



Trail Conference User Guide to the 'Avenza Maps' App

Last Update: May 2018 by Jeremy Apgar

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Important Tips to Know Before Getting Started

- The *Avenza Maps* app is **available for both Apple and Android devices**. The different versions are mostly similar, but note that there may be a few features that aren't replicated on both versions, and also note that many components of the User Interface are different (different buttons, different button locations, different settings, etc.). In this Guide, care has been taken to try to describe the How-Tos using both **Apple** and **Android** examples.
- Be sure to **grab the latest app updates as they arrive**, as they typically provide usability improvements. As of May 2018, the latest **Apple version is 3.5** and the latest **Android version is 3.5**.
- Starting in late 2016, Avenza changed their app to provide a **free "Avenza Maps" version and a paid "Avenza Maps Pro" version**. For most Trail Conference users, the free version continues to be sufficient.
 - The "Pro" version is required for commercial use, so many Trail Conference staff members who use it for their work use the "Pro" version.

- The “Pro” version allows unlimited map imports, which basically covers any maps downloaded through anything other than the in-app Map Store (including custom-created maps, or QR codes/links supplied by Jeremy for complimentary paid map downloads). The free version is limited to only 3 imported maps loaded on the device at any time (not including purchased maps). If you require more than 3 imported maps, Jeremy may be able to provide details for how to do this without needing you to obtain a “Pro” subscription.
- Any point or track data you record is stored on your mobile device itself, regardless of how you obtained the underlying map. It is **important to export data periodically as a backup procedure**, and especially prior to switching to a new device. This hasn’t been communicated well in the past, and several have expressed their frustration with losing data, so this is important to do regularly.

How to Download the App

On **Apple** devices (iPhone, iPad, iPod touch):

- Download and install the free *Avenza Maps* app from the App Store or iTunes.
 - [Click here to go to the App Store directly](#) or search for “Avenza Maps” in the Apple App Store on your mobile device.
 - The latest versions of *Avenza Maps* require iOS 10.0 or later.

On **Android** devices:

- Download and install the free *Avenza Maps* app from the Google Play Store.
 - [Click here to go to the Google Play Store directly](#) or search for “Avenza Maps” in the Google Play Store on your mobile device.
 - The latest versions of *Avenza Maps* require Android 5 or higher.

How to Download Maps

First, our recommendation is to **create a free Avenza account** within the app. This is an optional step, but is very important if you intend to purchase any maps within the app. By first creating an Account, if you purchase any maps, you will be able to download them on other devices or retrieve them on your primary device if you remove them at any point.

- On **Apple** devices, go to the Store screen, then tap the Account button (profile of a person inside a circle). Tap the “Register” link to create a new free Account, then use that information to login here. Once logged in, the Account button on the Store screen will include a checkmark.
- On **Android** devices, go to either the Store or Maps screen, then tap the Account button (profile of a person inside a circle). Tap the “Register” link to create a new free Account, then use that information to login here. Once logged in, the Account button on the Store and Maps screen will change to just a profile without a circle.

Maps can be downloaded in multiple ways:

- **Purchase Trail Conference Maps online (outside of the app):** If you purchase Trail Conference maps, we recommend you purchase them through a web browser outside of the app. When purchased within the app, either Apple or Google take a high percentage of the revenue; however, when purchased through a web browser, the Trail Conference receives a much higher percentage, so *web browser purchases provide greater support to our organization*. To purchase maps this way, either:
 - Go to <http://www.nynjtc.org/view/maps>, scroll down to the map names, and click the map you want to purchase; this takes you to a www.avenzamaps.com page, where you can purchase the map, OR

- Go to <http://www.avenzamaps.com/a/wwwgydd>, which is our page on AvenzaMaps.com, from which you can look through our available maps.
- **Purchase Trail Conference Maps in the in-app Map Store:** When possible, make purchases in a web browser (as described above). However, if you must make them within the app, navigate to the Map Store screen. The current Search function is somewhat unreliable (improvements are expected later in 2018), but you can use the Magnifying Glass to search by park name (full name, like “harriman state park”), or use the map to find nearby maps.
- **Website or e-mail link:** If you receive a link to the map via an e-mail or website link, click the link to open the map. Once opened, you will need to find the “Open In...” option to have the map download to the Avenza Maps app. It will download to the app and then be processed within the app, which may take a few minutes before being ready for use. Be sure to have internet access to complete this download step; once downloaded and processed, it is not necessary to have internet access to use the map.
 - If this method doesn’t work, try the next pasting method.
- **QR Code or pasting link:** A link can also be pasted into the app directly. Copy a link, and then open the app. Within the ‘Maps’ tab, choose the Add Map or Import Map button (usually a plus ‘+’ sign). A link can be pasted at the bottom of this dialog box, or the ‘From QR Code’ option can be chosen if using a QR code (using the app’s built-in QR reader). The map will download and then be processed within the app, which may take a few minutes before being ready for use. Be sure to have internet access to complete this download step; once downloaded and processed, it is not necessary to have internet access to use the map.
- **Other Maps in the Map Store:** The Trail Conference offers more than 70 maps through the in-app Map Store. If you need a map for an area where there is no Trail Conference map, there are freely available USGS topo maps available country-wide. You can find these in the Map Store and download them so that no matter where you might be, you can have a basemap available.

How to Record Points/Placemarks

To record points (called Placemarks in the app), follow these instructions:

1. Open the map you are planning to use. Once opened, you should see a crosshair symbol in the center. If you have had your device turned off (sleep mode), allow a short amount of time for the GPS chip to establish your current location.
2. To have the map pan to your current location, tap the Locate button to center the map on a blue dot.
 - a. On **Apple** devices, this Locate button is an outlined arrow on the bottom left of the tool bar.
 - b. On **Android** devices, this Located button is a crosshair symbol on the top left of the tool bar.
3. To record a point/placemark, first tap this Locate button to ensure the crosshairs are at your location.
 - a. Unlike some GPS units, where a point is automatically recorded at your position regardless of where the map may be panned to, this app places a point at the crosshair in the middle of the map. It can be easy to forget to first zoom to your location before tapping the Placemark button, so make sure to make this a habit to avoid misplacing Placemarks.
4. Next, tap the Placemark symbol (pushpin button in the toolbar next to the Locate button), which will drop a pushpin at the crosshairs and your current location. A screen pops up with advanced options, such as the ability to change the name, change the symbol, and add photos or a description. Be sure to hit Submit (on **Apple** devices) or the Checkmark (on **Android** devices) to finish this process.
5. At any time, you can tap on a Pushpin to view its name, and then tap a button next to the name to view and edit the additional information. The Placemark can also be deleted from this additional information screen:

- a. On **Apple** devices, tap the Trashcan symbol, and confirm the deletion in the pop-up.
- b. On **Android** devices, tap the three dots symbol in the top right, choose Delete, and confirm the deletion in the pop-up.

How to Record Tracks

To record tracks, follow these instructions:

1. Open the map you are planning to use.
2. To start recording a track, you need to actively start this process. Track recording does not occur automatically in the background, as often occurs on regular GPS units.
3. Tap the Tools button (wrench symbol on the right side of the toolbar), and select the “Record GPS Tracks” tool.
4. You need to press the Start button to begin recording the track.
 - a. On Apple devices, this is a ‘Start’ button.
 - b. On Android devices, this may just be a right-facing triangle with a ‘Ready’ label.
5. The track will collect in the background now, as long as you do not hit the ‘Stop’ or ‘Pause’ button. Note that for most devices, the track will continue to collect even if you tap your device’s power button to put the screen to sleep. This is helpful for conserving battery life, but be sure to test this out first to ensure this works on your device.
6. Once you are finished walking your route, be sure to tap the ‘Stop’ or ‘Done’ button to stop the track collection. That track will then be saved in the app.
7. You can tap on the completed track or track name to bring up advanced options. Within the advanced options, you can edit the name or add photos. You can also tap the ‘Show Graph’ section to show statistics like Total Distance and Total Time.
 - a. Like with any GPS-device, the distance measurement displayed should only be considered a rough approximation. There are many factors that can cause these distances to be very high or very low compared to the actual distance.

How to Export Data

It is important to export data periodically as a backup procedure, and especially prior to switching to a new device. Any point or track data you record is stored on your mobile device itself.

The exporting of data can be more complex than it needs to be at times, but if you follow these instructions, you should be able to export your point and track data to be able to share it with others or create a backup.

1. Once placemarks and/or tracks have been collected, it is possible to Export the data.
2. Avenzamaps.com has how-to pages that include graphics, so you can refer to these if necessary:
 - a. For **Apple** devices, [“Exporting Map Features \(iOS\)”](#).
 - i. As of version 3.5 (May 2018), there is now an option to do a bulk data export (export all data from all maps all at once), in addition to typical single map data exports.
 - b. For **Android** devices, [“Exporting Map Features \(Android\)”](#).
 - i. As of version 3.5 (May 2018), there is now an option to do a bulk data export (export all data from all maps all at once), in addition to typical single map data exports.
3. To perform an export, decide whether you want to export features from a single map, or from all maps on your device (best option for backup purposes).

- a. For a single map, open that map. Tap the Map Features List button (pushpin with lines symbol on right side of toolbar). This brings up folders of Placemarks and Tracks that are available for that map. Proceed to Step #5 below.
- b. For a bulk export of data for all maps, tap the Layers tab at the bottom of the screen. This brings up all Placemarks and Tracks on all maps on your device. Proceed to Step #5 below
4. Tap the Export button.
 - a. On **Apple** devices, this button is an arrow pointing away from boxes, lower right of the screen.
 - b. On **Android** devices, first tap the orange Menu three lines button, then the button with an arrow pointing up from a line.
5. On the 'Export Settings' or 'Export Map Features' screen that appears, there are various settings that can be adjusted. The settings are slightly different, and in a slightly different order, on **Apple** and **Android** devices:
 - a. The Filename is the map name by default. It can be useful to change this to some more appropriate (such as a trail name, or date of the outing, or including 'backup' or something similar for a bulk export).
 - b. The Send To option should typically be Email, which will allow you to e-mail the data to an e-mail address. There are alternative options, including Dropbox and AirDrop, and the **Android** version also allows for sending to device storage, including removable SD cards, so consider these alternative options if doing a bulk export.
 - c. The Format should be KML. KML is useful when photos are included, and for reimporting back into Avenza Maps, KML is preferred. GPX is also acceptable if the data is not expected to be reimported into the app.
 - d. The Media Size is only applicable if images are to be exported. When possible, larger sizes are preferred. If doing a bulk export, consider exporting without media to save space.
 - e. The Track Export (**Apple** only) should be set to 'As Track'.
 - f. The Data (**Apple** only) should be set to 'All Features'. It is possible to select specific placemarks and tracks by tapping Custom and choosing the specific data (note that this is also possible on **Android** devices by using the Visible/Invisible designation within the Map Features List).
6. Next, complete the export by doing the following:
 - a. On **Apple** devices, tap the 'Export' button on the top right to complete the export. This should bring up a blank e-mail with the data attached as an attachment. Just enter the e-mail address where the data should be sent, and send off the data!
 - b. On **Android** devices, tap the 'Export' button at the bottom of the screen to complete the export (not the 'Export Schema Only' button). This should allow you to choose your e-mail client (such as Gmail, etc.), where the data will be attached as an attachment. Just enter the e-mail address where the data should be sent, and send off the data!
7. If you would like to reimport the data, or import any other data in KML format, open the map the data would appear on, tap the Map Features List button, and choose the Import button. Choose where the data is to be imported from, and once imported, the Placemarks and/or Tracks will be added to the map.

Scenario #1 – How to Report Blowdowns, Graffiti, ATV Use, etc.

The Avenza Maps app can be a very useful tool for reporting trail problems, especially problems where a photo and precise location can help others evaluate and locate the problem.

With blowdowns, for example, a precise location can allow sawyers to plan their work ahead of time. A photo of the blowdown can help sawyers evaluate the amount of work that will be needed to clear the way, or help a supervisor evaluate whether a sawyer is even needed (for instance, if it is a smaller tree that could be cleared with hand saws).

To record and report trail problems:

- 1. Download the app, then download a map covering the trails you will be on.**
 - a. Be sure to do this before heading out on the trail. In some locations, it is possible to do this at a trailhead with decent cell coverage, but it is best to do it beforehand.
- 2. On the trail, open the app, ensure GPS is on, and record a Placemark at the trail problem.**
 - a. To check if GPS is on and connected, you should see a little blue dot at your current location on the map. If you do not, you may need to turn on GPS capabilities on your device in its settings menu.
 - b. Follow instructions in above section for recording a Placemark.
- 3. In the Placemark Details screen, tap the Photos section and add a photo by using your phone's Camera.**
 - a. You may get a pop-up asking for the app to be able to access your camera and photo library. This is okay to accept.
 - b. You can choose to take a new photo with your phone camera, or choose an existing photo from your device.
 - c. You can add multiple photos to a single Placemark, but try not to go overboard since these will need to be e-mailed.
 - d. Best practices for taking photos include rotating the phone horizontally (instead of vertically), keeping steady to avoid blurry photos, and taking both "close up" and "far back" photos if necessary to understand the full scope of the problem. It can also be helpful to include the trail itself and, if possible, a trail blaze marker as well.
 - e. On the Placemark Details screen, it is also helpful to rename the Placemark to something more descriptive, such as "Red Trail Blowdown 1".
- 4. Tap the 'Submit' or 'Checkmark' button to finalize the Placemark, and confirm it appears on your map.**
 - a. After choosing the photo/photos, be sure to hit the 'Submit' button (**Apple**) or 'Checkmark' button (**Android**) to finalize the placemark.
 - b. You should be back at the Map screen, and your Placemark should appear with its name and a small photo thumbnail.
- 5. On the Map screen, tap the 'Map Features List' button, then the Export button.**
 - a. For **Android** devices, if you have many Placemarks/Tracks and you only want to export specific ones, you can use this screen to choose which ones. For **Apple** devices, this is covered in the next Export Settings section.
 - i. In the Map Features, data is organized in Layers. Tap on any layer to view the individual Placemarks and Tracks.
 - ii. Tap and hold any feature to bring up options for editing, deleting, or moving. There is also an 'Eye' symbol, and tapping this makes the feature invisible on the map. You can select multiple features and tap the 'Eye' symbol to make them invisible.
 - iii. During the next Export section, you can choose to export only Visible features. If you do this, be sure to go back into this Map Features List and turn features back to Visible after you have done the Export.
- 6. On the Export Settings screen, send to Email, choose KML, make the Media Size large, and hit Export.**
 - a. For **Android** devices, also choose the checkmark for "Export Visible Only" if you want to only export certain features, as defined in the previous step.
 - b. For **Apple** devices, if you want to only export certain features, hit the Custom button in this screen, and tap the radio button to select any specific placemarks/tracks to export. Tap a layer name to get down to the individual features. This is one area where descriptive placemark names can be very useful.
- 7. Choose an email program, enter a recipient, and send the e-mail that contains a KML/KMZ attachment.**

- a. If photos are included, this will be a KMZ file. If photos are not included, this will be a KML file.

8. Also consider sending photos separately.

- a. Even if photos are included as the KMZ file, it can also be helpful to add the photos as individual attachments to a separate e-mail. This can allow the recipient to view the photos directly without needing to open them in a map (or view geolocation information without needing a map), or send them along to others who may need to see the photos but don't need the map.

To view these reports:

9. Download the app, then download a map covering the trails being reported on, and open that map.

10. Go to your e-mail message, and tap the KML/KMZ attachment. Choose to open the file in Avenza Maps.

- a. Different devices and different apps handle attachments differently, so here are a couple methods as guidance:
 - i. On **Apple** devices, tapping the KML/KMZ attachment should lead to a screen that includes an 'Open in' icon, which looks like an open box with an arrow pointing up. Tap on this to view various apps that might accept the attachment, and an "Import with Avenza Maps" icon should be in this list (you may need to scroll right through the apps).
 - ii. On **Android** devices, tapping the KML/KMZ attachment from most email apps should provide an option to choose which app to open it in. Some devices may default to open these in Google Earth.
 1. Another option is to download the file, then go back into the Avenza Maps app, tap the Map Features List button, tap the Import button (orange button with three lines), and choose 'From Device Storage'. You should be able to navigate to your Downloads folder and select the KML/KMZ file there.

11. The Avenza Maps app will open, and the points will be imported.

- a. Any placemarks that have photos will include a thumbnail photo. You can view the larger photo by going into the Placemark Details screen and tapping the photo there, or on **Apple** devices, just tap the thumbnail from the Map screen.
- b. The data will be imported as a separate Layer within the Map Features List.
 - i. Try using Layers/Folders to organize the data, especially if you start accumulating a lot of data for a map. You can create New Layers, move data from one layer to another, and delete data, all from within the Map Features List. As one example, someone might put all data they receive from one individual into a specific folder with their name.

12. These KML/KMZ files can also be opened in other apps or desktop programs, such as the free Google Earth.

Other Helpful Tips and Support Options

- **High-resolution maps:** Typically, the app imports maps at a lower resolution to save space. There is a setting that allows all imports to be at a high-resolution, and this is recommended to get the most out of your maps.
 - On **Apple** devices, go to the Settings screen, tap General, then select the option for "Always Use High Resolution". This enables an additional zoom factor to your maps when they are imported/downloaded.
 - On **Android** devices, go to the Settings button (3 vertical dots), tap General, then change the "PDF Resolution On Import" option to 300 dpi. This enables an additional zoom factor to your maps when they are imported/downloaded.

- **Compass Function:** The app includes a Compass function, but this tool is not obvious and many are not even aware it exists. This is a very useful tool that allows the map to rotate to align with its proper orientation. To access this tool:
 - On **Apple** devices, tap the Location Arrow (bottom left, outlined arrow pointed to northeast) once to zoom to your location, then tap a second time to enter Compass Mode. The Location Arrow changes to a solid arrow point directly up, and as you rotate the device, the map rotates and the compass bearing in degrees appears at the top. To get out of Compass Mode, tap the Location Arrow again. At any time, you can also tap the compass on the top right of the screen to get the orientation back to North Up.
 - On **Android** devices, tap the Location Crosshairs (top left, crosshairs symbol) once to zoom to your location, then tap a second time to enter Compass Mode. The Location Crosshairs changes to a compass symbol, and as you rotate the device, the map rotates and the compass bearing in degrees appears at the top. To get out of Compass Mode, tap the Compass symbol again. At any time, you can also tap the compass on the top right of the screen to get the orientation back to North Up.

- **Custom Map Limit:** If you have the free version and have reached the limit of 3 custom maps, you may receive a notification asking if you'd like to upgrade to a 'Plus' or 'Unlimited Custom Maps' account, but this can be ignored. This notification may not always appear, and if you are at the limit and attempt to import another map, the app may open and nothing will happen (no map appears, and no notification appears). Usually an imported map should appear on the Map Library screen as either downloading, processing, or available; if you attempt to import a map and nothing appears in the Map Library, first check if you have reached the 3 custom map limit before troubleshooting further.
 - Note that the "3 Custom Map Limit" is for having 3 custom maps on the device at any time. So if you are at the limit, it is possible to swap maps (remove one map, and then add a different one). If you have any data on the map you are removing, try to export/backup the data before removing the map just to make sure the data isn't lost (it should be retained in the Layers tab within the app, but it doesn't hurt to back it up).
 - A Custom Map is defined as any map that you might load into the app manually, rather than directly through the in-app Map Store. So any free or paid maps obtained through the Map Store, no matter how many copies you may have, do not count as Custom Maps. However, maps loaded using other import methods (such as a link to download a complimentary map, or a geospatial PDF imported into the app) do count as Custom Maps.

- **Battery Saving Tips:** Battery life depends on many factors, but short trips should minimally affect your device's battery. For longer trips, you should monitor your battery life more closely, especially when you first start using the app and if you collect Track data. Here are some things you can do to improve battery life:
 - **Put Device to Sleep (Power Button):** You do not need to keep the map screen on. When not referring to the map, you can put your device to sleep (press the power button), and then wake it up to view the map again. For some devices, it can take a moment for the GPS location to become established.
 - As noted in the section above, if you start recording a track, the track will continue collecting in the background even if you put your device to sleep.
 - **Brightness:** Use your device's Display settings to adjust the brightness level lower.
 - **Background Apps:** Closing out any background apps may help with battery life.
 - **Turning Off Components:** By turning off things you may not need while on the trail, such as Wi-Fi, Bluetooth, notifications, and e-mail syncing, you can greatly improve battery life. Sometimes keeping Wi-Fi on can help improve GPS accuracy.
 - **Airplane Mode:** The ultimate battery life saving technique is to put your device into Airplane mode, as GPS still works but cell connectivity is disabled. If you need to be able to receive and make calls, do not use Airplane mode (alternatively, you can use Airplane mode for most of your trip, but just turn it off periodically to access cell connectivity).
 - **Keep Screen On:** If battery life will not be an issue, you can choose to keep your screen on so that the map is continuously displayed.

- On **Apple** devices, tap Settings, tap Map View, then select “Keep Screen On”.
 - On **Android** devices, tap Settings (3 vertical dots), tap Map View, then select “Keep Screen On”.
- **Support Options:** If you are encountering any issues, here is where you can go for help:
 - **App Issues** – Visit the Avenza Support Center at <http://help.avenzamaps.com/> to learn more about the app, troubleshoot issues, or ask questions.
 - This would include issues with purchased maps not being available, issues with your Avenza account, and issues with the app itself such as crashes or things not working. If you have feedback, good or bad, please considering taking the time to contact Avenza so that they can be aware of any issues and work toward making fixes.
 - **Trail Conference Map Issues** – Contact Jeremy at apgar@nynjtc.org to learn more about specific uses of the app for Trail Conference efforts or with questions/clarifications related to this guide. You can also find some Trail Conference-specific information, and a list of the latest maps, at <http://www.nynjtc.org/view/maps>.
 - Please send along any corrections to this guide, or suggestions for improvements to it. Also, if you would like to share any particular ways you use the app to do your work, we’d love to hear about them so we can share with others!