Aeronautical Application

(Aero App)

Android User Manual Version 1.2310

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1 Introduction

The aeronautical multi-platform application, Aero App, is a collaborative effort reaching across NGA and other government agencies, focused on supporting the Warfighters and NGA Vision.

The design of Aero App is to enhance the use of Aeronautical Flight Information Publication (FLIP) data and manage individual FLIP products. The key offerings of Aero App are as follows:

- Provides an interactive, high-performance, worldwide Moving Map.
- Provides a library of current nationwide VFR Sectionals, worldwide IFR High and Low charts, Helicopter and TAC Maps, and a designated place to store and use personalized user maps.
- Various overlays such as Airports, Air Refueling Routes, Airspaces, Airways, Arresting Gear, ARTCCs, FIRs, International boundaries, MTRs, Pins, and many more including User Overlays.
- View detailed airport information and charts such as APD, IAP, Dep, Arr, Min, and more.
- View critical charts and documents such as Supplements, Planning, user documents, and Legends.
- View weather information such as METARs, TAFs, Winds, Temps, PIREPs, NOTAMs, and Air Force Weather.
- Create, save, edit, or delete points within the Moving Map's Route Panel.
- View navigational data such as Graphic Charts, CONUS Chart Graphics, Military Training Routes, and more.
- Use the integrated E6B calculator for flight planning on ground and air operations. Various calculations include Altitude, Cold Wx, Conversions, Coordinates, Descent, Distance, IFR Climb, Rwy Winds, and Winds Aloft.
- Manage and make modifications to files that have been downloaded and loaded into Aero App.
- Load and view PDF format.

2 About the Manual

The Aero App user manual is a comprehensive guide that describes the use and understanding of Aero App. It provides detailed information on worldwide moving map coverage, including aeronautical overlays and user maps, as well as displaying Air Force Weather, airport, and other navigation information. Pilots can view georeferenced FLIP and FAA charts that show your ownship location, as well as Electronic-Instrument Procedure Library (E-IPL) and Host Nation charts, and much more. Whether you're an experienced pilot or new to the field, the Aero App user manual is an essential resource that will assist you in your mission effortlessly.

3 Getting Started

The Aero App User Manual walks you through installing Aero App, loading pertinent data, managing significant data, and more. Conceptual explanations for features, tools, overlays, and various offerings of Aero App are found in this document. The following are required to get started:

1. Install Aero App following the criteria below.
2. Load an initial data cycle.
3. Update the data cycle every 28 days.

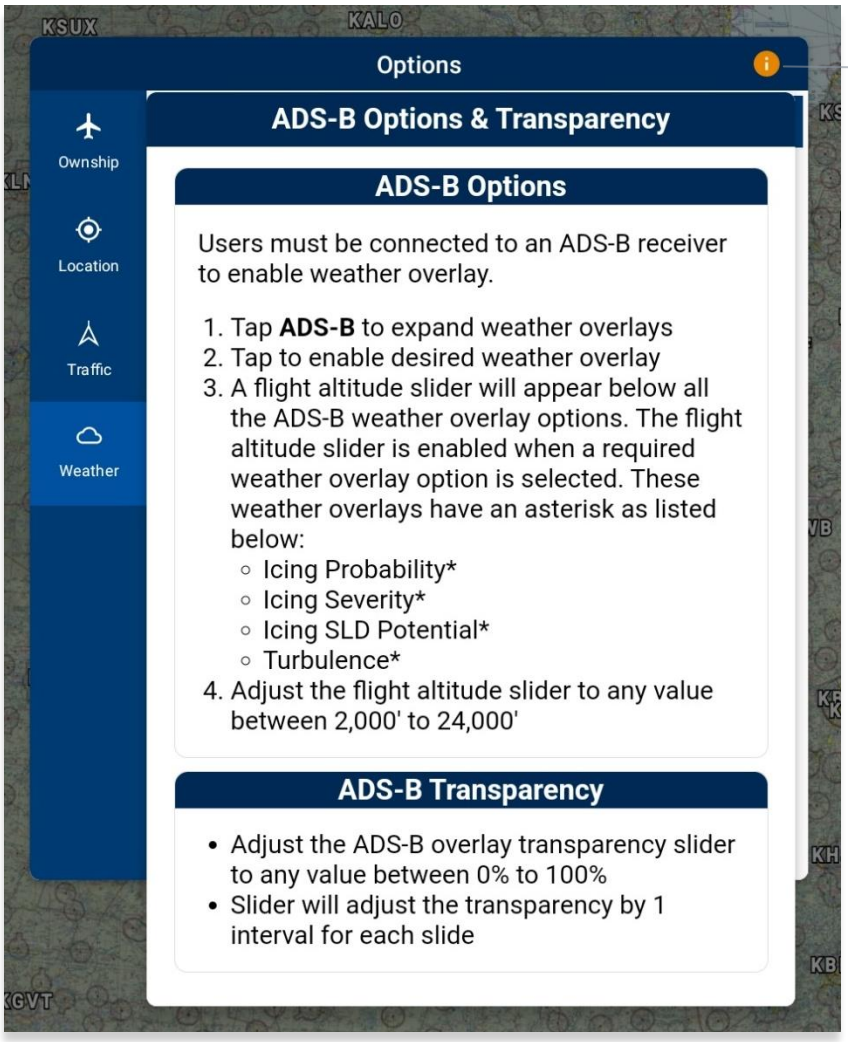
3.1 System Requirements

To install and utilize Aero App for Android, it is important to ensure that your device meets the necessary requirements. These include having a compatible operating system and sufficient memory and disk space. The system requirements are listed below:

- Required
  - Android 10 or later
  - 16 GB of available storage (will allow you to install Aero App and one complete data cycle)
- Optional
  - USB cable to connect the Android tablet to a stand-alone computer
  - If loading the app from a Mac, you will need to install the Android File Transfer app on the Mac - this app is available at http://www.android.com/filetransfer
- Internet connection if downloading data or Aero App via the internet
- File sharing app (you can buy one on Google Play Store if your tablet does not come with an integrated file sharing app)

3.2 Contextual Help

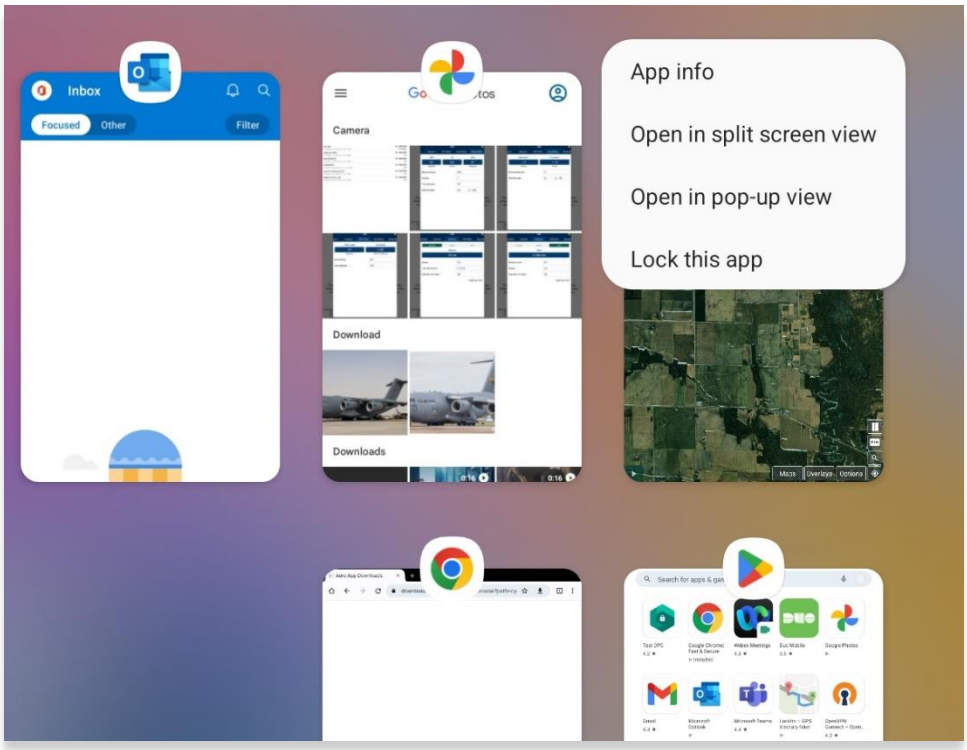
Aero App's contextual help provides a great first-time experience for users to get familiar with certain tools and features within Aero App. The views in Aero App that support contextual help have an orange icon that displays relevant feature information when tapped. Contextual Help is located all around Aero App and is accessible to users by a single tap.



4 Multitasking on Android

Aero App for Android supports multitasking capabilities to allow users to switch between different apps simultaneously in Split Screen View.

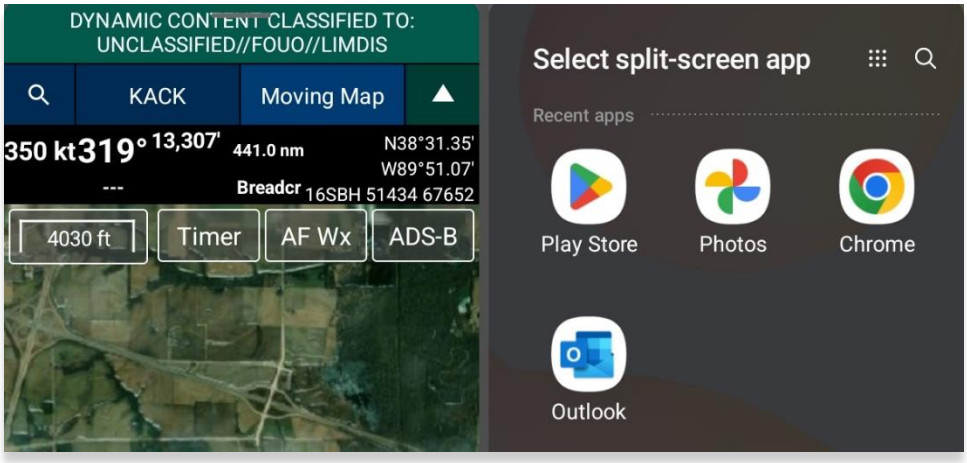
1. With Aero App open, tap the **Recents** icon located at the bottom-right of the screen.
2. All recently viewed apps will be displayed. Tap on the **app icon** of desired app.
3. A popup will display with the following options:
    - App info
    - Open in split screen view
    - Open in pop-up view (not supported)
    - Lock this app



4. Select **Open in split screen view**.

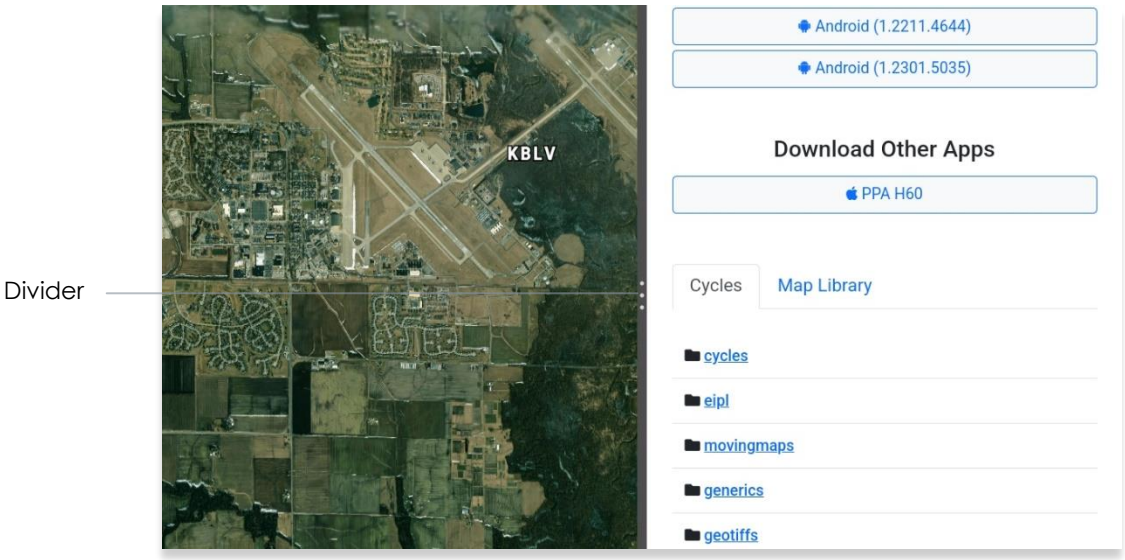
NOTE: Pop-up View is not supported by Aero App.

5. Aero App will be pushed to the left side of the screen. Users will be prompted to select a split-screen app. Select desired app for side-by-side app experience.



NOTE: Not all apps support Multitasking.

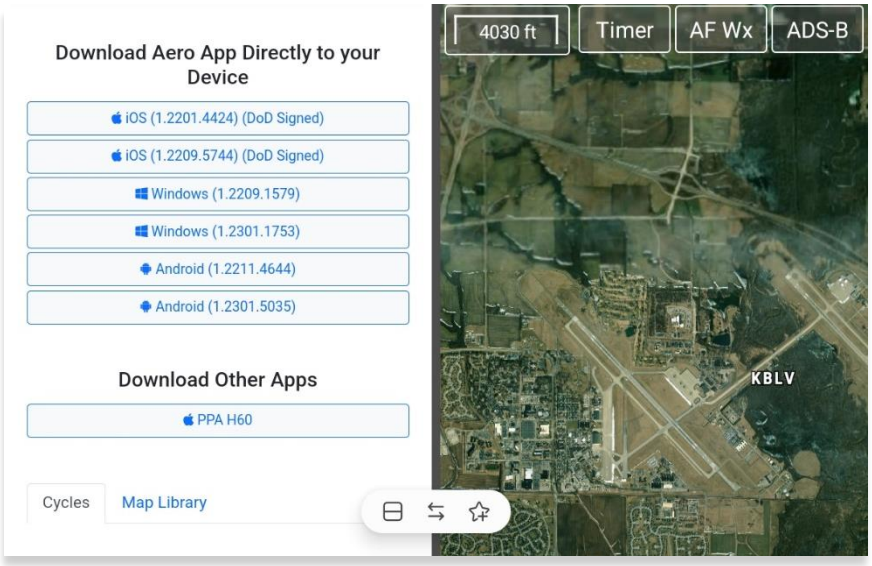
6. A divider is located between both apps to allow resizing of views when adjusted. Adjust your views to desired size preference.



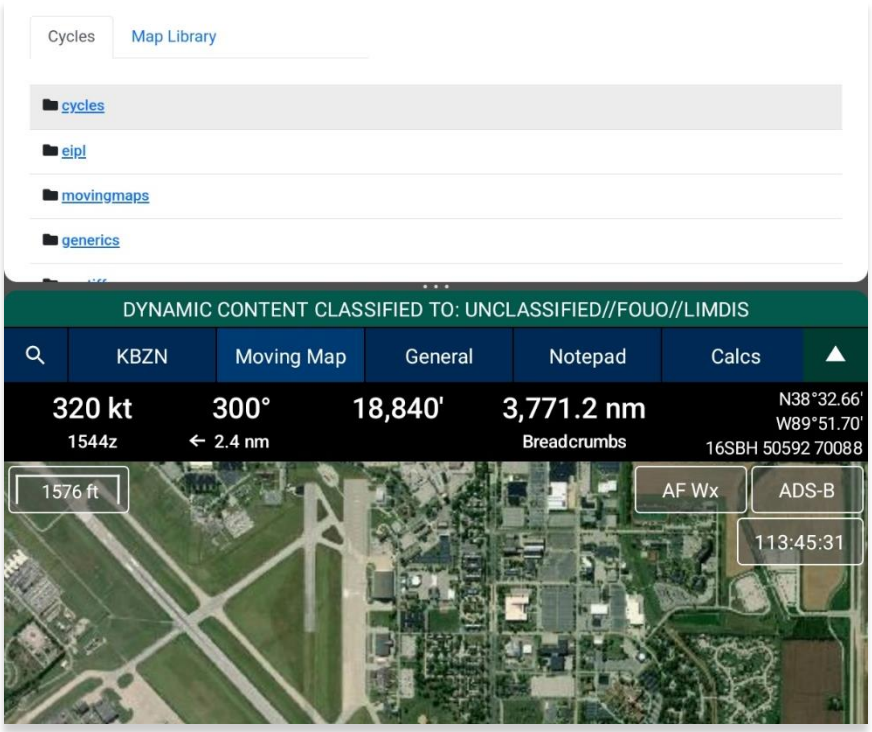
NOTE: For best practice, Aero App should be at 50/50 size to allow seamless user experience.

NOTE: Multitasking is available on both portrait and landscape mode.

7. To move the split screen view app to the opposite side of the screen, tap the **three dots** on the divider and select the **reverse** button.



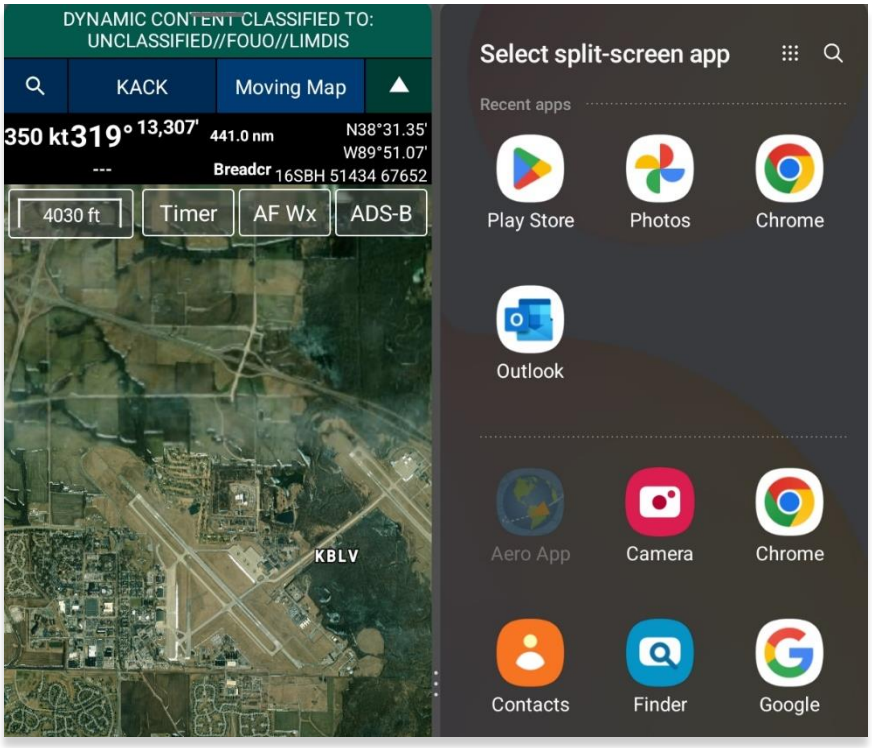
8. To switch your side-by-side view to a stack view, tap the **three dots** on the divider and select the **switcher** button.



4.1 Switch Between Apps in Split Screen View

Users can switch between different apps of their choosing.

1. To switch to another app in Split Screen View, navigate to the ***Recents*** icon and choose another app from the recently viewed apps selection.
2. Users will be prompted to choose another app. Select desired app for side-by-side experience. Alternatively, users can switch their side-by-side view to a stack view.



4.2 Close Apps in Split Screen View

There are several methods to close apps in Split Screen View. The following options are available to users:

- **Recents** – Navigate to the **Recents** icon to display recently viewed apps. Swipe up on the split screen view that you wish to close.
- **Drag divider to edge** – Drag the **divider** in the direction of the app that you want to close. The second app will disappear, and the first app will be viewed in Full Screen mode.

5 Troubleshooting

If you have problems that cannot be resolved, contact the Aero App Support Team:

Phone: 954-323-2244 ext. 412

Email: aeroappsupport@hiltonsoftware.com

Contact Form: https://aeroapp.info/contactus/

Hours of Operation: Monday - Friday 1000-1800 EST

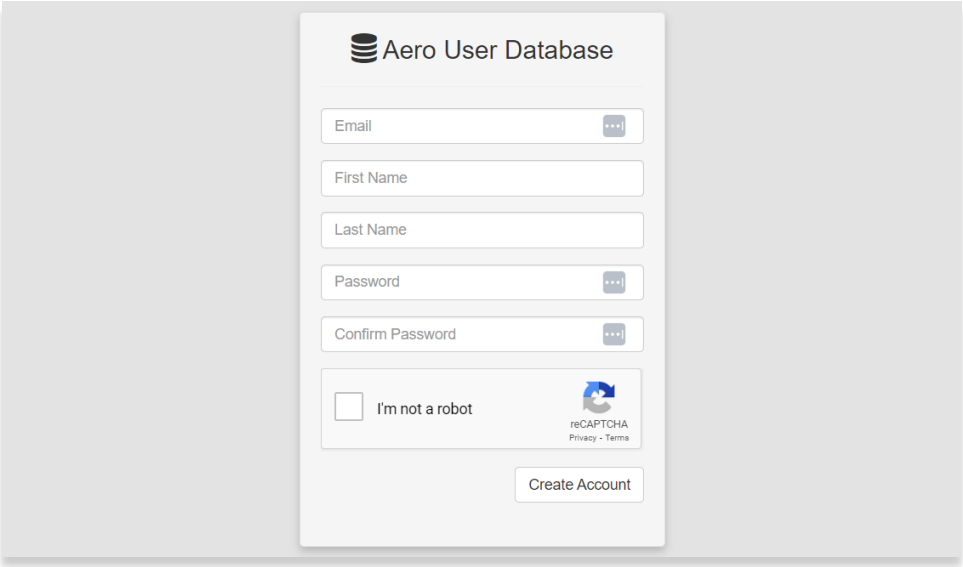
6 Accounts

In order to utilize Aero App, it is imperative to possess an active account for Aero User Database or GEOAxIS authentications. Detailed information regarding the various account options will be provided in the following sections.

6.1 Aero User Database (AUD) Account Registration

Aero User Database (AUD) provides authentication for DOD and foreign partners seeking access to Aero App software and data. Users who chose Aero User Database as a form of authentication for Aero App must register for an account.

1. Open an internet browser of choice.
2. Enter userdb.aeroapp.info/auth/register in the address bar.
3. The Aero User Database form displays. All fields are required to create an account; therefore, all fields must be filled.



NOTE: A valid .mil and .gov email is required to create an account.

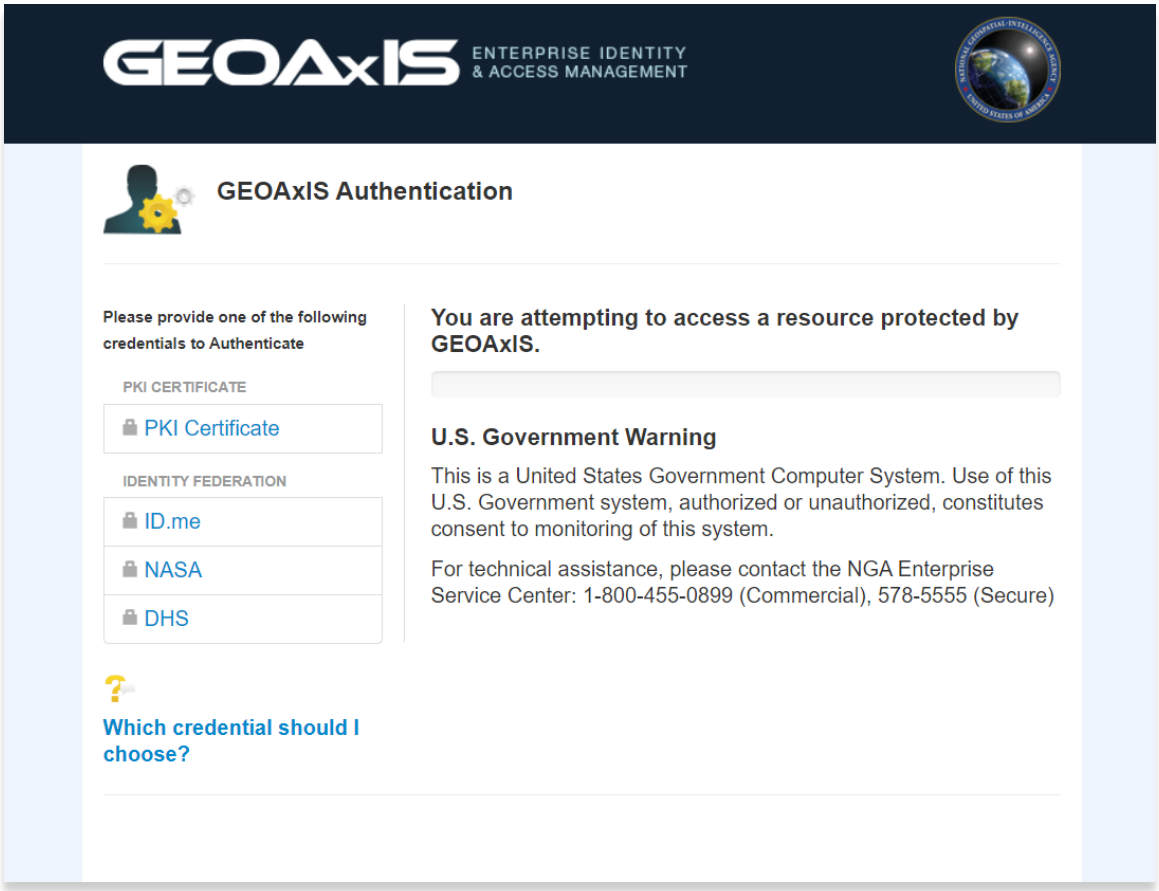
4. Click **Create Account** once all required fields have been filled. Once registered, a verification email has been sent to the user-registered email address.
5. Follow the instructions provided in the email to verify your AUD account.

NOTE: If a verification email is not found within your email inbox, ensure to check the junk folder, or contact the Aero App Support Team at aeroappsupport@hiltonsoftware.com for assistance.

6.2 NGA GEOAxIS Account Registration

GEOAxIS is NGA's Enterprise Identity and Access Management authentication system. GEOAxIS unifies logins between AWS and the NGA App Store, which negates CAC access. Users who choose to use GEOAxIS as a form of authentication for Aero App must register for an account. The initial registration requires users to have a CAC-enabled PC with their CAC card.

1. Open an internet browser of choice.
2. Enter https://access.geoaxis.gs.mil/oam/west/servlet/login.jsp in the address bar.
3. Select one of the listed credentials to authenticate.
4. Follow the prompts.



NOTE: A valid .mil email is required to create an account.

NOTE: For technical assistance, contact the NGA Enterprise Service Center at 800-455-0899.

7 Aero App Installation

There are several methods for obtaining the installation of Aero App. The following sections ahead will expand on the different options.

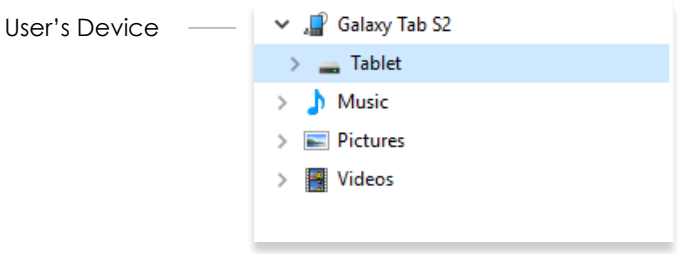
7.1 Where to Obtain Aero App

Aero App (National Stock Number [NSN] 7644016004225) is available from the following sources:

- **Aero App DVD** – National Geospatial Intelligence Agency (NGA) distributes the Aero App DVD to appropriate personnel.
  - **Defense Logistics Agency (DLA).** If you have any questions or need additional information, contact Jorge Diaz (Jorge.Diaz@dla.mil).
  - **National Geospatial-Intelligence Agency (NGA).** Aero App data can be downloaded via NIPRnet at (https://dbgia.geointel.nga.mil/efb/index.cfm). This link requires a PKI-enabled CAC card for access. See your security team for a PKI certificate if you receive the following message: "Certificate-based authentication failed."
- **Aero App Website** – Aero App's website (aeroapp.info) that requires GEOAxIS or Aero User Database credentials.

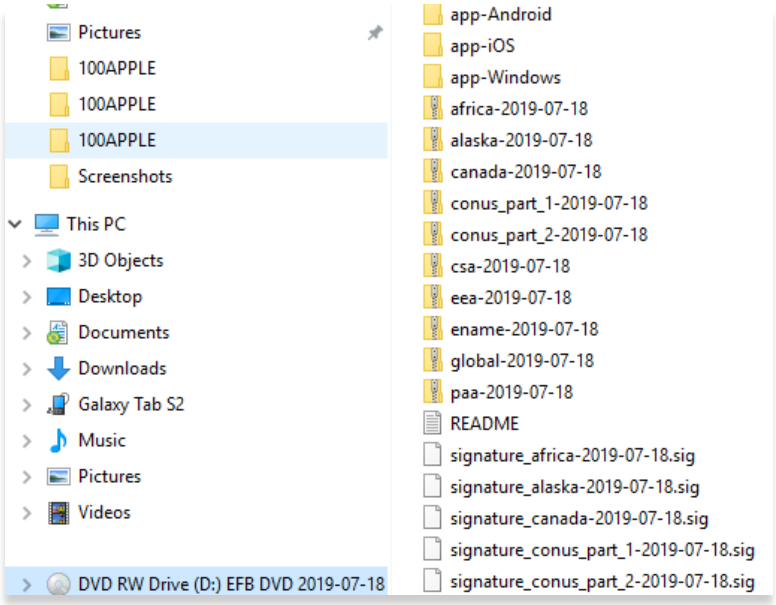
7.1.1 Aero App Installation From DVD

1. Connect an Android tablet to a USB or USB-C port of a Mac or Windows computer.
2. Once your device is connected, open **File Explorer** and navigate to **Device and Drive** to locate your Android tablet.
3. Double-click on the Tablet icon to open Internal storage.



4. Insert the data DVD into the user's computer.

5. Locate and double-click on the **DVD drive** from File Explorer.



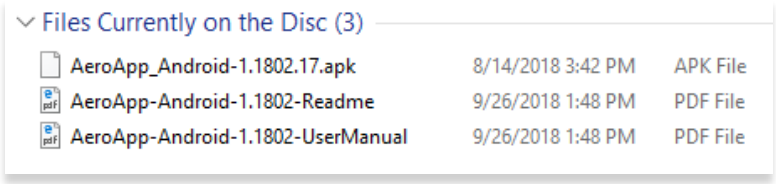
Data DVD

6. Using the Aero App DVD drive, open the ***app-Android*** folder.

App-Android
File folder

7. Drag the latest version of **AeroApp_Android.apk** into the Android tablet's ***Internal storage***.

Aero App apk file

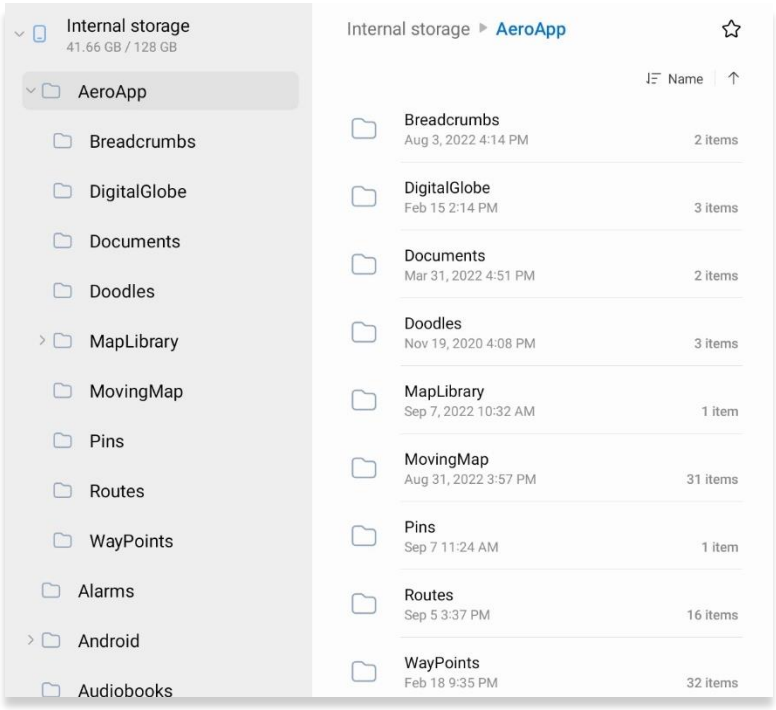


8. Go onto your Android tablet and locate **My Files** App.

9. Internal storage is listed under Tablet, tap the **AeroApp** folder.

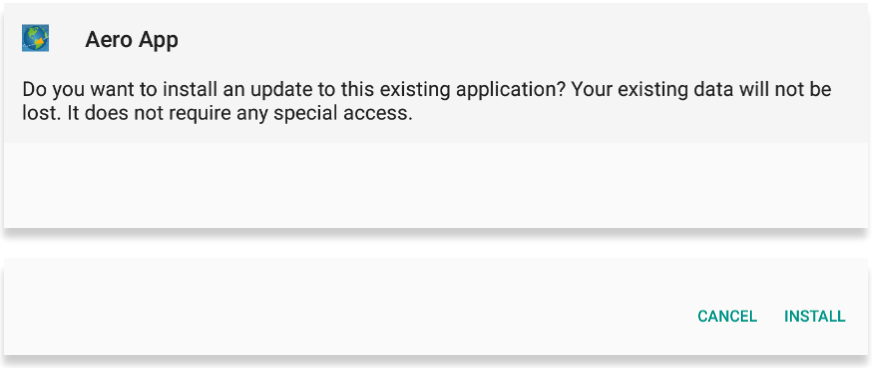
Internal Storage

Aero App folder



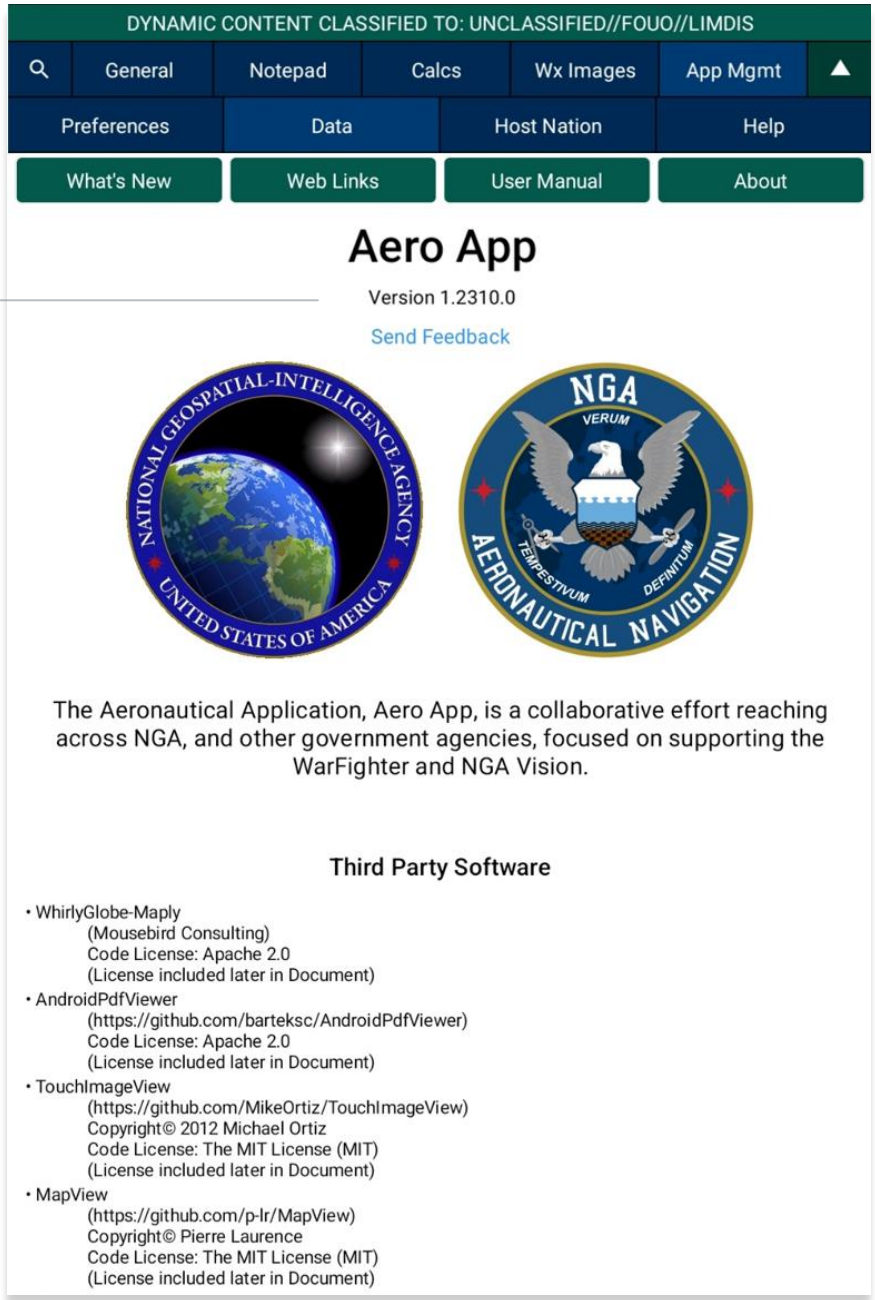
10. Locate and select the file that was recently added to the device.
11. By clicking the **AeroApp_Android-<version-number>-release.apk** file, users will be redirected to the Aero App installment confirmation page. Tap ***Install*** located at the bottom-right corner of the screen and the new file will be installed into the user's device.

Confirmation Page



12. To verify if the file has been properly installed, open Aero App and tap **App Mgmt** on the ***Main Menu***.
13. Tap **Help** on the ***Secondary Menu***.

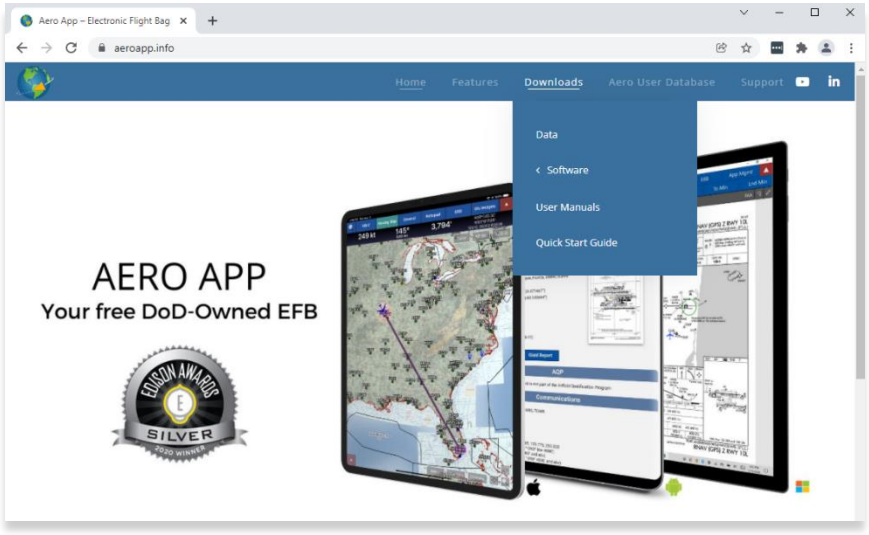
14. Tap **About** and the version number will be displayed.



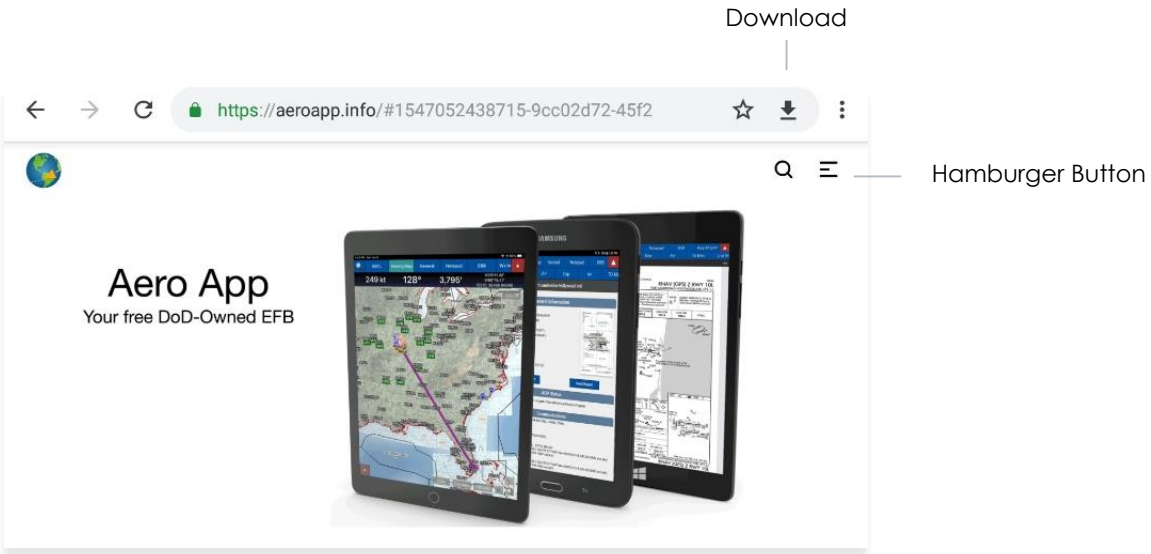
Aero App Version Number

7.1.2 Aero App Installation From Website

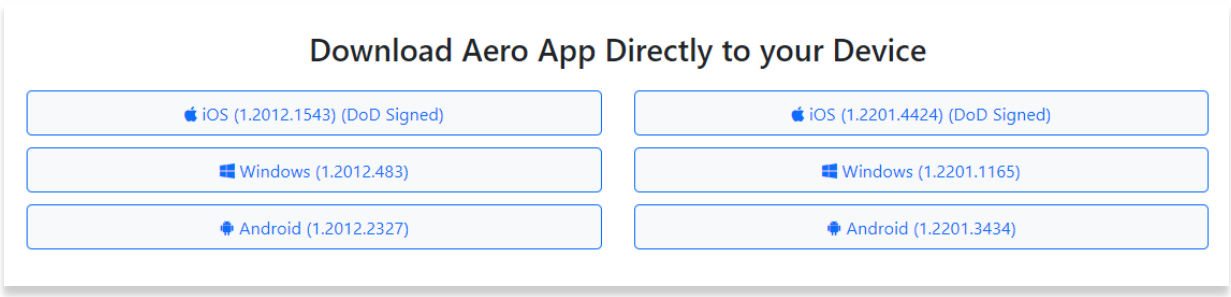
1. Open an internet browser of choice.
2. Enter https://www.aeroapp.info in the address bar.
3. Hover over Downloads. Option placement will vary depending on display size.
    - On larger screens, the ***Downloads*** option will be displayed on the ribbon located at the top of the page.



- On smaller screens, click the hamburger button and select ***Downloads***.



4. Select **Software**.
5. Users are provided with two different ways to download Aero App:
    - Direct Install to Device
    - Apple App Store
6. Select **Direct Install to Device**.
7. Log in using *GEOAxIS* or *Aero User Database* credentials.
8. Select the Android version of Aero App and download will begin.



NOTE: Users must possess a GEOAxIS or Aero User Database credentials prior to downloading Aero App software.

8 Aero App Data

To obtain Aero App data, refer to the detailed instructions outlined in the following sections. Users can easily download Aero App data from the following sources:

- **Aero App DVD** – a physical DVD available through Defense Logistics Agency.
- **Aero Data Server (ADS)** – a server that handles the deployment of Aero App data to clients through mobile devices over a locally hosted Wi-Fi network (check with an administrator for computer configuration).
- **Aero App Website** – Aero App's website (aeroapp.info) that requires GEOAxIS or Aero User Database credentials.
- **Aero App** – data can be downloaded directly from Aero App. GEOAxIS, and Aero User Database credentials are required or set up your device with Mobile Device Management (MDM).

NOTE: AWS authentication requires an account with GEOAxIS or Aero User Database credentials or set up your device with Mobile Device Management. Refer to Section 6 for additional information.

8.1 Aero App Data Overview

The following data is available for download:

- Aero App Maps
- Air Force Weather (AF Wx)
- Core Data
- Core Data Delta Files
- DigitalGlobe
- Electronic – Instrument Procedure Library (E-IPL)
- FAA Sectionals
- Georeference
- Giant Reports
- Helicopter and Terminal Area Chart (TAC) Maps
- Map Library
- Temporary Flight Restrictions (TFRs)
- Terrain
- User Files

NOTE: Some products and/or data may be limited in their distribution. This may include but not limited to E-IPL, AMC Giant Reports, Air Force Weather, DigitalGlobe imagery, and Contract Fuel Information. Contact NGA Aeronautical Dissemination Program office at aerodistro@nga.mil if you have questions regarding access to these products and/or data.

8.1.1 Aero App Maps

Aero App includes an advanced Moving Map that displays VFR and world-wide IFR charts. Aero App enables pilots to easily download the maps for their region of interest. Refer to Section 14.3 for additional information on the Moving Map.

8.1.2 Air Force Weather

Air Force Weather (AF Wx) is timely and accurate weather information from the Air Force. Aero App enables users to view real-time weather information for METARs and TAFs. Refer to Section 14.3.3 for additional information on Air Force Weather (AF Wx).

8.1.3 Core Data

Core Data includes Global zip file and the Africa, Alaska, Canada, CONUS 1, CONUS 2, CSA, EEA, ENAME and PAA region files. Usable data products in the Core Data include, but not limited to, FLIP charts, Supplements, Planning Documents, Legends, Moving Map Overlays including Airports, Air Refueling Routes, Airways, ARTCCs, and many more. Users can choose whether to download regions. However, the Global zip file is always required. Refer to Section 9 for additional information on how to load data from Aero App.

NOTE: Users have the option to sideload data, refer to Section 10 to view different methods of sideloading data.

8.1.4 Core Data Delta Files

Core Data Delta Files are significantly smaller files that contain only data that has changed from the previous cycle. Downloading Core Data Delta Files significantly reduces download time.

Aero App will automatically download the delta files if the previous cycle is already loaded in Aero App – this process is transparent to the user. After downloading the delta files, Aero App will apply Deltas to create the new cycle.

8.1.5 DigitalGlobe

DigitalGlobe is satellite imagery that provides a visual percept of the ground conditions to improve situational awareness. DigitalGlobe can be zoomed and panned. DigitalGlobe images can be viewed using internet connection or, downloaded for use offline. Refer to Section 14.3.5.1.4 and Section 14.3.5.3 for additional information.

"*DigitalGlobe is the first company to deliver native 30cm resolution imagery, delivering clearer, richer images that empower better decision making through improved situational awareness*." – DigitalGlobe

8.1.6 Electronic – Instrument Procedure Library (E-IPL)

Electronic – Instrument Procedure Library (E-IPL) charts are translations of Host Nation procedures drawn in the familiar DOD approach format. E-IPL charts are intended to fill gaps in instrument procedure coverage in existing DOD FLIP charts. E-IPL charts are available for download from ADS and AWS.

NOTE: E-IPL full cycle is available every 28 days.

8.1.7 FAA Sectionals

FAA Sectionals are Sectional Aeronautical Charts designed for visual navigation used for a flight under Visual Flight Rules and can be displayed as base maps on Aero App's Moving Map. Users with GEOAxIS and Aero User Database (AUD) credentials will have access to FAA Sectionals. Refer to Section 14.4.1 to reference how to load FAA Sectional Charts. Refer to Section 14.3.5.1.1 to reference how to display FAA Sectionals onto the Moving Map.

NOTE: All FAA Sectionals, Helicopter and TAC Maps, and IFR Enroute charts are updated on a 56-day cycle.

8.1.8 Georeference

Georeference is an alignment of accurate location data to a map coordinate system for Aero App. Aero App enables users to show their ownship on Airport Diagrams, Instrument Approach Procedures, and on the Moving Map, perfectly georeferenced. Refer to Section 14.8.1.3 on how to Show Ownship on APD and IAP and Show Airport Ring on APD and IAP.

8.1.9 Giant Reports

Giant Reports are PDF documents that are an assessment from the Air Force for safe operations at an airfield. These can be downloaded and viewable within Aero App. Refer to Section 14.2 for guidance in locating Giant Reports.

8.1.10 Helicopter and Terminal Area Chart (TAC) Maps

Aero App can display Helicopter – Gulf Coast charts, Helicopter – Route charts, and Terminal Area Charts (TACs) on the Moving Map.

Displaying Helicopter and Terminal Area Chart directly on the Moving Map results in perfect alignment on the underlining sectional (or other base map).

Georeferencing and spatial accuracy ensure that these charts can be used for an accurate, non-primary means of navigation. Refer to Section 14.3.5.4 for additional information on Helicopter and Terminal Area Chart (TAC) Maps.

NOTE: All FAA Sectionals, Helicopter and TAC Maps, and IFR Enroute charts are updated on a 56-day cycle.

8.1.11 Map Library

Aero App includes Map Library charts that can be displayed on the Moving Map. Map Library includes maps such as NavPlan charts, range charts, maps for Search and Rescue missions, and many others. Map Library can be downloaded from AWS using Aero User Database credentials or directly from ADS. Map Library data is available to DOD and specific government foreign partners. For information on downloading Map Library charts, refer to Section 9.2.1.1 and Section 9.3.1.1. For information on overlaying Map Library charts on the Moving Map, refer to Section 14.3.5.5.

8.1.12 Temporary Flight Restrictions (TFRs)

Temporary Flight Restrictions (TFRs) are restricted areas for air travel. Aero App enables users to display graphical and textual TFRs on demand when connected to cellular data, Wi-Fi, or ADS-B receiver. Refer to Section 14.3.6.1.22 for additional information on displaying TFRs on the Moving Map.

8.1.13 Terrain

Aero App includes Terrain Coloring that provides situational awareness to flight crews. Aero App enables users to overlay Terrain on the Moving Map that includes an altitude-based color system that depicts the proximity of the pilot's ownship relative to terrain. Terrain can be downloaded from AWS using GEOAxIS or Aero User Database credentials or directly from ADS. Terrain Coloring data will be listed under Other in the Data Download screen and is available to specific government foreign partners. Refer to Section 14.3.6.1.21 for additional information.

8.1.14 User Files

User Files include User Map files and other PDF files and can be accessed from the data download screen in Aero App.

9 Download Data

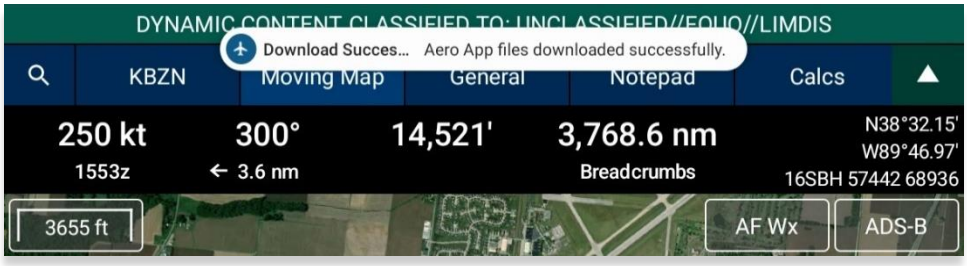
Aero App provides access for users to download data directly from the app. Sources such as Amazon Web Services (AWS) and Aero Data Server (ADS) are accessible within Aero App. Alternatively, users can visit the Aero App website (aeroapp.info) and download data directly to their devices.

An active internet connection is required to experience an interruption-free downloading session.

9.1 Background Downloading

Aero App has background downloading capabilities that enable users to download data while switching screens within Aero App or while using another application. The sections ahead will elaborate on how to download data from Aero App.

1. Select desired method of downloading data.
2. Follow the prompts then tap **Download** to start the downloading process.
3. Tap **Done** to return to the ***Data Status*** screen.
4. Navigate to desired screen within Aero App or an application in which you would like to proceed in normal operations.
5. Once the downloading is complete, a popup will notify users that the download was successful.



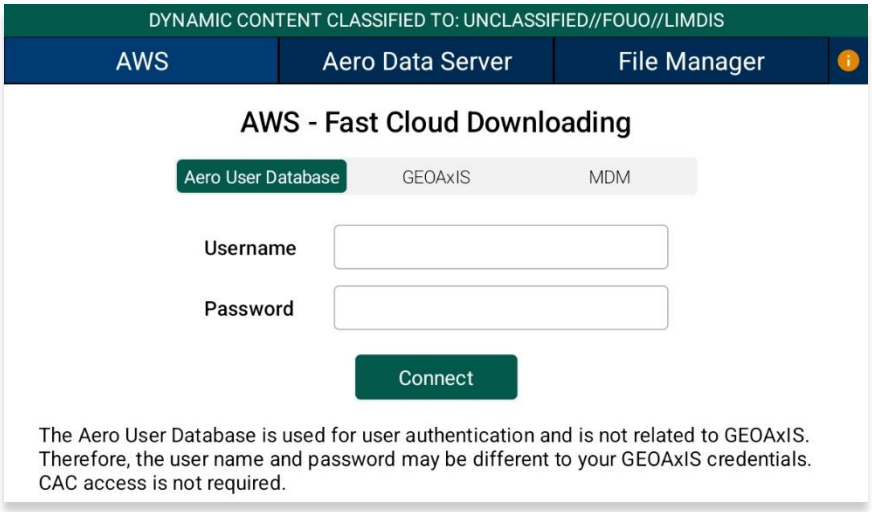
6. Navigate back to the **Data Status** screen and notice the files in which you have selected to download display **Found** indicating that the files have successfully downloaded with no interruptions.

NOTE: In addition to switching screens within Aero App or using another application, users can lock their devices and the download will continue. A notification will be displayed on the device's lock screen.

9.2 Download Data Through Amazon Web Services (AWS)

Aero App enables users to download data from AWS using Aero User Database (AUD) or GEOAxIS credentials or set up your device with Mobile Device Management (MDM). To obtain core data files, Global must be included when downloading data.

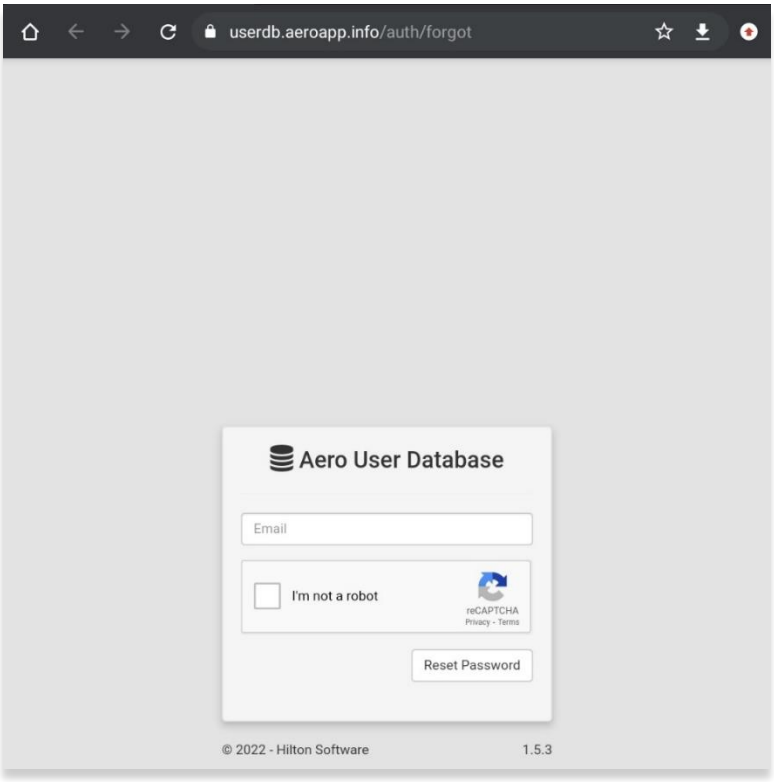
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap **Download**.
4. Select the **AWS – Fast Cloud Downloading** option, if necessary.
5. Users are given the option to access data using GEOAxIS or Aero User Database (AUD) credentials or set up your device with Mobile Device Management (MDM).



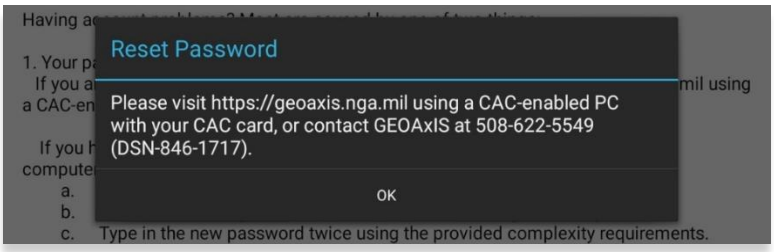
6. Below each user authentication option, users are presented the options to *Sign Up For An Account* and *Reset Password*.

7. Tap **Sign Up for An Account** to create an Aero User Database (AUD) or GEOAxIS account.

8. The following options are available for Reset Password:
    - Tapping **Reset Password** under ***Aero User Database*** will redirect users to Aero User Database management page on a separate browser.



    - Tapping **Reset Password** under ***GEOAxIS*** will provide instructions for how to reset password.



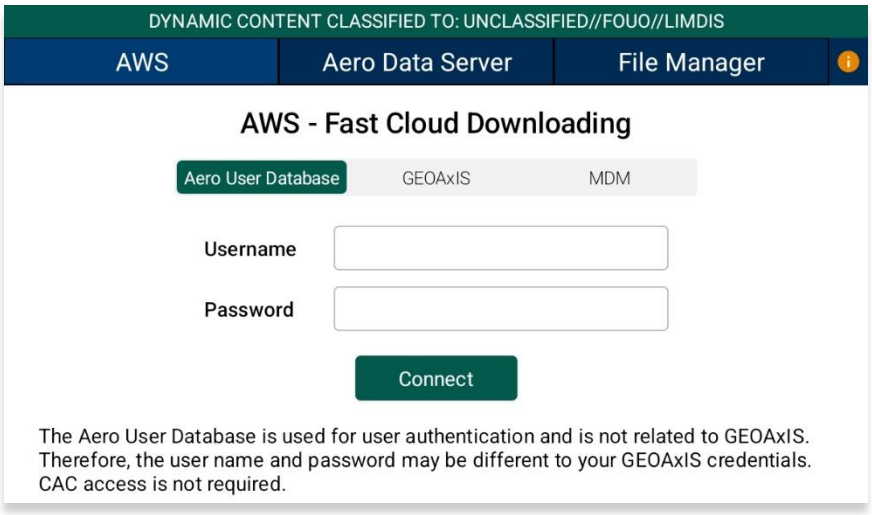
NOTE: The Background Downloading feature allows users to continue downloading data while switching screens within Aero App or while using another application. Refer to Section 9.1 for additional information.

9.2.1 Download Data Using Aero User Database (AUD)

Aero User Database (AUD) allows for authentication of both DOD users and Foreign Partners. Aero User Database credentials are not related to GEOAxIS credentials and CAC card access is not required.

1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap **Download**.
4. Select the **AWS** option, if necessary.
5. Tap the **Aero User Database** option.
6. Enter user's credentials then tap **Connect**.

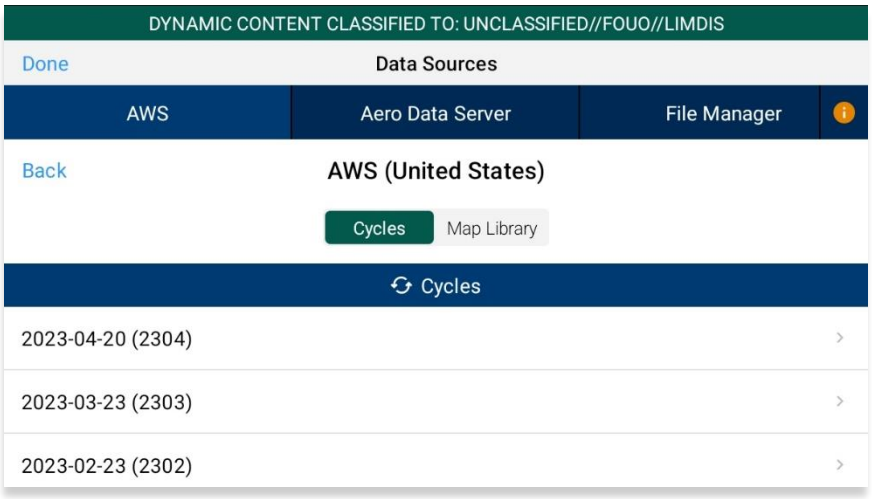
User's Credentials



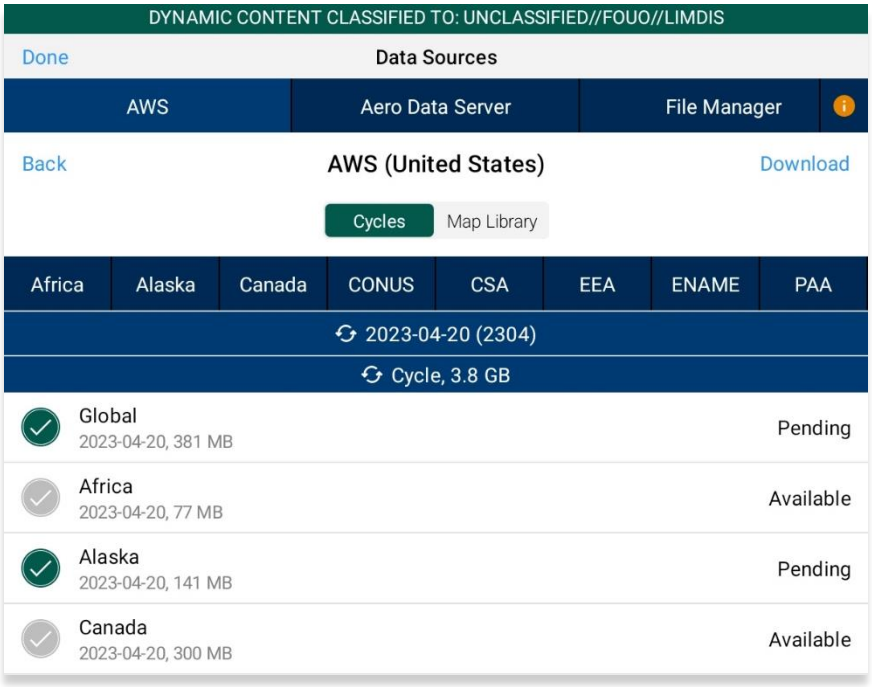
7. The Select Partner popup will display. Select from partners list.

NOTE: The Select Partner popup will appear to those who have access to multiple government foreign partners.

8. Users will be prompted to the Data Cycle Download screen. Users are provided with options to download Cycles or Map Library. Select **Cycles**.



9. Available data pertaining to that cycle will be displayed on the screen. Select individual data files or select region Easy Buttons for faster data selection.
10. Tap **Download** once desired data files are selected.



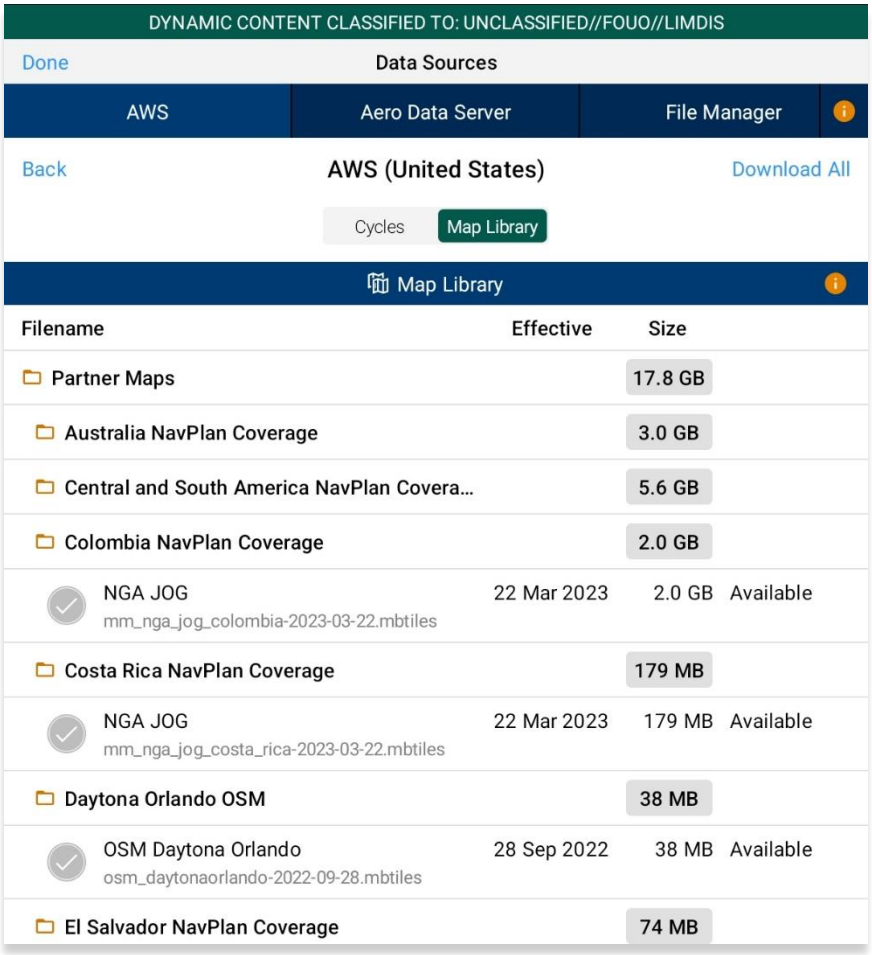
NOTE: Refer to Section 6 for additional information regarding registering for an AUD account.

9.2.1.1 Download Map Library Data Using Aero User Database (AUD)

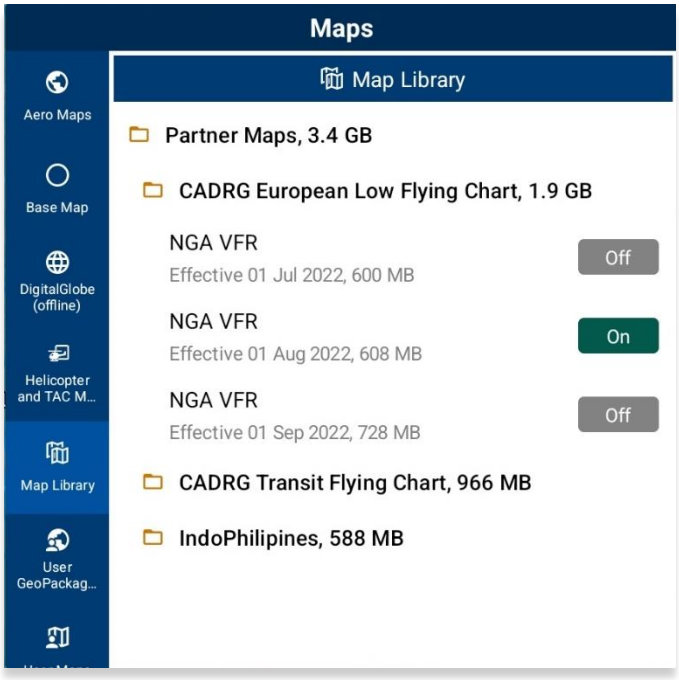
1. Once credentials have been entered and the appropriate government foreign partner has been selected, users will be redirected to the Data Download screen.
2. From the Data Download screen, select **Map Library** from segmented controller.
3. Available charts will be displayed on the screen. The files are grouped by categories, tap on the desired folders to expand, or collapse to reveal or hide files.
4. Tap on the header of the date column to display ***Created***, ***Effective***, or ***Expiration*** dates.

NOTE: If the files have expired, the Created time is replaced by "Expired".

5. Select desired map file(s).
6. Tap **Download** once desired Map Library files have been selected.



7. To verify that Map Library files were successfully downloaded, navigate to the **Moving Map** from the Main Menu.
8. Tap **Maps**.
9. Tap **Map Library** from the side menu and the downloaded Map Library charts will display.



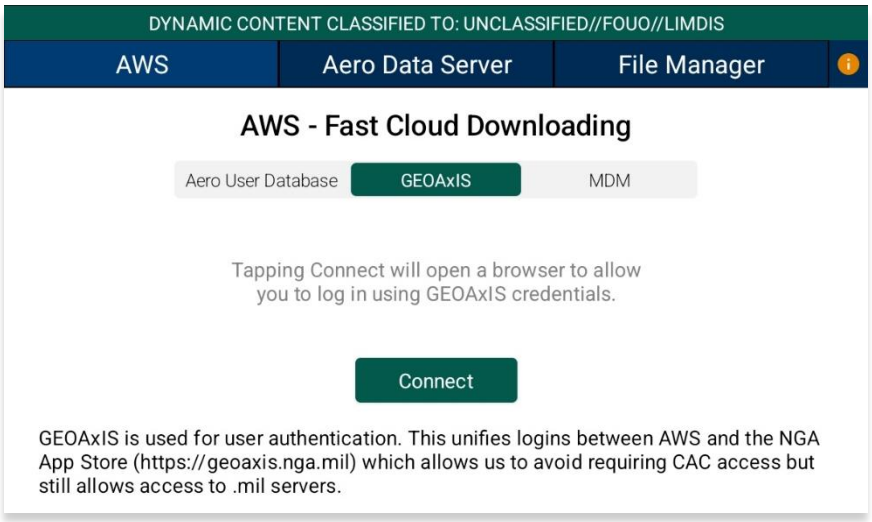
NOTE: Map Library charts can be deleted from File Manager or from the Maps popup in the Moving Map by swiping left and tapping the **Delete** button.

NOTE: Users can display Map Library charts on the Moving Map. Refer to Section 14.3.5.5 on how to display Map Library charts on the Moving Map.

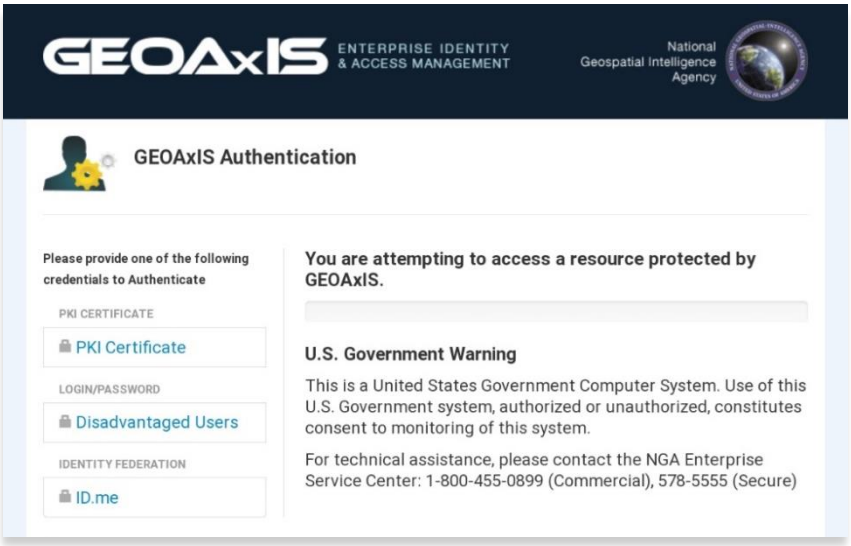
9.2.2 Download Data Using GEOAxIS

GEOAxIS allows for authentication of Disadvantage Users – users without a CAC card. A GEOAxIS account is required when GEOAxIS authentication is selected.

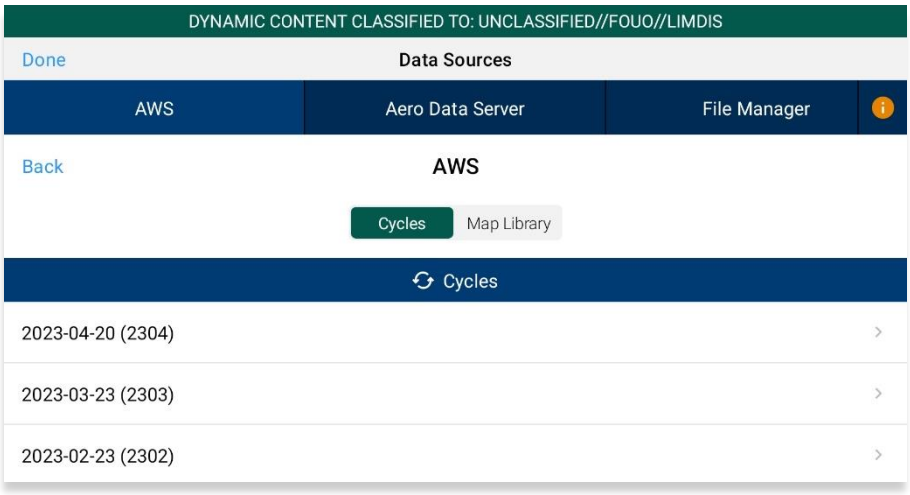
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap **Download.**
4. Select the **AWS** option, if necessary.
5. Tap the **GEOAxIS** option.



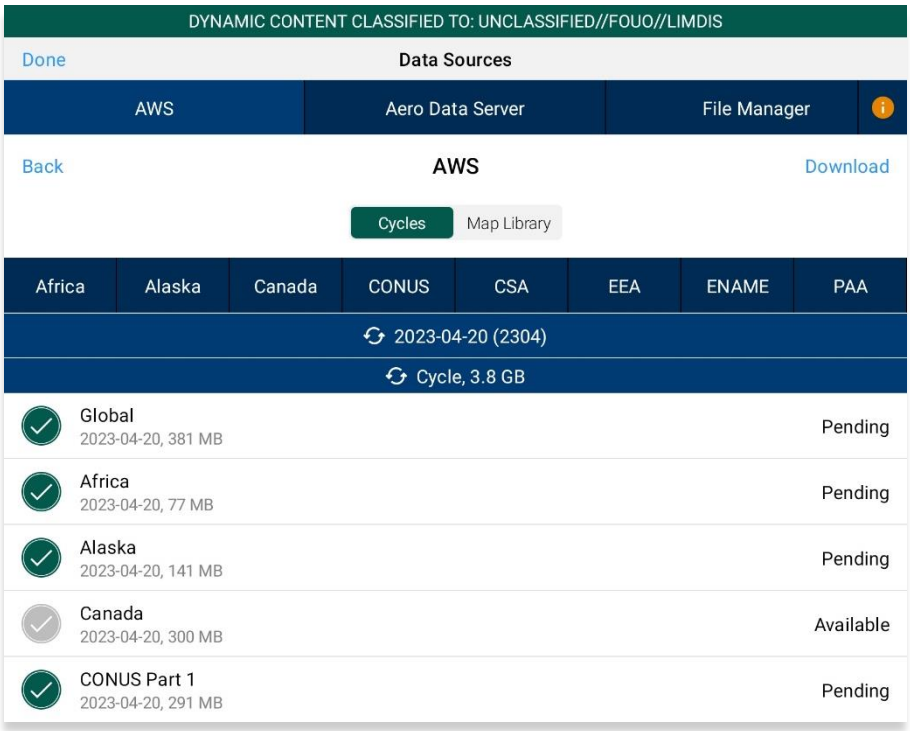
6. Tap **Connect** and users will be redirected to the GEOAxIS webpage.
7. Select desired authentication method.



8. Once authenticated, users will be prompted to the AWS download screen. Users are provided with options to download Cycles or Map Library. Select **Cycles**.



9. Available data pertaining to that cycle will be displayed on the screen. Select individual data files or select region Easy Buttons for faster data selection.
10. Tap **Download** once desired data files have been selected.

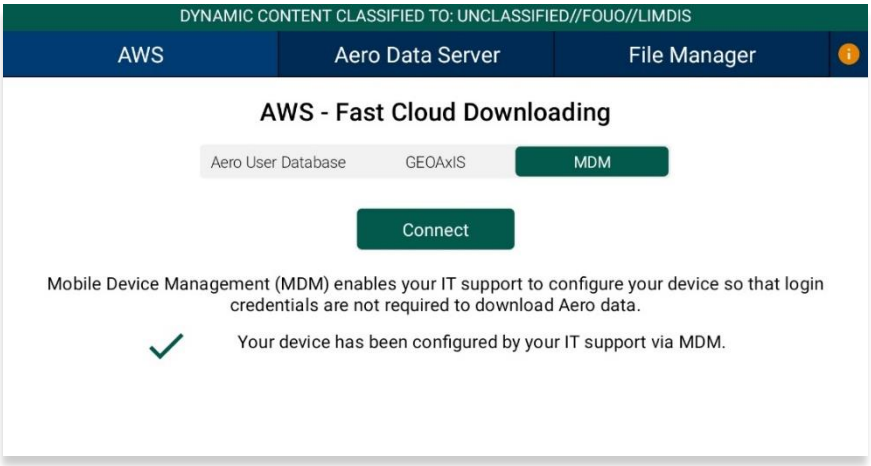


NOTE: Refer to Section 6 for additional information regarding registering for a GEOAxIS account.

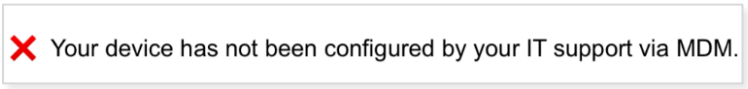
9.2.3 Download Data Using Mobile Device Management (MDM)

Mobile Device Management (MDM) is a software that allows the IT department to automate and monitor the user's device. The IT administrator would securely connect the user's device to the organization's network. This enables devices to be automatically authenticated, therefore, does not require login credentials to be entered.

1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap **Download**.
4. Select the **AWS** option, if necessary.
5. Tap the **MDM** option.

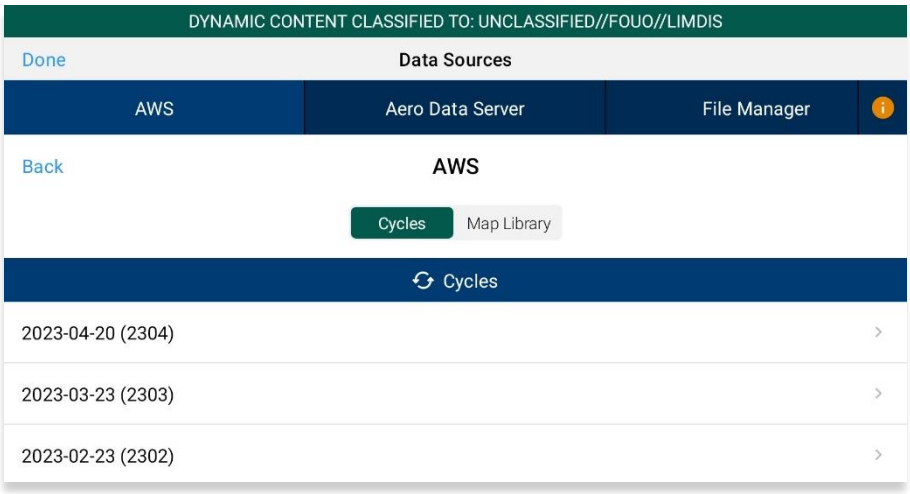


NOTE: IT administrator must be contacted to retrieve key value pairs for MDM configuration prior to downloading data; otherwise, the following message will appear as displayed below.



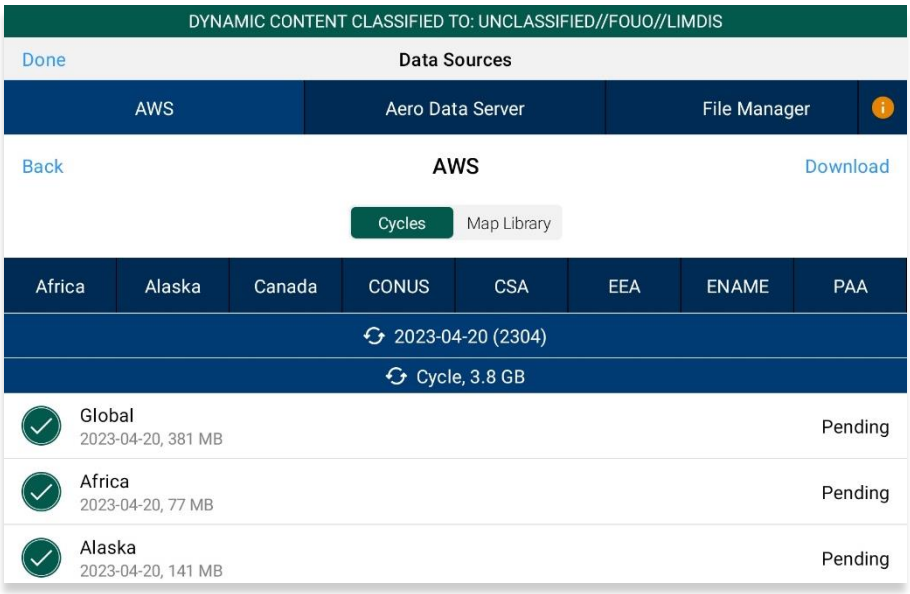
6. Tap **Connect**. Users will be redirected to the *Data Download* screen.

7. Users are provided with options to download *Cycles* or *Map Library*. Select **Cycles.**



NOTE: When selecting Map Library to load data using MDM, refer to Section 9.2.1.1 for additional information.

8. Available data pertaining to that cycle will be displayed on the screen. Select individual data files or select region Easy Buttons for faster data selection.
9. Tap **Download** once desired data cycles are selected.



NOTE: DigitalGlobe cannot be accessed through MDM. To access DigitalGlobe (online) and/or download DigitalGlobe (offline) tiles, user must be authenticated via *Download screen* or *AF Wx and TFRs* with authorized partner (AUD).

9.3 Download Data Using Aero Data Server (ADS)

Aero Data Server (ADS) enables users to download Aero App data and Map Library charts over a local Wi-Fi network to an Android device. Global is required to be loaded in ADS for Aero App to access cycle, Aero App Maps, E-IPL, and other data, not including User Files or Map Library.

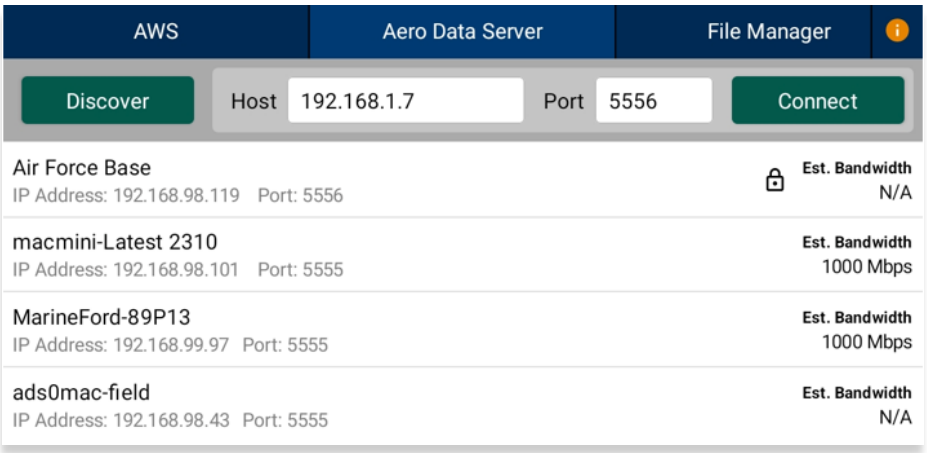
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap **Download**.
4. Select the **Aero Data Server** option.
5. Users will be presented with options to Discover, enter Host and Port numbers, and Connect. Tap **Discover** and a list of ADS servers will display.

NOTE: The Background Downloading feature allows users to continue downloading data while switching screens within Aero App or while using another application. Refer to Section 9.1 for additional information.

9.3.1 Aero Data Server (ADS) Discover

The Aero Data Server (ADS) Discover tool automatically locates servers that share the same Wi-Fi network as your device. In turn, the ADS Discover tool negates having to enter an IP address and the Port number of a server.

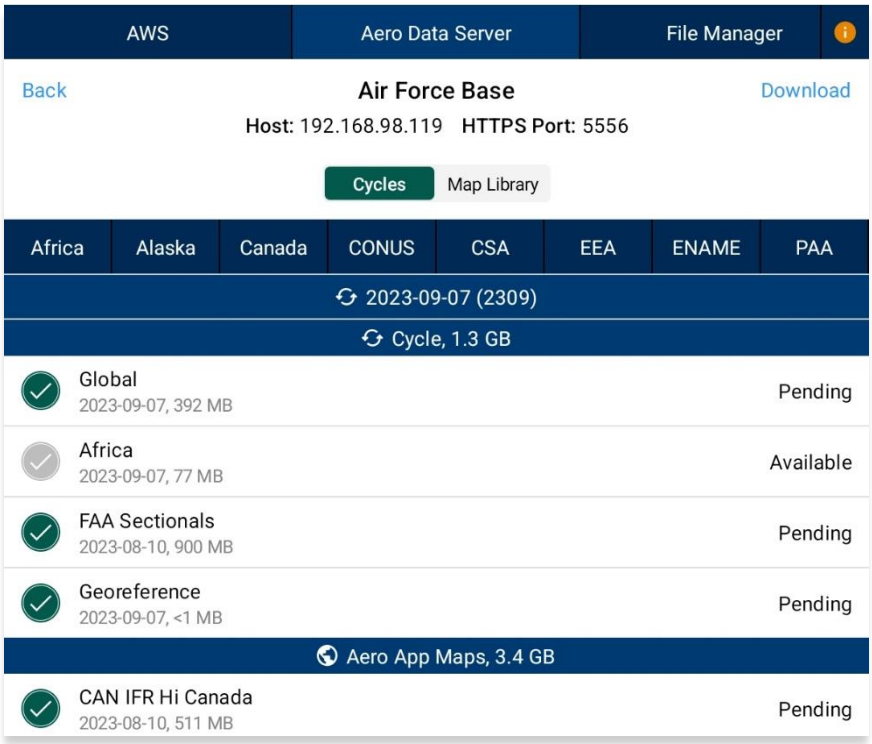
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap **Download**.
4. Select the **Aero Data Server** option, then tap ***Discover*** and all available servers will display.



5. Alternatively, users can manually connect to a server by entering the Host and Port numbers, respectively, in provided fields.

NOTE: To establish a connection with a secured server, certificates would need to be installed in the ADS device as needed.

6. Once entered, tap **Connect** to connect to the server.
7. Users will be prompted to the Data Cycle Download screen. Users are provided with options to download Cycles or Map Library. Select **Cycles**.
8. Available data pertaining to that cycle will be displayed on the screen. Select individual data files or select region Easy Buttons for faster data selection.
9. Tap **Download** once desired data files have been selected.



NOTE: Aero App will receive data for the latest three cycles loaded on ADS but will only have access to the cycles containing global.

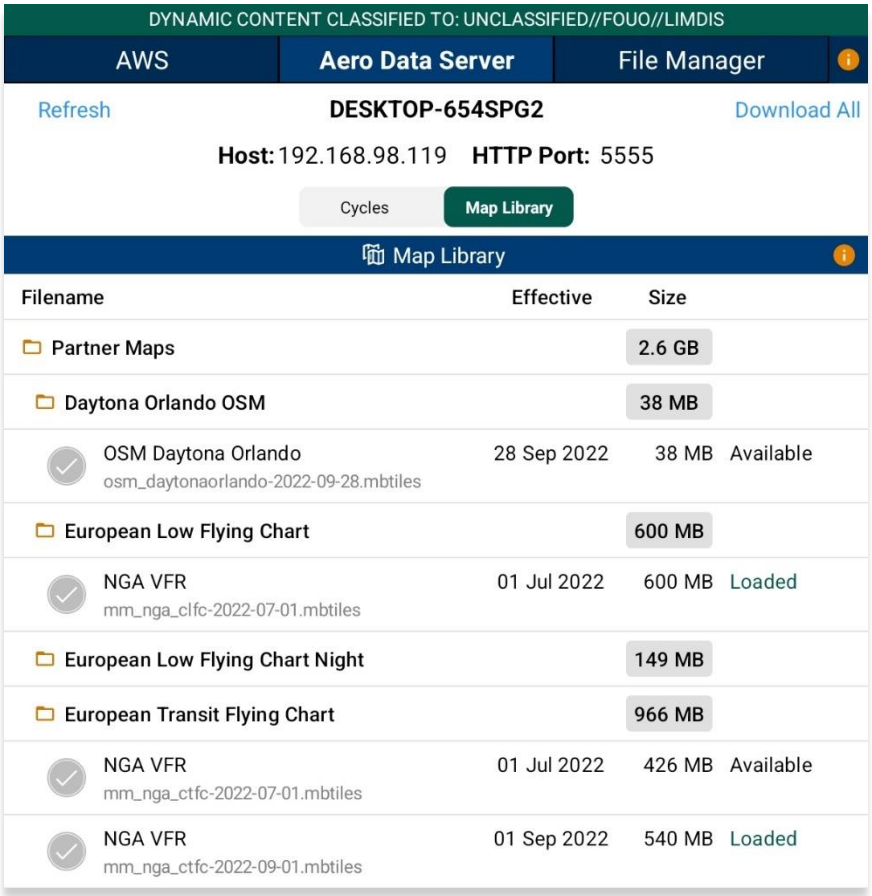
9.3.1.1 Download Map Library Data Using Aero Data Server (ADS)

Map Library charts will be available to users who have Map Library files loaded to ADS.

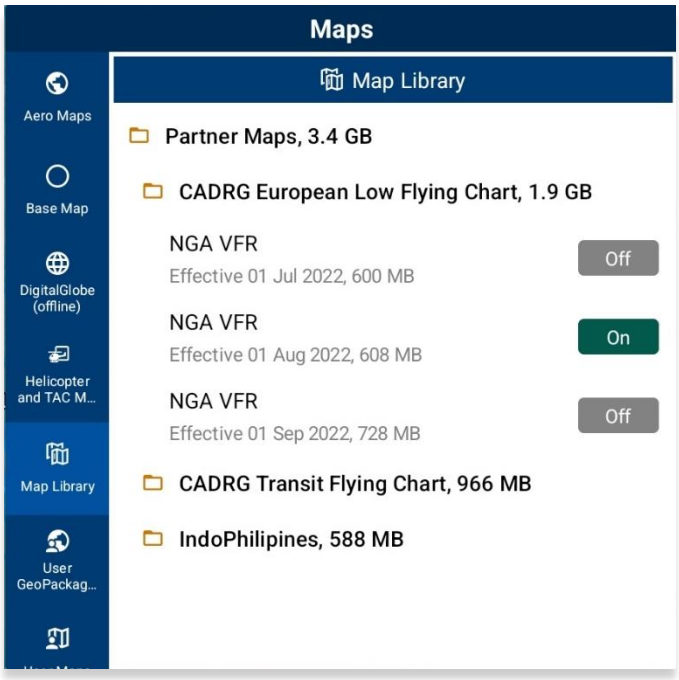
1. Once the desired server has been selected, users will be redirected to the Data Download screen.
2. From the Data Download screen, select **Map Library** from segmented controller
3. Available charts will be displayed. The files are grouped by categories, tap on the desired folders to expand, or collapse to reveal or hide files.
4. Tap on the header of the date column to display ***Created***, ***Effective***, or ***Expiration*** dates.

NOTE: If the files have expired, the Created time is replaced by "Expired".

5. Select desired map file(s).
6. Tap **Download** once desired Map Library files have been selected.



7. To verify that Map Library files were successfully downloaded, navigate to the **Moving Map** from the Main Menu.
8. Tap **Maps**.
9. Tap **Map Library** from the side menu and the Map Library charts will display.



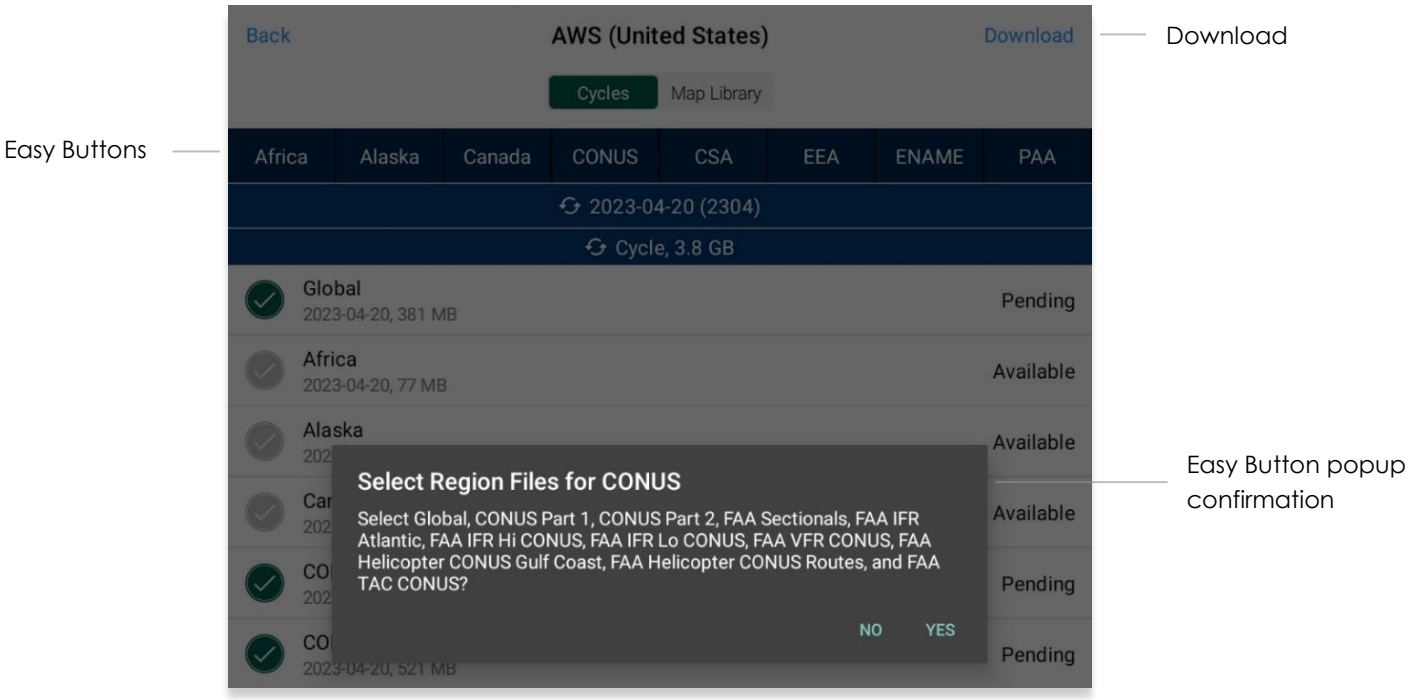
NOTE: Map Library charts can be deleted from File Manager or from the Maps popup in the Moving Map by swiping left and tapping the **Delete** button.

NOTE: Users can display Map Library charts on the Moving Map. Refer to Section 14.3.5.5 on how to display Map Library charts on the Moving Map.

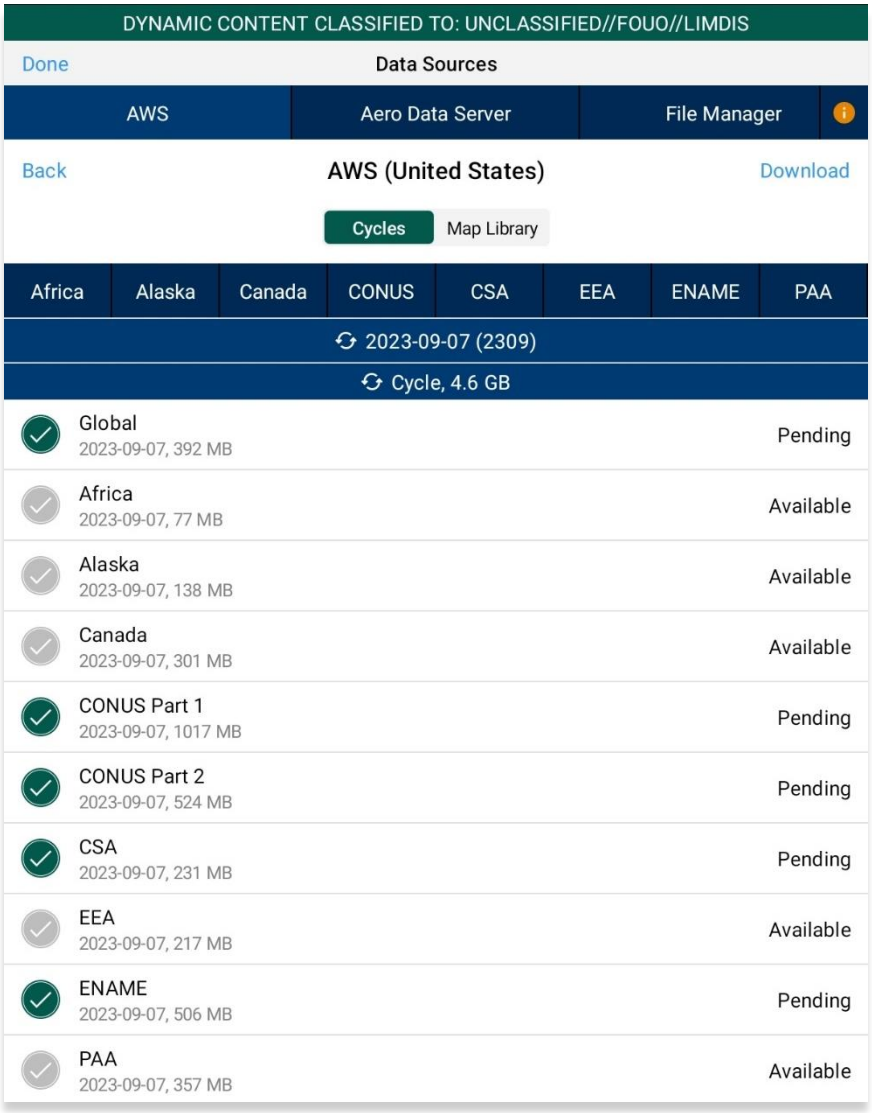
9.4 Easy Buttons

Easy Button bundle are related region files for the preferred regions and can be selected to prepare for download. One or more Easy Buttons can be selected until all desired data files are selected for download. Easy Buttons are available on the AWS – GEOAxIS, Aero User Database, and MDM, and Aero Data Server (ADS).

1. Once the user has selected the appropriate Data Source and the desired cycle, users will be prompted to the Data Cycle Download screen.
2. Tap one or more desired **Easy Button(s):**
    - Africa
    - Alaska
    - Canada
    - CONUS
    - CSA
    - EAA
    - ENAME
    - PAA
3. A dialog box displays all region files for the preferred Region. Tap **No** to cancel or **Yes** to proceed. All related files will be selected once the selection of region is confirmed.



4. Users can individually select or deselect desired data cycle files. Tap **Download** to begin the download.



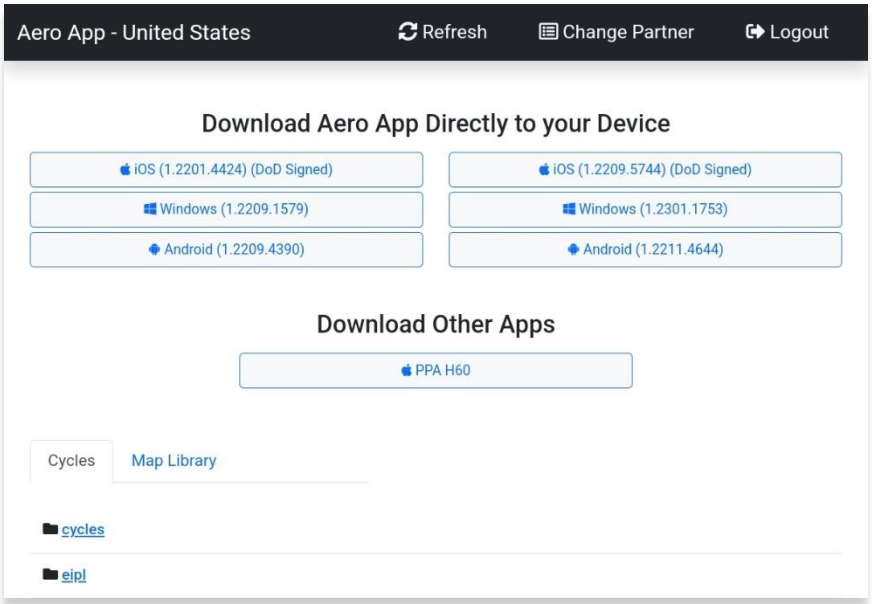
9.5 Download Data From the Aero App Website

The Aero App website (aeroapp.info) is a source to download Aero App data directly to your device. An active GEOAxIS and Aero User Database credentials are required.

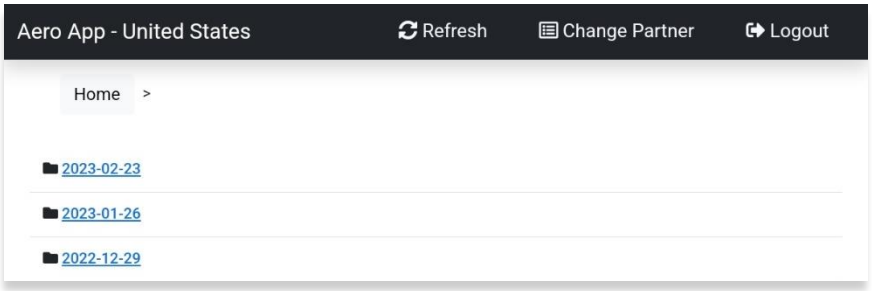
1. From your device, open an internet browser of choice.
2. Enter https://download.aeroapp.info in the address bar.

NOTE: Alternatively, users can go to aeroapp.info > Downloads > Data and users will be directed to the Data Menu Options page.

3. Log in using your *GEOAxIS* or *Aero User Database* credentials.
4. Aero User Database users will be prompted to select a partner upon login.
5. The data menu options page will display. Users are presented with various folders to choose from. Click **Cycles**.



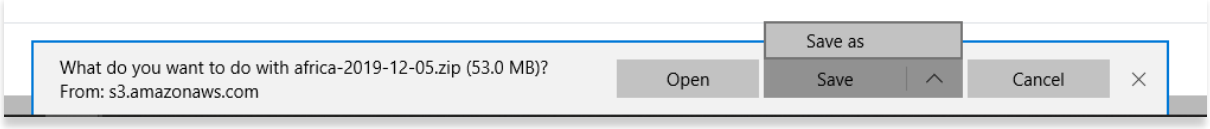
6. Click the **latest cycle** or a **cycle** of choice.



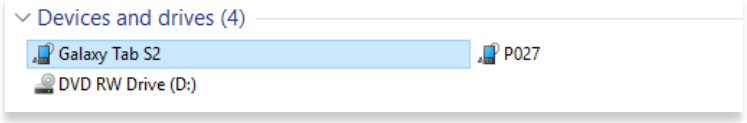
7. Users will be redirected to the download page. Located at the upper-right corner of the screen are options to choose from **Full Data Files**, or **Delta Files** to download data.
8. Once the data type has been selected, click on the **ZIP** and **SIG** buttons to desired region of choice: **Africa**, **Alaska**, **Canada**, **CONUS**, **CSA**, **EEA**, **ENAME**, and/or **PAA**, and other files.

NOTE: Global files must be included when downloading a full data cycle.

9. A download confirmation window will appear above the taskbar with options to Open, Save, or Cancel download. Click **Save** or click the up-arrow (icon) and select **Save as**.



10. Once the data has completed the download, select from options to **Open**, **Open folder**, or **View downloads**.
11. Connect your Android tablet to a Mac or Windows computer.
12. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.



13. Double-click on the **Tablet** icon to open Internal storage.
14. Drag the downloaded data files from your Downloads folder into your tablet internal storage.

NOTE: Refer to Section 12 on how to load and view data status.

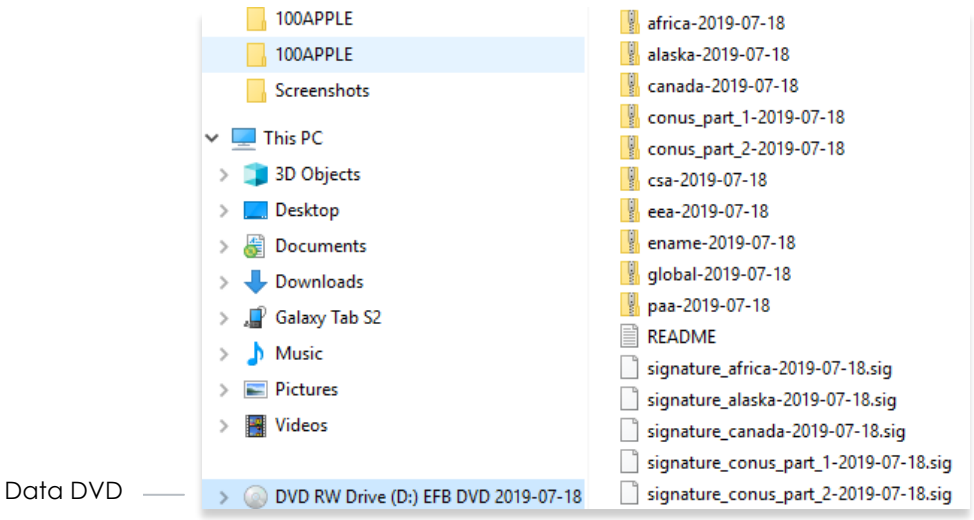
10 Sideload Data

Aero App provides users the ability to sideload data from a trusted source into Aero App. Data such as User Maps, GeoPackages, User Waypoints, CRD files, Pins, and Documents can be sideloaded and loaded onto Aero App.

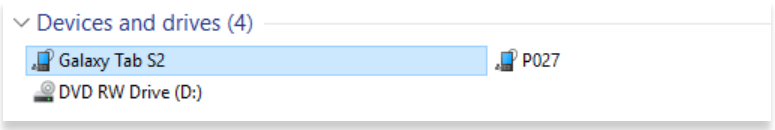
10.1 Sideload Data Using DVD

Users can sideload data using DVD via USB.

1. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
2. Insert the data DVD into user's computer.
3. Locate and double click on the DVD drive from File Explorer.

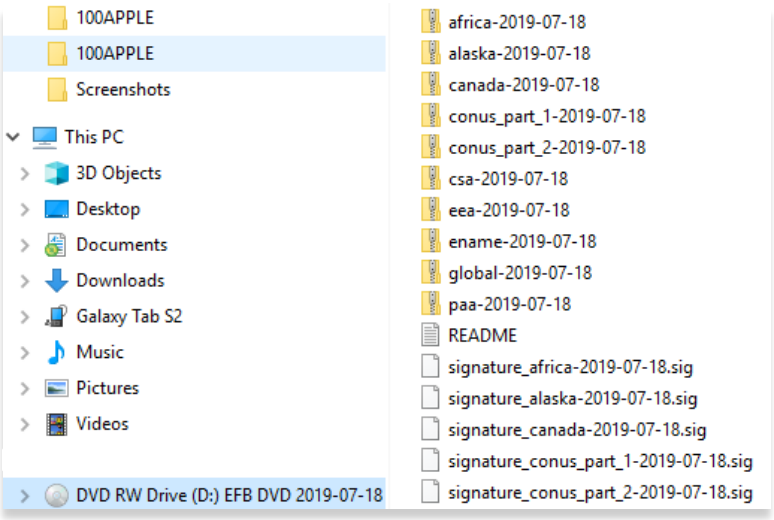


4. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.



5. Double-click on the **Tablet** icon to open Internal storage.

6. Drag the desired data cycles from your DVD into the tablet's internal storage.



7. To confirm if the files were properly transferred, open **Aero App** on your Android device.
8. Tap **App Mgmt** on the ***Main Menu***.
9. Tap **Data** on the ***Secondary Menu***.
10. The loaded data files will display **Found** if both zip and sig files are present.

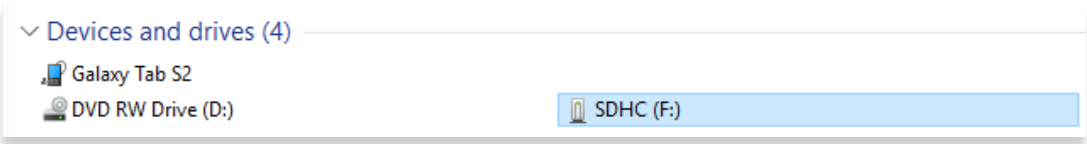
NOTE: Users must include Global to obtain the core data files.

NOTE: Refer to Section 12 on how to load and view data status.

10.2 Sideload Data from Computer to the SD Card

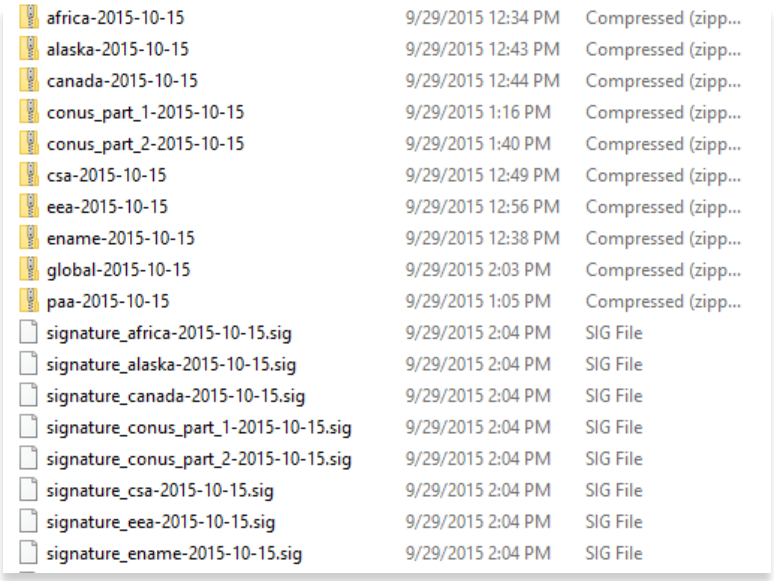
Users can sideload data from their computer to the SD card on their device.

1. **Insert** your SD card into a Mac or Windows computer.
2. Once your SD card is connected, open **File Explorer** and navigate to **Devices and drives** to locate your SD card.



3. Double-click on the **SD Card** to open Internal storage.

4. Drag the data cycle files from desired source (DVD, AWS, or ADS) into the SD Card.



5. Eject the SD card from the computer.
6. Insert the microSD card into the Android tablet.
7. To confirm if the files were properly transferred, open **Aero App** on your Android device.
8. Tap **App Mgmt** on the ***Main Menu***.
9. Tap **Data** on the ***Secondary Menu***.
10. The loaded data files will display **Found** if both zip and sig files are present.

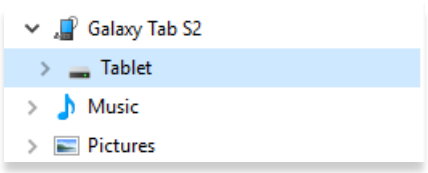
NOTE: Refer to Section 12 on how to load and view data status.

NOTE: Refer to Appendix D | Android Data Storage for different ways on how store data in an SD card.

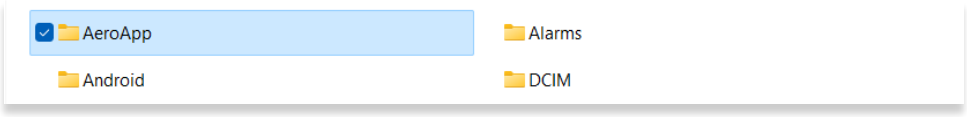
10.3 Sideload User Maps

Aero App enables users to load User Maps as their base map. User Maps must be sideloaded. Refer to Section 14.3.5.7 for additional information on how to overlay User Maps on the Moving Map.

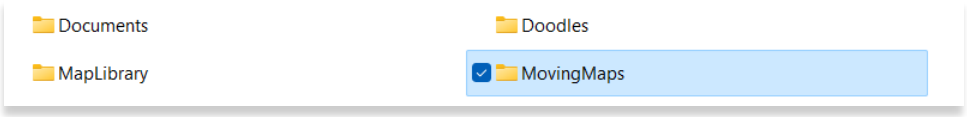
1. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
2. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
3. Double-click on your tablet to open **Internal storage**.



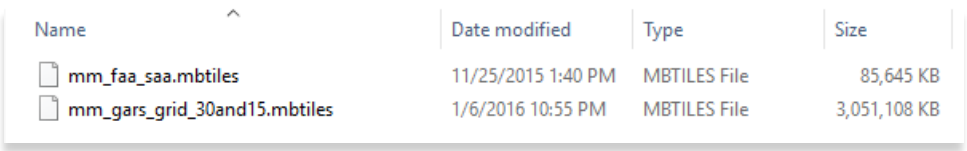
4. Double-click on **AeroApp**.



5. Double-click on **MovingMaps.**



6. Drag the desired User Map files into the MovingMaps folder.

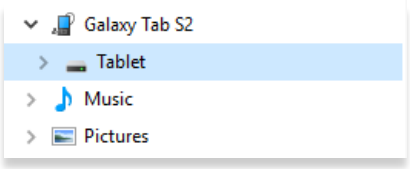


7. To confirm if the files were properly transferred, open **Aero App** on your tablet.
8. Tap **Moving Map** on the ***Main Menu***.
9. Tap **Maps**.
10. Tap **User Maps** from the side menu. The loaded User Maps will be shown below.
11. Tap to select desired imported user maps file and your map will overlay on the Moving Map.

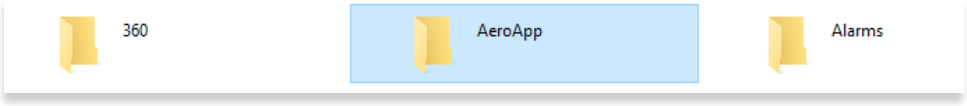
10.4 Sideload GeoPackages

Aero App enables users to sideload and load GeoPackages and overlay them on their Moving Map. Refer to Section 14.3.5.6 for additional information on how to overlay GeoPackages on the Moving Map.

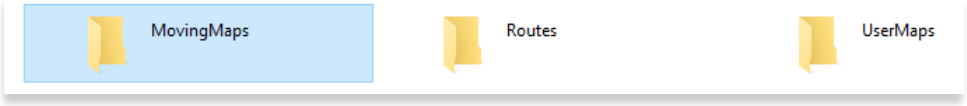
1. Connect your Android tablet to USB or USB-C port of a Mac or Windows computer.
2. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
3. Double-click on your tablet to open **Internal storage**.



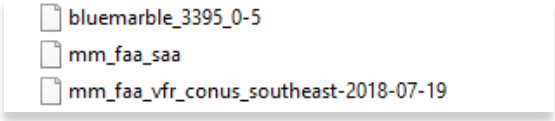
4. Double-click on **AeroApp**.



5. Double-click on **MovingMaps**.



6. Drag the desired GeoPackages files into the MovingMaps folder.

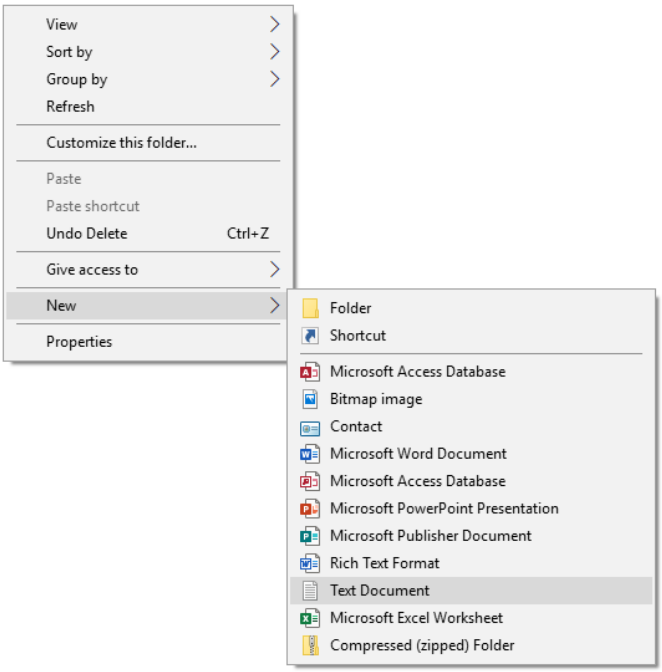


7. To confirm if the files were properly transferred, open Aero App on your tablet.
8. Tap **Moving Map** on the ***Main Menu***.
9. Tap **Maps** located at the bottom-right corner of the Moving Map. The loaded GeoPackage files will be listed under the User GeoPackages section.

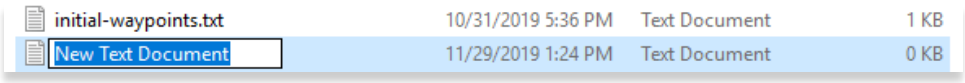
10.5 Sideload User Waypoints

Aero App enables users to sideload user waypoints into Aero App. A user waypoints text file must be created. The user waypoints file should follow the format *{name}-waypoints.txt and* be stored in the AeroApp\WayPoints directory.

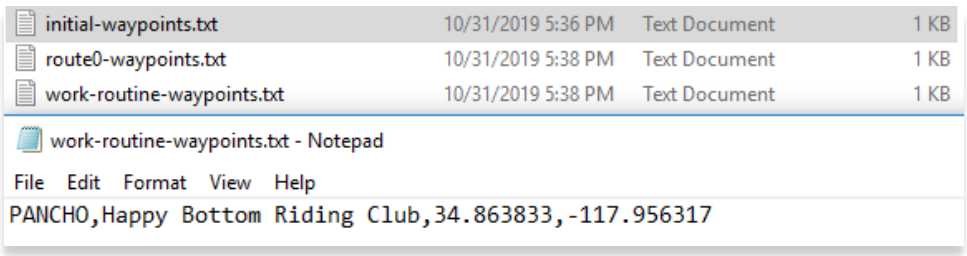
1. Create a folder in your desktop named User Waypoints.
2. Right-click inside the folder and a popup menu will appear.
3. Hover over the **New** menu option and a popup menu will appear.
4. Click **Text Document** from the popup menu.



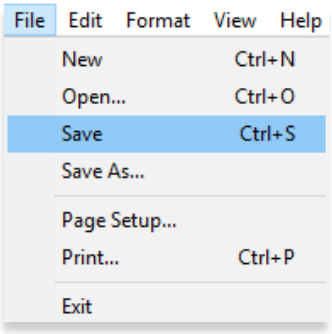
5. A new Text Document file will be created.
6. Create a name for the Text Document file ending in *{-waypoints}*.



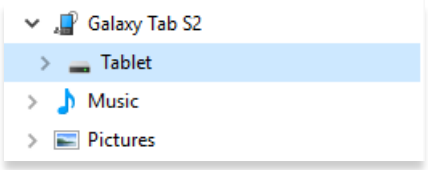
7. Double-click on the textfile to open Notepad. Create the Waypoint following the format: **<ID>,<Name>,<Latitude>,<Longitude>**.



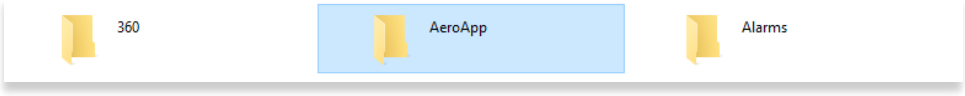
8. Once the User Waypoint has been created, click **File,** and select **Save**.



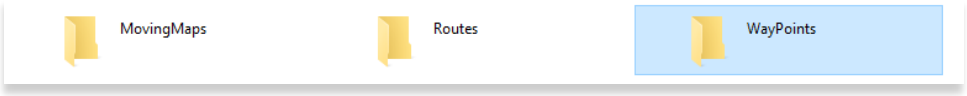
9. Connect your Android tablet to a USB or USB-C port of Mac or Windows computer.
10. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
11. Double-click on your tablet to open **Internal storage**.



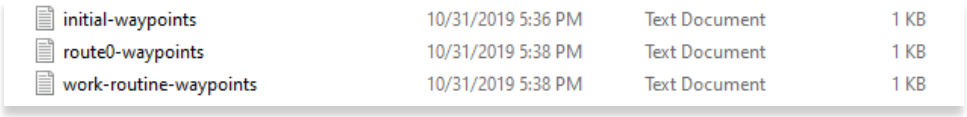
12. Double-click on **AeroApp**.



13. Double-click on **Waypoints**.

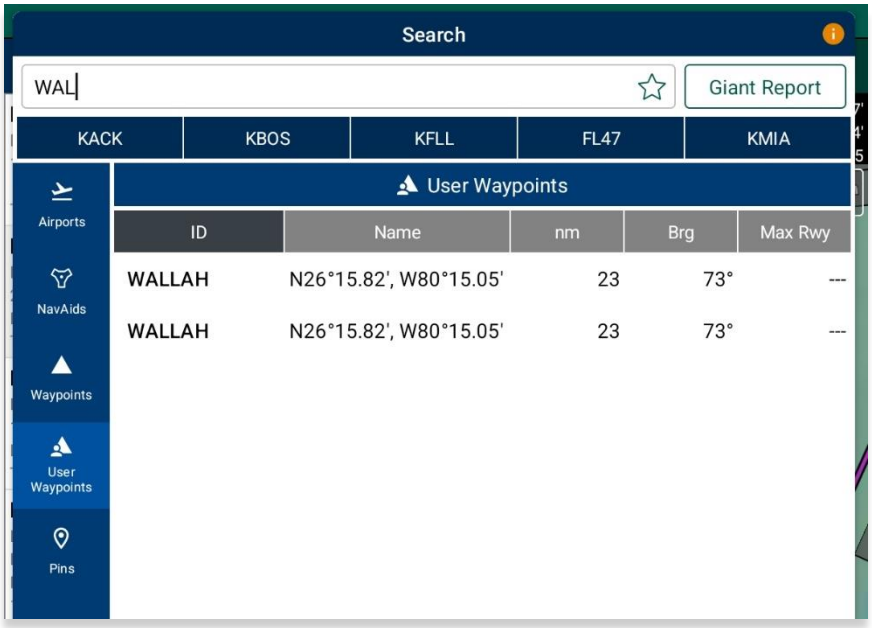


14. Drag the desired User Waypoint files that were created into the WayPoints folder.



15. To confirm the files were properly transferred, open **Aero App** on your tablet.
16. Tap **Moving Map** on the ***Main Menu***.

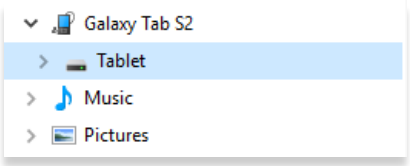
17. Tap the **Magnifying Glass** icon and search for the loaded Waypoints textfile. The Waypoint should appear under User Waypoints.



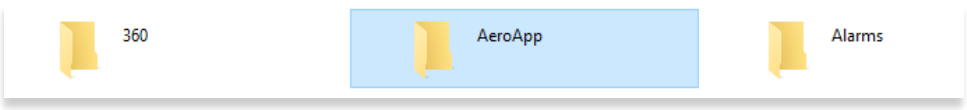
10.6 Sideload Common Route Definition (CRD) Files

Aero App enables users to sideload and import routes using Common Route Definition (CRD) files. Refer to Section 14.3.14.3.1.1 for guidance on how to load CRD files to Aero App.

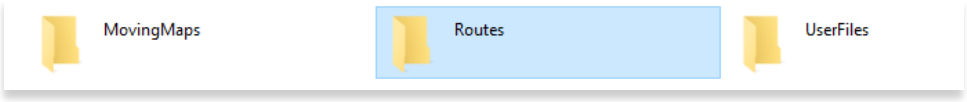
1. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
2. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
3. Double-click on your tablet to open **Internal storage**.



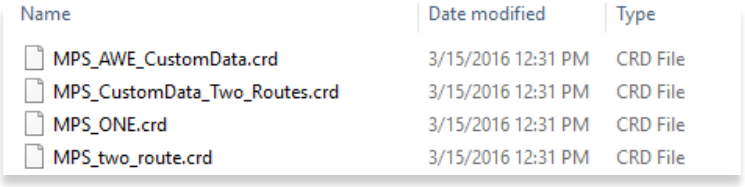
4. Double-click on **AeroApp**.



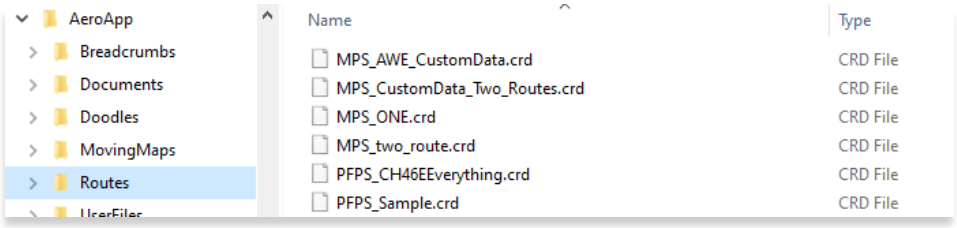
5. Double-click on **Routes**.



6. Open a new File Explorer window and navigate to the folder containing the CRD files.



7. Drag the desired CRD files into the Routes folder.



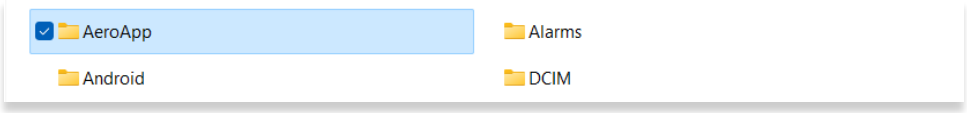
8. To confirm if the files were properly transferred, open **Aero App** on your tablet.
9. Tap **Moving Map** on the ***Main Menu***.
10. Navigate to the ***Route Panel***.
11. Tap **Route**.
12. Tap **Load** and your CRD files will appear under Load Route.

10.7 Sideload Pins

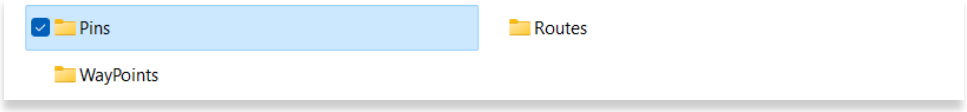
Aero App enables users to sideload Pins into Aero App. To sideload Pins, users must create a SQLite file. Refer to Appendix C | Hazards and Pins SQLite Files for additional information. The Pin SQLite file should follow the format *pins-{name}.sqlite and* be stored in the AeroApp\Pins directory.

A file with the format *pins.sqlite* contains stored pins that were created through the app. These pins are viewed in the Dropped Pins table on Aero App. Refer to Section 14.3.14.3.4.2 for additional information.

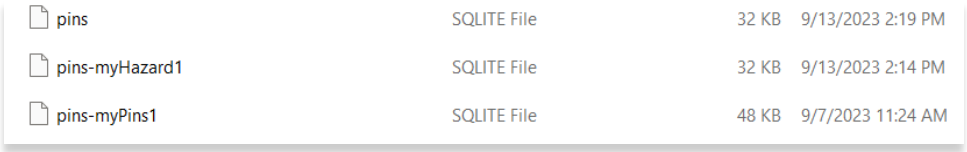
1. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
2. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
3. Double-click on your Android tablet to open **Internal storage**.
4. Double-click on the **AeroApp** folder.



5. Double-click on the **Pins** folder.



6. Drag the pins sqlite file into the Pins folder.
7. Rename the sqlite file to the format, *pins-{name}.sqlite*.



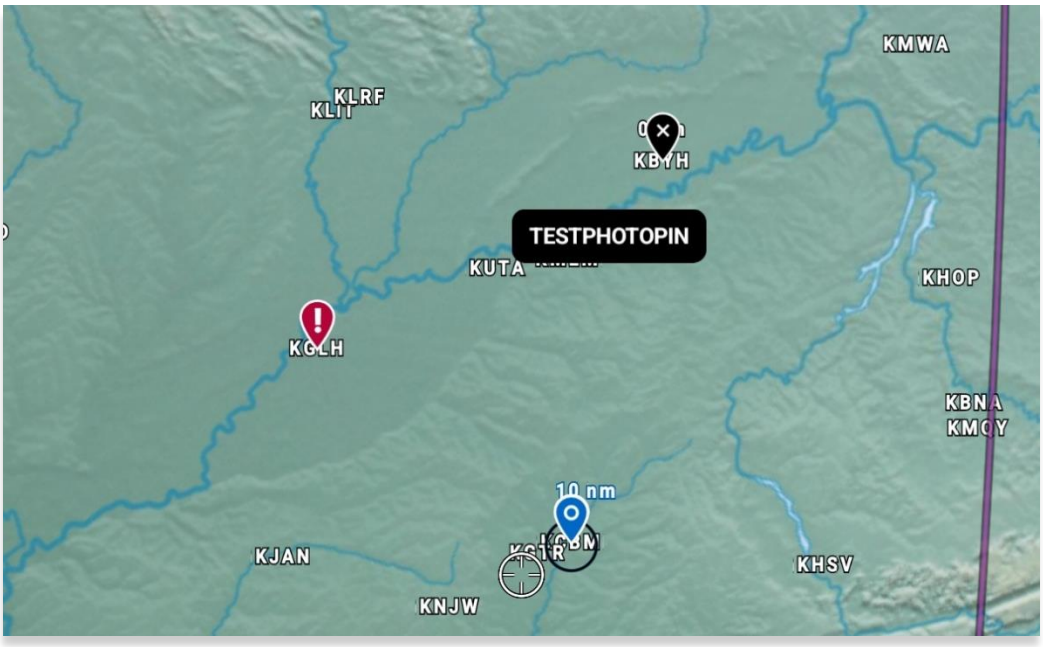
NOTE: If the imported file is not renamed, any pins stored in pins.sqlite will be overwritten.

8. To confirm if the files were properly imported, open **Aero App** on your second Android tablet.
9. Tap **Moving Map** on the ***Main Menu***.

10. Tap on **Overlays** located at the bottom-right corner of the Moving Map screen.
11. Locate your imported files. The files should display as *pins-{name}.sqlite*. Users must enable *Pins* from the Overlays menu to view on the Moving Map. Refer to Section 14.3.6.1.16 for additional information.

NOTE: If photo pins were sideloaded, users must enable *User Images* from the Overlays menu to view on the Moving Map. Refer to Section 14.3.6.1.24 for additional information.

12. Tap your desired imported pins file and your pins will overlay on the Moving Map.



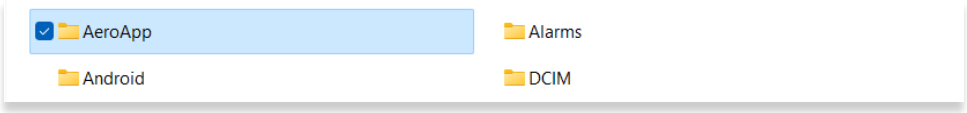
NOTE: Users can bulk delete all imported files by going to File Manager on their Android tablet and deleting the pins file.

10.8 Sideload Hazards

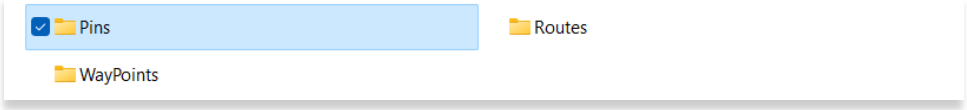
Aero App enables users to sideload Hazards into Aero App. To sideload Hazards, users must create a SQLite file. Refer to Appendix C | Hazards and Pins SQLite Files for additional information. The Hazard SQLite file should follow the format *pins-{name}.sqlite and* be stored in the AeroApp\Pins directory.

A file with the format *pins.sqlite* contains stored hazards that were created through the app. These hazards are viewed in the Dropped Hazards table on Aero App. Refer to Section 14.3.13.1.4 for additional information.

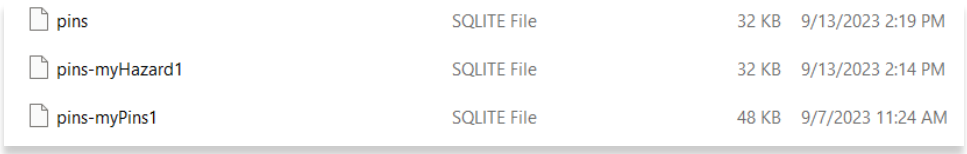
1. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
2. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
3. Double-click on your Android tablet to open **Internal storage**.
4. Double-click on the **AeroApp** folder.



5. Double-click on the **Pins** folder.

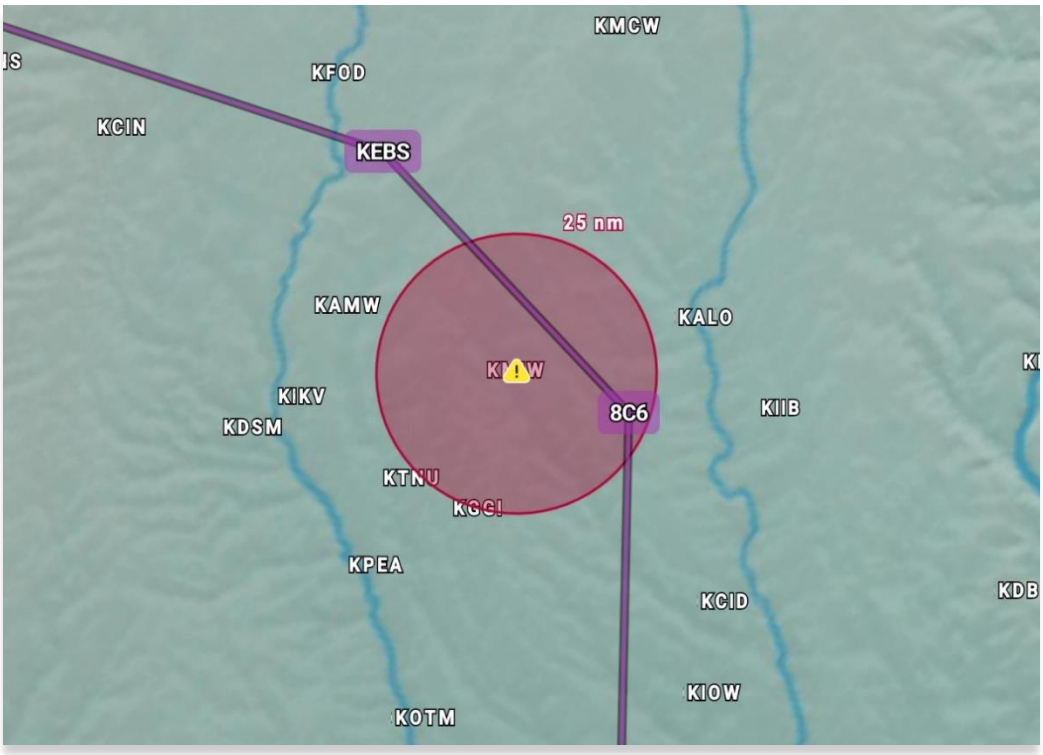


6. Drag the pins sqlite file into the Pins folder.
7. Rename the sqlite file to the format, *pins-{name}.sqlite*.



NOTE: If the imported file is not renamed, any pins stored in pins.sqlite will be overwritten.

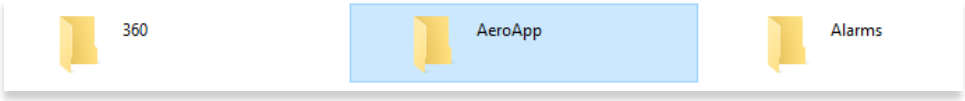
8. To confirm if the files were properly imported, open **Aero App** on your second Android tablet.
9. Tap **Moving Map** on the ***Main Menu***.
10. Tap on **Overlays** located at the bottom-right corner of the Moving Map.
11. Locate your imported files. The files should display as *pins-{name}.sqlite*. Users must enable *Hazards* from the Overlays menu to view on the Moving Map. Refer to Section 14.3.6.1.11 for additional information.
12. Tap your desired imported pins file and your hazard will overlay on the Moving Map.



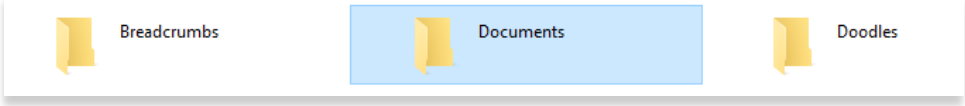
10.9 Sideload Documents

Aero App enables users to sideload user documents.

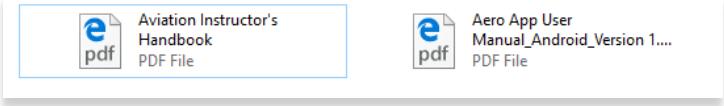
1. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
2. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
3. Double-click on your tablet to open **Internal storage**.
4. Double-click on **Aero App**.



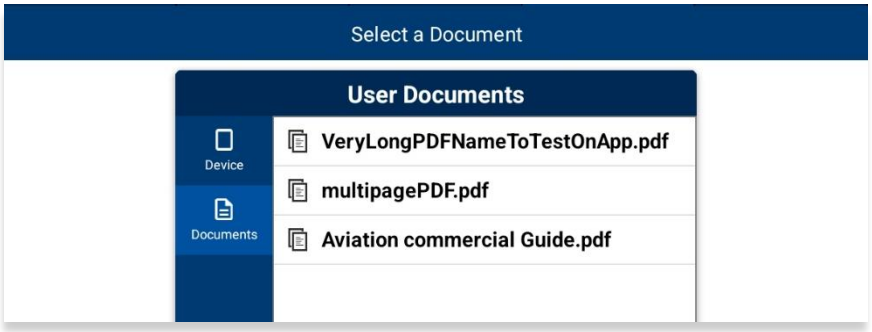
5. Double-click on **Documents**.



6. Drag the desired PDF file into the folder.



7. To confirm if the files were properly transferred, open **Aero App** on your tablet.
8. Tap **General** on the ***Main Menu***.
9. Tap **Docs** on the ***Secondary Menu***.
10. Tap the **actions ribbon** to select a document.
11. Your loaded PDF files will be displayed below.



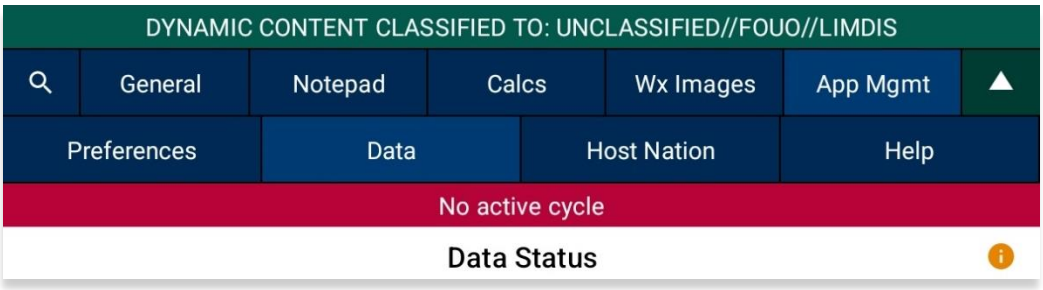
11 Updating Aero App Data

Aero App Data updates are released periodically. Users can load and manage up to two Data Cycles at a time. Data notifications are displayed when Aero App Data is not valid for the period of use.

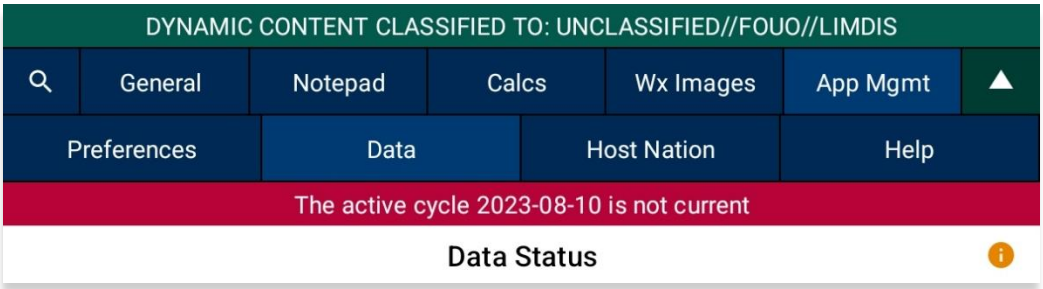
11.1 Data Notifications

Aero App will display data notification warnings if there is no active cycle, or the active data cycle is not current.

No active cycle
Aero App displays airport information, FLIP charts and other data for the Active Cycle. If no Active Cycle is selected, Aero App will display the following notification. If there is data in the Standby Cycle, then tap **Swap Cycles** on the Data Status screen to move the data to the Active Cycle. If there is no data in either cycle, then data must be downloaded or sideloaded.



Active cycle is not current
Aero App will display a data notification if the Active Cycle is not current. In this configuration, Aero App will not display current information and it is recommended to ensure that the Active Cycle is always current.



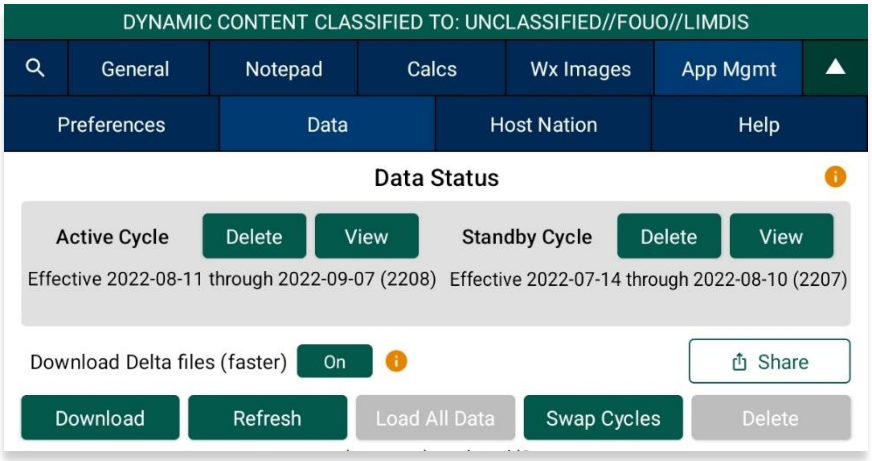
12 Manage Data

Aero App has several platforms to load data. This section will explain the different ways to load data and view data status.

12.1 Data Status

The Data Status page allows users to view information pertaining to the data cycle. There are options to download and delete cycles, view effective dates, swap cycles, and load downloaded data to make them active or to keep them on standby. This page also includes the option to share data with your team members.

1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu*** to view data information. The *Data Status* screen will display.
3. The effective cycle dates of the Active Cycle are displayed on the left, and the Standby Cycle are displayed on the right. From this screen, you can also download new data when they become available.



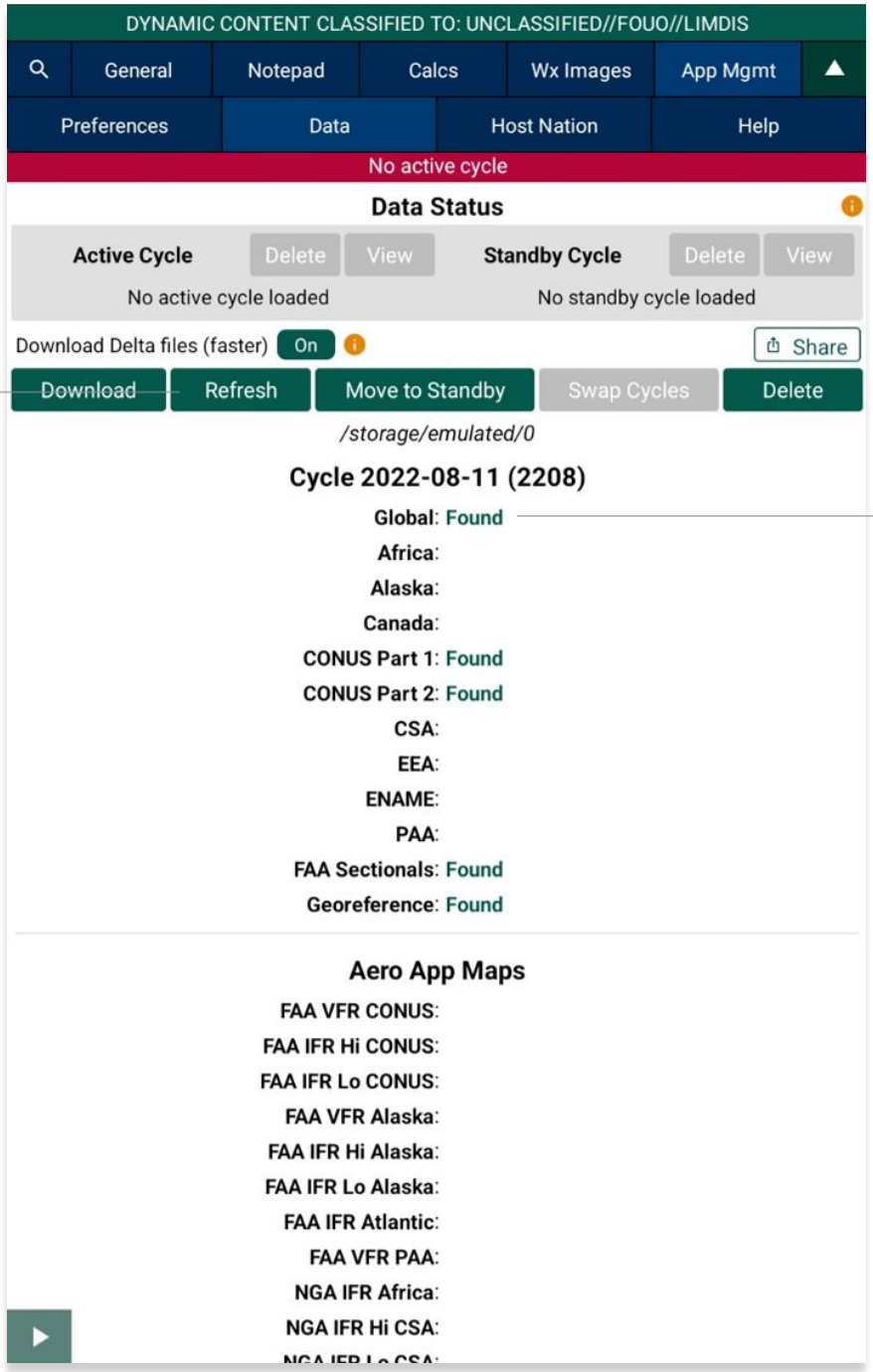
Active Cycle Effective Dates

Standby Cycle Effective Dates

NOTE: Core data files are current for 28 days after the effective date.

12.2 Manage Data on Device

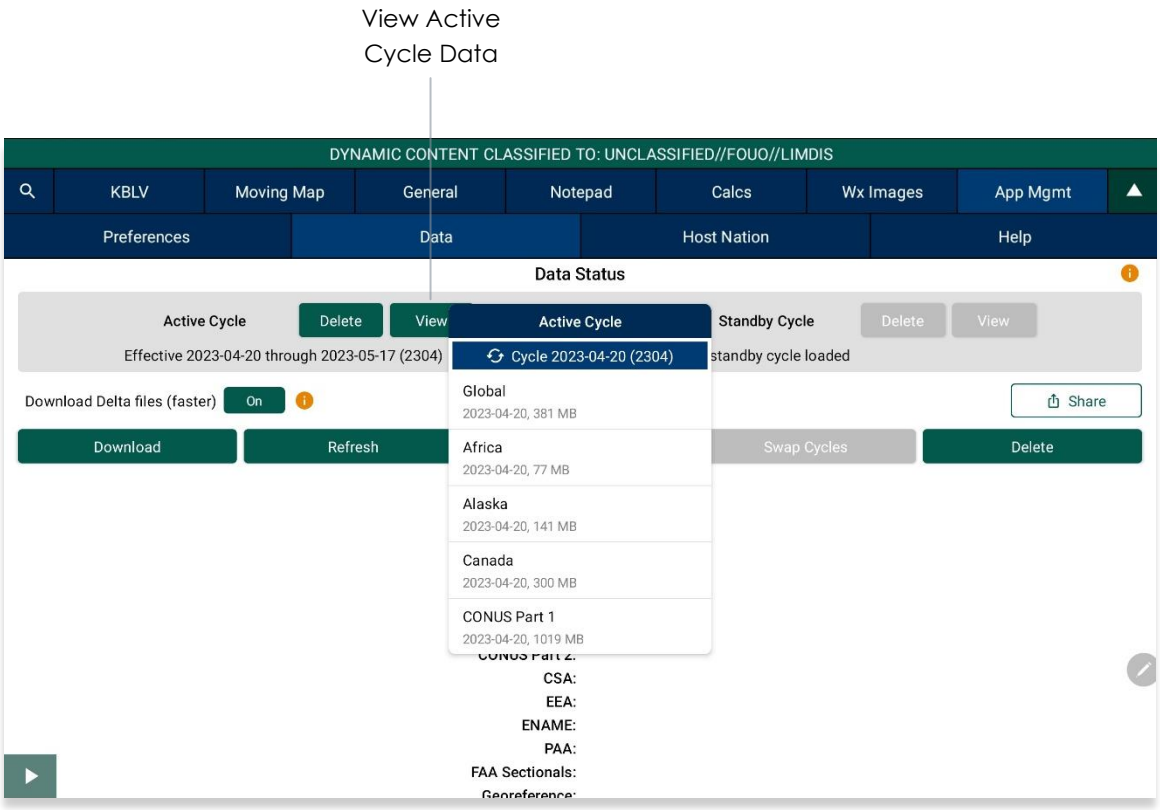
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu*** to view data information.
3. Tap **Refresh**. All the available data files will display **Found**.



Refresh

All available data files will display **Found**

4. Tap **Move to Standby** to load data into Standby Cycle.
5. Tap **Swap Cycles** to load data into Active Cycle which activates current data.
6. After data has been swapped, notice the effective dates of the data located below Active Cycle.
7. The downloaded maps will enable the *Load Maps* button to become selectable. Tap **Load Maps**.
8. Tap **View** to display loaded Active Cycle or Standby Cycle.



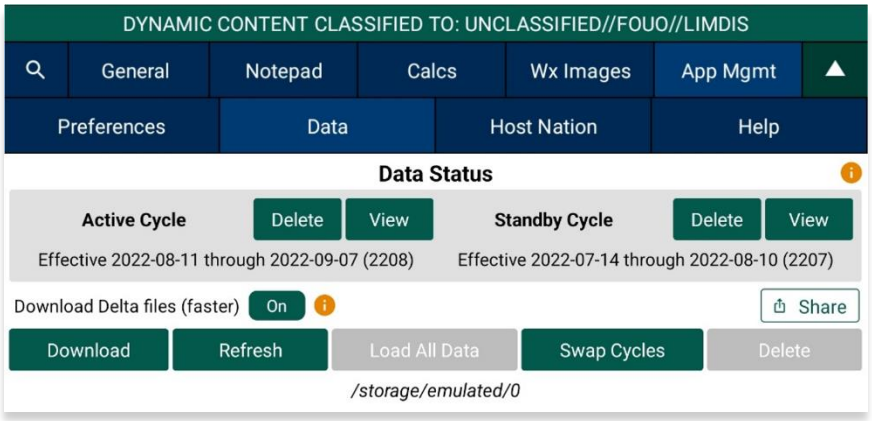
12.3 Data Status and Deltas

Aero App enables users to download delta files which are significantly smaller files. To upload files to ADS from Aero App, users must download a full data cycle and ensure that **Download Delta files (faster)** option is disabled.

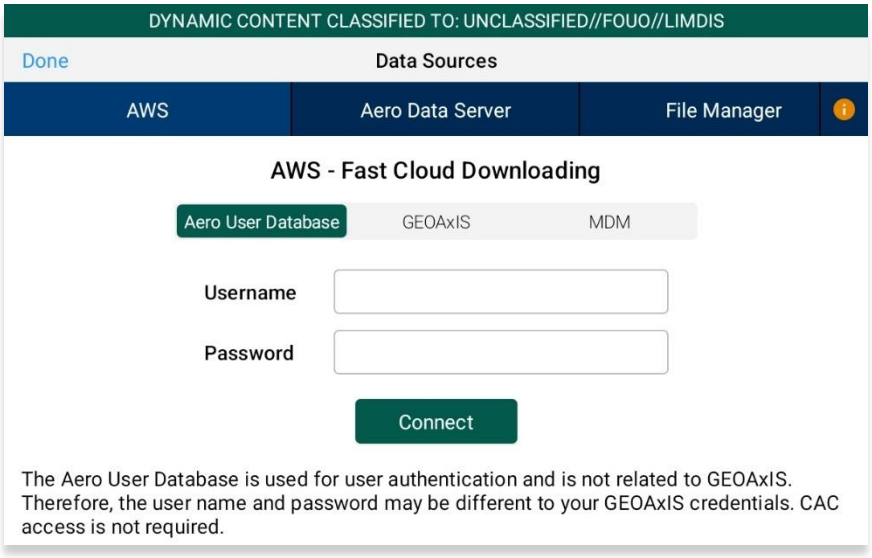
12.3.1 Download Delta files (faster)

Deltas are defined as the core data changes between cycles. Instead of downloading a full cycle, users have the option to download the changes and apply them to a previous cycle. This results in smaller file sizes reducing the download time. To download Delta files, the previous data must be in Active or Standby cycle.

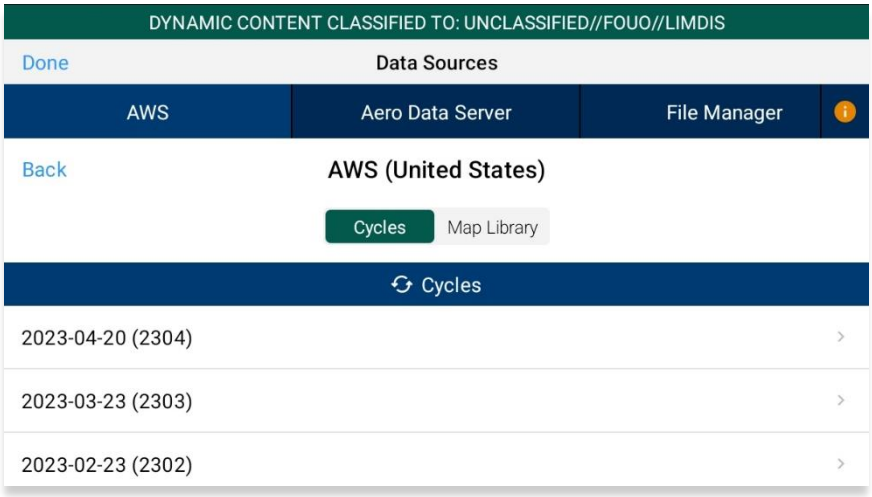
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Enable **Download Delta files (faster)** button to enable option.
4. Tap **Download**.



5. Log in to AWS using Aero User Database (AUD) or GEOAxIS credentials, set up your device with Mobile Device Management (MDM), or select Aero Data Server.

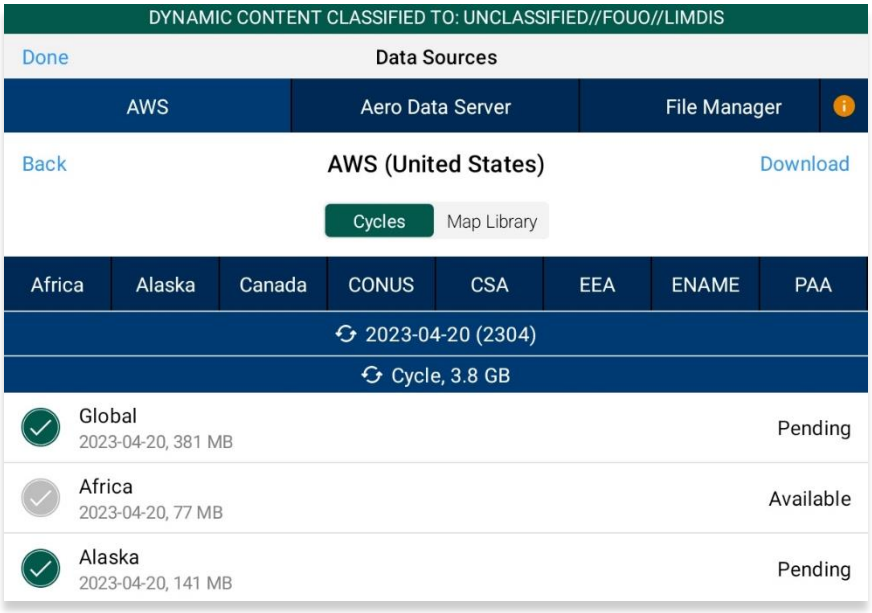


6. Users will be prompted to the Data Cycle Download screen. Users are provided with options to download Cycles or Map Library. Select **Cycles**.

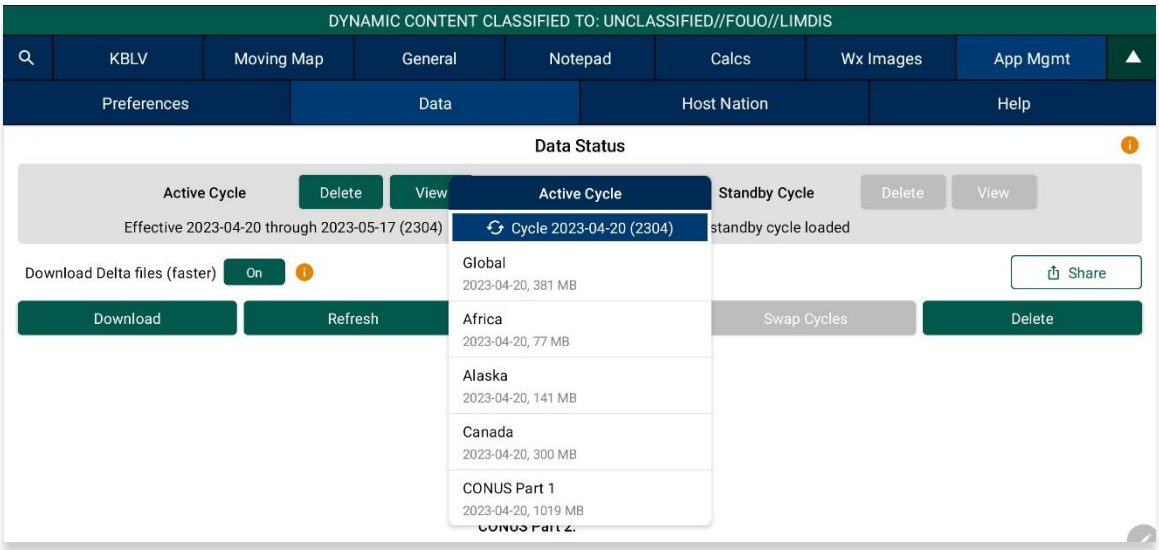


7. Available data pertaining to that cycle will be displayed. Select individual data files or select region Easy Buttons for faster data selection.
8. Tap **Download** once desired data files have been selected.

9. Tap **Back** once download is complete.



10. On the Data Status screen, tap **Move to Standby** and an Applying Deltas popup will display.
11. Tap **Swap Cycles** to load data into Active Cycle which activates current data.
12. Tap **View** to verify the data in Active Cycle.

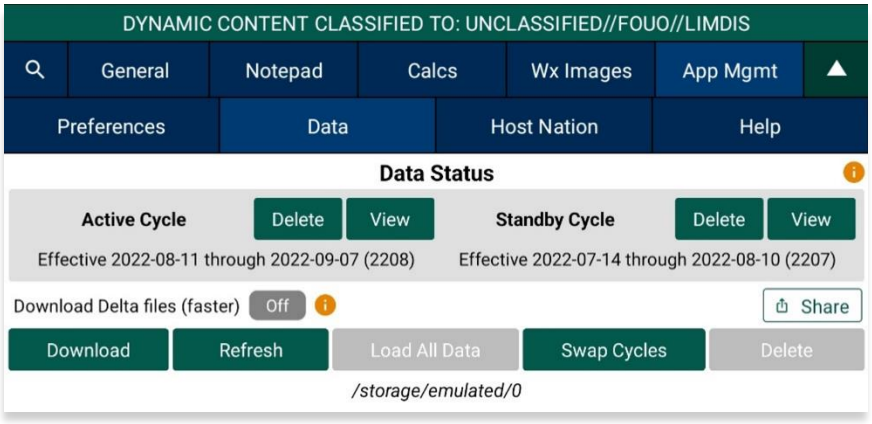


NOTE: A warning will display as users attempt to load Delta files into Standby Cycle while **Download Delta files (faster)** is enabled. Selecting **Load Delta files** from the warning enables users to move Delta files to Standby Cycle.

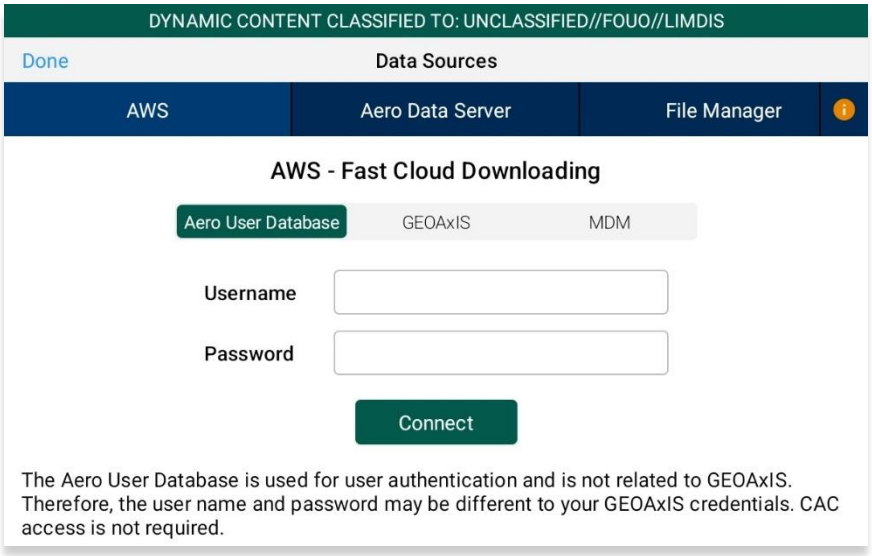
12.3.2 Download Compatible Files

To upload files to ADS, a full data cycle, without Deltas, is required. If Download Delta files (faster) option was enabled at the time of download, Delta files will be inaccessible when sharing files via Upload to ADS as Delta files are not compatible.

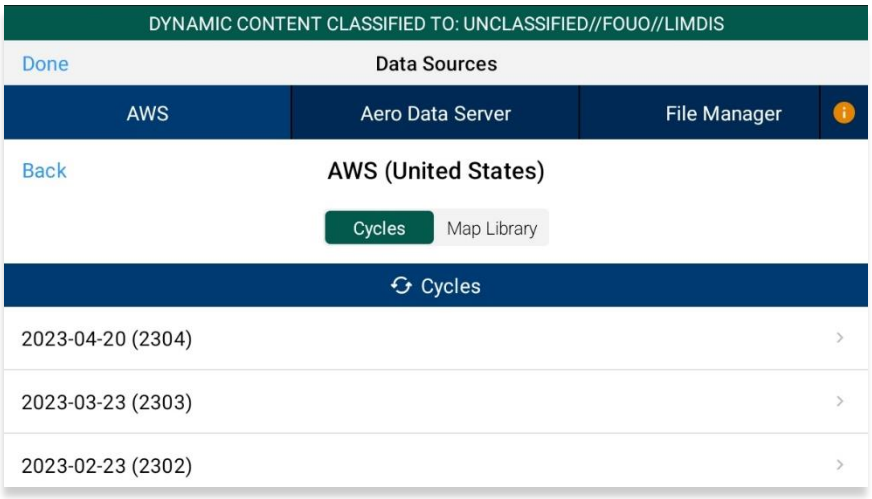
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Ensure that the Download Delta files (faster) option is disabled. Tap **Download**.



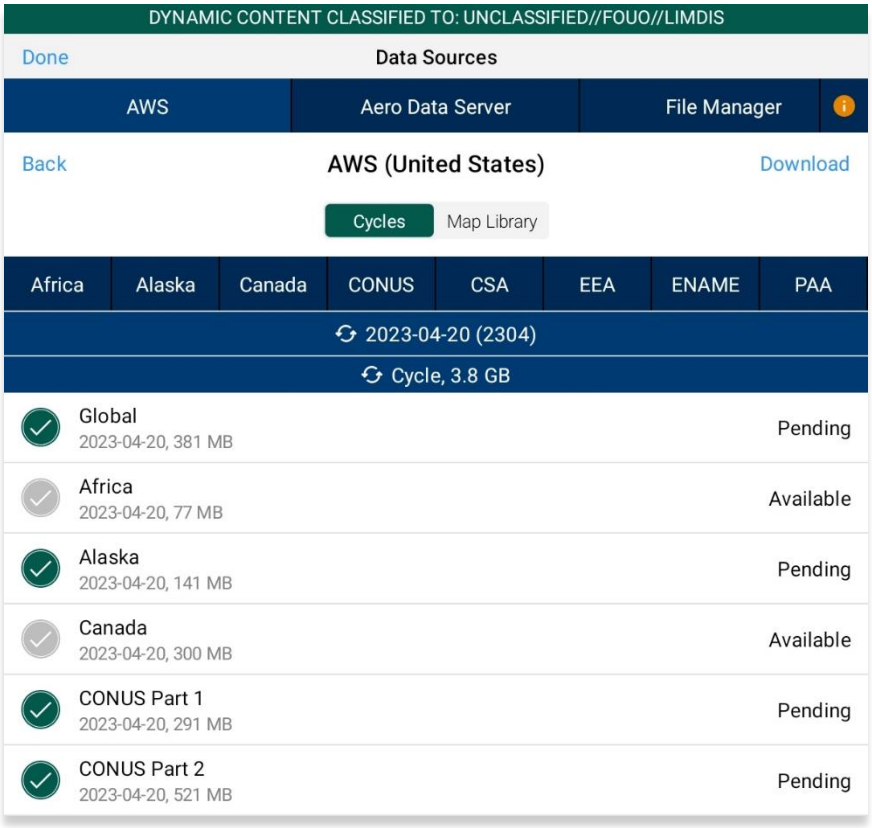
4. Log in to AWS using Aero User Database (AUD) or GEOAxIS credentials, set up your device with Mobile Device Management (MDM), or select Aero Data Server.



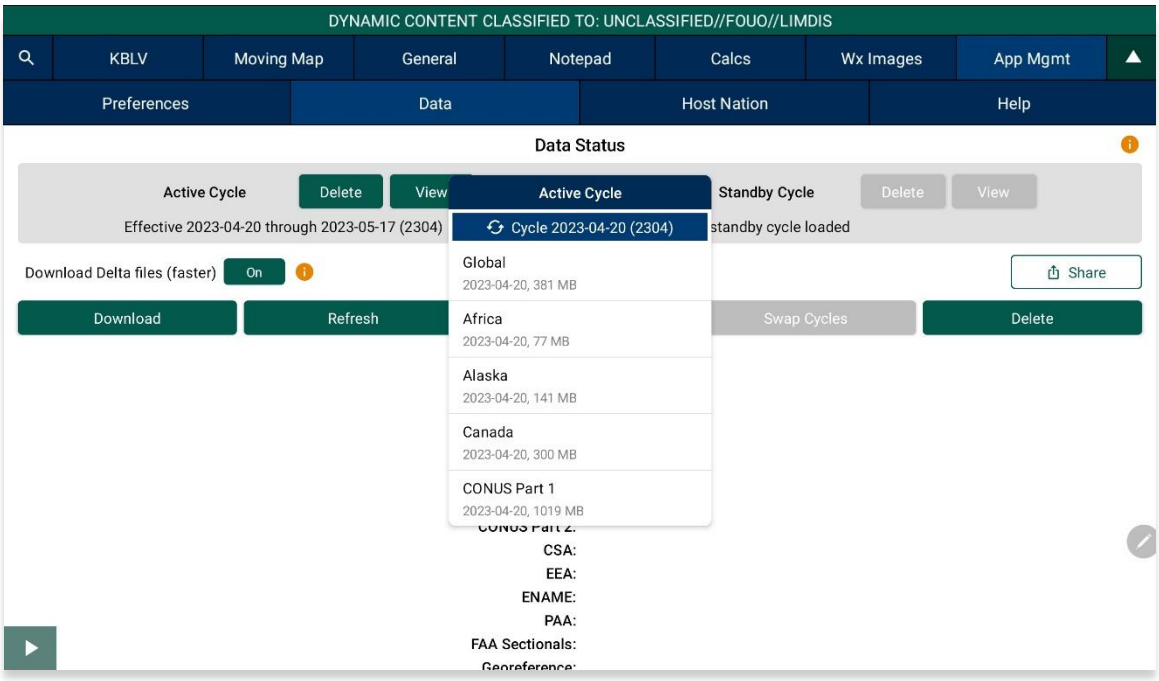
5. Users will be prompted to the Data Cycle Download screen. Users are provided with options to download Cycles or Map Library. Select **Cycles**.



6. Available data pertaining to that cycle will be displayed. Select individual data files or select region Easy Buttons for faster data selection.
7. Tap **Download** once desired data files have been selected.
8. Tap **Back** once download is complete.



9. On the Data Status screen, tap **Move to Standby**.
10. Tap **Swap Cycles** to load data into Active Cycle which activates current data.
11. Tap **View** to verify the data in Active Cycle.

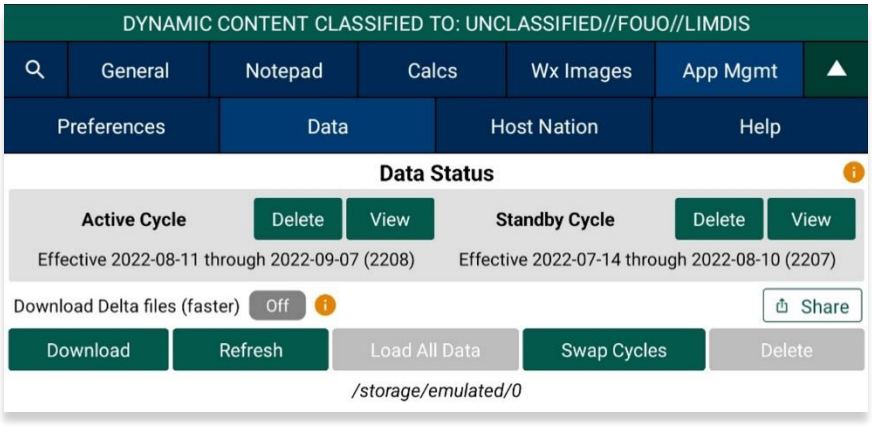


NOTE: A warning will display as users attempt to load Delta files into Standby Cycle while **Download Delta files (faster)** is enabled. Selecting **Load Delta files** from the warning enables users to move Delta files to Standby Cycle.

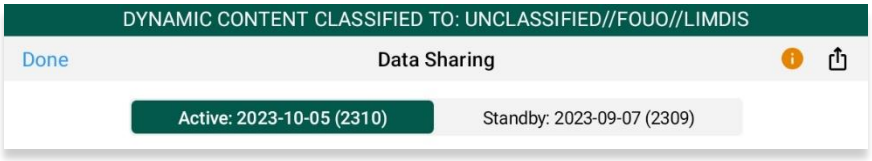
12.4 Share Data Through ADS

Aero App enables users to share Data Cycles, Maps, and additional files with another device if the Download Delta files (faster) option is disabled. Users can select to share individual or multiple files at a time.

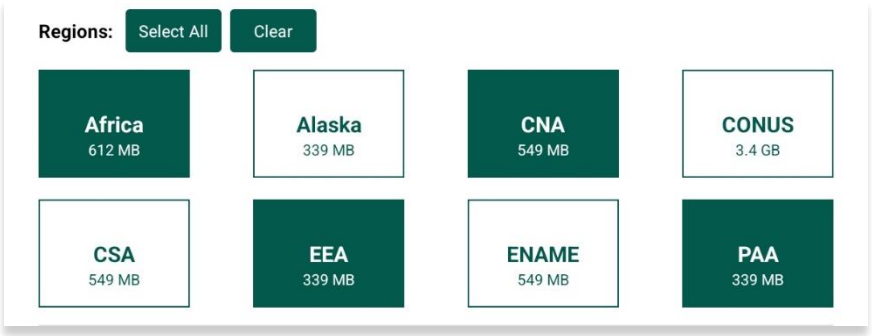
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap the **Share** button and the Data Sharing screen will display.



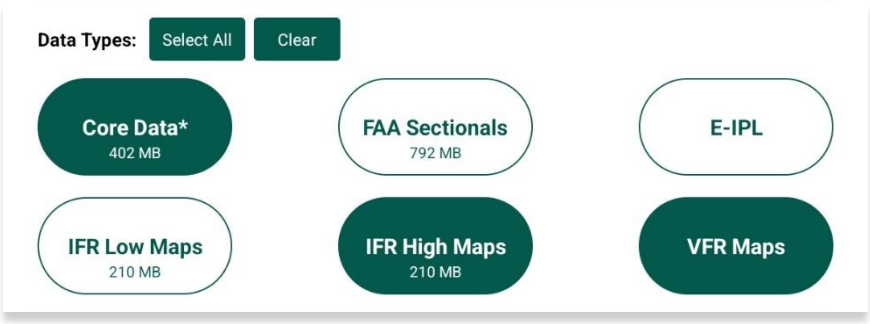
4. Select from **Active** or **Standby** cycle to share data.



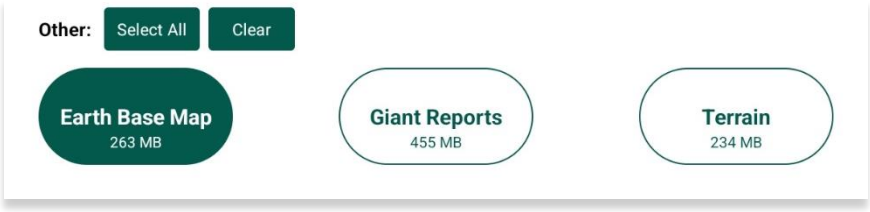
5. Select desired **Regions** to share.



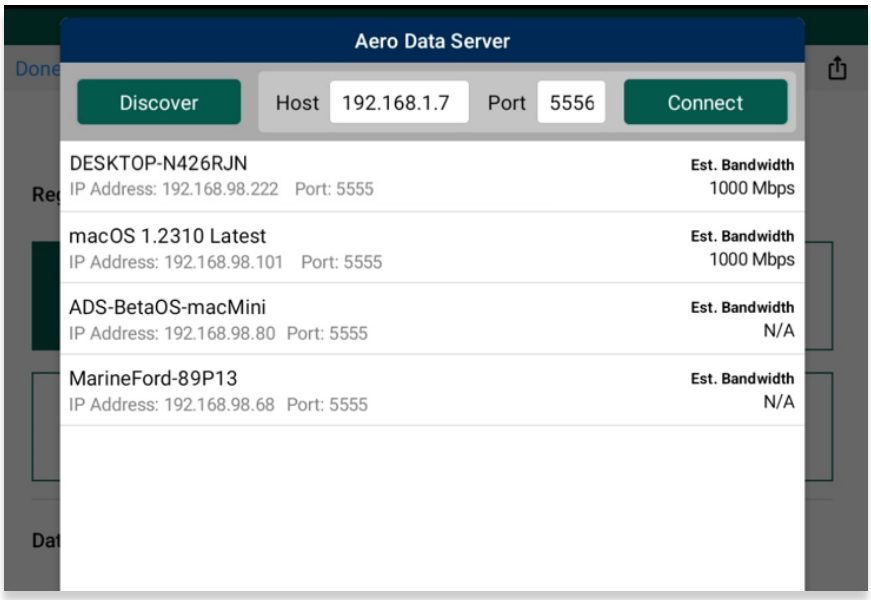
6. Select desired **data types** to share.



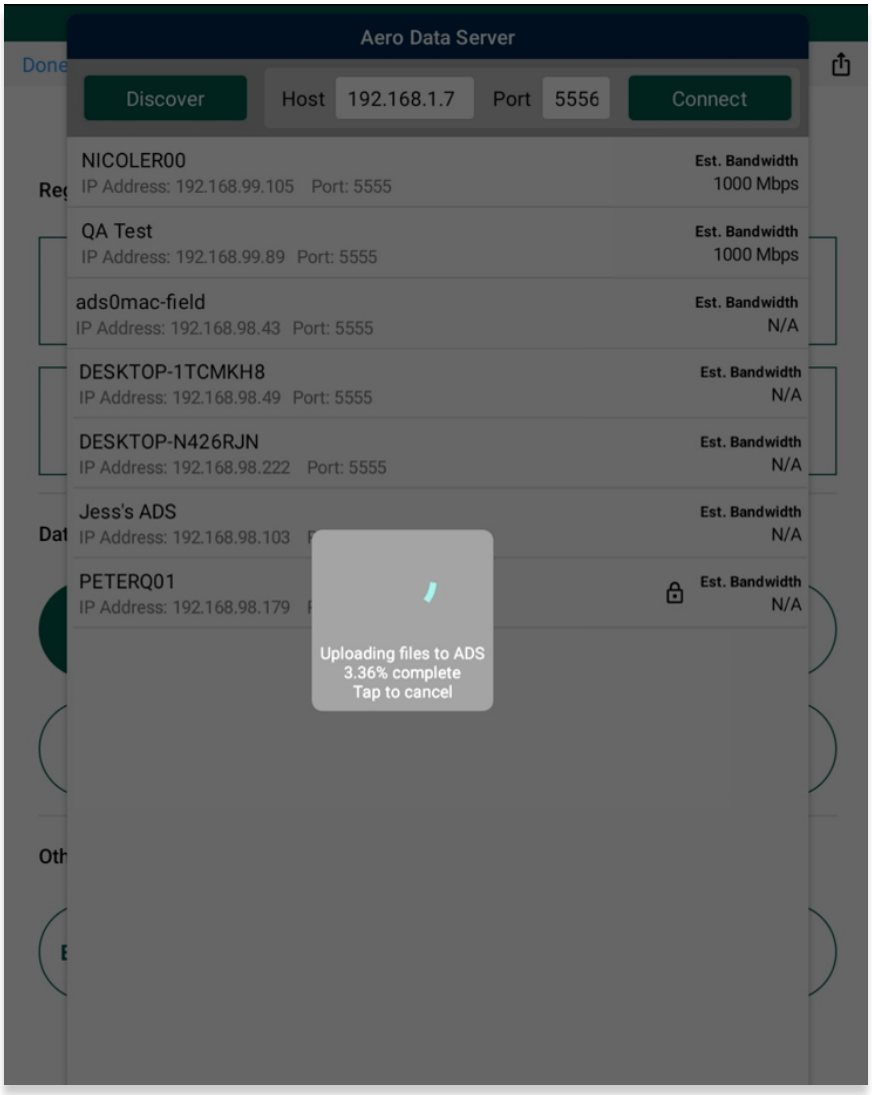
7. Select desired **additional files** to share.



8. Once all required files are selected, the Share icon will be selectable. Tap **Share**.
9. The Aero Data Server will display. Select desired server.



10. The data selected will be uploaded to ADS.

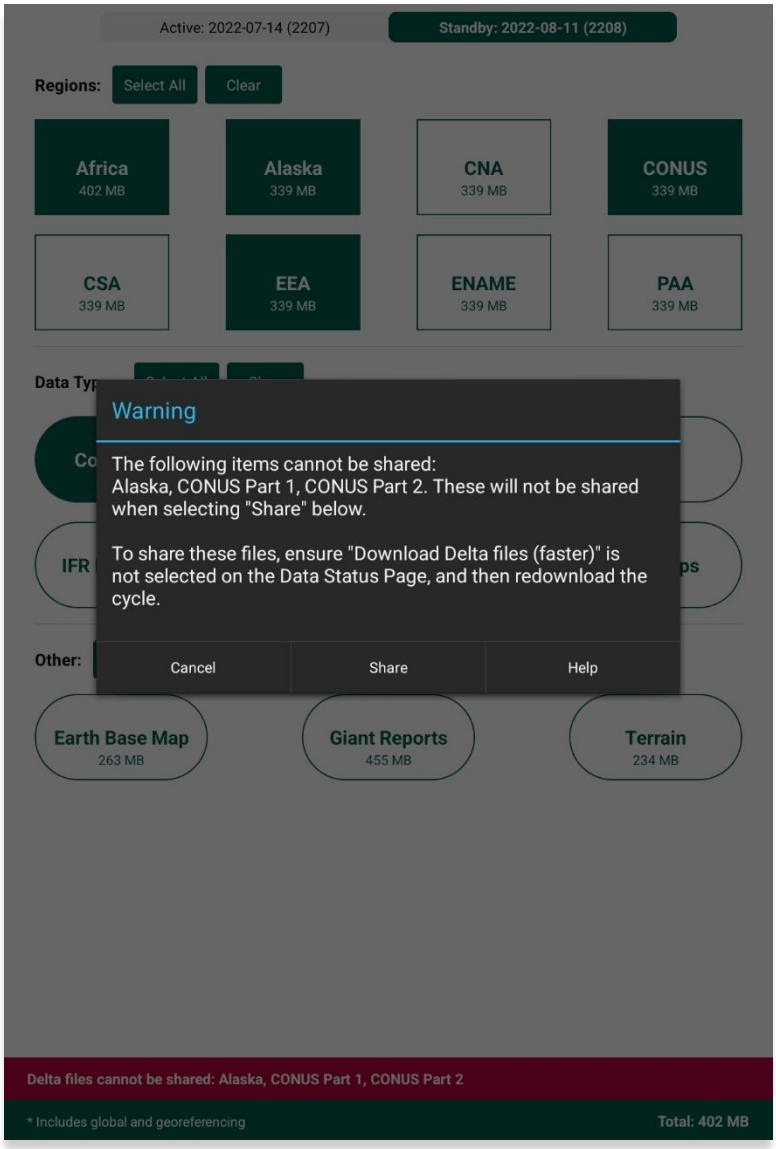


NOTE: Users can tap **Select All** to highlight all files or tap **Clear** to deselect all selected files.

NOTE: The **Core Data*** data type includes Global and Georeferenced files.

12.4.1 Sharing Incompatible Files

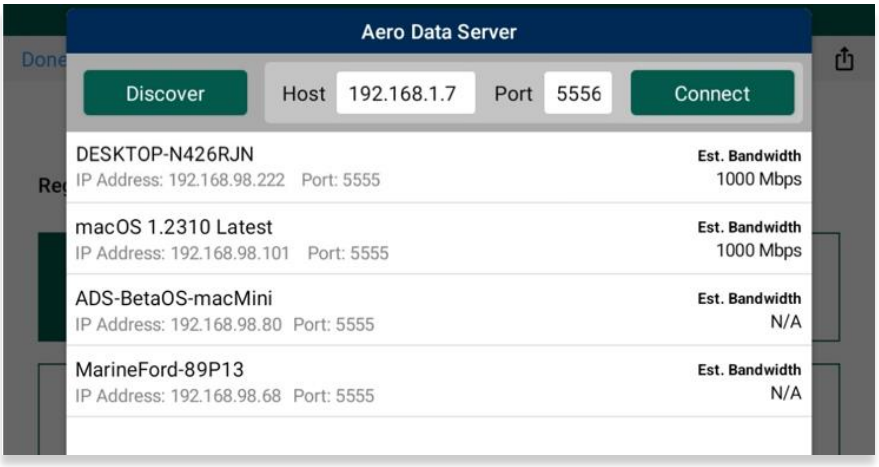
Warnings will be displayed as a result of attempting to share incompatible files such as Delta files. When users select files containing Delta files, a red bar will appear at the bottom of the Data Sharing screen listing the Delta files which cannot be shared. If users proceed to share files, a warning message will appear where they can select Help, Share, or Cancel. Selecting Help displays Contextual Help. Selecting Share will only share the compatible files and exclude delta files.



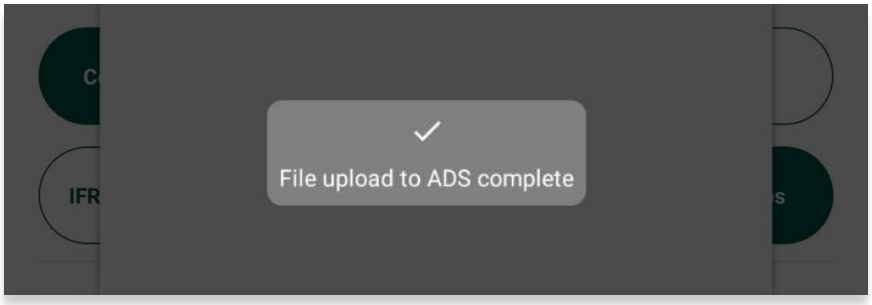
12.5 Upload to ADS

Aero App enables users to share Data Cycles, Maps, and additional files to ADS. Once desired files are shared, the files will be available to other users.

1. Log in to ADS on a Mac or Windows computer.
2. On the ***Settings Menu***, select a window of time from the options of 15 Minutes, 30 Minutes, or 1 Hour.
3. Once a window of time is selected, return to the ***Data Sharing*** screen on Aero App.
4. Tap the **Share** button to display the Aero Data Server popup.



5. Select the appropriate server or enter the IP Address and Port of the server to connect.
6. Once connected, the files will upload to ADS.

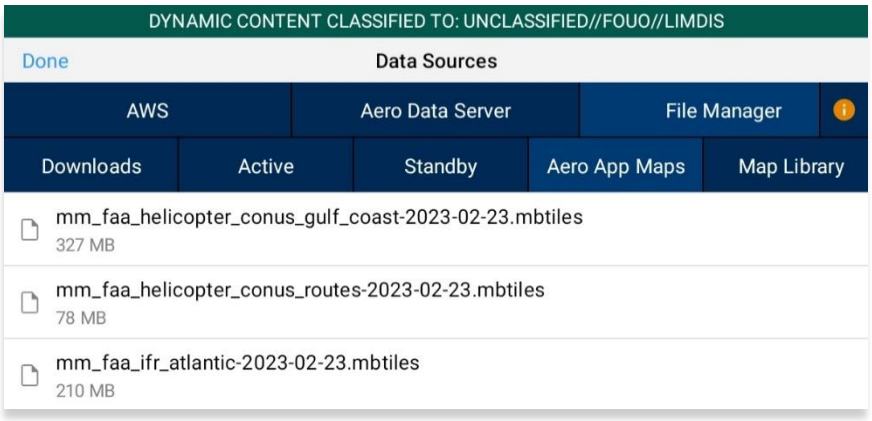


NOTE: Refer to Section 9 for guidance on how to load desired Data Cycles, Maps, and Additional files to share.

12.6 File Manager

File Manager is responsible for storing, managing, and making modifications to files there were downloaded and loaded into Aero App.

1. Tap **App Mgmt** on the ***Main Menu.***
2. Tap **Data** on the ***Secondary Menu.***
3. Tap **Download**.
4. Tap **File Manager**.
5. To view all the loaded files, select from the following tabs:
    - Downloads
    - Active
    - Standby
    - Aero App Maps
    - Map Library
    - Documents
    - Other



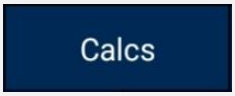
6. Swipe the files that you want deleted to the left then tap **Delete**. The file will be removed from the list.

13 Introduction to Aero App Menus

The initial launch of Aero App will land on the About screen, which includes the app's version number and licensing information. The Main Menu is located above the Help screen and includes options to access features throughout Aero App. Data is required to access the Moving Map. The Secondary Menu is placed directly below the Main Menu. The following sections will elaborate on the different menus and their functionalities.

13.1 Main Menu Options

Aero App enables users to select an option from the Main Menu. The selected menu option will be highlighted to indicate selection. If necessary, scroll left-to-right to view hidden menu buttons.

	Search – The Search option is used to perform a search of different identifiers such as Airports, NavAids, Waypoints, User Waypoints, and Pins. A search can be refined by setting a minimum runway length, which can be done through preferences. Other actions such as adding identifier to Favorites as well as viewing the Giant Report of the searched identifier.
	Active Point – Once the search is completed, the identifier will become an active point. The active point will show its General Information such as Giant Reports and Chart Supplements, AQP images (if applicable), Communications, Runways, and Remarks. Additional information such as APD, procedure charts, Host Nation charts, weather, and others, can be viewed through the Secondary Menu for searched Airports. To load a new active point, simply tap on the search icon and enter a desired point, then tap **Search** on your device's on-screen keyboard. The new identifier will load as the new active point.
	Moving Map – The Moving Map displays a high-performance whirly globe, which provides various settings and overlays to customize its display. Charts such as VFR Sectionals, High and Low Enroutes, and many more are available.
	General – General provides users access to a large library of material such as Charts, Supplements, Area Planning documents, User PDF documents and Terminal Legend Procedures.
	Notepad – The notepad allows users to create up to three pages of notes using their fingertips or a stylus.
	Calcs – Calcs is inclusive of options such as E6B and Fuel Check. The E6B calculator is used to perform a variety of navigation calculations for Altitude, Cold Wx, Conversions, Coordinates, Descent, Distance, IFR Climb, Rwy Winds, and Winds Aloft. Fuel Check measures the fuel burn usage of the ownship.

	Wx Images – Wx Images provides access to real-time weather images, including precipitation, storm, icing, freezing levels, winds aloft, forecasts, and many more.
	App Mgmt – App Management enables users to download and manage data, configure Aero App preferences, and view additional information such as Help files and application details.
	Collapsible Menu Button – Tapping on the arrow will hide or show the Main and Secondary Menus.

13.2 Route Menu Options

Aero App enables users to select an option from the Route Panel. The options include Add Airport, NavAid, or Waypoint, Edit Route, display Route Options menu, and a collapsible route button.

	Collapsible Route Panel – The collapsible route panel is used to hide or show the Route Panel, enabling users to free up space on the screen when not in use.
	Add – Add allows users to search and add Airports, NavAids, Waypoints, Airways, User Waypoints, and Pins to the route. Other actions such as adding identifier to Favorites can be performed on the Add popup.
	Edit – Edit allows users to reorder and delete entries from the route.
	Route – Route provides various options that can be added as enhancements to the route. Options include Air Refueling Routes, Search and Rescue Patterns, and more.

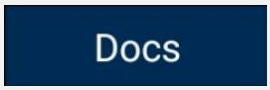
13.3 Identifier Options

The selected identifier will appear to the left of the ***Main Menu***. When users tap on **Active Point**, the ***Secondary Menu*** will be displayed as illustrated below.

Info	Info – Displays detailed information about the selected Airport, including General Info, AQP, Giant Report, Communications, Runways, Chart Supplements, and Remarks.
APD	APD – Displays the Airport Diagram for the selected identifier.
IAP	IAP – Displays the Instrument Approach Procedures for the selected identifier.
Dep	Dep – Displays the Departure Procedure for the selected identifier.
Arr	Arr – Displays the Arrival Procedures for the selected identifier.
Min	Min – Displays charts for Alternate, RADAR, and Takeoff Minimums for the selected identifier.
Other	Other – Displays charts otherwise not displayed under the remaining tabs. They may include special procedures and RNAVs among others.
Host Nation	Host Nation – Displays the APD, IAP, SID, STAR, Visual Approach, and other charts such as Docking/ Parking and VFR AIPs for airports outside the USA. Host Nation Charts are downloaded through App Mgmt.
Wx	Wx – Displays options for viewing METARs/TAFs and a button redirecting to the NOTAMs web browser.

13.4 General Menu Options

By tapping **General** on the ***Main Menu***, users can access a large library of material such as FAA data, FLIP Charts, Supplements, Area Planning Books, PDFs loaded into Aero App and Terminal Legend Procedures.

	Charts – Displays a dialog box list from which you can select High and Low Enroute Charts, Area Charts, Graphic Charts, CONUS Chart Graphics, Military Training Routes (MTRs), and others. Charts can be selected through the drop-down menu or by swiping left and right.
	Supplements – Displays a dialog box list from which users can select the appropriate Supplements Book in the FLIP Chart Library. Supplement Books are in PDF format.
	Area Planning Documents – Displays a dialog box list from which users can select the Area Planning Documents in PDF format. The General Planning Book is listed in this menu from the FLIP Area Planning Library.
	User Documents – Displays access to user-defined content loaded into the Documents library.
	Terminal Procedure Legend – Displays the Terminal Procedure Legend.

13.5 Application Management (App Mgmt) Menu Options

The **Application Management (App Mgmt)** Menu Option allows you to select preferences, load and refresh data, load Host Nation charts, and access detailed information about Aero App.

Preferences	Preferences is a tool that enables users to customize the behavior of Aero App. Various setting options include Bluetooth, Data, Miscellaneous, Reset, Route, and User Interface.
Data	Data Status screen allows users to manage cycles.
Host Nation	Displays the Host Nation Charts Manager screen with an option to download the charts for the selected ICAO.
Help	Displays additional information for Aero App such as What's New, Web Links, link to User Manual, and About.

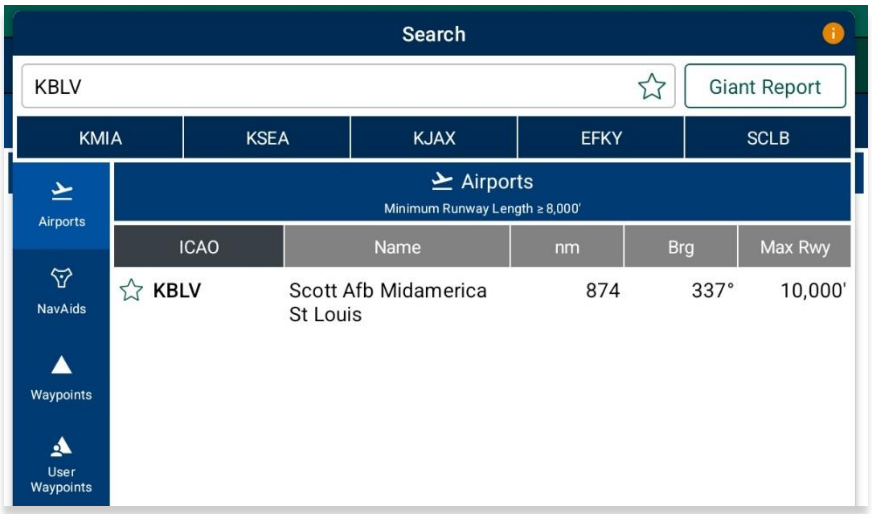
14 Using Aero App's Main Menu

The Main Menu is utilized to display the main functions of Aero App and is located either on the top or bottom of the screen (user-configurable).

14.1 Search Identifiers or Terms

Aero App enables users to enter identifiers or search terms by tapping the Magnifying Glass on the Main Menu. The Search menu returns the results for a searched identifier such as Airports, NavAids, Waypoints, User Waypoints, Airways, and Pins. Users can then navigate to other tabs to display its information, Airport Diagram, Instrument Approach Procedures, and more.

1. Tap the **Magnifying glass** icon on the **Main Menu**.
2. A Search popup will appear. Tap the **text box** to open your device's keyboard.
3. Enter an identifier or search term.
4. If necessary, select from Airports, NavAids, Waypoints, User Waypoints, Airways, or Pins to display results.



NOTE: The last 5 searches will be listed below the search text box.

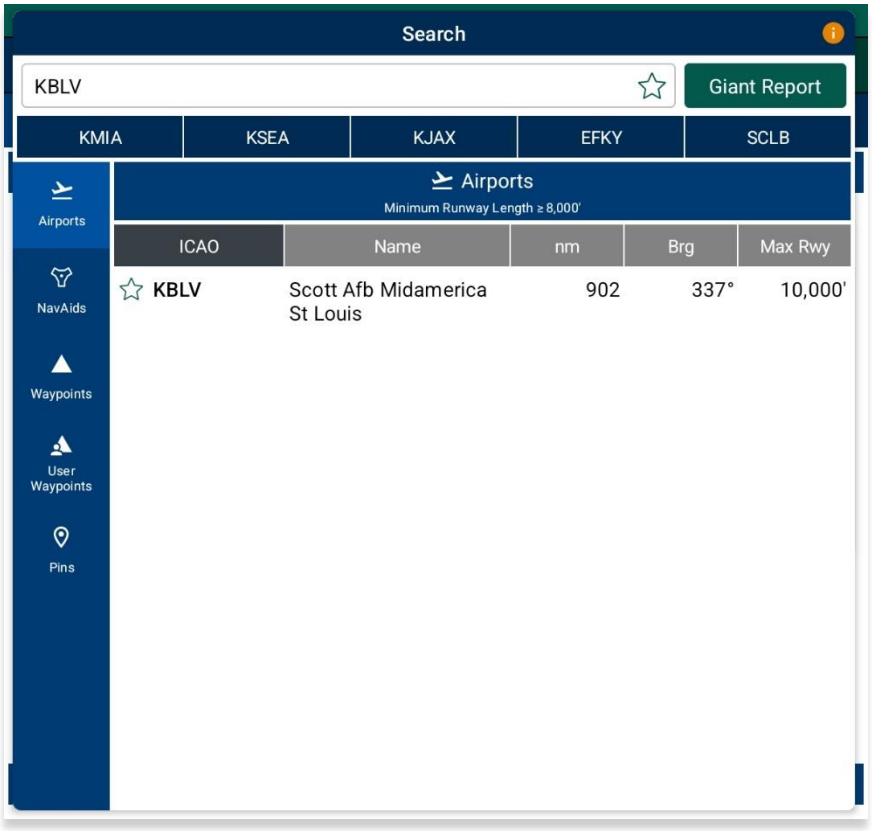
NOTE: An error message will appear indicating that data has not been downloaded.

NOTE: Users can add an identifier to their Favorites list as explained in Section 14.1.2.

14.1.1 Giant Report

Aero App allows users to shortcut to the airport's Giant Report if data is available for the searched ICAO.

1. Enter a desired identifier or search term in the search box.
2. Tap the **Giant Report** button to enable the option.
3. Select the appropriate airport provided below.
4. The Giant Report for that specific airport will be displayed.

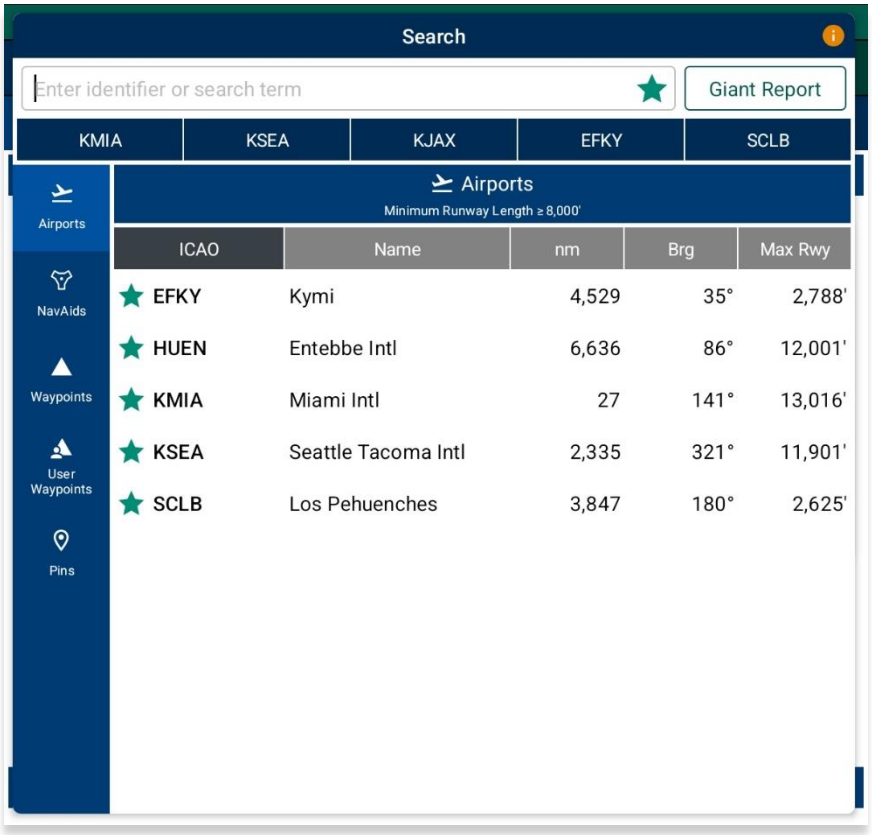


NOTE: To view Giant Reports, Giant Reports data must be preloaded into Active Cycle.

14.1.2 Add an Identifier to Favorites

Aero App enables users to add identifiers such as Airports, NavAids, and Waypoints to their *Favorites* list.

1. Enter a desired identifier in the search text box.
2. After three characters are entered, an auto search will begin. Locate desired identifier that you wish to add to *Favorites*.
3. Tap the **Star** located next to the identifier; the Star will convert to green.
4. To remove an identifier from *Favorites*, tap the **Star** the second time and the identifier will be removed from *Favorites*.
5. To view all identifiers marked as favorite, remove all characters from the search box. The Favorites list will display respective to the type of identifier that was selected (e.g., Airports, NavAids, and Waypoints).



NOTE: Users can add their desired identifiers to *Favorites* directly from the Add to Route feature, Active Point search, or Move Map to Location.

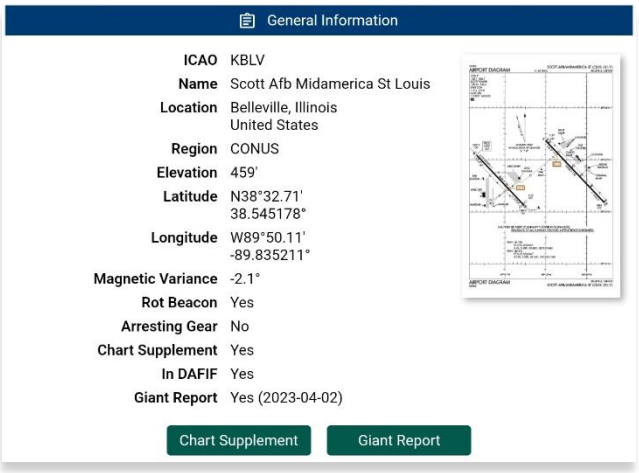
14.2 Information

The Info submenu displays detailed airport information of the searched airport. Airport information includes General Information, AQPs, Communications, Runways, and Remarks. The Airport Diagram, Chart Supplement, and Giant Report are in the General Information section.

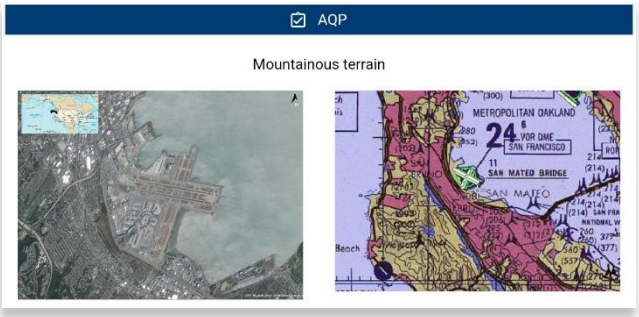
General and other relevant information for identifiers such as NavAids, Waypoints, and User Waypoints are available to users. Global is required to access identifier information.

The Info page can be viewed in various locations within Aero App. Users can tap an Active Point on the Main Menu or in the Moving Map Route Panel, or by simply long pressing on a point on the Moving Map.

General Information contains identifier details such as the ICAO, name, location, region, elevation, latitude, longitude, magnetic variance, and more. The General Information section includes Airport Diagram, Chart Supplement, and Giant Report. To view charts, users must download the respective region files and Global.

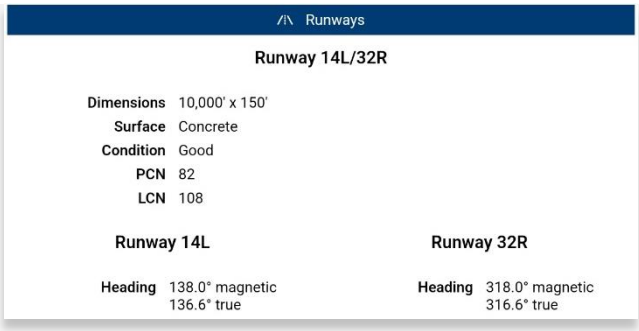


Airport Qualification Program (AQP) is available for select airports.

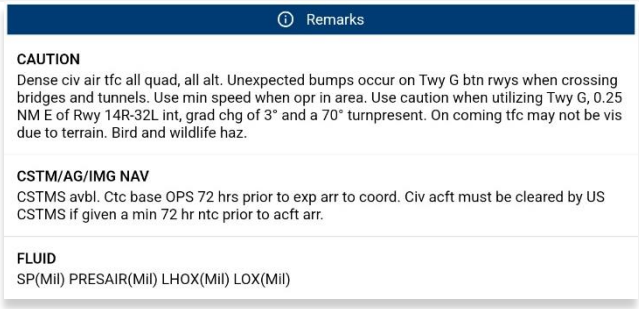


Communications includes tower frequencies, remarks, and call signs for the selected airport.

Runways contain airport runway information such as the runway dimensions, surface, condition, PNC, LCN, and more.



Remarks provides airport conditions, fuel type, and other cautionary advice.



14.2.1 Airport Charts

Aero App enables users to view charts such as Airport Diagrams, Instrument Approach Procedures, Departure Procedures, Arrival Procedures, Alternate Minimums, RADAR Minimums, Takeoff Minimums, Others – displays special procedures and RNAVs among others, and Host Nation charts.

NOTE: Users can tap the **actions ribbon**, displayed below the Secondary Menu, to select and display specific chart types.

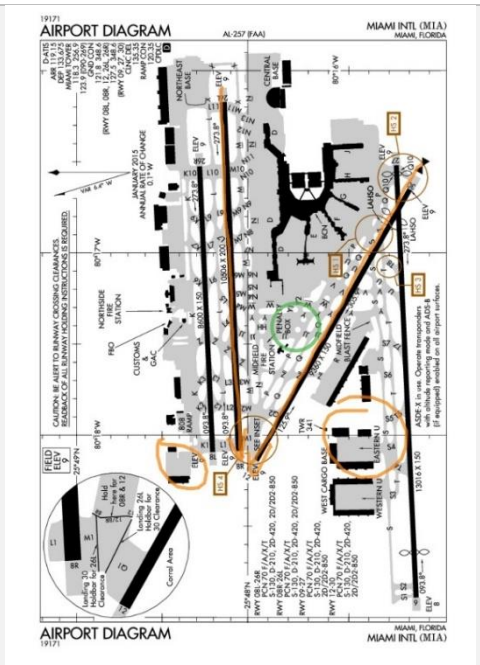
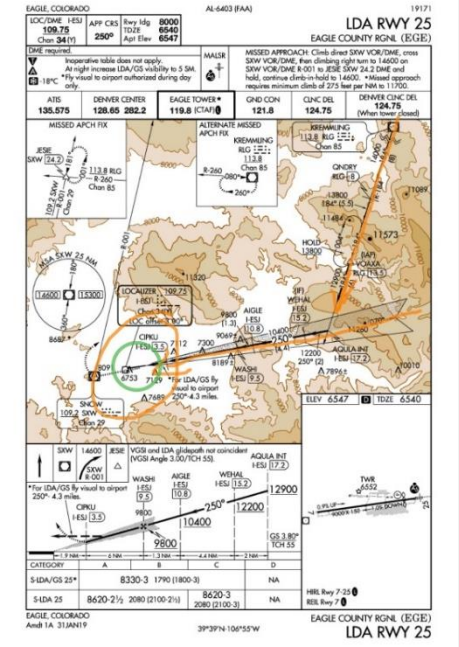
14.2.1.1 Draw on Airport Diagram (APD) and Instrument Approach Procedure (IAP) Charts

1. Tap the **Active Point** on the ***Main Menu***.
2. Tap **APD** or **IAP** on the ***Secondary Menu*** and the selected chart will display.
3. The pencil symbol allows the user to draw on the Chart. There are options to Clear, Undo, Exit, and Rotate chart by 90 degrees.

Rotate chart by 90 degrees

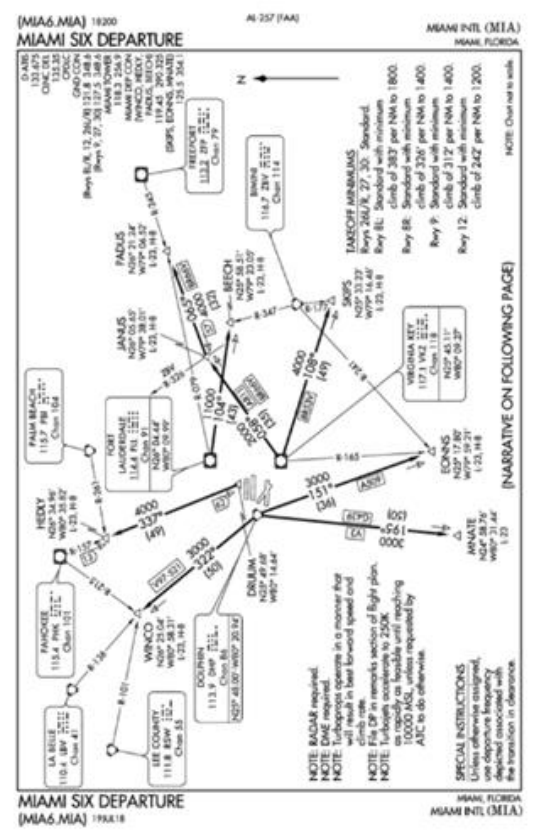
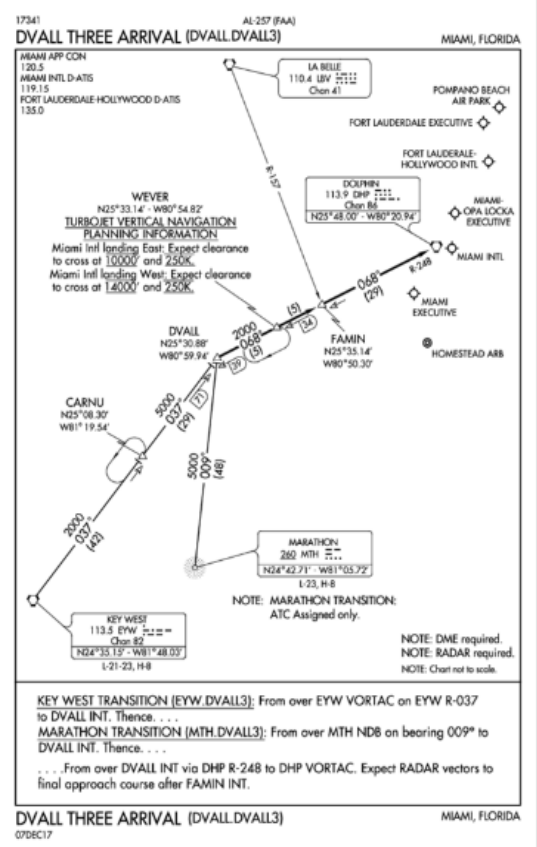
NOTE: Drawings on Charts persist across cycles for 6 months.

NOTE: Draw on Charts is available on Airport Diagrams and Instrument Approach Procedures.

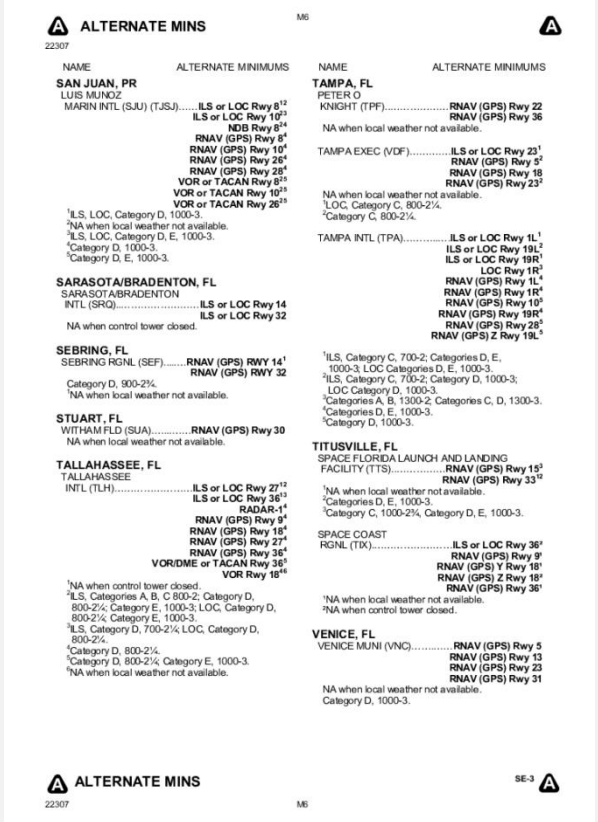
Airport Diagram (APD)	Instrument Approach Procedure (IAP)
	

14.2.2 Continuation of Charts

1. Tap the **Active Point** on the ***Main Menu***.
2. Select desired chart type on the ***Secondary Menu***.
3. The chart will display once selected.
4. Tap on the **action ribbon** to display additional chart selection.

Departure Procedures	Arrival Procedures
	

Alternate/ RADAR/Takeoff Minimums	Other



M6

ALTERNATE MINS

22307

NAME	ALTERNATE MINIMUMS
SAN JUAN, PR	
LUIS MUNOZ MARIN INTL (SJU) (TJSJ)	**ILS or LOC Rwy 8**[12]
	ILS or LOC Rwy 10[23]
	NDB Rwy 8[24]
	RNAV (GPS) Rwy 8[4]
	RNAV (GPS) Rwy 10[4]
	RNAV (GPS) Rwy 26[4]
	RNAV (GPS) Rwy 28[4]
	VOR or TACAN Rwy 8[25]
	VOR or TACAN Rwy 10[25]
	VOR or TACAN Rwy 26[25]
SARASOTA/BRADENTON, FL	
SARASOTA/BRADENTON INTL (SRQ)	**ILS or LOC Rwy 14**
	ILS or LOC Rwy 32
SEBRING, FL	
SEBRING RGNL (SEF)	**RNAV (GPS) RWY 14**[1]
	RNAV (GPS) RWY 32
STUART, FL	
WITHAM FLD (SUA)	**RNAV (GPS) Rwy 30**
TALLAHASSEE, FL	
TALLAHASSEE INTL (TLH)	**ILS or LOC Rwy 27**[12]
	ILS or LOC Rwy 36[13]
	RADAR-1[4]
	RNAV (GPS) Rwy 9[4]
	RNAV (GPS) Rwy 18[4]
	RNAV (GPS) Rwy 27[4]
	RNAV (GPS) Rwy 36[4]
	VOR/DME or TACAN Rwy 36[5]
	VOR Rwy 18[46]

NAME	ALTERNATE MINIMUMS
TAMPA, FL	
PETER O KNIGHT (TPF)	**RNAV (GPS) Rwy 22**
	RNAV (GPS) Rwy 36
TAMPA EXEC (VDF)	**ILS or LOC Rwy 23**[1]
	RNAV (GPS) Rwy 5[2]
	RNAV (GPS) Rwy 18
	RNAV (GPS) Rwy 23[2]
TAMPA INTL (TPA)	**ILS or LOC Rwy 1L**[1]
	ILS or LOC Rwy 19L[2]
	ILS or LOC Rwy 19R[1]
	LOC Rwy 1R[3]
	RNAV (GPS) Rwy 1L[4]
	RNAV (GPS) Rwy 1R[4]
	RNAV (GPS) Rwy 10[3]
	RNAV (GPS) Rwy 19R[4]
	RNAV (GPS) Rwy 28[5]
	RNAV (GPS) Z Rwy 19L[5]
TITUSVILLE, FL	
SPACE FLORIDA LAUNCH AND LANDING FACILITY (TTS)	**RNAV (GPS) Rwy 15**[3]
	RNAV (GPS) Rwy 33[12]
SPACE COAST RGNL (TIX)	**ILS or LOC Rwy 36**[2]
	RNAV (GPS) Rwy 9[1]
	RNAV (GPS) Y Rwy 18[1]
	RNAV (GPS) Z Rwy 18[2]
	RNAV (GPS) Rwy 36[1]
VENICE, FL	
VENICE MUNI (VNC)	**RNAV (GPS) Rwy 5**
	RNAV (GPS) Rwy 13
	RNAV (GPS) Rwy 23
	RNAV (GPS) Rwy 31

[1]ILS, LOC, Category D, 1000-3.
[2]NA when local weather not available.
[3]ILS, LOC, Category D, E, 1000-3.
[4]Category D, 1000-3.
[5]Category D, E, 1000-3.

NA when control tower closed.

[1]NA when local weather not available.

[1]NA when control tower closed.
[2]ILS, Categories A, B, C 800-2; Category D, 800-2¼; Category E, 1000-3; LOC, Category D, 800-2¼; Category E, 1000-3.
[3]ILS, Category D, 700-2¼ LOC, Category D, 800-2¼.
[4]Category D, 800-2¼.
[5]Category D, 800-2¼; Category E, 1000-3.
[6]NA when local weather not available.

NA when local weather not available.
Category D, 1000-3.

[1]NA when local weather not available.
[2]NA when control tower closed.

[1]ILS, Category C, 700-2; Categories D, E, 1000-3; LOC Categories D, E, 1000-3.
[2]ILS, Category C, 700-2; Category D, 1000-3; LOC Category D, 1000-3.
[3]Categories A, B, 1300-2; Categories C, D, 1300-3.
[4]Categories D, E, 1000-3.
[5]Category D, 1000-3.

NA when local weather not available.
[2]NA when control tower closed.

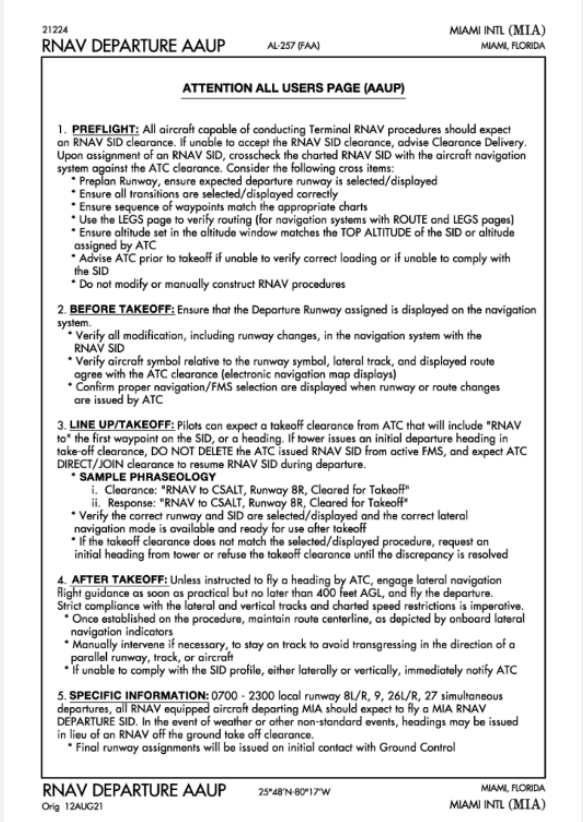
NA when local weather not available.
Category D, 1000-3.

ALTERNATE MINS

SE-3

22307

M6



21224

MIAMI INTL (MIA)

RNAV DEPARTURE AAUP AL-257 (FAA)

MIAMI, FLORIDA

ATTENTION ALL USERS PAGE (AAUP)

1. **PREFLIGHT:** All aircraft capable of conducting Terminal RNAV procedures should expect an RNAV SID clearance. If unable to accept the RNAV SID clearance, advise Clearance Delivery. Upon assignment of an RNAV SID, crosscheck the charted RNAV SID with the aircraft navigation system against the ATC clearance. Consider the following cross items:
   * Preplan Runway, ensure expected departure runway is selected/displayed
   * Ensure all transitions are selected/displayed correctly
   * Ensure sequence of waypoints match the appropriate charts
   * Use the LEGS page to verify routing (for navigation systems with ROUTE and LEGS pages)
   * Ensure altitude set in the altitude window matches the TOP ALTITUDE of the SID or altitude assigned by ATC
   * Advise ATC prior to takeoff if unable to verify correct loading or if unable to comply with the SID
   * Do not modify or manually construct RNAV procedures

2. **BEFORE TAKEOFF:** Ensure that the Departure Runway assigned is displayed on the navigation system.
   * Verify all modification, including runway changes, in the navigation system with the RNAV SID
   * Verify aircraft symbol relative to the runway symbol, lateral track, and displayed route agree with the ATC clearance (electronic navigation map displays)
   * Confirm proper navigation/FMS selection are displayed when runway or route changes are issued by ATC

3. **LINE UP/TAKEOFF:** Pilots can expect a takeoff clearance from ATC that will include "RNAV to" the first waypoint on the SID, or a heading. If tower issues an initial departure heading in take-off clearance, DO NOT DELETE the ATC issued RNAV SID from active FMS, and expect ATC DIRECT/JOIN clearance to resume RNAV SID during departure.
   * **SAMPLE PHRASEOLOGY**
     i. Clearance: "RNAV to CSALT, Runway 8R, Cleared for Takeoff"
     ii. Response: "RNAV to CSALT, Runway 8R, Cleared for Takeoff"
   * Verify the correct runway and SID are selected/displayed and the correct lateral navigation mode is available and ready for use after takeoff
   * If the takeoff clearance does not match the selected/displayed procedure, request an initial heading from tower or refuse the takeoff clearance until the discrepancy is resolved

4. **AFTER TAKEOFF:** Unless instructed to fly a heading by ATC, engage lateral navigation flight guidance as soon as practical but no later than 400 feet AGL, and fly the departure. Strict compliance with the lateral and vertical tracks and charted speed restrictions is imperative.
   * Once established on the procedure, maintain route centerline, as depicted by onboard lateral navigation indicators
   * Manually intervene if necessary, to stay on track to avoid transgressing in the direction of a parallel runway, track, or aircraft
   * If unable to comply with the SID profile, either laterally or vertically, immediately notify ATC

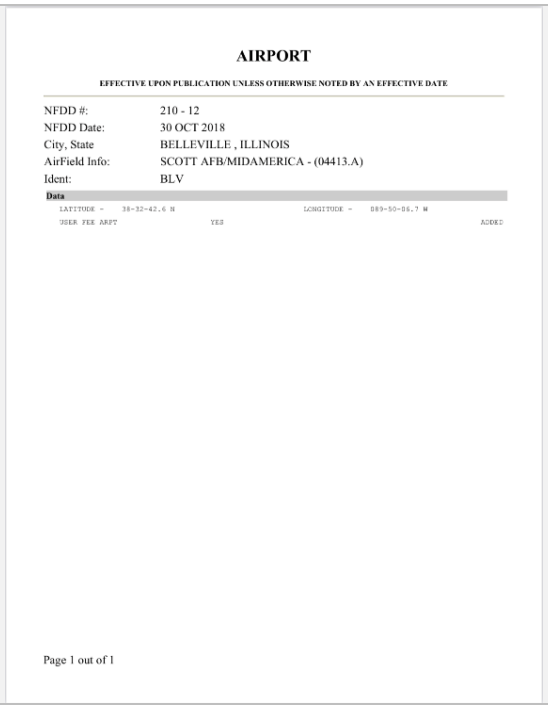
5. **SPECIFIC INFORMATION:** 0700 - 2300 local runway 8L/R, 9, 26L/R, 27 simultaneous departures, all RNAV equipped aircraft departing MIA should expect to fly a MIA RNAV DEPARTURE SID. In the event of weather or other non-standard events, headings may be issued in lieu of an RNAV off the ground take off clearance.
   * Final runway assignments will be issued on initial contact with Ground Control

RNAV DEPARTURE AAUP 25°48'N-80°17'W MIAMI, FLORIDA

Orig 12AUG21 MIAMI INTL (MIA)

NOTE: The Min tab includes Alternate, RADAR, and Takeoff Minimums to select from.

Host Nation



AIRPORT

EFFECTIVE UPON PUBLICATION UNLESS OTHERWISE NOTED BY AN EFFECTIVE DATE

NFDD #:	210 - 12
NFDD Date:	30 OCT 2018
City, State	BELLEVILLE , ILLINOIS
AirField Info:	SCOTT AFB/MIDAMERICA - (04413.A)
Ident:	BLV

Data

LATITUDE - 38-32-42.6 N LONGITUDE - 089-50-06.7 W

USER FEE ARPT YES ADDED

Page 1 out of 1

NOTE: To zoom in and out of the airport diagram, at the upper-right corner of your screen there are options to maximize or minimize the diagram. Alternatively, users can use the pinch in and out method to perform this action.

NOTE: Host Nation includes a slider that allows users to select individual pages. Alternatively, users can tap the left or right arrows to turn the page.

NOTE: A blank state message will appear indicating that there is no data downloaded.

14.2.3 Weather and Potential Hazard Information

An internet connection is required for users to view weather and potential flight hazard information of the provided ICAO.

1. Tap the **Active Point** on the ***Main Menu***.
2. Tap **Weather (Wx)** on the ***Secondary Menu***.
3. The following options are available to users:
    - Internet
    - METARs
    - TAFs
    - Winds
    - Temps
    - PIREPs
    - NOTAMs

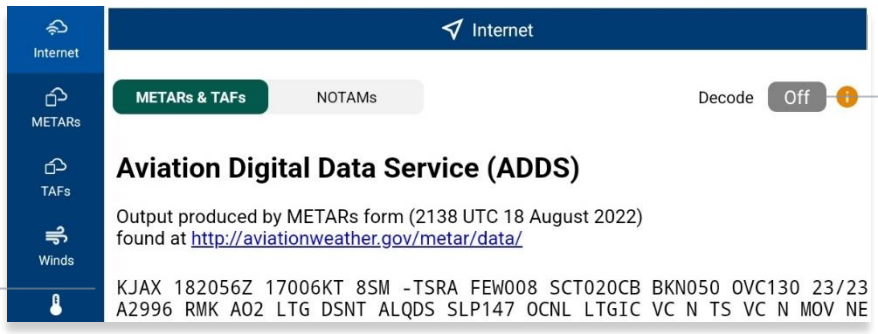
14.2.3.1 Internet

This section explains how to retrieve information from METARs, Terminal Aerodrome Forecasts (TAFs) view, and a button that redirects to the NOTAMs web browser.

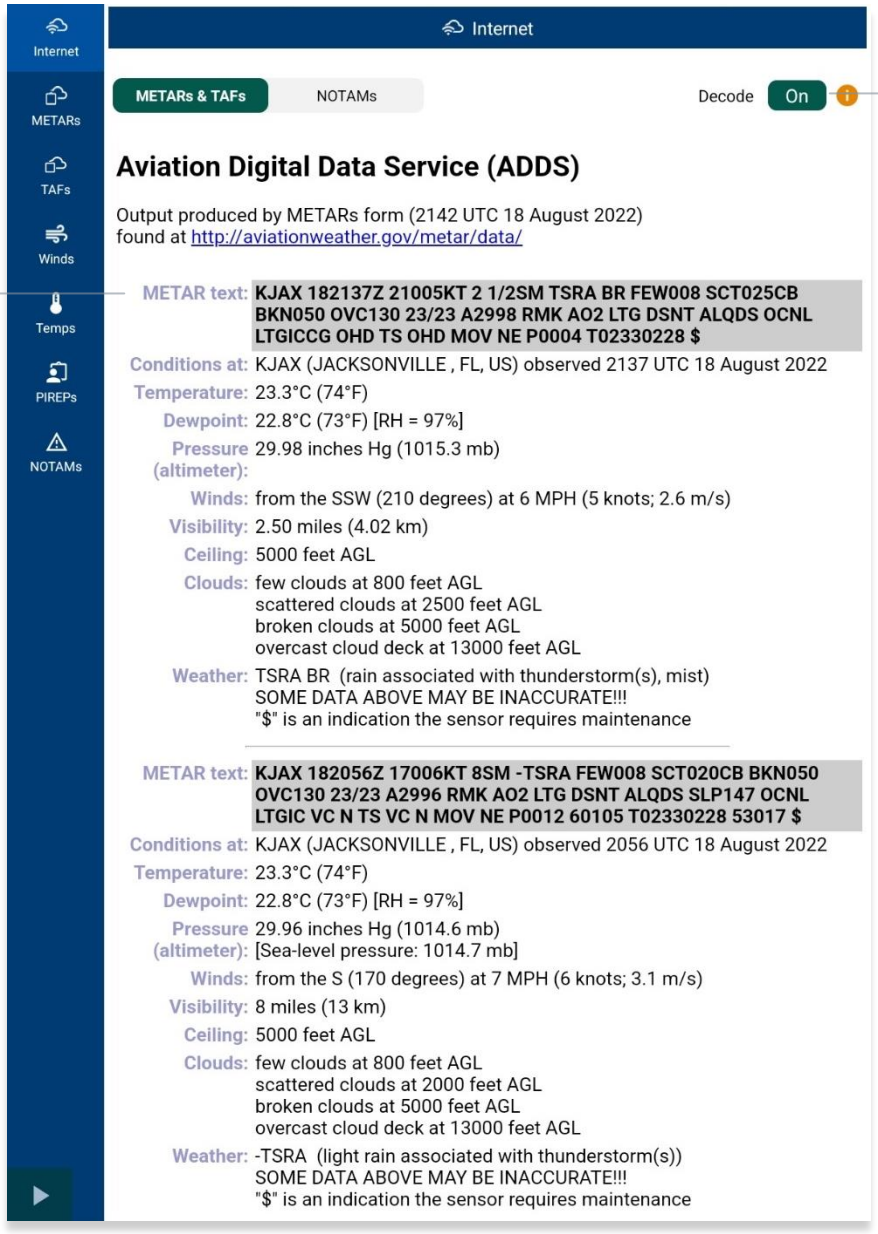
14.2.3.1.1 METARs and Terminal Aerodrome Forecasts (TAFs)

Aero App displays METARs and Terminal Aerodrome Forecasts (TAFs) from the Aviation Digital Data Service and a button redirecting to the NOTAMs web browser. The steps below enable users to view METARs, TAFs, and NOTAMs.

1. Tap the **Active Point** on the ***Main Menu***.
2. Tap **Wx** on the ***Secondary Menu***.
3. Select **Internet** from the side menu, if necessary.
4. Select **METARs & TAFs** to view information for the selected airport.



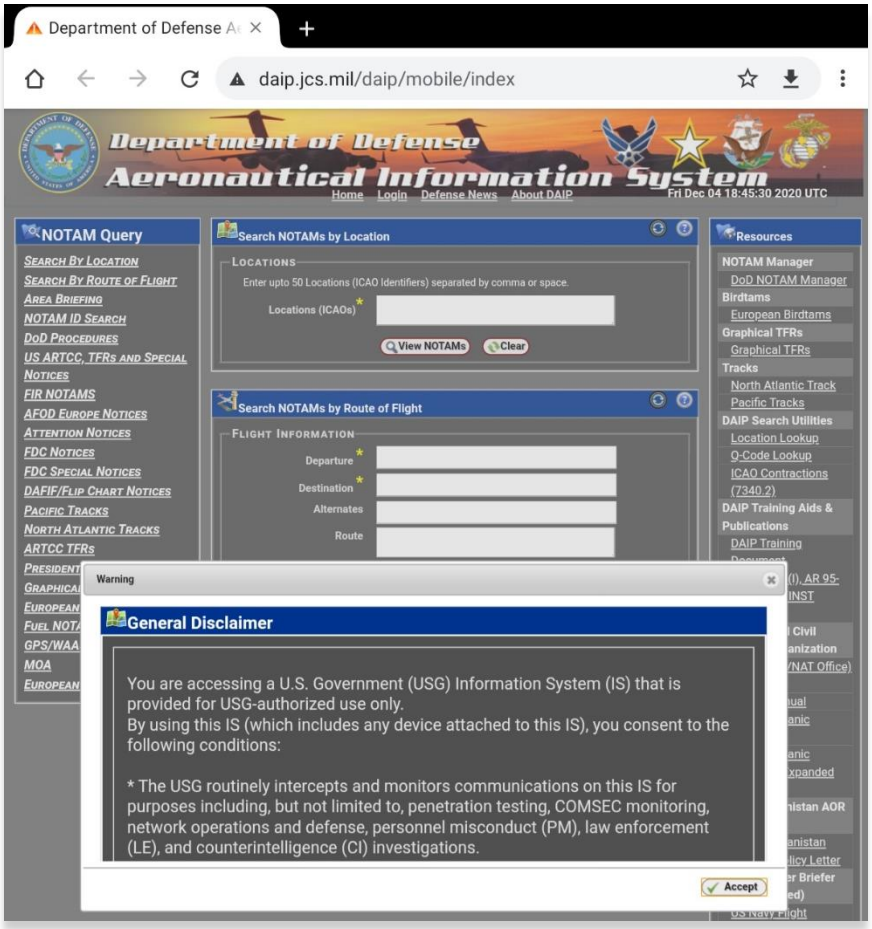
5. Tap the **Decode** button to enable the option located at the upper-right corner to view raw or decoded weather information.



14.2.3.1.2 Notice to Airmen (NOTAM) Website

Notice to Airmen (NOTAM) are notices to alert pilots of potential hazards along a flight route or at a location that can affect the safety of the flight.

1. Tap the **Active Point** on the ***Main Menu***.
2. Tap **Wx** on the ***Secondary Menu***.
3. Select **Internet** from the side menu, if necessary.
4. Tap **NOTAMs** and users will be redirected to the DOD Aeronautical Information System browser.



14.2.3.2 METARs

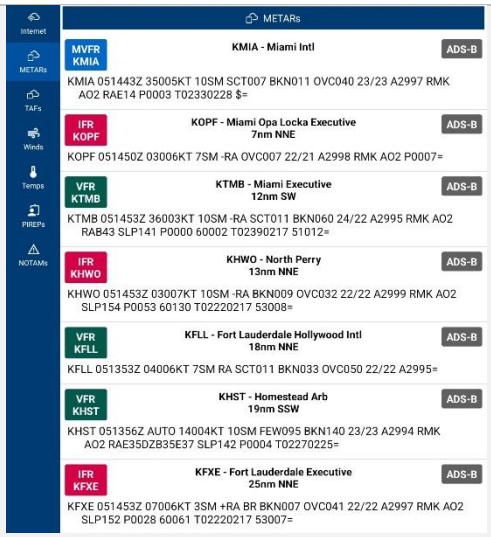
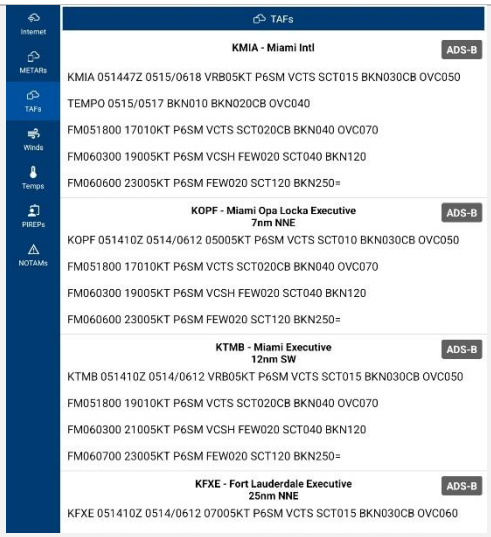
The METARs tab displays raw weather information for ADS-B and Air Force Weather (AF Wx) data that may include temperature, precipitation, visibility, barometric pressure, and other information of interest to pilots.

1. Tap the **Active Point** on the ***Main Menu.***
2. Tap **Wx** on the ***Secondary Menu***.
3. Select **METARs** from the side menu. Aero App will display ADS-B data information.

14.2.3.3 Terminal Aerodrome Forecasts (TAFs)

Terminal Aerodrome Forecasts (TAFs) highlight the expected meteorological conditions at an airport during a specific period, typically 24 hours.

1. Tap the **Active Point** on the ***Main Menu.***
2. Tap **Wx** on the ***Secondary Menu.***
3. Select **TAFs** from the side menu. Aero App will display the TAFs data.

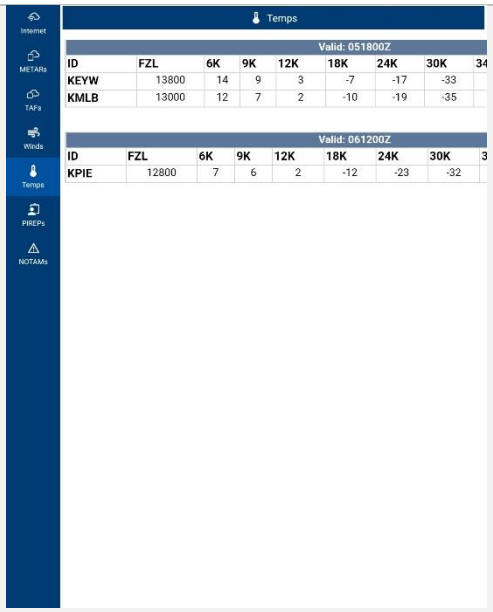
METARs	TAFs
	

NOTE: Refer to Section 14.3.3 for additional information for Air Force Weather (AF Wx).

14.2.3.4 Winds and Temps

Winds and Temps are forecasts of specific atmospheric conditions in terms of wind and temperature at certain altitudes; typically measured in feet above mean sea level. Wind direction is always in reference to true north. The wind speed is measured in knots and the temperature is measured in Celsius.

1. Tap the **Active Point** on the ***Main Menu.***
2. Tap **Wx** on the ***Secondary Menu.***
3. Select **Winds** from the side menu. Aero App will display winds data.
4. Select **Temps** from the side menu. Aero App will display temperature data.

Winds	Temps
	

14.2.3.5 Pilot Reports (PIREPs)

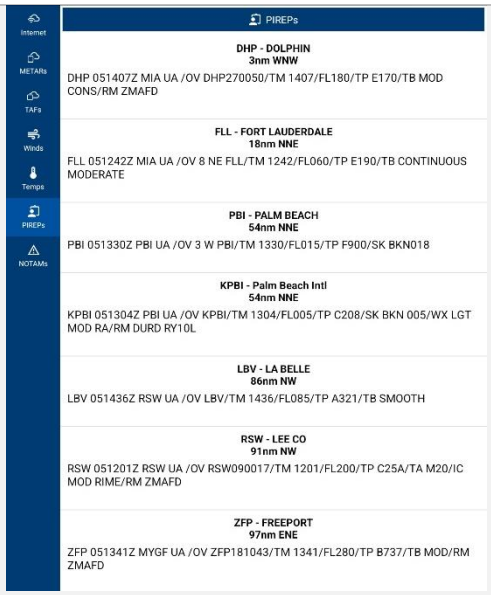
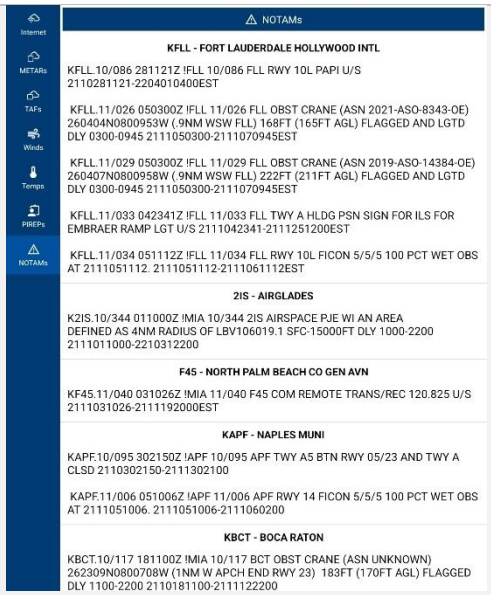
Pilot Reports (PIREPs) are reports of actual weather conditions encountered by an ownship in flight.

1. Tap the **Active Point** on the ***Main Menu.***
2. Tap **Wx** on the ***Secondary Menu.***
3. Select **PIREPs** from the side menu. Aero App will display PIREPs data.

14.2.3.6 Notice to Airmen (NOTAM)

Notice to Airmen (NOTAM) alerts pilots of potential hazards along a flight route that could affect safety.

1. Tap the **Active Point** on the ***Main Menu.***
2. Tap **Wx** on the ***Secondary Menu.***
3. Select **NOTAMs** from the side menu. Aero App will display NOTAMs data.

PIREPs	NOTAMs
	

14.3 Moving Map

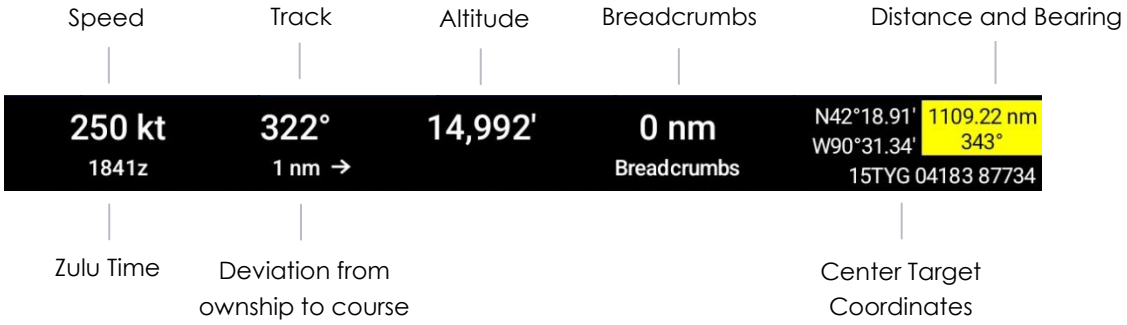
The Moving Map is an essential and powerful tool that provides a highly customizable and comprehensive worldwide map. With a variety of overlays available, it is effortless to navigate and stay informed while in-flight.

The following are map-related overlays, features, and tools available to users on the Moving Map:

- Flight Information Panel
- Timer
- Air Force Weather (AF Wx)
- Automatic Dependent Surveillance – Broadcast (ADS-B)
- Maps
- Overlays
- Options
- Crosshair Icon (Snap to Location)
- Move Map to Location
- PIN
- Split Screen
- Collapsible Route Panel

14.3.1 Flight Information Panel

The Flight Information Panel, located directly above the Moving Map, displays details of the user's current flight. The Flight Information Panel contains details such as the current flight's Speed, Zulu Time, Track, Altitude, Breadcrumbs, Center Target Coordinates, and the Distance and Bearing.



14.3.1.1 Speed

The Flight Information Panel displays the speed of the ownship located at the left side of the panel view. The indicated airspeed is measured in knots (kt) and will adjust accordingly to the rate of the ownship.

14.3.1.2 Zulu Time

Aero App uses Zulu time, which is based on the 24-hour clock and is represented by a four-digit number, with the first two digits indicating the hour and the last two digits indicating the minutes. Zulu time is located directly below the ownship's speed of the panel view.

14.3.1.3 Track

Aero App measures the Track, which is the *actual* direction of the ownship's course above the ground. The Track value is based on the GPS. The value below the track is the deviation from your ownship to the course, which is measured in nm or km, respective to which distance unit format users have set in their Preferences. The orientation of the arrow is direction to get back to course.

The arrow points toward the route and not in the direction of the deviation.

14.3.1.4 Altitude

The pilot's ownship GPS altitude does not synchronize with the altitude it displays on the altimeter. To correct this, users can manually adjust the calibration altitude to allow uniformity of the two.

1. Tap **Altitude** on the black ribbon from the Moving Map screen.
2. Tap the **+/-** buttons to adjust your calibrated altitude by increments or decrements of 100' or 500', respectively.
3. Tap **Set** to complete the calibration.
4. The ownship altitude is displayed below the *GPS* section**.** Tap **Use GPS** to use your current GPS altitude.

14.3.1.5 Center Target Coordinates

The Flight Information Panel displays the latitude, longitude, and MGRS of the Center Target. The Center Target is activated once the Moving Map is moved. As the Moving Map is moved, the Latitude, Longitude, and MGRS values are respective to the placement of the center target. Refer to Section 14.3.11 for additional information.

14.3.1.6 Distance and Bearing

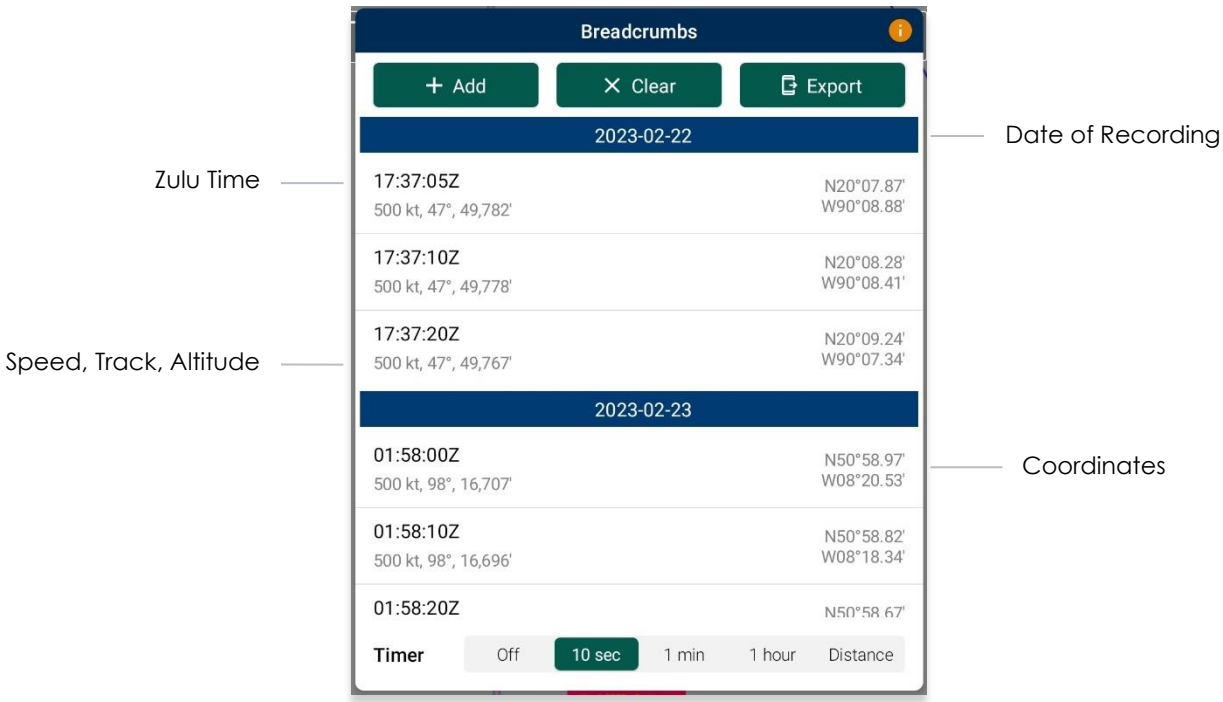
Distance is the range between your ownship's location and where the center target is placed. Bearing is the angle between your ownship and the center target. As the Moving Map is moved, the distance and bearing updates respective to the placement of the Center Target, provided the GPS is on.

When the center target is activated, a yellow tag is shown on the Information Panel and displays the *distance* in nm or km, respective to which distance unit format users have set in their Preferences and *bearing* (in degrees) relative to current location. Refer to Section 14.3.11.1 for additional information.

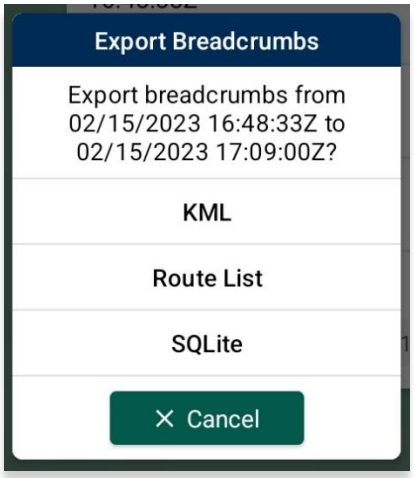
14.3.1.7 Breadcrumbs

Breadcrumbs enables users to record coordinates throughout their course. A GPS connection is required. To view the recorded Breadcrumbs on the Moving Map, users must enable the option as described in Section 14.3.7.2.1.

1. Tap the **coordinates** located at the upper-right corner of the Moving Map's Flight Information Panel.
2. A dialog window will appear displaying the recorded breadcrumbs.



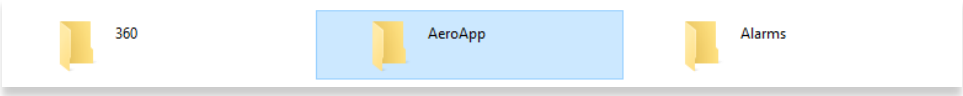
3. Tap **Add** to manually store coordinates. Users have the option to select a timer to automatically add coordinates for every 10 seconds, 1 minute, 1 hour, or Distance.
4. To enable breadcrumbs to be recorded by distance, select **Distance** from the timer options and enter desired distance increments in nautical miles (nm), statute miles (sm), feet (ft), kilometers (km), or meters (m).
5. To delete individual breadcrumbs, swipe left on the selected breadcrumbs to reveal the delete button then tap **Delete**.
6. Tap **Clear** to delete all breadcrumbs.
7. To export and save breadcrumbs, tap **Export**. Users can export as a KML file, Route List or to SQLite file.



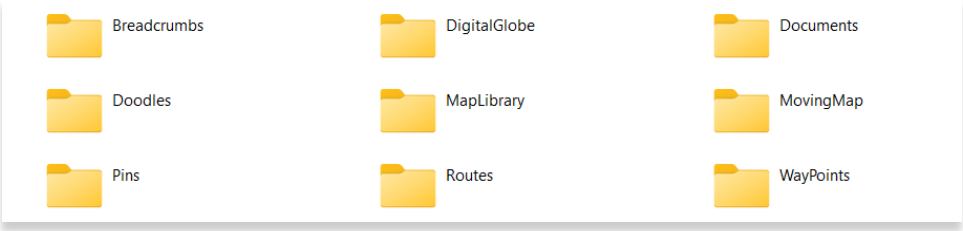
NOTE: Breadcrumbs are logged by individual days.

14.3.1.7.1 View Breadcrumbs in KML

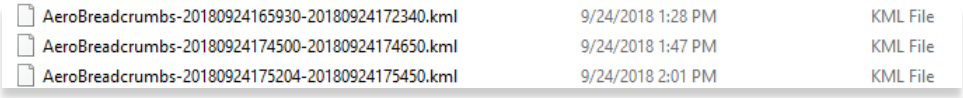
1. Export Breadcrumbs to KML.
2. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
3. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
4. Double-click on the **Tablet** icon to open Internal storage.
5. Double-click on **Aero App**.



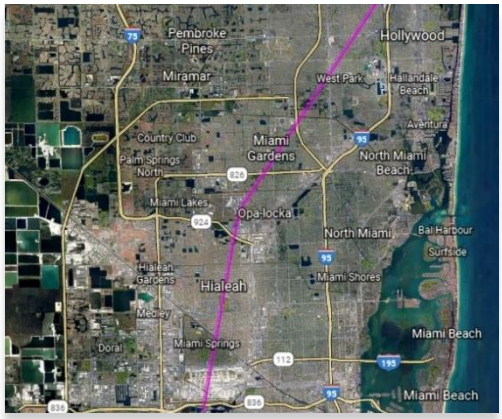
6. Double-click on **Breadcrumbs**.



7. Your exported breadcrumbs will be listed. Copy KML files and create a folder on your desktop, specifically for KML files.

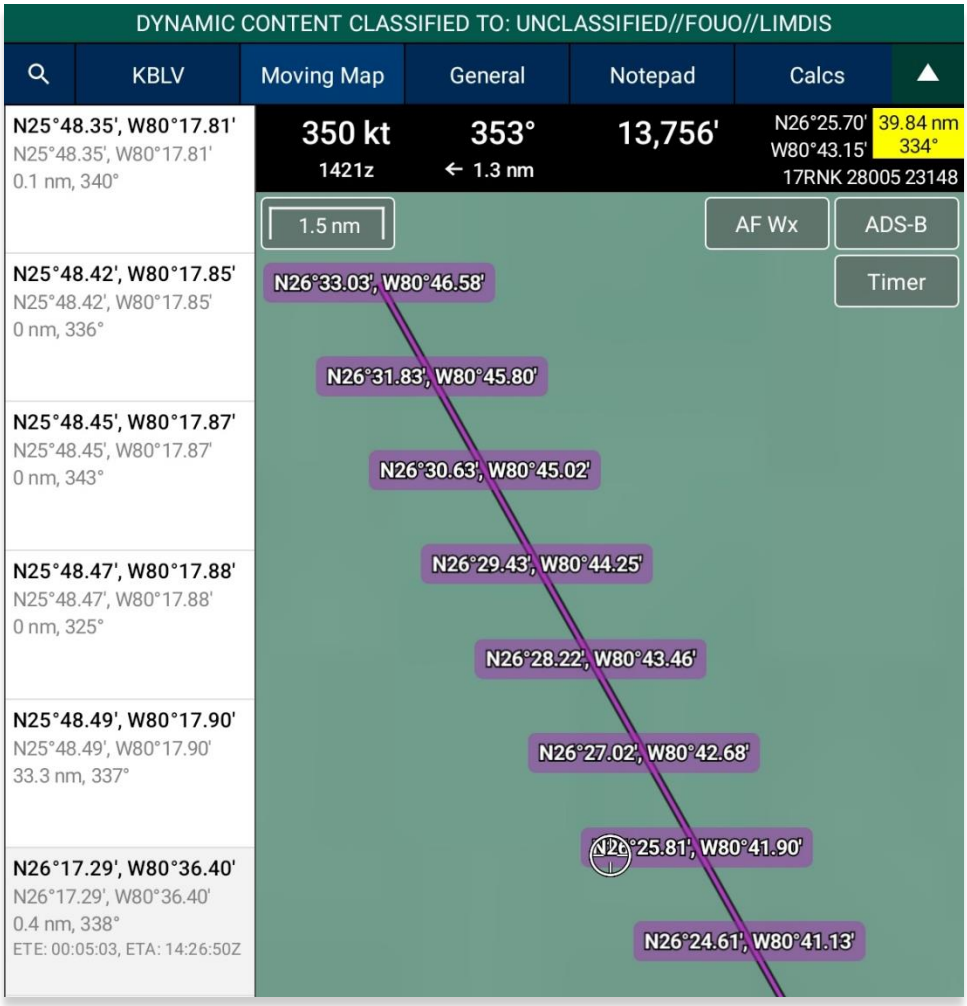


8. Open Google Earth to Export KML files, and your points will appear.



14.3.1.7.2 View Breadcrumbs in Route List

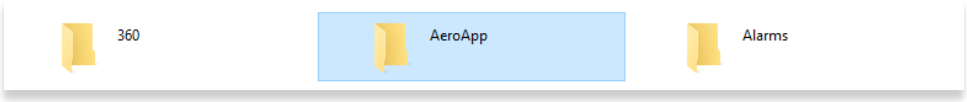
1. Export Breadcrumbs to Route List.
2. The **Export to Route List** popup will display.
3. Users will be prompted to name their route name. Enter the desired name then tap **Save**.
4. To view your saved route, tap the **Route Tab**.
5. Tap **Route**.
6. Tap **Actions** from the side menu.
7. Select **Load** and locate the route in which you would like to load into your Route Panel.



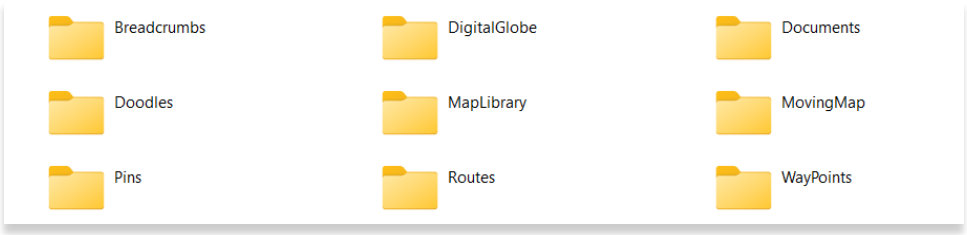
14.3.1.7.3 View Breadcrumbs in SQLite File

Aero App enables users to view Breadcrumbs in SQLite File. A database viewer is required to view Breadcrumbs in SQLite file.

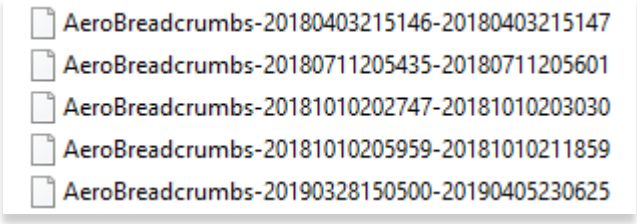
1. Export Breadcrumbs to SQLite Database.
2. Connect your Android tablet to a USB or USB-C port of a Mac or Windows computer.
3. Once your device is connected, open **File Explorer** and navigate to **Devices and drives** to locate your Android tablet.
4. Double-click on the **Tablet** icon to open Internal storage.
5. Double-click on **Aero App**.



6. Double-click on **Breadcrumbs**.



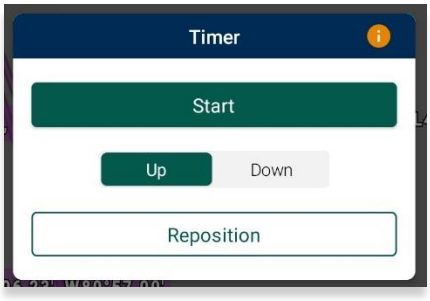
7. Your exported breadcrumbs will be listed.



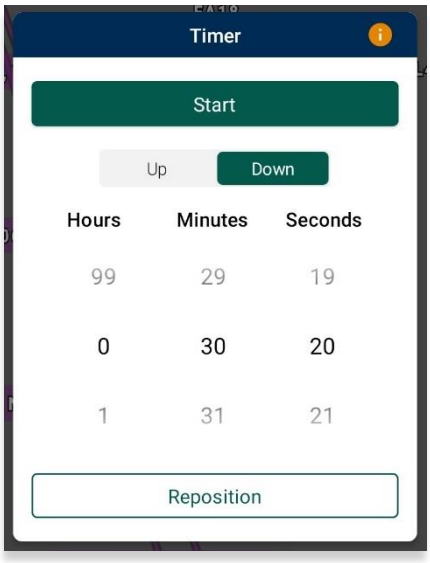
14.3.2 Timer

The Timer feature is a general use chronometer that can be utilized to time flights or any other activity.

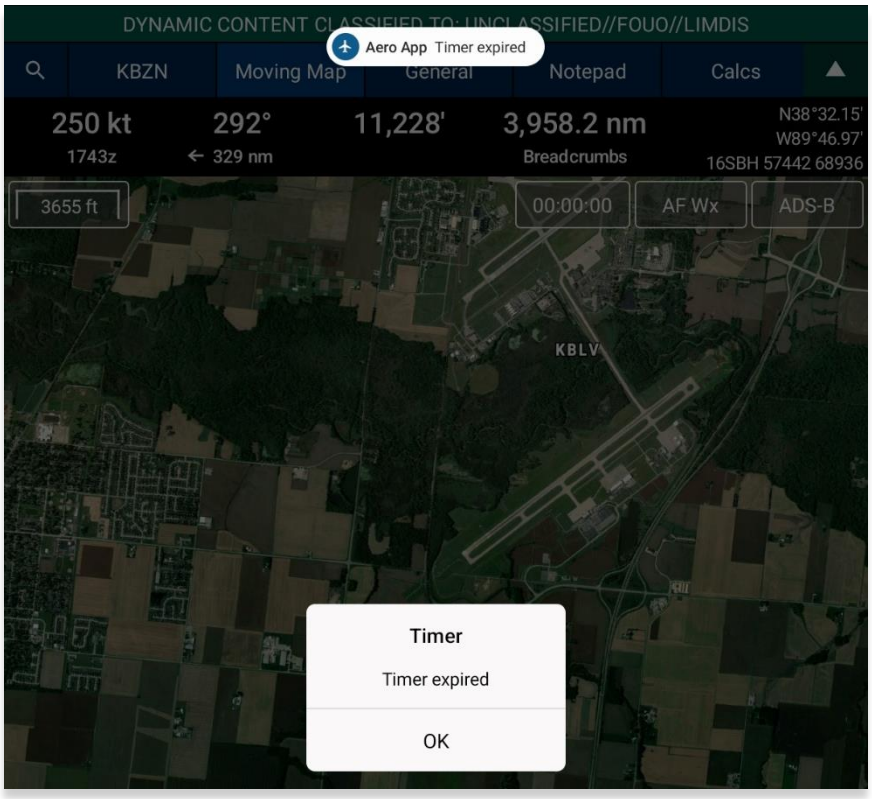
1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Timer** located at the upper-right corner of the screen. The timer menu will display.
3. The Timer has two modes:
    - **Count Up** – Starts the timer at zero then begins counting.
    - **Count Down** – Timer counts down based on the selected hours, minutes, and seconds the timer was set to.
4. By default, *Count Up* mode is selected. Tap **Start** to begin the timer.



5. To count down, tap to select or slide the segmented control to Count **Down** mode.
6. Adjust the timer's ***Hours***, ***Minutes***, and ***Seconds*** to desired duration.
7. Tap **Start** to begin the timer.



8. The Timer box switches between the following colors to indicate the time remaining on the timer:
    - **Green** – If input is greater than 1 minute
    - **Yellow** –Timer box will start flashing yellow with 1 minute remaining on the timer.
    - **Orange** – Timer box will start flashing orange with 30 seconds remaining on the timer.
    - **Red** – Timer box will start flashing red with 10 seconds remaining on the timer.
9. An alert will appear on the screen once the timer is completed. If the device is locked, a notification will display in the device notification bar.



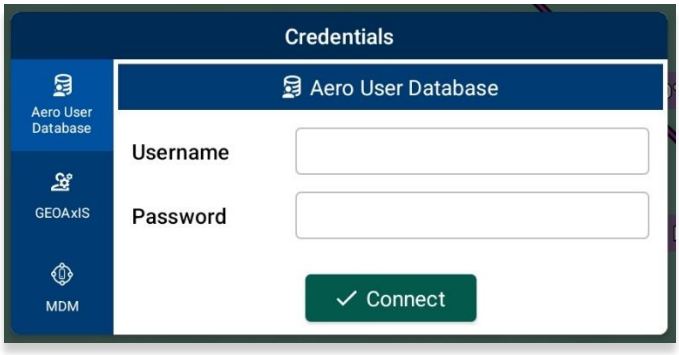
10. To force the timer to end, tap **Stop**.
11. Tap **Reset** to restart timer.

NOTE: Tap **Reposition** to move the Timer button from the current position to below the ADS-B button.

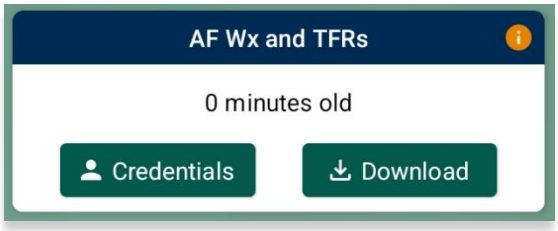
14.3.3 Air Force Weather (AF Wx)

Air Force Weather (AF Wx) displays METARs and TAFs in Aero App. This information can be viewed from an ICAO on the Moving Map, Route panel, and Wx tab. Air Force Weather data is only available to DOD crews and select partners.

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **AF Wx** located at the upper-right corner of the ***Moving Map***.
3. The AF Wx and TFRs popup will display. Tap **Credentials**.
4. Select desired credentials to authenticate using any of the following options:
    a. Aero User Database
    b. GEOAxIS
    c. MDM



5. Tap **Connect** when done.
6. The AF Wx and TFRs popup will display the currency of the weather.
7. Tap **Download** to retrieve the latest Air Force Weather data.



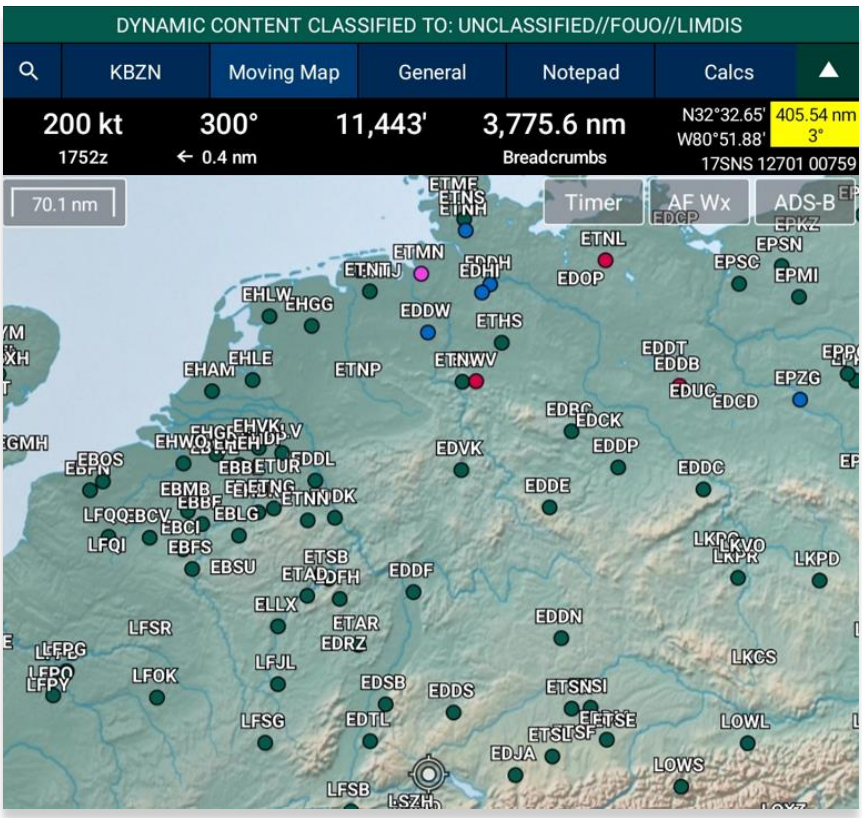
NOTE: Credentials will be cleared when the user closes Aero App.

NOTE: Air Force Weather (AF Wx) is only available via internet. However, if ADS-B weather information becomes available; whichever source has the latest data will show as the current weather.

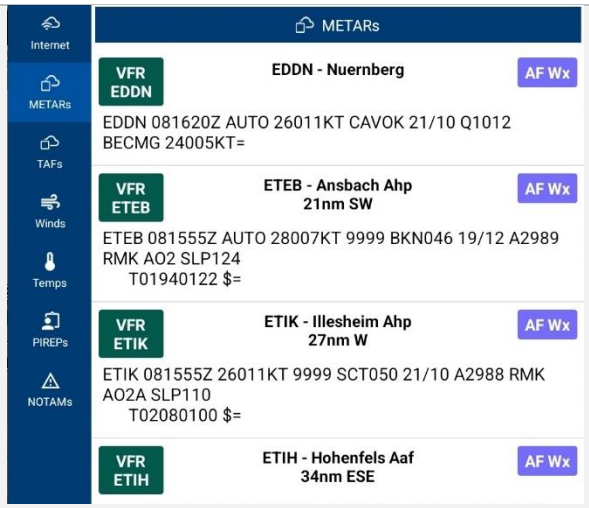
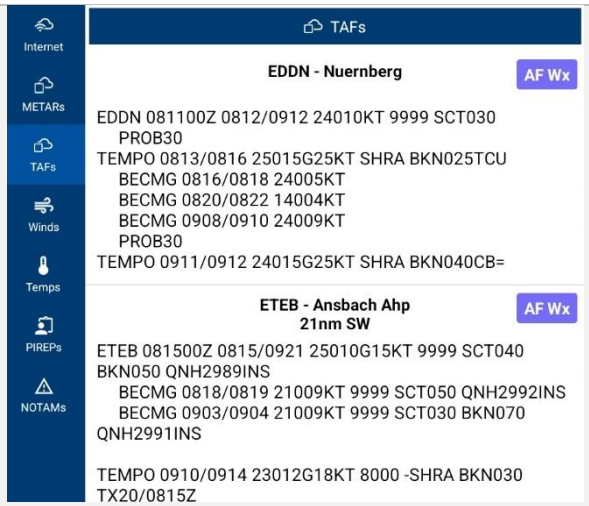
14.3.3.1 Air Force Weather (AF Wx) on the Moving Map

Air Force Weather can be viewed on the Moving Map. Once the METARs option is enabled, different color dots that indicate airport flight rules will populate on the Moving Map. Additional Air Force weather information can be viewed from the Wx menu as explained below.

1. Tap the **Options** tab on the ***Moving Map***.
2. Select **Weather** from the side menu.
3. Tap **METARs** to enable the option. The different color dots depict the airport flight rules for their designated airport which are populated on the Moving Map once enabled.
4. The different color dots indicate the following airport flight rules:
    - **Green**: VFR
    - **Blue**: MVFR
    - **Red**: IFR
    - **Magenta**: LIFR



5. Additional Air Force weather information can be viewed by tapping an ICAO from the Moving Map. Tap an **ICAO** from the map.
6. The Moving Map popup will appear. Tap **Show** from the side menu.
7. Select **Info and Wx**.
8. The airport information will be displayed. Swipe the menus to the left to view additional airport menus. Tap **Wx**.
9. Select **METARs** from the side menu to display METAR data that includes AF Wx.
10. Select **TAFs** from the side menu to display TAF data that includes AF Wx.

METARs	TAFs
	

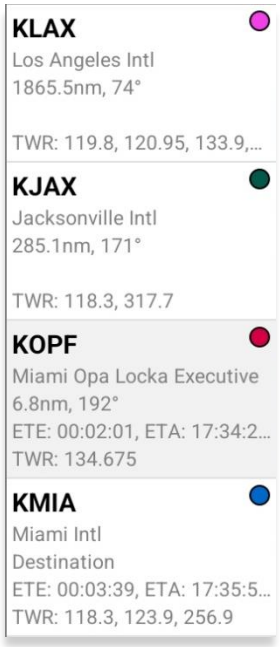
NOTE: METAR information on the Moving Map expires 3 hours after becoming available.

NOTE: Air Force Weather information can be viewed directly from the Active Point menu. Refer to Section 14.3.3.3 for additional information.

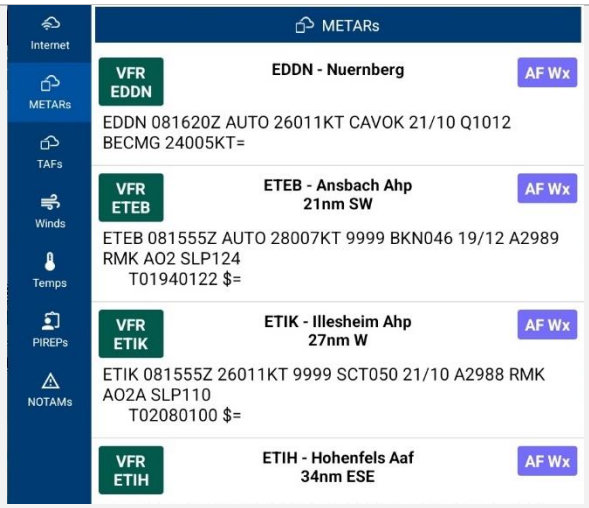
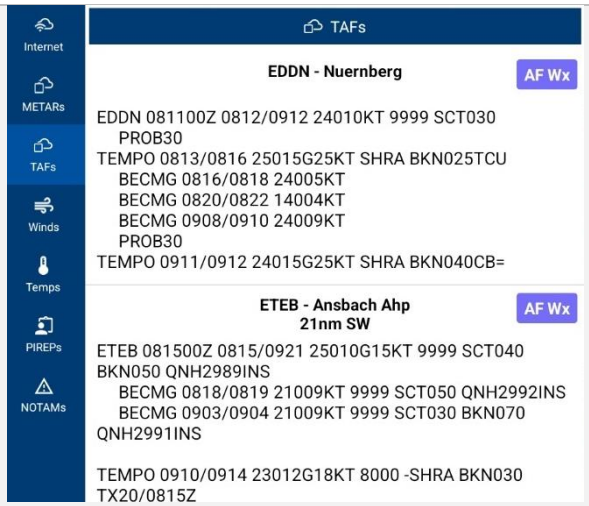
14.3.3.2 Air Force Weather (AF Wx) on the Route Panel

Air Force weather can be viewed on the Route Panel. Additional Air Force weather information can be viewed from the Wx menu as explained below.

1. Tap the **Options** tab on the ***Moving Map***.
2. Select **Weather** from the side menu.
3. Tap **METARs** to enable the option. The different color dots depict the airport flight rules for their designated airport which is populated on the Route Panel once enabled.
4. Tap the **Route Tab** to expand the **Route Panel**.
5. METAR information will be displayed for each ICAO on your route.
6. The different color dot indicates the airport flight rules:
    - **Green**: VFR
    - **Blue**: MVFR
    - **Red**: IFR
    - **Magenta**: LIFR



7. Additional Air Force weather information can be viewed by tapping an ICAO from the Route Panel. Tap an **ICAO** from the Route Panel.
8. The Moving Map popup will appear. Tap **Show** from the side menu.
9. Select **Info and Wx**.
10. The airport information will be displayed. Swipe the menus to the left to view additional airport menus. Tap **Wx**.
11. Select **METARs** from the side menu to display METAR data that includes AF Wx.
12. Select **TAFs** from the side menu to display TAF data that includes AF Wx.

METARs	TAFs
	

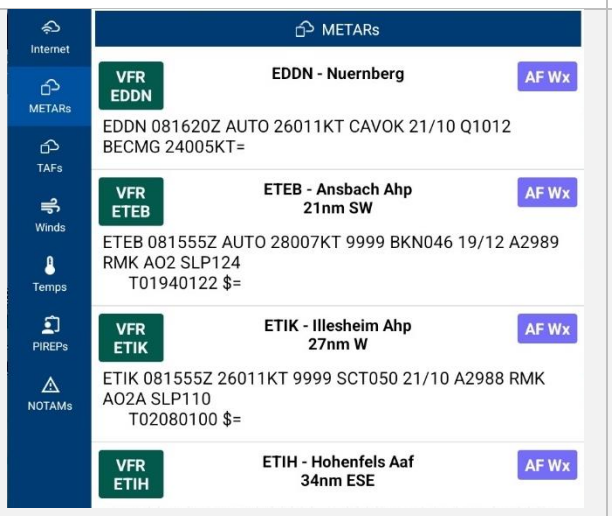
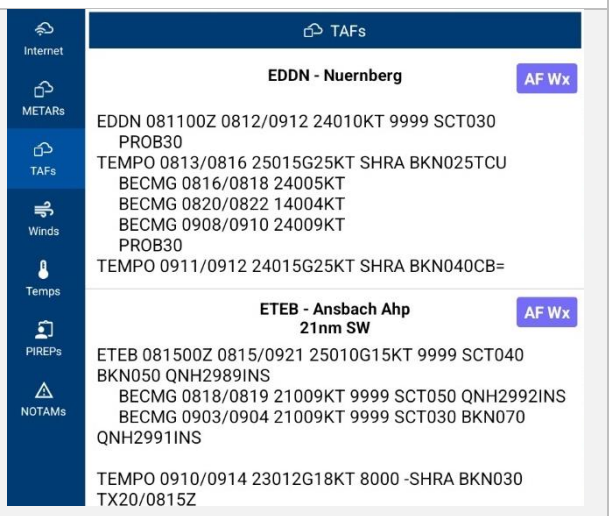
NOTE: METAR information on the Moving Map expires 3 hours after becoming available.

NOTE: Air Force Weather information can be viewed directly from the Active Point menu. Refer to Section 14.3.3.3 for additional information.

14.3.3.3 Air Force Weather (AF Wx) Information on the Wx Menu

Air Force weather information can be viewed by accessing the Wx menu for the Active Point, or by selecting Info and Wx for an ICAO on the Moving Map or the Route Panel.

1. Tap the **Active Point** on the ***Main Menu***.
2. Tap **Weather (Wx)** on the ***Secondary Menu***.
3. The following options to view AF Wx information will be available to users:
    - METARs
    - TAFs

METARs	TAFs
	

NOTE: Air Force Weather is only available via the internet. However, if ADS-B weather information becomes available; whichever source has the latest data will show as the current weather.

NOTE: METAR information on the Wx tab expires 3 hours after becoming available. TAF information on the Wx tab expires 12 hours after becoming available.

14.3.4 Automatic Dependent Surveillance – Broadcast (ADS-B)

The user's ownship has an Automatic Dependent Surveillance—Broadcast receiver. The ADS-B tool receives NEXRAD, METARs, TAFs, and other textual data as well as ownship location. For non-proprietary ADS-B and GPS receiver compatibility with Aero App, refer to this link: ADS-B/GPS Compatibility List.

14.3.4.1 Connecting to ADS-B Receiver via Wi-Fi

To establish a connection with an ADS-B receiver via Wi-Fi, you must ensure to connect your Wi-Fi network to the receiver.

1. Open the Android device settings app and select **Connections**.
2. Tap on **Wi-Fi**.
3. Search and tap the ADS-B receiver in the *Available networks* section.
4. Ensure the ADS-B receiver's connection is established. For additional information, refer to Section 14.3.4.2.1.

14.3.4.2 Connecting to ADS-B Receiver via Bluetooth

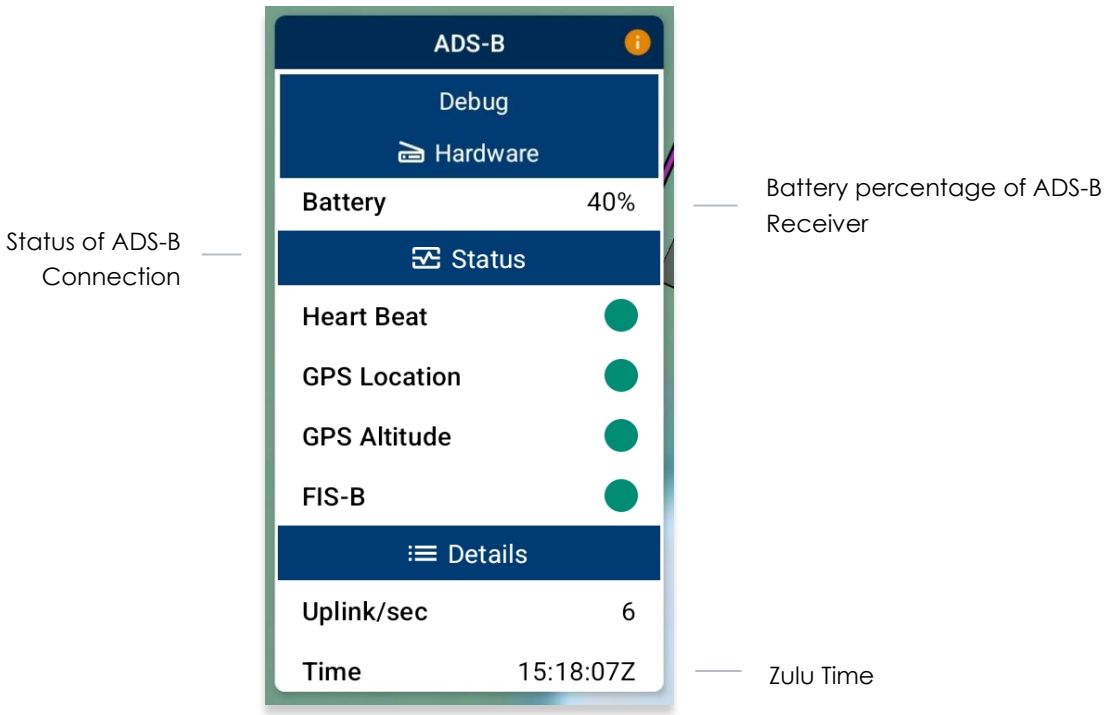
To establish a connection with an ADS-B receiver via Bluetooth, you must ensure to connect your Bluetooth to the receiver.

1. Open the Android device settings app and select **Connections**.
2. Tap on **Bluetooth**.
3. Search and tap the ADS-B receiver in the Available devices section.
4. Ensure the ADS-B receiver's connection is established. For additional information, refer to Section 14.3.4.2.1.

14.3.4.2.1 ADS-B Information

Aero App provides an ADS-B popup that includes details on ADS-B battery, connection statuses, and additional ADS-B information.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap the **ADS-B** button located at the upper-right corner of your screen.
3. The green status indicates that the ADS-B connection is established to receive the data for Heart Beat, GPS Location, GPS Altitude, and FIS-B Data. If the status displays red, then there is no connection.
   - **Battery** – displays ADS-B battery percentage.
   - **Heart Beat** – indicates the connection status of the ADS-B device.
   - **GPS Location** – indicates the connection status of the ownship's GPS location.
   - **GPS Altitude** – indicates the connection status of the ownship's GPS altitude.
   - **FIS-B** – indicates the connection status in receiving weather from FIS-B towers.
   - **Uplink/sec** – indicates the occurrence of the ADS-B data messages Aero App receives from ADS-B towers during the previous second.
   - **Time** – displays the Zulu time.



14.3.5 Maps

Maps contain a library of mutable charts stored within Aero Apps, Base Maps, DigitalGlobe (offline), Helicopter and TAC Maps, Map Library, User Geopackages, and User Maps menus.

14.3.5.1 Aero Maps

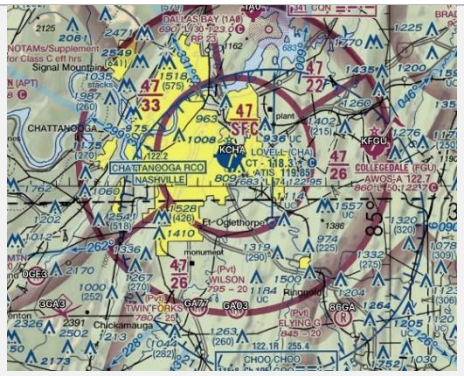
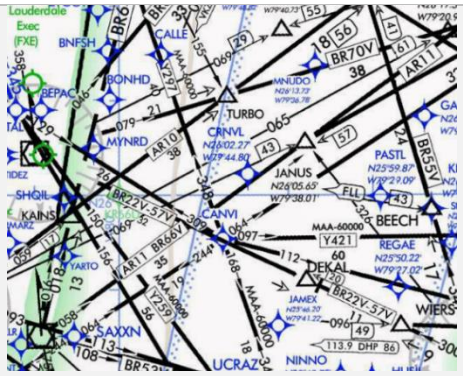
The Aero Maps section provides access to current VFR Sectionals, worldwide IFR High and Low Enroutes, DigitalGlobe (online), and Open Street Maps.

14.3.5.1.1 FAA Visual Flight Rule (VFR) Sectionals

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Aero Maps** from the side menu, if necessary.
4. Tap **FAA VFR** to enable the option. The VFR sectional will be displayed on the map.

14.3.5.1.2 Instrument Flight Rule (IFR) High Enroute

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Aero Maps** from the side menu, if necessary.
4. Tap **IFR High** to enable the option. The high-altitude IFR Enroute charts will be displayed on the map.

FAA VFR	IFR High
	

14.3.5.1.3 Instrument Flight Rule (IFR) Low Enroute

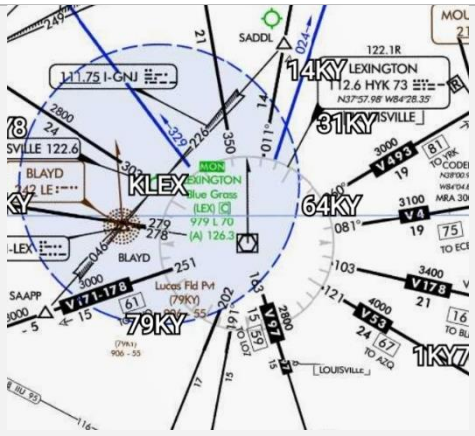
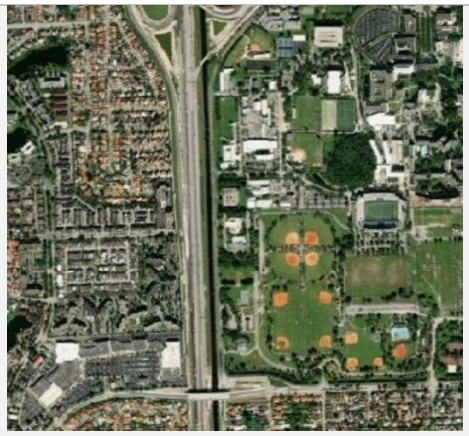
1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Aero Maps** from the side menu, if necessary.
4. Tap **IFR Low** to enable the option. The low-altitude IFR Enroute charts will be displayed on the map.

14.3.5.1.4 DigitalGlobe (online)

DigitalGlobe (online) requires internet connection.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Aero Maps** from the side menu, if necessary.
4. Tap **DigitalGlobe (online)** to enable the option. A satellite imagery will be displayed on the map.

NOTE: Users with GEOAxIS and specific partners with Aero User Database credentials can access DigitalGlobe (online). Credentials will be cleared when users close Aero App.

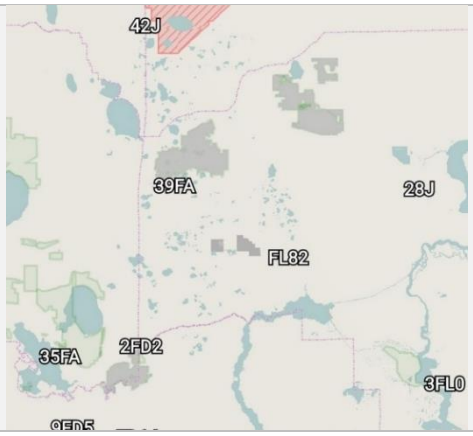
IFR Low	DigitalGlobe (online)
	

14.3.5.1.5 Open Street Maps

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Aero Maps** from the side menu, if necessary.
4. Tap **Open Street Maps** to enable the option. The open street maps will overlay on the map.

NOTE: Open Street Maps requires Internet usage.

Open Street Maps



14.3.5.2 Base Map

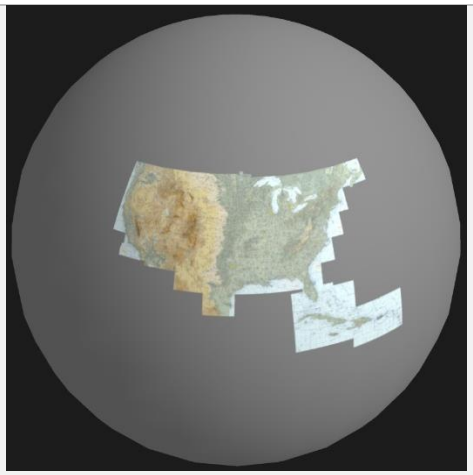
The Base Map provides worldwide Earth and Gray Base maps to choose from.

14.3.5.2.1 Earth Base Map

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Base Map** from the side menu.
4. Tap **Earth** to enable the option. The earth base map will display.

14.3.5.2.2 Gray Base Map

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Base Map** from the side menu.
4. Tap **Gray** to enable the option. The gray base map will display.

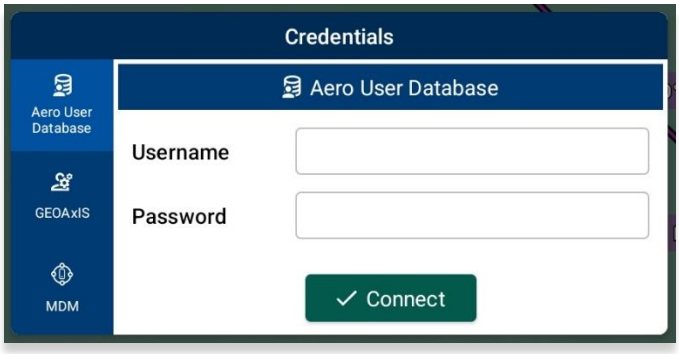
Earth	Gray
	

14.3.5.3 DigitalGlobe (offline)

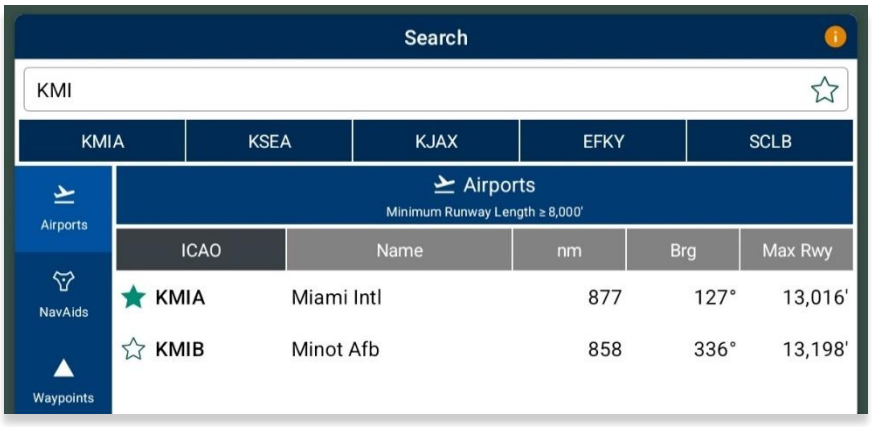
Aero App enables users to display cached images on the Moving Map. The DigitalGlobe (offline) option is available to select government foreign partners. DigitalGlobe (offline) requires internet connection when downloading cached images. Internet connection is not required when displaying the downloaded images.

14.3.5.3.1 DigitalGlobe (offline)

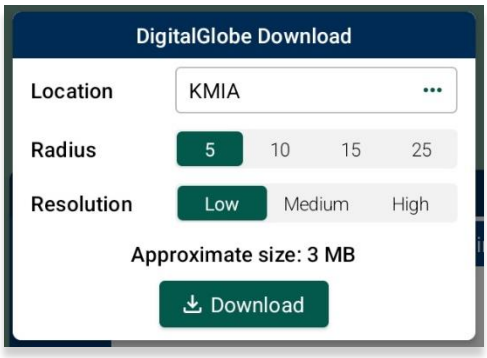
1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **DigitalGlobe (offline)** from the side menu.
4. Tap **Download.**
5. The credentials popup will display. Log in using Aero User Database or GEOAxIS credentials or set up your device with Mobile Device Management (MDM).



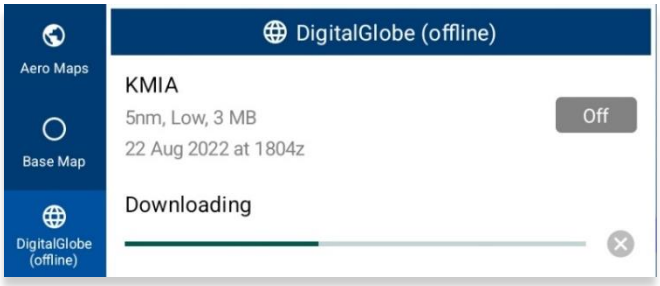
6. The DigitalGlobe Download popup will display the following parameters:
    - **Location** – Tap the ellipsis button to display the Search popup. Enter Airport, NavAid, Waypoint, User Waypoint, or Pin inside the text box. Radial Off NavAid, GARS, MGRS and all other identifiers will be converted to coordinates. Alternatively, users can manually enter the identifier name in the provided text box.



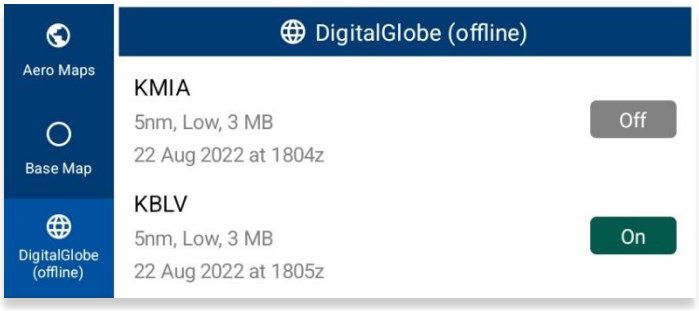
- **Radius** – Select from options 5, 10, 15, 25.
- **Resolution** – Select from options Low, Medium, High.



7. Once all fields have been filled, tap **Download** and the cached image will begin to download.



8. Downloaded files will be listed below the DigitalGlobe (offline) section.



9. Select desired file to display on the Moving Map.

DigitalGlobe

14.3.5.4 Helicopter and Terminal Area Chart (TAC) Maps

Helicopter and Terminal Area Chart (TAC) Maps provide access to Helicopter (Gulf Coast), Helicopter (Routes), and Terminal Area Charts (TACs) to overlay on the Moving Map.

14.3.5.4.1 Helicopter (Gulf Coast)

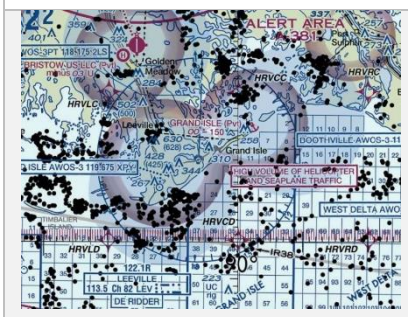
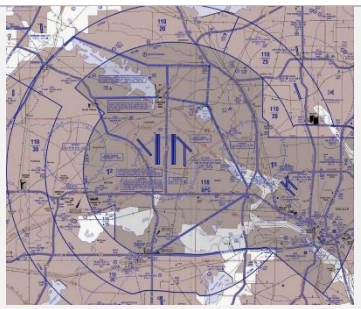
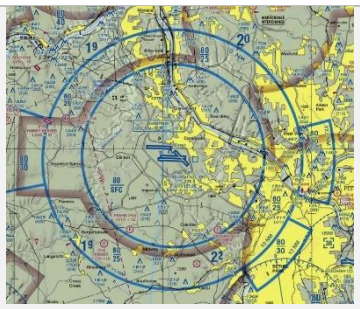
1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Helicopter and TAC Maps** from the side menu.
4. Tap **Helicopter (Gulf Coast)** to enable the option. The gulf coast chart will overlay on the map.

14.3.5.4.2 Helicopter (Routes)

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Helicopter and TAC Maps** from the side menu.
4. Tap **Helicopter (Routes)** to enable the option. The helicopter chart will overlay the map.

14.3.5.4.3 Terminal Area Charts (TACs)

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Helicopter and TAC Maps** from the side menu.
4. Tap **TACs** to enable the option. The terminal area chart will overlay on the map.

Helicopter (Gulf Coast)	Helicopter (Routes)	TACs
		

14.3.5.5 Map Library

The Map Library section provides users the option to download Map Library charts as well as the ability to overlay charts on the Moving Map. Map Library includes maps for emergencies, NavPlan charts, range charts, and others. The Aero App team is the distributor of these charts.

14.3.5.5.1 Map Library

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **Map Library** from the side menu.
4. The files are grouped by categories, tap on the desired folders to expand, or collapse to reveal or hide files.
5. Tap desired **Map** and the chart will overlay on the map.

NOTE: Users must have Map Library charts loaded to view desired map to overlay on the Moving Map. To download Map Library charts, refer to Section 9.2.1.1.

NOTE: Map Library charts can be deleted from File Manager or from the Maps popup in the Moving Map by swiping left and tapping the **Delete** button.

Map Library

14.3.5.6 User GeoPackages

Aero App enables users to display user GeoPackages on the Moving Map.

14.3.5.6.1 User GeoPackages

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **User GeoPackages** from the side menu.
4. The files are grouped by categories, tap on the desired folders to expand, or collapse to reveal or hide files.
5. Select desired file(s) and the overlay will display on the Moving Map.

NOTE: Refer to Section 10.4 for additional information on sideloading GeoPackages.

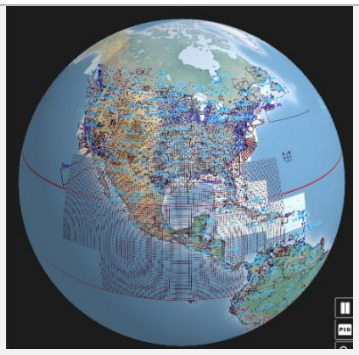
14.3.5.7 User Maps

Aero App enables users to display user maps on the Moving Map.

14.3.5.7.1 User Maps

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Maps** located at the bottom of the Moving Map.
3. Select **User Maps** from the side menu.
4. The loaded files will display under User Maps.
5. Enable desired file(s) and the overlay will display on the Moving Map.

NOTE: Refer to Section 10.3 for information on sideloading User Maps.

User GeoPackages	User Maps
	

14.3.6 Overlays

Aero App provides users with several overlays to display on the Moving Map. This section will explain how to utilize every overlay on the Moving Map.

14.3.6.1 Aero App Overlays

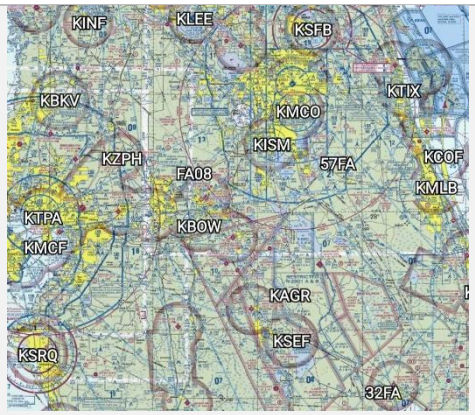
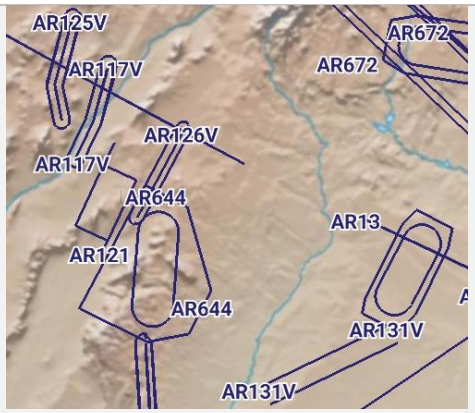
Aero App Overlays include various options that enable pilots to customize map display.

14.3.6.1.1 Airports

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Airports** to enable the option. ICAO codes will populate on the map for each respective airport.

14.3.6.1.2 Air Refueling Routes

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Air Refueling Routes** to enable the option. Air refueling routes will populate on the map.
5. By tapping on the AR labels on the map, a popup will appear with additional information.

Airports	Air Refueling Routes
	

14.3.6.1.3 Airspaces (B, C, D)

1. Tap **Moving Map** on ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Airspaces (B, C, D)** to enable the option. The airspace classes will populate on the map.
5. By tapping on the Airspaces (B, C, D), a popup will appear with additional information.

14.3.6.1.4 Airways – Low

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for ***Airways*** to **Low.** The low-altitude airways that are below 18,000 ft will populate on the map.

14.3.6.1.5 Airways – High

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for ***Airways*** to **High.** The high-altitude airways that are between 18,000 ft and 45,000 ft will populate on the map.

NOTE: Refer to Section 14.3.14.1.2 on how to add Airways to route.

Airspaces (B, C, D)	Airways – Low	Airways – High

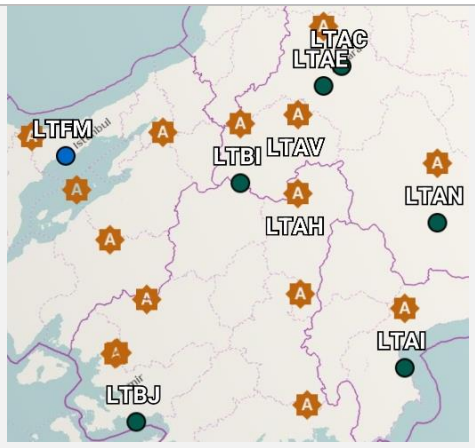
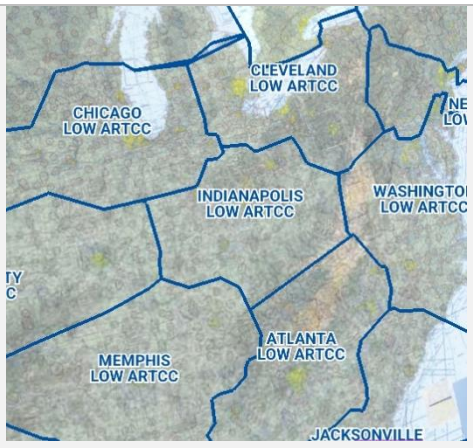
14.3.6.1.6 Arresting Gear

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Arresting Gear** to enable the option. Arresting gear will populate on the map.
5. By tapping the arresting gear icon, a popup will display with the appropriate identifier, arresting gear information such as absorbing system, engagement type, and command.

14.3.6.1.7 Air Route Traffic Control Centers (ARTCCs) – Low

Air Route Traffic Control Centers (ARTCCs) low and high, is primarily to provide air traffic service for pilots that are operating on an IFR flight plan.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for *ARTCCs* to **Low.** The map will overlay regions of low ARTCCs.

Arresting Gear	ARTCCs – Low
	

14.3.6.1.8 Air Route Traffic Control Centers (ARTCCs) – High

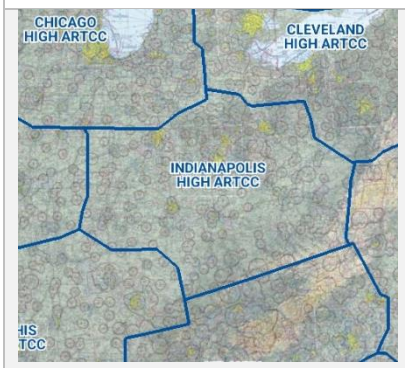
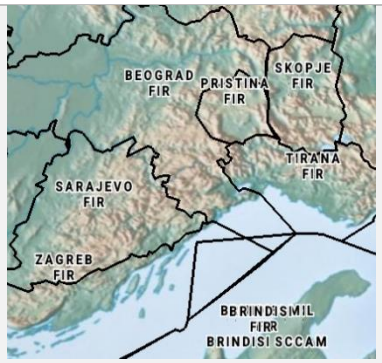
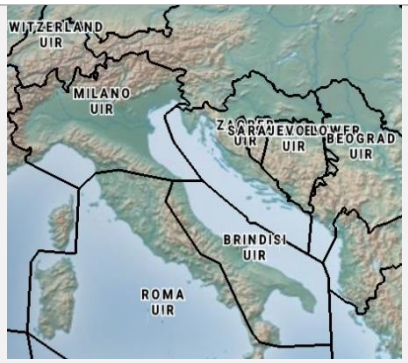
1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for *ARTCCs* to **High**. The map will overlay regions of high ARTCCs.

14.3.6.1.9 Flight Information Region (FIR)

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control to **FIR**. The map will be divided into specified regions of airspace.
5. By tapping on one of the *regions*, a popup will appear with flight information services.

14.3.6.1.10 Upper Flight Information Region (UIR)

1. Tap **Moving Map** on the ***Main menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control to **UIR.** The map will be divided into specified regions of airspace.
5. By tapping on one of the regions, a popup will appear with upper flight information services.

ARTCCs – High	FIR	UIR
		

14.3.6.1.11 Hazards

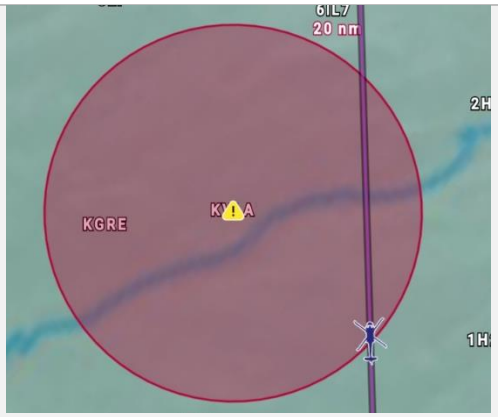
Hazards are marked locations on the Moving Map that were dropped by users. This option must be enabled to view dropped hazards. If no hazards were dropped, refer to Section 14.3.13.1.4 for additional information.

1. Tap **Moving Map** in the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Hazards** to enable the option. Dropped Hazards will populate on the map.

14.3.6.1.12 International Boundaries

International Boundaries delineate the space between sovereign states.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **International Boundaries** to enable the option. Divisions of the sovereign states will overlay on the map.

Hazards	International Boundaries
	

14.3.6.1.13 Military Training Routes (MTRs) Instrument Route (IR)

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for **MTRs** to **IR**. Instrument military training routes will populate on map.
5. By tapping on an identifier, a popup will appear with additional information.

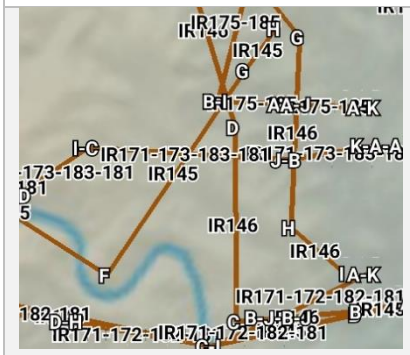
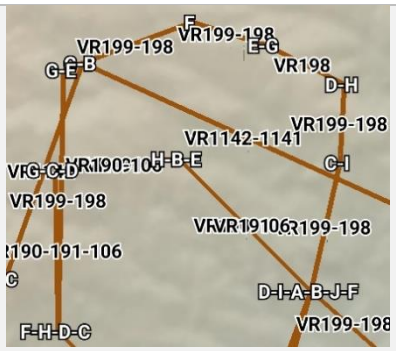
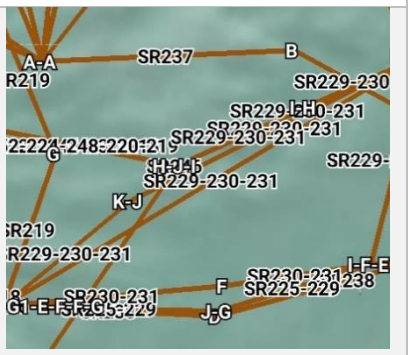
14.3.6.1.14 Military Training Routes (MTRs) Visual Route (VR)

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for **MTRs** to **VR**. Visual military training routes will populate the map.
5. By tapping on an identifier, a popup will appear with additional information.

14.3.6.1.15 Military Training Routes (MTRs) Slow Speed Route (SR)

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for **MTRs** to **SR**. Slow speed military training routes will populate on the map.
5. By tapping on an identifier, a popup will appear with additional information.

NOTE: Refer to Section 14.3.14.1.1 on how to add MTRs to route.

MTRs – IR	MTRs – VR	MTRs – SR
		

14.3.6.1.16 Pins

Pins are marked locations on the Moving Map that were dropped by users. The Pins overlay is exclusive to Avoidance Point, Emergency Marker, Landmark, and Pin. This option must be enabled to view dropped pins. If no pins were dropped, refer to Section 14.3.13.1.3 for additional information.

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Pins** to enable the option. Dropped pins will populate on the map.

14.3.6.1.17 Place Names

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Place Names** to enable the option. Town and country names will populate on the map.

Pins	Place Names

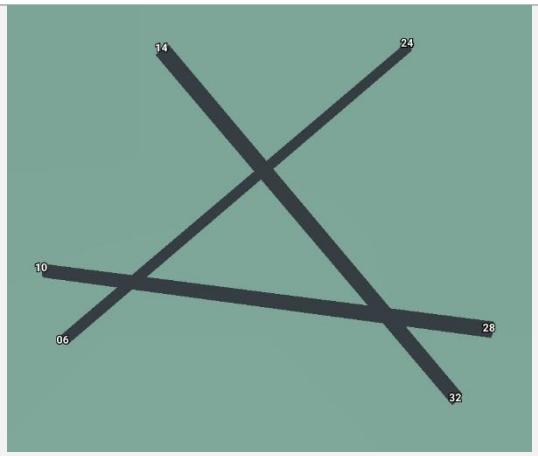
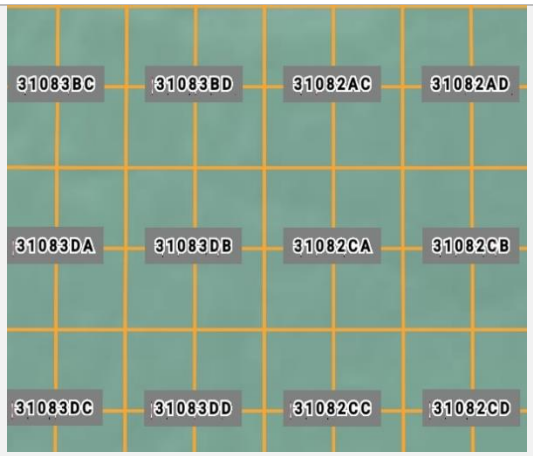
14.3.6.1.18 Runways

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Runways** to enable the option. Runways will populate on the map.

14.3.6.1.19 Search and Rescue (SAR) Grids

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **SAR Grids** to enable the option. World-wide SAR grids will overlay on the map.

NOTE: If SAR grids have been enabled but are not displaying, try zooming in on the Moving Map screen to view the grids.

Runways	SAR Grids
	

14.3.6.1.20 Special Use Airspaces (SUAs)

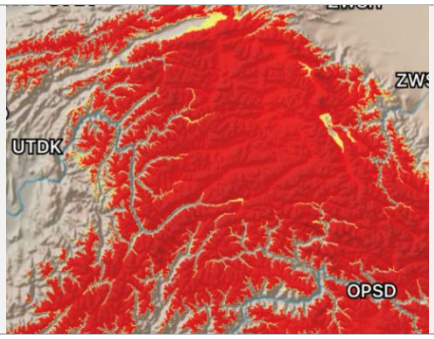
1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap to select or slide the segmented control for **SUAs** to **On**. Special airspaces will be displayed on the map.
5. Tap to select or slide the segmented control to **+Labels** to display labels on special use airspaces.
6. By tapping the labels on the overlays, a popup will appear with additional information.

14.3.6.1.21 Terrain

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Terrain** to enable the option. Terrain coloring will overlay on the map.
5. The overlay will display red and yellow coloring which depicts the proximity of the pilot's ownship relative to terrain. The different colors indicate the following:
    - **Red**: Ownship is less than or equal to 100 feet above terrain
    - **Yellow**: Ownship is 100 to 1,000 feet above terrain
6. By default, the transparency is set to 100%. Drag the slider to adjust the route transparency to any value between 20% to 100%.

NOTE: Terrain Coloring data must be loaded to view the Terrain overlay. Refer to Section 8.1.13 for additional information.

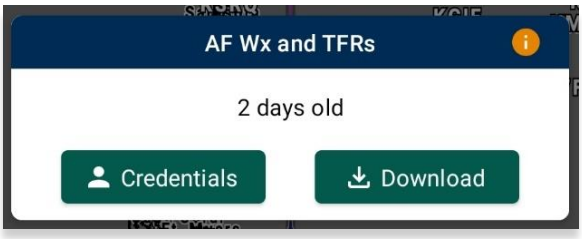
NOTE: The elevation of the water is the water's true elevation, therefore, the terrain coloring for water will range from red to yellow depending on the ownship's altitude.

SUAs	Terrain
	

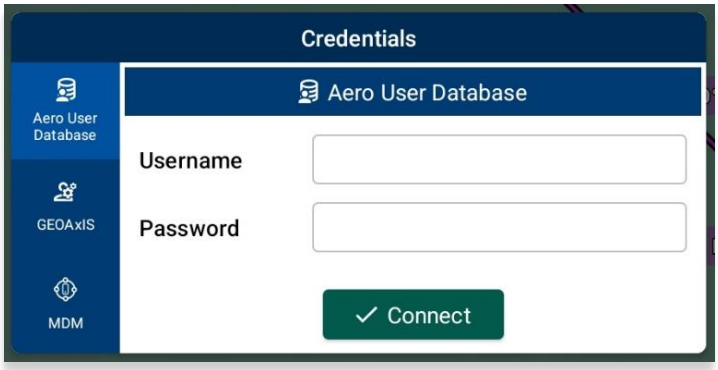
14.3.6.1.22 View Temporary Flight Restrictions (TFRs) from the Moving Map

Temporary Flight Restrictions (TFRs) can be overlaid on the Moving Map. By tapping on a TFR overlay, the TFR textual data will display for that specific TFR selection.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **TFRs** to enable the option.
5. Exit from the Overlays popup and navigate to the AF Wx button on the Moving Map.
6. The AF Wx and TFRs popup will display. Select **Credentials**.

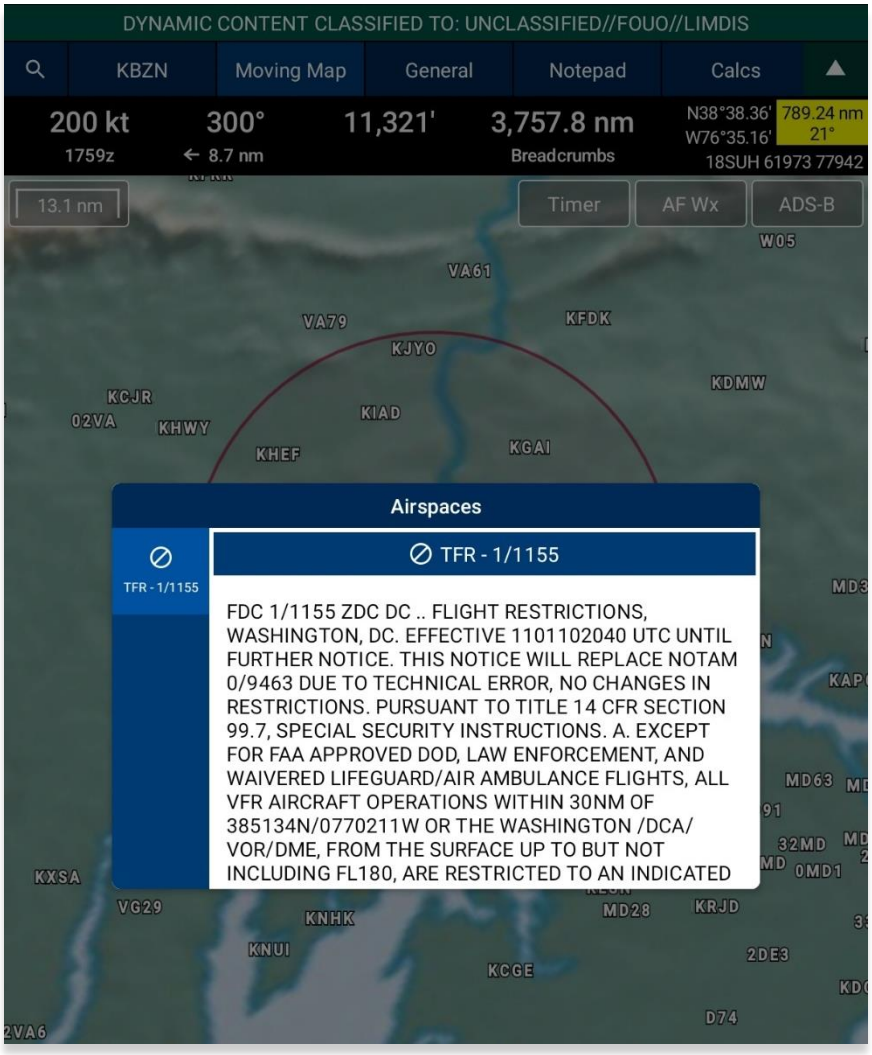


8. Select desired credentials to authenticate using any of the following options:
    a. Aero User Database
    b. GEOAxIS
    c. MDM



NOTE: Alternatively, users can display textual TFR data by tapping the details button on the Overlays menu. Refer to Section 14.3.6.1.21.1 for additional information.

9. Tap **Connect** when done.
10. The TFRs will populate on the Moving Map.
11. Tap on a TFR to display TFR information.



NOTE: In the case where a TFR overlaps another TFR, a Which One popup will appear to confirm selection.

14.3.6.1.22.1 View Temporary Flight Restrictions (TFRs) from the Overlays Menu

Textual Temporary Flight Restrictions (TFRs) can be viewed from the Overlays Menu. TFRs including presidential TFRs, will be listed on the popup.

1. Prior to viewing textual TFRs, users must ensure that they are logged in using their Aero User Database or GEOAxIS credentials.
2. Navigate to **Overlays** on the Moving Map.
3. Tap **Aero Overlays**, if necessary.
4. Scroll to the bottom of the Overlays menu to view additional overlays. Locate *TFRs* and tap the **details** button beside the option.
5. The Temporary Flight Restrictions popup will display with all TFR data including presidential TFRs. Scroll down to view additional TFRs.

14.3.6.1.23 Time Zones

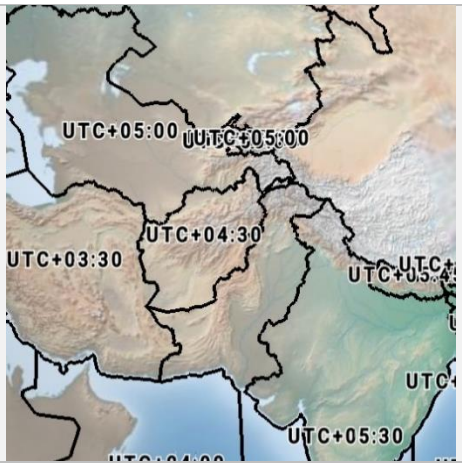
Time Zones are shown on the Moving Map with lines separating the longitudinal divisions. Labels display the time offset for each time zone.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **Time Zones** to enable the option. The map will display lines separating longitudinal divisions.

14.3.6.1.24 User Images

User Images are Photo Pins that were dropped by users. The User Images overlay is exclusive to Photo Pins. This option must be enabled to view dropped photo pins. If no pins were dropped, refer to Section 14.3.13.1.3.4 for additional information.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **User Images** to enable the option. Dropped photo pins will populate on the map.

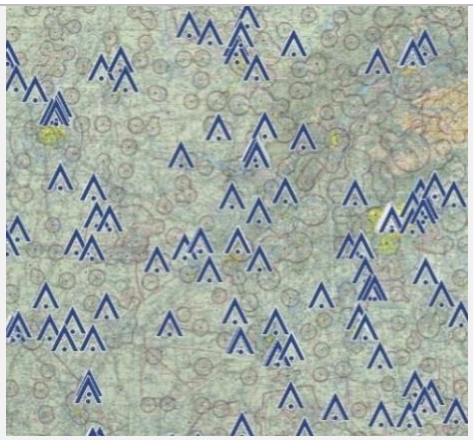
Time Zones	User Images
	

14.3.6.1.25 Vertical Obstructions (VOs)

Vertical Obstructions (VOs) will provide information including towers, buildings, and bridges at or over 150' with additional information including coordinates, AGL, and MSL.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map.
3. Select **Aero Overlays** from the side menu, if necessary.
4. Tap **VOs** to enable the option. Vertical obstructions will populate the map.
5. By tapping on an obstruction, a popup will appear with additional information for each VO.

VOs



14.3.6.2 User Overlays

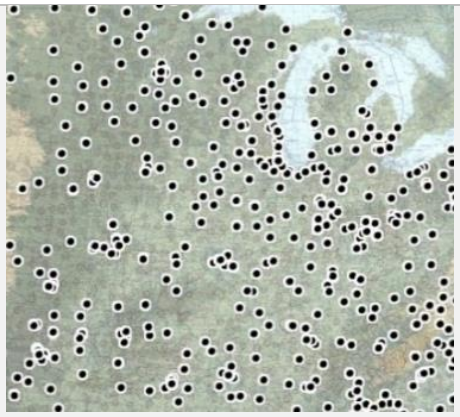
Aero App enables users to sideload User Overlays such as Shapefiles, GeoJSON, and KML/KMZ files to their Aero App directory. Refer to Section 9 for additional information. Aero App provides an additional feature to share KML/KMZ files with other users.

14.3.6.2.1 User Overlays

1. Tap **Moving Map** on ***Main Menu***.
2. Tap **Overlays** located at the bottom of the Moving Map screen.
3. Select **User Overlays** from the side menu.
4. Tap one or multiple **User Overlays** from the sideloaded Shapefiles, GeoJSON, and KML/KMZ files to load onto the map.

NOTE: Users can sideload User Overlays by connecting to a computer via USB and storing Shapefiles, GeoJSON, and/or KML/KMZ files in [mounted root]/AeroApp/MovingMaps directory.

User Overlays

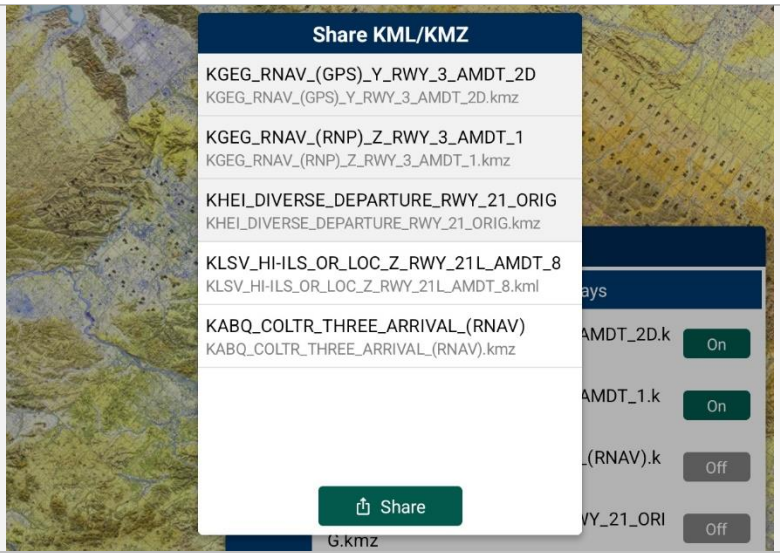


14.3.6.2.2 Share KML/KMZ

KML/KMZ files can be shared between Aero App users via Nearby Share or Email.

1. Tap **Moving Map** on ***Main Menu.***
2. Tap **Overlays** located at the bottom of the Moving Map screen.
3. Select **User Overlays** from the side menu.
4. Tap **Share** and the Share KML/KMZ popup will display.
5. Select desired **file(s)** to share then tap **Share** to display the different sharing methods.
6. Select desired **method of sharing**.
7. By selecting **Nearby Share**, the Nearby Share popup will appear with the KML/KMZ files attached. Refer to Section 14.3.6.2.2.1 for additional information.
8. By selecting **Email**, the email provider in which you have set your device to share files to, will appear with the KML/KMZ files loaded as an attachment. Refer to Section 14.3.6.2.2.3 for additional information.

Share KML/KMZ

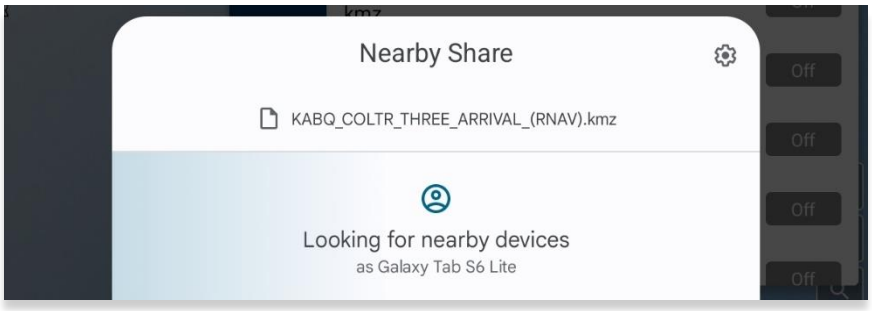


NOTE: The Share button will be disabled if no files have been selected.

14.3.6.2.2.1 Sharing KML/KMZ Files through Nearby Share

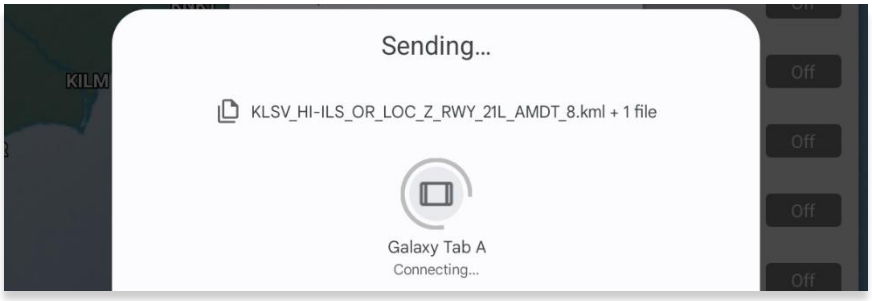
KML/KMZ files can be shared to another Android device through Nearby Share. Users must have their device's *Nearby Share settings* enabled on *both* devices prior to sharing or receiving any files.

1. On the sharing device, the Nearby Share popup will display**.** Ensure that the receiving device has their Nearby Share setting enabled to allow the sharing device to select the device in which the KML/KMZ files will be sent to.



2. Once the sharing device has located devices to share, select the device to which you would like to share the KML/KMZ files.

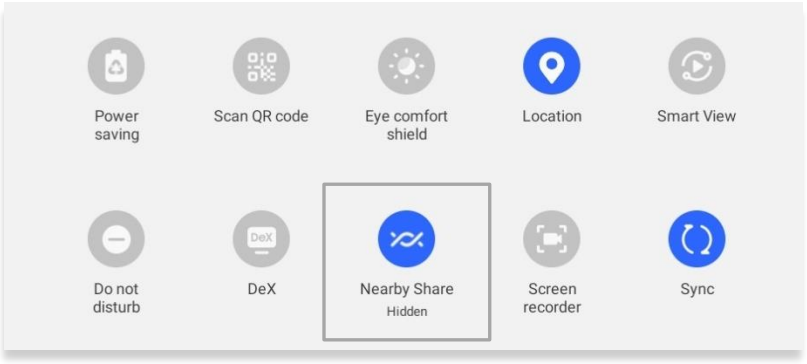
3. The sharing process will begin, and the receiving device will follow prompts to accept the files that are being shared.



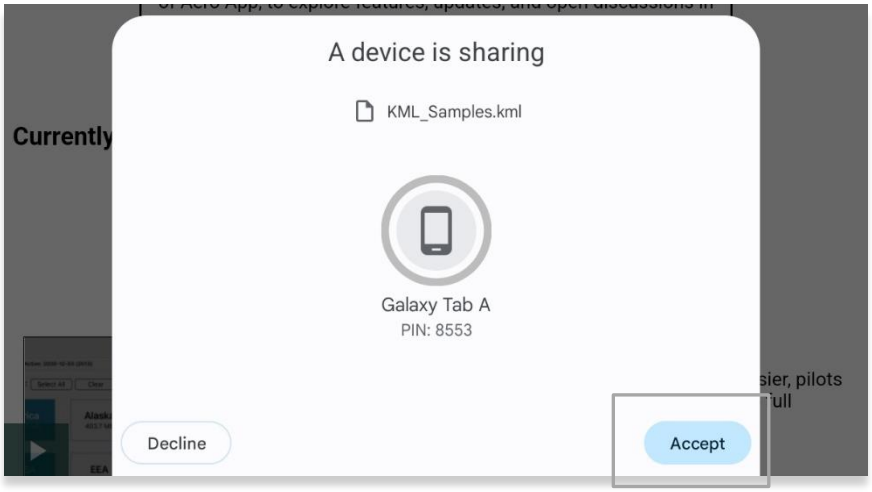
14.3.6.2.2.2 Receiving KML/KMZ Files through Nearby Share

Once the KML/KMZ files have been shared to another Android device, the receiving pilot will be able to view the files on their device. Users must have their device's *Nearby Share settings* enabled on *both* devices prior to sharing or receiving any files.

1. On the receiving device, from the top of the screen, swipe down twice and tap to activate **Nearby Share**.

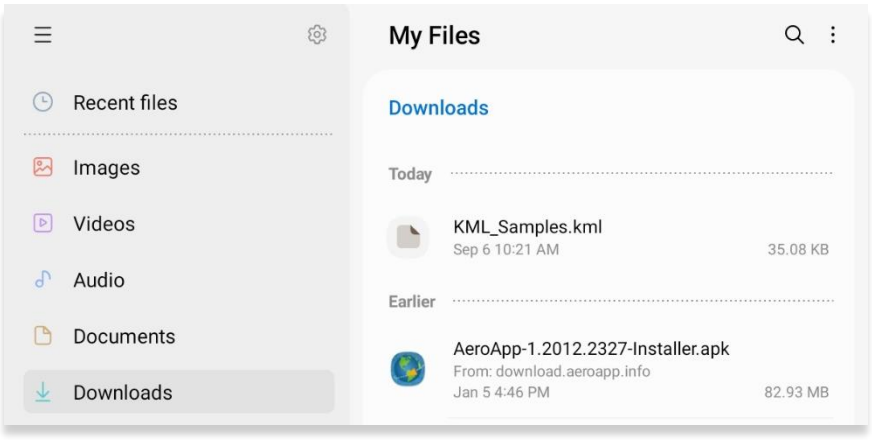


2. A Nearby Share popup will display. Once the sender shares KML/KMZ files, users will be prompted to ***Decline*** or ***Accept***. Tap **Accept**.

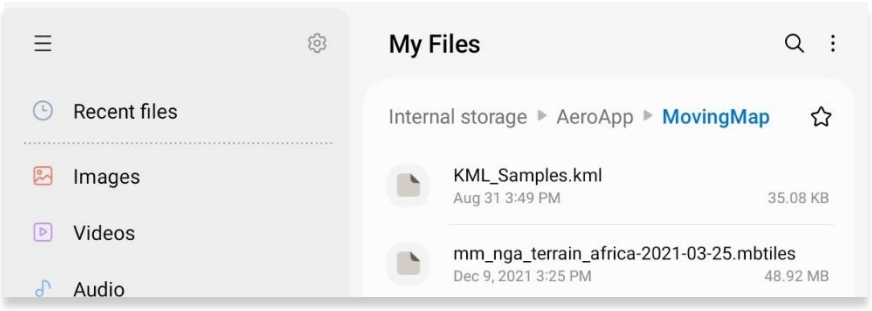


3. Once accepted, the file will be stored in the device's internal storage. Navigate to the device's **File Folder**.
4. Navigate to the ***Downloads*** folder and locate KML/KMZ file.

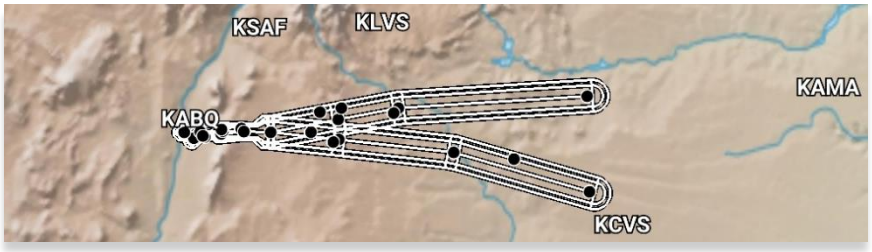
5. Copy desired KML/KMZ file.



6. Navigate to the device's **Internal Storage** and locate the ***Aero App*** folder.
7. Navigate to the ***MovingMap*** folder and paste the KML/KMZ file.



8. Open **Aero App**.
9. Navigate to the **Moving Map** from the ***Main Menu***.
10. Tap **Overlays**.
11. Tap **User Overlays** from the side menu.
12. Locate and tap to enable the KML/KMZ file from the *User Overlays* collection. The KML/LMZ file will overlay on the Moving Map.

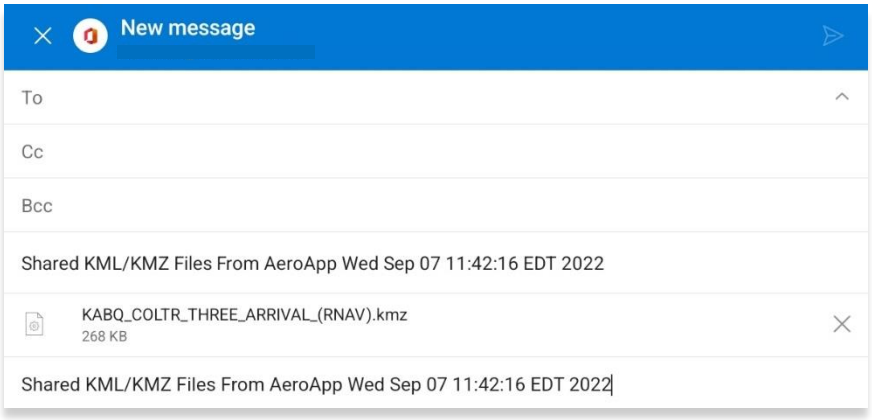


13. To delete the overlay, from the ***User Overlays*** popup, swipe left to reveal the delete button of the file that you choose to permanently remove. Tap **Delete.**

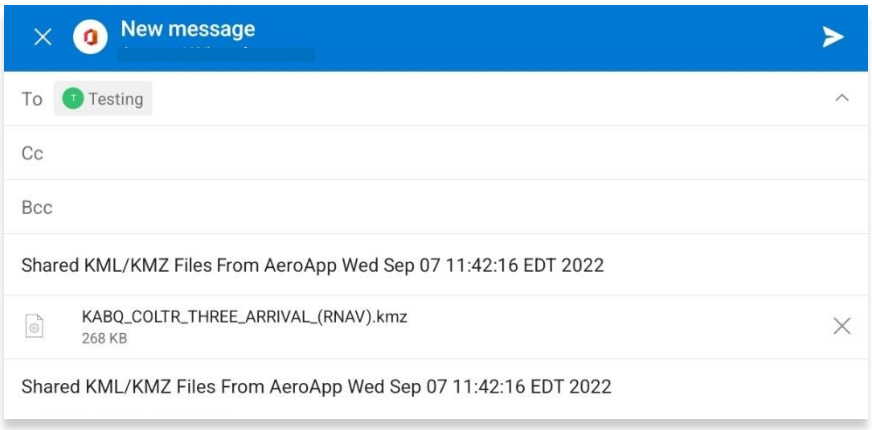
14.3.6.2.2.3 Sharing KML/KMZ Files through Email

KML/KMZ files can be shared through email. Users must set their *device setting* to their desired email provider for *both* devices prior to sharing or receiving any files.

1. On the sharing device, the email provider in which you have set your device to share files to, will display with the KML/KMZ files attached.

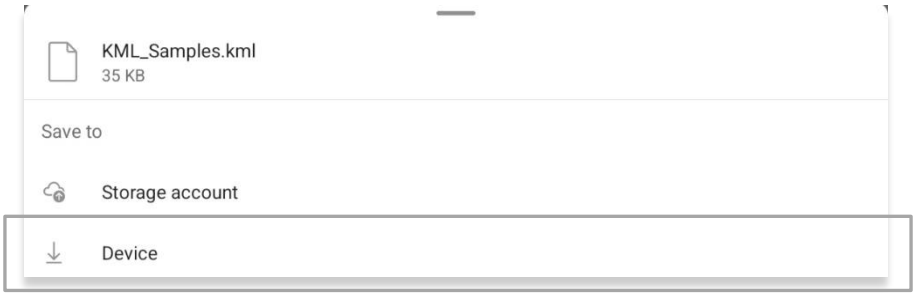


2. Enter the recipient's email address to which you would like to share the KML/KMZ files.
3. Once a valid email address has been entered, the *send button* will become selectable. Tap the **Send** button and the receiving device will follow prompts in downloading the files into their device.

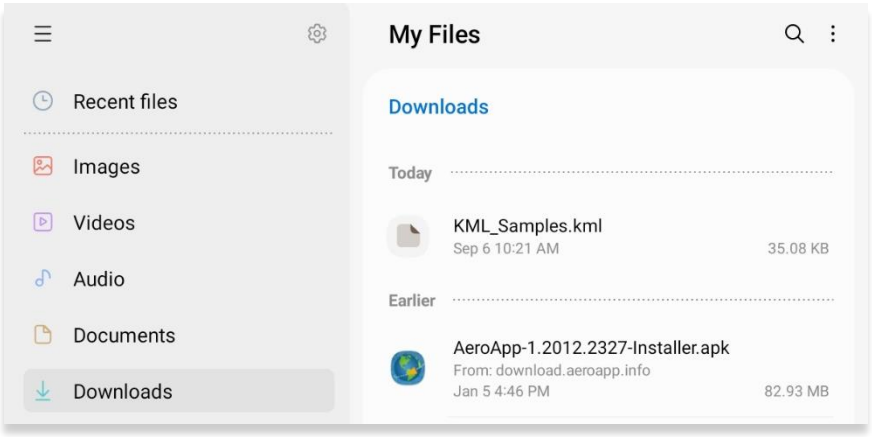


14.3.6.2.2.4 Receiving KML/KMZ Files through Email

1. On the receiving device, navigate to the email provider to which the KML/KMZ files were sent to.
2. From the email provider, tap to save the files into your device's storage.

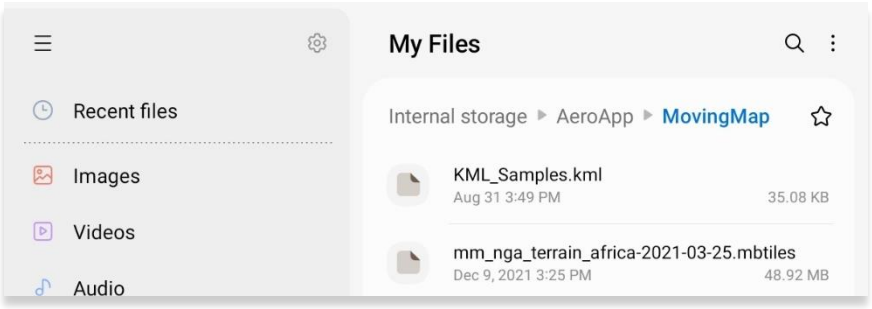


3. Once saved, navigate to the device's File Folder.
4. Navigate to the *Downloads* folder and locate KML/KMZ file.

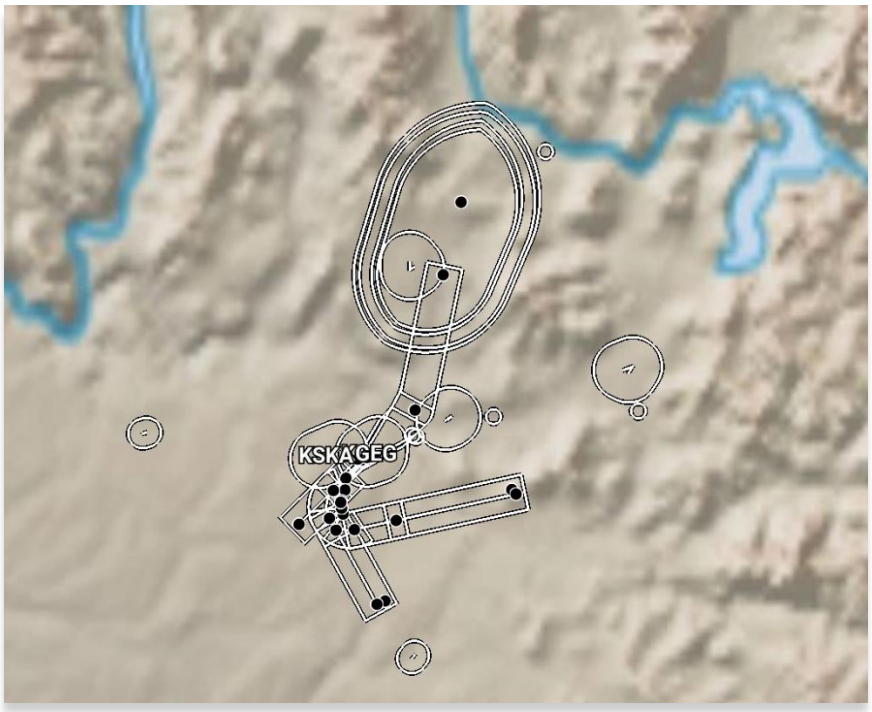


5. Copy desired KML/KMZ file.

6. Navigate to the device's **Internal Storage** and locate the ***Aero App*** folder.
7. Navigate to the ***MovingMap*** folder and paste the KML/KMZ file.



8. Open **Aero App**.
9. Navigate to the **Moving Map** from the Main Menu.
10. Tap **Overlays**.
11. Tap **User Overlays** from the side menu.
12. Locate and tap to enable the KML/KMZ file from the *User Overlays* collection. The KML/KMZ file will overlay on the Moving Map.



13. To delete the overlay, from the ***User Overlays*** popup, swipe left to reveal the delete button of the file that you choose to permanently remove. Tap **Delete.**

14.3.7 Options

The options menu provides Ownship and Location features to assist users in preflight or inflight operations.

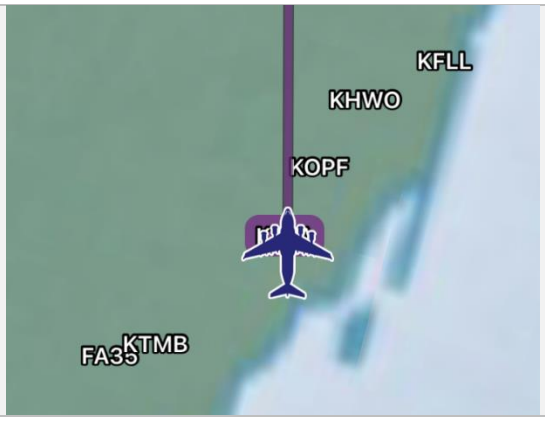
14.3.7.1 Ownship

The Ownship menu provides customizable ownship options. Users can show or hide their Ownship from the map view, Snap to Location, and choose North Up as the orientation on the Moving Map.

14.3.7.1.1 Show Ownship and Ownship Icon

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Ownship** from the side menu, if necessary.
4. Tap **Ownship** to enable the option. An ownship will display on the map indicating your current location.
5. Tap the **Ownship Icon** options to display all ownship icons.
6. Select the desired ownship to display the user's current location on the Moving Map.

Ownship



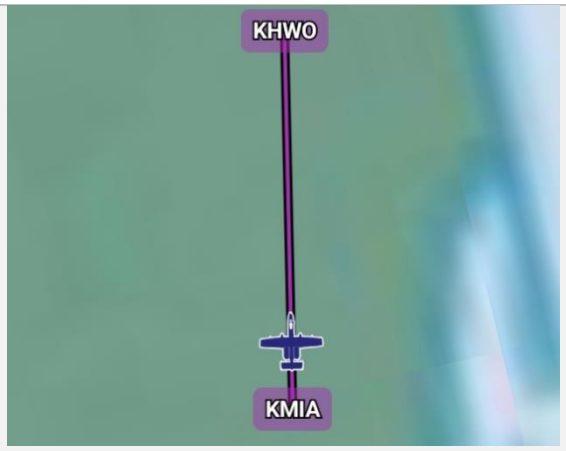
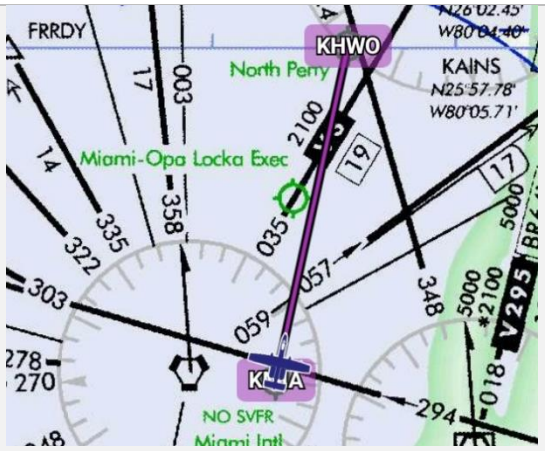
14.3.7.1.2 Snap to Location

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Ownship** from the side menu, if necessary.
4. Tap **Snap to Location** to enable the option. The map will automatically snap to your current location after 15 seconds.

NOTE: Alternatively, users can access their Snap to Location feature by tapping the *crosshair icon* on their Moving Map as explained in Section 14.3.8.

14.3.7.1.3 North Up

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Ownship** from the side menu, if necessary.
4. The **North Up** to enable the option. The map will be repositioned to a north-up orientation which keeps a fixed point of reference.

Snap to Location	North Up
	

14.3.7.2 Location

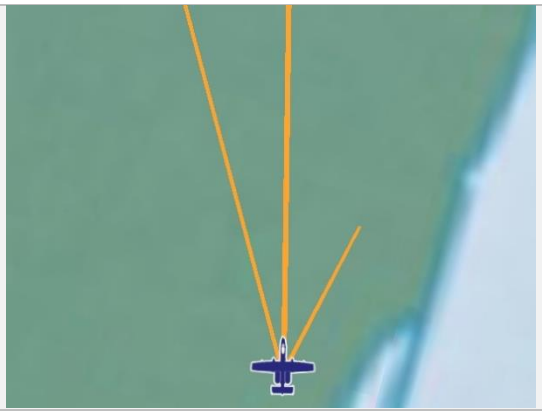
The Location menu provides options to show the recorded ownship's path and to include configurable distance rings around your ownship.

14.3.7.2.1 Breadcrumbs

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Location** from the side menu.
4. Tap **Breadcrumbs** to enable the option. The breadcrumb trail tracks will be displayed in orange on the map.

NOTE: Refer to Section 14.3.1.6 for additional information regarding Breadcrumbs.

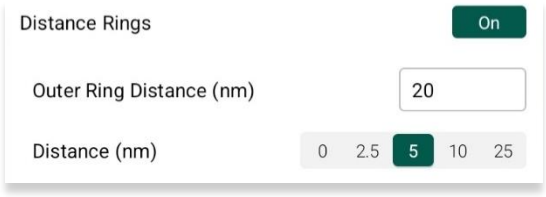
Breadcrumbs



14.3.7.2.2 Distance Rings

Distance Rings are a series of rings around the pilot's ownship that indicate the distance from the ownship. To set up the rings, users can specify the desired outer ring distance, which represents the farthest distance from the ownship.

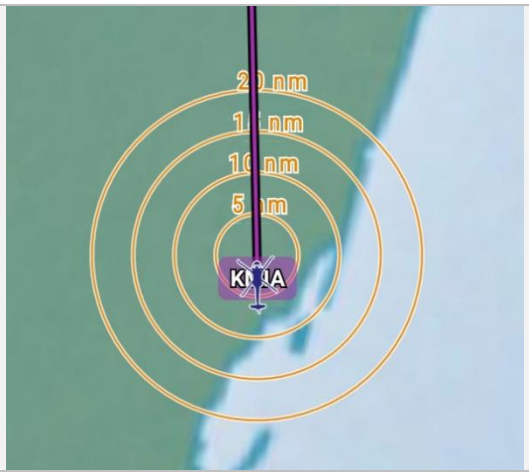
1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Location** from the side menu.
4. Tap **Distance Rings** to reveal additional options for distance rings.
5. Tap the **Outer Ring Distance** text box and enter desired outer ring distance in km or nm, respective to which distance unit format users have set in their Preferences.



NOTE: The max outer ring distance is 999. Any values entered that are greater than 999 or invalid characters (e.g., emojis, special characters, or letters) will display an error.

6. Use the segmented control to select desired distance between rings from the options of 0, 2.5, 5, 10, and 25 km or nm; respective to which distance unit format users have set in their Preferences.

Distance Rings



14.3.7.3 Traffic

Aero App can display ADS-B traffic. Users must be connected to an ADS-B device to display ADS-B traffic.

14.3.7.3.1 Traffic

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Traffic** from the side menu.
4. Tap **Traffic** to enable the option. ADS-B traffic will populate on the map.

Traffic

14.3.7.4 Weather

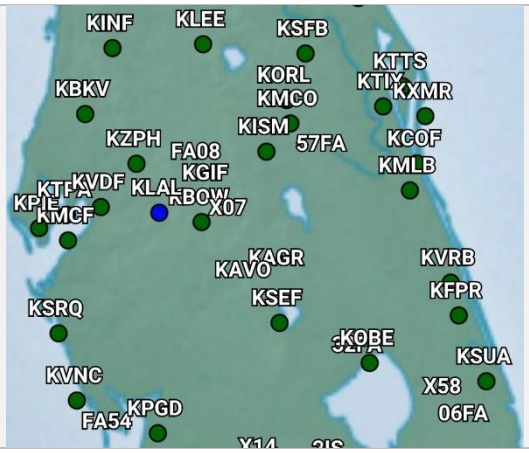
Aero App Weather has various options that enable pilots to display the overlay of METARs, and ADS-B weather. Users can modify ADS-B flight altitude and ADS-B overlay transparency.

14.3.7.4.1 METARs

This option must be enabled to view the latest ADS-B or AF Weather METARs on the Moving Map.

1. Tap **Moving Map** on the ***Main Menu.***
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Weather** from the side menu.
4. Tap **METARs** to enable the option. The flight rules will overlay on the map.

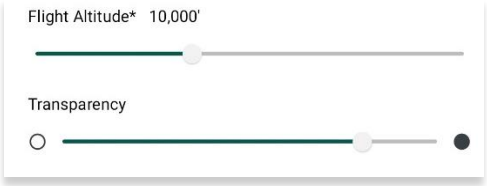
METARs



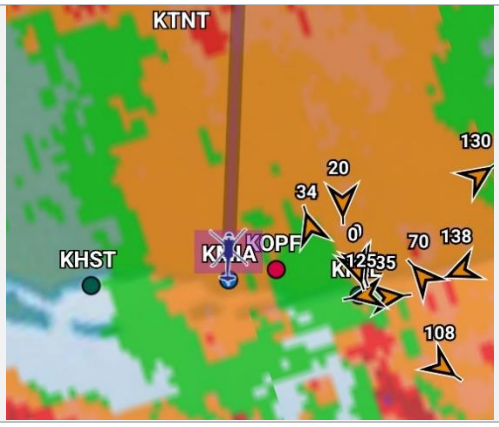
14.3.7.4.2 ADS-B Weather

Aero App provides animated ADS-B weather such as Lightning, Cloud Tops, Icing Probability, Icing Severity, Icing SLD Potential, NEXRAD, and Turbulence. User must establish an ADS-B connection. For additional information, refer to Section 14.3.4.

1. Tap **Moving Map** on the ***Main Menu***.
2. Tap **Options** located at the bottom of the Moving Map screen.
3. Select **Weather** from the side menu.
4. Tap **ADS-B** to enable the option. The menu will expand and provide all available ADS-B weather overlay.
5. Tap **Lightning** to enable the option.
6. Tap the radio buttons of the desired ADS-B weather overlay.
7. A Flight Altitude slider displays below all the ADS-B weather overlay options. The Flight Altitude slider is enabled when a required weather overlay option is selected. These weather overlays have an asterisk as listed below:
    - Icing Probability*
    - Icing Severity*
    - Icing SLD Potential*
    - Turbulence*
8. By default, the flight altitude value is set to 10,000'. Adjust the flight altitude slider to any value between 2,000' and 24,000'.
9. By default, the ADS-B overlay transparency value is set to 50%. Adjust the ADS-B overlay transparency slider to any value between 0% and 100%.



ADS-B Weather Overlay



14.3.8 Snap to Location

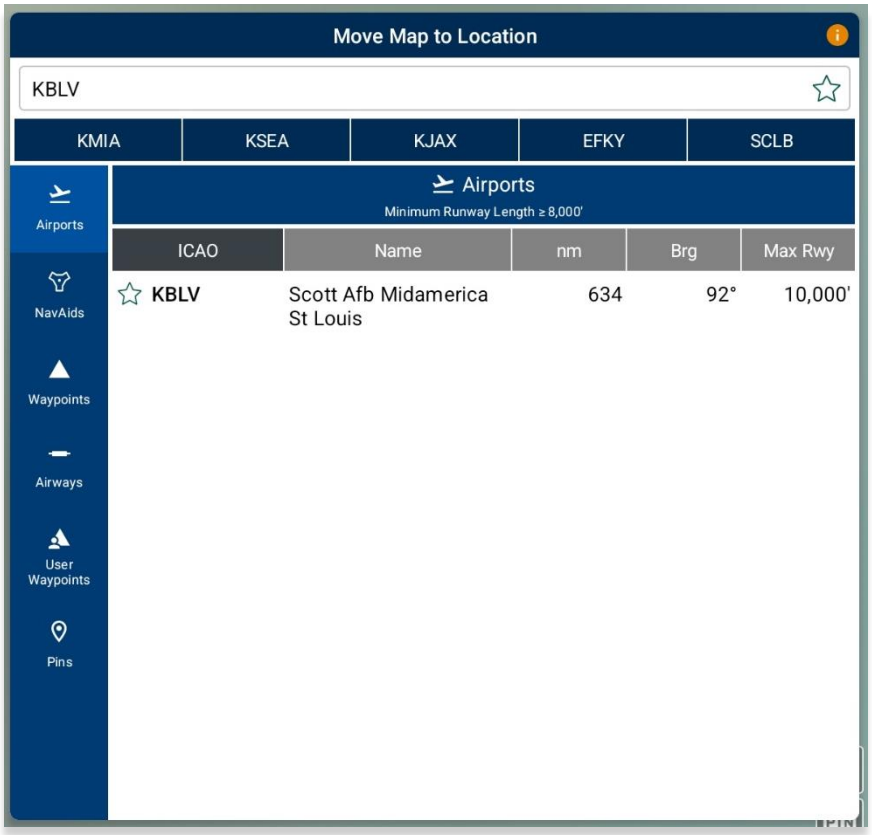
By tapping on the **Crosshair** icon**,** located at the bottom-right corner of the Moving Map screen, your location will snap to your current GPS location.

NOTE: Users can enable the Snap to Location feature, which returns to the user's current location after 15 seconds as explained in Section 14.3.7.1.2.

14.3.9 Move Map to Location

The Move Map to Location feature enables users to search Airports, NavAids, Waypoints, User Waypoints, and Pins by its identifier name, search term, MGRS, or latitude, longitude.

1. Tap the **magnifying glass** located at bottom-right corner of the screen.
2. Enter an identifier, search term, MGRS, or latitude, longitude.
3. Tap **Search** on the device's on-screen keyboard and the screen will pan to its location.



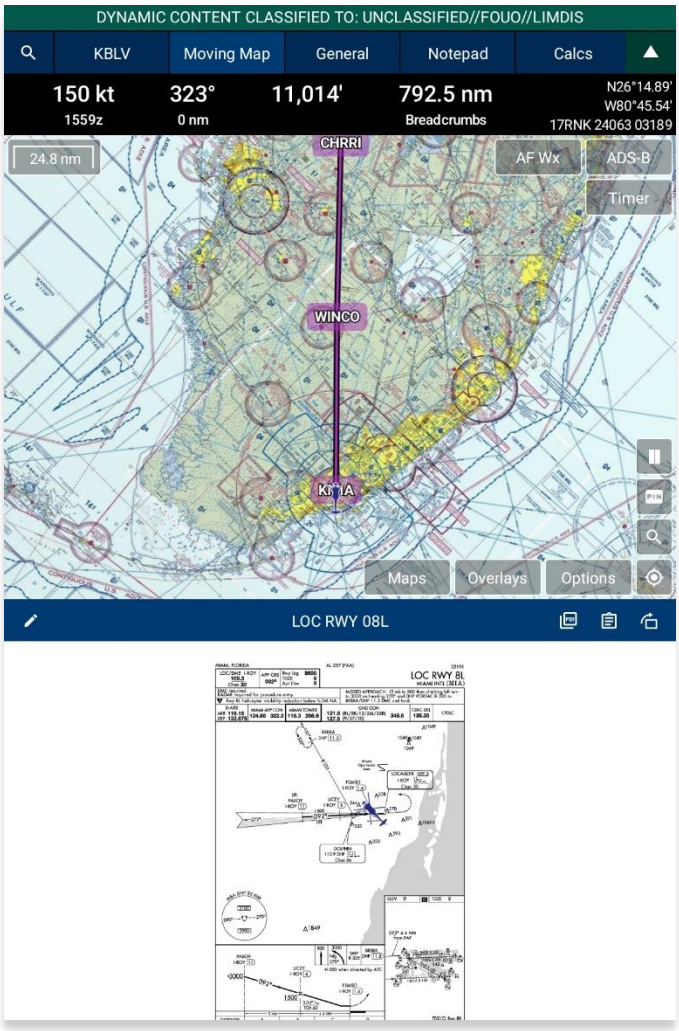
14.3.10 Split Screen

Split Screen allows users to view IAP and APD charts, and user PDF documents simultaneously with the Moving Map on the same screen.

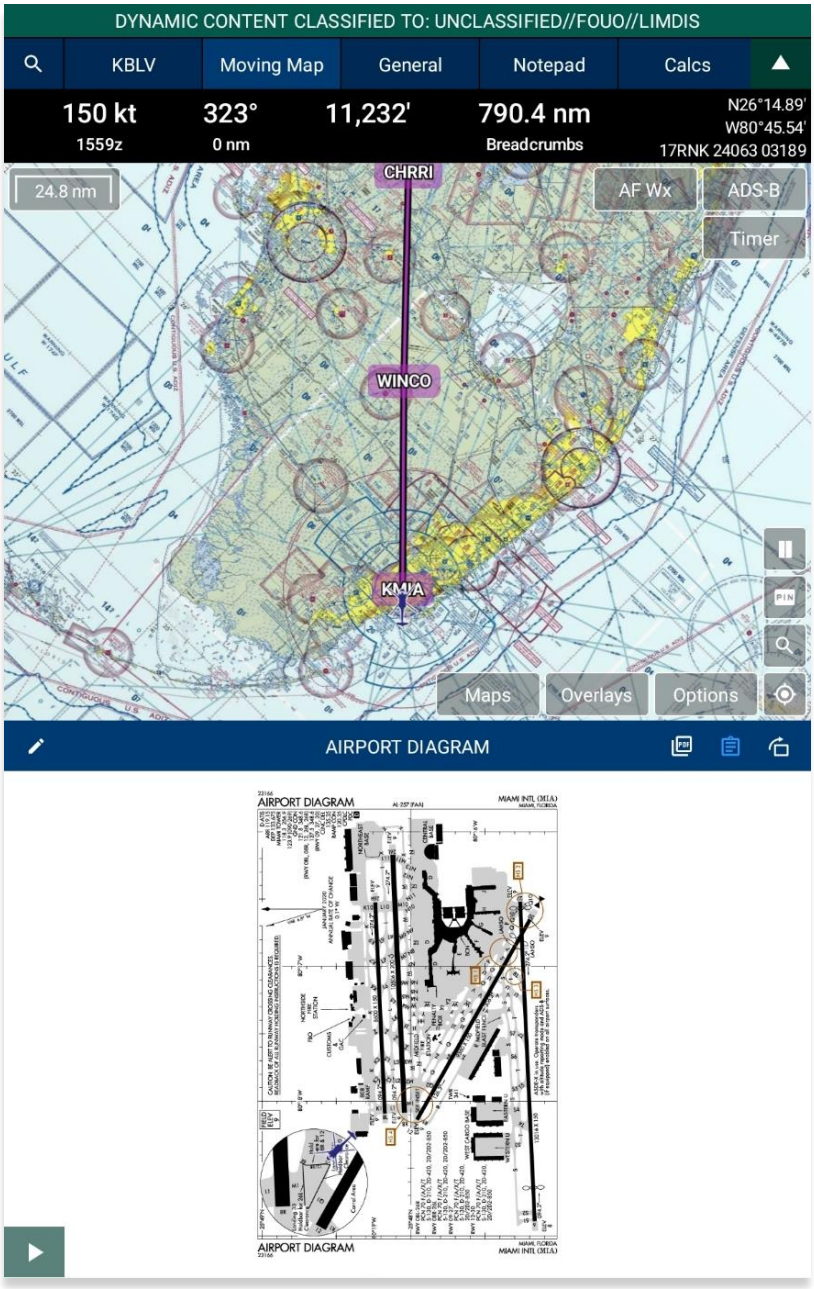
14.3.10.1 APD and IAP for Destination Airport

The APD or IAP charts for the route's destination airport can be displayed simultaneously with the Moving Map on the split screen.

1. Tap **Moving Map** on the ***Main Menu*.**
2. Tap on the **split screen** icon located at the bottom-right corner of the screen. By default, the destination IAP chart is shown.
3. Tap the **actions ribbon.**
4. Select a chart from the popup menu.



5. To switch to your destination APD, tap the document button located directly above the PDF button and the IAP will switch to APD.



NOTE: The switch screen button will turn blue if the user is viewing the IAP, when switching to view the APD charts, the button will revert to white.

NOTE: Refer to Section 14.2.1.1 on how to draw on APD and IAP charts.

14.3.10.2 PDF Support

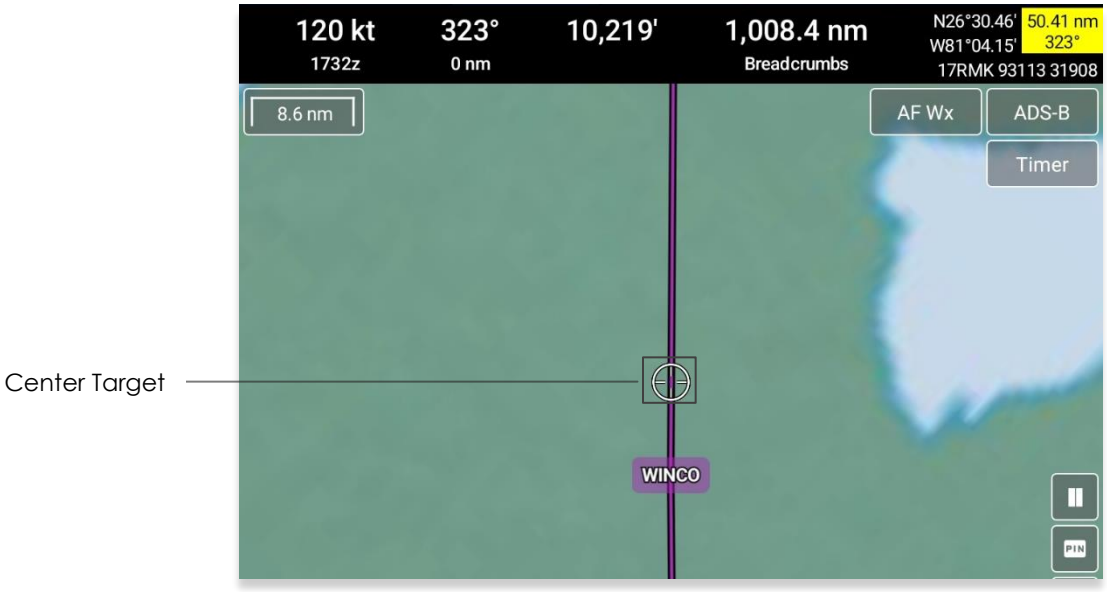
PDF Support enables users to view PDF documents in Aero App. User's documents must be sideloaded prior to viewing the document.

1. Tap the **PDF** button on the split screen.
2. Tap the **actions ribbon** and the *User Documents* popup will appear.
3. Select desired document.
4. To return to the IAP chart view, tap the **clipboard** icon.

NOTE: The slider below the documents will allow users to move from one screen to another.

14.3.11 Center Target

The Center Target retrieves the latitude, longitude, and MGRS values of the area in which the target is placed. As the Moving Map moves, a yellow tag would briefly display containing information on the Distance and Bearing, respective to the placement of the target.



14.3.11.1 Measure Distance and Bearing Between Points

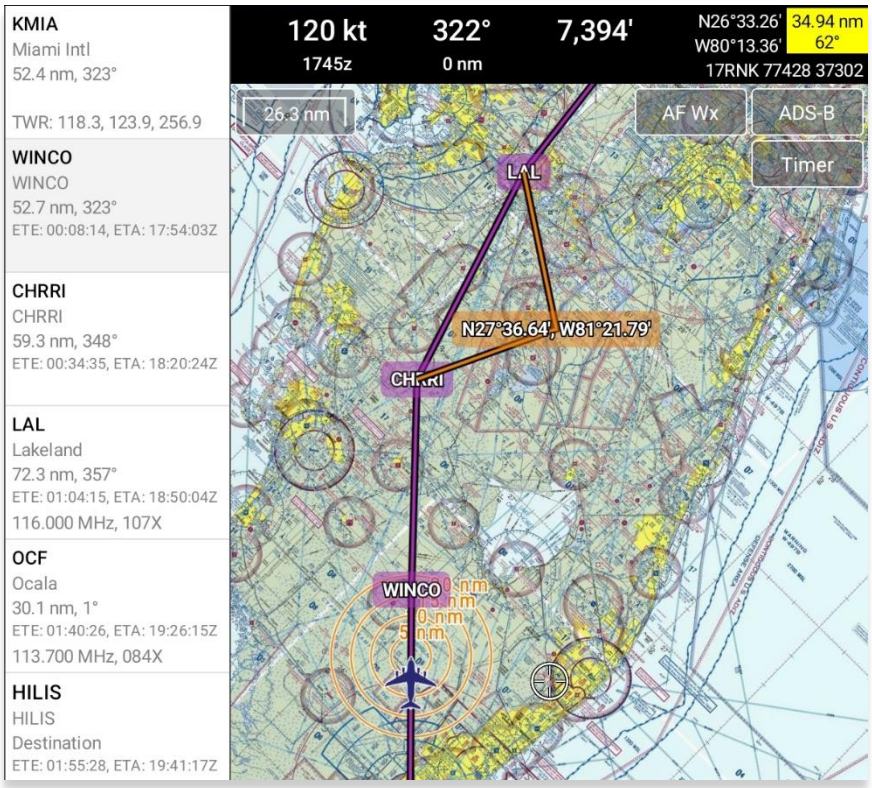
Aero App provides a tool that calculates the distance and bearing between two points on the Moving Map.

1. Move the *Moving Map* to activate the center target.
2. Choose a *starting point* and tap the **target icon** to set the starting point.
3. Move the *Moving Map* to a desired end point. The measurement is displayed above the end point. The values displayed are the distance and bearing of the starting point and end point.

14.3.12 Drag and Drop

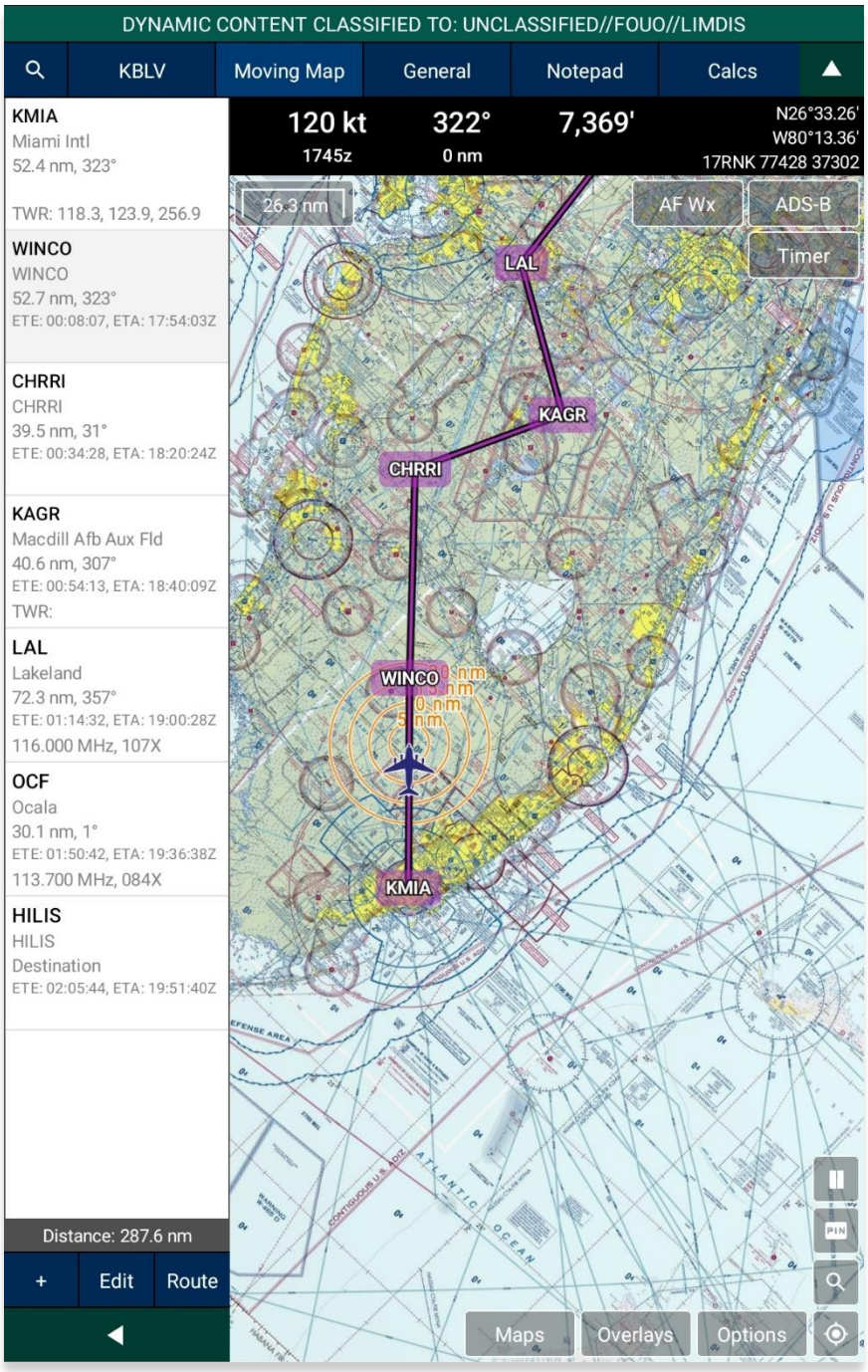
Aero App enables users to drag any point or segment of the current route and drag it to their desired point.

1. Navigate to the ***Route Panel***.
2. Tap the **Plus** button on the ***Route Panel.***
3. The Add popup will display.
4. Enter a desired route using its identifier name, search term, or route, including MGRS or latitude and longitude.
5. Route will be displayed on the Moving Map.
6. Tap and hold to drag a point or segment in the route and drag it to a desired point that you wish to add to the route.



7. The Nearest popup will appear displaying the latitude and longitude of the selected point with 10 nearest Airports, NavAids, Waypoints, and User Waypoints.
8. Select which you wish to add.

9. A new point will be added to the current route.



NOTE: Warning popups will appear when users try to drag and drop points that belong to a route with a DP, STAR, SAR pattern, Airway, or MTR.

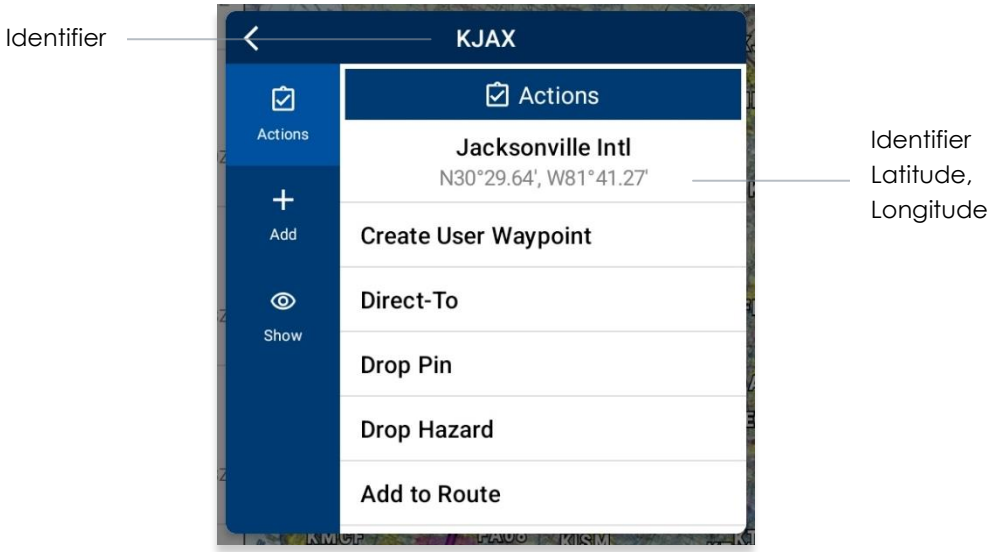
14.3.13 Moving Map Popup Menu

Aero App enables users to perform actions to their Moving Map. Users can display the popup in three simple ways:

- Long pressing any point on the Moving Map.
- Tapping an existing point on the Moving Map.
- Tapping any point on the Route Panel.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press a desired point on the Moving Map. Alternatively, users can tap on an ICAO from the Moving Map or the Route Panel.
3. The Nearest popup will display. Tap an identifier or an ICAO. The Moving Map's popup menu will display with each option grouped by Actions, Add, and Show.

The Moving Map's popup menu will include identifier information such as the identifier name, and its latitude and longitude. In the case where NavAid is selected, additional information will be available to users such as its identifier name, bearing, distance, and frequency.



14.3.13.1 Actions

The Actions submenu provides users with the following options:

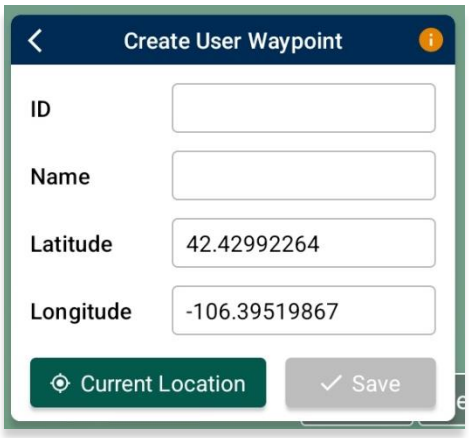
- Create User Waypoint
- Direct-To
- Drop Pin
- Drop Hazard
- Add to Route or Remove from Route

14.3.13.1.1 Create User Waypoint

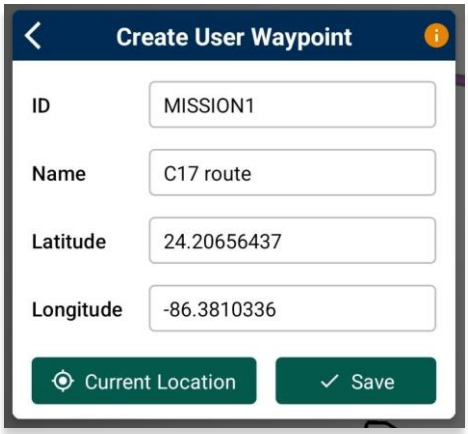
Aero App enables users to create user waypoints using a unique ID, Name, Latitude, and Longitude. The Current Location option is available to users when using their current location's coordinates.

Alternatively, users can sideload user overlays. Refer to Section 10.5 for additional information.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press a desired point on the Moving Map. Alternatively, users can tap on an ICAO from the Moving Map or the Route Panel.
3. The Nearest popup will appear, select your desired point.
4. The Moving Map popup will appear. Select **Actions** from the side menu, if necessary.
5. Tap **Create User Waypoint**.
6. The Create User Waypoint popup will appear with fields to enter an Identifier, Name, Latitude, and Longitude. The Lat/Lon fields are auto filled with the point's current coordinates. Fill in the necessary information.
7. Tap **Current Location** to use your present location's coordinates.



8. Once fields are filled, the Save button will be selectable. Tap **Save** and the waypoint is added to the User Waypoint list.

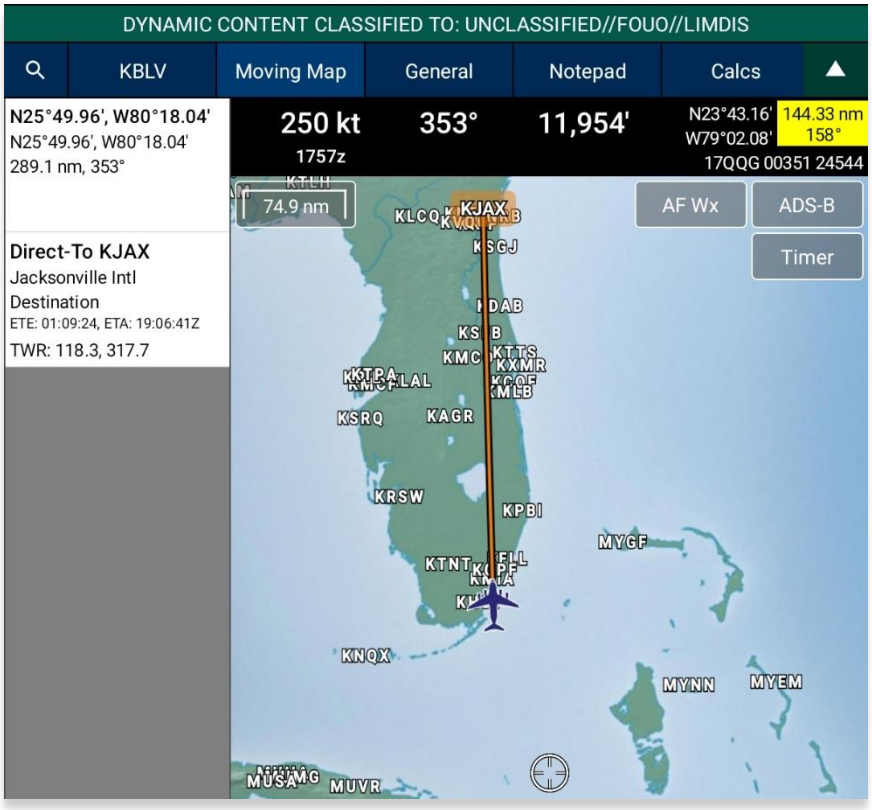


NOTE: Refer to Section 14.3.14.3.4.6 to view all saved user waypoints.

14.3.13.1.2 Direct-To on Empty Route

Aero App provides a Direct-To feature that enables users to fly directly to their desired destination. The sections ahead will provide different variations of utilizing the Direct-To feature.

1. Tap **Moving Map** on the ***Main Menu***.
2. Ensure that the route is empty.
3. Long-press a desired point on the Moving Map. Alternatively, users can tap on an identifier from the Moving Map.
4. The Nearest popup will appear, select your desired point.
5. The *Actions* popup will display. Select **Actions** from the side menu, if necessary.
6. Tap **Direct-To**.
7. A new route will contain two points, your ownship point and the Direct-To point. The ownship point will be added to the Route Panel as the first point and the Direct-To point will be added as the next point.



8. To cancel the Direct-To, tap on the Direct-To point from the Route Panel or from the Moving Map. The Actions popup will appear, select **Cancel Direct-To.**

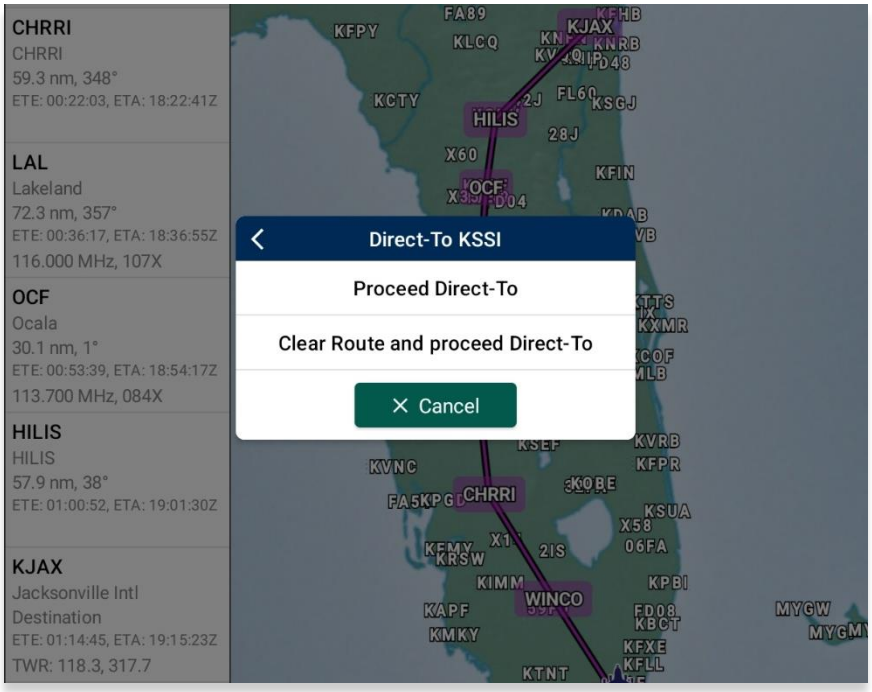
14.3.13.1.2.1 Direct-To on Existing Route

Users can use the Direct-To feature on an existing route.

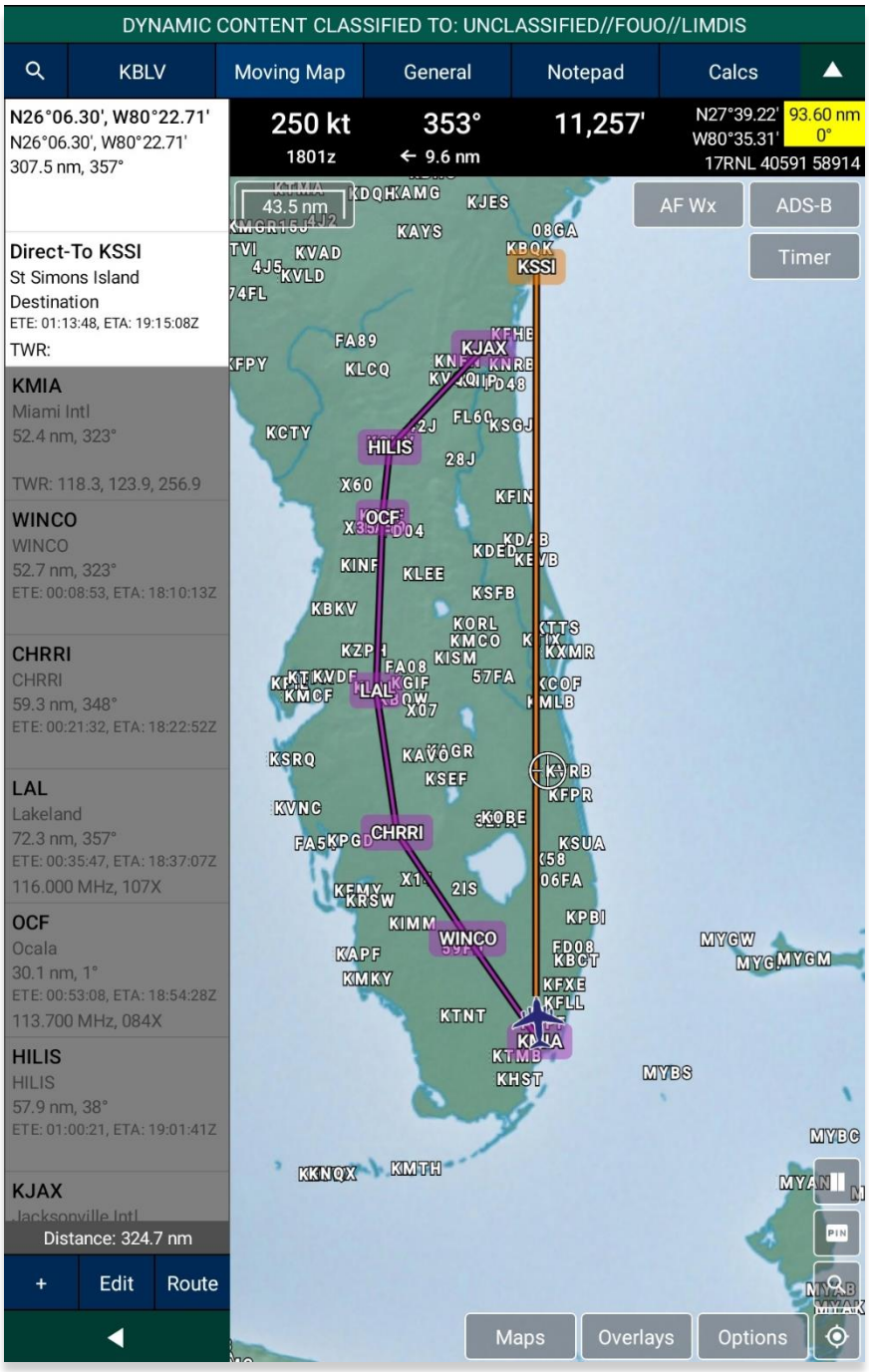
1. Tap **Moving Map** on the ***Main Menu***.
2. Ensure that the route includes one or more points.

NOTE: During the Direct-To course, users will be able to continue adding additional points to the route. The Direct-To enroute will not be interrupted.

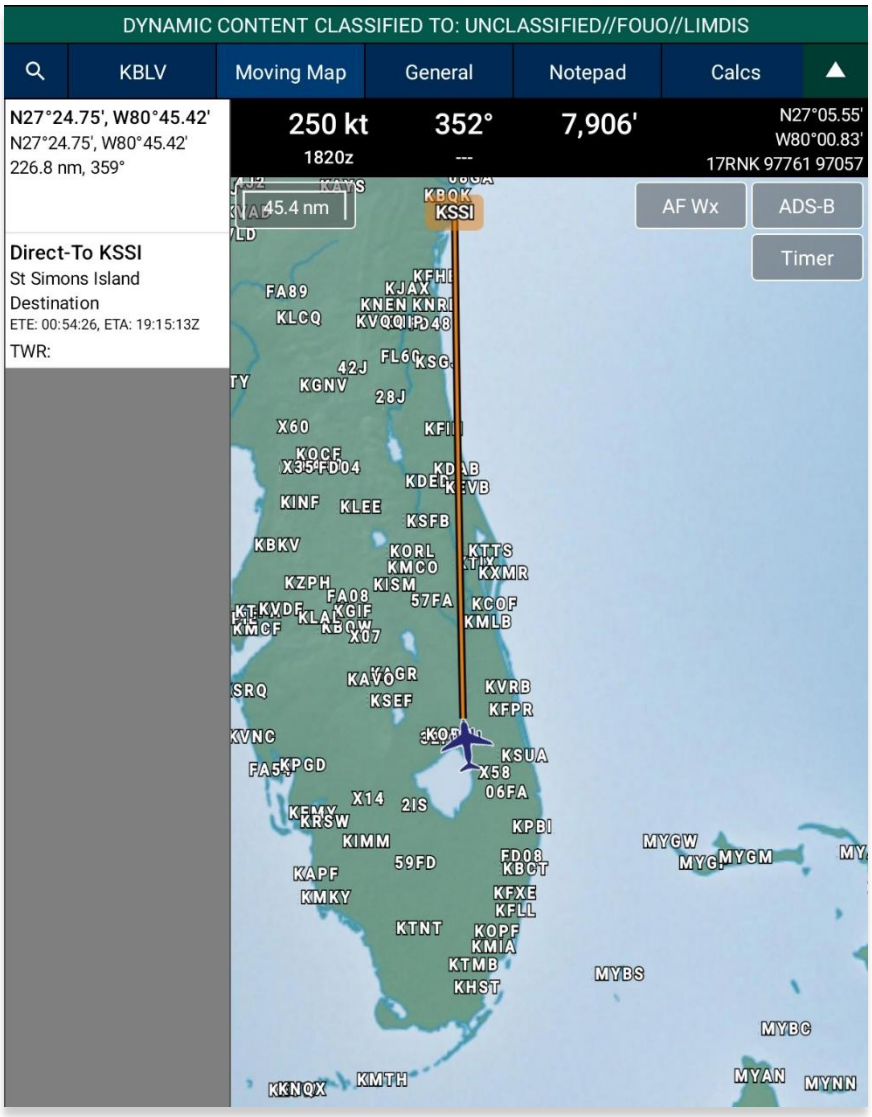
3. Select a point using one of the following methods:
   - Long pressing any point on the Moving Map.
   - Tapping an existing point on the Moving Map.
   - Tapping any point on the Route Panel.
4. Once selected, the *Actions* popup will display. Select **Direct-To**. The Direct-To options popup will display the following options:



- **Proceed Direct-To** – The new enroute will continue from the ownship's point to the Direct-To point. The existing route will be grayed out and the ETA and ETE will be updated in correspondence to the ownship's speed.



- **Clear Route and proceed Direct-To** – Clears the existing route and will continue enroute from the ownship point to the Direct-To point. ETA and ETE will be updated in correspondence to the ownship's speed.



- **Cancel** – dismisses the action.

5. To cancel the Direct-To, tap on the Direct-To point from the Route Panel or from the Moving Map. The Actions popup will appear, select **Cancel Direct-To**. Your route will revert to the original route.

NOTE: Once the existing route has been cleared, users cannot revert to the original route when canceling Direct-To.

14.3.13.1.3 Drop Pin

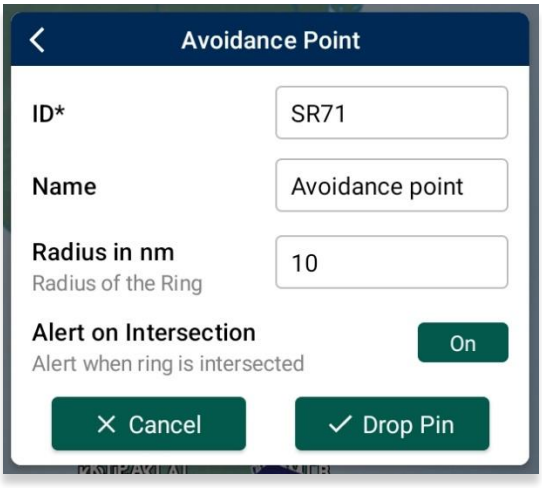
The Drop Pin feature enables pilots to drop geographic pins in any specified area on the Moving Map, view relevant information about pins, and add dropped pins to the current route. Aero App provides various pins such as Avoidance Point, Emergency Marker, Landmark, Photo Pin, and Pin.

In addition, Aero App enables users to sideload pins into Aero App. Refer to Section 10.7 for additional information.

14.3.13.1.3.1 Avoidance Point

An Avoidance Point pin is a location on the Moving Map that should be avoided during a flight. The Avoidance Point feature also includes an Alert on Intersection option, which notifies users when their flight path intersects with the marked location. Fields containing an asterisk are required.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a **point** on the ***Moving Map***.
3. The Nearest popup will appear, select your desired point.
4. A popup for the selected point will be displayed. Select **Actions** from the side menu, if necessary.
5. Tap **Drop Pin**.
6. Tap **Avoidance Point**.
7. The Avoidance Point popup will appear with fields for ID*, Name, Radius in nm, and Alert on Intersection. Fill in the required fields.

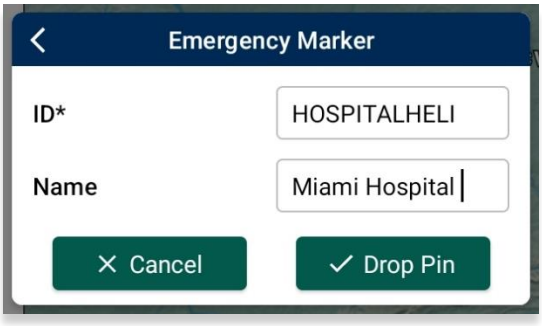


8. Once the required fields have been filled, the Drop Pin button will be selectable. Tap **Drop Pin** and your pin will display on the Moving Map.
9. Tap **Cancel** to dismiss the action.

14.3.13.1.3.2 Emergency Marker

An Emergency Marker pin is used to identify emergency locations on the Moving Map, aiding in the safety and efficiency of emergency response teams. Fields containing an asterisk are required.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a **point** on the ***Moving Map***.
3. The Nearest popup will appear, select your desired point.
4. A popup for the selected point will be displayed. Select **Actions** from the side menu, if necessary.
5. Tap **Drop Pin**.
6. Tap **Emergency Marker**.
7. The Emergency Marker popup will appear with fields for ID* and Name. Fill in the required fields.

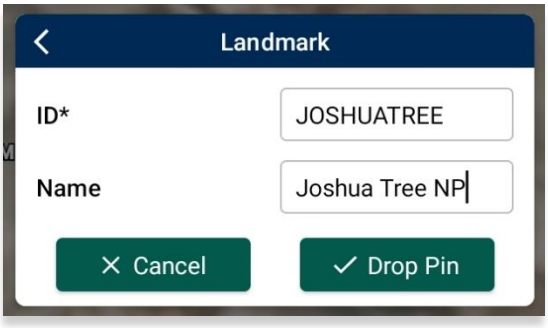


8. Once the required fields have been filled, the Drop Pin button will be selectable. Tap **Drop Pin** and your pin will display on the Moving Map.
9. Tap **Cancel** to dismiss the action.

14.3.13.1.3.3 Landmark

A Landmark pin is used to mark noteworthy locations on the Moving Map. Fields containing an asterisk are required.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a **point** on the ***Moving Map***.
3. The Nearest popup will appear, select your desired point.
4. A popup for the selected point will be displayed. Select **Actions** from the side menu, if necessary.
5. Tap **Drop Pin**.
6. Tap **Landmark** from the following drop pin options.
7. The Landmark popup will appear with fields such as ID* and Name. Fill in the required fields.

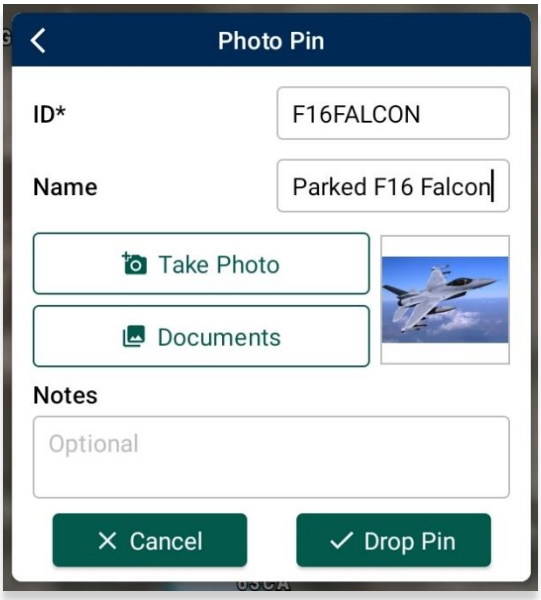


8. Once the required fields have been filled, the Drop Pin button will be selectable. Tap **Drop Pin** and your pin will display on the Moving Map.
9. Tap **Cancel** to dismiss the action.

14.3.13.1.3.4 Photo Pin

A Photo Pin is a designated location on the Moving Map that incorporates user-generated images. Fields containing an asterisks are required.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press a desired point on the Moving Map. Alternatively, users can tap on an ICAO from the Moving Map or the Route Panel.
3. The Nearest popup will appear, select your desired point.
4. A popup for the selected point will be displayed. Select **Actions** from the side menu, if necessary.
5. Tap **Drop Pin**.
6. Tap **Photo Pin**.
7. The Photo Pin popup will appear with fields for ID*, Name, Images, and Notes. Fill in the required fields.



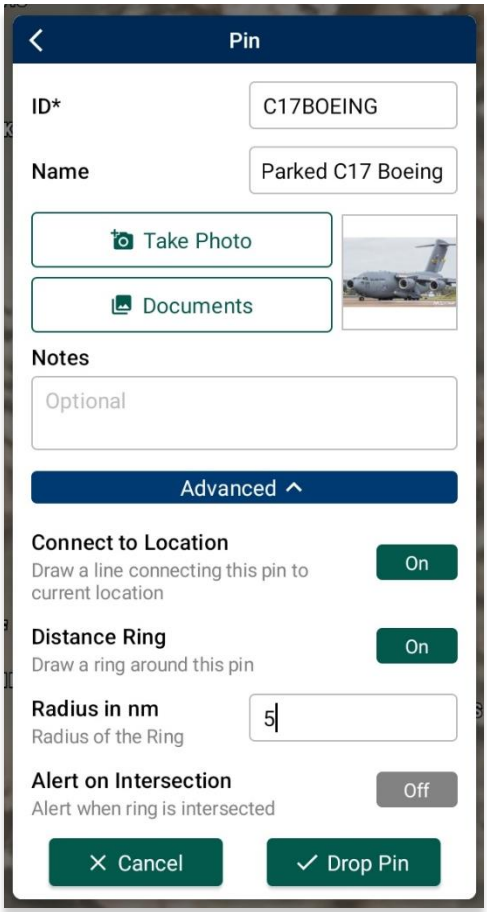
NOTE: Uploading an image is required for Photo Pins.

8. Once the required fields have been filled, the Drop Pin button will be selectable. Tap **Drop Pin** and your pin will display on the Moving Map.
9. Tap **Cancel** to dismiss the action.

14.3.13.1.3.5 Pin

A Pin is used to mark a location on the Moving Map. Pin includes additional options such as Connect to Location, Distance Rings, Radius in nm, and Alert on Intersection. Fields containing an asterisk are required.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press a desired point on the Moving Map. Alternatively, users can tap on an ICAO from the Moving Map or the Route Panel.
3. The Nearest popup will appear, select your desired point.
4. A popup for the selected point will be displayed. Select **Actions** from the side menu, if necessary.
5. Tap **Drop Pin**.
6. Tap **Pin** from the following drop pin options.
7. The Pin popup will appear with fields such as ID*, Name, Documents, and Notes. Fill in the necessary information.



8. Tap **Advanced** for additional options: Connect to Location, Distance Ring, Radius in Nautical Miles, and Alert on Intersection.
9. Once the required fields have been filled, the Drop Pin button will be selectable. Tap **Drop Pin** and your pin will display on the Moving Map.
10. Tap **Cancel** to dismiss the action.

NOTE: Creating Pins will require a unique identifier. Existing Pins will be assigned auto-generated identifiers (e.g., PIN1, PIN2, PIN3, etc.).

14.3.13.1.3.5.1 Add Pin to Route

Add to Route gives users the ability to add dropped pins directly to their current route.

1. Ensure that Pins are enabled.
2. Navigate to the Moving Map and tap on your desired **Pin**.
3. The Moving Map popup menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Add to Route**.
5. The selected dropped pin will populate into your current route on the Moving Map and the Route Panel.
6. To delete from your current route, tap **Edit** then tap the minus symbol or swipe left then tap the delete button.
7. To delete from the Moving Map, tap the dropped pin and select **Remove from Route**.

14.3.13.1.3.5.2 View Pin Information

Aero App provides users a display to view Pin information. The pin information is relevant to the pins that were dropped or pins that were sideloaded by users.

Pin Information is available under Information and Wx. Each pin contains relevant information such as its ID, Name, Latitude, Longitude, Magnetic Variance, From Ownship, Source, Notes, and any associated attachments.

Certain pins such as Avoidance Point and Pin, may contain additional information such as Connect to Location, Distance Rings, Radius, and Alert on Intersection.

1. Navigate to the Moving Map and tap on your desired **Pin**.
2. The Moving Map popup menu will appear. Select **Show** from the side menu.
3. Tap **Info and Wx** to view any information associated with the pin.

NOTE: Creating Pins will require a unique identifier. Existing Pins will be assigned auto-generated identifiers (e.g., PIN1, PIN2, PIN3, etc.).

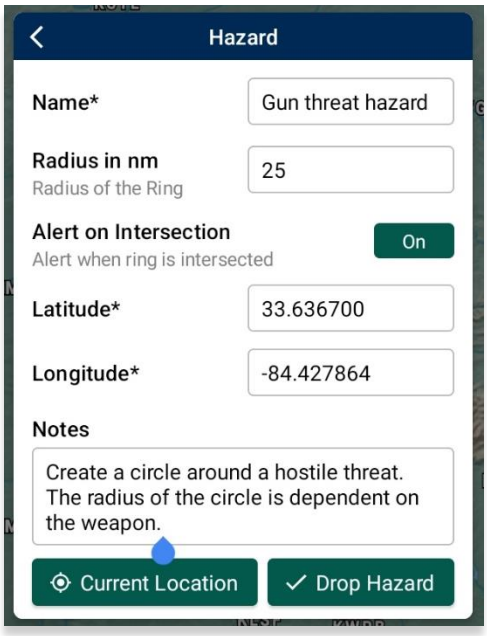
NOTE: Alternatively, users can search their dropped pin by selecting the **Plus** button on the Route Panel and searching the dropped pin by their unique identifier.

14.3.13.1.4 Drop Hazard

The Drop Hazards feature enables pilots to drop hazards at a specified location on the Moving Map to identify potential hazards to avoid during flight. Fields containing an asterisk are required.

Aero App enables users to sideload Hazards into Aero App. Refer to Section 10.8 for additional information.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a **point** on the ***Moving Map***.
3. The Nearest popup will appear, select your desired point.
4. A popup for the selected point will be displayed. Select **Actions** from the side menu, if necessary.
5. Tap **Drop Hazard**.
6. The Hazard popup will appear with fields for Name*, Radius in nm or km (based on which distance unit is set in Preferences), Alert on Intersection, Latitude*, Longitude*, and Notes. Fill in the required fields.



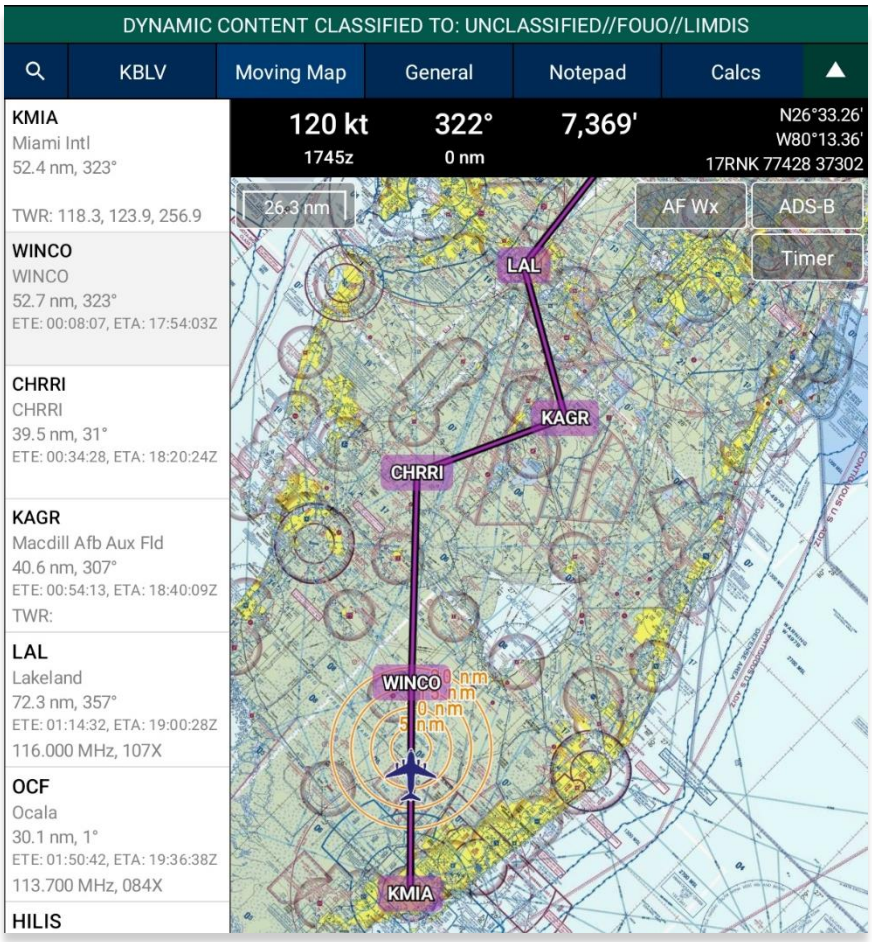
NOTE: When users have Preferences set to MGRS, the Latitude and Longitude fields are disabled.

NOTE: If an invalid MGRS is entered, the Latitude and Longitude fields will be left blank.

7. Tap **Current Location** to set your current position as the coordinates.
8. Once the required fields have been filled, the Drop Hazard button will be selectable. Tap **Drop Hazard** and your hazard will display on the Moving Map.

14.3.13.1.5 Add to Route

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a desired point on the Moving Map.
3. The Nearest popup will appear. Select a desired point.
4. The Moving Map's popup menu will display. Select **Actions** from the side menu, if necessary.
5. Tap **Add to Route**.
6. A new point will be added to the current route.
7. Once the point has been added, the popup changes to *Remove from Route*. By tapping **Remove from Route**, the point will be deleted from the route.



14.3.13.2 Add

The Add submenu provides users the option to add the following procedures to their route:

- Departure Procedure (DP)
- Standard Terminal Arrival Procedure (STAR)

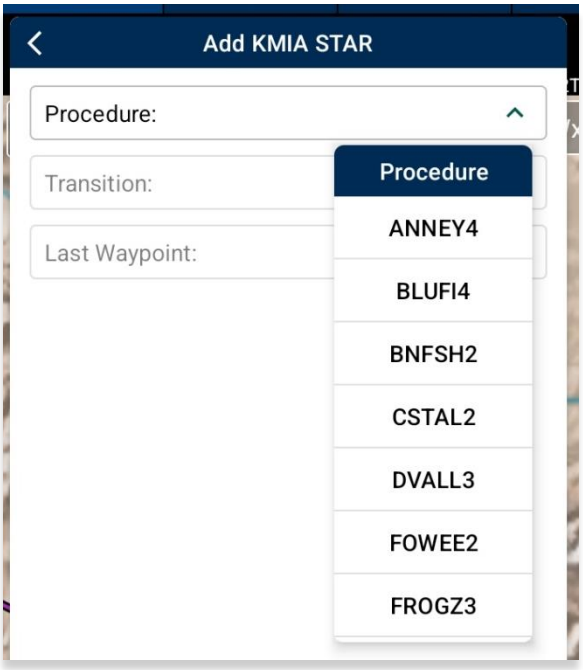
14.3.13.2.1 Add Departure Procedure (DP) or Standard Terminal Arrival Route (STAR) to Route

Aero App enables users to add Departure Procedure (DP) and Standard Terminal Arrival Route (STAR) to their current route.

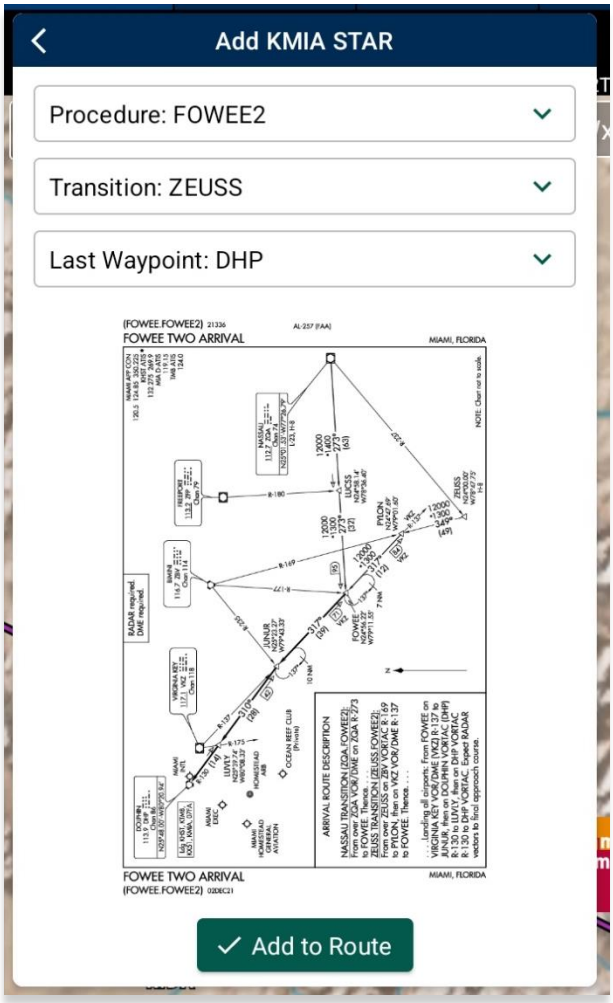
1. Select an airport from the Route Panel or the map.
2. The Moving Map's popup menu will appear. Select **Add** from the side menu.
3. Select **DP** or **STAR**.

NOTE: If both options, DP and STAR, are disabled, it is due to the position of the selected airport. Select the appropriate departure and/or arrival airports to display procedure options.

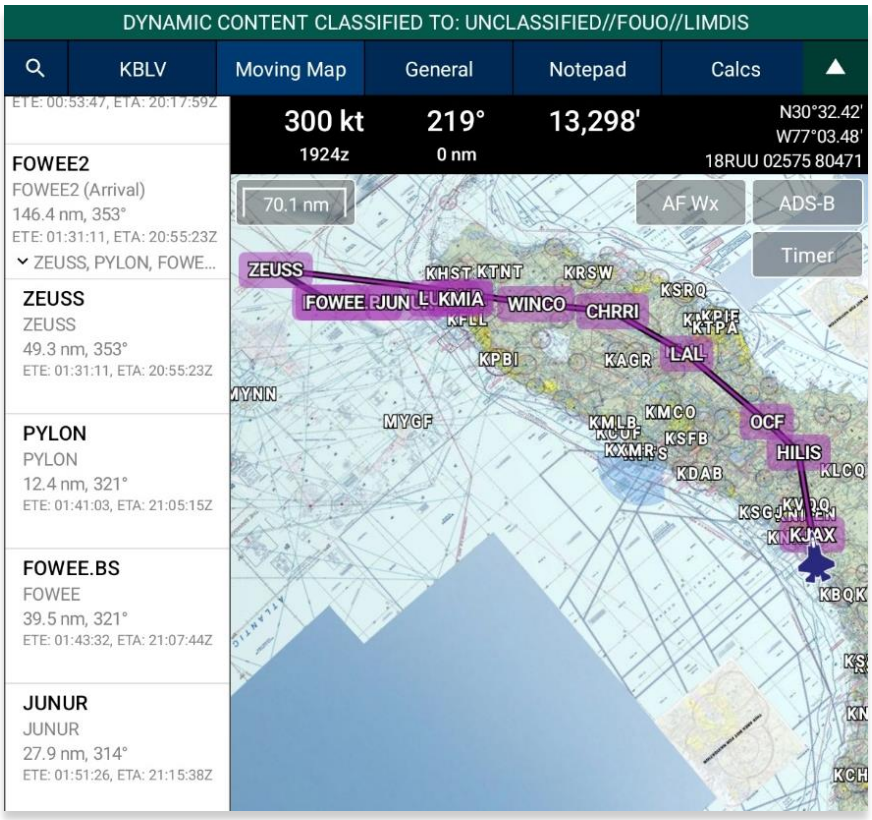
4. The procedure selection popup will display. Tap the Procedure drop-down and select desired **Procedure**.

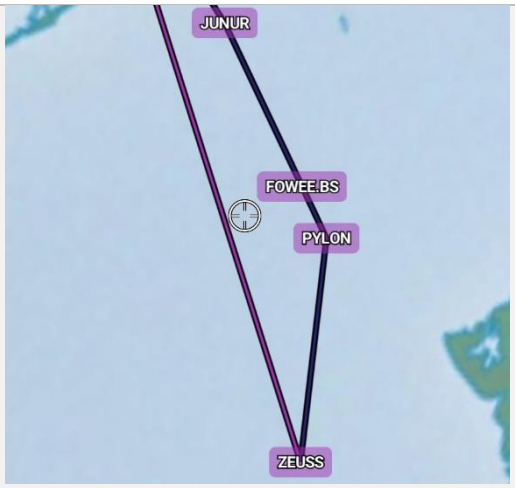


5. Transition will become selectable. Tap the Transition drop-down and select desired **Transition** point.
6. First Waypoint will become selectable. Tap the First Waypoint drop-down and select desired **First Waypoint**.
7. The Procedure preview will appear and Add to Route will become selectable. Tap **Add to Route**.



8. The procedure will be added to the current route and on the Moving Map.



Add DP to Route	Add STAR to Route
	

14.3.13.3 Show

The Show submenu provides users the following options to display on the Moving Map:

- Show on Map
- IAP on Map
- Info and Wx
- Nearest

14.3.13.3.1 Show on Map

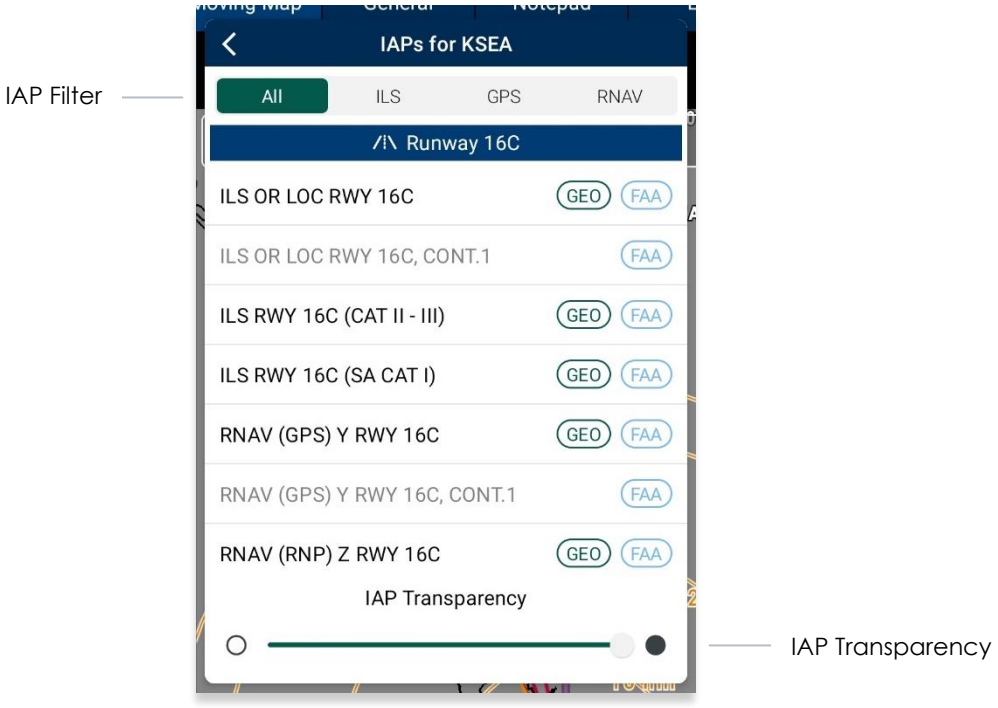
Show on Map enables users to be anywhere on the Moving Map and once the option is selected, the screen pans to the exact location of which the point or identifier is placed.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a desired point or identifier on the Moving Map. Alternatively, users can tap on an ICAO from the Moving Map or the Route Panel.
3. The Nearest popup will appear. Select your desired point.
4. The Moving Map's popup will appear. Select **Show** from the side menu.
5. Tap **Show on Map**.
6. The screen will pan to the selected location.

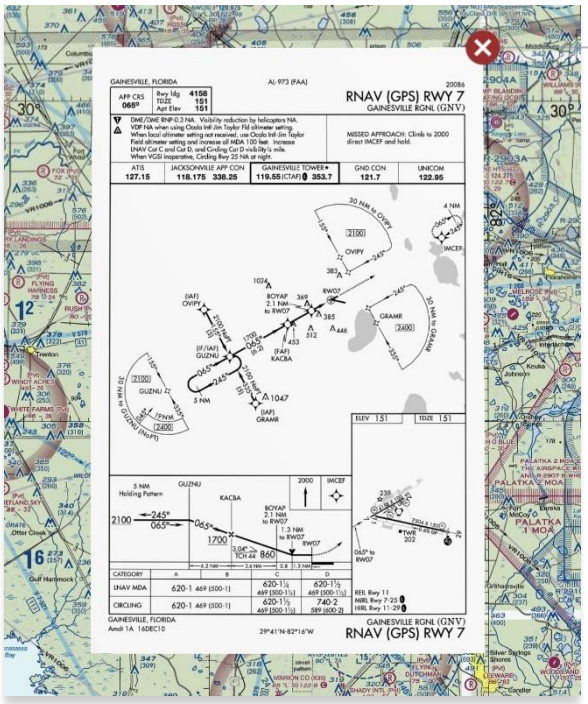
14.3.13.3.2 Instrument Approach Procedure (IAP) on Map

Aero App enables users to display Instrument Approach Procedures (IAPs) on the Moving Map, perfectly georeferenced. Overlaying the IAPs provides an additional level of situational awareness.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a desired point on the Moving Map. Alternatively, users can tap on an ICAO from the Moving Map or the Route Panel.
3. The Nearest popup will appear. Select your desired point.
4. The Moving Map's popup will appear. Select **Show** from the side menu.
5. Tap **IAP on Map**.
6. A list of IAPs for the identifier will be displayed. Select an **IAP filter** from the segmented button group.
7. IAPs are grouped by runways. Select desired **IAP** then the IAP will overlay on the Moving Map.
8. To adjust the transparency of the IAP, tap on the chart and drag the slider from left to right. By default, IAP transparency is set to 100%.



9. To remove the IAP from the Moving Map, tap the red popup **X**.



NOTE: A small number of Instrument Approach Procedures (IAPs) are not georeferenced and therefore cannot be shown on the Moving Map.

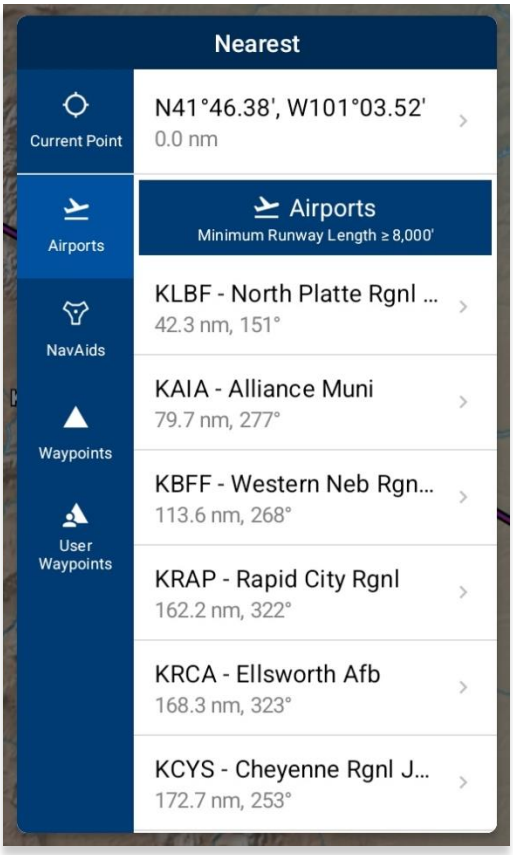
14.3.13.3.3 Info and Wx (Information and Weather)

The Information and Weather (Info and Wx) option can be accessed when tapping an identifier from the Moving Map or the Route Panel. When tapping an ICAO from the Moving Map or the Route Panel, additional airport information such as Info, APD, IAP, Dep, Arr, Min, Other, Host Nation, and Wx can be viewed. Refer to Section 14.2 for additional information. Identifiers that are not an airport such as NavAids, Waypoints, User Waypoints, Pins, and others, will display only that identifier's information.

14.3.13.3.4 Nearest

The Nearest feature enables users to view nearby Airports, NavAids, Waypoints, and User Waypoints. Once the desired new point is selected, the Moving Map's popup menu will display.

1. Tap **Moving Map** on the ***Main Menu***.
2. Long-press on a desired point on the Moving Map. Alternatively, users can tap on an ICAO from the Moving Map or the Route Panel.
3. Your current point and a list of the nearest Airports, NavAids, Waypoints, and User Waypoints will display, select desired point.
4. Select a desired point and a new Moving Map menu will display for your new point.



14.3.14 Collapsible Route Panel

The collapsible Route Panel enables users to hide or show the Route Panel to free up space on the screen when not in use. To expand the Route Panel, tap the red route tab located at the bottom-left corner of the screen. Once expanded, the following options are available in addition to route information:

- **Add** – enables users to add Airports, NavAids, Waypoints, Airways, User Waypoints, and Pins to the route.
- **Edit** – enables users to delete and/or reorder entries within the route.
- **Route** – enables users to perform actions pertaining to the route or display additional features on the map.

14.3.14.1 Add to Route

1. Tap **Moving Map** on the ***Main Menu***.
2. Navigate to the ***Route Panel***.
3. Tap the **Plus** button and a dialog box will display.
4. Search by entering an identifier, search term, or route including MGRS or Lat, Lon in the search box.
5. Tap **Search** from the device's on-screen keyboard and the entries will be added to the route. All entries will be displayed in the route panel in the order that they were entered.

NOTE: Aero App displays the individual route legs of Departure Procedures (DPs), Standard Terminal Arrival Routes (STARs), Instrument Approach Procedures (IAPs), Airways, and Jetways. The point information includes ICAO, frequency information (when appropriate), as well as distance, bearing, Estimated Time Enroute (ETE) and Estimated Time of Arrival (ETA) to the next point in the route.

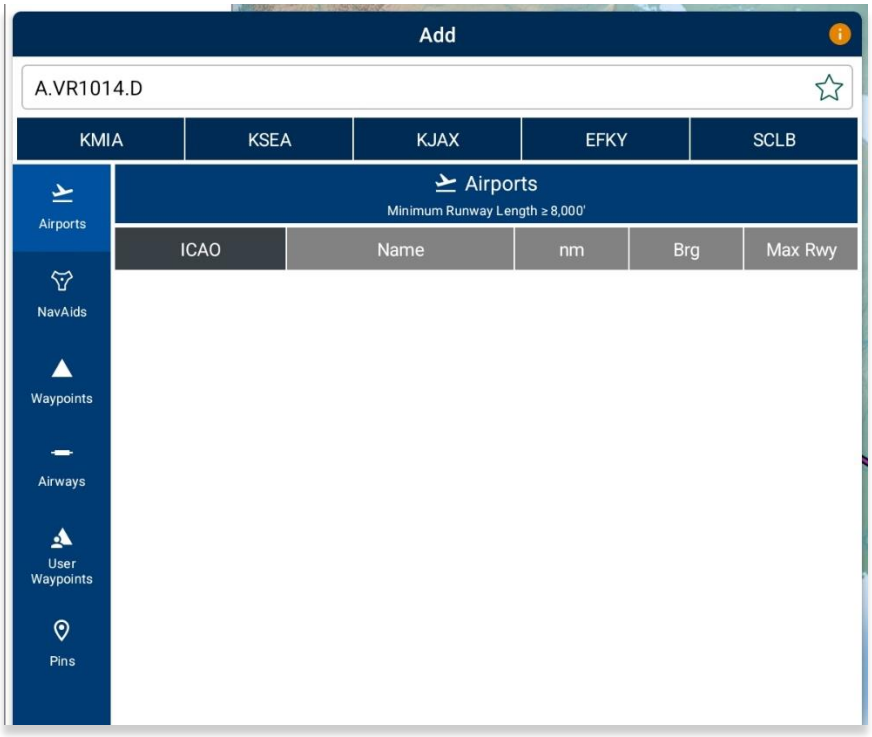
NOTE: To enter a route with multiple points, enter each identifier separated by a space. The entries will display in the given order.

NOTE: When adding a new point (e.g., ICAO, Waypoint, etc.) to an existing route, the new point is automatically added to the route in its geographically optimal position and not simply at the end of the route.

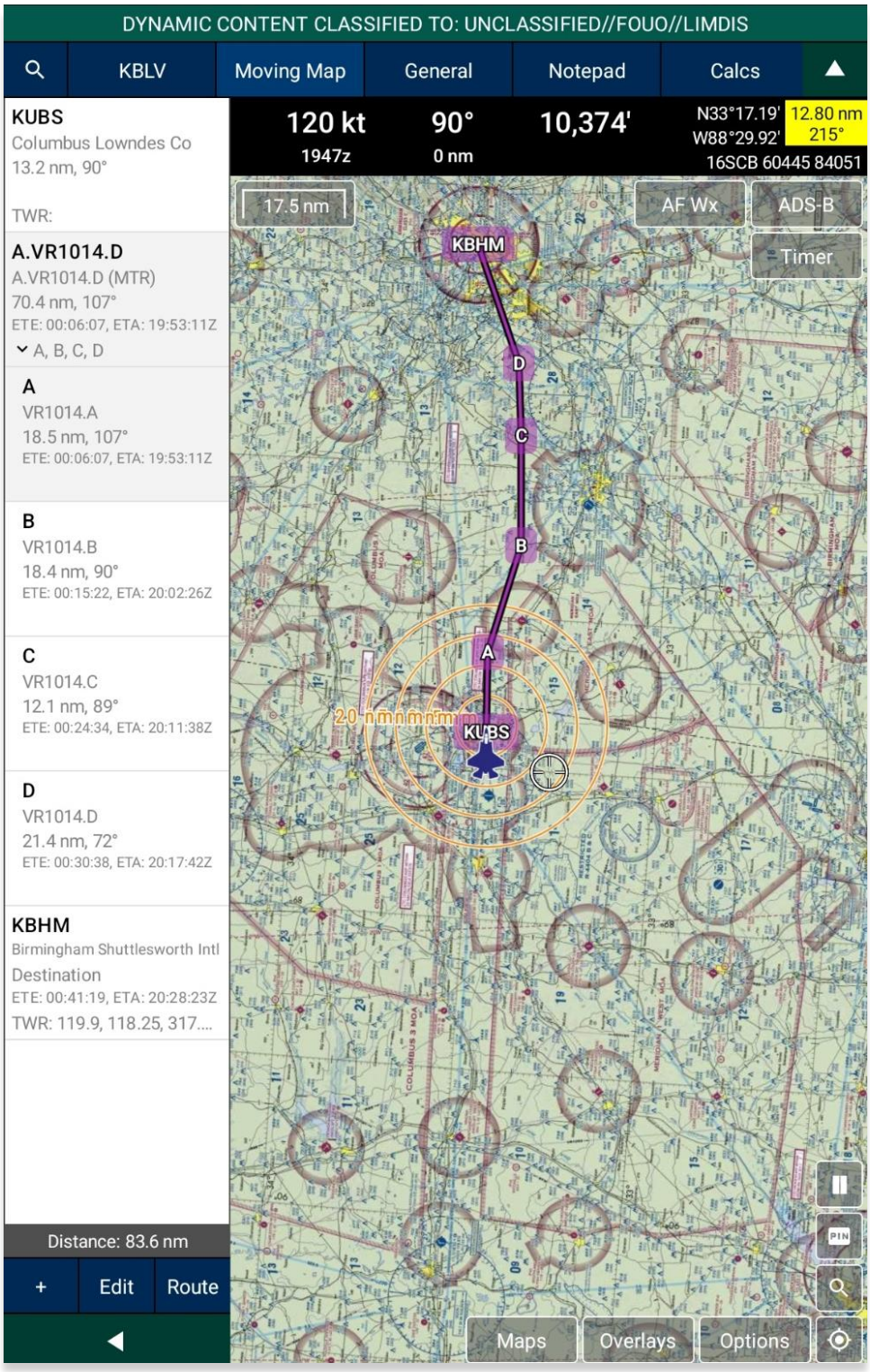
14.3.14.1.1 Add Military Training Routes (MTRs) to Route

Users can add Military Training Routes (MTRs) to the route.

1. Navigate to the ***Route Panel***.
2. Tap the **Plus** button on the ***Route Panel.***
3. The Add popup will display.
4. Use your device's on-screen keyboard to enter desired MTRs to add to route following the format: **{starting point}.{MTR}.{endpoint}**.



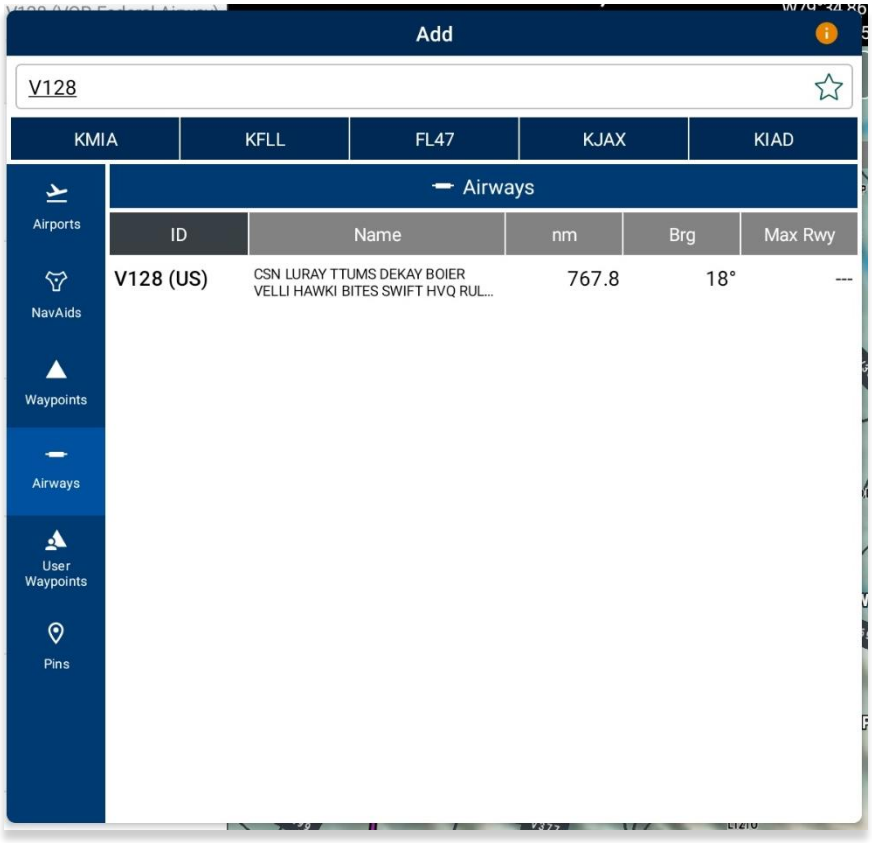
5. Your MTR will be displayed on the Route Panel.



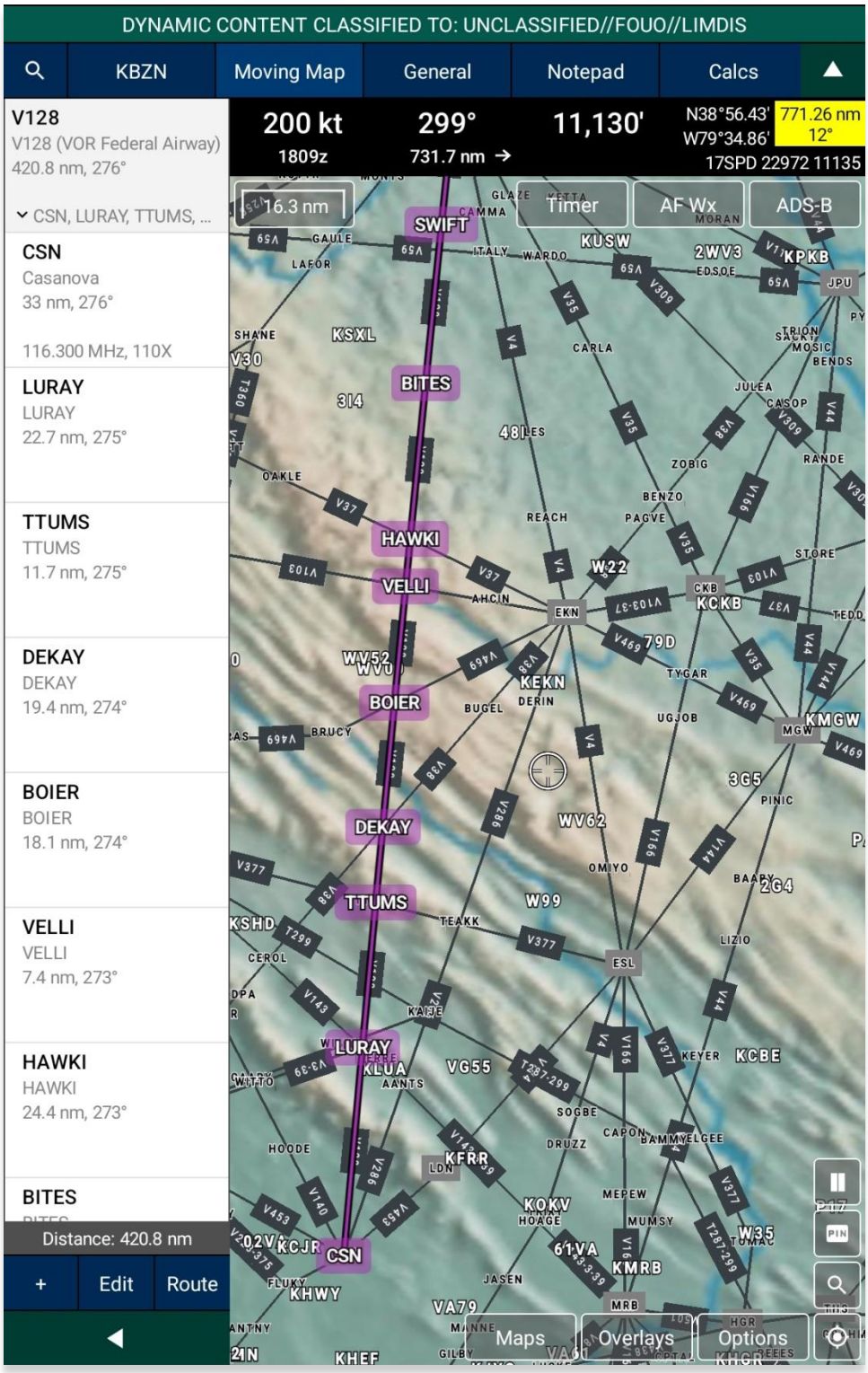
14.3.14.1.2 Add Airways to Route

Users can add Airways to the route.

1. Navigate to the ***Route Panel***.
2. Tap the **Plus** button on the ***Route Panel.***
3. The Add popup will display.
4. Use your device's on-screen keyboard to search and select desired Airways to add to route.

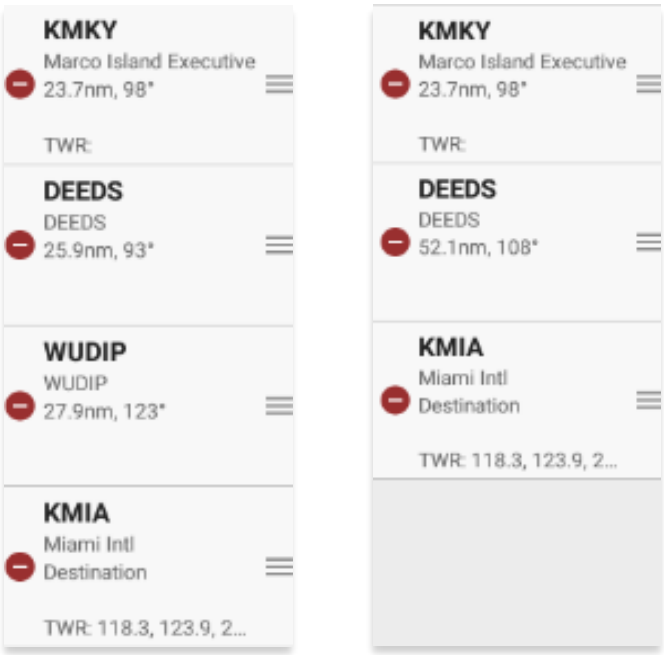


5. Your Airway route will display on the Route Panel.



14.3.14.2 Edit Route

1. Navigate to the ***Route Panel.***
2. Tap **Edit**.
3. Hold the **Hamburger** button next to the identifier that you wish to move.
4. Swipe up or down to place the identifier in the desired route position.
5. Tap on the red circle next to the entry that you wish to delete.
6. Tapping **Delete** will remove that entry from the route panel.



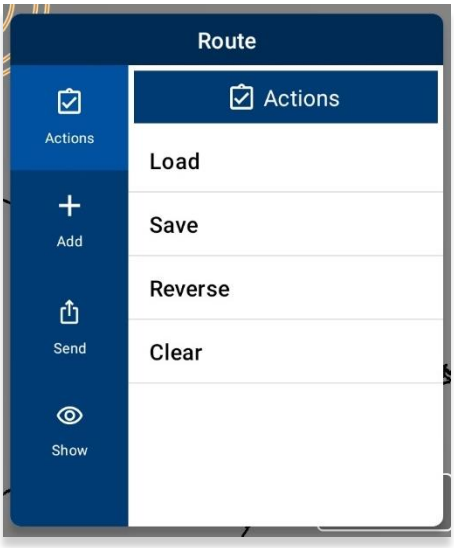
14.3.14.3 Route Menu Options

The Route Menu Options are a useful tool for users as it is used to enhance the user's route capabilities. This menu allows users to expand on their route planning and additional options to configure their current route.

14.3.14.3.1 Actions

Actions provide users the capability to configure their route by providing the following options:

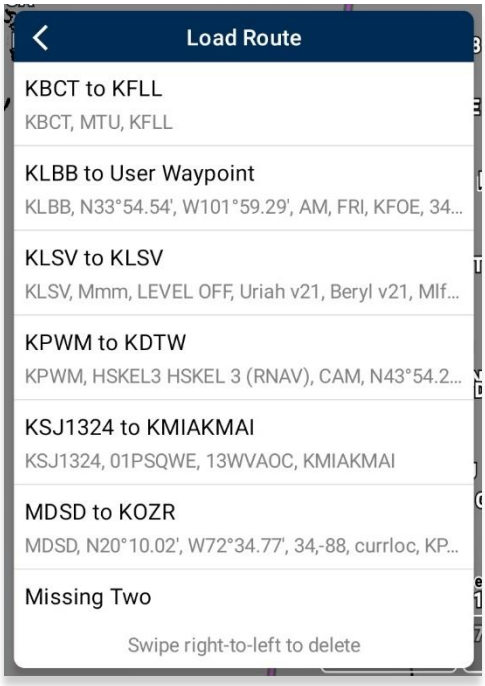
- Load
- Save
- Reverse
- Clear



14.3.14.3.1.1 Load Route

The Load feature enables users to load sideloaded files such as Breadcrumbs, CRD files, KML/KMZ files, and any saved route into their Route Panel. Refer to the sections ahead for reference in loading specific routes into the Route Panel.

1. Navigate to the ***Route Panel***.
2. Tap **Route.**
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Load**.
5. Select the route that you wish to load.
6. The route will be displayed in ***Route Panel*** as the current route.

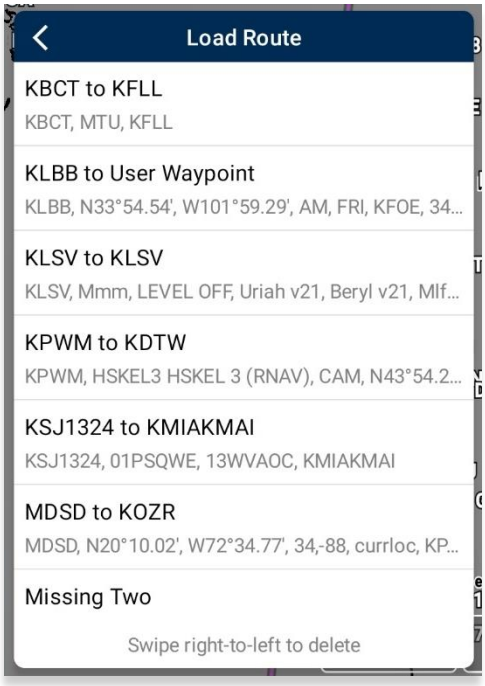


NOTE: When loading an invalid route into Aero App, an error message will appear to inform the users that the points cannot be loaded. Users will be given options to **Save** or **Remove and Continue**.

14.3.14.3.1.1.1 Load Common Route Definition (CRD) File

Aero App enables users to load CRD files into Aero App. Refer to Section 10.6 for guidance on how to sideload CRD files.

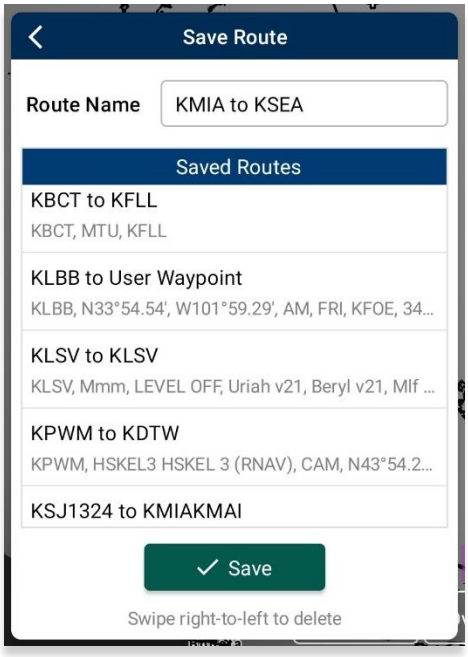
1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Load.**
5. Locate and tap the CRD files that were loaded into Aero App. The CRD files will show on the ***Route Panel*** as the current route.



NOTE: When loading an invalid CRD file into Aero App, an error message will appear to inform the users that the points cannot be loaded. Users will be given options to **Save** or **Remove and Continue**.

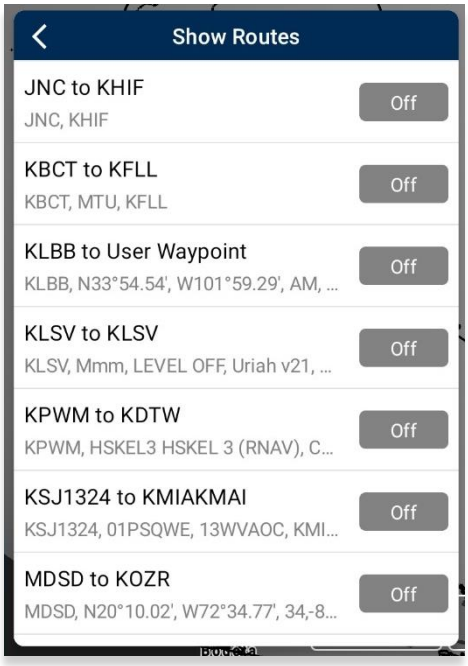
14.3.14.3.1.1.2 Save a CRD File

1. Navigate to the **Route Panel.**
2. Tap **Route.**
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Save**.
5. Tap in the *Route Name* text box and change the route's name to desired name.
6. Once the CRD file has been renamed, tap **Save**. The changes will be added to the Saved Routes list.



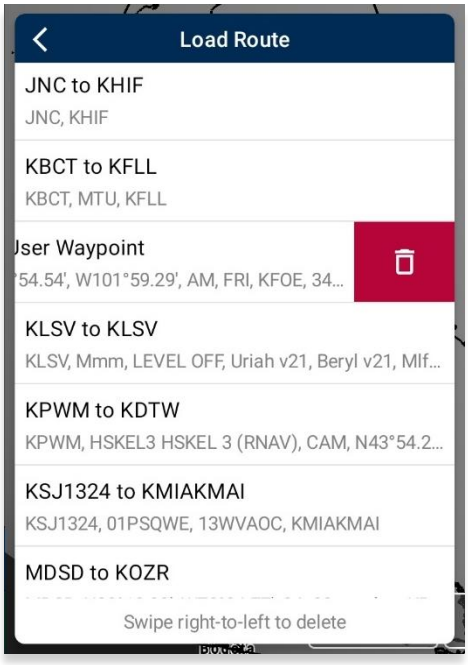
14.3.14.3.1.1.3 View a CRD File

1. Navigate to the **Route Panel**.
2. Tap **Route**.
3. The Route menu will appear. Select **Show** from the side menu.
4. Tap **Routes.**
5. A list of saved CRD files will be listed. Tap to select a desired CRD file and the route will display on the map.



14.3.14.3.1.1.4 Delete a CRD File

1. Navigate to the **Route Panel**.
2. Tap **Route.**
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Load.**
5. Swipe right-to-left to reveal the *Delete* button. Tap **Delete** and the route will be permanently removed.

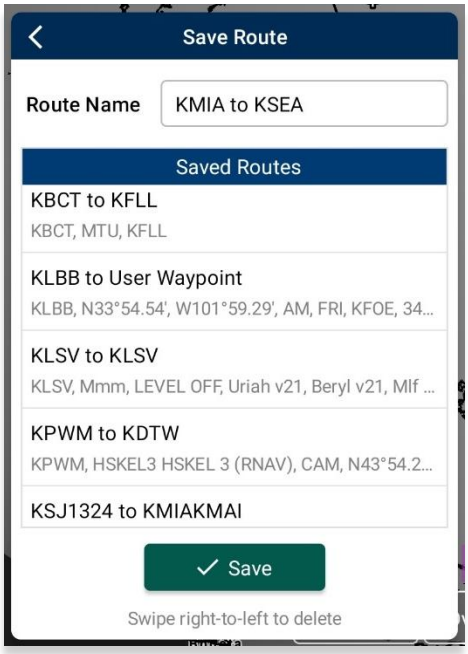


6. Tap **Delete** and a warning message will pop up.
7. Tap **Delete** to agree with the warning message and continue the action.
8. Tap **Cancel** to void action.

NOTE: Users can delete single CRD files when a single CRD route is sideloaded into Aero App. Multiple routes will be deleted if the CRD route has associated routes.

14.3.14.3.1.2 Save Route

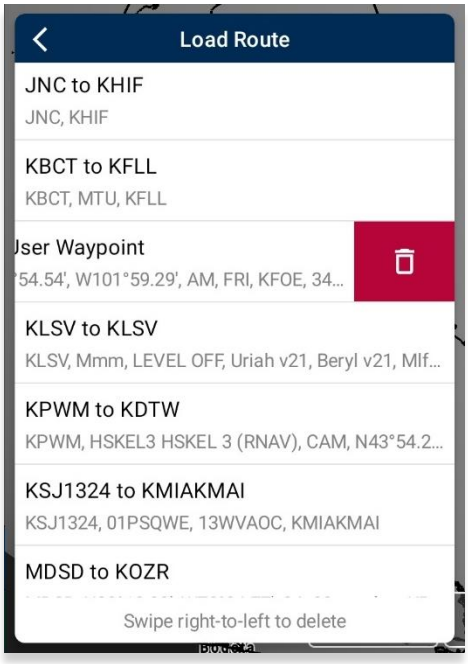
1. Create a route by loading desired points to the Route Panel.
2. Tap **Route**.
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Save**.
5. The Route Name will display a preselected name, containing the <Departure> to <Arrival> points. If necessary, rename the route name to the desired name.
6. Tap **Save**. The route will be saved and be added to the *Load Route* table.



NOTE: When entering a new route name, the name can only contain alphanumeric (lower and upper case) characters, spaces, and hyphens.

14.3.14.3.1.2.1 Delete Route

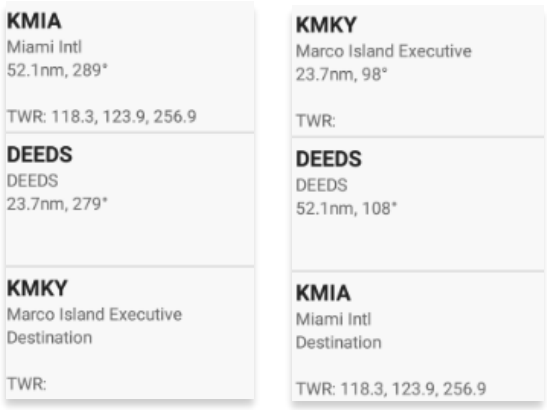
1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap the options ***Load*** or ***Save***.
5. Swipe right-to-left to reveal the *Delete* button. Tap **Delete** and the route will be permanently removed.



NOTE: Alternatively, users can delete a route from the Save Route view.

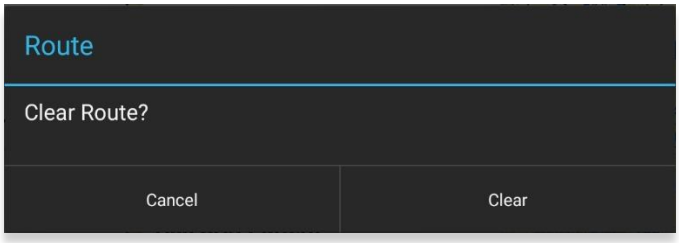
14.3.14.3.1.3 Reverse Route

1. Navigate to the ***Route Panel.***
2. Tap **Route**.
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Reverse**.
5. The departure point shifts to arrival and the arrival point shifts to departure.



14.3.14.3.1.4 Clear Route

1. Navigate to the ***Route Panel***.
2. Tap **Route.**
3. The Route menu will appear. Select **Actions** from the side menu, if necessary.
4. Tap **Clear**.
5. A confirmation popup will appear. Tap **Clear** to confirm action.
6. Tap **Cancel** to abort action.



NOTE: Clearing a route clears the current route. It does not delete any saved routes.

14.3.14.3.2 Add

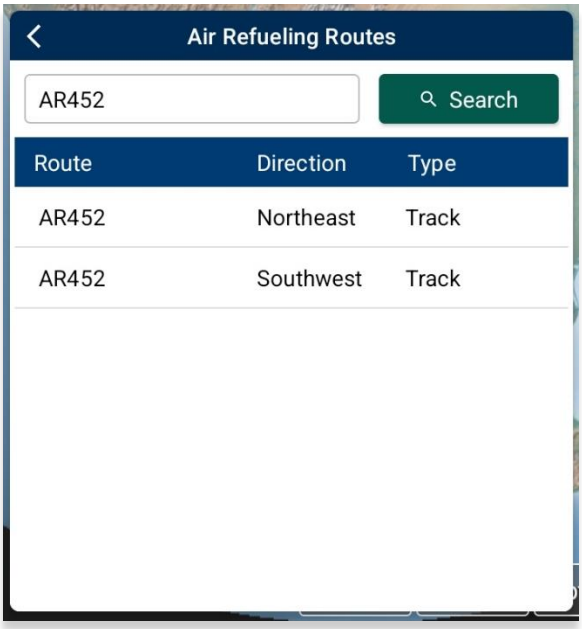
Add allows for users to optimize their planning and provide users the ability to predefine their routes to ensure their mission runs smoothly. The following options are available and will be further elaborated in the sections to follow:

- Air Refueling Route
- Preferred Route
- Search and Rescue (SAR)

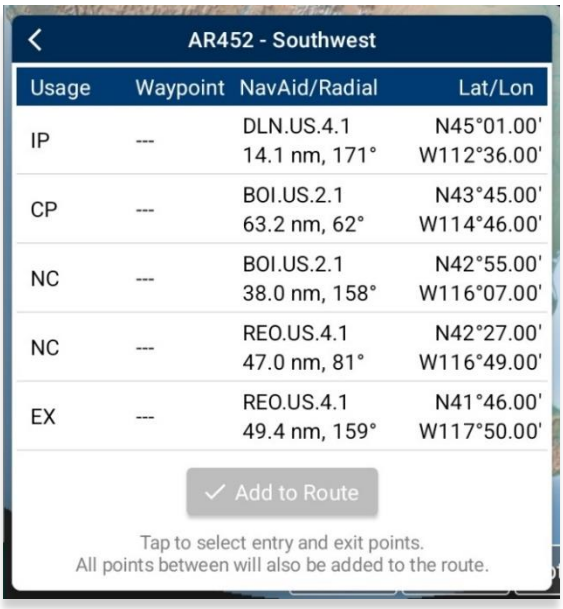
14.3.14.3.2.1 Add Air Refueling Route

Aero App enables users to add a Refueling Route from their Route Panel. The Air Refueling Route will populate on the current route and on the Moving Map.

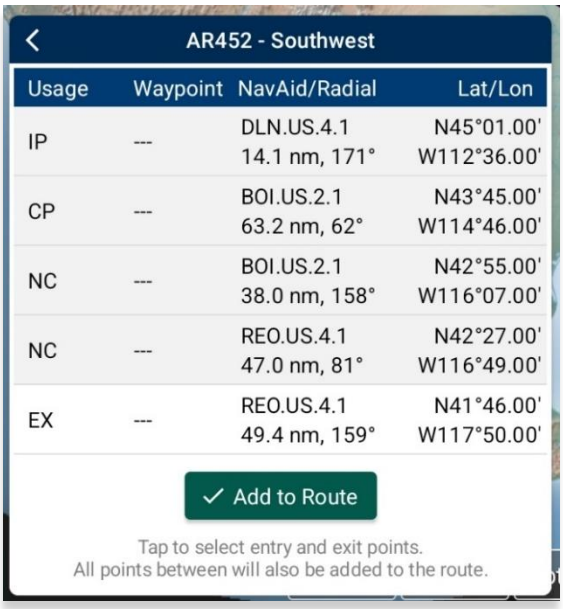
1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Add** from the side menu.
4. Tap **Air Refueling Route**.
5. An Air Refueling Route popup will display. In the textbox, enter an air refueling route. After three characters are entered, an auto search will begin.
6. Tap **Search** once desired route is entered. Alternatively, users can select a route from the routes that appear under the search box.



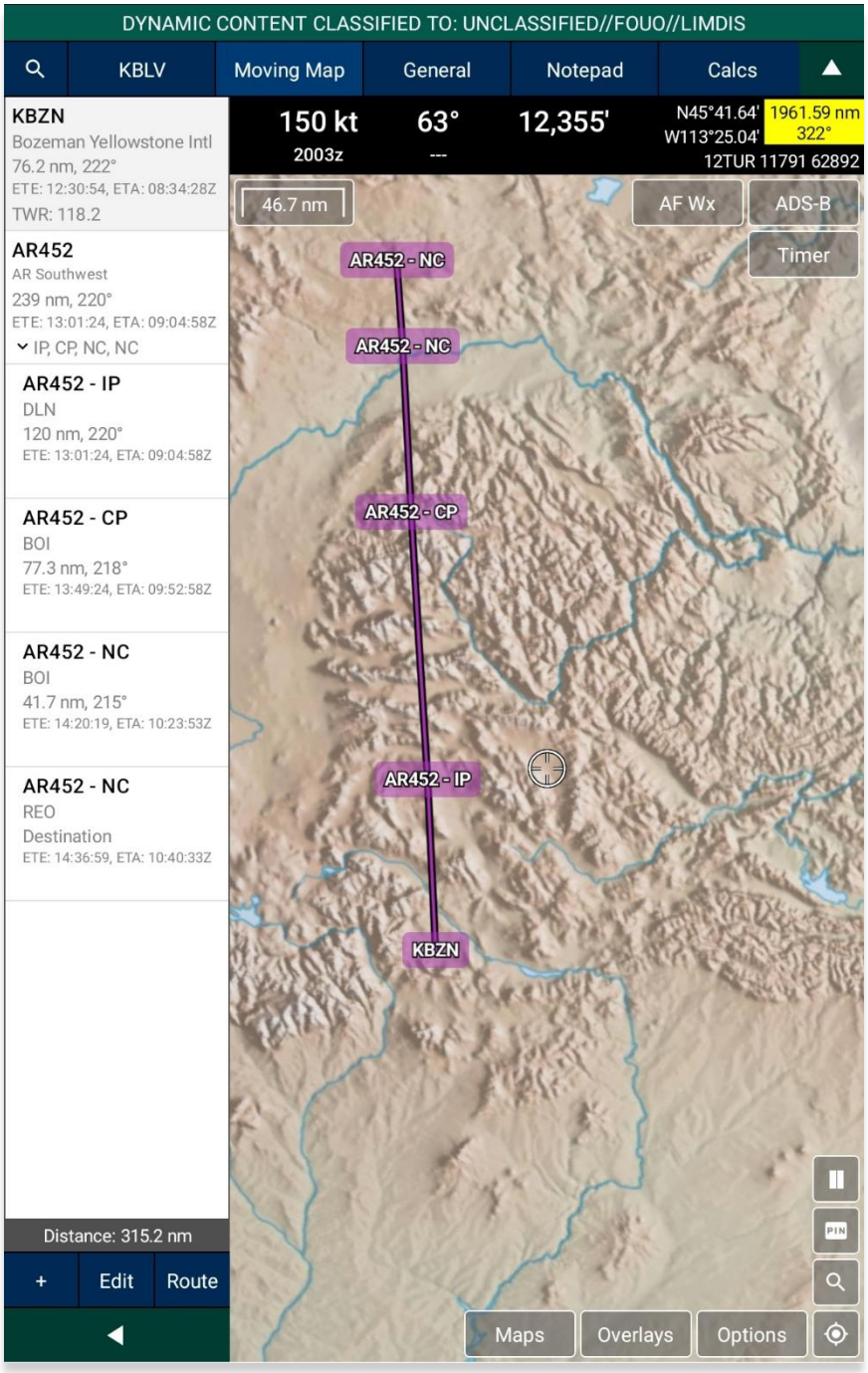
7. Points list displays the columns for Usage, Waypoint, NavAid/Radial and Lat/Lon.



8. Tap on a row to select *entry point*, and the row will be shaded gray to indicate the point is selected.
9. Tap on a row to select *exit point*, and the points between will be shaded gray to indicate all the points will be added to the current route.
10. Once selections are completed, the Add to Route button will be selectable. Tap **Add to Route**.



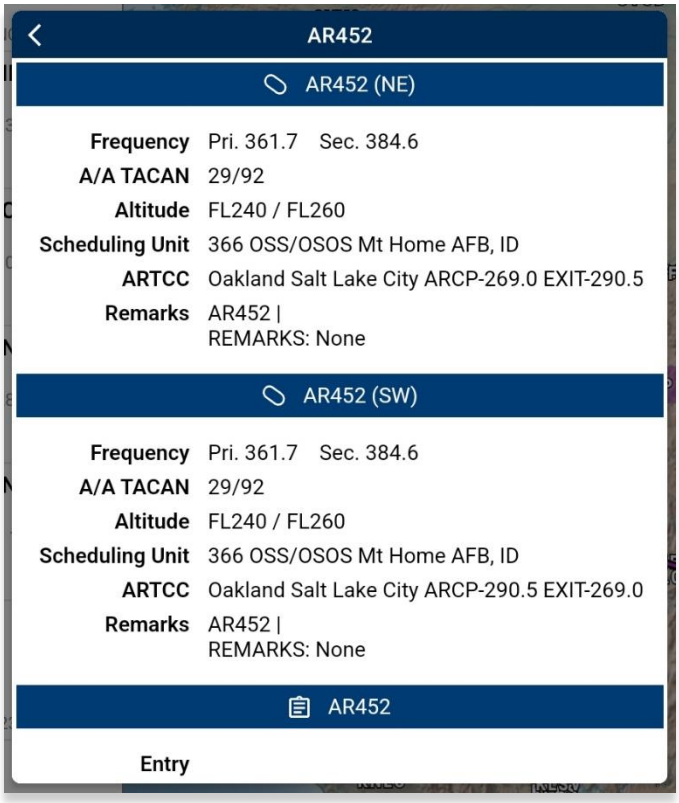
11. The points will populate to the current route and displayed on the Moving Map.



14.3.14.3.2.1.1 View Air Refueling Route

Pilots can tap an Air Refueling Route on the Moving Map to view additional information such as its Frequency, A/A Tacan, Alternatives, Scheduling Unit, ARTCC, and its Remarks.

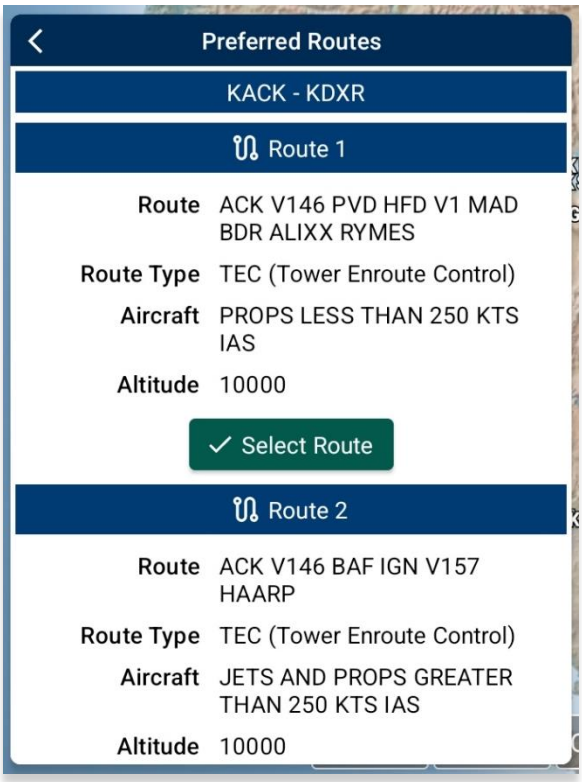
1. Navigate to the ***Moving Map*** and select a refueling route point.
2. The Moving Map menu will display. Select **Show** from the side menu.
3. Tap **Info and Wx**.
4. The Information screen will display additional information such the refueling route's Frequency, A/A Tacan, Alternatives, Scheduling Unit, ARTCC, and its Remarks.



14.3.14.3.2.2 Preferred Route

Aero App enables users to select a preferred route when planning a route. While entering a route with an origin and destination, Preferred Route will be enabled with a list of preferred routes available for users.

1. Navigate to the ***Route Panel***.
2. Ensure that a route is entered in the route panel.
3. Tap **Route**.
4. The Route menu will appear. Select **Add** from the side menu.
5. Tap **Preferred Route**.
6. A list of preferred routes will be displayed. Tap **Select Route** once desired route is found, and the new route will display on the route panel.

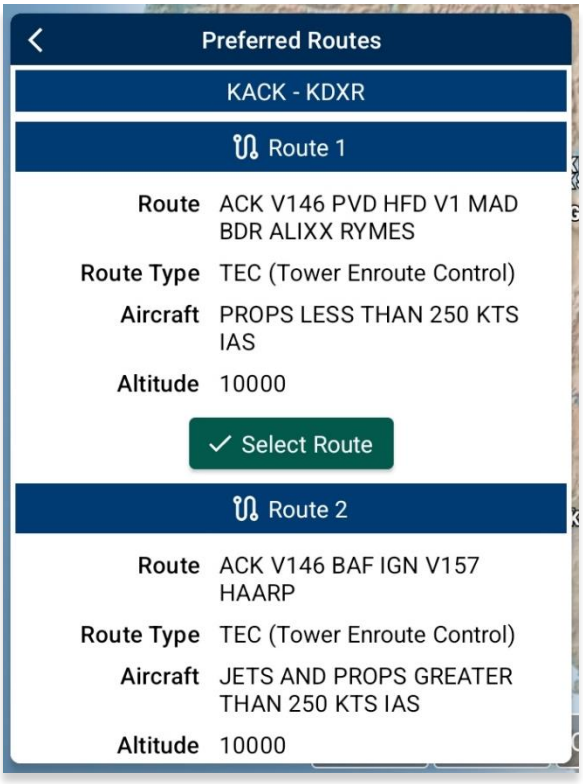


7. When selecting an alternative preferred route, a dialog box will appear, tap **Use Preferred Route** and a new route will apply onto your Route Panel.
8. Tap **Cancel** to discard all changes.

14.3.14.3.2.2.1 Preferred Route with DP and STAR

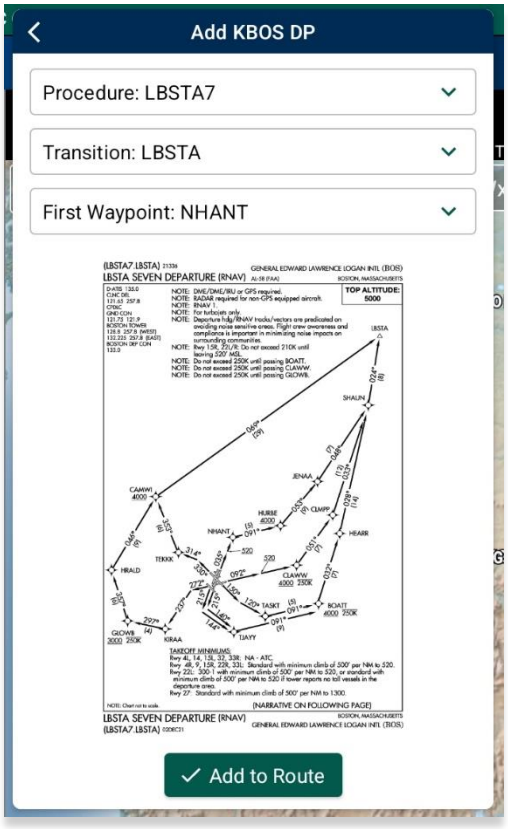
Aero App enables users to select any DPs or STARs, if applicable.

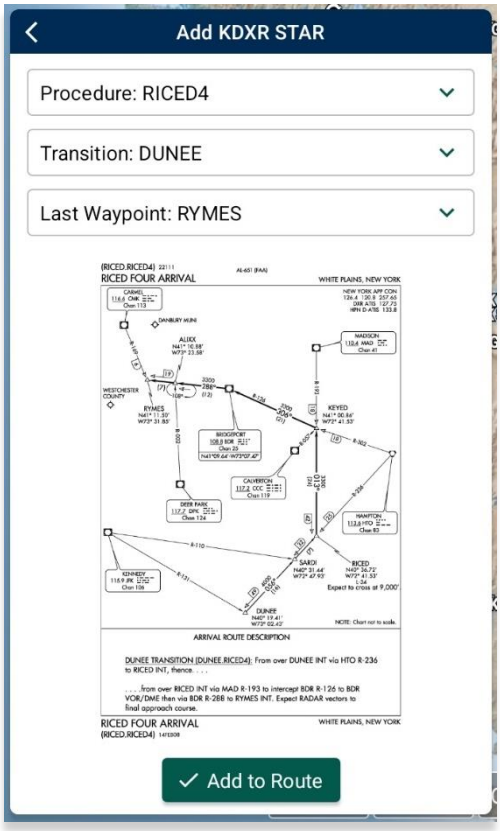
1. Navigate to the ***Route Panel***.
2. Ensure that a route is entered in the route panel**.**
3. Tap **Route**.
4. The Route menu will appear. Select **Add** from the side menu.
5. Tap **Preferred Route**.
6. A list of preferred routes will be displayed. Select a desired route.



7. Select **DP** or **STAR**, if applicable.

8. Tap **Add to Route** when selections are completed.





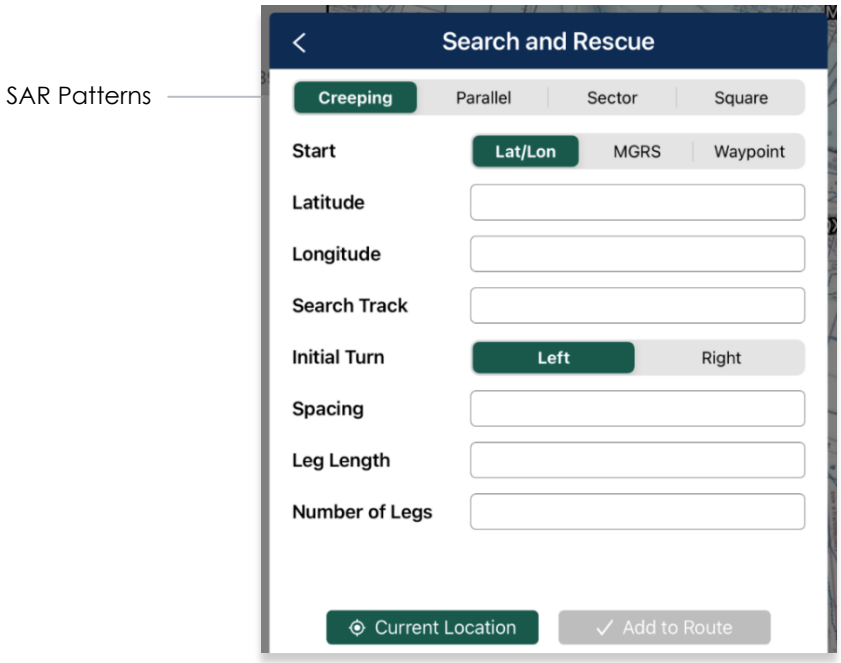
9. A Preferred Route dialog box will appear. Tap **Use Preferred Route** and the new route will apply onto your Route Panel.
10. Tap **Cancel** to discard all changes.

NOTE: The Preferred Route option will be disabled if there are no available preferred routes.

14.3.14.3.2.3 Add Search and Rescue (SAR) Pattern

Search and Rescue (SAR) provides pilots and rescue missions with search patterns within the searched area. These search patterns, such as creeping, parallel, sector, and square are displayed on the Moving Map and can be added to the current route.

1. Navigate to the ***Route Panel***.
2. Tap **Route.**
3. The Route menu will appear. Select **Add** from the side menu.
4. Tap **SAR**.
5. Tap to select or slide the segmented control to **Creeping, Parallel, Sector,** or **Square**. Respective to the selection, different fields will be available to specific *Pattern* options.

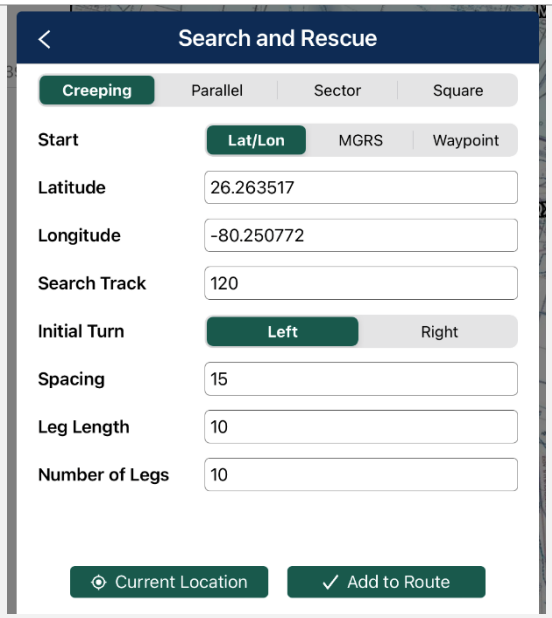


6. Tap to select or slide the segmented control to **Lat/Lon**, **MGRS**, or **Waypoint**.
7. Users can tap **Current Location** to set their current position as the coordinates or manually enter them in the Latitude and Longitude fields.
8. All fields are required; therefore, all fields must be filled.

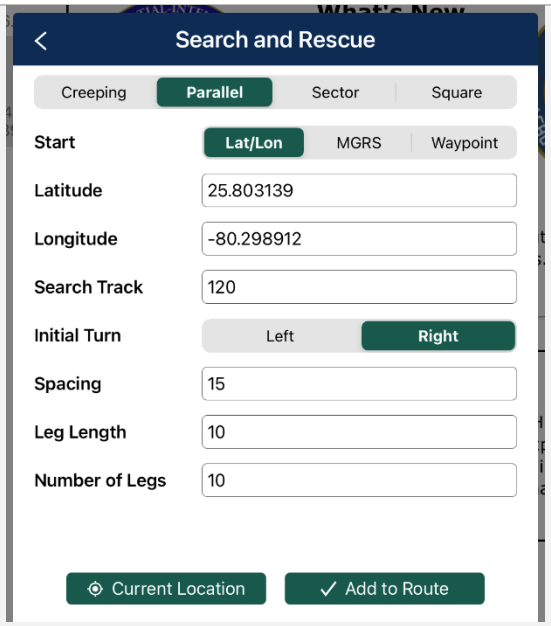
NOTE: When a decimal number is entered in the Number of Legs field, the field will revert to 1. To prevent this action from occurring, enter only whole numbers in the Number of Legs field.

9. Add to Route will become selectable once all required fields are filled. Tap **Add to Route**.

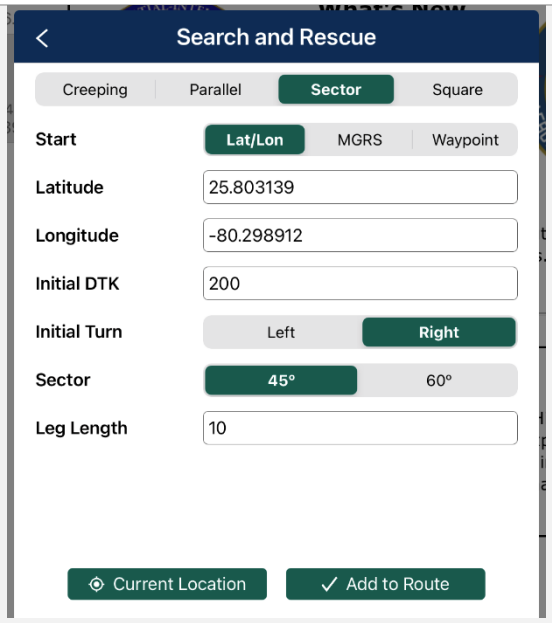
Creeping



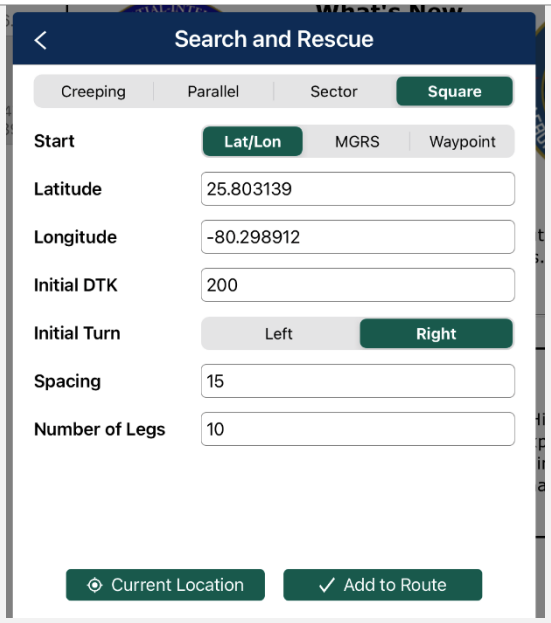
Parallel



Sector



Square



14.3.14.3.3 Send

The Send option allows users to file Flight Plans. The feature will be further elaborated in the sections to follow.

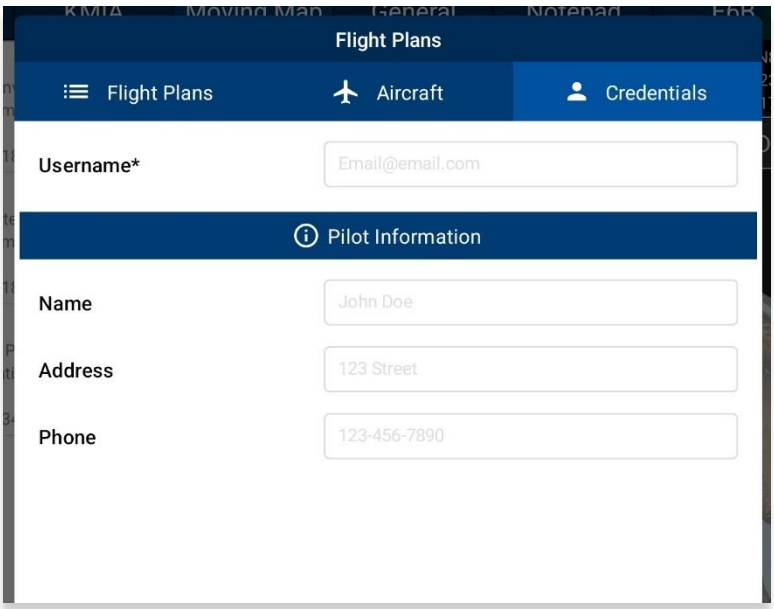
14.3.14.3.3.1 Flight Plans

Aero App enables users to conveniently file ICAO flight plans. From the Route Panel, users can access previously filed flight plans, add or edit Aircraft information for ease of access when filing a new flight plan, and enter or update Flight Service credentials. This feature is available to FAA and DOD users.

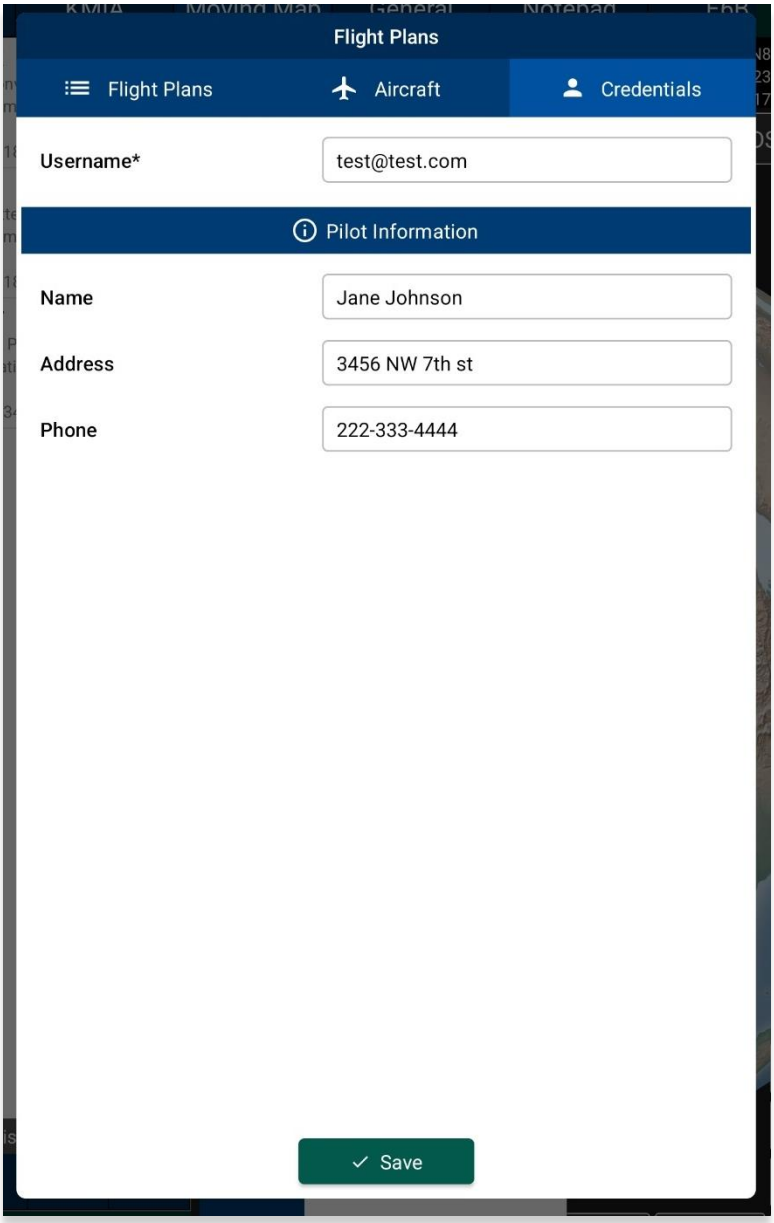
14.3.14.3.3.1.1 Credentials

Users must enter Flight Service credentials prior to filing a Flight Plan. Aero App must be authorized by the user to file flight plans on the user's behalf. To authorize Aero App, refer to your account at: www.1800wxbrief.com.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Send** from the side menu.
4. Tap **File Flight Plan**.
5. The Flight Plans view will appear. Select **Credentials** from the navigational bar.
6. From the Credentials view, tap **Edit** and the text boxes will become selectable.



7. To associate your filings with your flight service account, enter your Flight Service username in the username text box.
8. Tap **Save** once necessary fields are filled.



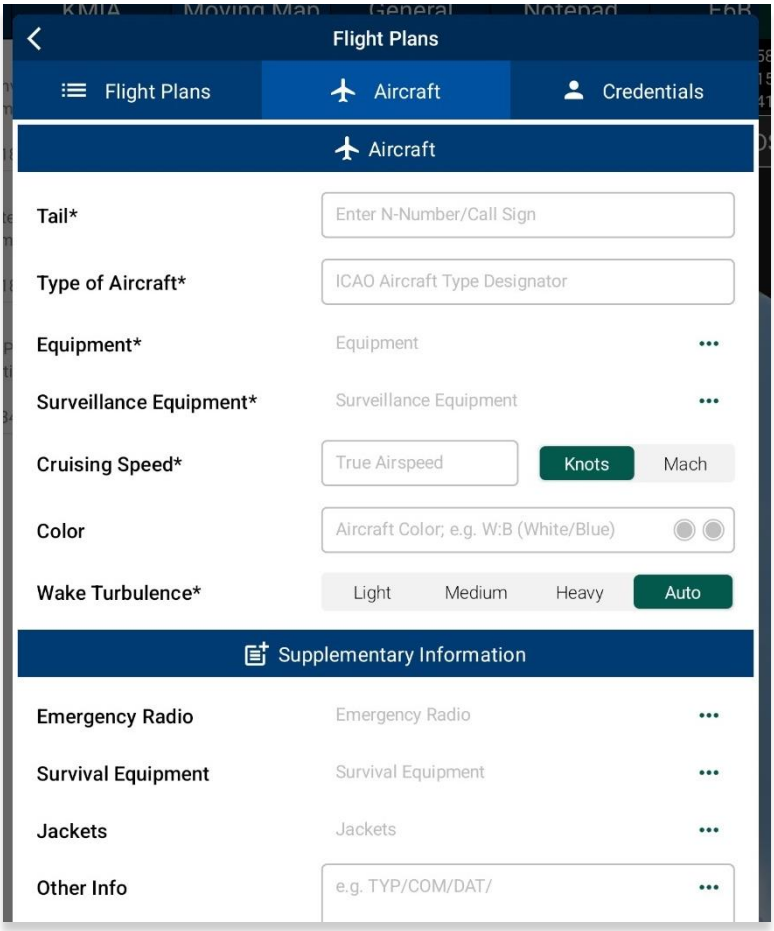
9. Tap **Edit** to modify the information entered.

NOTE: Pilot information is not required but can be useful as previously established pilot information will auto-populate in the Pilot Information fields when filing a flight plan.

14.3.14.3.3.1.2 New Aircraft

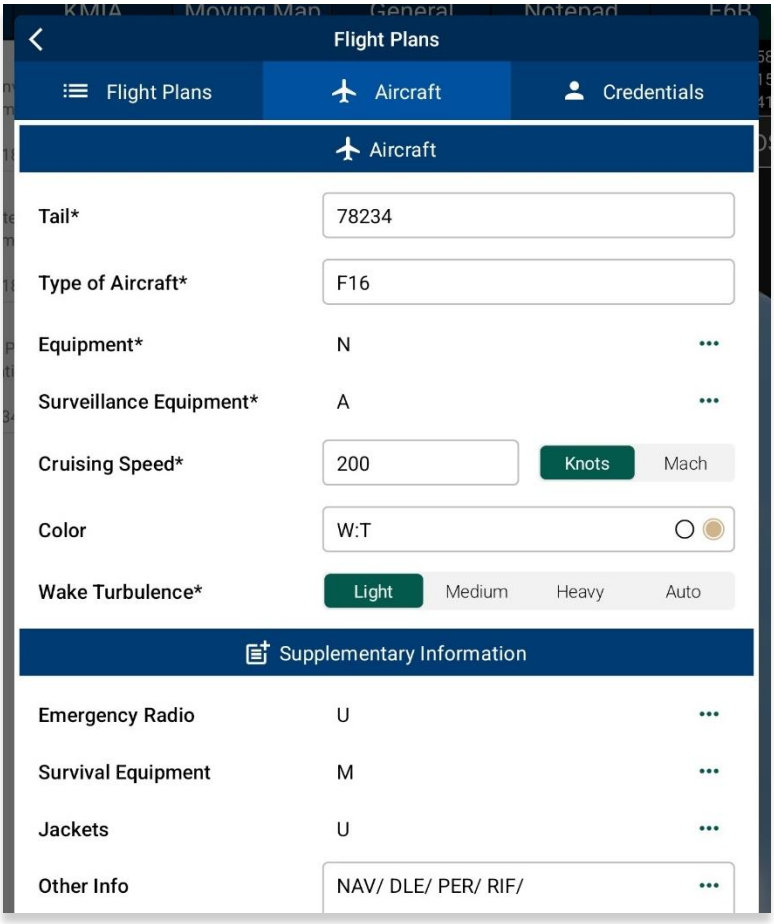
Users can save aircraft information for ease of access when filing a flight plan.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Send** from the side menu.
4. Tap **File Flight Plan**.
5. The Flight Plans view will appear. Select **Aircraft** from the navigational bar.
6. From the Aircraft view, tap **+ New,** located at the bottom of the screen, and the ***Aircraft*** form will appear.
7. Fields will contain hint text in each text box, and some may include an ellipsis button that displays other available options to choose from.

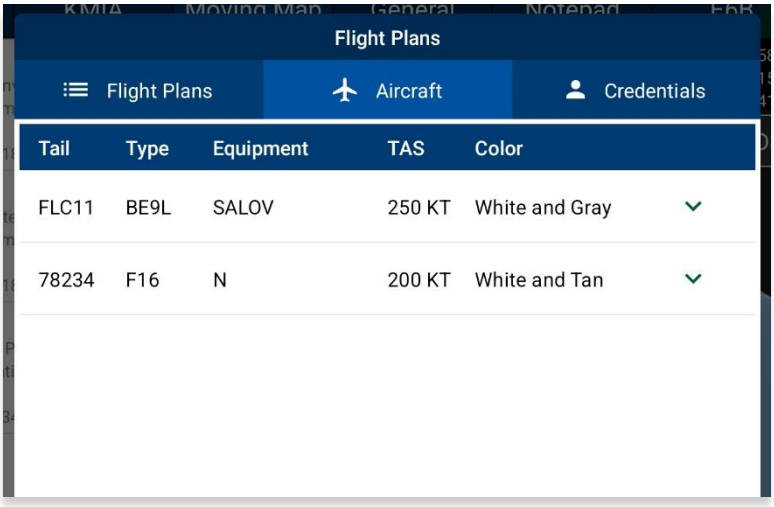


NOTE: Asterisks denote required fields.

8. Once the fields are filled, tap **Save**.



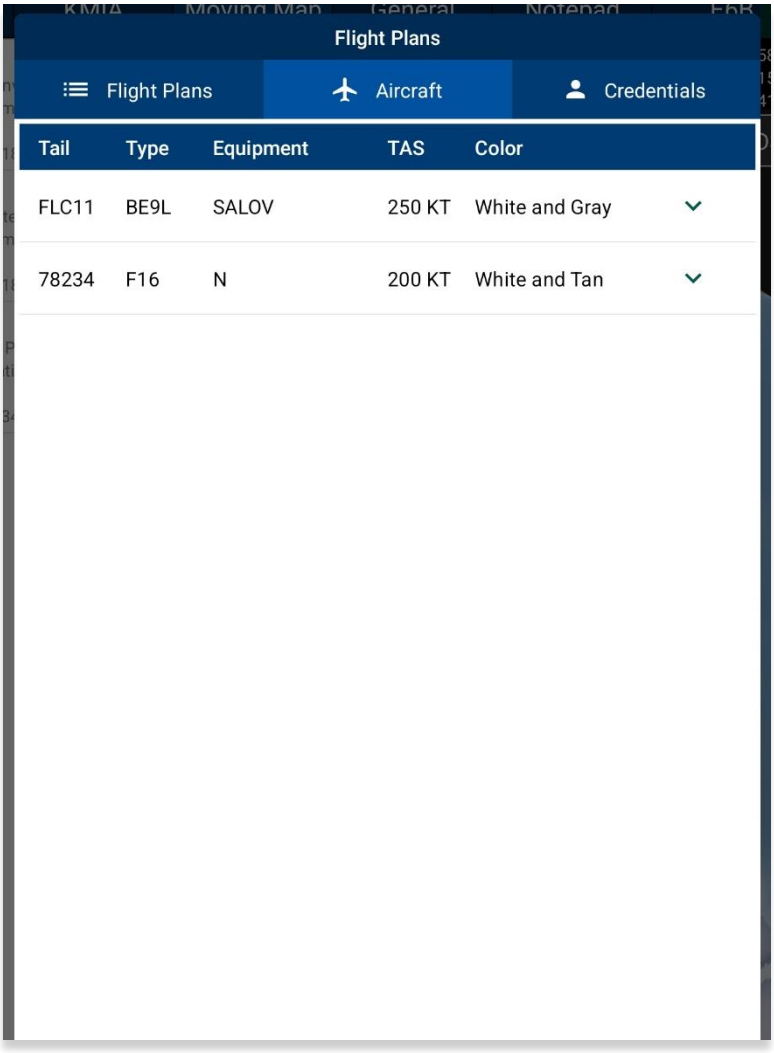
9. Your aircraft will be added to the Aircraft screen.



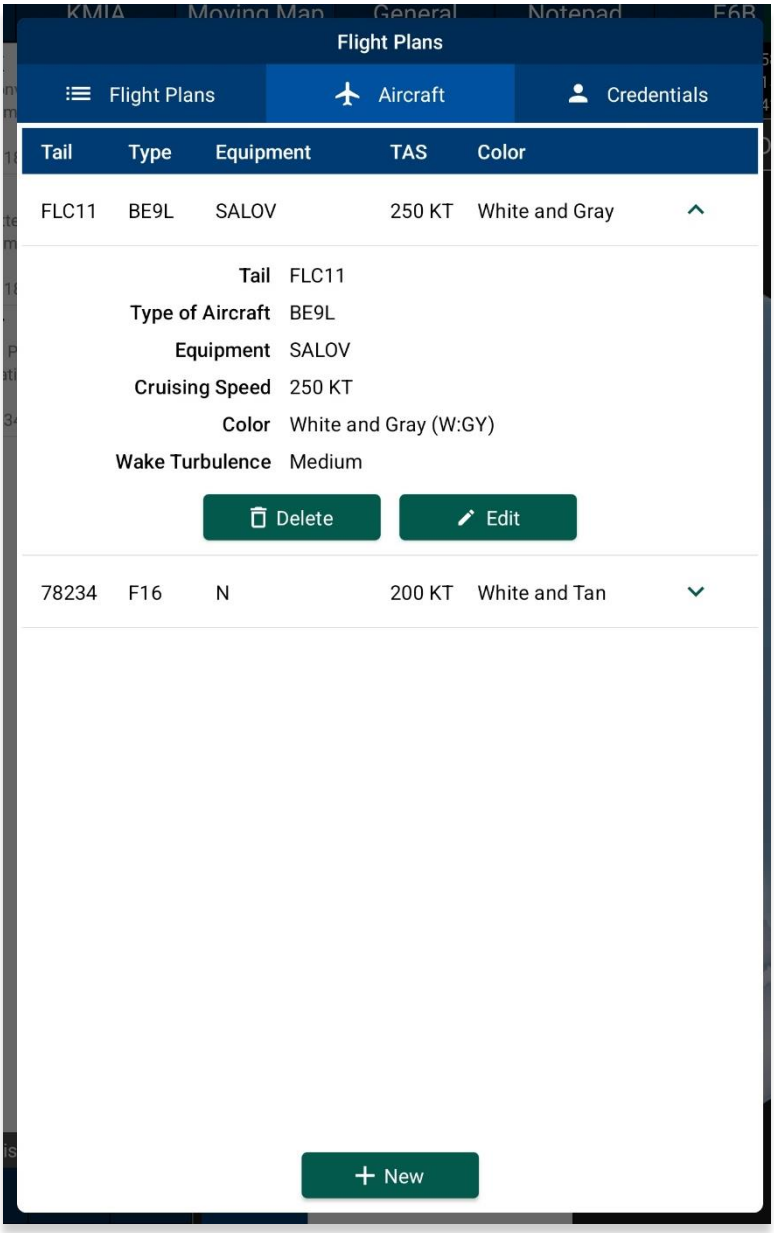
14.3.14.3.3.1.3 Aircraft

Users can view previously saved aircraft information such as its tail number, type, equipment, true airspeed, and color, and can be accessed from the Aircraft table.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Send** from the side menu.
4. Tap **File Flight Plan**.
5. The Flight Plans view will appear. Select **Aircraft** from the navigational bar.
6. The Aircraft table will appear listing all the created aircraft.



7. Tap the drop-down arrow to expand your aircraft information.
8. Tap **Edit** to modify your aircraft.
9. Tap **Delete** to remove that specific aircraft.

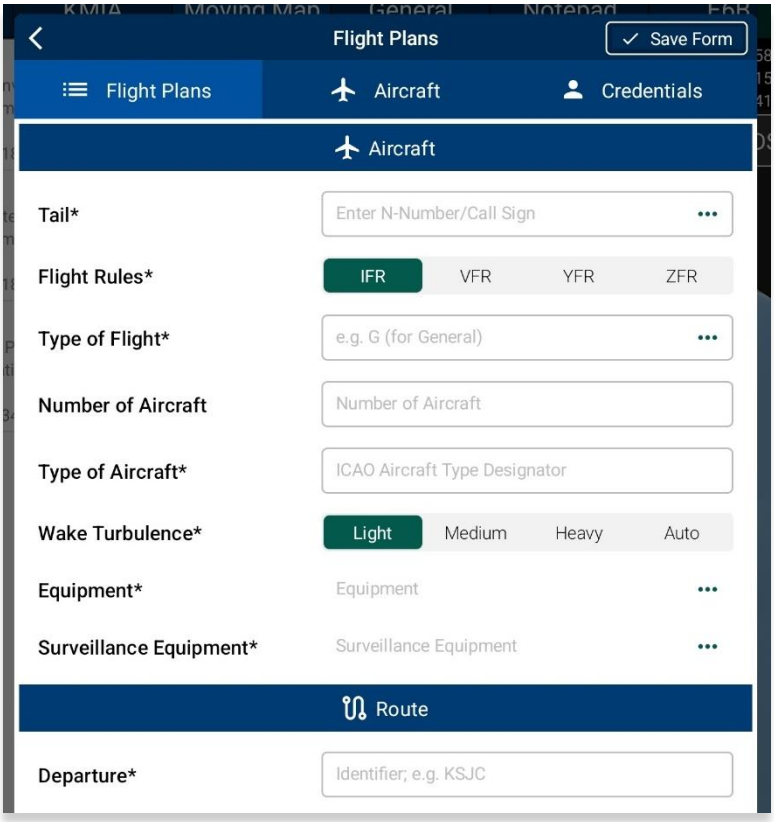


NOTE: Predefined aircraft, such as those obtained directly from the FAA, cannot be modified. The **Delete** and **Edit** buttons will therefore be disabled.

14.3.14.3.3.1.4 New Flight Plan

Users can file flight plans directly from Aero App.

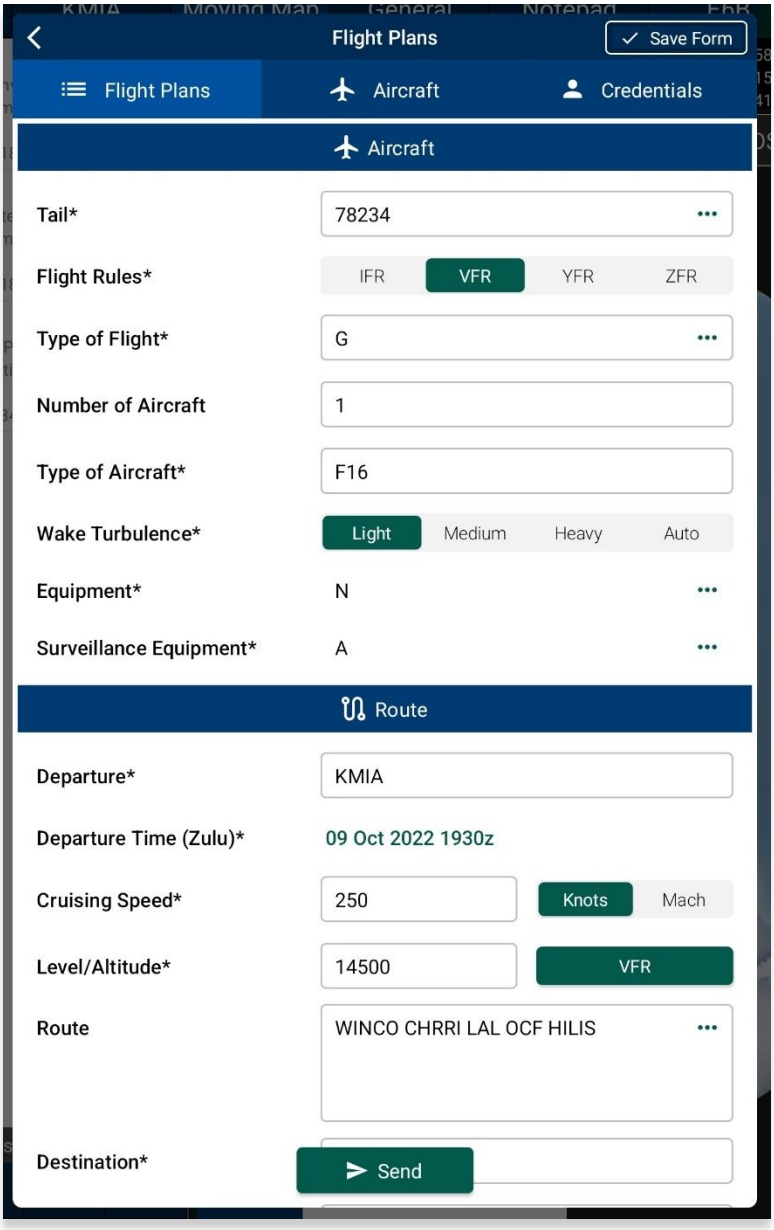
1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Send** from the side menu.
4. Tap **File Flight Plan**.
5. The Flight Plans view will appear. Tap **+New** located at the bottom of the screen and the ***New Flight Plan*** form will appear.
6. The form is broken up into sections such as *Aircraft*, *Route*, *Supplementary Information, Dinghies*, and *Additional Information*.
7. Fields will contain hint text in each text box, and some may include an ellipsis button that displays other available options to choose from.



NOTE: Users can auto-fill aircraft information by tapping the ellipsis icon in the Aircraft field and selecting a previously saved aircraft.

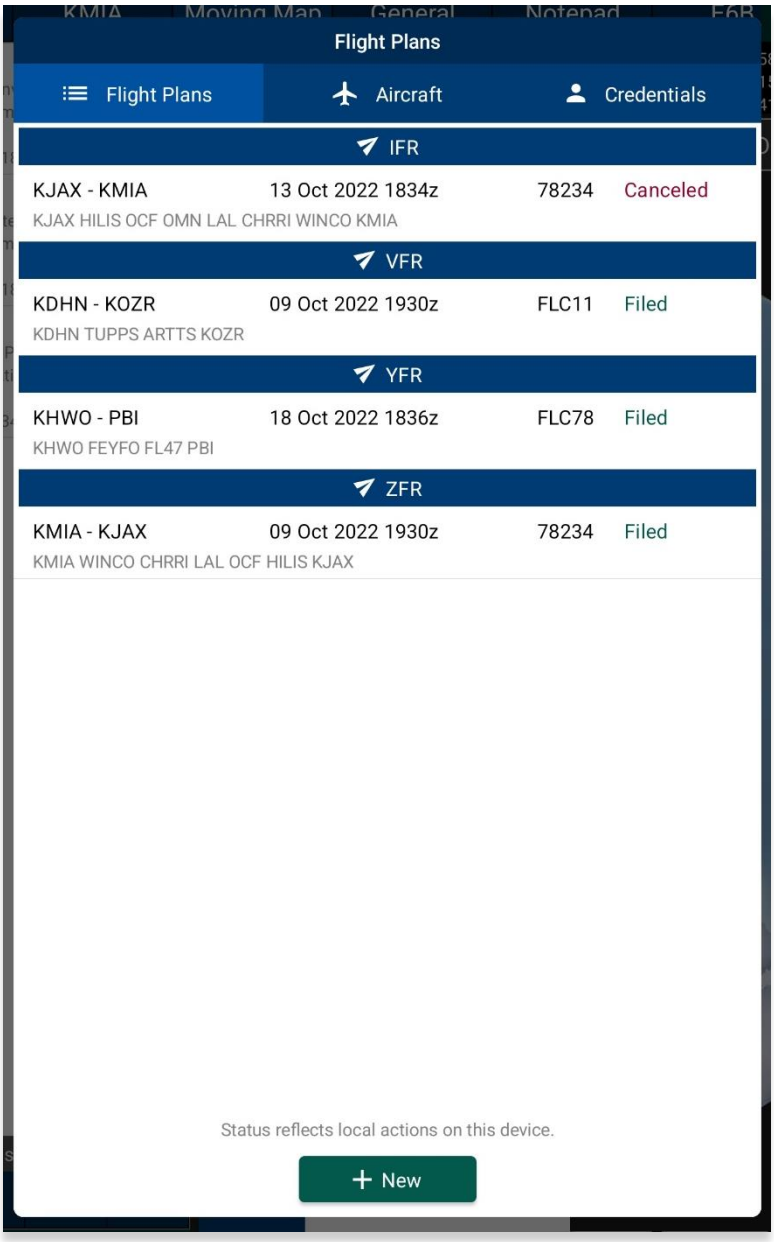
NOTE: Asterisks denote required field.

8. Once the fields are filled, tap **Send**, located at the bottom of the view, to file your flight plan.



NOTE: The Save Form button placed on the header of the Flight Plan form saves any entered data for ease of access upon returning to the screen. However, the entered data will automatically be saved whenever the user accidentally exits the view.

9. Your filed flight plan will appear on the Flight Plans screen previewing your flight information such as the entire route, the entered departure time in which the flight plan was filed, the aircraft's tail number, and the status of the plan.

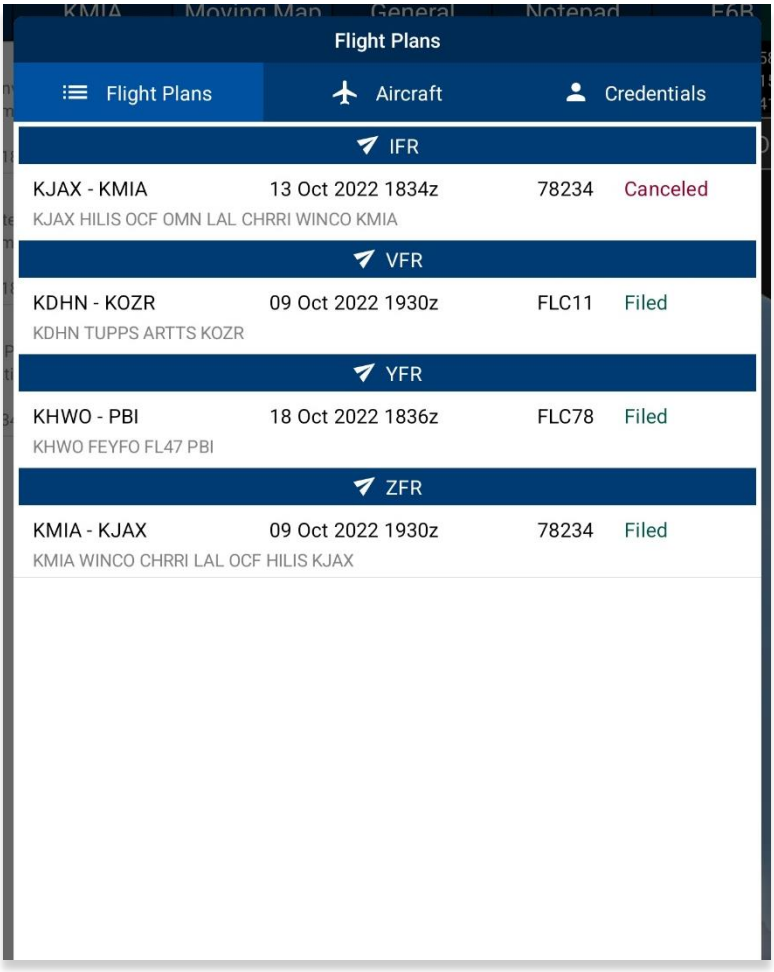


NOTE: Users must enter credentials prior to filing a flight plan.

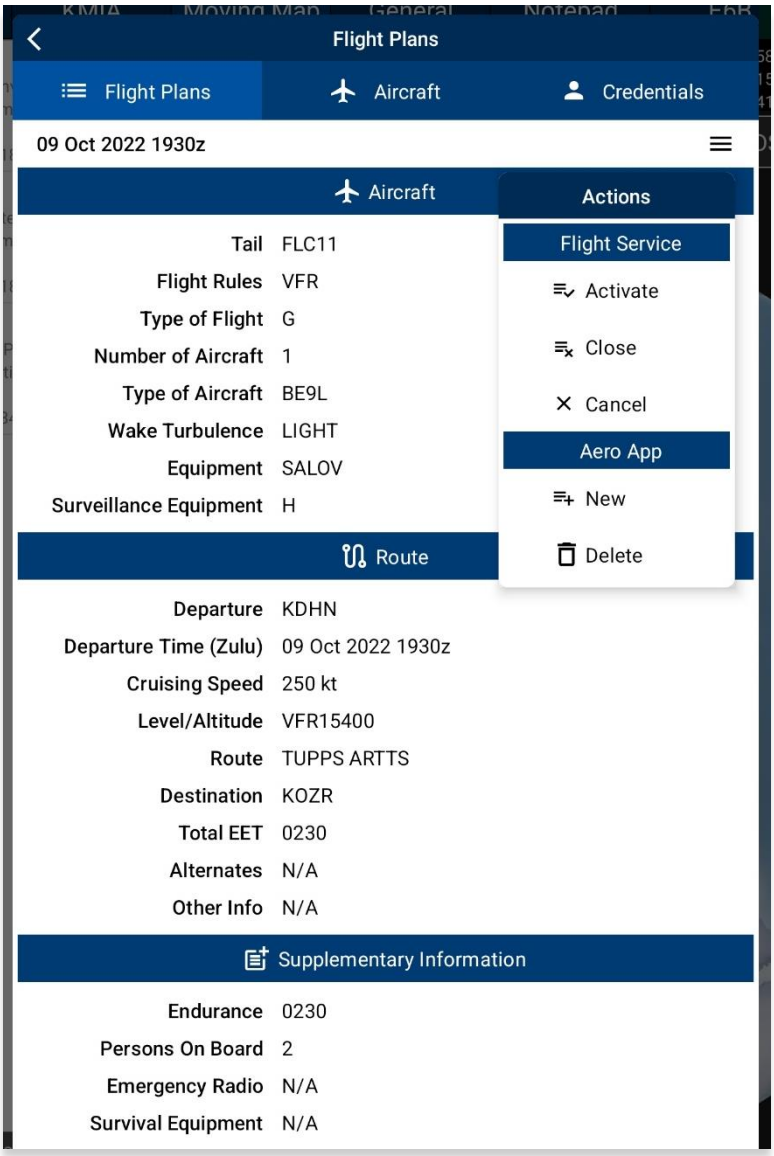
14.3.14.3.3.1.5 Flight Plans

By default, Flight Plans will be the first view that is visible to users. Filed flight plans are listed and sorted by IFR, VFR, YFR, and ZFR. Each filed flight plan previews the route, the entered departure time in which the flight plan was filed, the aircraft's tail number, and the status of the plan.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Select **Send** from the side menu.
4. Tap **File Flight Plan**.
5. The Flight Plans view will appear and display a table containing the list of all filed flight plans. Select your desired filed flight plan.



6. The Filed Flight Plan view will display with your flight plan information. Tap the hamburger button and the Actions menu will display with the following options:
    - **Activate** – initiates the filed flight plan
    - **Close** – closes previously activated flight plan
    - **Cancel** – dismisses the flight plan
    - **New** – redirects view to the New Flight Plan screen
    - **Delete** – permanently removes the filed flight plan from the table



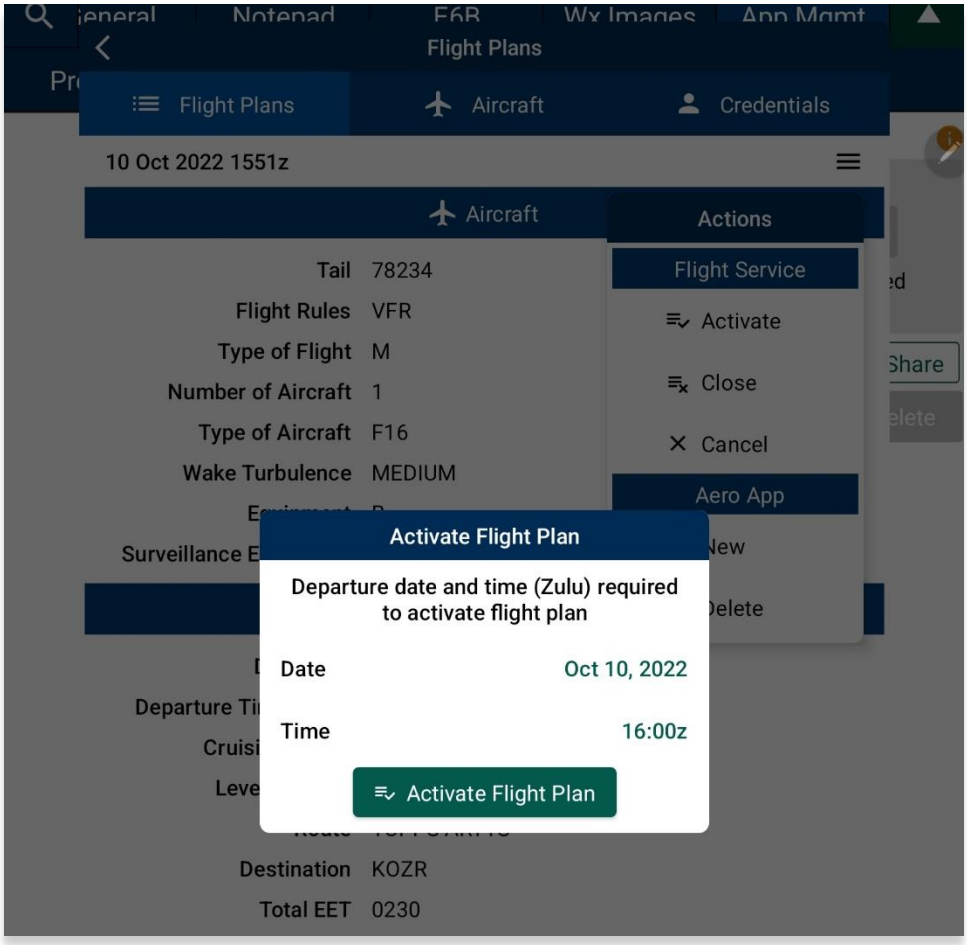
NOTE: Flight Plans such as IFR and YFR cannot be activated. However, IFR and YFR can be canceled.

14.3.14.3.3.1.5.1 Actions for Filed Flight Plan

Actions for Filed Flight Plan provides operations such as the ability to Activate, Close, and Cancel the pilot's filed Flight Plan directly from Aero App. The request to Activate, Close, and Cancel will reflect the Flight Service provider, but actions made through the provider will NOT reflect on Aero App.

Additional options such as New and Delete are used to file a new Flight Plan or delete the selected plan. When selecting New, the selected plan's information will populate onto the new Flight Plan form.

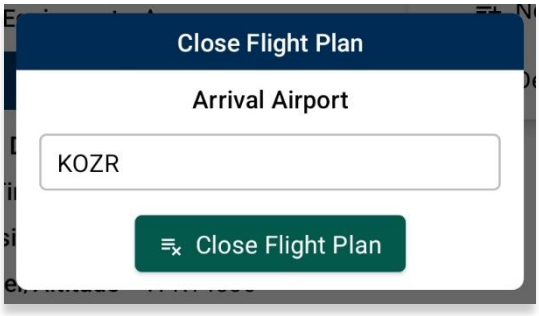
1. Tap the **hamburger** button to display the Actions Menu.
2. To initiate the flight plan, tap **Activate**.
3. The Activate Flight Plan popup will display. Select the **departure date** and **time** (Zulu) in which you would like to activate the flight plan.
4. Tap **Activate Flight Plan** once completed.



5. To close the flight plan, tap **Close**.

NOTE: The flight plan must be activated to **Close** the plan.

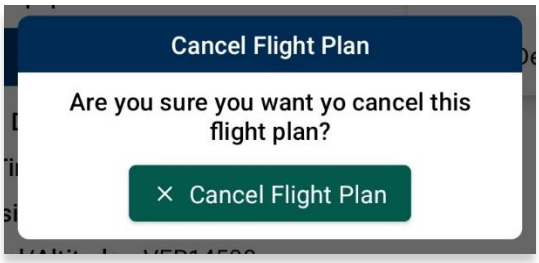
6. The Close Flight Plan popup will display. Enter the **arrival airport** of your flight plan. The nearest airport will be suggested as the arrival airport. To remove the suggested airport, tap the textbox and enter desired arrival airport.
7. Tap **Close Flight Plan** to confirm the action.



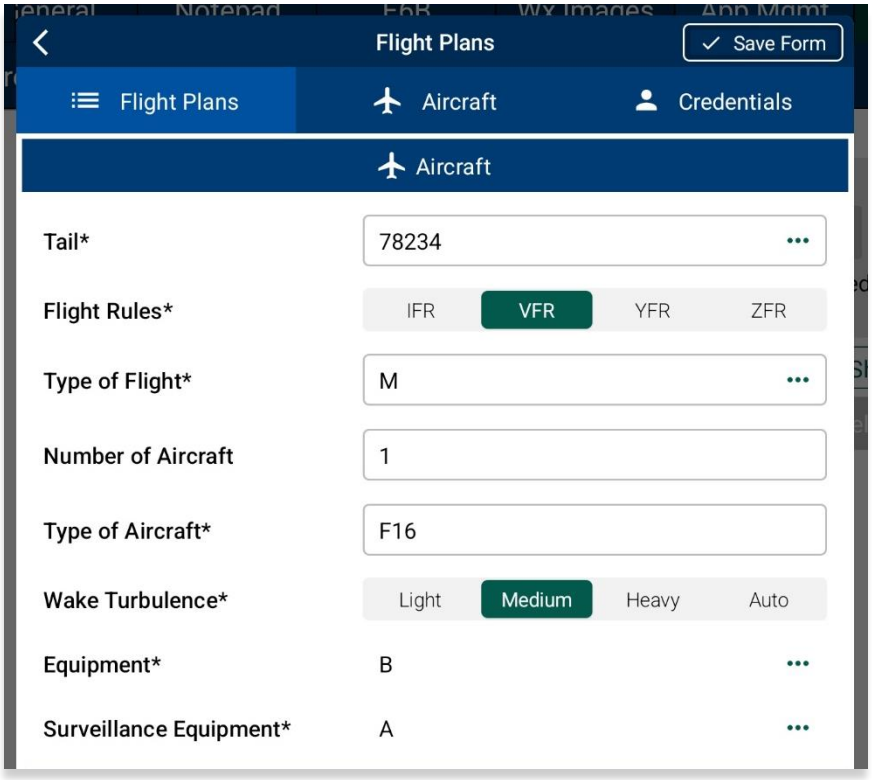
8. To dismiss the flight plan, tap **Cancel**.

NOTE: The flight plan can only be cancelled if it has not yet been activated.

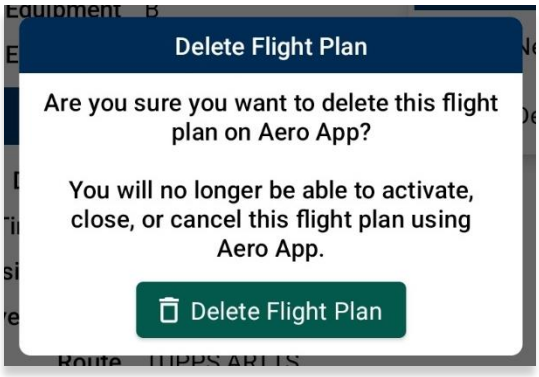
9. The Cancel Flight Plan popup confirmation will be displayed. Tap **Cancel Flight Plan** to confirm action.
10. Tap outside of the popup to void the action.



11. To create a new Flight Plan, tap **New**.
12. Users will be redirected to the New Flight Plan's form. The selected Flight Plan's information will populate onto the form. Users can keep the same information or modify the form in whichever way they would like. Refer to Section 14.3.14.3.3.1.4 for additional information.



13. To permanently remove the flight plan from Aero App, tap **Delete**.
14. The Delete Flight Plan popup confirmation will be displayed. Tap **Delete Flight Plan** to confirm action.
15. Tap outside of the popup to void the action.



14.3.14.3.4 Show

Show provides features to enhance the user's situational awareness when flying any mission. Features are as follows and will be further elaborated in the sections to follow:

- Doghouses
- Dropped Pins
- Dropped Hazards
- Point Shapes
- Routes
- User Waypoints
- Route Line Transparency

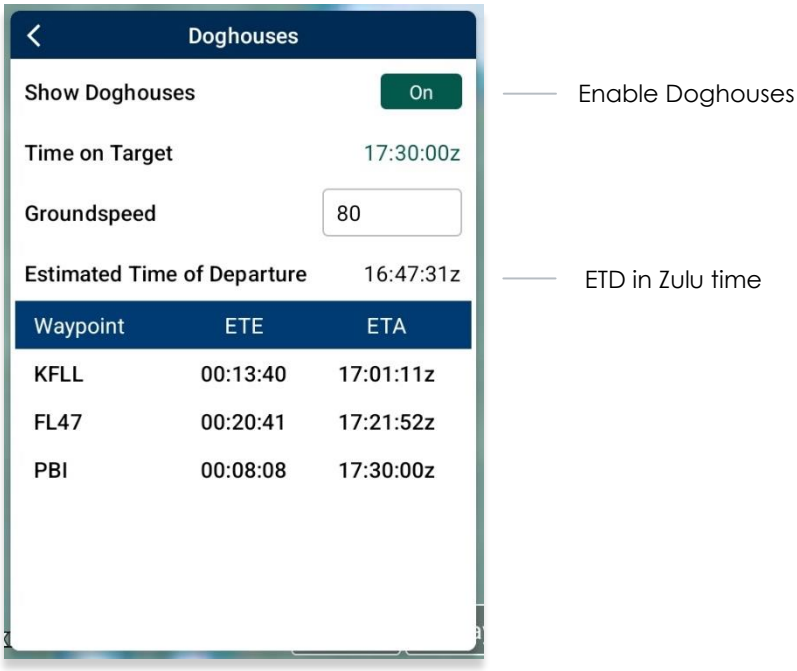
14.3.14.3.4.1 Doghouses

Doghouses enables users to display their route information such as their next point, heading, distance, time (MM+SS), and time ahead/behind/on schedule in order from top to bottom. Doghouses can display when entering Airports, Coordinates, MGRS, GARS, and Radial Off NavAids.

Once a route is entered, doghouses will populate on your Moving Map. The first doghouse on the current route will be displayed on the right side of the route. Each doghouse will be in the center between the last and next point on the route. Previous Doghouses will disappear as you pass the points on the active route.

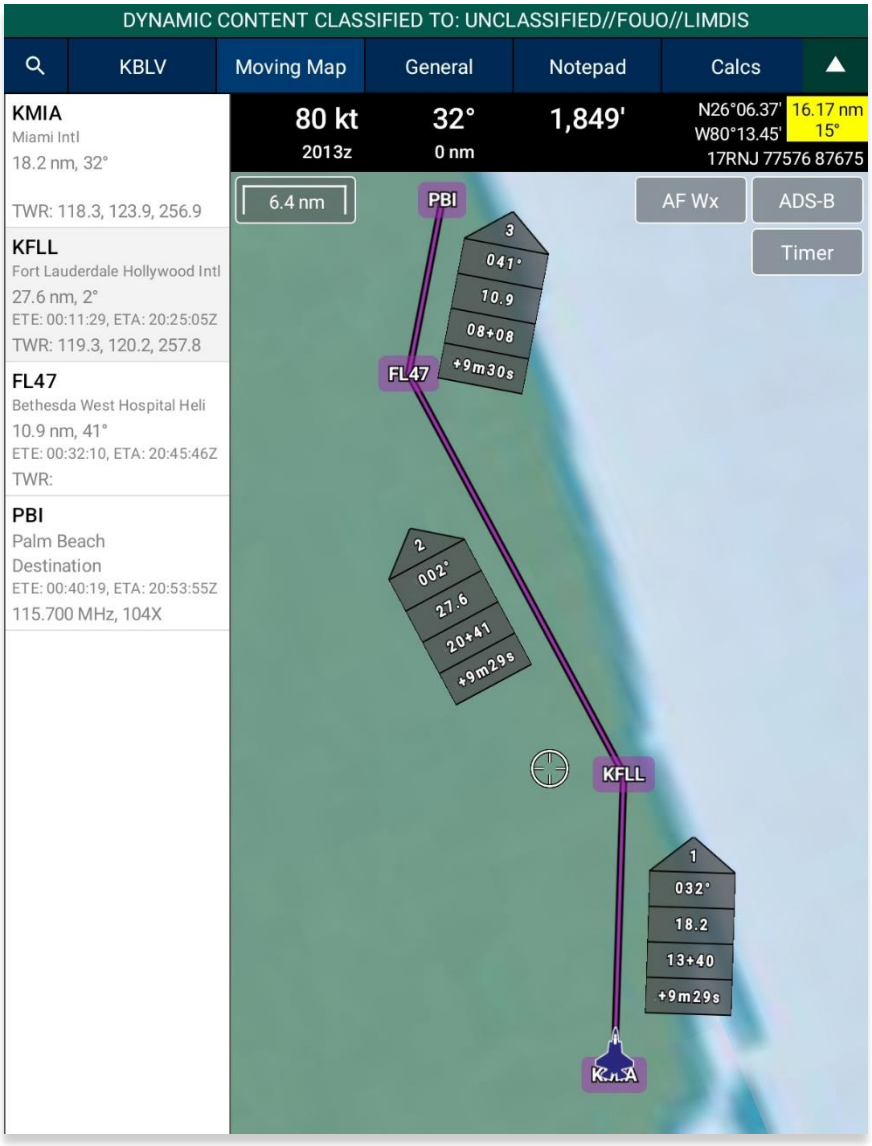
1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Tap **Doghouses**.
5. From the *Doghouses* popup, enable **Show Doghouses**.
6. Tap on the **Time on Target** time selection and scroll through the time format until desired time is met using the format of HH:MM:SS.

7. Tap on the **Groundspeed** text box and enter your groundspeed in knots. When a decimal number is entered, the number will be rounded to the nearest whole number.



8. The Estimated Time of Departure (ETD) will adjust based on what is entered in Time on Target and Groundspeed. Your ETD will be calculated in Zulu time.

9. Tap outside of the Doghouses popup and Doghouses will populate on the Moving Map.



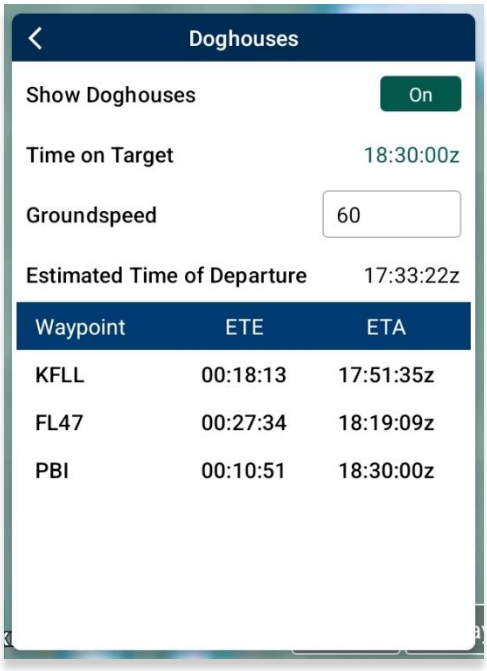
NOTE: Users may need to zoom in at least 40 miles to view Doghouses.

NOTE: If users are behind, ahead, or on schedule, the field below your fixed time will display the calculated difference of the time that was entered for your set time following the format **+/- {Minutes}m{Seconds}s**. If the calculated differences are an hour behind or ahead, the format will be **> + {Hours}h** or **> - {Hours}h**. If the user is on schedule, it will display "**0**".

14.3.14.3.4.1.1 Edit Doghouses

Users can adjust their time on target and groundspeed. The fields such as your fixed time, ETA/ETE, and the calculated differences will automatically update to the new values.

1. Navigate to the **Route Panel**.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Tap **Doghouses**.
5. From the Doghouses popup, tap the **Time on Target** time selection and scroll through the time format until the new desired time is met using the format of HH:MM:SS.
6. Tap on the **Groundspeed** text box and enter your new groundspeed in knots.



7. The Estimated Time of Departure will adjust based on what is entered in the Time on Target and Groundspeed fields.
8. Tap outside of the Doghouses popup and the Doghouses will recalculate based on the adjusted time and groundspeed.

NOTE: Alternatively, users can tap on the Doghouses displayed on the Moving Map to view the Doghouses popup.

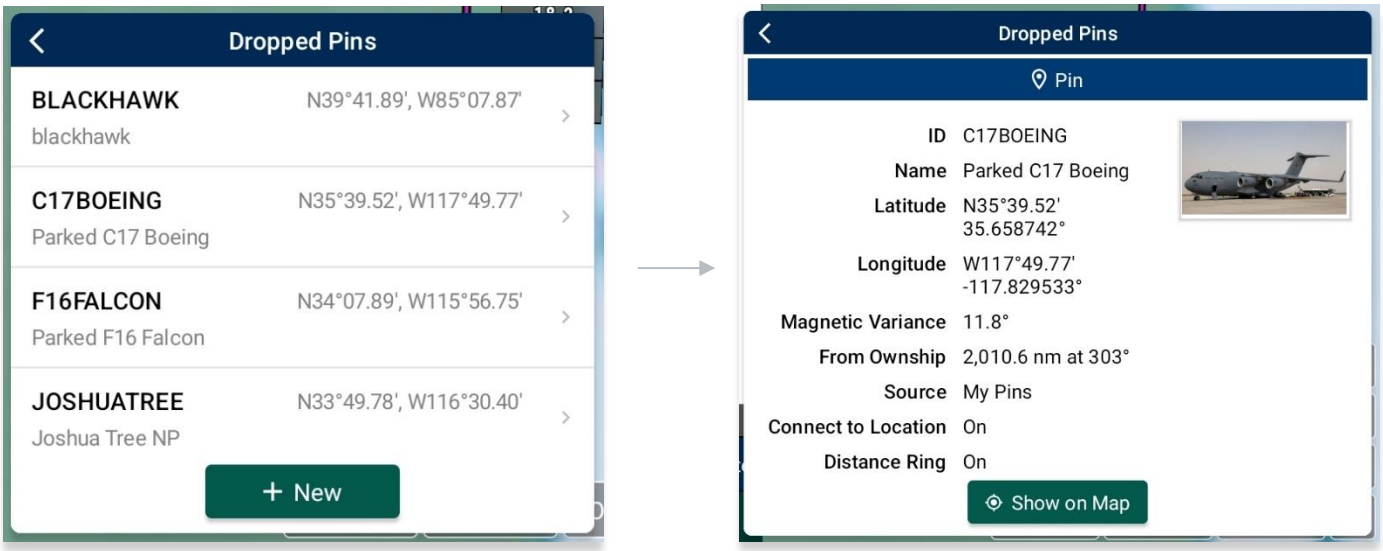
14.3.14.3.4.2 Dropped Pins

Dropped Pins is a collection of pins that were dropped by users. Each pin contains information regarding the pin such as its ID, Name, Latitude, Longitude, Magnetic Variance, From Ownship, Source, Notes, and any associated attachments.

Certain pins such as Avoidance Point and Pin, may contain additional information such as Connect to Location, Distance Rings, Radius, and Alert on Intersection.

Aero App enables users to drop new pins directly from the Dropped Pins screen. Tap **+ New** and follow the prompts. Refer to Section 14.3.13.1.3 for additional information.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Tap **Dropped Pins**.
5. A collection of dropped pins will appear. Tap on desired pin.
6. Dropped Pins popup will display information pertaining to the selected pin.



7. Tap **Show on Map** and the map view will pan to the location of the dropped pin.

NOTE: To view the dropped pins on the Moving Map, users must enable Pins from the Overlays menu. Refer to Section 14.3.6.1.16 for additional information. This is exclusive to Avoidance Point, Emergency Marker, Landmark, and Pin. Refer to Section 14.3.6.1.24 for Photo Pins.

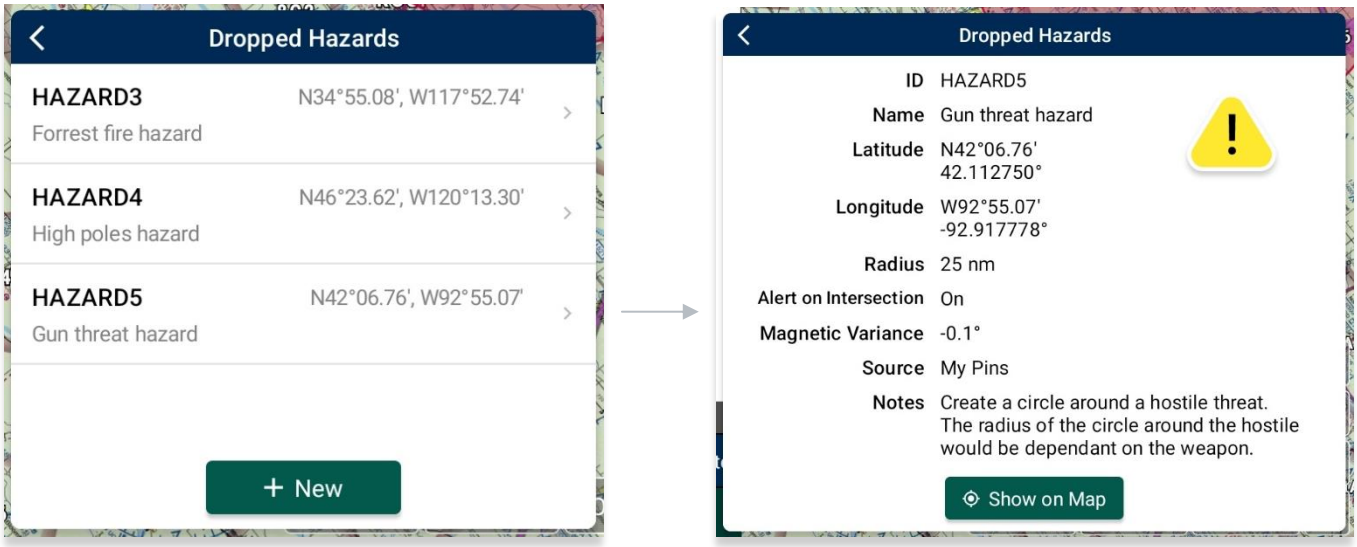
NOTE: Users can add pins to their route. Refer to Section 14.3.13.1.4 for guidance on how to add pins to route.

14.3.14.3.4.3 Dropped Hazards

Dropped Hazards is a collection of hazards that were dropped by users. Each hazard contains information regarding the marked hazard such as its ID (auto-generated by Aero App), Name, Latitude, Longitude, Radius, Alert on Intersection, Magnetic Variance, Source, and Notes.

Aero App enables users to drop a new hazard directly from the Dropped Hazards screen. Tap **+ New** and follow the prompts. Refer to Section 14.3.13.1.4 for additional information.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Tap **Dropped Hazards**.
5. A collection of dropped hazards will appear. Tap on desired hazard.



6. Tap **Show on Map** and the map view will pan to the location of the dropped hazard.

NOTE: To view the dropped hazards on the Moving Map, users must enable Hazards from the Overlays menu. Refer to Section 14.3.6.1.11 for additional information.

14.3.14.3.4.4 Point Shapes

Users can add a particular shape (triangle, square, or circles) to the current points in their route. Once the user has entered a route in the Route Panel, the first and last points will display triangles. The second and second to last points will display squares. If there are any points between the second and second to last points, the points will display circles.

The example below displays a route with 5 points; therefore, all three shapes (triangle, square, or circles) will appear.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Tap **Point Shapes** to enable the option.
5. The respective point shapes will appear on the Moving Map.

Different Points:

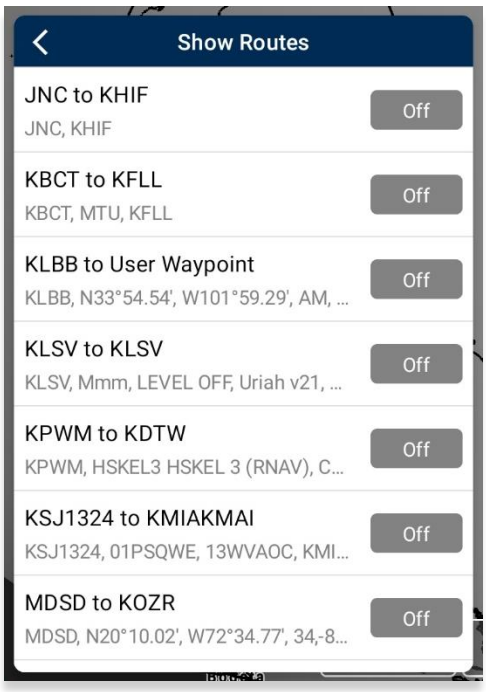
- If 6 or more points are added to route:
  - First and last points will display triangles.
  - Second and second to last points will display squares.
  - Points between the second and second to last points will display circles.
- If 3-4 points are added to route:
  - First and last points will display triangles.

- Second and second to last points will display squares.
- There are no circles displayed.

o If 1-2 points are added to route:
- First and last points will display triangles.
- There are no squares displayed.
- There are no circles displayed.

14.3.14.3.4.5 Routes

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Tap **Routes**.
5. A list of saved routes will be shown below. Locate desired route then tap to enable selection and display them on the Moving Map.



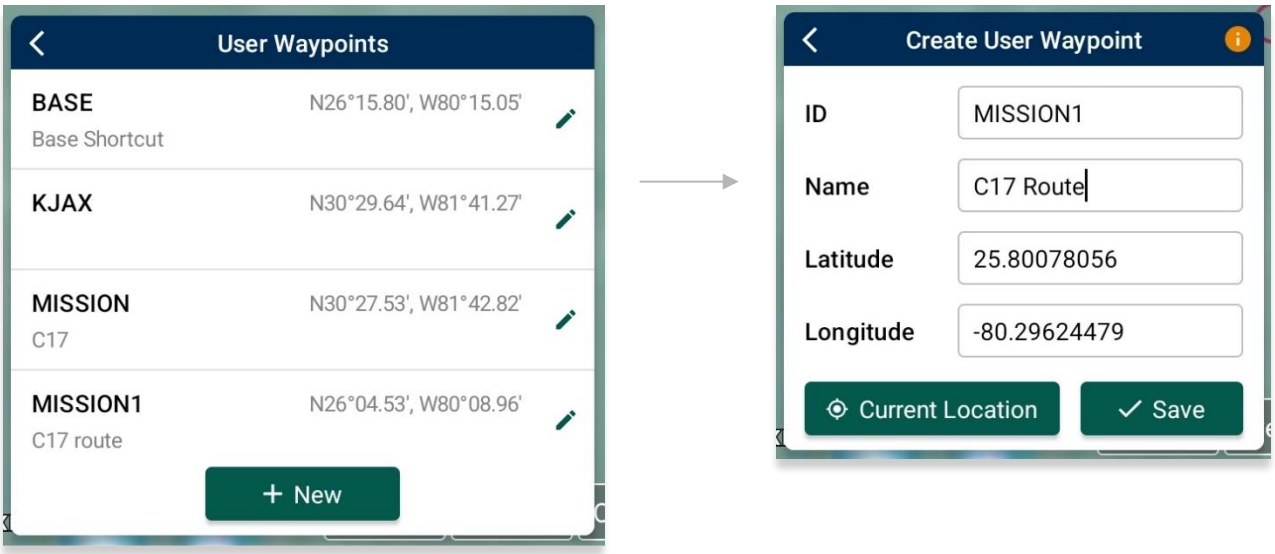
6. Various routes can be displayed simultaneously. If you have a current route in the route panel, the route will show in a magenta line.

14.3.14.3.4.6 User Waypoints

User Waypoints is a collection of waypoints that were created by users through Aero App. Each waypoint contains information such as its ID, Name, Latitude, and Longitude.

Aero App enables users to create User Waypoints directly from the User Waypoints screen. Tap **+ New** and follow the prompts. Refer to Section 14.3.13.1.1 for additional information. Alternatively, users can sideload User Waypoints. Refer to Section 10.5 for additional information.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Tap **User Waypoints**.
5. A list of User Waypoints will be shown below. Tap **+ New** to create a new Waypoint.
6. Fill in the necessary information such as the ID, Name (optional), Latitude and Longitude of the waypoint.
7. Tap **Current Location** to use your present location's coordinates.
8. Tap **Save** when done and your Waypoint will list under User Waypoints.

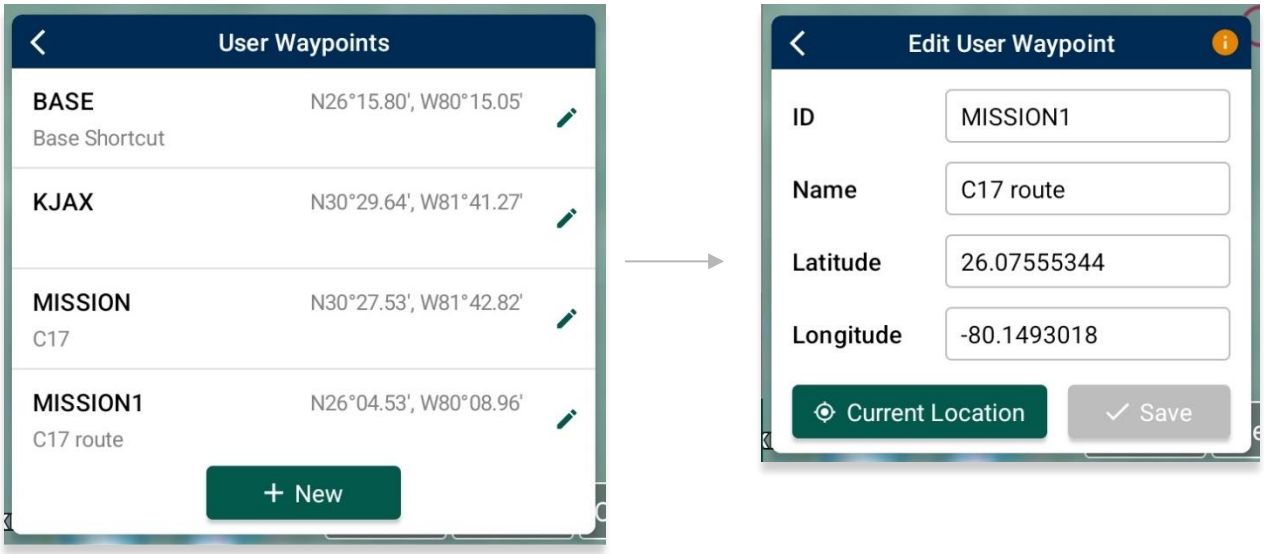


NOTE: The Name field is optional. When creating a name for User Waypoints, the name can only contain alphabetical characters (upper and lower cases), space, and hyphens. An error message will display if the name is not valid.

14.3.14.3.4.6.1 Edit User Waypoints

Users can modify their created User Waypoints to their desired new Identifier, Name, Latitude, and Longitude from the Moving Map or from the Route Panel.

1. Navigate to your ***User Waypoint***.
2. Tap on your desired User Waypoint and a popup menu will appear.
3. Tap on the **pencil icon**.
4. Tap on the desired field to enter the desired new values.
5. Tap **Current Location** to use your present location's coordinates.
6. When all changes have been finalized, tap **Save** and your changes will reflect on the Moving Map, Route Panel, and all areas in which your User Waypoint appears.

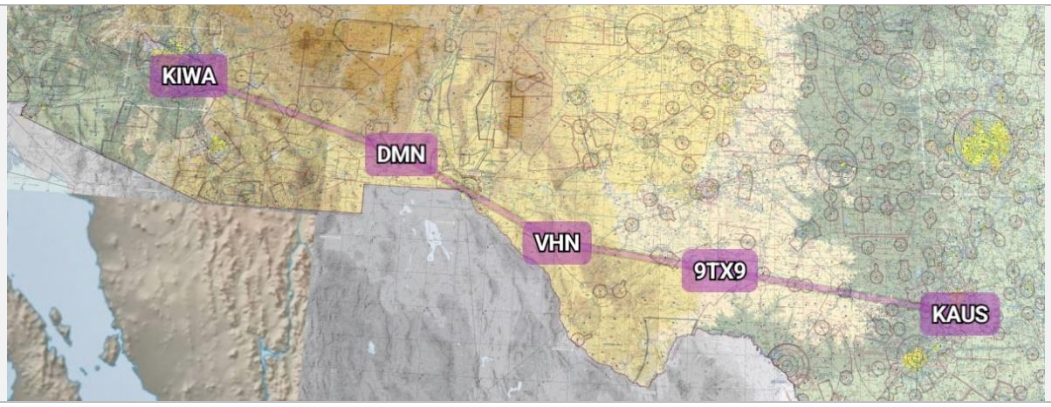


14.3.14.3.4.7 Route Line Transparency

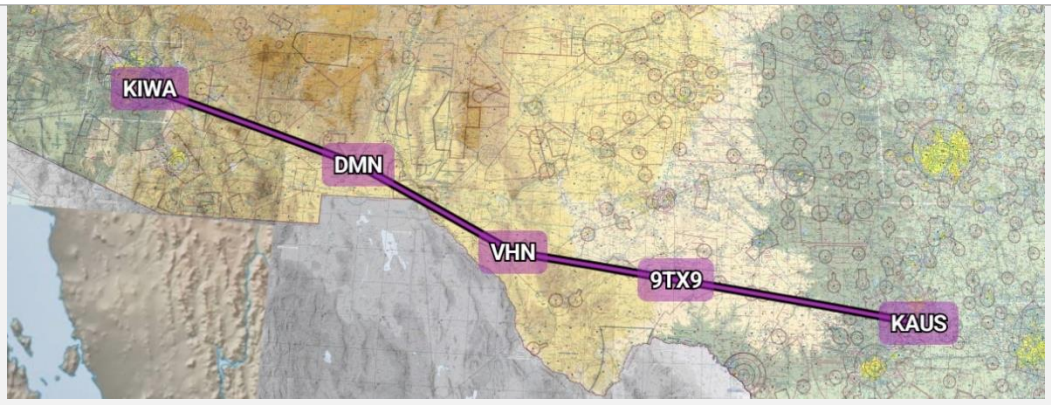
Users can adjust the transparency of their current route line.

1. Navigate to the ***Route Panel***.
2. Tap **Route**.
3. The Route menu will appear. Tap **Show** from the side menu.
4. Navigate to the Route Line Transparency slider.
5. By default, the Route Line Transparency value is set to 50%. Drag the slider to adjust the route transparency to any value between 20% to 100%.

Transparency value of 20%



Transparency value of 100%

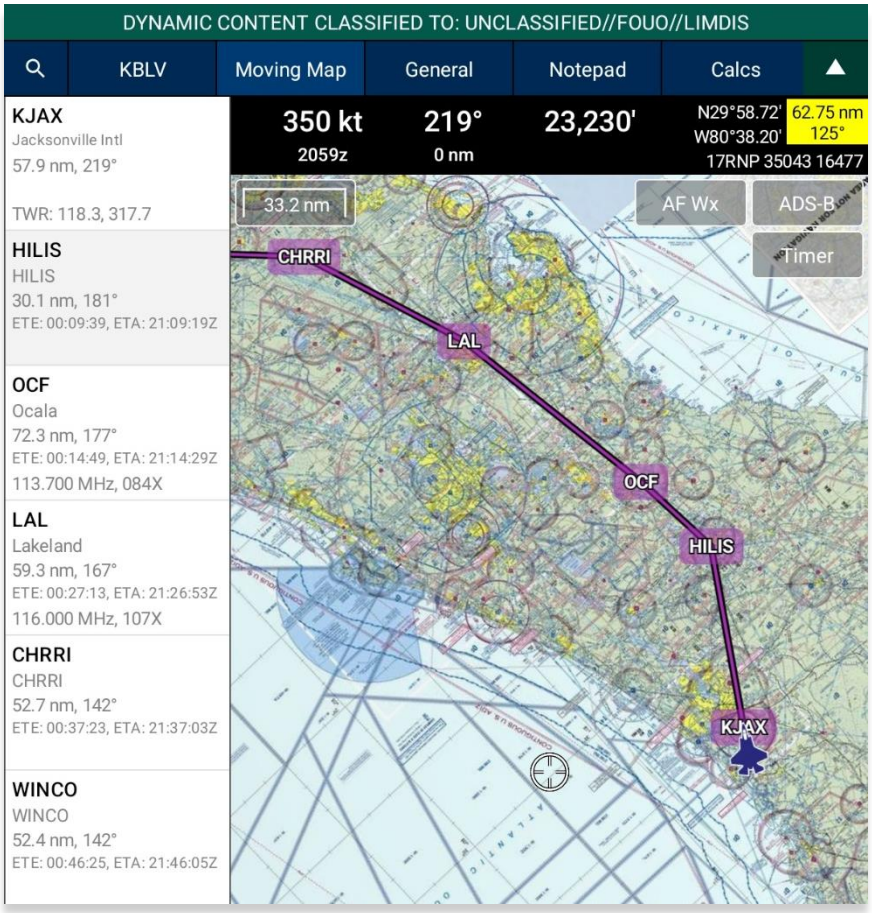


14.3.15 Estimated Time Enroute (ETE), Estimated Time of Arrival (ETA)

Estimated Time Enroute (ETE) and Estimated Time of Arrival (ETA) are calculated for each segment of a flight route. ETE is the estimated time it takes to reach a point from your current location. The time gets updated as you move closer to the point. ETA is the estimated time at which you will arrive at the designated location.

In addition, users can add Departure and/or Arrival waypoints that will include ETE and ETA.

1. Tap **Moving Map** on the ***Main Menu.***
2. Navigate to the ***Route Panel.***
3. Each segment of the flight's route will display its ETE and ETA.



NOTE: Estimated Time of Arrival (ETA) will display in Zulu time. Under Preferences, users have the option to automatically snap route to current leg.

14.4 General

This section will provide information for Charts, Supplements, Planning, Docs, and Legend.

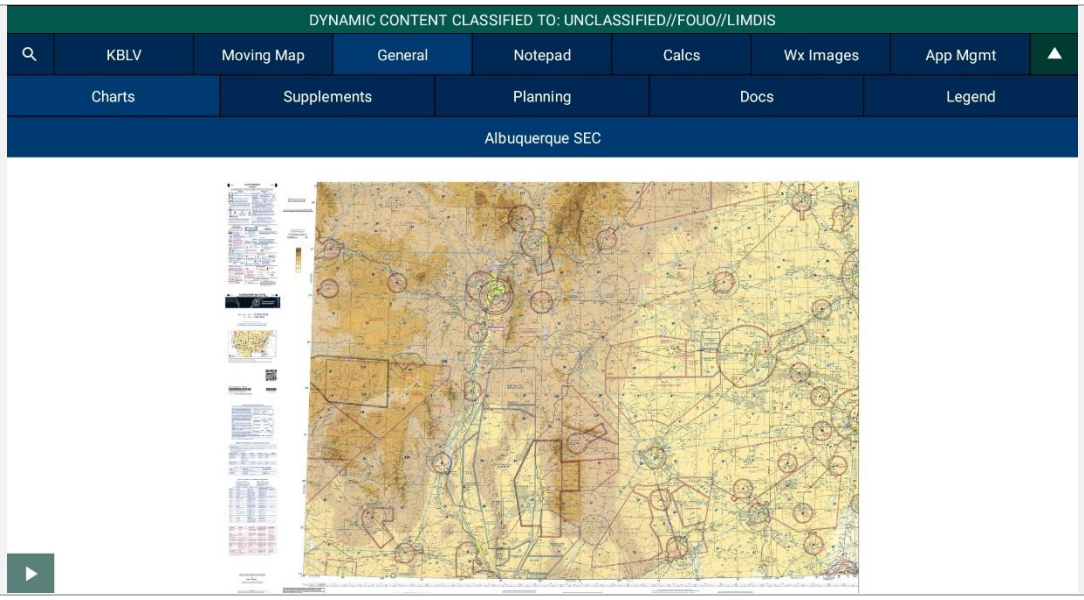
14.4.1 Charts

Aero App enables users to view Charts, Supplements, Planning, Documents, and Legend.

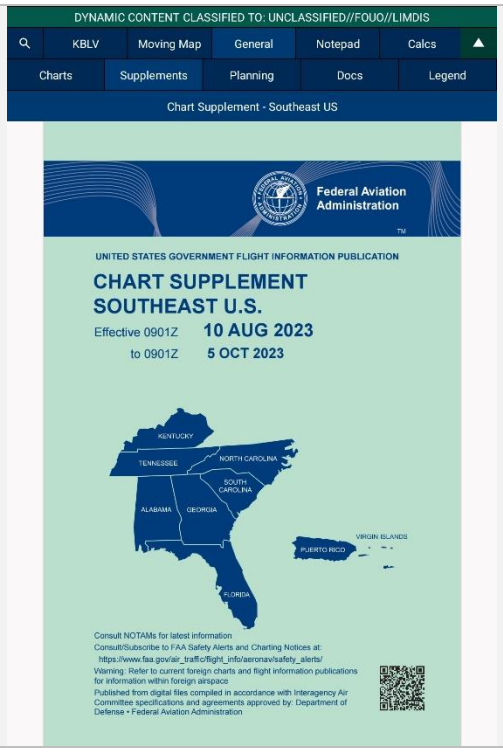
1. Tap **General** on the ***Main Menu***.
2. Select from Charts, Supplements, Planning, Documents, and Legend on the ***Secondary Menu.***
3. Tap on the **actions ribbon** and select desired chart, document, or legend, based on the respective selection.
4. A menu will display from which you can select High and Low Enroute Charts, Area Charts, Graphic Charts, CONUS Chart Graphics, Military Training Routes (MTRs), and other charts.

NOTE: The slider below all the documents will allow users to select individual screens for Supplements, Planning, Docs, and Legend charts. Alternatively, users can tap the left or right arrows to turn the page.

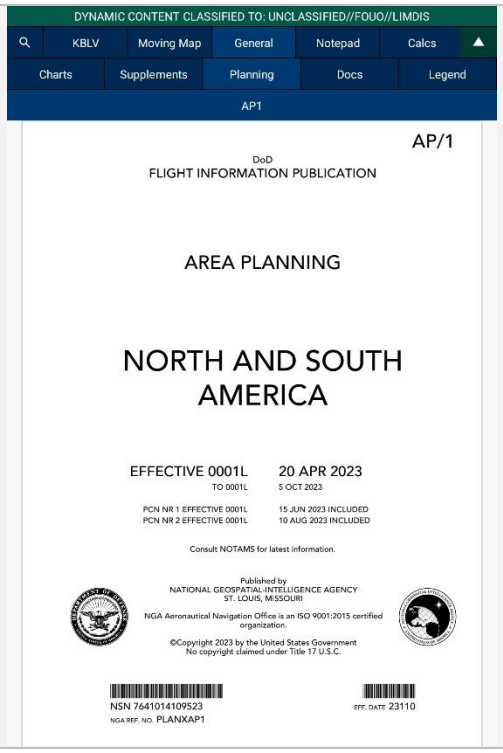
Charts



Supplements

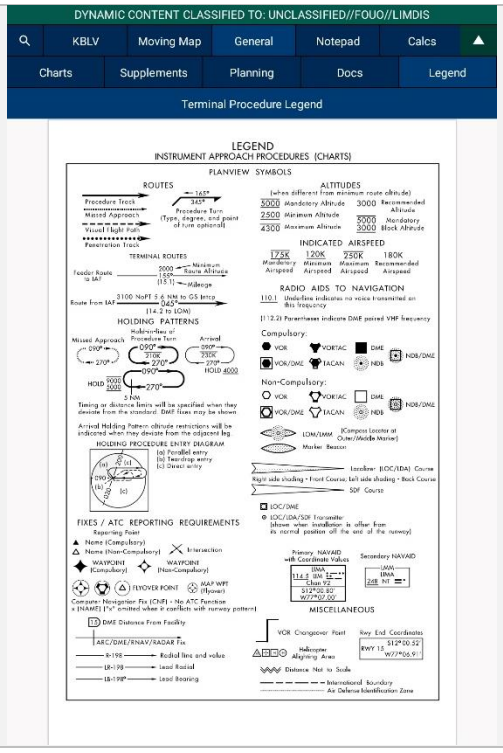


Area Planning Documents



User Documents

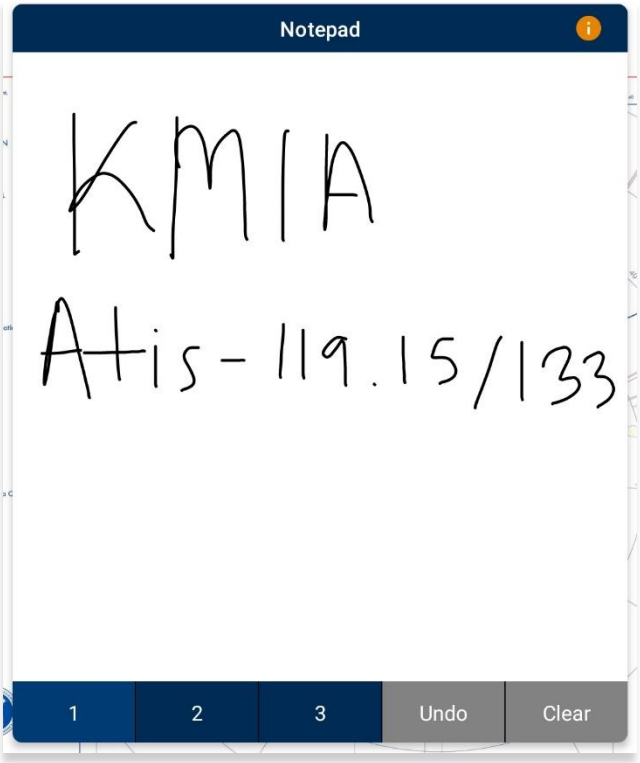
Terminal Procedure Legend



14.5 Notepad

The Notepad feature is a handy tool that creates up to three pages of notes. Notes can be drawn with your fingertips or by using a stylus. The notepad view includes Undo and Clear options.

- **Undo** – Undoes the most recent markings on the notepad.
- **Clear** – Erases all markings from the selected notepad page.



NOTE: The latest markups will automatically be saved when exiting the notepad view.

14.6 Calcs (Calculations)

The Calcs menu, also referred to as Calculations, is inclusive of options such as E6B and Fuel Check. To access these features, tap the Calcs button.

14.6.1 E6B Calculator

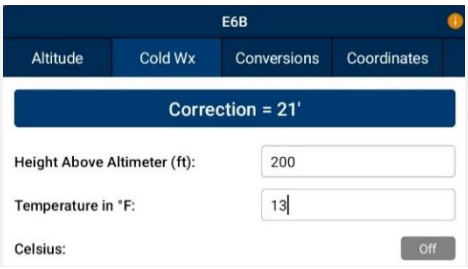
The electronic calculator enables pilots to perform a variety of calculations for preflight or inflight planning.

Altitude

Altitude calculates the Pressure Altitude and Density Altitude by entering the Elevation or the Airport ICAO, Altimeter, and Temperature.

Cold Weather (Wx)

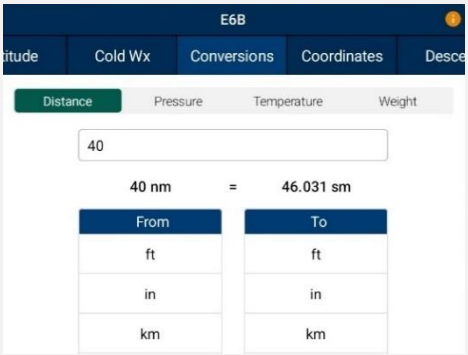
Cold Wx corrects Altitude for cold temperature operations. Users can switch between Celsius and Fahrenheit.



Conversions

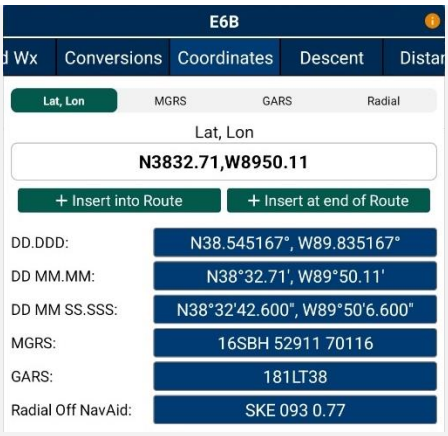
Conversions are divided into Distance, Pressure, Temperature, and Weight. Tap to select or slide the segmented control to desired conversion category.

1. Tap to select the current unit in the left column and select the desired unit in the right column.
2. Enter a value in the text box.



Coordinates

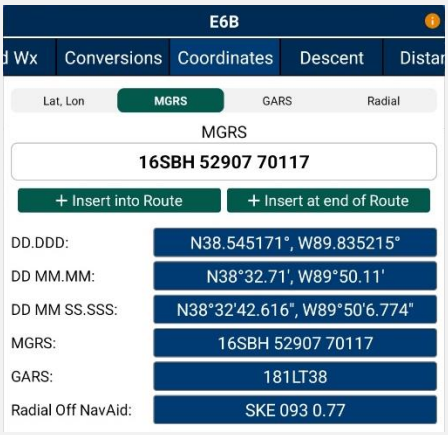
Coordinates allows users to get a reading on Lat, Lon, MGRS (Military Grid Reference System), GARS (Global Area Reference System), and Radial Off NavAid when you enter coordinates.



1. Select an option from ***Lat, Lon***, ***MGRS***, ***GARS***, or ***Radial*** by tapping your desired option on the segmented button group.
2. Enter coordinates in the text box.
3. Results will populate below.
4. ***+ Insert into Route*** and ***+ Insert at end of Route*** will be selectable. Select **+ Insert into Route** and the entered coordinates will be added to your current route.
5. Select **+ Insert at end of Route** and the entered coordinates will be added at the end of your current route.

Once the coordinates have been entered in for one of the tabs, you can tap an output field to automatically switch to the mode with those field values automatically populated.

For example, from the Lat, Lon view, you can tap on the MGRS output field and the MGRS tab is displayed with the field values from Lat, Lon.



NavAid Radial Distance calculates the coordinates using three inputs; namely a NavAid, Radial and Distance.

Descent

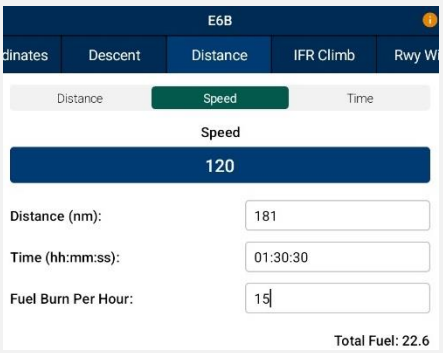
Descent Rate is calculated in feet per minute, enter the Descent Angle in degrees and Groundspeed in knots.

Distance

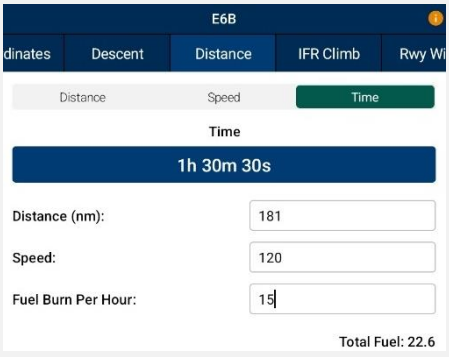
Distance calculates the Total Fuel by Distance measured in kilometers or nautical miles, respective to which Distance Unit users have set in their Preferences. Speed which is measured in knots and Time following the format (hh:mm:ss). Tap or slide the segmented control to the desired distance calculation type.

Distance is calculated by the Speed, Time, and Fuel Burn Per Hour. The expected output is Distance measured in kilometers or nautical miles; respective to which distance unit format user have set in their Preferences and the Total Fuel in gallons.

Speed is calculated by Distance, Time, and Fuel Burn Per Hour. The expected output is Speed measured in knots and the Total Fuel in gallons.



Time is calculated by Distance, Speed, and Fuel Burn Per Hour. The expected output is Time following the format (hh:mm:ss) and the Total Fuel in gallons.

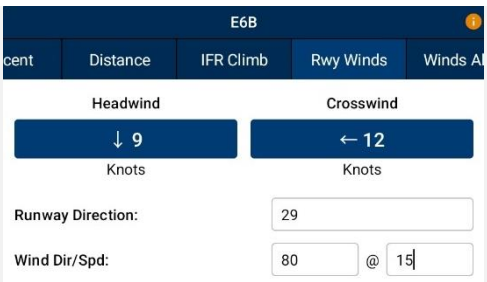


Instrument Flight Rule (IFR) Climb

IFR Climb calculates the Climb Angle measured in Degrees and Climb Rate measured in Feet per Minute by providing the Climb in ft/km and ft/nm; respective to which Distance Unit users have set in their Preferences. As well as providing the Groundspeed measured in knots.

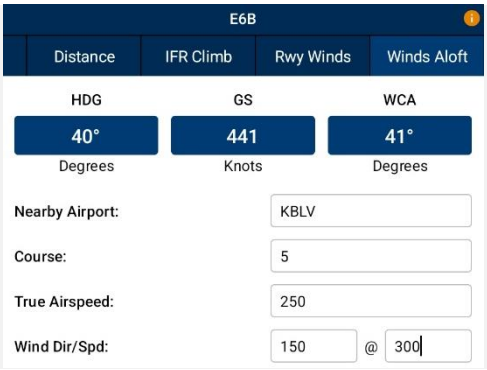
Runway (Rwy) Winds

Runway Winds calculates Headwind and Crosswind by typing in Runway Direction in degrees, and Wind Direction/Speed.



Winds Aloft

Winds Aloft calculates Heading (Hdg), Ground Speed (GS), and Wind Correction Angle (WCA) by typing in Nearby Airport (ICAO), Course (degrees), True Airspeed (knots), and Wind Direction/Speed.

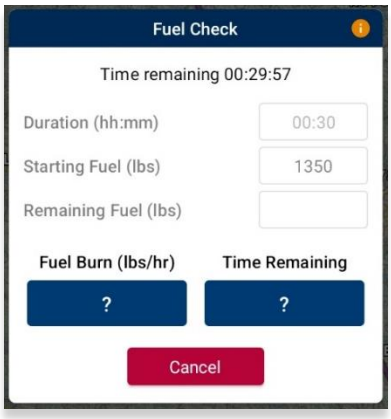


NOTE: See reference notes located at the bottom of the E6B popup.

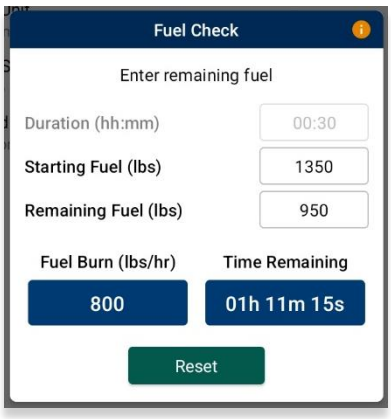
14.6.2 Fuel Check

The Fuel Check feature enables users to calculate fuel burn and the time remaining to burn the rest of their fuel. Fuel Check includes fields for Duration (hh:mm), Starting Fuel (lbs), and Remaining Fuel (lbs). The Remaining Fuel field becomes accessible only after the timer is up.

1. Navigate to **Calcs** on the ***Main Menu***.
2. Tap **Fuel Check**. The Fuel Check popup will appear.
3. Tap the **Duration** field. Enter desired duration for the fuel check in hours and minutes.
4. Enter your current fuel's amount in the **Starting Fuel** field.
5. Tap **Start** to begin the timer.
6. Tap **Cancel** to stop the timer.

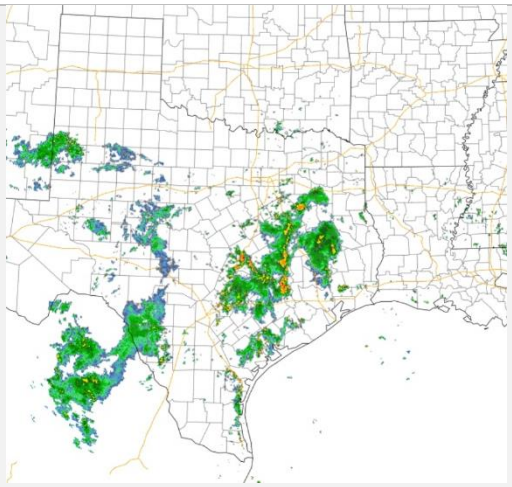
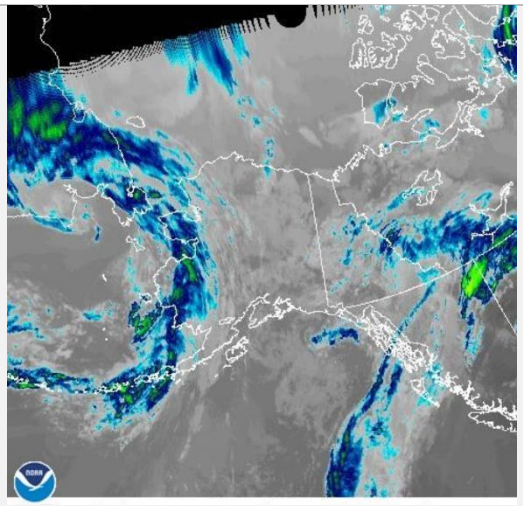
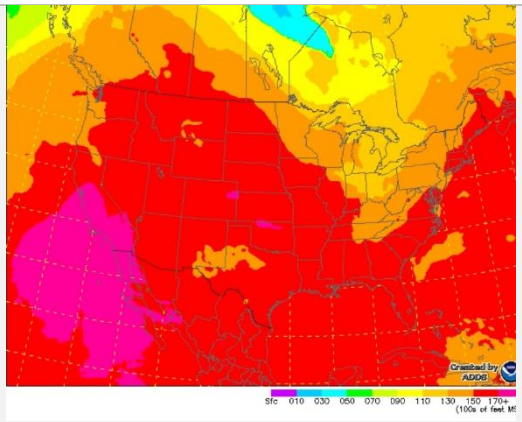
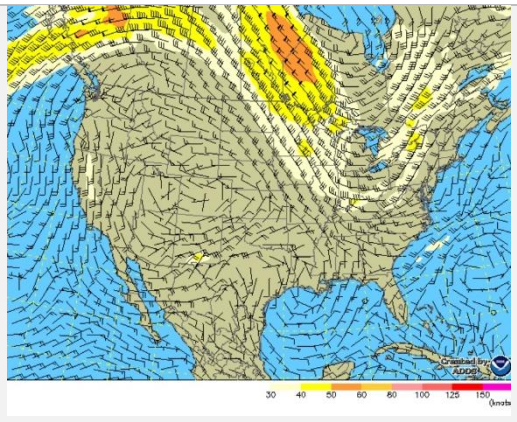


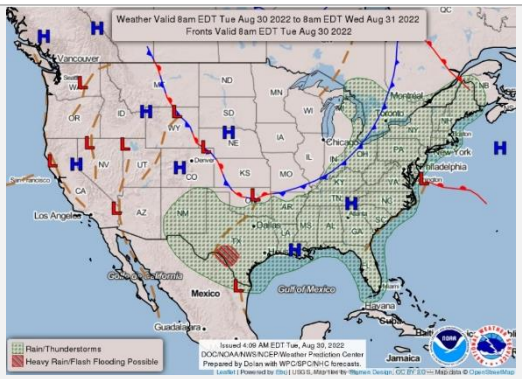
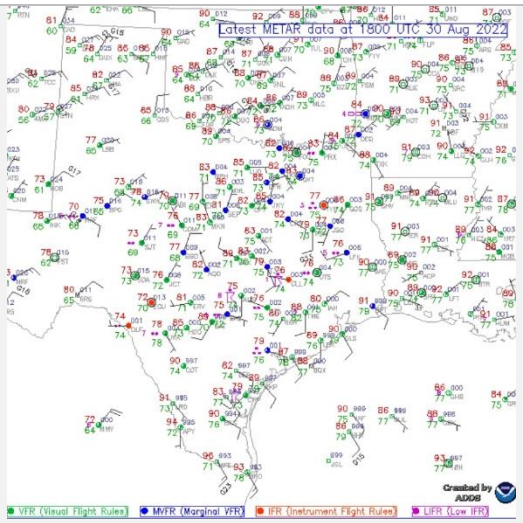
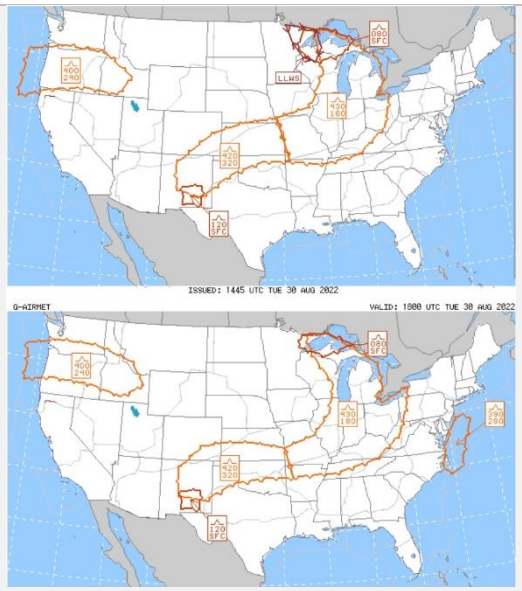
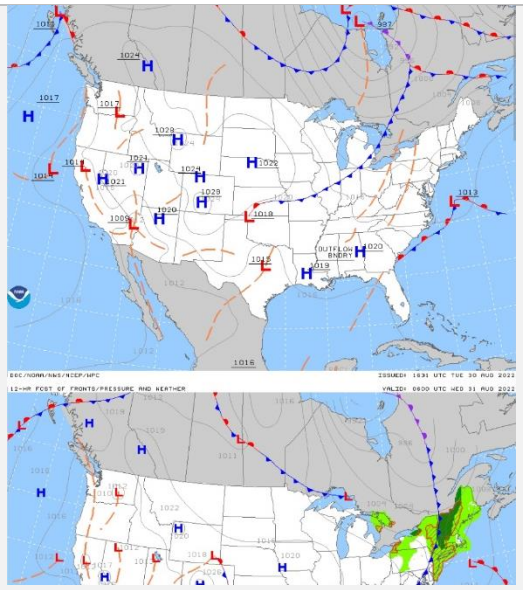
7. Once the timer has ended, the Remaining Fuel (lbs) field will become accessible. Enter the remaining fuel in lbs.
8. The calculations will populate in the Fuel Burn and Time Remaining results field. Tap **Reset** to clear the calculations.



14.7 Weather (Wx) Images

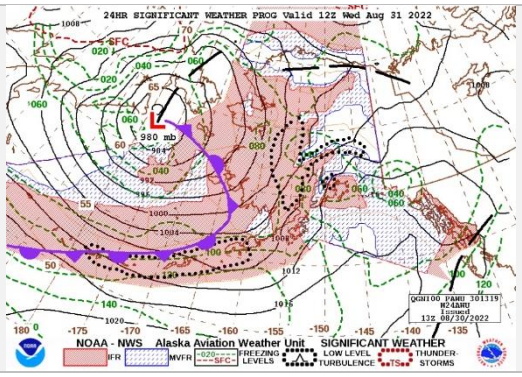
The Weather (Wx) Images are from the National Oceanic and Atmospheric Administration (NOAA) providing access to weather, hydrologic, and climatic forecasts and warnings for the U.S. and adjoining areas. The images can be panned and zoomed. An internet connection is required to view real-time weather images. Wx images are provided below:

RADAR	Satellite
	
Icing	**Wind**
	

Weather Forecast	METARs and PIREPs
	
AIRMETs and SIGMETs	**Prog Charts**
	

Convective SIGMETs and Outlooks	Current Convective Watches

Alaska



14.8 Application Management (App Mgmt)

Aero App's application management is a very useful tool for pilots as it is used to configure their application's settings, manage data, retrieve charts, as well as the accessibility to the User Manual, informational weblinks, and beneficial information available to users. Sections are as follows and will be further elaborated in the sections to come:

- Preferences
- Data
- Host Nation
- Help

14.8.1 Preferences

Preferences is a tool that enables users to customize the behavior of Aero App. Various setting options include Bluetooth, Data, Miscellaneous, Reset, Route, and User Interface.

14.8.1.1 Bluetooth

Bluetooth contains various options on connecting devices such as ADS-B and GPS receivers to Aero App. Section 14.3.4 elaborates on the connection of ADS-B receivers via Wi-Fi and Bluetooth.

The Bluetooth connection status is displayed at the top of the screen.

1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Preferences** on the ***Secondary Menu***.
3. The following options are available:
    - **Allow Background Location Collection** – provides the option to allow Aero App to collect location information even when Aero App is in the background.
    - **Android Bluetooth Settings** – provides the option to open the system settings to manage Bluetooth status and pair device.
    - **Currently Connected Device** – provides the option to disconnect current device.
    - **Device Type** – provides the option to select GPS or ADS-B.
    - **Select Paired Device** – provides the option to select the paired Bluetooth device to connect.

14.8.1.2 Data

Data contains the setting options for external storage devices to store Aero App data. Refer to Appendix D | Android Data Storage for additional information.

1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Preferences** on the ***Secondary Menu***.
3. The following options are available:
    - **Path for Data on SD Card and Computer** – provides the option to select the directory that you wish to copy files to before data loading**.**
    - **Search for Data on SD Card and Computer** – provides the option to automatically search device for Aero App files**.**
    - **Use SD Card to store Data** – provides the option to store Core, Map, and Other Data.

14.8.1.3 Miscellaneous

Miscellaneous contains the setting options to customize select Aero App features and views.

1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Preferences** on the ***Secondary Menu***.
3. The following options are available:
    - **Airport Ring on APD and IAP** – provides the option to verify the georeferencing by showing a small ring around the Airport center.
    - **Home Field** – provides the option to set an ICAO as the default location if GPS is not available. This feature will take effect when the app is either rebooted or reopened.
    - **Minimum Runway Length (ft)** – provides the option to filter Airports based on runway length. The value must be in ft.
    - **Next Waypoint Buffer (nm)** – provides the option to automatically change to the next waypoint when within buffer radius around waypoint. The value must be in nm or km, respective to which distance unit format users have set in their Preferences.
    - **Ownship on APD and IAP** – provides the option to show ownship on FAA Airport Diagrams and Instrument Approach Procedures.

- **Secret** – provides the option to designate device as containing SECRET material.

NOTE: Once Aero App has been updated to SECRET, the action cannot be undone.

NOTE: Aero App must be uninstalled and reinstalled to revert to UNCLASSIFIED.

- **Switch to APD on Landing** – provides the option to switch view to APD upon landing. When this feature is enabled, Speed (ft) will display. Enter desired value in kt. Once your ownship has reached the specified speed, the screen will switch to ADP.

NOTE: On the Moving Map screen, the APD will appear on a split screen, perfectly georeferenced.

14.8.1.4 Reset

Reset clears all chart markups.

1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Preferences** on the ***Secondary Menu***.
3. The following option is available:
    - **Clear All Chart Markups** – provides the option to clear all markups on APDs and IAPs.

14.8.1.5 Route

Route contains setting options regarding your route.

1. Tap **App Mgmt** on the ***Main Menu.***
2. Tap **Preferences** on the ***Secondary Menu.***
3. The following option is available:
    - **Snap Route to Current Leg** – provides the option to automatically scroll to the current leg in route and highlight the current flight leg on the Route Panel.

14.8.1.6 User Interface

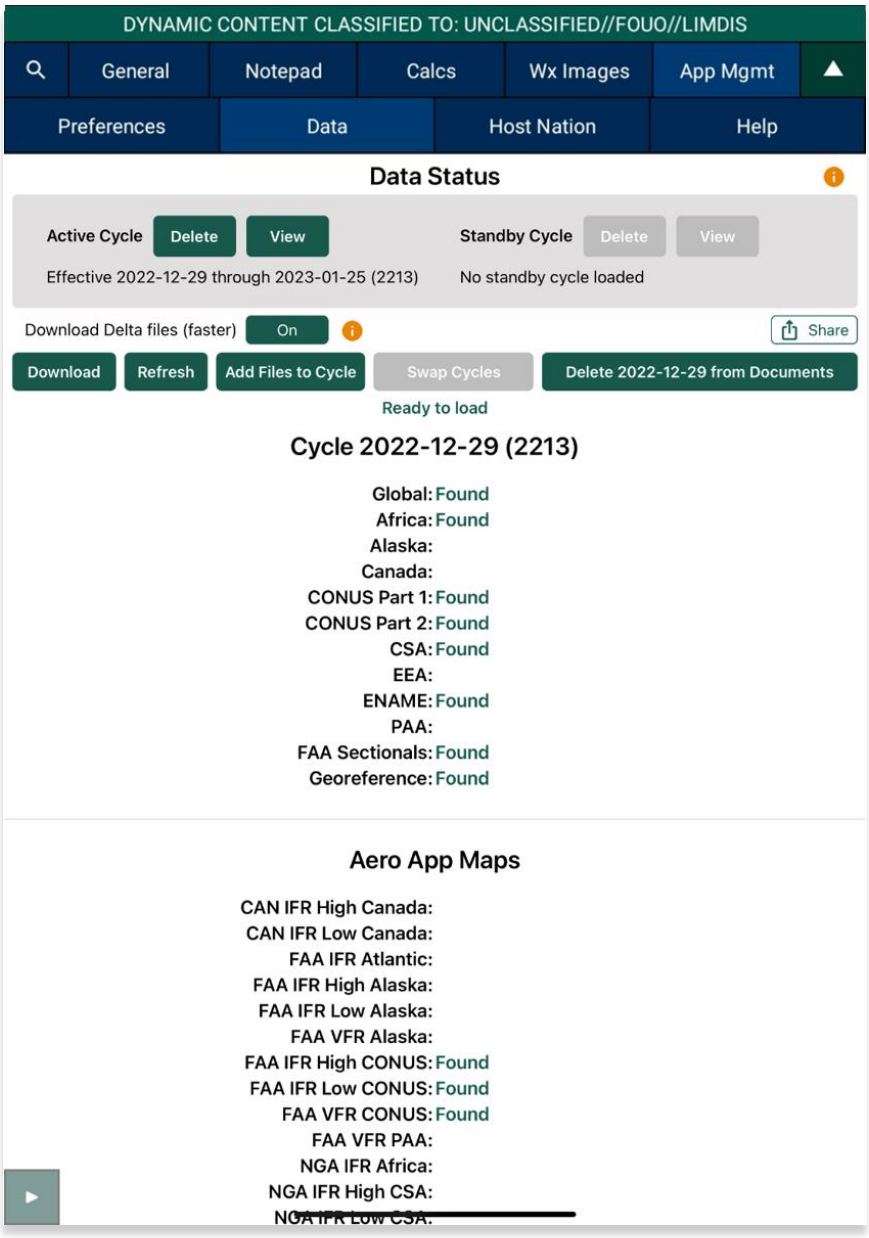
User Interface contains setting options to customize specific views and enhance the experience of Aero App.

1. Tap **App Mgmt** on the ***Main Menu.***
2. Tap **Preferences** on the ***Secondary Menu.***
3. The following options are available:

    - **Big Buttons on Main Menu** – provides the option to increase the Menu button size; useful when wearing gloves.
    - **Confirm on Delete** – provides the option to confirm deletion of item in route.
    - **Coordinates Unit** – provides the option to show coordinates in Military Grid Reference System or Lat/Lon format.
    - **Distance Unit** – provides the option to show distance in km or nm.
    - **Info Text Size** – provides the option to set Airport Information screen text size from small, medium, or large.
    - **Night Mode** – provides the option to view Aero App on a white-on-black or a black-on-white screen.

14.8.2 Data

The Data Status screen enables users to manage cycles. Refer to Section 12 for additional information.



14.8.3 Host Nation

Pilots can download and view worldwide Host Nation charts for desired airports.

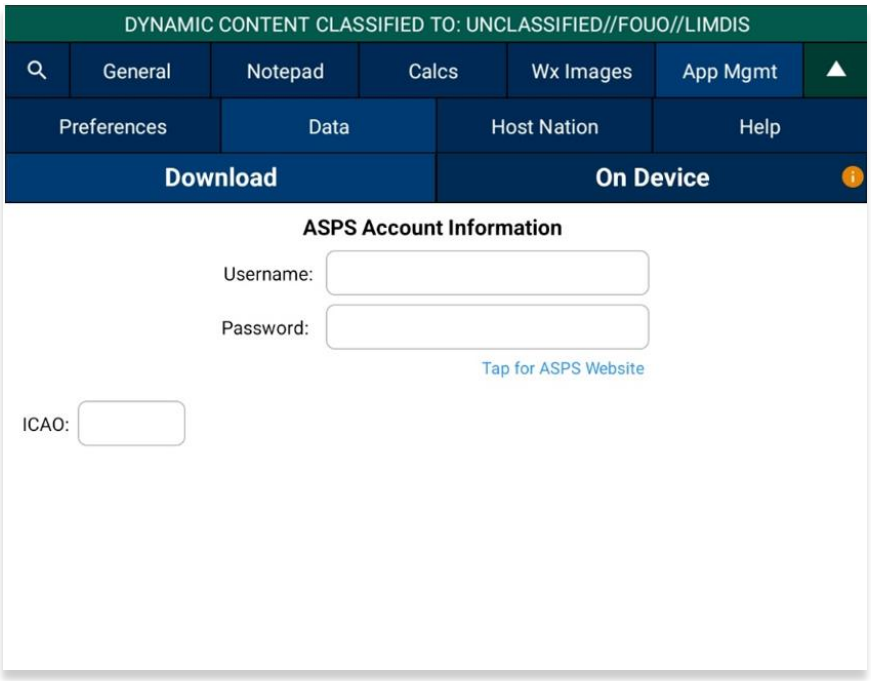
14.8.3.1 ASPS Account Registration

Pilots are required to possess an ASPS account to obtain host nation charts.

1. To access Aeronautical Source Packaging Service (ASPS), go to asps.leidos.com.
2. Tap the **Request Account** button.
3. Fill in your information, including Government POC.

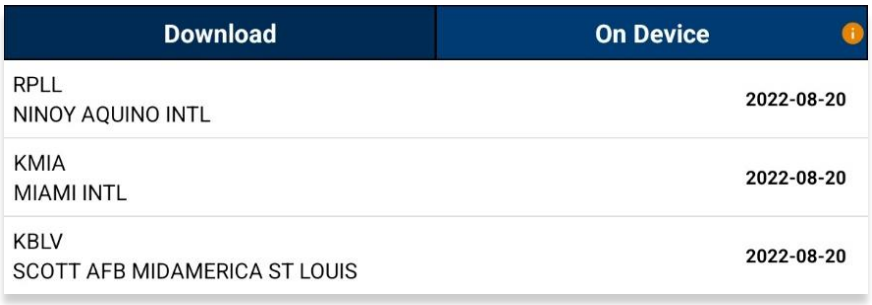
14.8.3.2 Download Host Nation Charts

1. Tap **App Mgmt** on the ***Main Menu.***
2. Tap **Host Nation** on the ***Secondary Menu***.
3. Log in with your ASPS credentials.
4. Enter the ICAO for the desired Host Nation charts then tap **Search** from device's on-screen keyboard.
5. The chart list available for the ICAO will be displayed.



6. Tap the **Download ICAO charts** button to download the charts to your device.

7. To verify that the Host Nation charts have been downloaded, tap **On Device** at the top of the screen to the right.
8. To view downloaded charts, refer to Section 14.4.1.



NOTE: In order to load Host Nation charts, an Active Cycle must be selected.

14.8.4 Help

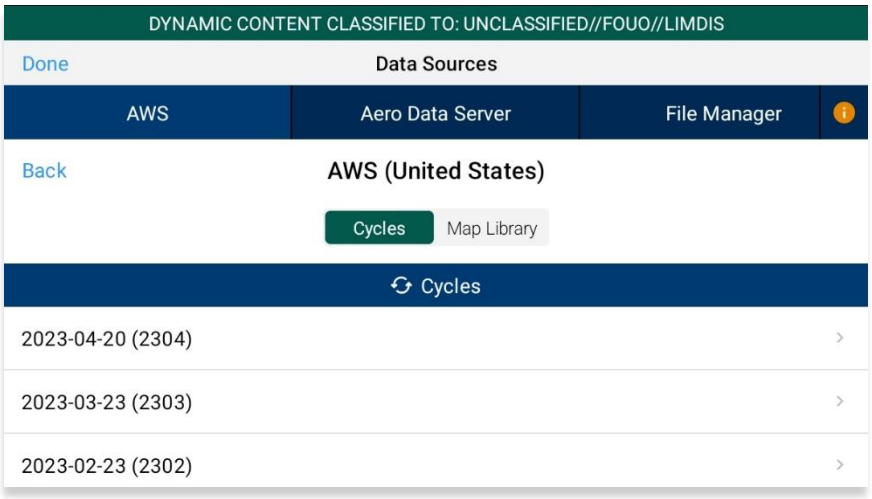
The Help tab provides users with four options to select from:

- What's New (Must have global file loaded in Active Cycle)
- Web Links (Must have global file loaded in Active Cycle)
- User Manual
- About

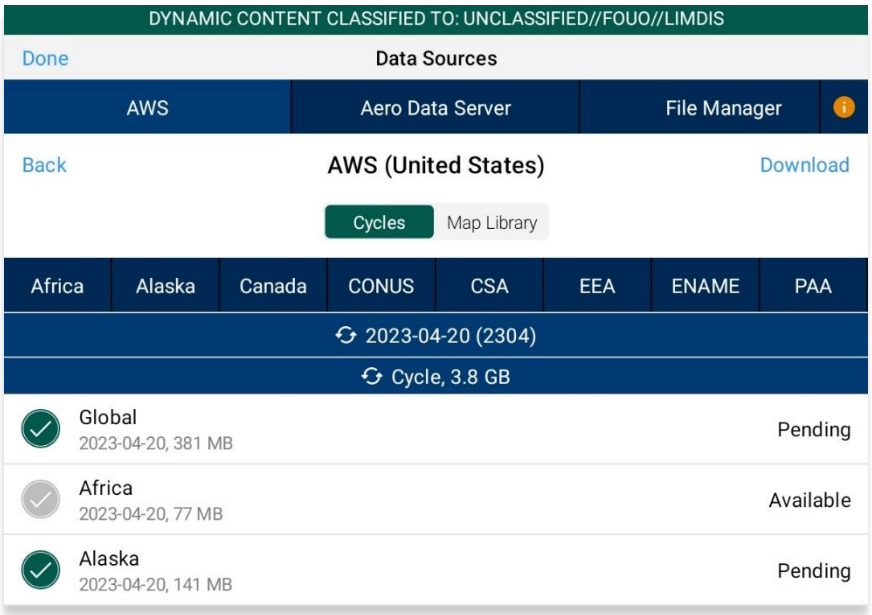
14.8.4.1 What's New Popup

The What's New page will pop up when a new cycle has been successfully loaded into Active Cycle.

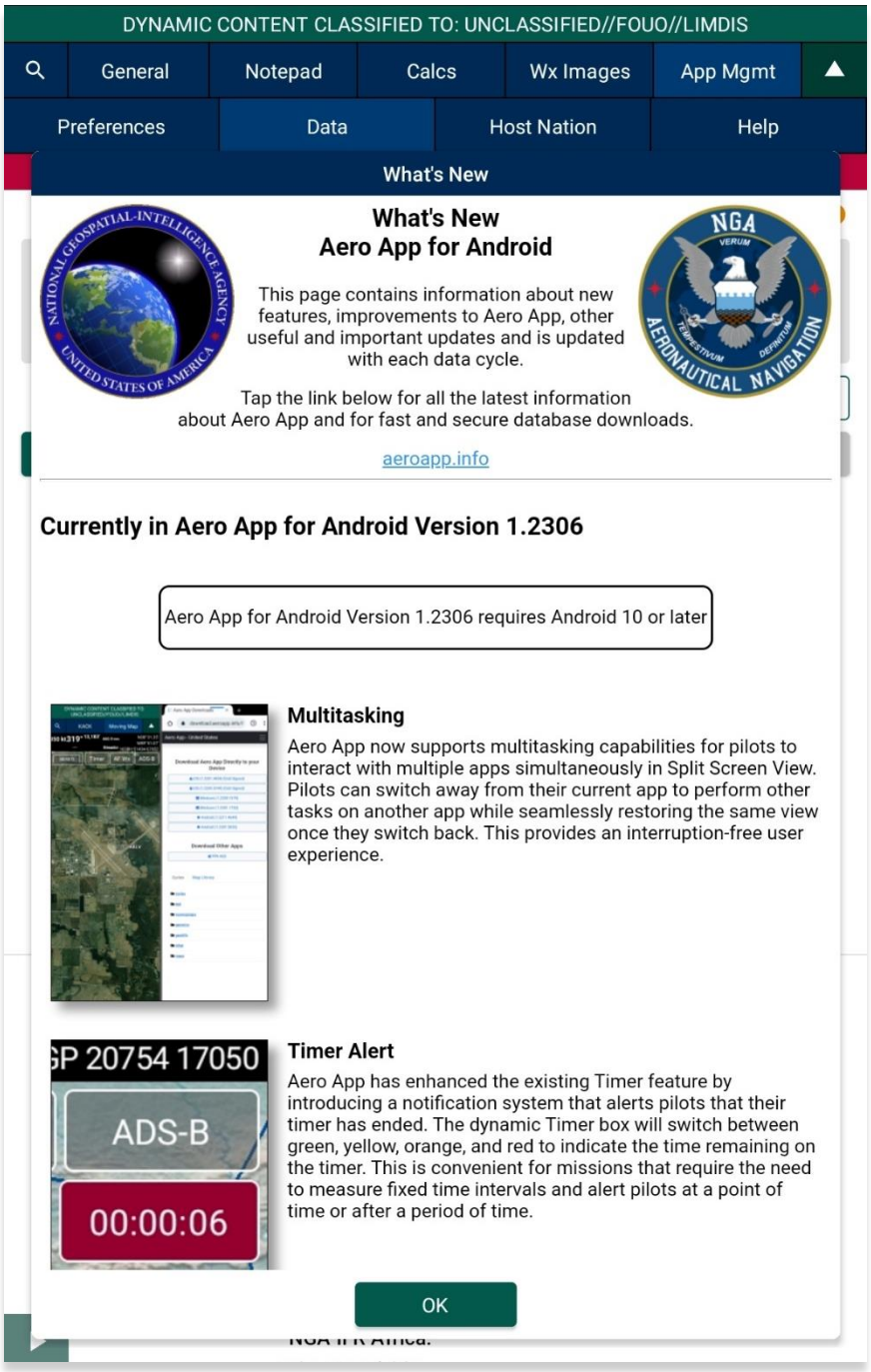
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Data** on the ***Secondary Menu***.
3. Tap **Download.**
4. Select preferred authentication from *AWS* and *ADS*.
5. Select desired **data cycle**.



6. Select desired **data** to download.
7. Tap **Download** to begin download.



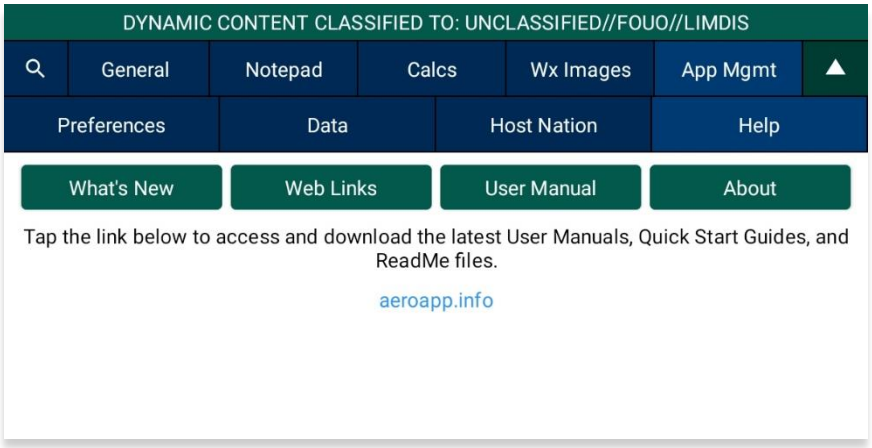
8. Navigate back to the **Data Status** page.
9. Tap **Move to Standby**.
10. Tap **Swap Cycles**.
11. The What's New popup will display.
12. Tap **OK** to dismiss the popup.



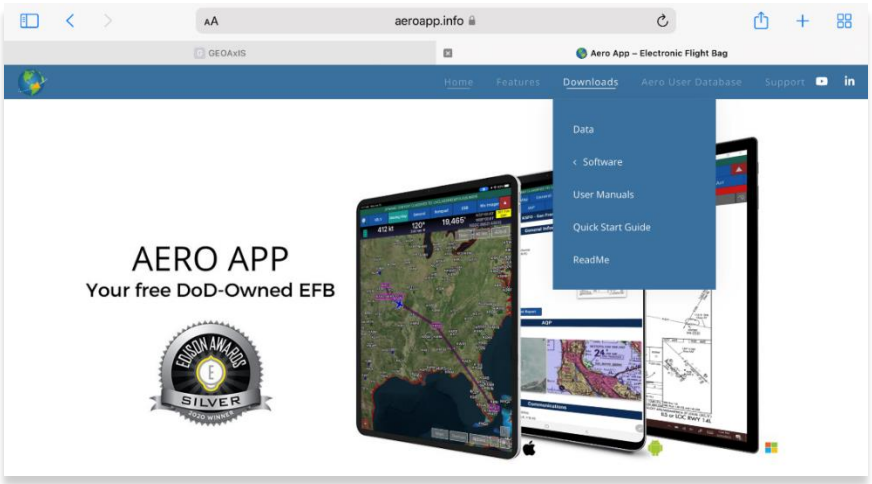
14.8.4.2 User Manual Access

The User Manual tab includes a link that redirects users to the aeroapp.info website.

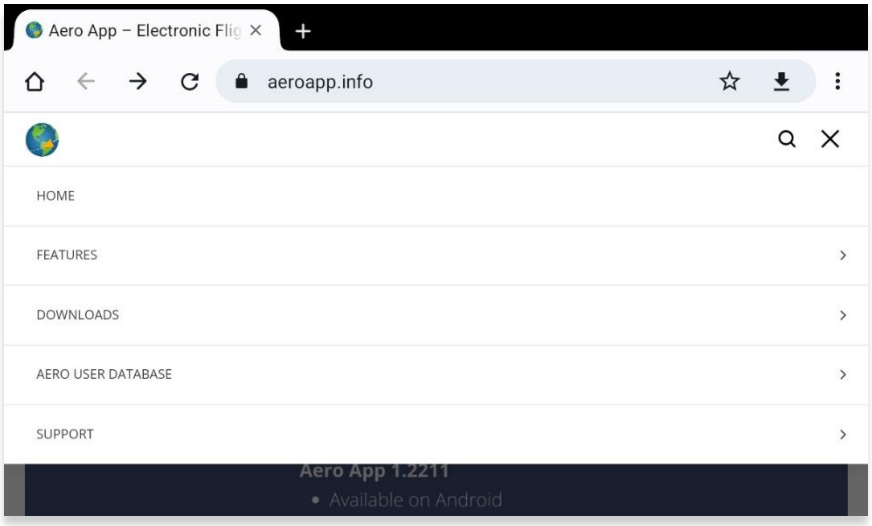
1. Tap **App Mgmt** on the ***Main Menu***.
2. Tap **Help** on the ***Secondary Menu***.
3. Tap the **User Manual** tab.
4. Tap the **aeroapp.info** link and users will be redirected to the Aero App homepage.



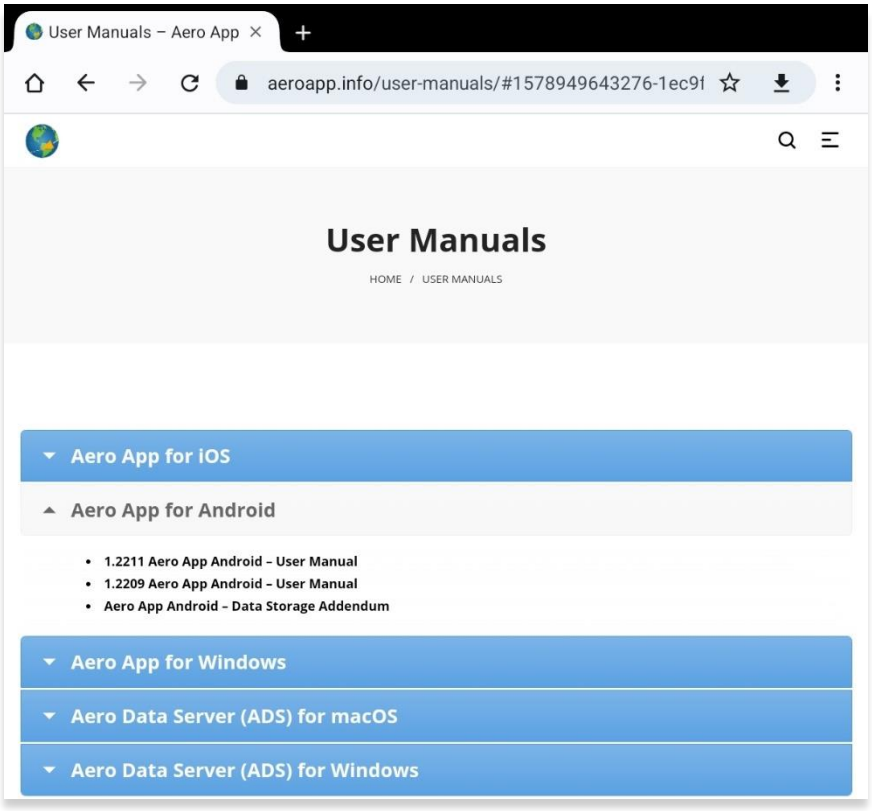
5. Hover over *Downloads*. Option placement will vary depending on display size.
    - On large screens, the ***Downloads*** option will display the ribbon located at the top of the page.



- On smaller screens, tap the hamburger button and select **Downloads.**



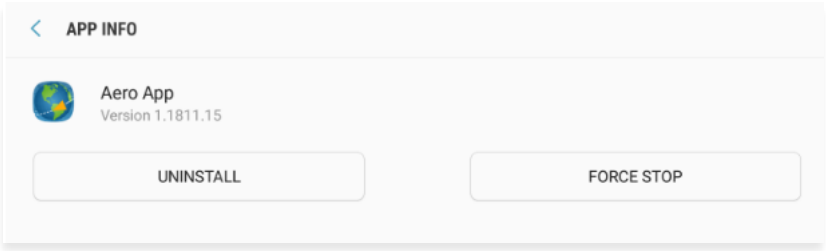
6. Select **User Manuals**.
7. Users are provided with several platforms to choose from. Tap **Aero App for Android** to reveal all User Manuals available.
8. Select desired user manual version. Users will be redirected to the web PDF.



15 Appendix A | Uninstall Aero App

This section will describe how to uninstall Aero App from your tablet.

1. Go to **Settings** on your tablet.
2. Tap **Apps**.
3. Navigate Aero App on the list provided.
4. Tap **Aero App**.
5. Tap **Uninstall** from the options provided.
6. A confirmation will pop up, tap **OK**.



NOTE: Alternatively, users can uninstall Aero App by going to their home page and long-pressing on the Aero App icon, then tapping **Uninstall**.

NOTE: Uninstalling Aero App will delete Aero App data.

16 Appendix B | User Waypoints and Coordinates

Enter Waypoints using Latitude and Longitude coordinates.

Coordinate formats include:

DD.DDD,DDD.DDD		**DDMM.MM,DDMM.MM**	
Enter Example	Means	Enter Example	Means
37.12345, -121.12345	37.12345°N, 121.12345°W	3723.45, -11834.45	37°23.45N, 118°34.45W
NDD.DDD,WDDD.DDD		**NDDMM.MM,WDDDMM.MM**	
Enter Example	Means	Enter Example	Means
N37.12345, W121.12345	37.12345°N, 121.12345°W	N3713.4536, W12145.901	37°13.4536°N, 121°45.901W
DD.DDDN,DDD.DDDW		**DDMM.MMN,DDDMM.MMW**	
Enter Example	Means	Enter Example	Means
37.12345N, 121.12345W	37.12345°N, 121.12345°W	3713.4536N, 12145.90W	37°13.4536°N, 121°45.901W

NOTE: If you enter the values in degrees and decimal minutes, you need to ensure that there are at least four digits before the decimal point, i.e., for 1 degree and 12.5 minutes use 0112.5 because 112.5 will be interpreted as 112.5 degrees.

NOTE: When using E6B, you can leave spaces between degrees and decimal minutes. This is not possible when utilizing search boxes for the creation of routes.

NOTE: When adding MGRS to route, a minimum of six characters is required for a valid MGRS entry.

17 Appendix C | Hazards and Pins SQLite Files

This appendix includes key specifications, schemas, and examples of SQLite databases for Hazards and Pins. Aero App uses a structured database, or SQLite file, comprised of two tables: *mapPins* and *hazards*, to read and display pins and hazards on the Moving Map.

In addition to dropping their own pins and hazards on the Moving Map, users can create or modify SQLite files to share their pins and/or hazards with others to display on their Aero App. This sqlite file must be saved as *pins-{name}.sqlite*, where *{name}* is replaced by the user. If the file does not follow that naming convention, Aero may not read the file, or it may cause existing Pins and Hazards to overwrite on Aero App. The sections ahead provide further details on creating a SQLite file.

17.1 Specifications for Hazards

The following specifications apply to Hazards.

- **NOT NULL** – denotes the field is required
- **UNIQUE** – denotes the value must be distinct
- **INTEGER** – whole numbers only
- **REAL** – allows decimal numbers
- **TEXT** – allows alphanumeric character data

Key	Key Type	Definition
id	INTEGER PRIMARY KEY AUTOINCREMENT	The id column serves as the primary key, and the "AUTOINCREMENT" attribute ensures that a unique value is automatically assigned to this column for each new row inserted into the table.
identifier	TEXT NOT NULL UNIQUE	The identifier field is required and must differ from other identifiers in this column. It is recommended to follow a naming convention such as *HAZARD#* (starting from 1), where "#" represents a unique number. Users should avoid using white spaces or leaving the field blank.
name	TEXT NOT NULL	The name column can contain any character from the ASCII table. However, it is recommended to limit it to alphanumeric characters and spaces.

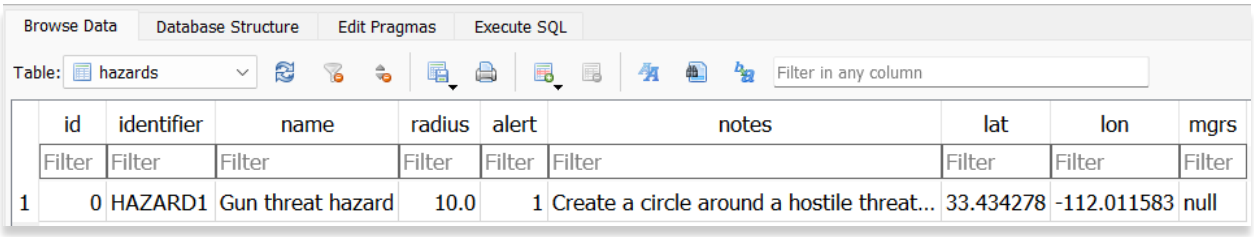
radius	REAL	The radius column represents the distance from the center of the ring to its outer edge that pilots should avoid when flying. If the radius column is left empty or a negative value is entered, the radius of the ring will be automatically adjusted to 0.
alert	INTEGER NOT NULL	The alert column indicates whether Intersection Alert is active or not. 1 is used to represent true while 0 is used to represent false.
notes	TEXT	The notes column is intended for additional information or context regarding hazards.
lat	REAL NOT NULL	The lat column represents the latitude of the hazard. Latitude cannot be greater than 90 or less than -90 but can be equal to either value.
lon	REAL NOT NULL	The lon column represents the longitude of the hazard. Longitude cannot be greater than 180 or less than -180 but can be equal to either value.
mgrs	TEXT	The mgrs column can contain any alphanumeric characters, symbols, or spaces. It is used solely for display purposes and is not used to derive a location, since the location is determined solely by the lat/lon values.

Here's the schema for the Hazards table. This schema includes the keys for each column mentioned earlier, with the necessary data types and constraints.

```
CREATE TABLE IF NOT EXISTS hazards (
            id INTEGER PRIMARY KEY AUTOINCREMENT,
            identifier TEXT NOT NULL UNIQUE,
            name TEXT NOT NULL,
            radius REAL,
            alert INTEGER NOT NULL,
            notes TEXT,
            lat REAL NOT NULL,
            lon REAL NOT NULL,
            mgrs TEXT);
```

17.1.1 Hazards SQLite Table

Here's an example of a SQLite table for Hazards:



	id	identifier	name	radius	alert	notes	lat	lon	mgrs
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	0	HAZARD1	Gun threat hazard	10.0	1	Create a circle around a hostile threat...	33.434278	-112.011583	null

17.2 Specifications for Pins

Users must refer to the provided schema to create a table and input the desired values for each column. For Pins, the following specifications apply.

- **NOT NULL** – denotes the field is required
- **UNIQUE** – denotes the value must be unique
- **INTEGER** – whole numbers only
- **REAL** – allows decimal numbers
- **TEXT** – allows alphanumeric character data
- **BLOB** – stores large objects such as images

Key	Key Type	Definition
id	INTEGER PRIMARY KEY AUTOINCREMENT	The id column serves as the primary key, and the "AUTOINCREMENT" attribute ensures that a unique value is automatically assigned to this column for each new row inserted into the table.
pinType	INTEGER NOT NULL	The pinType field serves to indicate the type of geographic pin. Specifically, 0 is used to represent pin, 1 represents landmark, 2 represents emergency marker, and 3 represents photo pin. Landmark and avoidance point share the same pinType value, which is 1. If connectToOwnship is enabled, then it's landmark, otherwise it is avoidance point.
identifier	TEXT NOT NULL	The identifier field is required and must differ from other identifiers in this column. Users

	UNIQUE	should avoid using white spaces or leaving the field blank.
name	TEXT NOT NULL	The name column can contain any character from the ASCII table. However, it is recommended to limit it to alphanumeric characters and spaces.
notes	TEXT	The notes column is intended for additional information or context regarding pins.
lat	REAL NOT NULL	The lat column represents the latitude of the pin. Latitude cannot be greater than 90 or less than -90 but can be equal to either value.
lon	REAL NOT NULL	The lon column represents the longitude of the pin. Longitude cannot be greater than 180 or less than -180 but can be equal to either value.
timestamp	INTEGER NOT NULL	The timestamp column indicates the number of seconds since epoch time of when the pin was created.
radius	REAL	The radius column represents the distance from the center of the ring to its outer edge that pilots should avoid when flying. If the radius column is left empty or a negative value is entered, the radius of the ring will be automatically adjusted to 0.
radiusCircle	INTEGER NOT NULL	The radiusCircle column indicates whether Radius Ring is active or not. 1 is used to represent true while 0 is used to represent false.
radiusWarning	INTEGER NOT NULL	The alert column indicates whether an intersection alert is active or not. 1 is used to represent true while 0 is used to represent false.
connectToOwnship	INTEGER NOT NULL	The connectToOwnship column indicates whether Connect to Location is active or not. 1 is used to represent true while 0 is used to represent false.

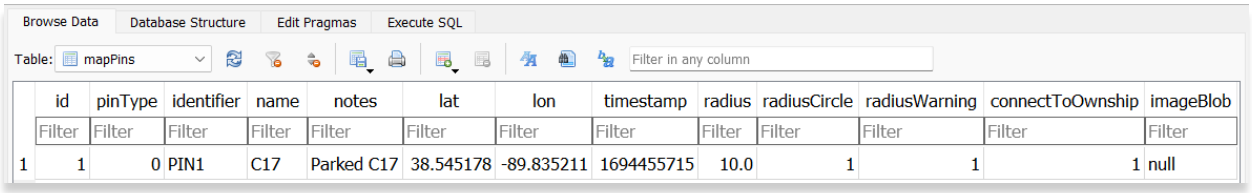
imageBlob	BLOB	The imageBlob column is intended to associate pins to relevant photos and can be viewed through Aero App. This field is required for Photo Pins.

Here's the schema for the Pins table. This schema includes the keys for each column mentioned earlier, with the necessary data types and constraints.

```
CREATE TABLE IF NOT EXISTS mapPins (
            id INTEGER PRIMARY KEY AUTOINCREMENT,
            pinType INTEGER NOT NULL,
            identifier TEXT NOT NULL UNIQUE,
            name TEXT,
            notes TEXT,
            lat REAL NOT NULL,
            lon REAL NOT NULL,
            timestamp INTEGER NOT NULL,
            radius REAL,
            radiusCircle INTEGER NOT NULL,
            radiusWarning INTEGER NOT NULL,
            connectToOwnship INTEGER NOT NULL,
            imageBlob BLOB);
```

17.2.1 Pins SQLite Table

Here's an example of a SQLite table for Pins.



	id	pinType	identifier	name	notes	lat	lon	timestamp	radius	radiusCircle	radiusWarning	connectToOwnship	imageBlob
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	1	0	PIN1	C17	Parked C17	38.545178	-89.835211	1694455715	10.0	1	1	1	null

18 Appendix D | Android Data Storage

Android data storage refers to the different methods used to save and manage Aero data. The sections ahead will provide detailed information on data storage.

18.1 Use SD Card to Store Data

The Use SD Card to store data function allows users to store data in their preferred SD card. This feature provides the advantage of saving internal storage space and setting a primary location to store Aero data.

1. Insert an SD card into your Android device.
2. Open **Aero App** on your device.
3. Tap **App Mgmt** on the ***Main Menu***.
4. Tap **Preferences** on the ***Secondary Menu***.
5. Select **Data** from the side menu.
6. Tap to enable the ***Use SD Card to store Data*** option. The primary storage is now set to read and write from the SD card.

18.1.1 Switch to the SD Card

By enabling the *Use SD Card to store data* option, users are presented with the following options:

- **Leave all existing data alone** – Uses preloaded data from the SD card.
- **Move data from the Device to the SD Card** – Transfers desired Aero data from the Android tablet's internal storage to SD card.

18.1.1.1 Leave all existing data alone

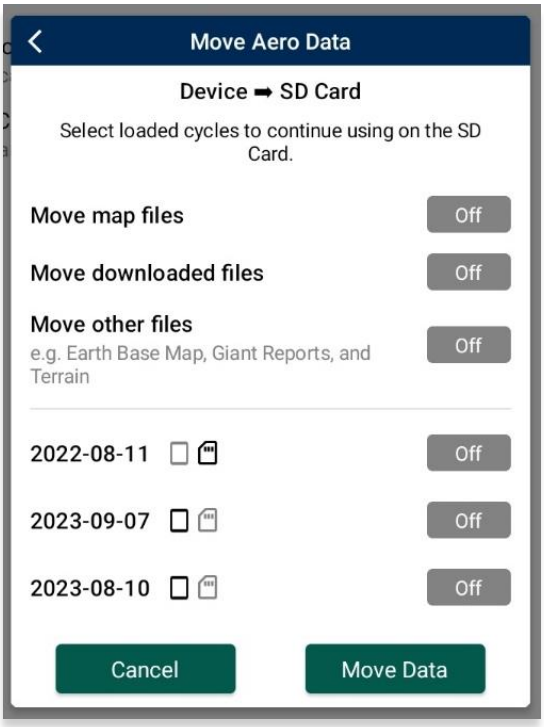
When selecting the *Leave all existing data alone* option, you are allowing Aero App to access preloaded data from your SD card. This allows Aero App to read data directly from the SD card.

1. Select the **Leave all existing data alone** option. A confirmation popup will appear.
2. Tap **Continue**. Aero App will read and store new data from the SD card. This does not move any existing data from the Android tablet.

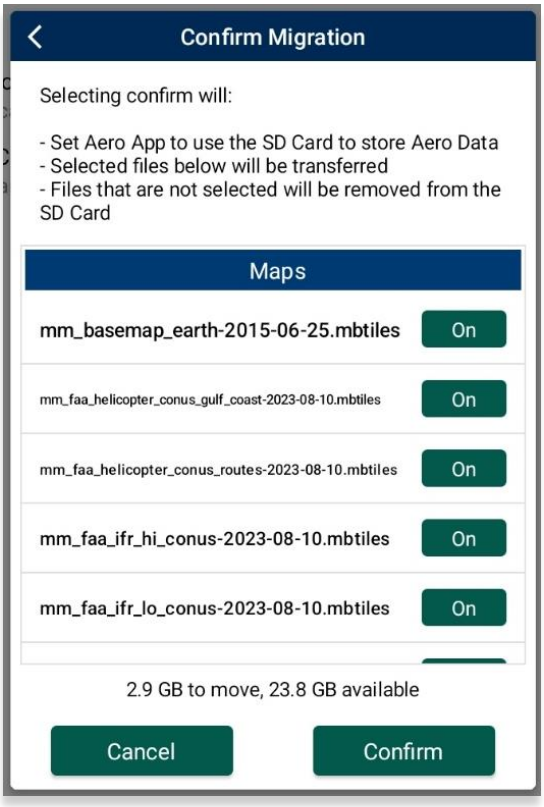
18.1.1.2 Move Data from the Device to the SD Card

When selecting the *Move data from the Device to SD card* option, you are allowing Aero App transfer Aero data from their Android tablet's internal storage to the SD card.

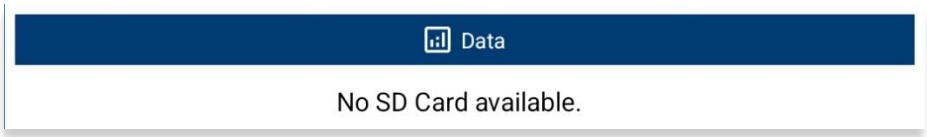
1. Select the **Move data from the Device to the SD Card** option. A *Move Aero Data* popup will appear.
2. Select data that you wish to transfer into the SD card.
3. Tap **Move Data** once desired data is selected.



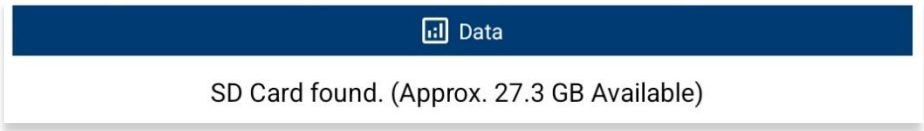
4. A **Confirm Migration** popup will appear containing the selected data.
5. Tap **Confirm**. The transfer will begin. This process may take a while.



NOTE: If a user does not have an SD card inserted into their device, the following message will display under the Data subheading.

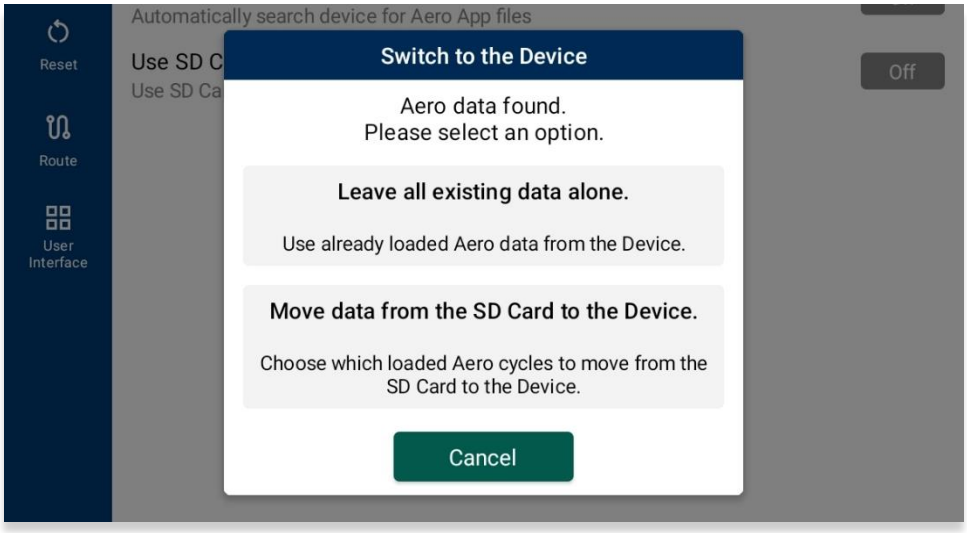


NOTE: If user does have an SD card inserted into their device, the following message will display under the Data subheading.



18.2 Switch to the Device

If you disable the *Use SD Card to store Data* option, you can use your Android tablet as the main resource for Aero App data. This means that you can use the pre-loaded Aero App data or transfer data from the SD card to the tablet.



18.3 Search for Data on SD Card and Computer

The Search for Data on SD Card and Computer option has an auto-discover function that scans your SD card and the Android tablet's internal storage for Aero App data. If your Android tablet has an SD card inserted, Aero App will check it for data; otherwise, an SD card is not required. Aero App will use any data found as the primary resource for Aero data.

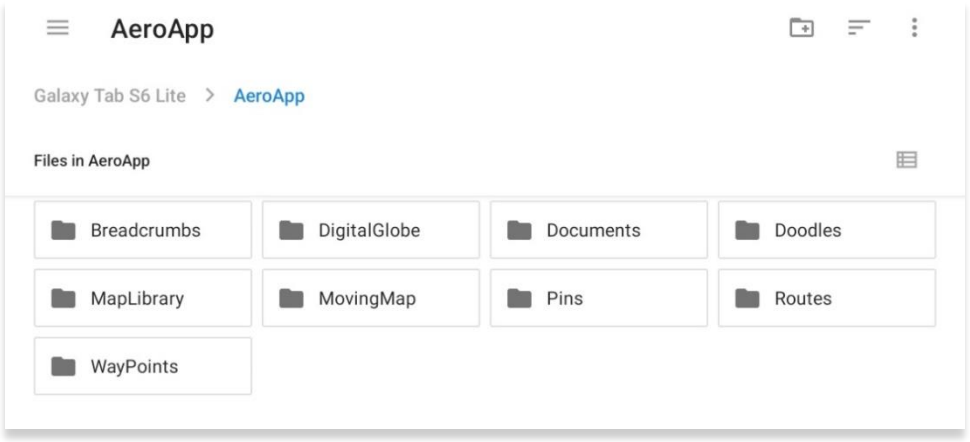
1. Open **Aero App**.
2. Tap **App Mgmt** on the ***Main Menu***.
3. Tap **Preferences** on the ***Secondary Menu***.
4. Select **Data** from the side menu.
5. Tap to enable the **Search for Data on SD Card and Computer** option.

NOTE: When the *Search for Data on SD Card and Computer* option is enabled, Aero App disregards what is set as the directory to store data.

18.4 Path for Data on SD Card and Computer

The Path for Data on SD Card and Computer feature gives users the ability to specify a preferred directory for loading Aero App data. Users with Android tablets that operate on Android 12 or newer versions, can opt to sideload data from the primary folder by enabling the *Search for Data on SD Card and Computer* option. If your Android tablet has an SD card inserted, Aero App will check it for data; otherwise, an SD card is not required.

1. Open **Aero App**.
2. Tap **App Mgmt** on the ***Main Menu***.
3. Tap **Preferences** on the ***Secondary Menu***.
4. Select **Data** from the side menu.
5. Tap **Choose** for the ***Path for Data on SD Card and Computer*** option.
6. Select desired folder or subfolder to set the directory in which will store Aero App data.



7. Once the directory is selected, tap **USE THIS FOLDER** to set the path.

8. A confirmation popup will appear. Tapping **Allow** will let Aero App access current and future content in the selected folder.
9. Tap **Cancel** to void action.

19 Appendix E | Aero App for Android on Windows 11

Aero App for Android supports cross-platform compatibility between Android and Windows operating systems. Aero App for Android can run on a Windows computer through the Windows Subsystem for Android (WSA) application. This feature will be further elaborated in the sections to follow.

NOTE: Currently, Surface tablets are not supported.

19.1 Requirements

Running Aero App for Android on Windows requires the following:

- Windows Subsystem for Android (WSA)
- Windows 11, minimum version 22H2 build 22621

19.2 Install Windows Subsystem (WSA)

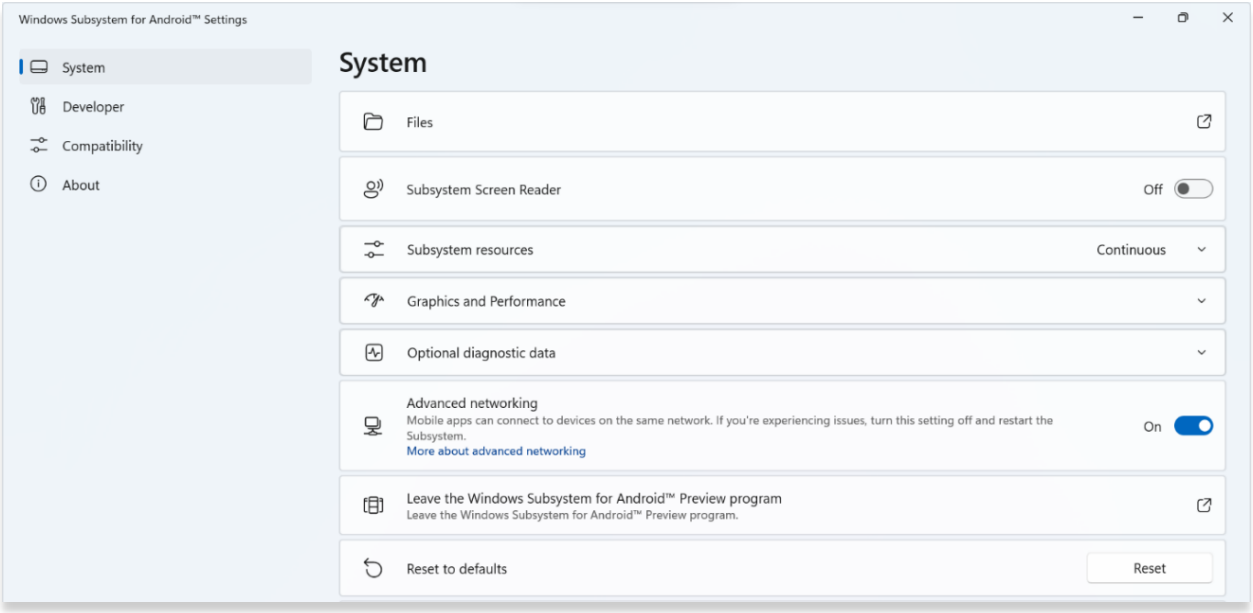
To install WSA on your Windows, users must install the Amazon Appstore from the Microsoft Store using their Microsoft account. Installing the Amazon Appstore will silently install WSA in the background.

Once the Amazon Appstore has been installed, a popup will appear that includes an installation guide of the Windows Subsystem for Android.

19.3 Windows Subsystem for Android (WSA) Settings

WSA is a Microsoft feature that enables Windows 11 devices to run Android applications such as Aero App. Windows Subsystem for Android (WSA) includes a Settings App. To access WSA search for "Windows Subsystem for Android" in the Start menu.

The WSA Settings App allows access to the WSA Virtual Machine's filesystem. Clicking the pop-out arrow for the ***Files*** option will open a window similar to the Android tablet My Files app.



NOTE: Users are not able to move files into Android from the Files window. Files can only be copied to Windows.

The **Subsystem resources** option enables users to set the duration in which the WSA virtual machine will be active. It is recommended for users to switch their settings from ***As Needed*** to **Continuous** for improved performance experience.

The **Advanced networking** option allows users to connect to other devices in the same network. This option must be switched **On** to access certain Aero App features, such as ADS Discover.

The **Developer Mode** should be enabled from the WSA Settings app. Enabling developer mode will be covered in the sections below.

NOTE: To establish a connection with a secured server on ADS, certificates would need to be installed on WSA as needed.

19.4 Android Debugging Bridge (ADB)

Android Debugging Bridge (ADB) is used to facilitate the interaction between Windows and WSA. It is a command-line tool that requires users to enter adb commands.

19.4.1 Download and Extract Platform Tools

To begin using adb commands, users will need to:

1. Navigate to the Android Developer site - developer.android.com/studio/release/platform-tools.
2. Download and extract the Platform Tools.
3. Open the **platform-tools** folder.
4. Open a terminal window from this directory.
5. Execute the command, '.\adb devices'**.**

If located in the appropriate destination, the adb-server should start up and list any connected Android devices. Executing the command here will start the adb server. This confirms that your current setup operates effectively.

For additional information, visit developer.android.com.

NOTE: No device would be listed since you need the connection of the WSA address. This will be further explained in the sections to follow.

19.4.2 Add to PATH

ADB can only be used from the folder in which it is stored in. To run adb commands without specifying 'adb devices' or navigating to the folder:

1. Open the Environment Variables from the Control Panel.
2. Directly below *User Variables,* click **Path** to highlight, then **Edit….**
3. Click **New.**
4. Enter the path to the platform tools. The path is the complete directory of the platform tools folder location, i.e., C:\Users\username\Downloads\platform-tools_r33.0.3-windows\platform-tools.
5. Click **Ok.**

Once added, ensure to never move, or delete the platform tools folder.

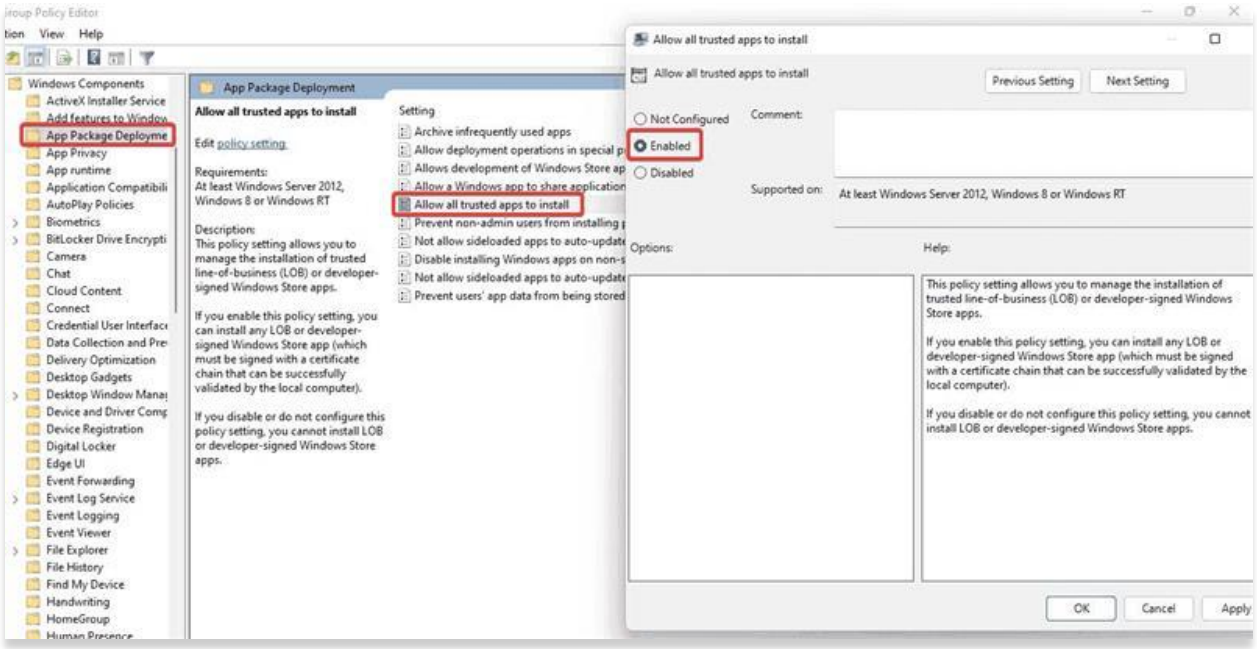
19.5 Enable Developer Mode

To enable Developer Mode, or access other settings:

1. Open the WSA Settings app.
2. Select Developer. Notate the IP address and Port number, i.e., 127.0.01:58584 to use further in this section.
3. Ensure Developer Mode is enabled.
4. Select **Manage developer settings** to ensure the WSA VM is running.
5. Search **Developer Settings** from the Windows search.
6. Navigate to **Settings**.
7. Click **Privacy and Security**.
8. Click **For developers**.
9. Enable **Developer Mode**.

If the options in the Settings application are not working or are disabled, users can use the methods below as an alternative. However, Group Policy Editor is only available for Windows 11 Professional, Enterprise or Education editions, not for Home Editions.

1. On your keyboard, press **Win + R** to open the Run dialog box. Enter “gpedit.msc" and click **Ok** to open the Local Policy Editor.
2. Navigate to the following path: ‘Computer Configuration > Administrative Templates > Windows Components > App Package Deployment’.
3. On the right side, find the policy "Allows development of Windows Store apps and installing them from an integrated development environment (IDE)".



4. Double-click and check the **Enabled** option in the Settings window.
5. Click **Apply** then click **OK.**

19.6 Install Aero App for Android into WSA

To install Aero App for Android into WSA:

1. Copy the ***Android apk file*** to any location on the Windows machine.
2. Open a Terminal.
3. Run 'adb connect <wsa-address>', with '<wsa-address>' being the virtual machine's address, i.e., 127.0.0.1:58584. This address is the same IP address used to enable developer mode.

NOTE: A message that reads "Failed to authenticate <virtual machine's address> may display.

   a. In the case where the device displays 'unauthorized' next to it:
      i. Go back to the WSA Settings App.
      ii. Click **Developer**.
      iii. Select **Manage developer settings**.
      iv. Scroll to **Use Debugging** and switch between on and off toggles.
      v. A dialog will display requesting authorization. Click to **Allow**.
      vi. Verify that WSA is connected; *adb devices* should now show authorized along with the list of devices attached i.e., <virtual machine's address> device.
4. Install the APK - adb install **<path-to-apk>**, where the **<path-to-apk>** is the full path, i.e., **C:\Users\username\ AeroApp_Android-1.2301.0-release.apk**.
5. Once installation is completed, the screen will display "Success"**.**

19.7 Sideloading Data

Sideloading data uses the **adb push <local> <remote>** command, where ***<local>*** is the path to the file to send to the WSA virtual machine, and ***<remote>*** is the location in the WSA virtual machine to put the file in. The paths in the WSA virtual machine that you'll need will begin with "/sdcard/". Refer to the examples provided below:

- Adding a global zip:
  - `adb push "C:\Users\username\Documents\global-2022-08-11.zip"/sdcard/'
- Adding a user MBTiles file:
  - `adb push C:\Users\username\files\map.mbtiles /sdcard/AeroApp/MovingMap/`
- Adding all files in a directory:
  - `adb push C:\Users\username\data\. /sdcard/Documents/`

NOTE: Depending on the number of files being sideloaded, it may take a while to complete the transfer. In the case where folder names include spaces, be sure to add quotation marks as seen on the first example above.

19.8 Unsupported Features

To run Aero App for Android on Windows, a Windows computer with the minimum operating system of Windows 11 is required. The list below displays Aero App for Android's unsupported features when running on a Windows machine:

- SD card storage
- Bluetooth connectivity
- ADS-B connectivity
- MAGTAB
- Share KML/KMZ user overlays
- MDM
- GPS connectivity

NOTE: The Windows Subsystem for Android (WSA) is under continuous development by Microsoft. There may be updates to the WSA that can affect the performance of Aero App for Android. A temporary change in functionality may occur as a result. A feature may become blocked, or a previously unsupported feature may begin working. These changes are outside the control of the Aero App development team.

20 Appendix F | Acronyms and Glossary

.apk	Android package file format for distribution and installation of mobile apps and middleware
AFR	Africa (Central and Southern regions)
A/FD	Airport Facility Directory
ADDS	Aviation Digital Data Service
Adobe	Software suite of graphic design, video editing, and web development applications
ADS	Aero Data Server
ADS-B	Automatic Dependent Surveillance-Broadcast
AF Wx	Air Force Weather
AIRMET	Airmen's Meteorological Information
Alt Min	Alternate Minimums
AP	Area Planning
APD	Airport Diagram
App Mgmt	Application Management
AQP	Advanced Qualification Program
Arr	Airport Arrival Procedures
CSA	Caribbean and South America
ARTCC	Air Route Traffic Control Center
ASPS	Aeronautical Source Packaging Service
AUD	Aero User Database
AvGas	Aviation Gasoline
AWS	Amazon Web Services
Breadcrumbs	GPS points along a flight path
CAC Card	Common Access Card
CONUS	Contiguous United States
CRD	Common Route Definition
Delta	Upgrades from previous data cycles that only include changes
Dep	Airport Departure Procedures
DINS	Defense Internet NOTAM Service
DLA	Defense Logistics Agency
Docs	User-defined content loaded into document library
DOD	Department of Defense
DP	Departure Procedures
DSN	Defense Switched Network
DVD	Digital Versatile Disc
E6B	Aviator's calculator
EFB	Electronic Flight Bag
E-IPL	Electronic - Instrument Procedure Library
ENAME	Europe, North Africa, Middle East
EEA	Eastern Europe and Asia

ETA	Estimated Time of Arrival
ETE	Estimated Time Enroute
FAA	Federal Aviation Administration
FIR	Flight Information Region
FIS-B	Flight Information Services-Broadcast
FLIP	Flight Information Publications and Flight Information Products
Ft	Foot
GARS	Global Area Reference System
GB	Gigabyte
GEOAxIS	Credentials authentication provider for the government
GEOINT	Geospatial Intelligence
GPS	Global Positioning System
GS	Ground Speed
TFRs	Temporary Flight Restrictions
Hdg	Heading
IAP	Instrument Approach Procedures
ICAO	International Civil Aviation Organization that assigns airport code or location indicator as an alphanumeric code designating aerodromes around the world
IFR	Instrument Flight Rules
IP	Internet Protocol
IPA	iOS application archive file which stores an iOS app
IR	Instrument Routes
KG	Kilogram
KM	Kilometer
KML	Keyhole Markup Language
KMZ	Keyhole Markup Language Zipped
Kt	Knot
LAHSO	Land and Hold Short Operations
Lat, Lon	Latitude and Longitude
Lbs	Pounds
LIFR	Low Instrument Flight Rules
M	Meter
macOS	Current series of Unix-based graphical operating systems by Apple
MDM	Mobile Device Management
METAR	Aviation Routine Weather Report, a format for reporting weather information
Mgmt	Management
MGRS	Military Grid Reference System
Moving Map	Navigation system displaying the receiver's current location at the center of a map
MTRs	Military Training Routes
NavAid	A device or system that provides a navigator with navigational data
NEXRAD	Next-Generation Radar
NGA	National Geospatial-Intelligence Agency

NGA GEOINT	NGA web-based capabilities for online, on-demand discovery, and access to geospatial intelligence
NIPRnet	Non-secure Internet Protocol Router Network
NM	Nautical Mile
NOAA	National Oceanic and Atmospheric Administration
NOTAM	Notice to Airmen
NSN	National Stock Number
OCONUS	Outside Contiguous US
PAA	Pacific, Australasia, and Antarctica
PDF	Adobe Portable Document
PIREP	Pilot Report
PKI	Public Key Infrastructure
POC	Point of Contact
Prog Chart	A map displaying the likely weather forecast for a future time
RNAV	Area navigation, a method of IFR navigation
SAR	Search and Rescue
SD Card	Secure Digital High-Capacity card
Shapefiles	Geospatial vector data format for geographic information system (GIS) software
SID	Standard Instrument Departure
SIGMET	Significant Meteorological Information
SM	Statute Mile
SQLite	Relational database management system
SR	Slow Speed Low Altitude Routes
STAR	Standard Terminal Arrival Route
SUA	Special Use Airspace
TACs	Terminal Area Charts
TAFs	Terminal Aerodrome Forecasts
TFRs	Temporary Flight Restrictions
TO Min	Takeoff Minimums
UIR	Upper Information Region
USB	Universal Serial Bus
VFR	Visual Flight Rules
VO	Vertical Obstruction
VR	Visual Routes
Waypoint	A set of coordinates that identify a point in physical space
WCA	Wind Correction Angle
Wx	Weather
XTK	Crosstrack