



CalTopo is a powerful mapping platform that places cutting edge digital mapping tools at your fingertips.

How many are first time users of CalTopo, IMTs, attended any of the virtual classes?

How many have logged into CalTopo in preparation for this class? Need help?

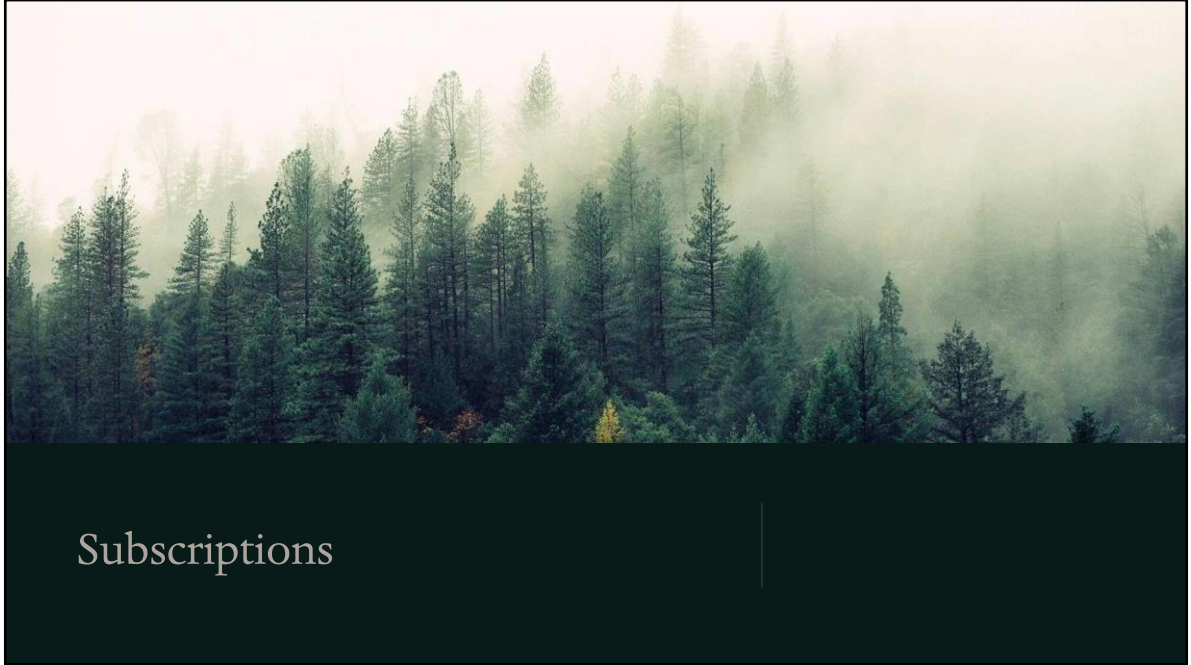
Bob Howell

- 47 years experience IT professional
- 12 years experience in Structure & Wildland Fire, EMS, Incident Management (Mayhill VFD)
- 7 years experience with NM SAR
- National Ski Patrol Alumni – outdoor emergency care and sled certified
- NM SAR Section Chief plans/ops/logs certified tracker
- NM SAR Ordering Manager
- NMSARC Board Member, Training Committee, Escape 2023 Organizing Committee

Agenda



- Introduction
- Subscription Comparison
- User Interface – Exercise #1
- Map Layers, Map Sheets, and Overlays – Exercise #2
- Map Objects – Exercise #3
- Printing
- Import/Export
- Resources



Caltopo is subscription-based service accessed initially online to establish account and download maps.
There are three types of subscriptions individual, team, first responder.

Individual Subscriptions

Free	Mobile	Pro	Desktop
<p>\$0.00</p> <ul style="list-style-type: none">✓ Class-Leading Maps And Tools✗ Offline Layers✗ Private Maps✗ Premium Layers✗ Advanced Planning Tools✗ Desktop Application✗ GIS Tools <p>Printing: 8.5x11 up to 200dpi</p> <p>Your current subscription ⚙️</p>	<p>\$20.00/year</p> <ul style="list-style-type: none">✓ Class-Leading Maps And Tools✓ Offline Layers ⓘ✓ Private Maps✗ Premium Layers✗ Advanced Planning Tools✗ Desktop Application✗ GIS Tools <p>Printing: 8.5x11 up to 200dpi</p>	<p>\$50.00/year</p> <ul style="list-style-type: none">✓ Class-Leading Maps And Tools✓ Offline Layers ⓘ✓ Private Maps✓ Premium Layers ⓘ✓ Advanced Planning Tools ⓘ✗ Desktop Application✗ GIS Tools <p>Printing: 36x48 up to 400dpi</p>	<p>\$100.00/year</p> <ul style="list-style-type: none">✓ Class-Leading Maps And Tools✓ Offline Layers ⓘ✓ Private Maps✓ Premium Layers ⓘ✓ Advanced Planning Tools ⓘ✓ Desktop Application ⓘ✓ GIS Tools ⓘ <p>Printing: 48x66</p>

Paperclip link to training user guide

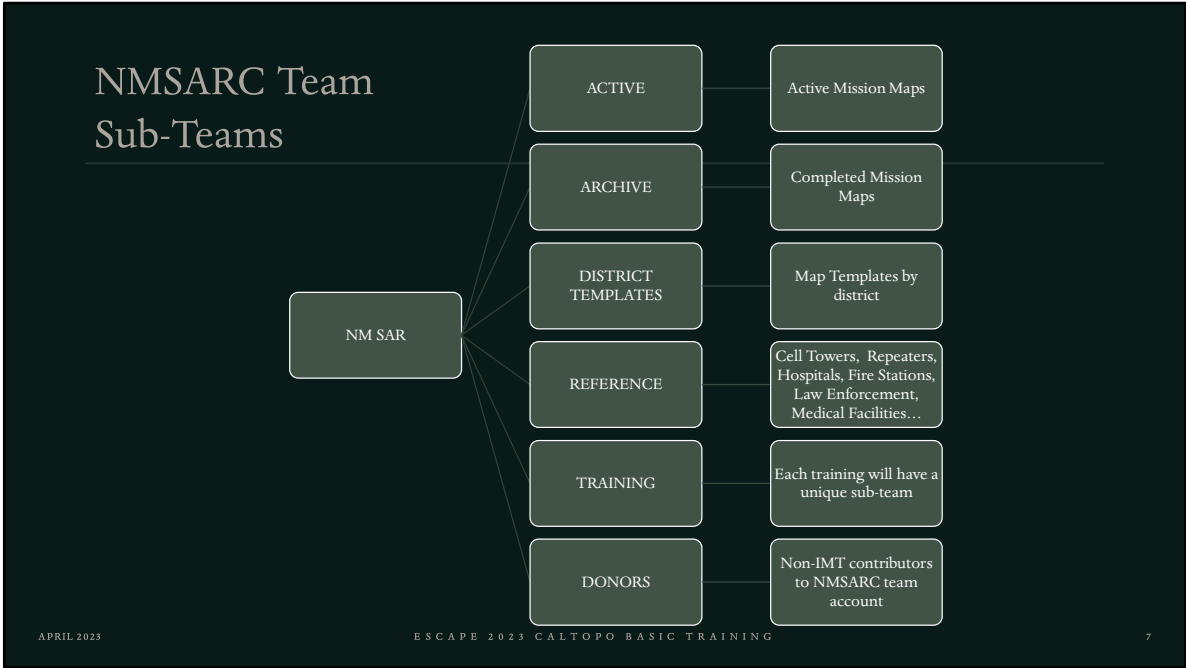
First Responder vs Team Subscription

FIRST RESPONDER

- Free subscription for first responders
- Private maps
- Improved printing
- CalTopo map layers in Google Earth
- Import Geospatial PDF map sheets
- MapBuilder Topo offline downloads in the app
- 50% off Pro or Desktop subscriptions

TEAM

- NMSARC pays \$1000/yr for 100 users supported by your donations
- Mission Map Central Storage
- Archive for all prior missions
- Reference Data shared statewide
- Mutual Aid Incidents only for large SAR Missions
- Live Team Tracking via mobile app, In Reach, APR... e
- SMS Locator (SARLOC)
- Sub-Teams
- Flexible Permissions with the ability to share reference and archive data

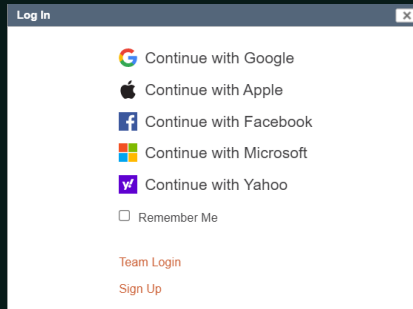


Sub-teams allow us to organize the team membership into distinct groups that make sense for NMSAR. For example, we may want to create regional sub-teams as well as district sub-teams to more accurately reflect our organizational structure. Individual members can be assigned to a single sub-team or multiple sub-teams, depending on their role in SAR.



User Interface

Login In



<http://caltopo.com>

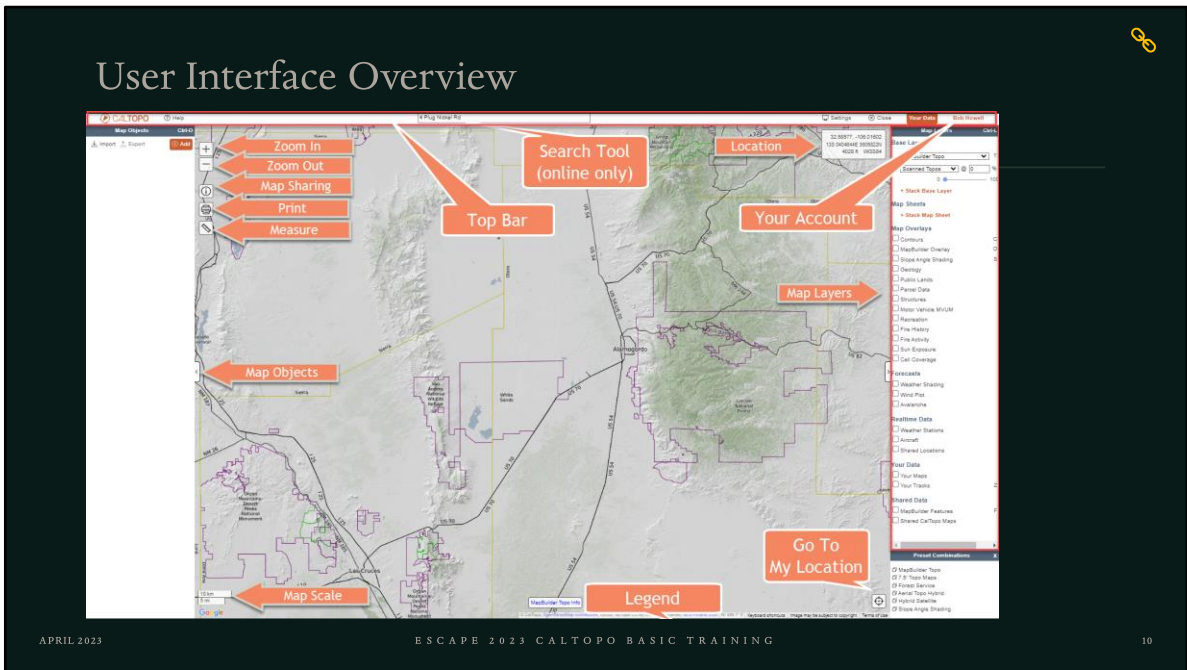
Login with your existing account using one of the third party servers

Do not use the Team Login as this is only for teams having their own login server.

A third-party login is required from one of the listed providers.

The third-party account is used only for login security, no data is stored or retrieved from you account except your email address.

User Interface Overview



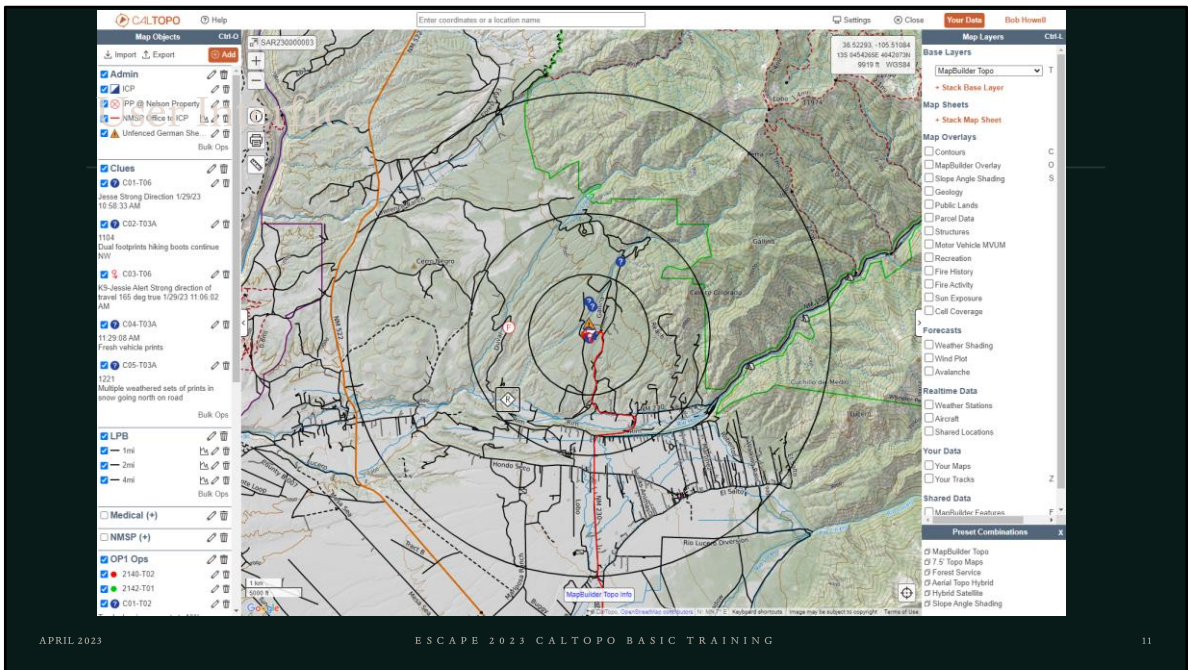
This map does not have any objects.

Before logging in: Your Data = Sign Up
 Your Account = Login

Map Objects: In this example no objects have been added

Legend: The legend will change based on selected Map Layers and
 Overlays. Sometime its clickable

CalTopo (upper left): When clicked will take you to the company home



A real mission map showing map objects, folders, radius rings, clues, markers, etc.

This page is interactive demonstrating these functions when clicked:

Your Account, Your Data, Settings, and Map Objects Add.

To return to this page, click the image on the detail page.

Your Data

Name	Description	Sharing	Account	Updated
X 2023 Banff Trip		View with URL	--	4/13/2023
X D08 Template		View with URL	--	3/29/2023
X Exercise 3 Howell		View with URL	--	3/27/2023
X Template from Marc		View with URL	--	3/25/2023
X Template		View with URL	--	3/21/2023
X SAR230000xxx	D04 20230319	View with URL	--	3/21/2023
X 220000997	fdsfsfffsd	View with URL	--	3/9/2023
X testst		View with URL	--	2/27/2023
X SAR230000007	D01 20230211 Recovery	View with URL	--	2/11/2023
X 220000999		View with URL	--	2/6/2023
X D12 Reference -Test	Test map for D12 Reference, pulling in Data from Russ, Matt G, and	Secret	--	1/9/2023
X 220000998		Private	--	12/27/2022
X 220000999		Private	--	12/20/2022
X D12 Reference - Russ		Secret	--	12/13/2022

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- Your Maps
 - Name – map name given when saved
 - Description – Dxx YYYYMMDD Search/Rescue
 - Sharing – base map permission
 - Account – sub-team account containing the map
 - Updated – last updated date
- Bookmarks – maps from other users shared with you
- Your PDFs – your printed maps
- Your Tracks – tracks you’ve imported or recorded from mobile app
- Your Layers – custom layers
- Map Sheets – custom map sheets
- Your Icons – custom icons
- Desktop Access – download and install CalTopo desktop for use offline

Your Account

You are signed in as [bob.howell@nmsar.org](#) [logout](#) [merge login](#)

You have a free account (note: your team membership gives you access to all premium features) [Subscription Info](#)

Team Membership

ACTIVE	Administer
ARCHIVE	Administer
DISTRICT TEMPLATES	Administer
DONORS	Administer
NM SAR	Administer
REFERENCE	Administer
Training	Administer

API Access
View CalTopo layers in other applications like Google Earth and ArcGIS:

KML	https://caltopo.com/api/2FQA7T/superoverlay.kml
WMTS	https://caltopo.com/api/2FQA7T/wmts
WMS	https://caltopo.com/api/2FQA7T/wms?

Account Options

Show my name as

Show my account to other users as

Allow other users to contact me

[Update Account](#)

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Logout – only place I know you can logout

Subscription Info – subscription information for renewals, credit card, and billing information

Team Membership – allows management of the team account

API Access – reserved for wizards

Account Options – be sure your correct name is here, don't use rocket man or silly stuff

Update Account – be sure to click after changing your name



Settings

Settings

Display

Show Labels: All

Show UTM/USNG Grid

Intensity: 0 — 100

Default Mode: SAR

Coordinates

Datum: WGS84

Units: Imperial

Coordinate System

UTM (primary)

Deg Min (secondary)

Show Position at: Cursor

Show Labels: All or None
Default Mode: Recreation or SAR
Datum: NAD27 or WGS84
Units: Mixed, Metric, Imperial, Nautical, Feet Only, Acres Only
Coordinate System: UTM, USNG, Degrees, Deg Min, Deg Min Sec
Show Position at: Cursor, Center

Recommend settings are shown but its totally you choice.

Map Objects

Map Objects

- Marker: Add a waypoint
- Line: Draw a route or track
- Buffer: A polygon within a given distance of a line
- Polygon: Draw a closed polygon
- Folder: Organize and group your map items
- Range Ring: circles with a given radii around a chosen point
- Bearing Line: A line extending from a point at a given angle
- Sector: An arc-shaped subsection of a circle
- Locator: real-time location tracking

SAR Objects

- Operational Period: Organize your search assignments
- Line Assignment: Linear search assignment
- Buffer Assignment: Buffer search assignment
- Area Assignment: Area search assignment
- Clue: Clues located
- Resource: this feature is deprecated

Custom Layers

- Viewshed: line of sight visibility from a given point
- Custom Relief: custom hillshading
- DEM Shading: custom coloring by elevation, slope and aspect
- Custom Source: custom WMS and WMTS map sources
- WFS Source (beta): custom WFS map sources
- Map Sheet: geospatial PDFs, GeoTIFFs and hand-aligned images
- MapBuilder Layer: Custom-styled topographic maps
- MapBox Tileset: bring your own custom Mapbox tilesets

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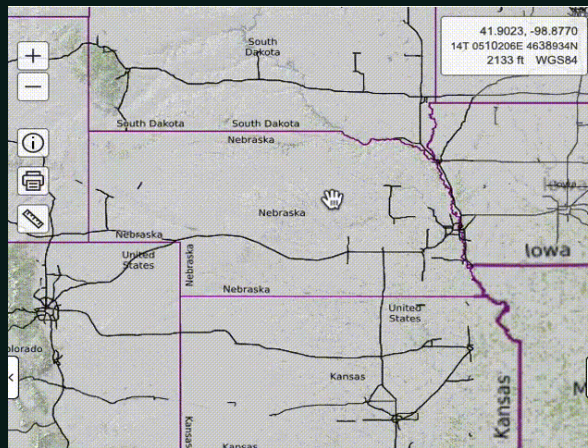
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Map Objects are used to draw on your map like writing on a paper map.

They are separate from the map layers and are saved to a file on the CT servers.

SAR Objects are only visible when default mode setting is “SAR”.

Moving Around the Map



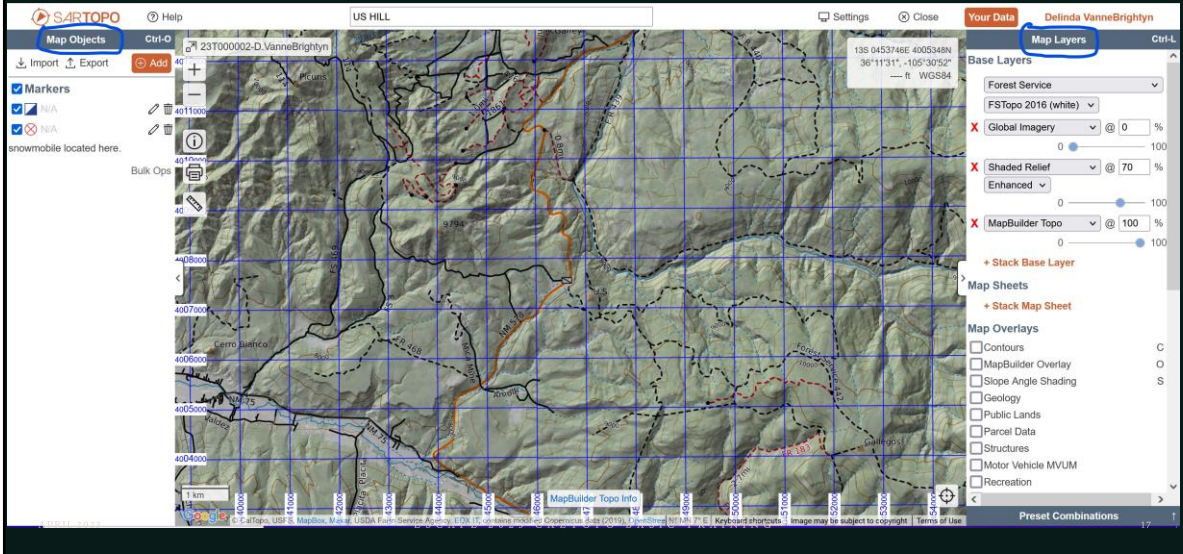
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Use plus and minus to zoom in and out, or wheeled mouse to zoom in/out, also the plus/minus keys. Click, drag, and hold to position the map

EXPANDED SIDE BARS: OBJECTS & LAYERS



EXPAND / COLAPSE TABS: OBJECTS & LAYERS

The screenshot displays the SARTOPO software interface. At the top, there is a title bar with 'SARTOPO' on the left and 'US HILL' in the center. Below the title bar, there are several tabs: 'Map Objects' (highlighted with a blue circle), 'Your Data', and 'Map Layers' (also highlighted with a blue circle). The main area is a topographic map of a mountainous region with a grid overlay. A blue line is drawn across the map. On the left side, there is a 'Map Objects' utility box with a 'Map Objects' tab (highlighted with a blue circle) and a 'Markers' section containing checkboxes for 'N/A' and 'snowmobile located here.'. On the right side, there is a 'Map Layers' utility box (highlighted with a blue circle) with a 'Map Layers' tab (highlighted with a blue circle) and a 'Base Layers' section containing several layers with expand/collapse icons and percentage sliders. A text box in the center of the map reads: 'TABS THAT CONTRACT OR EXPAND THE OBJECTS AND LAYER UTILITY BOXES'. At the bottom, there is a scale bar and a 'MapBuilder Topo Info' box.

VIEW OBJECTS (OBJECTS SIDE BAR COLLAPSED)



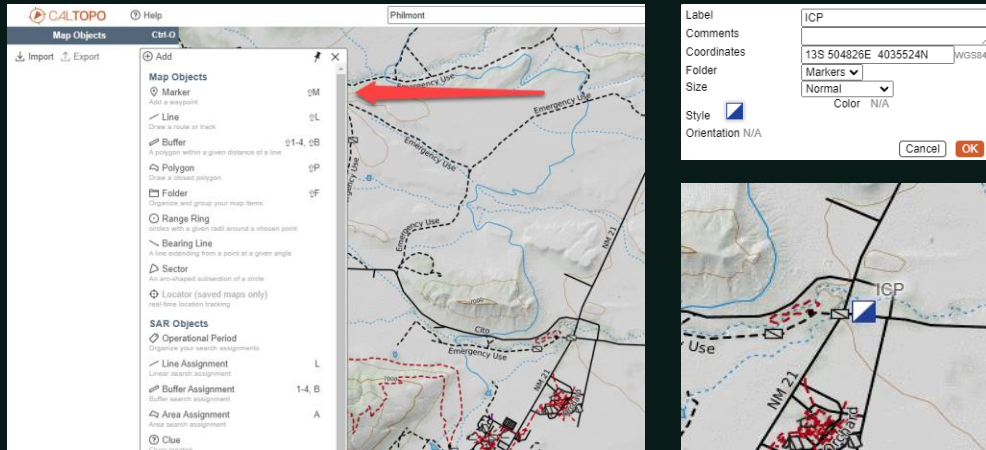


Street View (Google Layers Only)

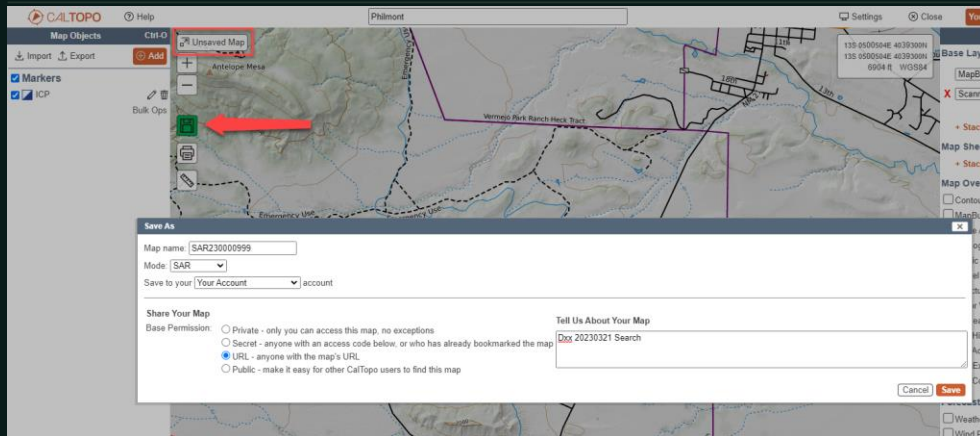


- Drag and hold the pegman from the lower right corner
- When the street turns blue move along the street until a popup thumbnail starts to load
- Wait for it to load
- Release the mouse button
- Street view opens in a new window

Adding a Marker



Saving a Map



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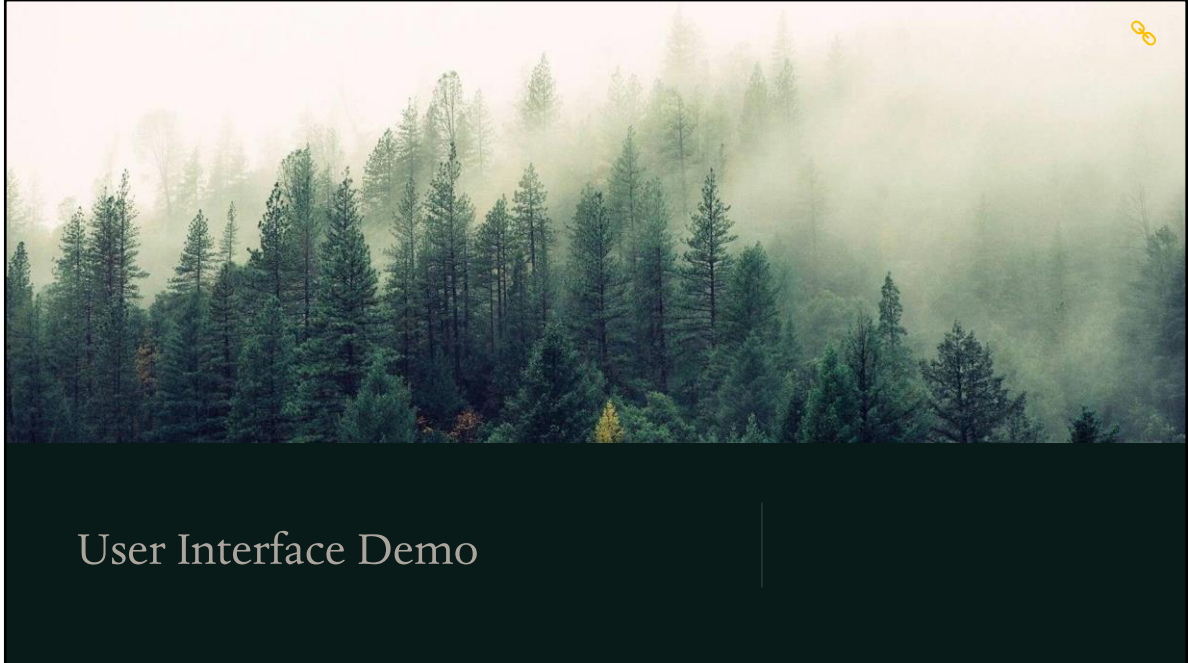
- Maps without objects can not be saved
- It's best to save your map after you add a few initial objects.
- Autosave occurs following the first map save.
- Be sure to use the correct naming standard for your map names and descriptions



Base Layers = hardcopy map

Overlays = clear film on top of the map

Objects = drawing on the map



- Showing login, Your Account, Your Data, Configuration Settings, Search tool, moving around the map, map layers, map sheets, overlays, measure functions, objects, printing, import/export
- Collapse/Expand Side Bars
- Google Street View
- Add a marker
- Save a map

Exercise #1 – User Interface

1. Login to CalTopo
2. Go to Your Account -- Update your First and Last Name as needed – click Update
3. Go to Settings – experiment with each setting and adjust for your preferences
4. Search for “Philmont”
5. Add a marker for ICP at Philmont
6. Change the icon for the ICP marker to the ICP/IB icon
7. Save the map using
 1. Map Name: SAR230000911-Howell B
 2. Description: Dxx 20230321 Search Class Map



What is a base layer? It's like a hardcopy map

Base Layer Categories

- Topographic Maps
- Aerial Imagery
- Street Maps
- Shaded Relief
- Other maps - Marine & FAA Sectional
- Live Satellites



CalTopo Base Layers

- MapBuilder Topo
- MapBuilder Hybrid
- Scanned Topos
- Forest Service
- TF Outdoors
- NAIP
- Global Imagery
- MapBuilder Roads
- OpenStreetMap
- OpenCycleMap
- Normal Shaded Relief
- Enhanced Relief
- Terrain
- Marine Charts
- FAA Sectional
- Historic Maps
- Sentinel Weekly
- MODIS Daily
- GOES Live
- GOES Temperature

Map Layer Data Updates

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Map Data Updates

Beta Testing

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Map Layer Data Updates

Follow

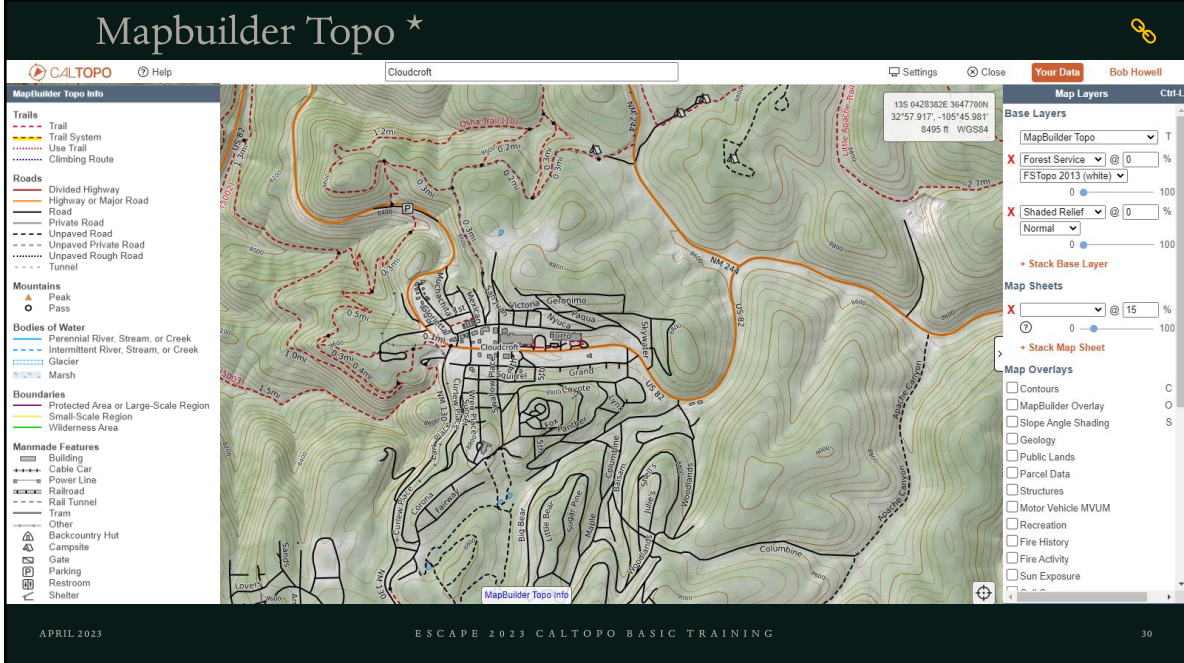
Map Data can be dynamic over time. Some data sources are constantly changing (such as OpenStreetMap) while others remain static over a long period of time or nearly forever (Scanned Topos). Finally some layers update on their own and don't require our team to manually update them over time (such as real time data overlays).

Below are the latest updates.

- **MapBuilder Topo (and related layers):**
 - Date of Last Update: September 14th, 2022
 - Date the data was downloaded: Late July, 2022
 - Data Source: OpenStreetMap
- **MvUM:**
 - Date of Last Update: April 6, 2022
 - Date the data was downloaded: March 29, 2022
 - Data Source: USFS, BLM
- **Fire History:**
 - Date of Last Update: April 6, 2022
 - Date the data was downloaded: January 20, 2022
 - Data Source: NIFC
 - Notes: Added 2021 Fire Data

help.caltopo.com/?p=help

Map Updates Search

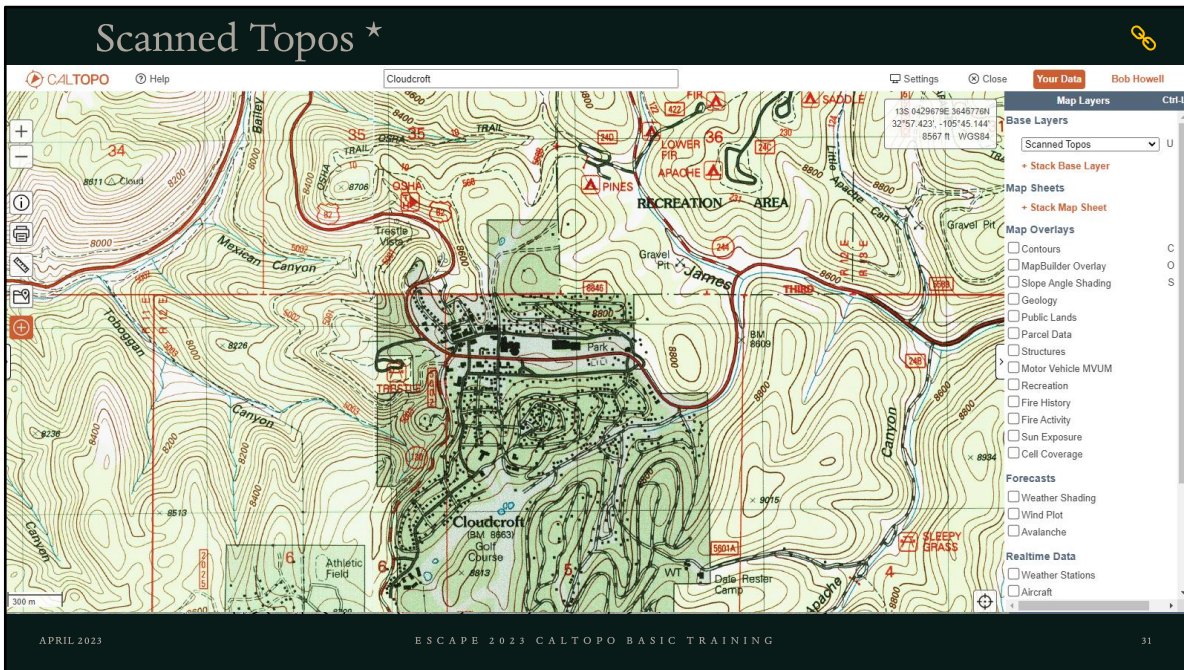


This is CalTopo's signature layer. It draws data from a number of sources, including USGS, [OpenStreetMap](#), and high resolution LIDAR (light detection and ranging)

This layer designed to be responsive to zoom level- as you zoom out, less relevant information for that zoom level is removed to reduce clutter and increase ease of use.

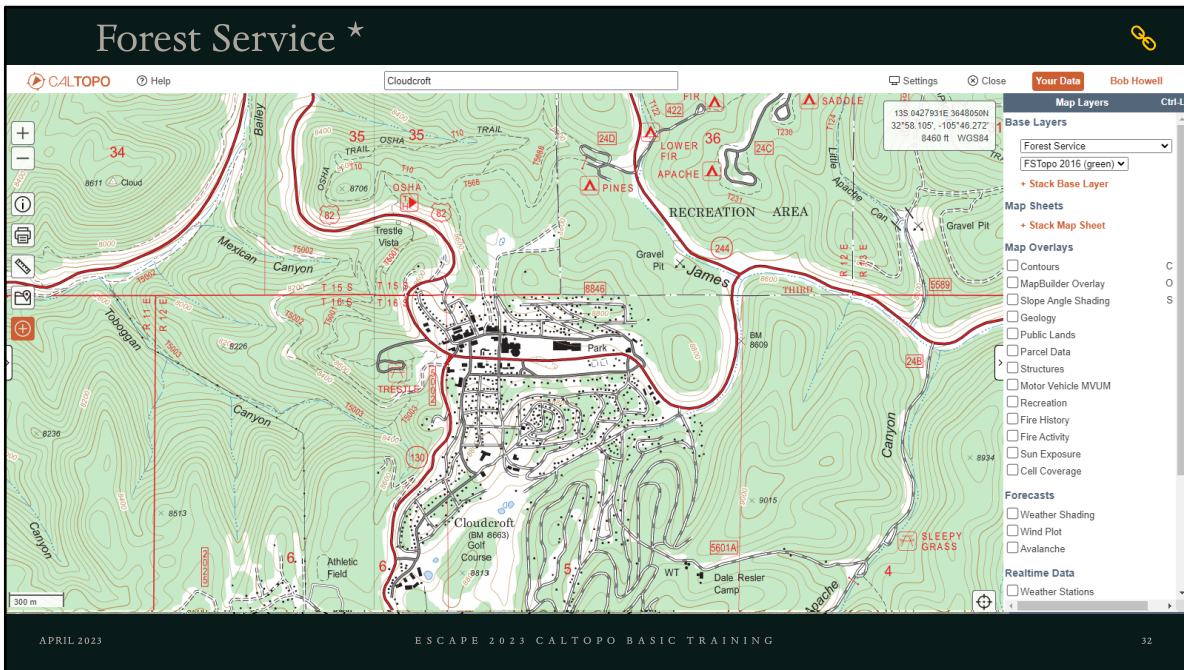
CalTopo brings in new data from [OpenStreetMap](#) several times a year
 It might not always be the most extensive or up to date base layer in areas that are less traveled or more remote.

Pro, desktop and team account users can create their own customized MapBuilder Topo layer; see the lessons on [Building Custom Layers within CalTopo](#) for more information.



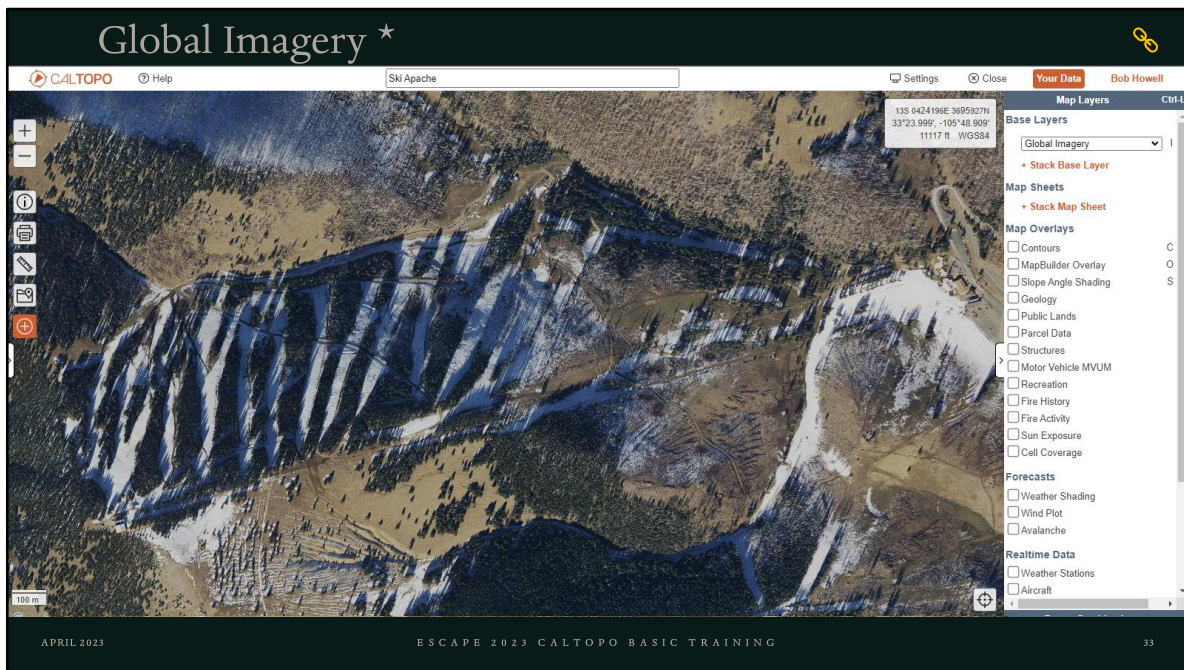
The Scanned Topos base layer contains 7.5 minute quads assembled from scanned PDFs from a variety of other data sources

- excellent detail at close zoom levels
- Might be the best choice in remote or less traveled areas.
- maps can vary widely in age depending on the location of the map
- Can be difficult to see trails or read text when zoomed out



These are United States Forest Service (USFS) maps assembled from FSTopo PDFs.

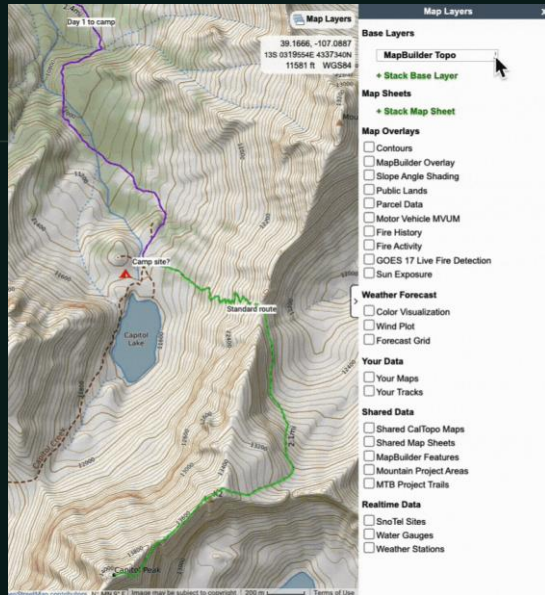
- only available for land areas managed by the USFS
- contain trails, roads, campsites and other information
- lack continuity with surrounding land ownership types eg Yosemite National Park will show up as a blank white space since it is managed by the National Park Service and not the USFS.
- As a solution you could layer USFS maps over MapBuilder Topo or another base layer to fill in the holes.
- * choose to display maps from 2016 with or without vegetation forest shading (white and green, respectively) and from 2013 using the drop down menu that appears.



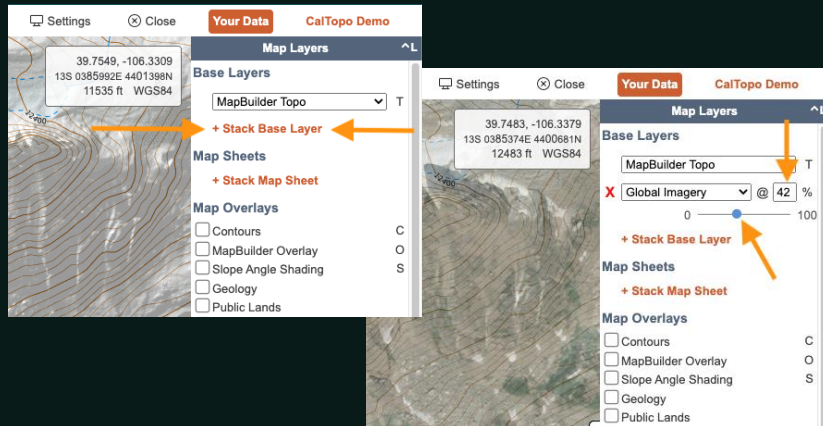
- aerial and satellite imagery
- Most of the land masses of the world
- * Lower zoom levels draw from sentinel satellite imagery and higher zoom levels incorporate MapBox layers.
- resolution varies but can be as high as 50 cm in some areas.
- In continental US incorporates NAIP (National Agriculture Inventory Program) imagery for high resolution at higher zoom levels.

Working with Base Layers

- Switching map layers does not change the location of the map
- Switching helps you learn more about the area from each map maker's viewpoint.
- Comparing layers helps you gain a more complete understanding of an area.



Stacking Layers



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Why stack layers?

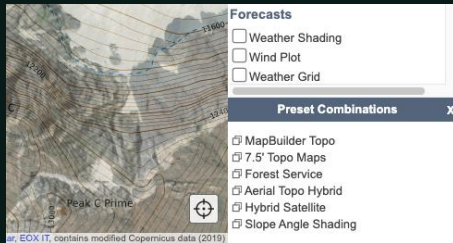
Sentinel live can be stacked onto other layers to see snow cover. NAIP can be stacked to see vegetation, etc.

- Create your own composite map using multiple layers and overlays
- Easy to switch between most used layers
- Ability to add something to a layer it didn't previously have, such as shaded relief
- Helps understand the area and visualize what it's like

Limitation of Layers: Not all maps cover all areas, ie Forest Service only covers forests, etc.

You may want to use more than one layer to compare data or enhance a particular layer.

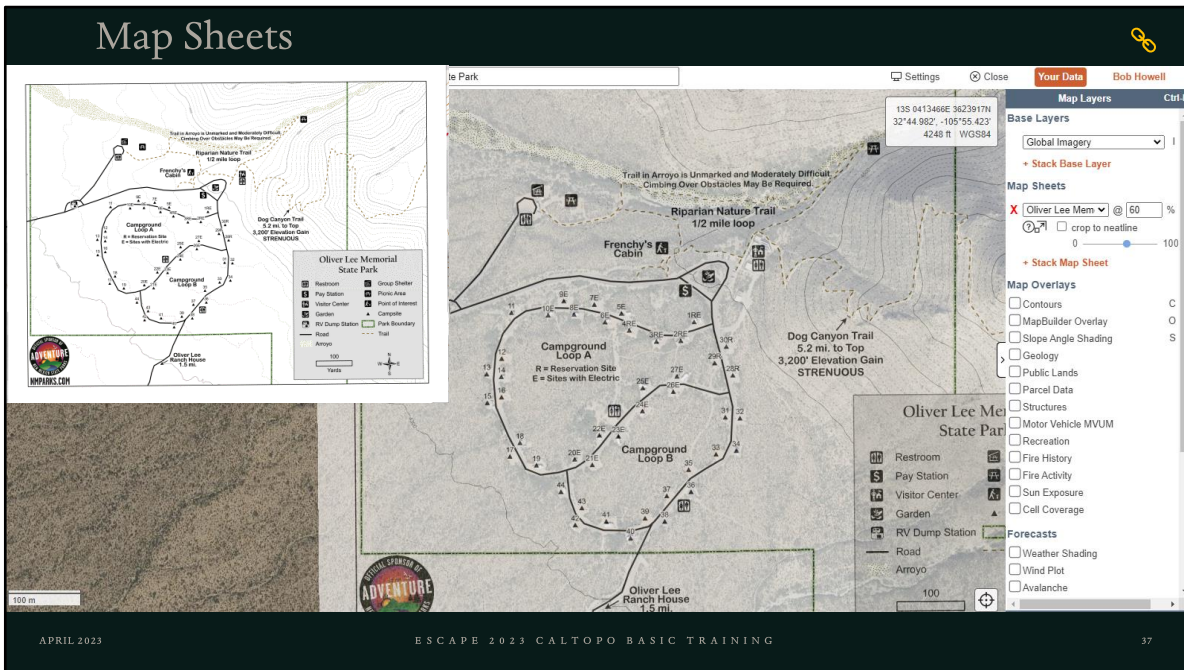
Preset Layers



- Map Location doesn't change
- Opacity set
- Overlays set

These layers have already been stacked for you.

Try these out on your computer.



Map sheets work in a similar way to base layers: you can change the opacity and stack multiple map sheets on the same map.

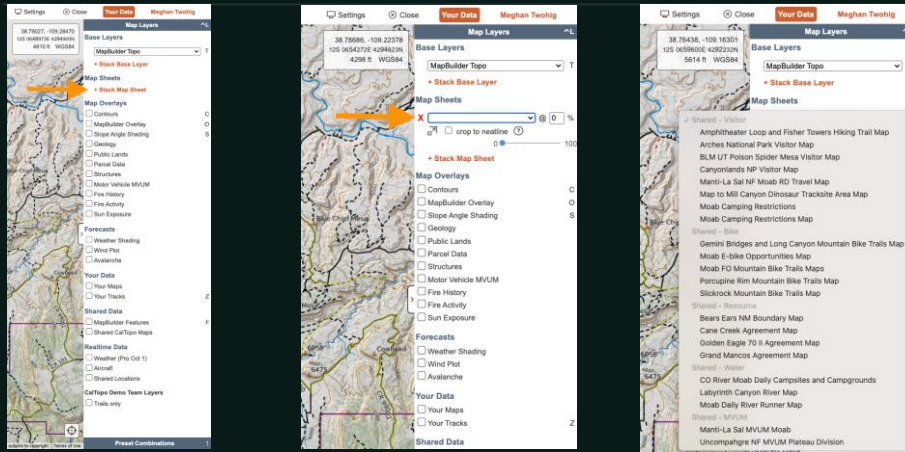
Map sheets also have additional options. Click the zoom to extent icon directly below the map sheet's name to zoom the map viewer to fit that particular map sheet. You can click *crop to neatline* if the border of the map data has extra blank area or text outside of it. Selecting this option will hide anything outside the border of the map data (also known as the “neatline”).

Shared Map Sheets

Shared map sheets are available to all users.

To add a publicly available shared map sheet, first navigate to the area you are interested in. Then click the **+ Stack Map Sheet** button in the Map Layers menu.

Shared Map Sheets



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- To add a publicly available shared map sheet, first navigate to the area you are interested in.
- Then click the **+ Stack Map Sheet** button in the Map Layers menu.
- A blank dropdown menu will appear.
- Click that dropdown menu and any shared map sheets in the map viewer area will be listed.
- Publicly available map sheets will be grouped by type (Visitor, Bike, Water, etc).

Map Sheet Additional Options

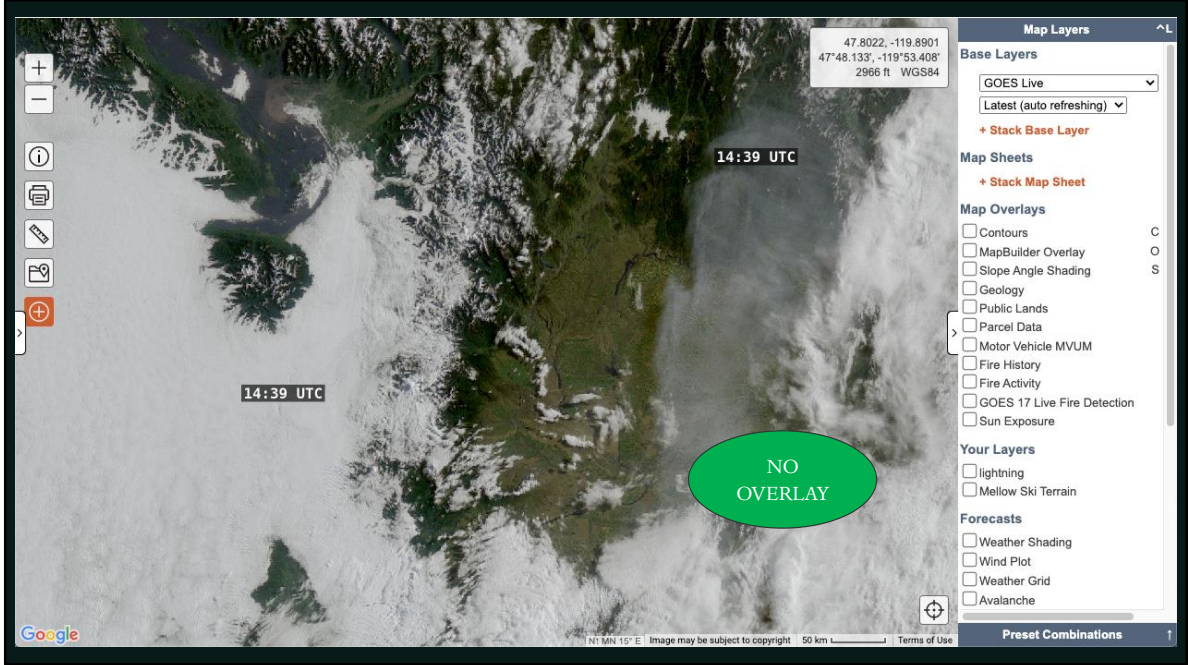
Click the zoom to extent icon directly below the map sheet's name to zoom the map viewer to fit that particular map sheet.

Click *crop to neatline* if the border of the map data has extra blank area or text outside of it.

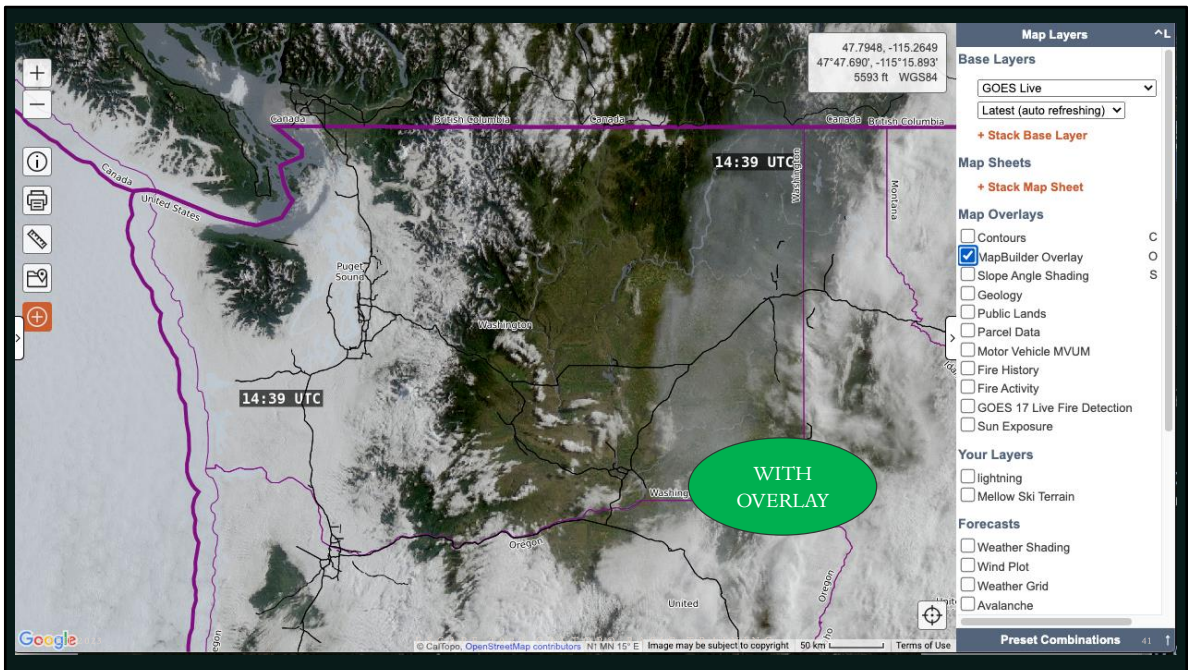
Selecting this option will hide anything outside the border of the map data (also known as the "neatline").



Map Overlays



- GEOS LIVE – No overlays
Difficult to determine the relationship between the satellite view and what area of the world the satellite covers.



The MapBuilder Overlay provides context by adding states and counties boundaries, as well as major roads and trails.



The MapBuilder Overlay provides context to this Global Imagery Layer within Glacier National Park, adding trails, watercourses, and lake and peak names.





Watch this two minute demo of a many of the overlays CalTopo has to offer. Each one will display for 3 seconds, so fasten your seat belt





Demo of Map Layers, Sheets, and Overlays

Exercise #2 – Map Layers, Sheets, and Overlays

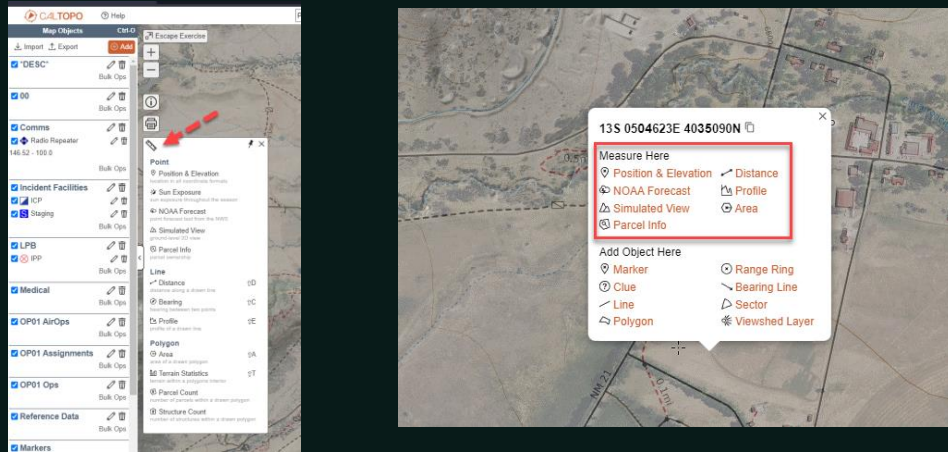
1. Open the map you saved in Exercise #1 by going to Your Data showing Philmont
2. Go to Your Account -- Update your First and Last Name as needed – click Update
3. Select the following Base Layers for your map. Adjust the levels of transparency for each layer until you get a good balance for your own computer and screen resolution:
 - Forest Service 2016 (white or green, your choice)
 - Global Imagery
 - Shaded Relief (Enhanced)
 - Map Builder Topo
4. Using the Map Overlays, gather the following information :
 - Who owns the land we will be searching?
 - What kind of weather and winds can be expected during OP 01?
 - How much snow cover is there likely to be?
 - What is the cell coverage in the area?
5. Add a Map Sheet for “Carson MUVM Questa”
6. Zoom out as necessary
7. Click the “zoom to extent” icon directly below the map sheet’s name.
8. Turn on/off “Crop to Neatline” to see it work
9. Set the option on to Keep the Layers using the Details/ Sharing button where you save the map.
10. Close then reopen the map to ensure your layers and overlays return as you need them. *Note Keep the Layers is reset after saving.

This exercise will help you gain experience in using Map Layers, Sheets, and Overlays.

Overview of the Exercise.

Be sure to ask for help if you need it.

Accessing the Measuring Tools



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Click the ruler icon to launch the measuring menu

Click the link to review all the different tools



Objects

objects

Default Mode - SAR

Settings

Display

Show Labels **All**

Show UTM/USNG Grid

Intensity: 0 — 100

Update URL on Map Move

Default Mode **SAR**

Coordinates **Recreation**

Datum **WGS84**

Units **Mixed**

Coordinate System

Degrees (primary)

UTM (secondary)

Show Position at **Cursor**

<http://caltopo.com>



⊕ Add

Map Objects

- 📍 Marker **⊕M**
Add a waypoint
- ↔ Line **⊕L**
Draw a route or track
- 📏 Buffer **⊕1-4, ⊕B**
A polygon within a given distance of a line
- 📐 Polygon **⊕P**
Draw a closed polygon
- 📁 Folder **⊕F**
Organize and group your map items
- 🕒 Range Ring
circles with a given radii around a chosen point
- ↘ Bearing Line
A line extending from a point at a given angle
- 📐 Sector
An arc-shaped subsection of a circle
- 📍 Locator (saved maps only)
real-time location tracking

SAR Objects

- 🕒 Operational Period
Organize your search assignments
- ↔ Line Assignment **L**
Linear search assignment
- 📏 Buffer Assignment **1-4, B**
Buffer search assignment
- 📐 Area Assignment **A**
Area search assignment
- 📍 Clue
Clues located
- 📁 Resource
this feature is deprecated

Custom Layers

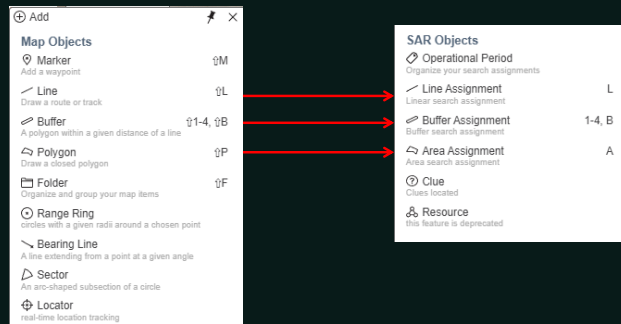
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As a result of combining the SARTopo and CalTopo servers it is now possible to access both SAR and RECREATIONAL data on the same account Without having to in and out.

Map Objects vs SAR Objects



Map objects such as line, buffer, polygon has their equivalent in SAR Objects. SAR objects are only visible if the default mode in settings is SAR

SAR Object behave the same on the map, but allow you to enter SAR specific details

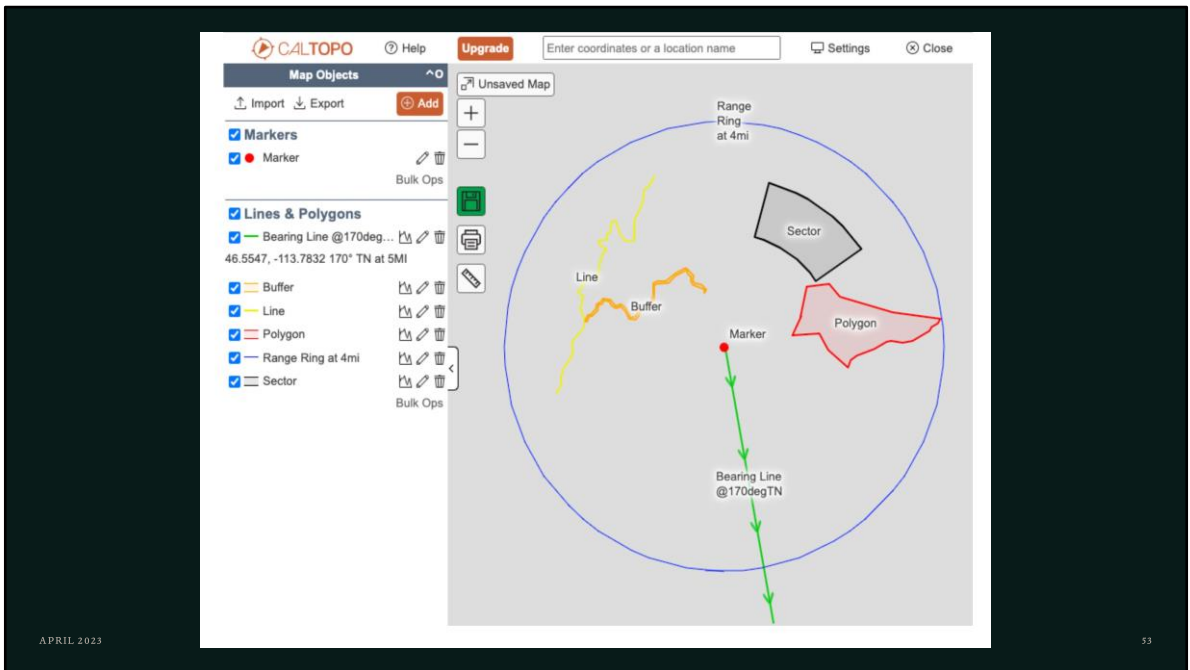
SAR Objects

The screenshot displays a web-based form for creating or editing a SAR Object. The form is divided into several sections:

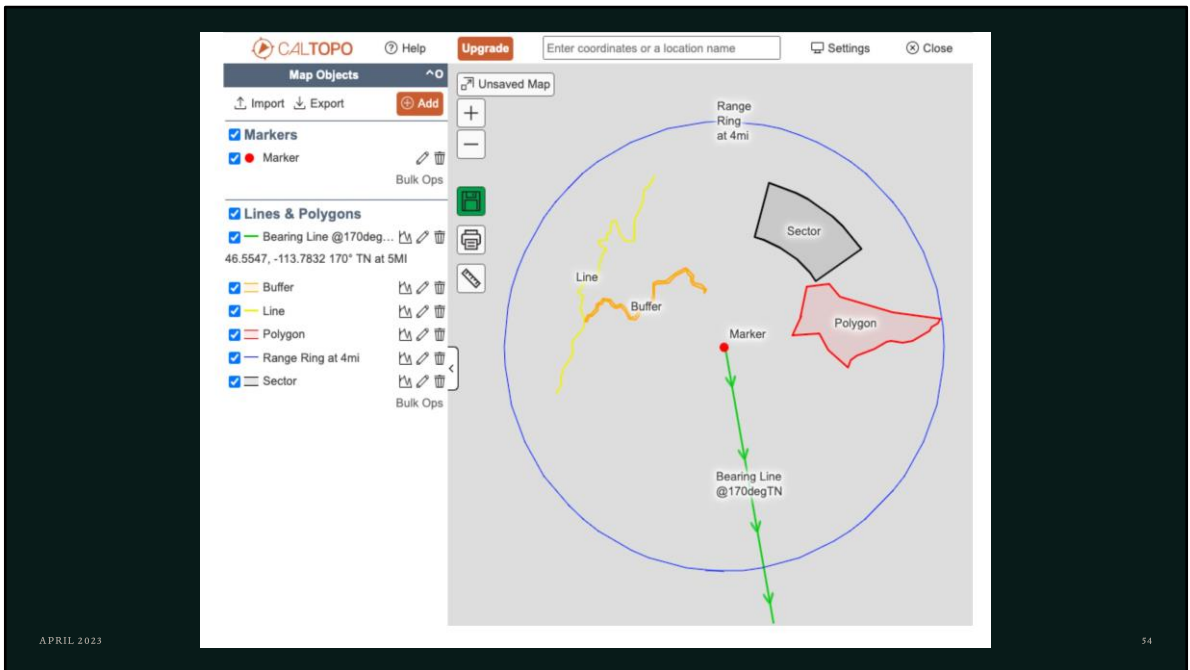
- Number:** A text input field with a lock icon.
- Letter:** A text input field.
- Folder:** A dropdown menu with "Assignments" selected.
- Operational Period:** A dropdown menu with "--" selected.
- Resource Type:** A dropdown menu with "GROUND" selected.
- Team Size:** A dropdown menu with "0" selected.
- Priority:** A dropdown menu with "LOW" selected.
- Responsive POD:** A dropdown menu with "LOW" selected.
- Unresponsive POD:** A dropdown menu with "LOW" selected.
- Clue POD:** A dropdown menu with "LOW" selected.
- Details:** A section with several text input fields for "Previous Efforts", "Transportation", "Time (hours)", "Primary Freq", and "Secondary Freq".
- Prepared By:** A text input field.
- GPS Type:** A dropdown menu with "Track" selected.
- Status:** A dropdown menu with "DRAFT" selected.

At the bottom of the form, there are "Cancel" and "OK" buttons. The background shows a map of Missouri with a scale bar indicating 200 km.

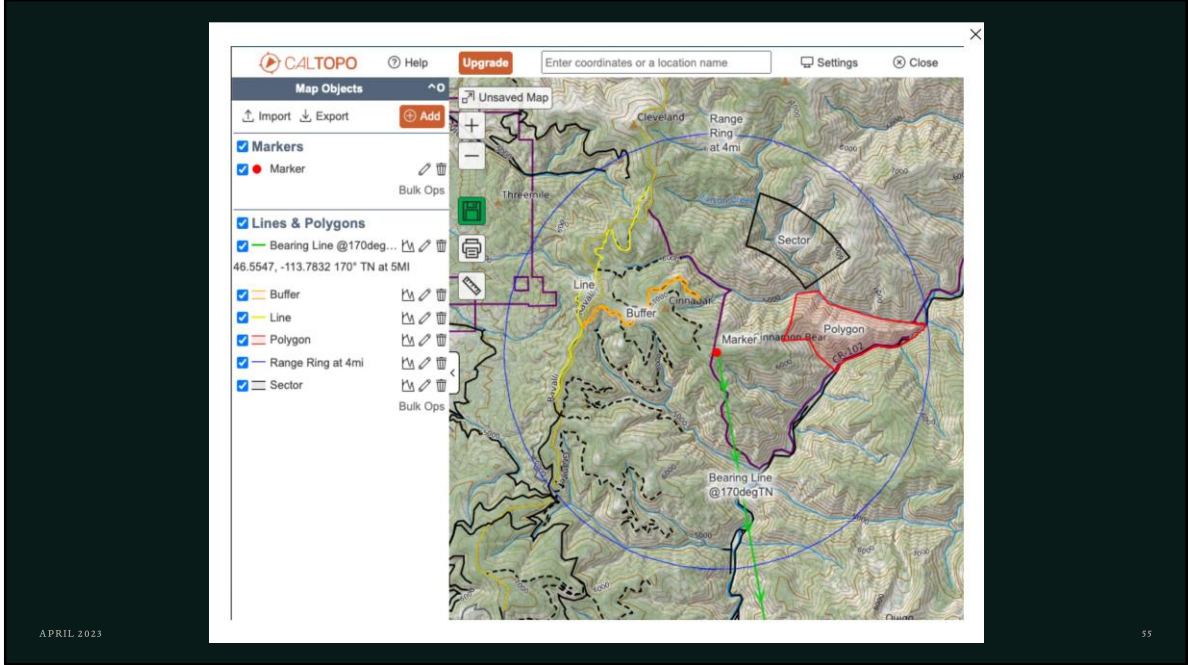
Here are all the specific task assignment details which can optionally be entered on SAR Objects



Example of each object on a gray background



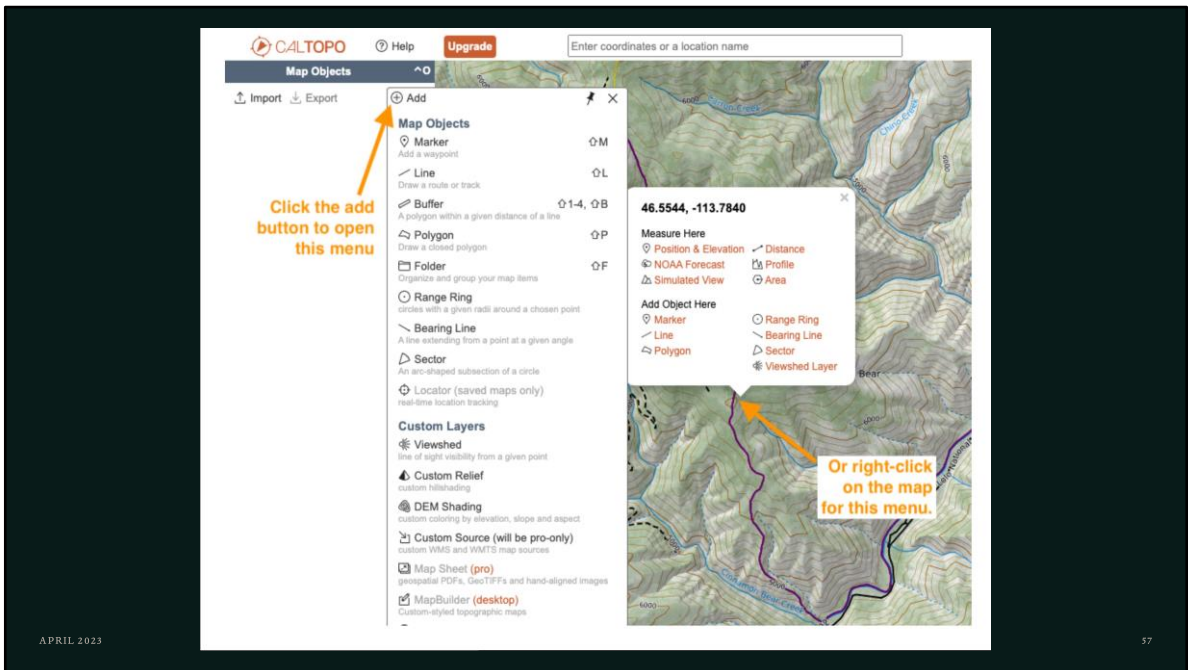
Example of each object on a gray background



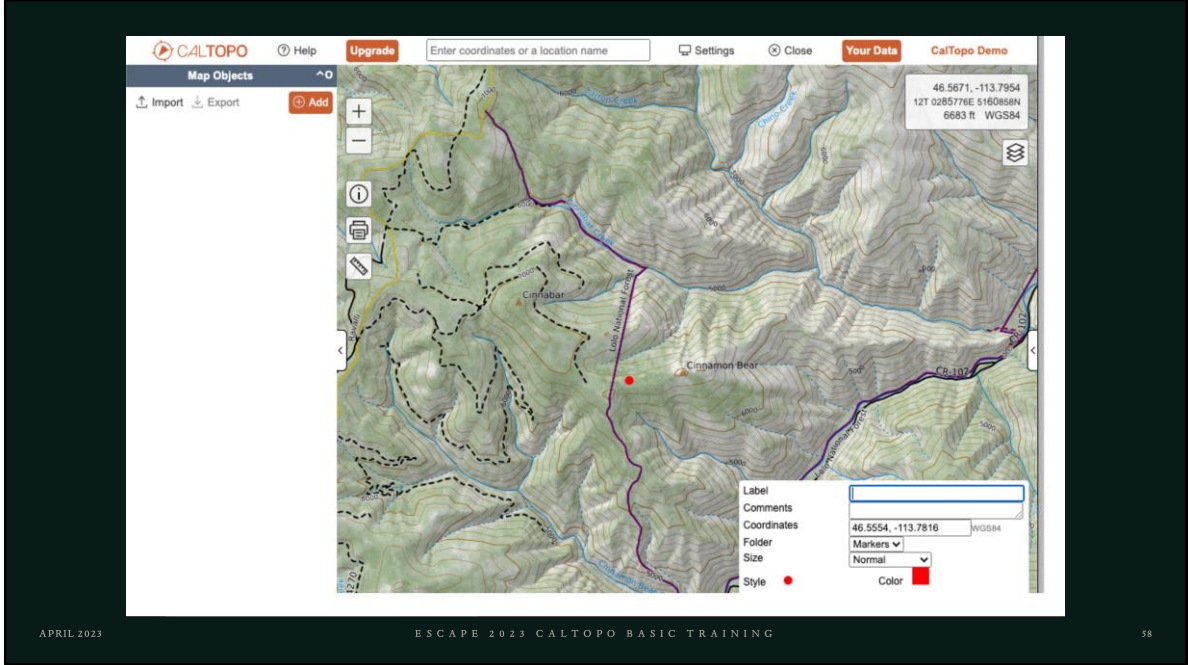
Example of the same objects on a map

Entering Search and Coordinates in CalTopo

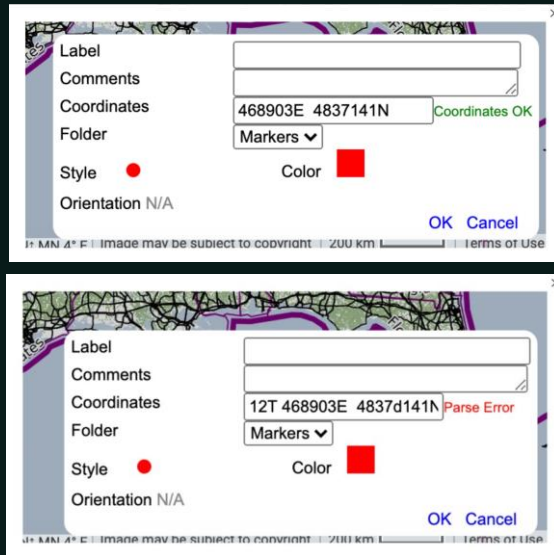
Format	Examples
descriptive text (online only)	truckee, ca mount rainier, wa castle peak near truckee, ca
decimal degrees	39.328, -120.1833 39.328 -120.1833 39.328N, 120.1833W
degrees decimal minutes	39°19.68', -120°11.00' 39d19.68m N, -120d11.00m W
degrees minutes seconds	39°19'41", -120°11'0" 39d19m41s -120d11m0s
UTM	10S 0742803E 4356747N 10 0742803 4356747 42803 56747



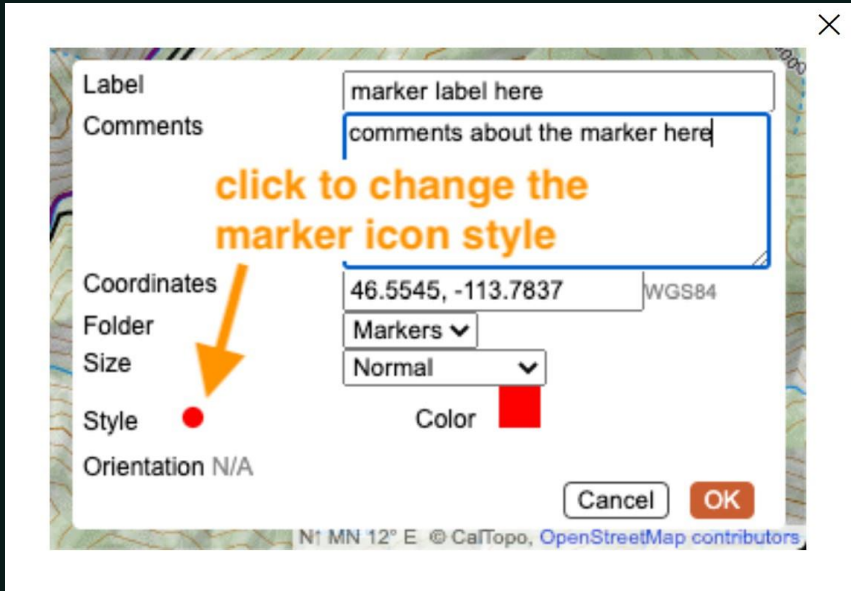
Two different ways to add objects, click the + ADD button or right-click context menu.




We selected marker and need to complete the dialog box.





Notice the Parse Error if the format is incorrect.





Choose an Icon Style X

Points
 For **AS** enter letter(s):

ICS/Fire


USAR


Letters


Recreation **← Find other sets of icons here**


Custom
 For custom icon enter URL: **← Set custom image from link**

Label

Comments

Coordinates

Folder

Style

Orientation 123°

Arrow Marker

Here I've chosen to have my arrow point at 123 degrees. I've changed the color to blue. (True or magnetic north depends on setting in config menu).

11S 341506E 4186420N WGS84

Markers

Color

display matches

type angle value here or move this arrow to

Map Objects ^O

↑ Import ↓ Export **Add**

Markers

Arrow Marker

marker label

comments about this marker here

Display on map

Edit object

Delete object

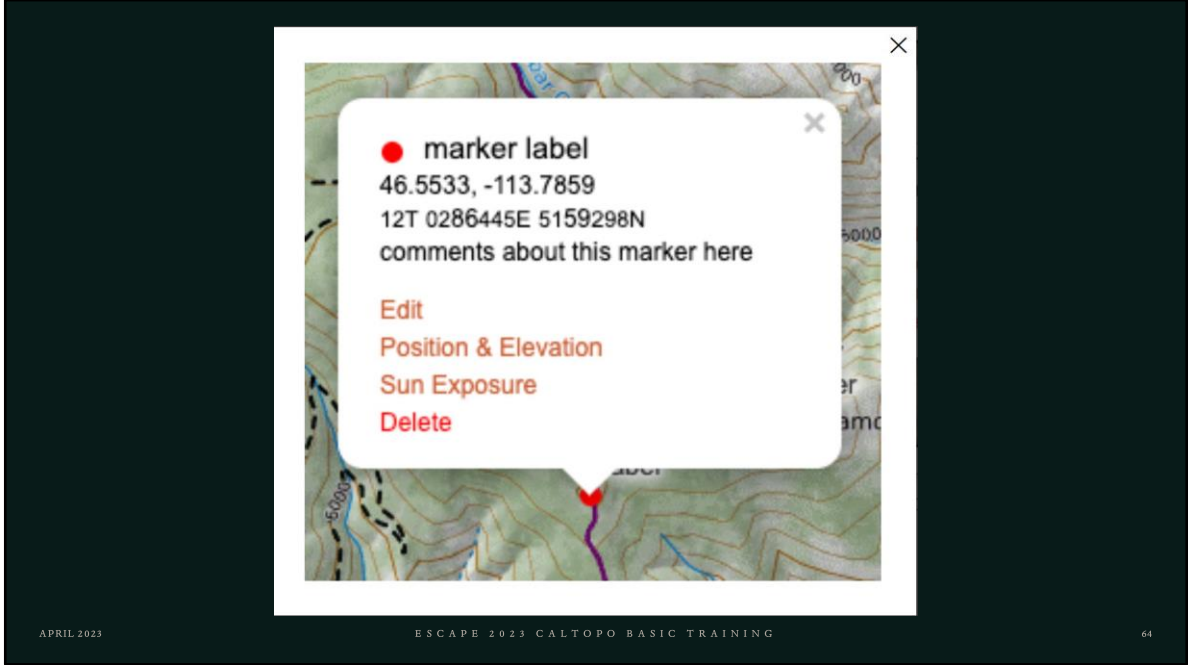
Click the name to center the object in the map viewer

Unsaved Map

7000

Cinnabar

Bulk Ops



Right-click the object to bring up the context menu



Markers or Waypoints, Line, Buffer, Polygon

Exercise #3 – Scenario

Four people went out for a hike. They parked their vehicle at the Staging Area on the highway and left for their hike up the Forest Road. Three of the hikers are missing and only one made it back to cell service, where they called 911 to report their missing friends. The reporting party was an experienced hiker that knew the area, but the other friends were visiting from Chicago. The hikers had been hiking about 45 minutes when they got separated from each other. Suddenly, they heard gun shots that sounded close by. Two of the hikers became afraid and started running away from the direction of the gun shots. The hiker who reported the incident called out after them, but they kept running. When he turned around, the third hiker was also not there, but he did not see where that friend had gone. He then called out and tried to follow, but he could not find them, and decided pretty quickly that he needed help, so he went back to the highway to the car, hoping he would find them there. He waited a bit, but then left a note where the car had been parked under a rock for them to not leave and that he would return soon, as he went to get help. He drove down to cell service and called 911. Our reporting party understood that people sometimes come out and target shoot in the woods, but his friends did not know this. We are searching for 3 people in this training scenario.

This exercise will help you gain experience in using Map Layers, Sheets, and Overlays.

Overview of the Exercise.

Be sure to ask for help if you need it.

Exercise #3 – Map Objects

1. Open the map you saved in Exercise #2 by going to Your Data showing Philmont
2. Map locations using the ICP, Log/Staging, Fire Origin icons for your waypoints or markers. Save your map.
3. ICP is at 13S 0443695E 4006007N
4. STAGING AREA is at 13S 0444857E 4005456N – The road is very rocky and muddy. 4-wheel drive is needed to access, and we are setting a staging area to bring teams in to reduce the chance of vehicles getting stuck.
5. IPP is at 13S 0443543E 4006534N, where the reporting party last saw his friends.
6. Use the same Base Layers for your map used in Exercise #2.
7. The following people are showing up for your mission:
 - 6 Ground personnel
 - 1 UAV team (3 people)
 - 1 OHV team (2 people, 2 OHV machines)
8. Set up line objects for your OHV team using the buffer feature
9. Set up an area assignment for your UAV team using the polygon feature
10. Set line or buffer assignment(s) for your ground team(s).
11. Set markers for where you are locating your subjects in the field.

This exercise will help you gain experience in using Map Object

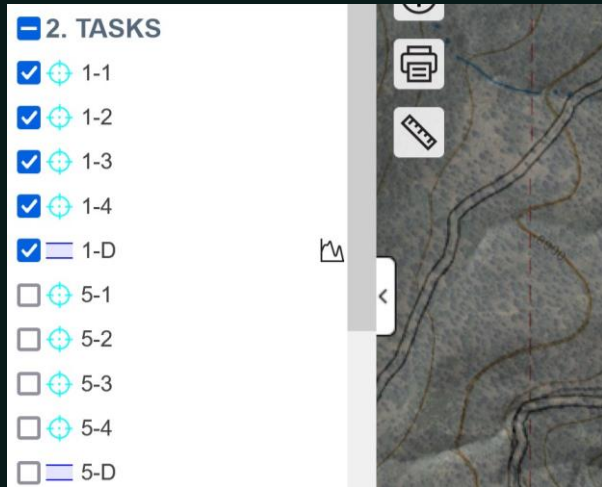
Overview of the Exercise.

Be sure to ask for help if you need it.

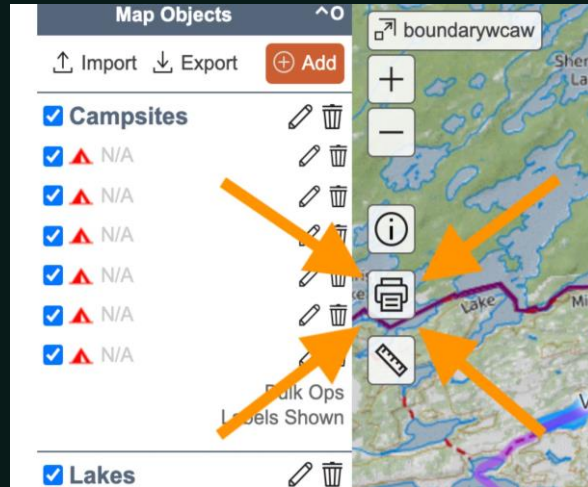


Printing

Select Objects Desired
to be Visible on Printed
Map



Select Print Icon



Printing Set-Up Page

The screenshot displays the CalTopo printing interface. On the left, the 'Format' dropdown is set to 'Geospatial PDF'. Below it, the 'General Settings' section includes 'Page Size' (8.5x11), 'Scale' (Not Fixed), 'DPI' (300pp), and 'Tilt'. The 'Grid Lines' section has 'UTM' checked and 'Lat/Lng in Degrees' unchecked. The 'PDF Management' section shows 'Save To' (Your Account), 'Keep For' (7 Days), and 'Load From' (New URL). The 'Pages' section shows 'Page 1' with 'Scale 1:64746' and 'Orientation Portrait'. A 'Generate PDF' button is at the bottom left. On the right, the 'Map Layers' panel shows 'Base Layers' (MapBuilder Topo) and 'Map Overlays' (Contours, MapBuilder Overlay, Slope Angle Shading, Geology, Public Lands, Parcel Data, Motor Vehicle MVUM, Fire History, GOES 17 Live Fire Detection, Sun Exposure). The 'Your Layers' panel shows 'Lightning', 'Mileage Slope Terrain', 'Forecasts', 'Weather Shading', and 'Wind Plot'. The map area shows a topographic map with a red dashed box around a specific area. Annotations with orange arrows point to various elements: 'Print Settings' points to the 'General Settings' section; 'Printed Page Edge' points to the red dashed box; 'Adjust Base Layers and Overlays' points to the 'Map Layers' panel; 'File Management' points to the 'PDF Management' section; 'Move Entire Print Box' points to the red dashed box; 'Change Page Layout Direction' points to the 'Orientation' dropdown; 'Adjust size with corners' points to the corners of the red dashed box; and 'Add Page(s)' points to the '+ Add Page' button.

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Print Settings Menu

SARTopo Printing

Format
Geospatial PDF

General Settings
Page Size 8.5x11
Scale Custom 1:6000
DPI 200dpi
Title

Grid Lines
 UTM at Auto
 Lat/Lng in
Datum WGS84
Icon Size 1x

PDF Management
Keep For 7 Days
Load From --
Save As New URL

Pages

Page	Scale	Orientation
X 1	1:6000	Portrait

+ Add Page X Start Over

Generate PDF

100 m
500 ft
mapB

Managing Your PDF Map Files

Your Account

Your Account | Your Maps | Bookmarks | Your PDFs | Your Tracks | Your Layers | Map Sheets | Your Icons | Downloads | Desktop Access

PDFs Saved to Your Account

	Account	Expires In	Updated
X 355C	Your Account	30 days	11/24/2020
X SL1C Tracks	Your Account	90 days	11/24/2020
X 5G1P Aloha	Your Account	7 days	11/24/2020

PDF 4-Digit ID and Title if it has one

Counts down as days pass.

Date Created or Changed

Printing Multiple Maps/Pages to a Single PDF

Grid Lines:
 UTM at Auto
 Lat/Lng in Degrees
Datum WGS84

Lines and Polygons:
 Fill Polygons
 Mark Routepoints
Icon Size 1x

PDF Management:
Save To Your Account
Keep For 7 Days
Load From --
Save As New URL

Customization:
QR Code www.caltopo.com
corner images (200dpi):
northwest Choose File No...sen
northeast Choose File No...sen
southwest Choose File No...sen
southeast Choose File No...sen

Page	Scale	Orientation
<input checked="" type="checkbox"/> X 1	1:13624	Landscape
X 2	1:22109	Portrait
X 3	1:65285	Portrait

+ Add Page X Start Over

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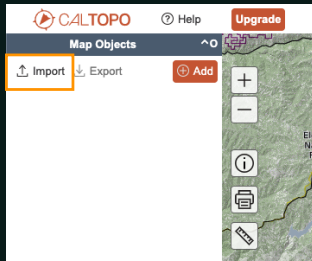
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Import/Export

Importing Objects

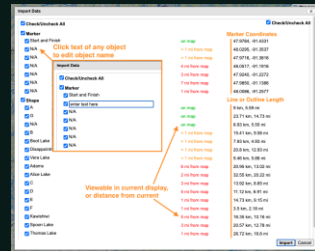
IMPORT



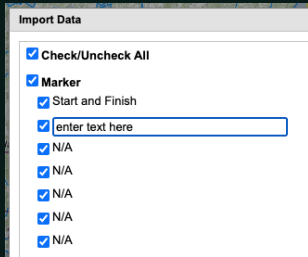
SELECT FILE



SELECT OBJECTS



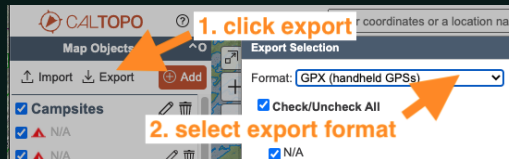
Importing Objects



Export Options

- GeoJSON
 - Typically used for backup purposes
- KML/KMZ
 - More common for GIS/Google Earth (Also works for Gaia)
- Copy to New Map
- GPX
 - Most common from handheld GPS Units (Also works for Gaia)
- GPSIO
 - For really old Garmin GPS Units
- KML Network Link
 - For local network link to Google Earth

Exporting Objects



Export GeoJSON

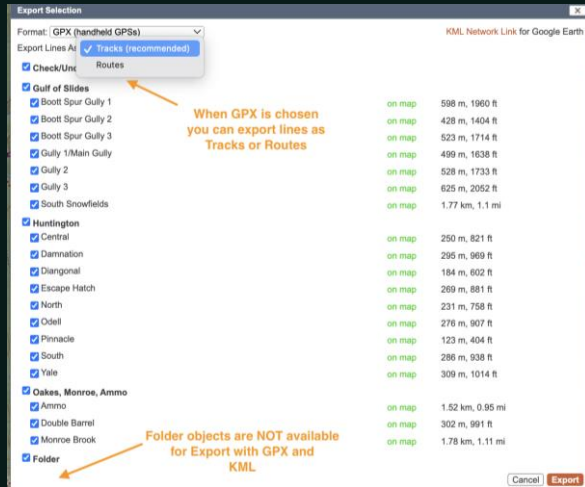
- Note the Folders & KML Network Link

The screenshot shows a software interface with a dropdown menu set to 'GeoJSON (full backup)'. Below the menu is a list of folders and objects, each with a checked checkbox. To the right of the list is a 'KML Network Link for Google Earth' button. An orange arrow points from the 'KML Network Link' button to the 'Folder objects available for Export with Geojson and Copy to Map' label. Another orange arrow points from the label to the 'Folder' object in the list.

Object Name	Map Link	Distance
Check/Uncheck All		
Gulf of Slides		
Boott Spur Gully 1	on map	598 m, 1960 ft
Boott Spur Gully 2	on map	428 m, 1404 ft
Boott Spur Gully 3	on map	523 m, 1714 ft
Gully 1/Main Gully	on map	499 m, 1638 ft
Gully 2	on map	528 m, 1733 ft
Gully 3	on map	625 m, 2052 ft
South Snowfields	on map	1.77 km, 1.1 mi
Huntington		
Central	on map	250 m, 821 ft
Damnation	on map	295 m, 969 ft
Diagonal	on map	184 m, 602 ft
Escape Hatch	on map	269 m, 881 ft
North	on map	231 m, 758 ft
Odeil	on map	276 m, 907 ft
Pinnacle	on map	123 m, 404 ft
South	on map	286 m, 938 ft
Yale	on map	309 m, 1014 ft
Oakes, Monroe, Ammo		
Ammo	on map	1.52 km, 0.95 mi
Double Barrel	on map	302 m, 991 ft
Monroe Brook	on map	1.78 km, 1.11 mi
Folder		
Gulf of Slides		
Huntington		
Oakes, Monroe, Ammo		

Export GPX

- Track or Routes
- No Folders





Accessing the Measuring Tools



Resources



NMSARC CalTopo Webpage

1. NMSARC Naming and Symboloy Standards
2. Donations for CalTopo team account
3. CalTopo Virtual Classes and Exercises
4. CalTopo Tutorials
5. CalTopo Implementation Team

This page will contain everything CalTopo by the council.
Let us know what else you'd like to see

Thank you

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<https://nmsarc.org>



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