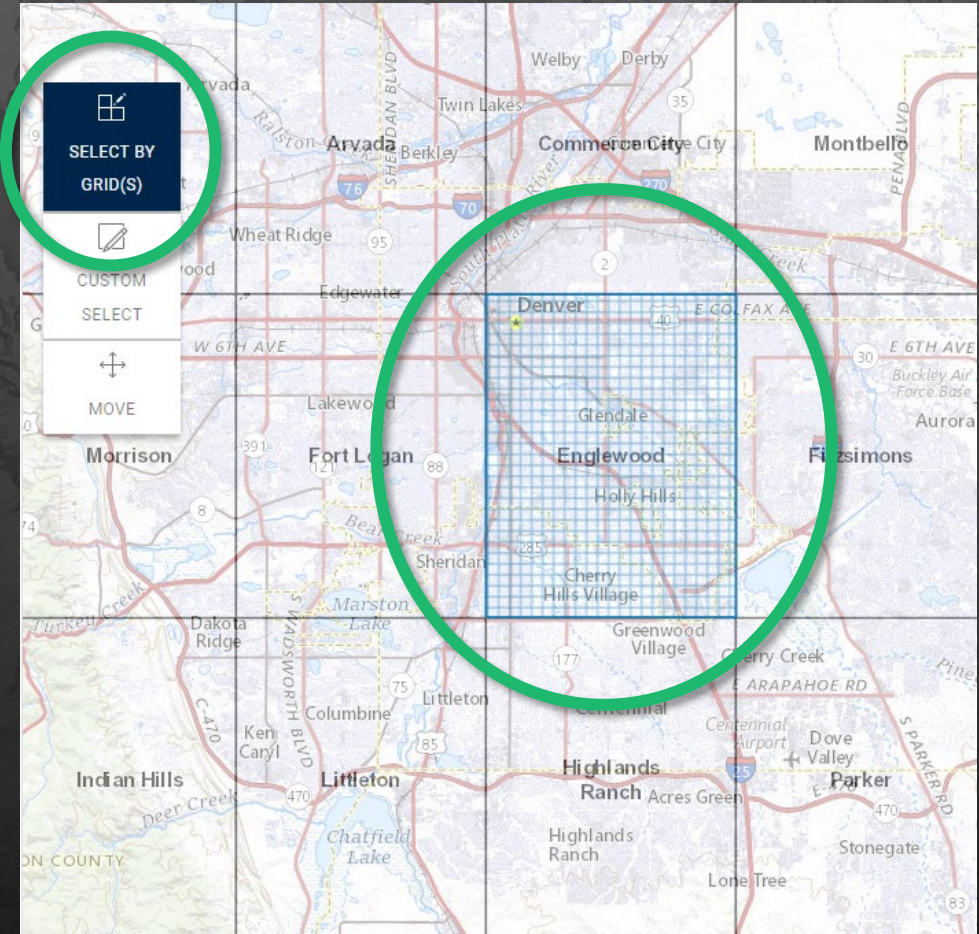
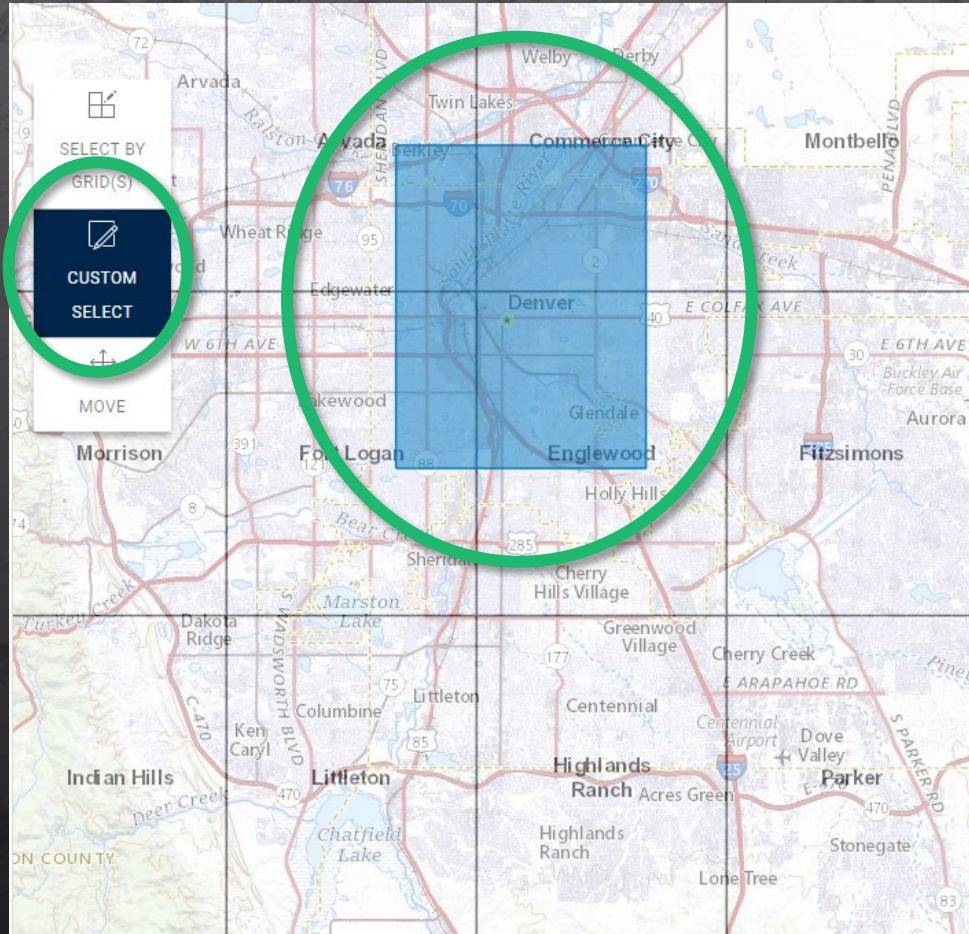
Find address or place

600 mi

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 ... Powered by Esri



# Choose your map extent





# Choose your export options

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① Map Types  
② Maps  
③ Cart 0  
④ Help

**Maps**  
Select area of interest on the map

Zoom in to display Grid

7.5-Minute Topo

UNSELECT ALL HIDE OPTIONS

☒ 7.5-Minute Topo 1

Format

PDF

Contour Smoothing

Low Medium High

BACK TO TOP

DELETE ADD GO TO CART

SELECT BY  
GRID(S)  
CUSTOM SELECT  
MOVE

7.5-Minute Topo

UNSELECT ALL HIDE OPTIONS

☒ 7.5-Minute Topo 1

Format

PDF

PDF

TIFF

Low Medium High

BACK TO TOP

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Data, and Cover Database, National Structures Dataset, and National Transportation Dataset; USGS. Powered by Esri



# Choose your contour smoothness

① Map Types

② Maps

③ Cart 0

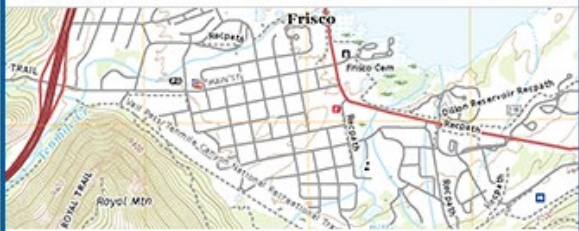
④ Help

## Maps

Select area of interest on the map

☐ Zoom in to display Grid




7.5-Minute Topo



UNSELECT ALL

HIDE OPTIONS

☒ 7.5-Minute Topo 1



Format


PDF

Contour Smoothing

Low

Medium

High




BACK TO TOP

## Contour Smoothness Guide


### Low Smoothing


Contours will portray the landscape and topographic features at a high detail allowing the user to better identify geographic surface characteristics. These contours are best for scientific research such as Geology, Geomorphology, and Hazards.




### Medium Smoothing

Contours are the classic topographic look found on many maps. Topographic features







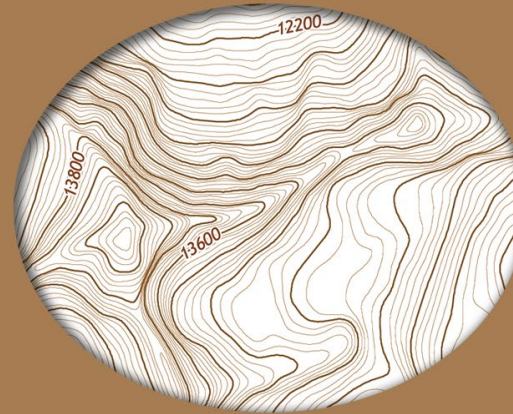
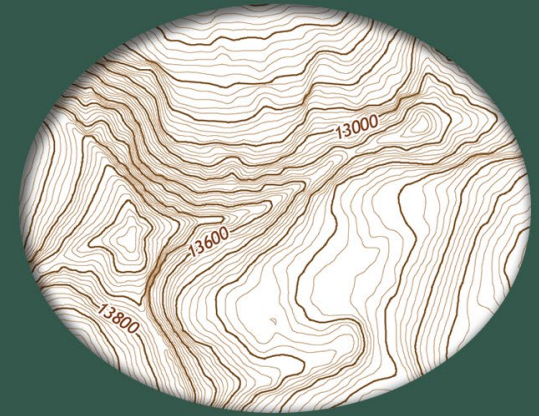


## More about contours

- Generated on the fly
- Use highest-resolution, best available 3DEP data
- $\frac{1}{3}$  arc-second,  $\frac{1}{9}$  arc-second, and 1 meter resolution in CONUS
- 2 meter in Alaska
- $\frac{1}{3}$  arc-second in U.S. territories

### low smoothing high detail

These highly detailed contours allow the user to identify surface features and landforms. Best suited for geology, geomorphology, and natural hazards.

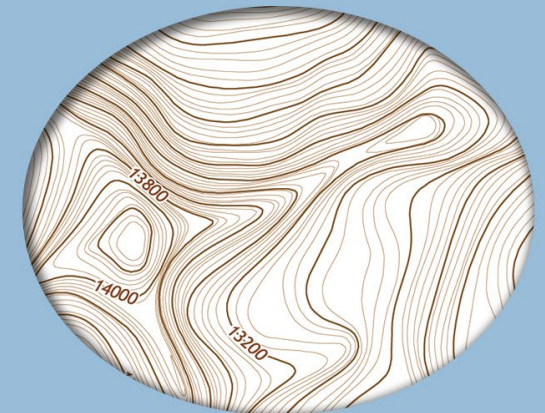


### medium smoothing medium detail

Closest to the US Topo style, the reduced detail permits better map readability. Best for recreation, geocaching and orienteering, land management, and emergency management.

### high smoothing low detail

This option shows only general topography. Smaller features may not appear. Best for thematic maps, urban planning, transportation management, and demography.





# Low smoothing

- Contours portray the landscape in high detail.
- Detailed contours allow easier identification of geographic formations.
- Best for geology, geomorphology, and natural hazards.





# Medium smoothing

- Similar to contours on US Topo maps.
- Topographic features have reduced detail for better readability.
- Best for recreation, geocaching and orienteering, physical science research, land management, and emergency response.






# High smoothing

- Contours show a generalized view of the land.
- Smaller geographic features may be missing.
- Best for thematic maps, urban planning, transportation management, and depiction of cultural features.





# Add to cart



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User Guide

① Map Types

② Maps

③ Cart 0


④ Help

### Maps

Select area of interest on the map

☐ Zoom in to display Grid

7.5-Minute Topo



UNSELECT ALL HIDE OPTIONS

☒ 7.5-Minute Topo 1

Format

PDF

Contour Smoothing

Low Medium High

BACK TO TOP

DELETE

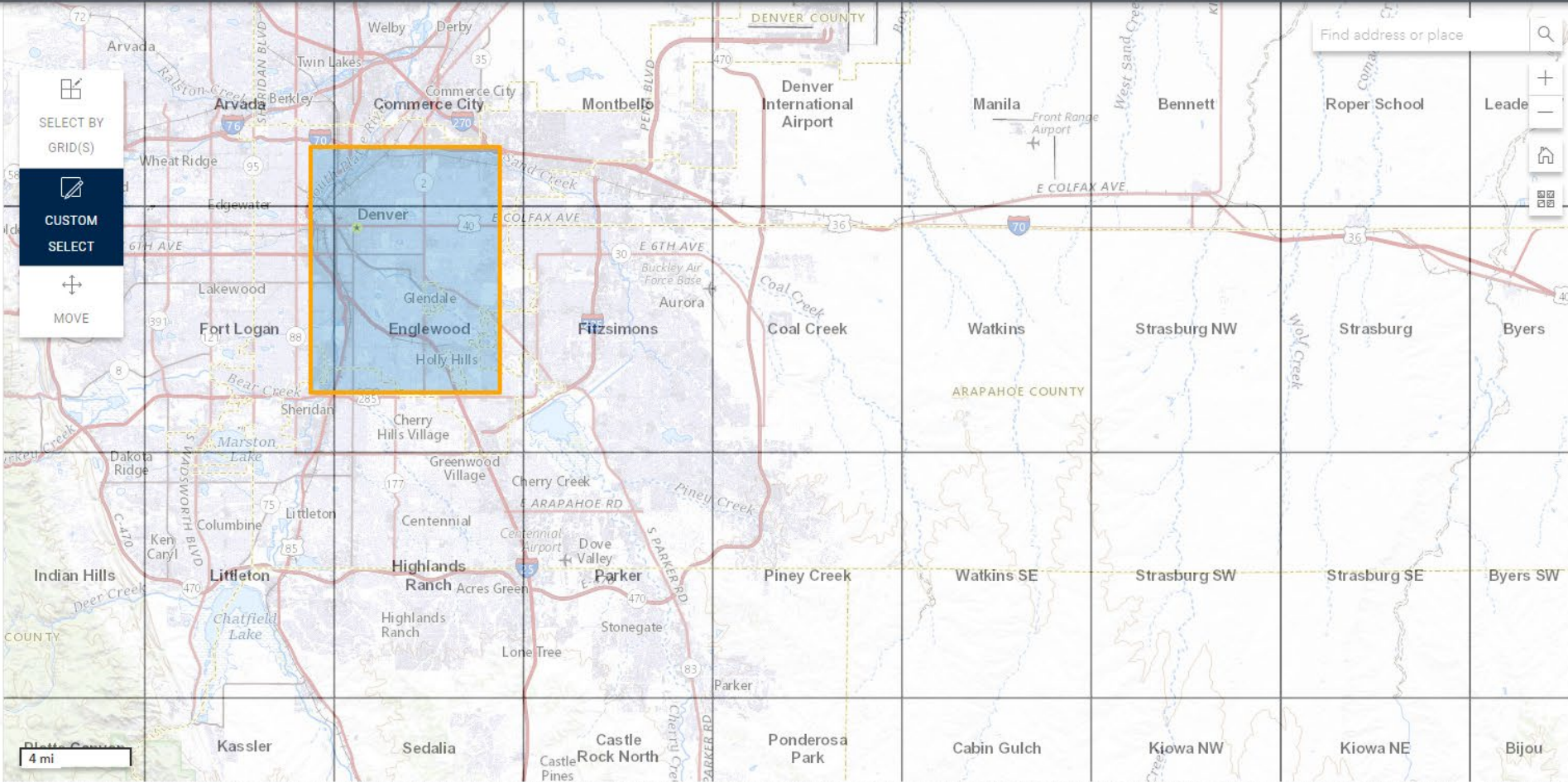
ADD

GO TO CART

SELECT BY GRID(S)

CUSTOM SELECT

MOVE




Find address or place

4 mi

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 ... Powered by Esri



# Review selections in cart



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User Guide

① Map Types

② Maps

③ Cart 1

④ Help

Cart

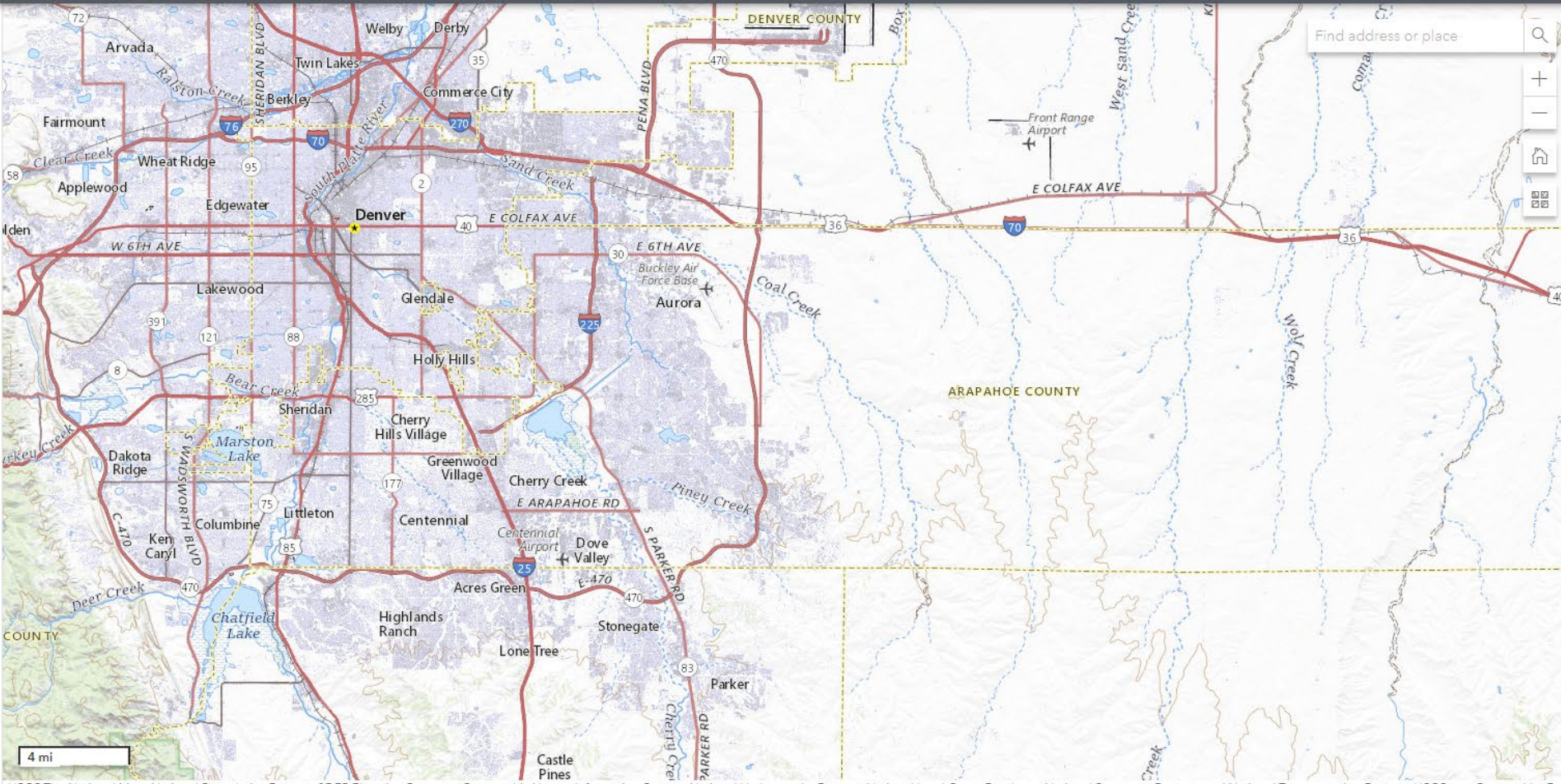
Edit and Checkout Maps

7.5-Minute Topo

- 7.5-Minute Topo 1
  - Custom Extent
  - Medium Contour Smoothing
  - Production PDF Format

EDIT MAPS

CHECKOUT



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# Edit maps if necessary

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① Map Types

② Maps

③ Cart 1


④ Help

### Edits

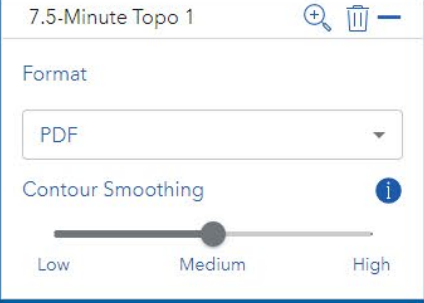
Make edits to maps

☒ Display Grid

7.5-Minute Topo



7.5-Minute Topo 1



Format

PDF

Contour Smoothing

Low

Medium

High

BACK TO TOP

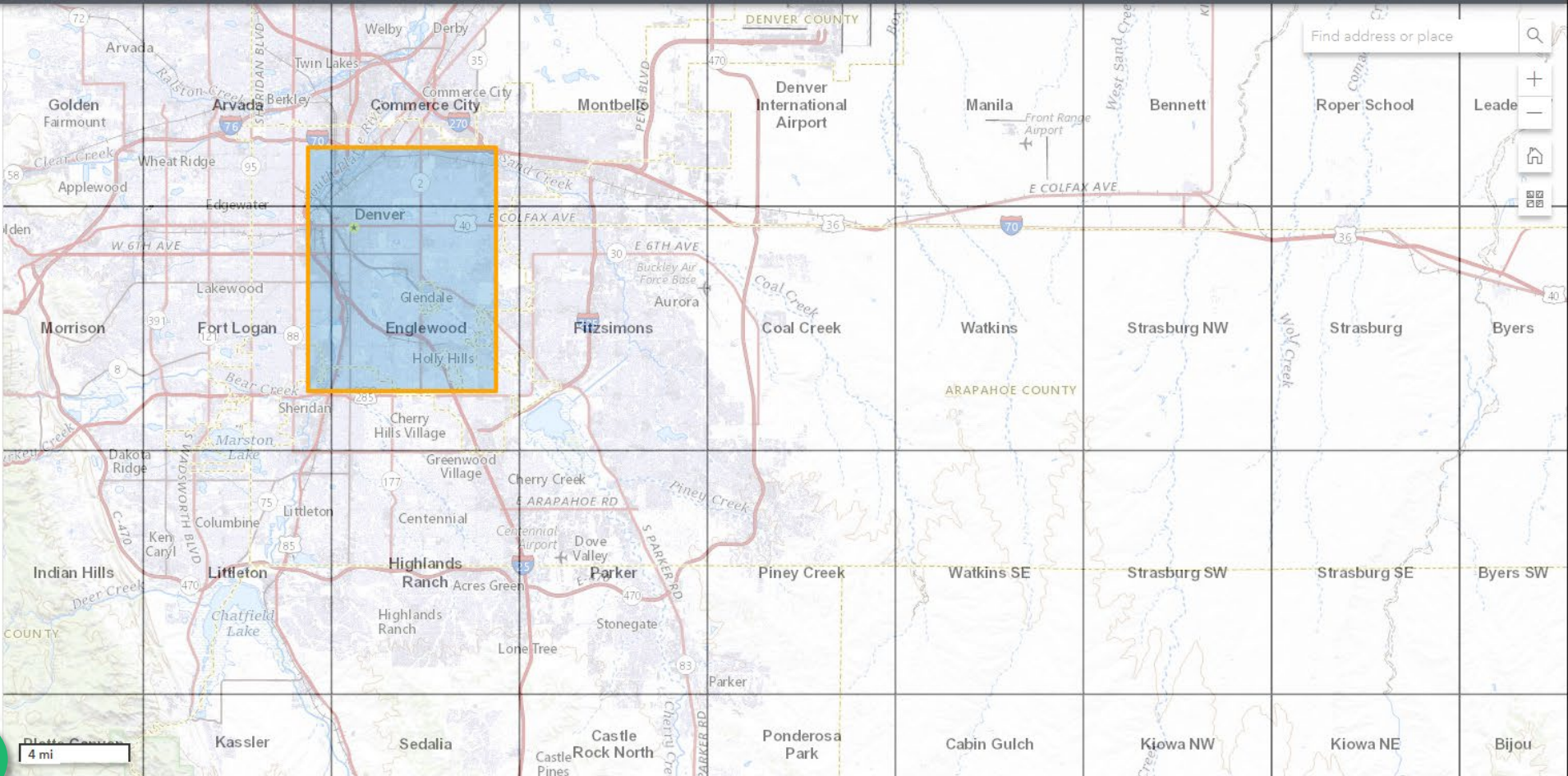
CANCEL

SAVE

Find address or place

+

-



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 ... Powered by Esri



# Checkout



topoBuilder Application v: 1.0.0

User Guide

① Map Types

② Maps

③ Cart 1

④ Help

## Cart

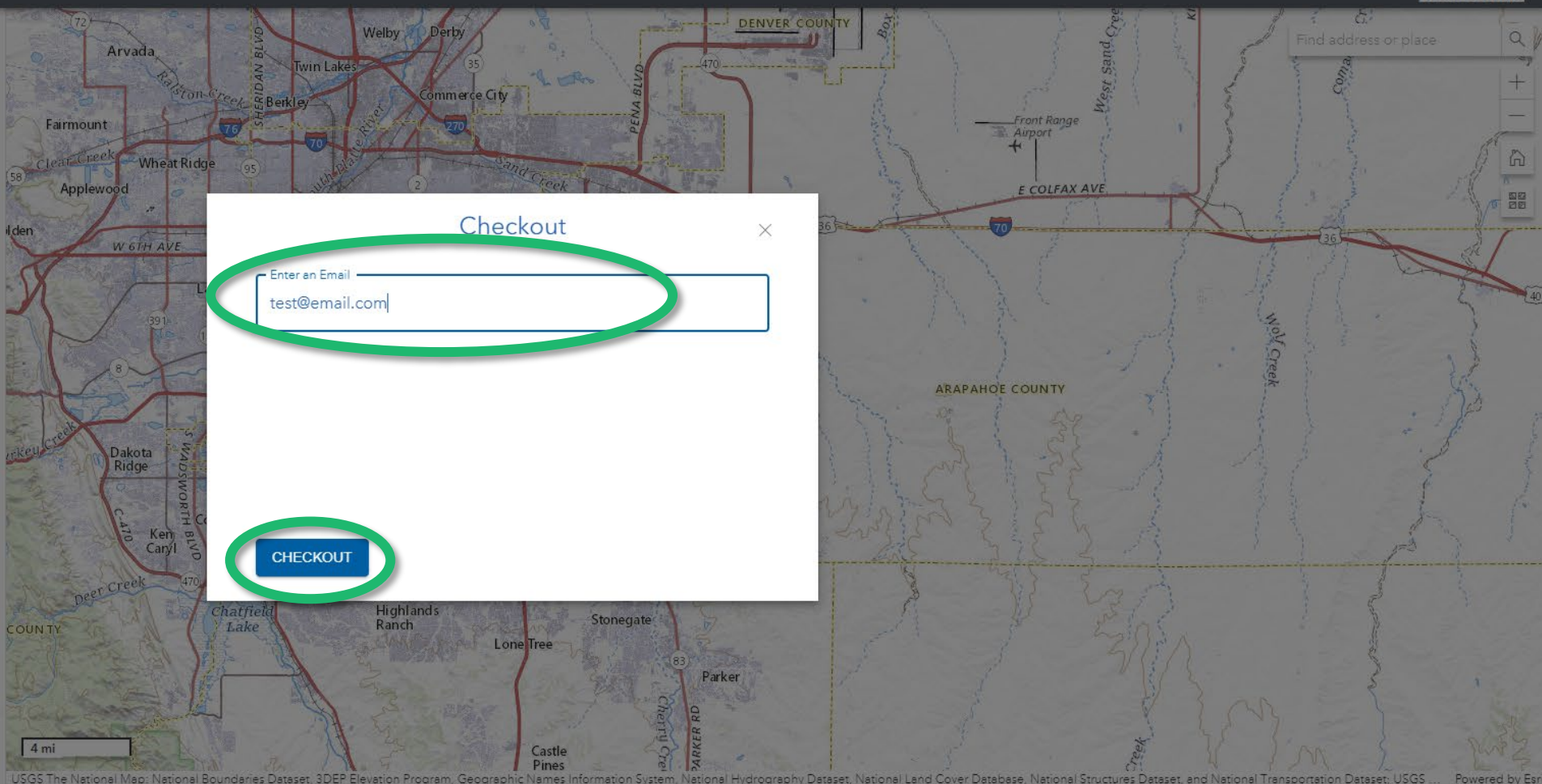
Edit and Checkout Maps

### 7.5-Minute Topo

- 7.5-Minute Topo 1
  - Custom Extent
  - Medium Contour Smoothing
  - Production PDF Format

EDIT MAPS

CHECKOUT





# What next?

## USGS Map Request



no-reply-mapdelivery@usgs.gov

Mon 1/10/2022 11:59 AM

To: Baker, Josefa M

Hello

Thank you for your order. The following map(s) have been successfully submitted.

- 7.5-Minute Topo 1

Your order is in queue for processing. An email with a link will be sent when your map(s) are ready for download. Please contact us at [tnm\\_help@usgs.gov](mailto:tnm_help@usgs.gov) with questions.

Thank you,  
U.S. Geological Survey  
National Geospatial Program



## Completed Map Request



no-reply-mapdelivery@usgs.gov

Mon 1/10/2022 12:52 PM

To: Baker, Josefa M

Hello

Thank you for your order. The following map has completed successfully and is ready for you to download. Follow the link provided to access your map.

75MinuteTopo1

- Custom Selected Map
- Contour Smoothness: Medium
- 24K Topographic Map Type
- 1:24000 Scale
- Production PDF Format

[https://topobuilder-delivery.usgs.gov/MapDelivery/VA\\_75MinuteTopo1\\_20220110\\_170035\\_TM\\_geo.pdf?Expires=1649613160&Signature=F8WtUyviS5djbHgGQu3gNZCRogkaQVRaAGpm1FivmGnFMyEtNvesh-s3bb5gyYV4--atPjvaol2ZsxVRCbMRi6GCJTk7UnE669X-0R27i9Q7jNebDe2RagO8gkQNGw3z9j22oCxdhmLU4xqpUz9rJ5wPMj63nZC68f7vXQ-Wgi8IMOtG9Qfr-oQCUs1fNWMoHsUcS-clvYQRXha5Vjx8QWUCW7msYilDHhe3APEnukqhlNBQ-vDShx6TKOI7S71Xq2kzV6QgKXVWYEVCCak--JswTvOTbn2KpDGunLzdWqKWEGFjfdTWknrutjMtR5dnNCSq1bCOeRIJHDrxVXZxwT1w\\_&Key-Pair-Id=K151FLKNF8L655](https://topobuilder-delivery.usgs.gov/MapDelivery/VA_75MinuteTopo1_20220110_170035_TM_geo.pdf?Expires=1649613160&Signature=F8WtUyviS5djbHgGQu3gNZCRogkaQVRaAGpm1FivmGnFMyEtNvesh-s3bb5gyYV4--atPjvaol2ZsxVRCbMRi6GCJTk7UnE669X-0R27i9Q7jNebDe2RagO8gkQNGw3z9j22oCxdhmLU4xqpUz9rJ5wPMj63nZC68f7vXQ-Wgi8IMOtG9Qfr-oQCUs1fNWMoHsUcS-clvYQRXha5Vjx8QWUCW7msYilDHhe3APEnukqhlNBQ-vDShx6TKOI7S71Xq2kzV6QgKXVWYEVCCak--JswTvOTbn2KpDGunLzdWqKWEGFjfdTWknrutjMtR5dnNCSq1bCOeRIJHDrxVXZxwT1w_&Key-Pair-Id=K151FLKNF8L655)

The file will be deleted on: 2022-02-09.  
Please contact us at [tnm\\_help@usgs.gov](mailto:tnm_help@usgs.gov) with questions.

Thank you,  
U.S. Geological Survey  
National Geospatial Program



- You will receive an email that your request was submitted.
- When the map is ready to download, you will receive a second email with a direct download link.



# If your request fails...

Hello

There was an error that prevented your order from being completed. The following maps failed to export:

StarMountain

- Grid Selected Area Map
- Contour Smoothness: Medium
- 24K Topographic Map Type
- 1:24000 Scale
- TIFF Format

The Error is:

The Map Export Process Failed. Error Message: The row supplied is not the row expected [dynamap.dynamap.MapExportMetadata\_production]

Please contact us at [tnm\\_help@usgs.gov](mailto:tnm_help@usgs.gov) with questions.

Thank you,  
U.S. Geological Survey  
National Geospatial Program

- Your email will have the subject line “Map Export Failed”
- Please re-request your map or contact [tnm\\_help@usgs.gov](mailto:tnm_help@usgs.gov) with questions



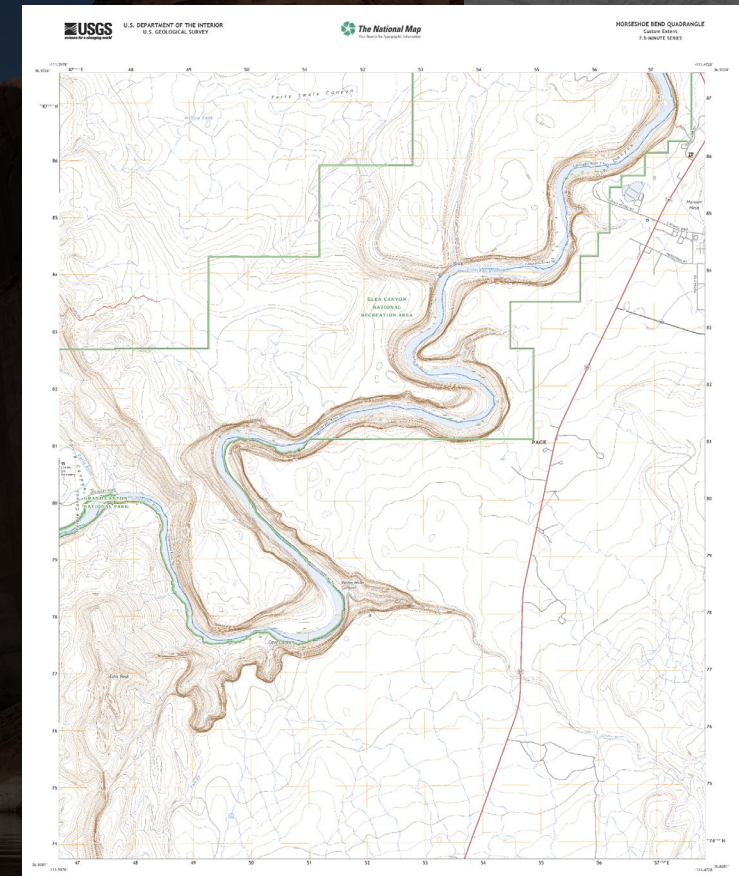
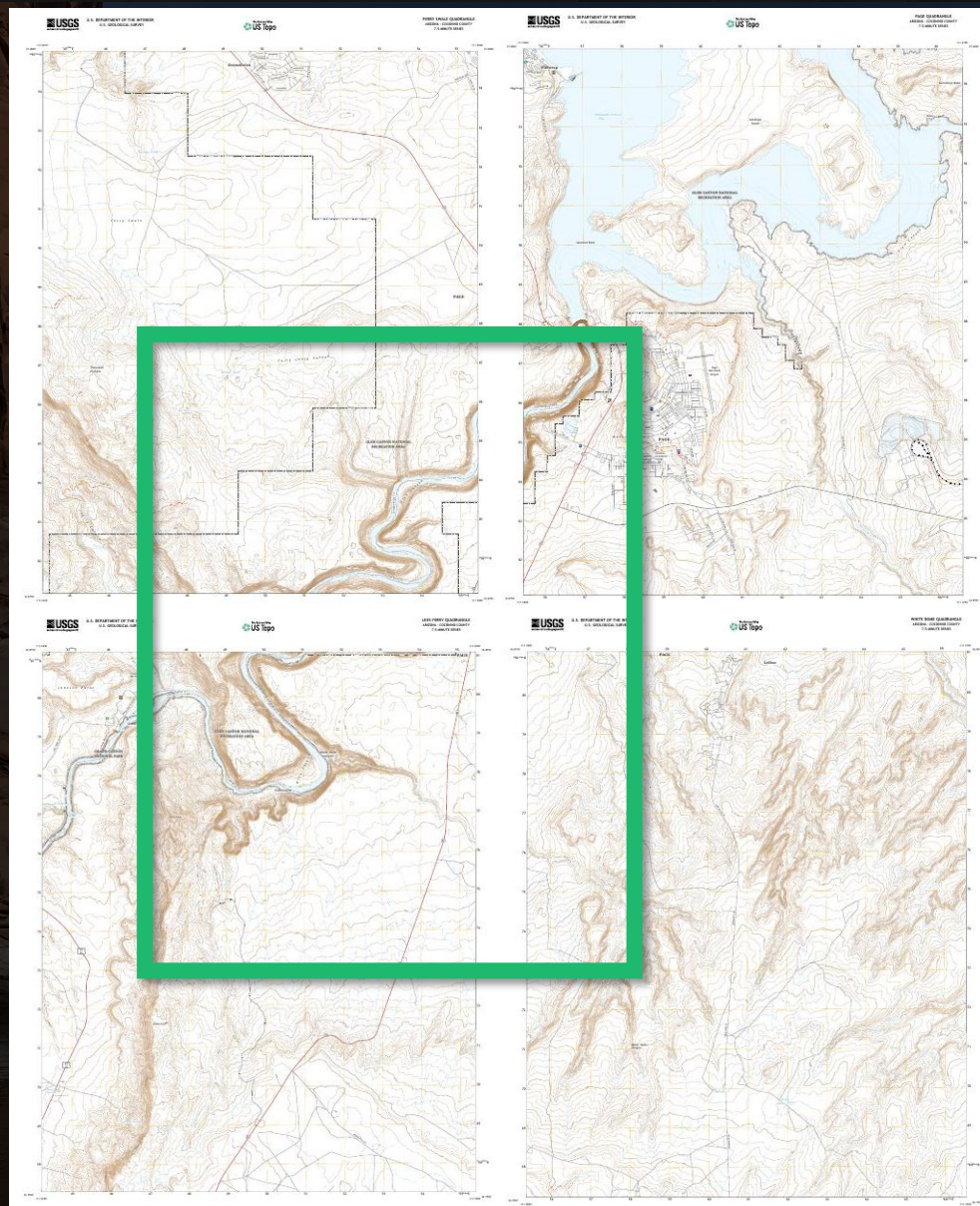
# Need help?

- [topoBuilder web page](#)
- [topoBuilder User Guide](#)
- [tnm\\_help@usgs.gov](mailto:tnm_help@usgs.gov)





# What's the difference?







# US Topo

- Staged
- Standard USGS quads
- Predesigned contours
- Updated on a 3-year schedule
- Free and immediate download (pay to print)

# OnDemand Topo

- On demand
- Custom extent
- Contours generated on the fly
- Uses best available data
- Currently available for a limited time





# US Topo

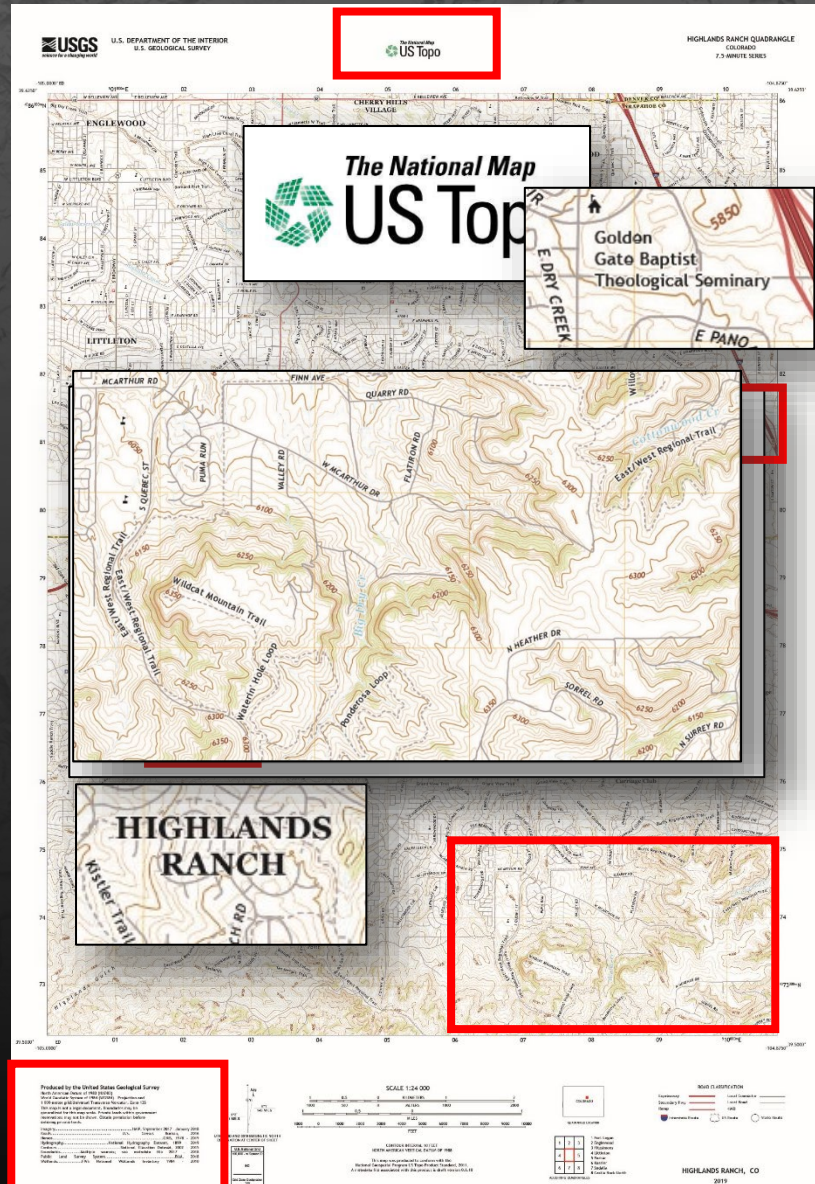
- 1:24,000 in CONUS & Hawaii
- 1:25,000 in Alaska
- 1:20,000 Puerto Rico & U.S. Virgin Islands
- Produced only at these three scales

# OnDemand Topo

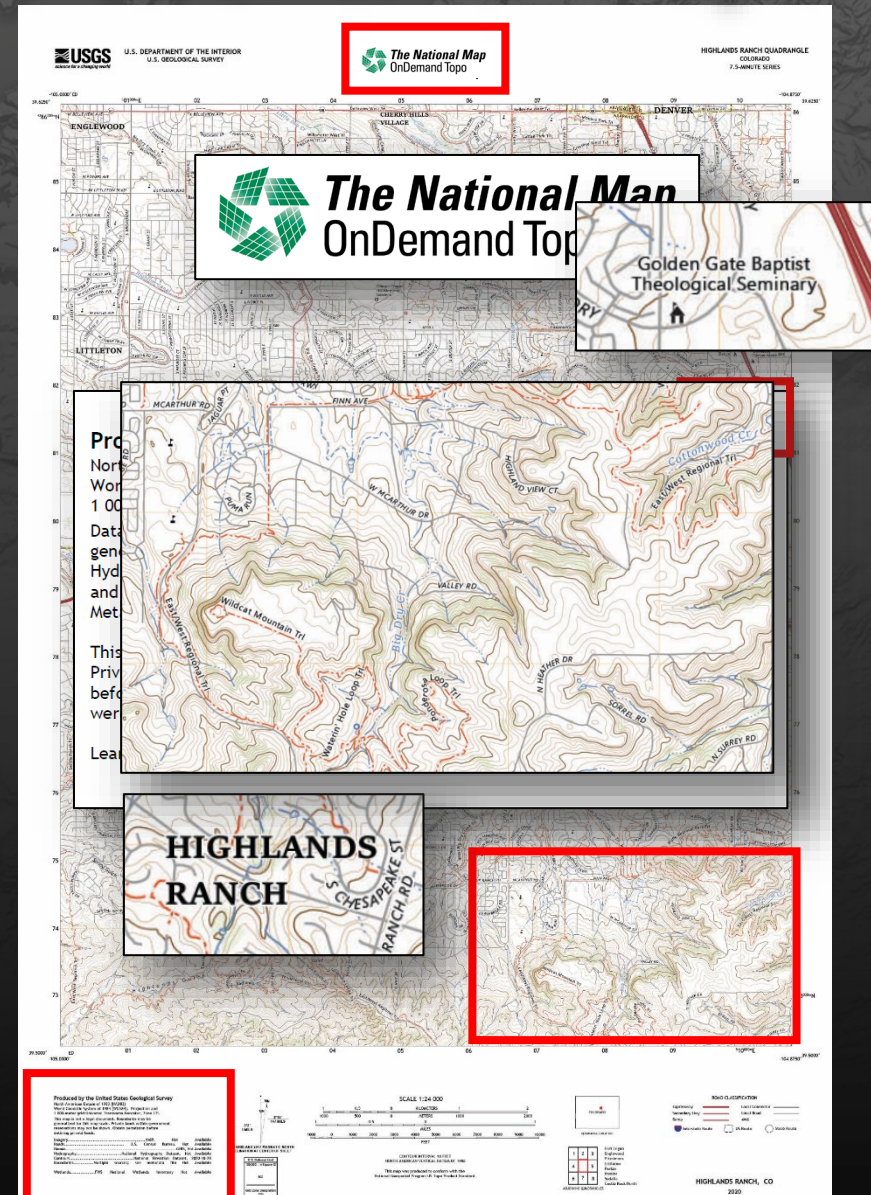
- 1:24,000 in CONUS and Hawaii
- 1:25,000 in Alaska
- 1:20,000 in Puerto Rico, U.S. Virgin Islands, American Samoa, Guam, and Northern Mariana Islands
- Multi-scale (in future releases)



# US Topo



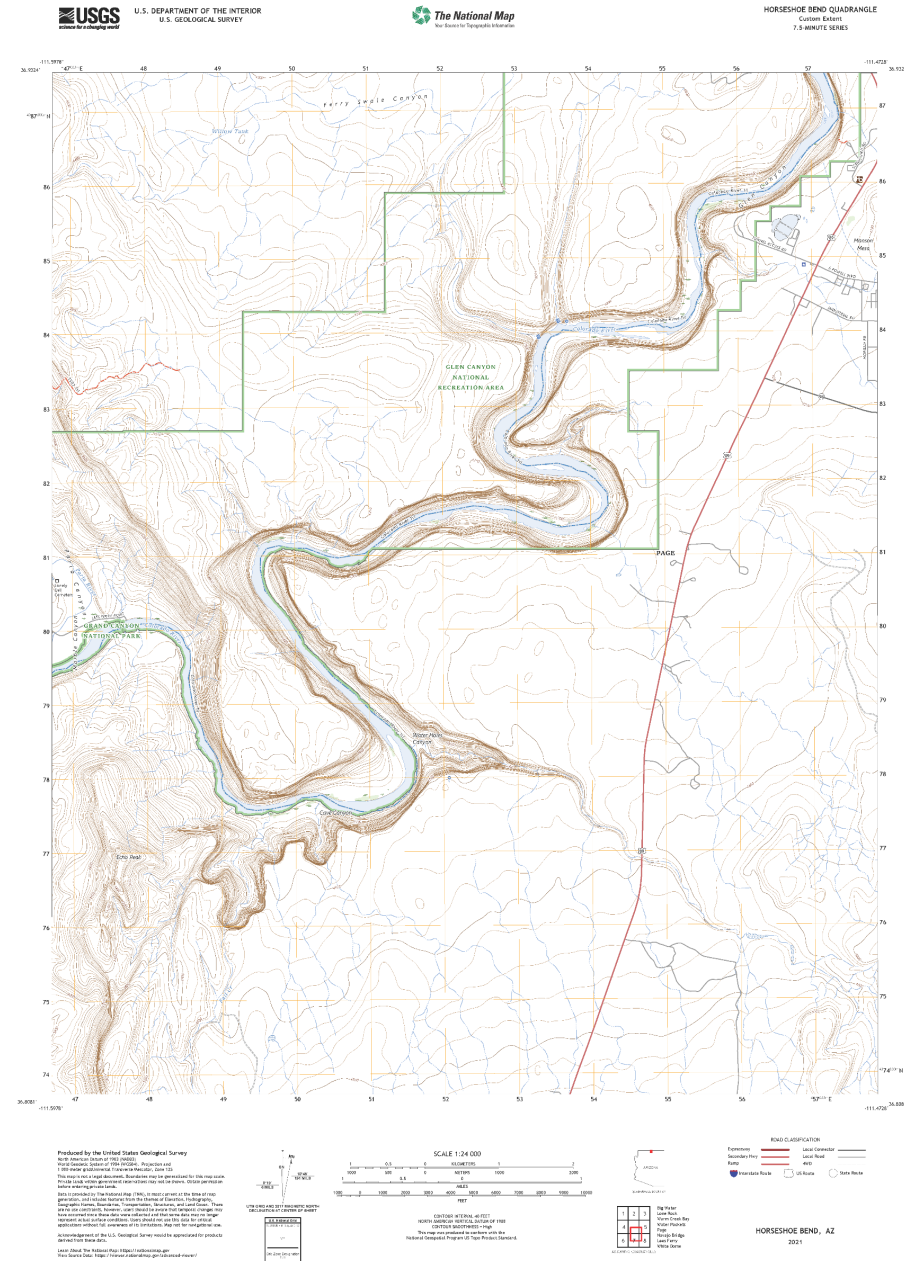
# OnDemand Topo





# Early 2022

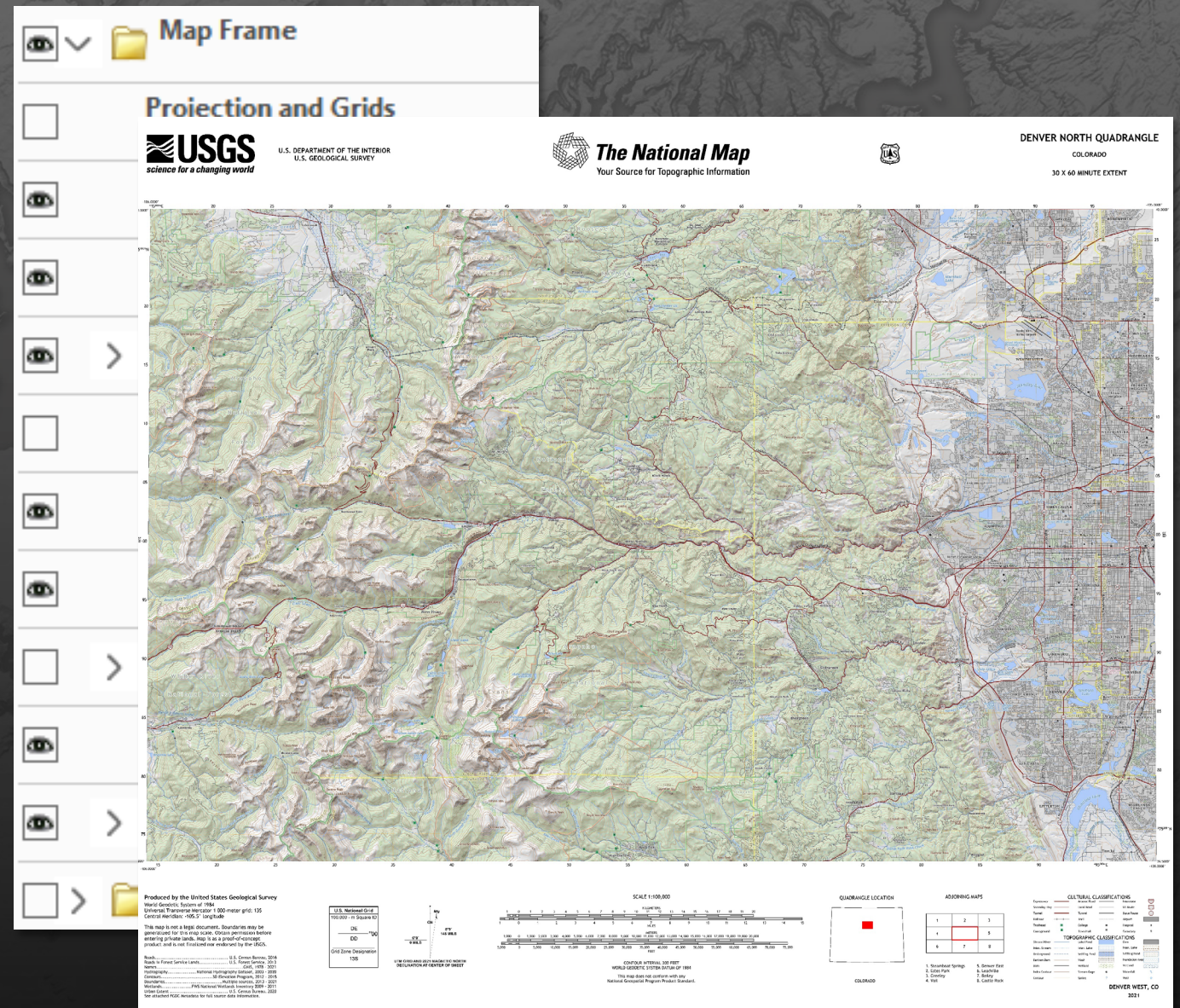
- Limited public pilot
- User centered extent
- Contour smoothing options
- 1:24,000 with additional scales for Alaska and U.S. territories
- GeoTIFF or Geospatial PDF output





# Fall 2022

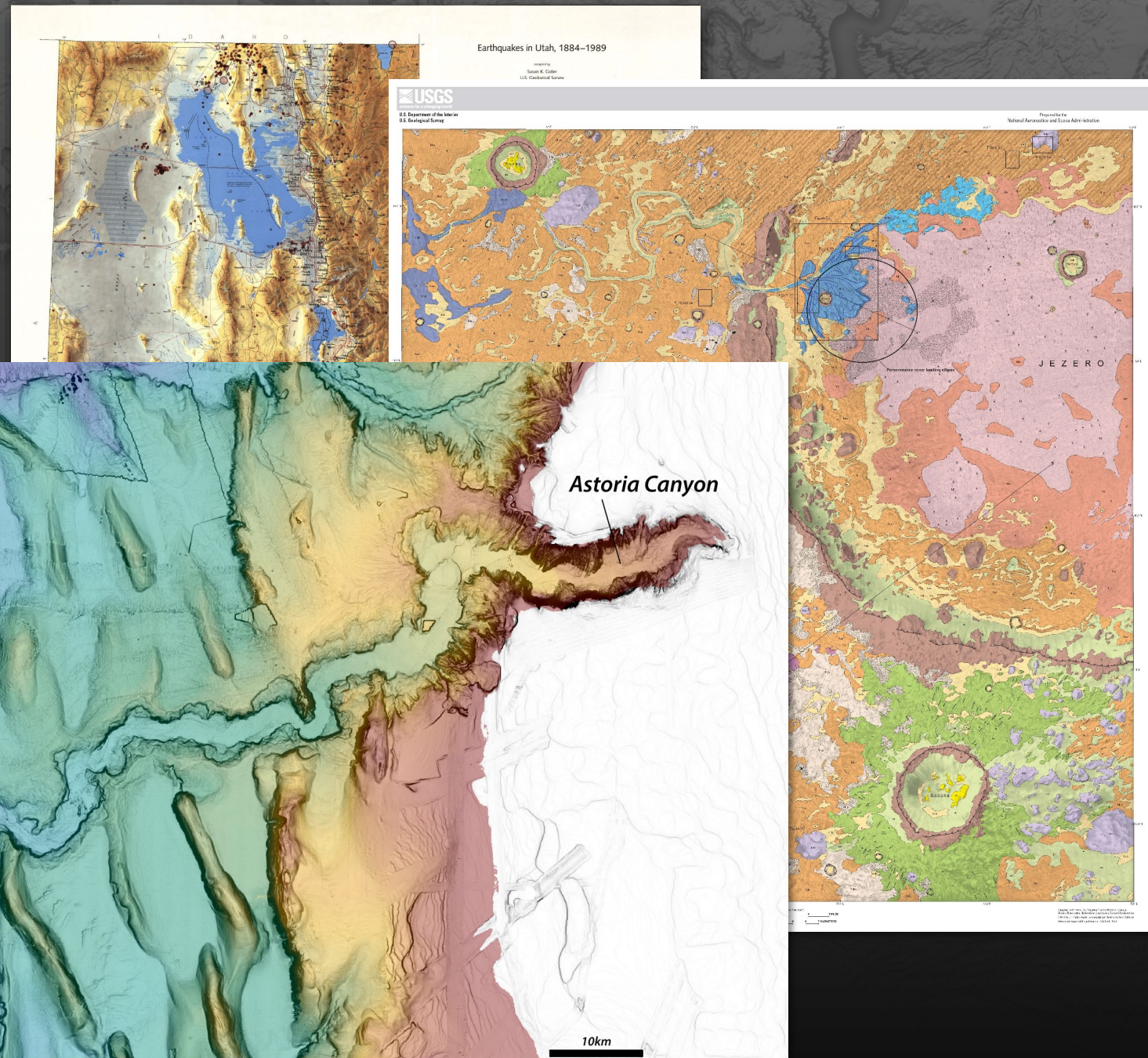
- Map Tracking ID
- User-selected layers
- 1:100,000-scale





# Future releases

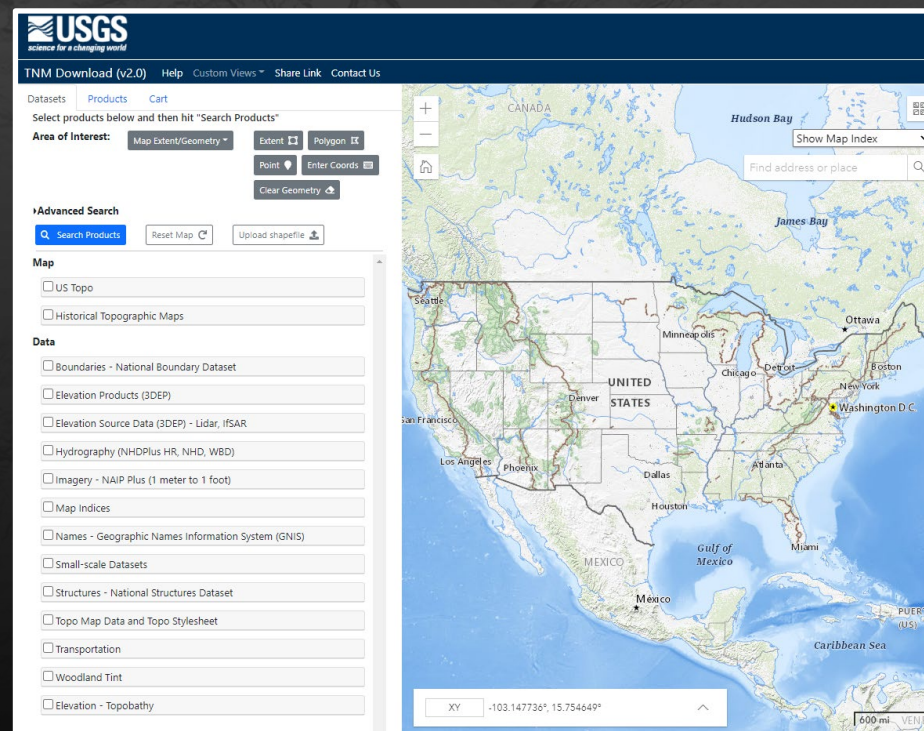
- User-added content
- Custom area of interest
- GIS data download
- Print
- Additional scales
- Additional map types





# Essential facts

- topoBuilder uses the best available data from The National Map to create OnDemand Topo maps
- Choose file format, area of interest, and level of contour smoothness
- Additional customizations, scales, map types are planned
- US Topo staged maps continue to be produced and are available as free and immediate downloads





# Questions and discussion

Claire DeVaughan

National Map Liaison

[cdevaugh@usgs.gov](mailto:cdevaugh@usgs.gov)

User feedback, help, or  
support:

Email [tnm\\_help@usgs.gov](mailto:tnm_help@usgs.gov)



**when you want**

created on demand



**where you want**

centered anywhere in  
the U.S. and territories



**what you want**

turn map layers on or off  
with Geospatial PDF



**The National Map**  
OnDemand Topo

On-Demand, Custom, Topographic Maps

start making yours at

**[topobuilder.nationalmap.gov](https://topobuilder.nationalmap.gov)**



**up-to-date**

uses latest available data  
from The National Map



**fast turnaround**

maps processed  
within 5 days



**delivered to you**

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sent to your email