Guidance On Installation And Use Of A Travel Aid For iOS Devices

Background - The published Motor Vehicle Use Map (MVUM) is the official document-of-record that designates roads, trails, and areas open to motorized use on Coconino National Forest.

The published MVUM contains important information about road, trail, and area designations that motorists should always have close at hand. However, the MVUM's large size could make it difficult to handle, or refer to, while travelling, and some motorists have found that the MVUM's small map scale and spare design make it difficult to locate themselves with confidence along the roads and trails that it portrays.

In response to these issues, Coconino National Forest has developed a Travel Aid (illustrated below on an iPad 2) for Apple iOS devices (aka iDevices) that is designed to help motorists:

- Locate their position along designated roads or trails,
- Identify areas open to motorized cross-country travel, and
- Identify motorized dispersed camping corridors.

Travel Aid requirements – These items will facilitate installation and use of the Travel Aid.

- **Apple iPhone, iPad, or iPod Touch** running iOS 4.0, or greater
- **Avenza PDF Maps** app (free) from the App Store
- Optional **QR Code scanning app** (free) from the App Store
- **GeoPDF map files** (free) from Coconino National Forest at http://go.usa.gov/PEa

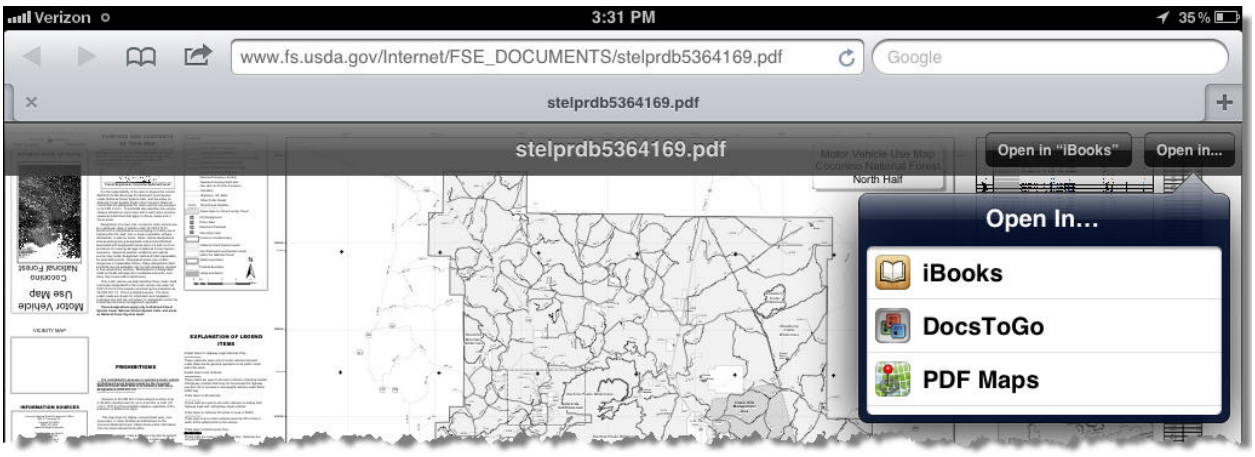
Install the Avenza PDF Maps app – Touch **App Store** on the iDevice, search for, and install the free **Avenza PDF Maps** app.

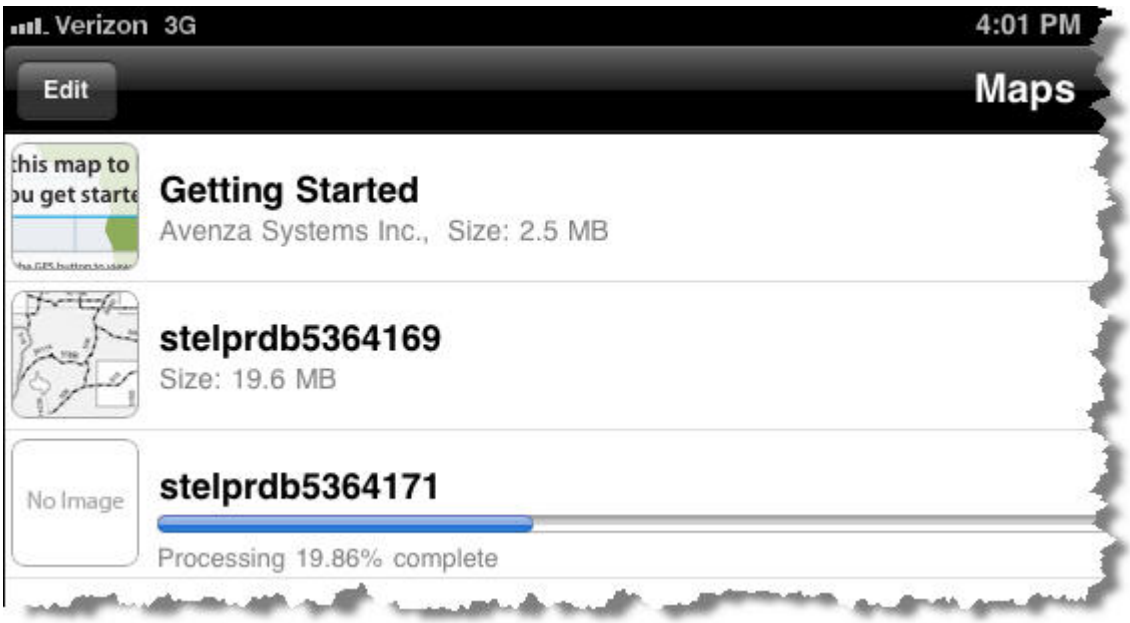
Install a QR Code scanning app (optional) - Touch **App Store** on the iDevice, search for, and install an app for scanning QR codes. Several free QR code scanners are available.

Install the Travel Aid's geoPDF map files – There are two options for installing the Travel Aid's geoPDF map files to an iDevice. The **Wireless method** may be more convenient. The **Connected method** may be faster.

Wireless map installation – Use an iDevice to scan the QR code for the Forest's North Half map (QR code at left, ~5 MB), South Half map (QR code at right, ~4 MB), or both maps. If prompted, open the scanned URL in the iDevice's Safari browser. The geoPDF's content will begin streaming to the iDevice if WiFi (faster) or 3G (slower) coverage is available.

When download is complete, tap the map to reveal the **Open in…** dialog, and select **PDF Maps**.

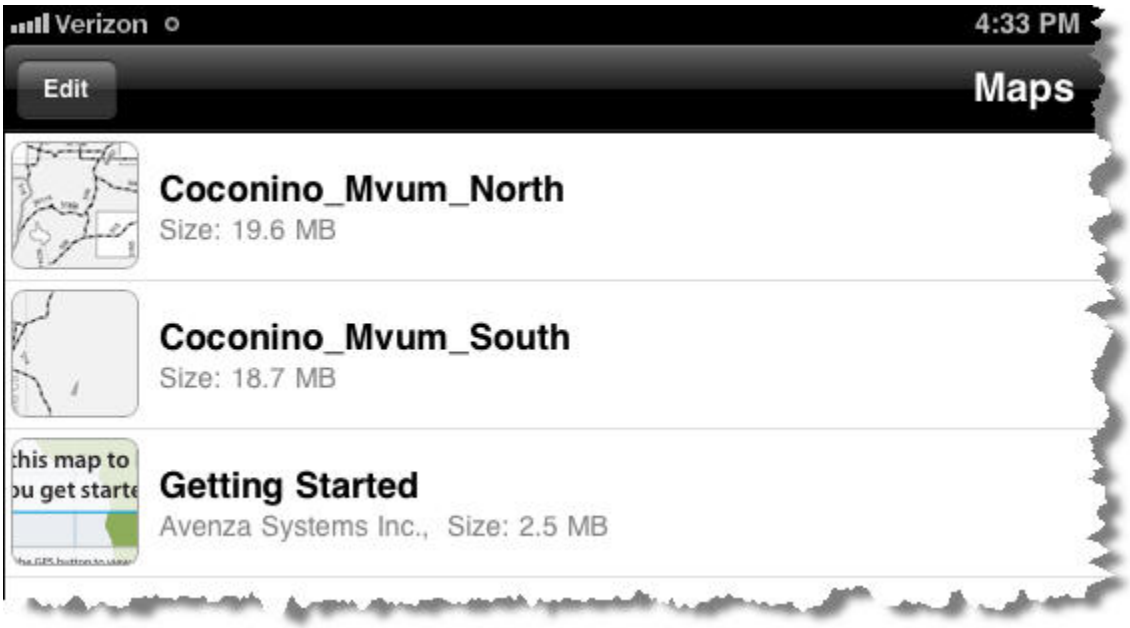




The **PDF Maps** app will begin processing the map file's content for display. Repeat this process for each desired map. When processing is complete, the North Half map will consume about 20 MB of storage, and the South Half map will consume about 19 MB.

Now, touch 

on the **Maps** page, select a map, and rename its title to something more meaningful, like **Coconino_Mvum_North** or **Coconino_Mvum_South**.



Connected map installation – Use a PC to browse to http://go.usa.gov/PEa, and download the North Half and the South Half geoPDF files to a PC folder, or to the PC's desktop.

GeoPDF map file(s) can be staged for transfer in **iTunes File Sharing** by opening iTunes on a PC that is connected to an iDevice by its USB cable, and then following these steps.

1. Start iTunes, and click on the attached iDevice, **cBeyerhelm** in this example.
2. Click on **Apps**.
3. Scroll down to the **File Sharing** section.
4. Click on the **PDF Maps** app.
5. Click **Add…**, and browse the PC's filing system for the recently downloaded geoPDF(s).
6. The listed geoPDF(s) are now synced, and available for iTunes File Sharing.

Next, open the **PDF Maps** app on the iDevice, touch  on the **Maps** page, and then touch **From iTunes File Sharing** on the **Import Map** page. Remember that the iDevice must remain connected to the PC by its USB cable throughout this process.

GeoPDF file(s) that have been staged in **iTunes File Sharing** will be listed under the **Select a File to Import** heading. In this example, two geoPDF files have been staged.

Touch each geoPDF file in sequence to initiate processing of its map content.

When processing is complete, touch 

on the **Maps** page, select a map, and rename its title to something more meaningful, like **Coconino_Mvum_North** or **Coconino_Mvum_South**.

Use the Travel Aid - Touch a map's entry on the **Maps** page to open it for use in **PDF Maps**. WiFi or 3G coverage, and continuous streaming against a data plan, are not required because the map's content is already cached on the device.

Move around the map – Users may pan, zoom out, or zoom in using the flick, pinch, or expand gestures on the multi-touch screen. The maximum zoom level is 400%.

Use map view functionality – The function of four buttons appearing in map view are described below. Refer to the **Help** documentation for PDF Maps to learn about other features and functionality.

Activate GPS positioning, and center the map view on the current GPS position.

Displays the current GPS position's coordinates. Touch it to change the format of coordinate values.

Permits users to edit a map's name, set advanced map options, or delete a map.

Return users to the map list.

Limitations of the Travel Aid – The Travel Aid has several shortcomings, as described below.

- PDF Maps does not automatically keep the GPS position in the field of view. Users must keep the GPS position marker in sight by manually panning the view, or by re-centering the GPS position marker with the button described above.
- Only iDevices with 3G capability are able to provide true GPS positioning, even in the absence of 3G coverage. For instance, WiFi-only iPads can provide positioning service, but it is not GPS-based, is generally less accurate than GPS positioning, and is available only where WiFi coverage exists.
- The map view is permanently set to "north up", and cannot be set to "track up".
- Labels and text are right-side up only when travelling in a northerly direction.
- GPS positioning consumes more power than normal operation, so it is recommended practice while travelling to power iDevices with an automotive power adapter approved for the device.