

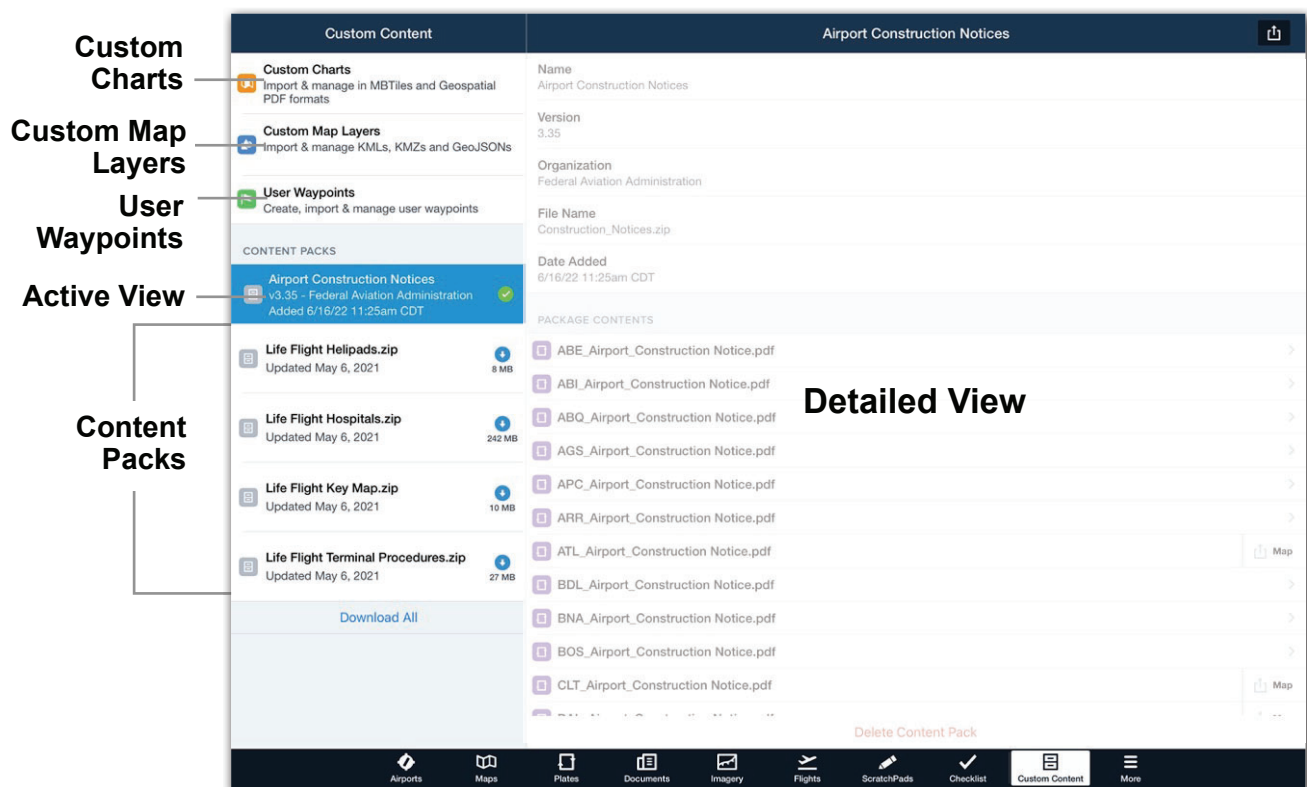
CUSTOM CONTENT

The Custom Content feature allows custom map layers, charts, and user waypoints to be added to ForeFlight. The Custom Content view lists all custom content installed on the device. Select **More > Custom Content** to access the view.

The left side of the Custom Content View list four categories of custom content. Tapping a category displays the contents of the category in a detailed view on the right side of the screen. The four types of custom content are listed below.

- Custom Charts
- Custom Map Layers
- User Waypoints
- Content Packs
- User Waypoints
- Content Packs

The Custom Content view can be used to access custom content, however the typical workflow involves accessing custom content from the Maps, Plates, and Airports views. Custom Charts, Custom Map Layers, and Content Packs do not sync between devices. User Waypoints sync to the devices signed into the account. ForeFlight Web does not support custom content.



Custom Content View

21. CUSTOM CONTENT

21.1 Creating Custom Content

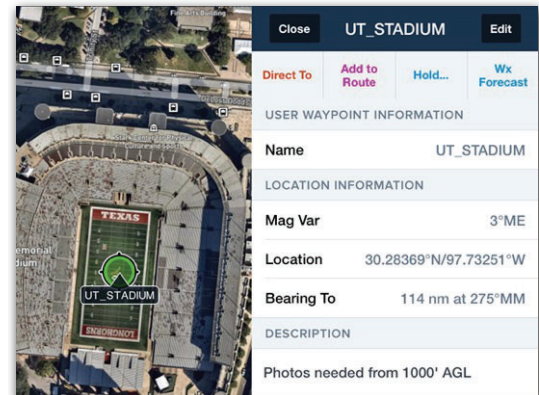
Custom Content can not be created in ForeFlight (with the exception of user waypoints). Custom content must be created with a 3rd-party program and imported to ForeFlight. This chapter provides a basic overview of creating and importing custom content.

21.2 User Waypoints

User waypoints can be created in ForeFlight Mobile using the Maps or Custom Content pages.

User waypoints are displayed on the map when the **User Waypoint** map layer is selected from the map drop-down menu. The black user waypoint icon is not customizable. For customizable user waypoints, see [Custom Map Layers](#).

User waypoints can be entered in the route editor and used in flight plan filing.



User Waypoint

21.2.1 User Waypoint Fields

User waypoints consist of four fields.

- **Name** - Must be minimum of 3 characters, all one word with no spaces. Names must contain at least one letter and should not duplicate an existing published waypoint's name. Waypoint names can be entered into the flight plan editor for planning purposes.
- **Description** (optional) - User waypoint descriptions are displayed in the user waypoint pop-up when tapped. Descriptions support letters, numbers, and special characters.
- **Location** - Location is defined by latitude/longitude, point/radial/distance, or Military Grid Reference System (MGRS). When adding a user waypoint with Maps, the latitude/longitude is automatically populated.
- **Elevation** (optional) - The elevation field provides ForeFlight with elevation data for flight planning purposes. When an elevation is provided, flight planning results are more accurate. Entering an elevation also allows Profile View to display climbs and descents when the destination or departure are a user waypoint.

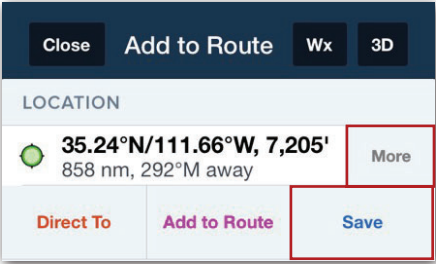
21. CUSTOM CONTENT

21.2.2 Creating User Waypoints - Maps View

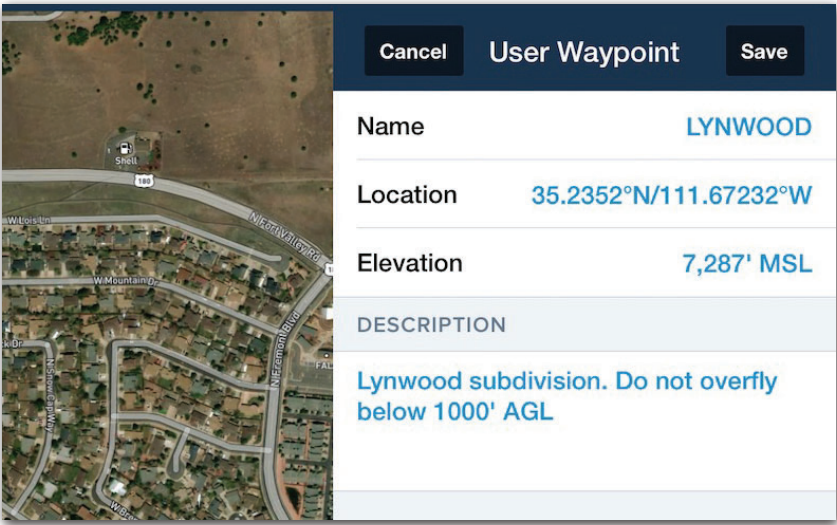
User waypoints can be created on the Maps and Custom Content views. If a user waypoint's coordinates are unknown, creating the user waypoint with the Maps view is recommended.

To create a user waypoint on the map:

1. Open the Maps view and zoom-in to improve waypoint accuracy.
2. Place and hold your finger on the map where you want to add the user waypoint.
3. In the sidebar, tap **More** and select **Save**.
4. Enter a name (recommended). If a name is not entered, the waypoint's coordinates will be used.
5. Verify waypoint location on the map and manually edit coordinates if needed.
6. Enter an elevation in feet MSL (recommended).
7. Provide a description (optional).
8. Tap **Save** near the top of the pop-up.



More + Save Buttons



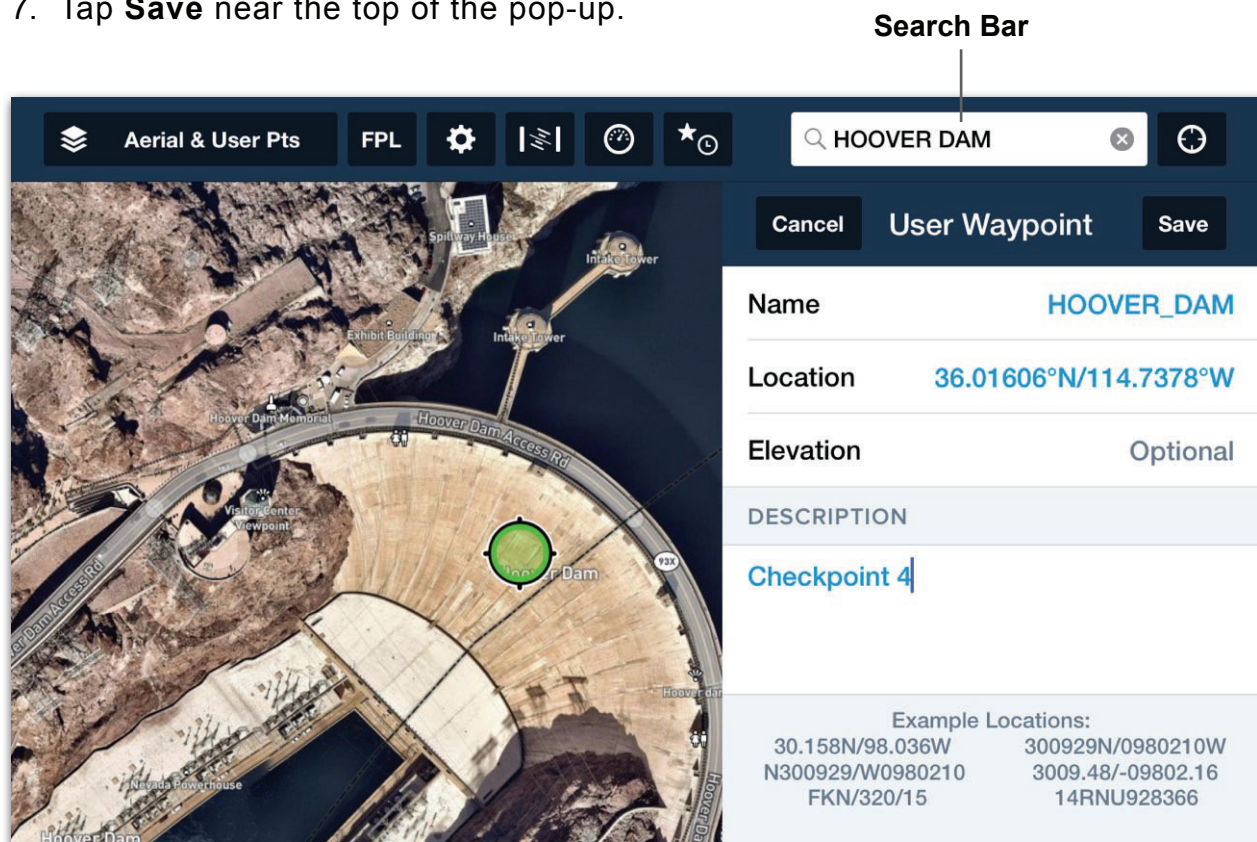
Creating a user waypoint - Maps View

21. CUSTOM CONTENT

21.2.3 Creating User Waypoints - Map Search

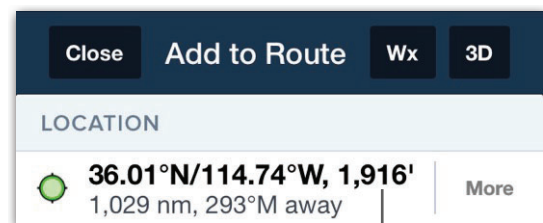
To create a user waypoint with search:

1. Open the Maps view and enter a location or point of interest in the search bar.
2. Locate and tap the location in the list of search results.
3. Tap **Save** near the top of the pop-up.
4. Edit the name if desired.
5. Provide an elevation (recommended).
6. Provide a description (optional).
7. Tap **Save** near the top of the pop-up.



Creating User Waypoint - Search

NOTE: Tap/Hold the map to display elevation. Elevation is displayed next to the coordinates in the Add to Route menu and is the highest point within a 0.25 nm radius.



21. CUSTOM CONTENT

21.2.4 Creating User Waypoints - Custom Content View

To create a user waypoint using the Custom Content view:

1. Select **More** > **Custom Content** > **User Waypoints**.
2. Tap the **[+]** button in the upper toolbar.
3. Enter a name and location (required).
4. Enter an elevation (recommended), and provide a description (optional).
5. Tap **Save** near the top of the pop-up.

The user waypoint location field can be entered in the following formats:

- Place/bearing/distance - IAH/320/15 (IAH VOR, 320 bearing and 15 nm).
- Military Grid Reference System - 14RNU928366.
- Coordinates (see below).

Supported Coordinate Formats

Coordinates can be entered using any of the following formats. ForeFlight will automatically convert coordinates to display them in the format selected in **More** > **Settings** > **Units/Time** > **Coordinates**.

If no hemisphere is specified, ForeFlight defaults to the north and east hemisphere. Specify the southern hemisphere with a “-” prefix or “S” after the latitude. Specify the western hemisphere with a “-” prefix or “W” after the longitude.

- Decimal Degree - 30.158N/98.036W
- Decimal Minute - 3015.89/-9803.62
- Degree Minute Seconds - 301545N/980355W

Custom Content	Cancel	User Waypoint	Save
Custom Charts Import & manage in MBTiles, Geospatial PDF and GeoTIFF formats	Name CHECKPOINT _7		
	Location 293345N/0891236W		
Custom Map Layers Import & manage KMLs, KMZs and GeoJSONs	Elevation 1,277' MSL		
	DESCRIPTION		
User Waypoints Create, import & manage user waypoints	Highway overpass		

Creating User Waypoints - Custom Content View

21. CUSTOM CONTENT

21.3 Multiple User Waypoints (Bulk Import)

Multiple user waypoints can be imported in bulk via AirDrop, e-mail, file transfer, or as part of a **Content Pack**. Bulk user waypoints must be a Comma Separate Value (CSV) file or **Keyhole Markup Language (KML) file**.

CSV files can be created with spreadsheet programs like Microsoft Excel, Google Sheets, or Apple Numbers. KML files can be created with mapping programs like Google Earth or Google My Maps.

21.4 Creating CSV Files

User Waypoint CSV files must follow the formatting defined in this section. CSV files contain a single table with five columns. Each column defines one of the waypoint's fields. CSV files do not need column names. Names in the example below are provided for informational purposes.

NAME	DESCRIPTION	LATITUDE	LONGITUDE	ELEVATION
------	-------------	----------	-----------	-----------

User waypoint CSV file fields

When creating a CSV file, each waypoint is defined on its own row. There's no limit to the number of rows a file can contain. To create a user waypoint CSV file for bulk import, open a new spreadsheet with your preferred program. Add a single table with five columns. Add enough rows for the number of user waypoints in the file. Fill in the table with your user waypoint data. Only one table per file is supported.

NORTH_BASE	North Base	29.243	-97.565	450
WD355	West Delta 355	27.443	-98.123	355
WEST_LAKE_FD	West Lake Fire	28.202	-90.788	1276
VFD23	Volunteer Fire Station	26.955	-93.544	2376
HOME	Home Sweet Home	29.512	-94.233	355
CP_23	Check Point 23	27.909	-91.110	2934

Example CSV File

21. CUSTOM CONTENT

21.4.1 CSV File Field Formatting

CSV files must follow the formatting listed below. If a CSV file does not follow the formatting, it will not import to ForeFlight.

- **Name** (required): Must be formatted with the following properties:
 - Minimum of 3 characters including at least one letter. For example, “12A”.
 - All caps, for example "THE_CABIN", not “The_Cabin”.
 - No spaces between words. Use a "_" or "-" between words. For example, "THE_CABIN" or "THE-CABIN", not "THE CABIN”.
- **Description** (optional): User waypoint descriptions are displayed in the user waypoint pop-up when tapped. Descriptions support letters, numbers, and special characters.
- **Latitude/Longitude** (required): Bulk importing user waypoints requires coordinate entry in the decimal degree format. Prefix latitude or longitude with a minus sign to notate the southern or western hemisphere (e.g. -97.711). If no minus sign is entered, ForeFlight assumes the north and east hemispheres.
- **Elevation** (optional): Enter elevation in feet without any additional notation.

21.4.2 Naming User Waypoint CSV Files

User waypoint CSV files must be named “user_waypoints.csv”. The file name should use lower case letters with no spaces. If a user waypoint file is not named properly, the waypoints will not be added to ForeFlight.

21. CUSTOM CONTENT

21.5 KML User Waypoints

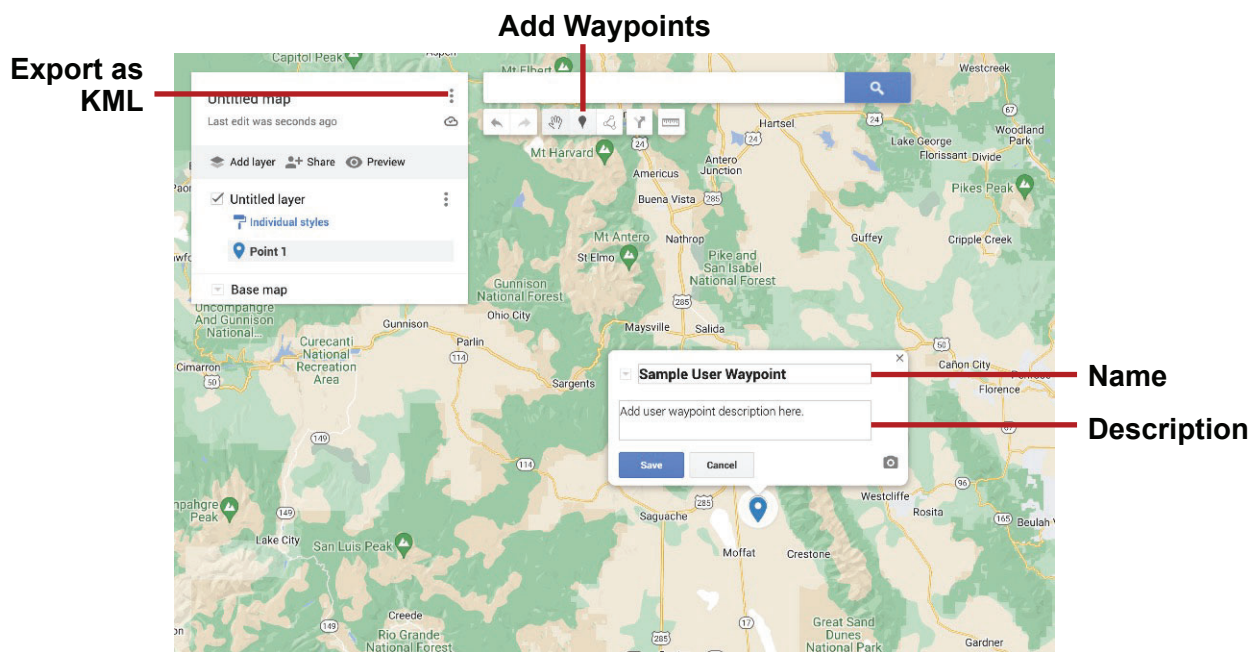
KML is a robust mapping language used to display geographic data in a browser such as Google Earth. If you're new to KML, ForeFlight recommends the following resource: [Google KML Tutorial](#).

ForeFlight supports basic KML features such as waypoints (placemarks), customizable icons, customizable labels, lines, and shapes. Files which only contain waypoints can be imported as a User Waypoint or Custom Map Layer file. If a file contains features other than just waypoints (lines or shapes), it can only be imported as a Custom Map Layer. This section discusses creating KML files for the purpose of bulk importing user waypoints. Icon and label color, size, and opacity changes are ignored when importing a KML file as user waypoints.

21.5.1 Creating KML User Waypoint Files

To create a KML user waypoint file, ForeFlight recommends using Google My Maps. Google My Maps is a simple, web-based mapping program www.mymaps.google.com.

To create a KML file with My Maps, select the add waypoint button and use the mouse to specify the location of the waypoint. Enter a name and description for the waypoint. Spaces in the name field are automatically replaced by an underscore when imported into ForeFlight. After entering a waypoint name and description, click **Save**.



Adding Waypoints with Google My Maps

21. CUSTOM CONTENT

Google My Maps does not include elevation data in the KML file. Elevation can be added to user waypoints after they've been imported in **More > Custom Content > User Waypoints**.

When all user waypoints have been added to the map, click the menu button to export the map layer as a KML/KMZ file. ForeFlight can import KML and KMZ files as user waypoints. It's not necessary to specify a particular format. The format (KML or KMZ) is only applicable when importing a custom map layer with custom icons. See [Custom Map Layers](#) for additional information.

It's not necessary to rename KML/KMZ files. File names are ignored when importing as a user waypoint file. If you have multiple user waypoint KML/KMZ files, renaming the file is recommended so the contents of the file can be easily identified. Save the file to your computer in preparation for importing it to ForeFlight.

21.6 Importing User Waypoints

User waypoints can be added to ForeFlight by incorporating them in a [Content Pack](#) or by importing them as stand-alone files. If user waypoints are added via Content Pack, the date the file was added is listed in **More > Custom Content**. Other than the Date Added field, there's no difference in how the waypoints are displayed in ForeFlight Mobile.

When a standalone CSV or KML file is imported, the waypoints are appended to the existing user waypoint list. During the import process, the current user waypoints are compared to the waypoints in the CSV/KML file. Duplicate waypoints are not appended to the waypoint list.

User Waypoints imported via Content Pack are not appended to the user waypoint list.

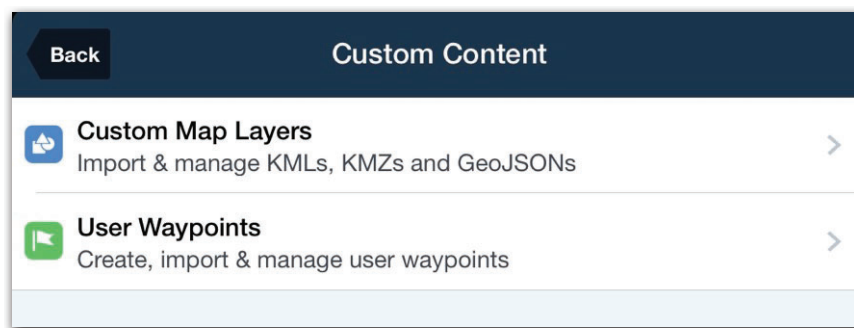
21. CUSTOM CONTENT

21.6.1 Importing a CSV or KML/KMZ file

To import a stand-alone user waypoint file, share the file to your iPad/iPhone via one of the supported methods. ForeFlight supports AirDrop, e-mail, and file transfer.

When opening a CSV or KML/KMZ file on an iPad or iPhone, a list of installed apps which are capable of importing the file are listed. Select **ForeFlight** from the list of installed apps.

After selecting ForeFlight, the app will automatically open and provide prompts for importing. If a KML/KMZ file containing only waypoints is imported, ForeFlight will display a menu for importing the file as a Custom Map Layer or User Waypoint. Select **User Waypoints** to append the waypoints to the current user waypoint list.



KML/KMZ User Waypoint Import Options

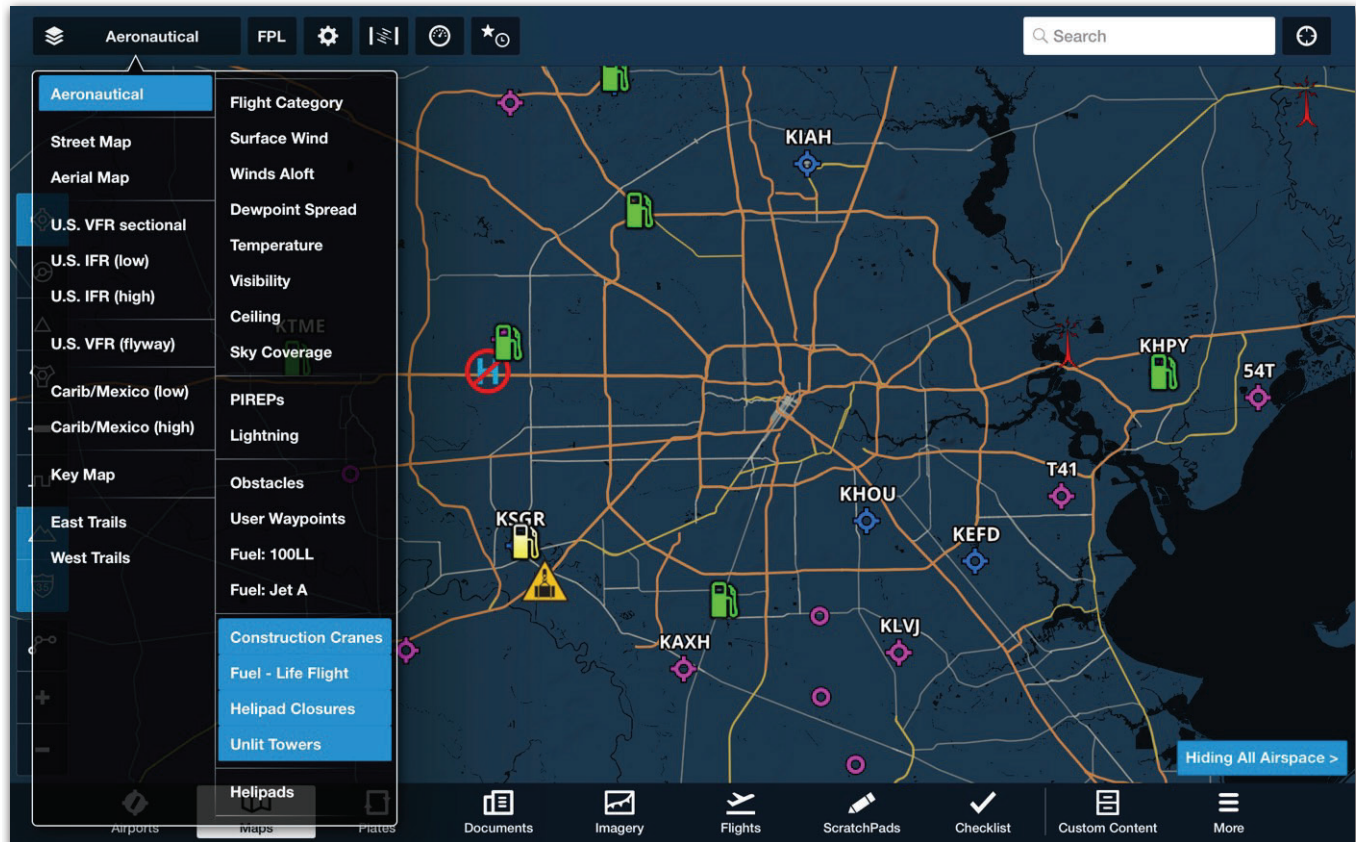
If a KML/KMZ file with lines or shapes is imported, Custom Map Layer will be the only option. If a CSV user waypoint file is imported, User Waypoints will be the only option.

Once the file has been imported, the waypoints can be displayed on the map by selecting **User Waypoints** from the map drop-down menu.

21. CUSTOM CONTENT

21.7 Custom Map Layers

Custom map layers can display shapes, lines, custom icons, and custom labels. Multiple custom map layers can be installed and displayed simultaneously on a device. Custom map layers are selected from the right column of the map layer drop-down menu. Each map layer can have a unique name. ForeFlight supports KML, KMZ, and geoJSON custom map layers.



Custom Map Layers with Custom Icons

21.7.1 Creating Custom Map Layers

There are various programs that allow you to build and export custom map layers. ForeFlight recommends using the [Google Earth Pro](#) desktop app. Google Earth Pro can export custom map layers in the KML and KMZ file format. If you're new to KML, ForeFlight recommends the [Google KML Tutorial](#).

This section provides basic instruction for creating custom map layers with Google Earth Pro. For detailed instructions, the [Google Earth Learn](#) website is recommended.

21. CUSTOM CONTENT

21.7.2 Supported Data Types

KML is a robust mapping language that supports a large variety of features. For example, KML can specify camera perspectives, time-dependent features, and even guided tours. ForeFlight only supports a small sub-set of all KML features.

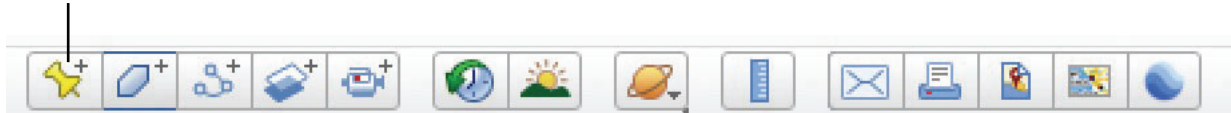
If you import a file that includes a KML feature that is not listed below, the unsupported feature is ignored by ForeFlight. ForeFlight supports the following KML features.

- Waypoint
- LineString
- LinearRing
- Polygon
- MultiGeometry
- Style
- StyleMap (normal)
- LineStyle
- PolyStyle
- IconStyle
- gx:LabelVisibility

21.7.3 Waypoints

One of the more common custom map layer features is the waypoint. Waypoints are displayed as icons on the map. Waypoints can be added to the route editor for planning purposes and used in flight plan filing. To create a custom map layer with waypoints, click the **Add Placemark** button in the Google Earth Pro upper toolbar.

Add Placemark



Google Earth Pro Toolbar

After clicking the placemark button, drag the waypoint icon to the appropriate position or manually enter the waypoint's latitude/longitude. Enter a waypoint name and description. Custom map layer names do not have to be a single word.

Select a supported icon for the waypoint or use a custom icon and click **OK**. Waypoint icons are discussed on the following pages.

KML/KMZ files exported from Google Earth do not include elevation data.

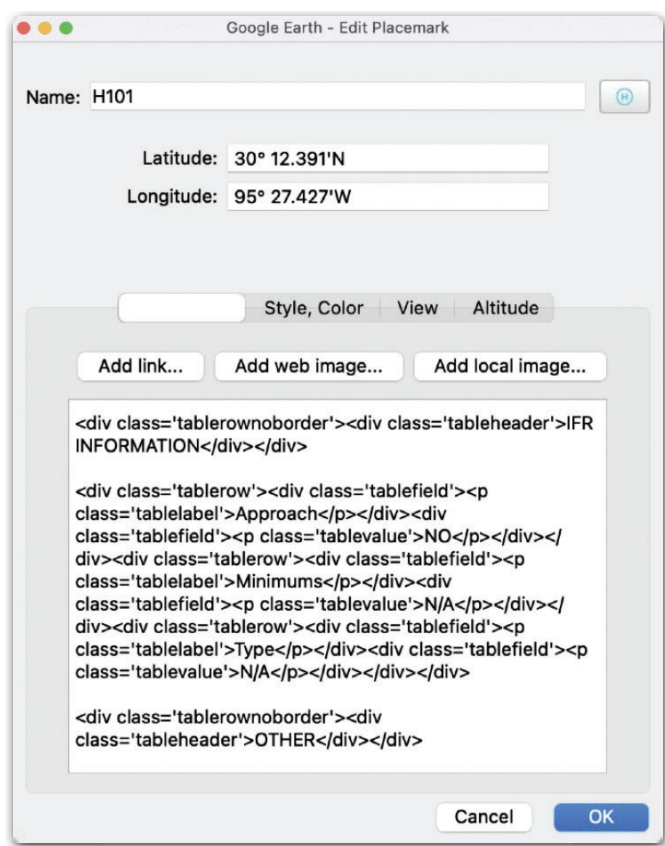
21. CUSTOM CONTENT

Waypoint Descriptions

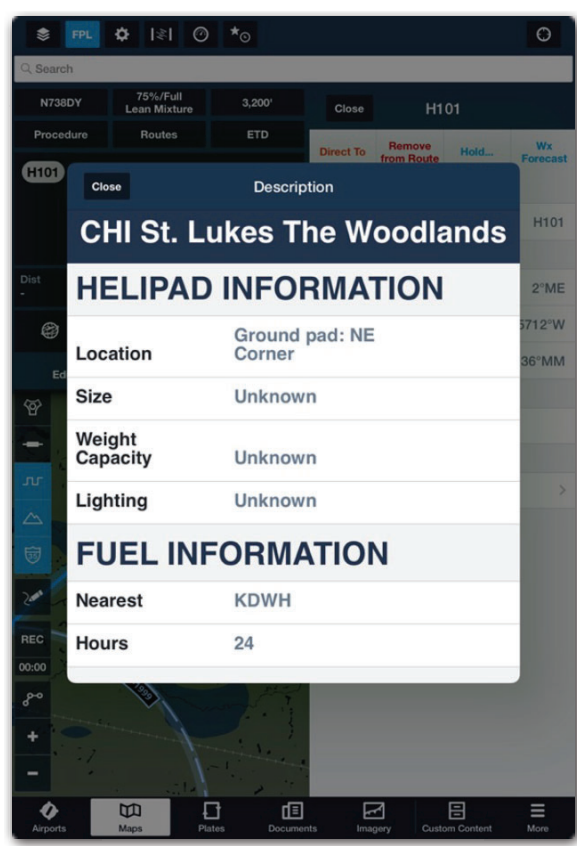
The waypoint description field in ForeFlight supports text and basic HTML formatting. HTML is not required, however when it's used, it allows the look of the description field to be customized. HTML elements such as links, line breaks, headings, font color, and size are supported.

To customize the description section of a waypoint, add the HTML directly to the description field in Google Earth Pro.

To view HTML formatted text in ForeFlight, tap the custom waypoint on the Maps view and tap **More Details** in the Description section of the pop-up.



HTML formatted text in Google Earth Pro



Custom map layer waypoint with HTML formatting

21. CUSTOM CONTENT

Waypoint Icons

ForeFlight only supports select Google Earth waypoint icons. If an unsupported icon is selected, the default icon is used.

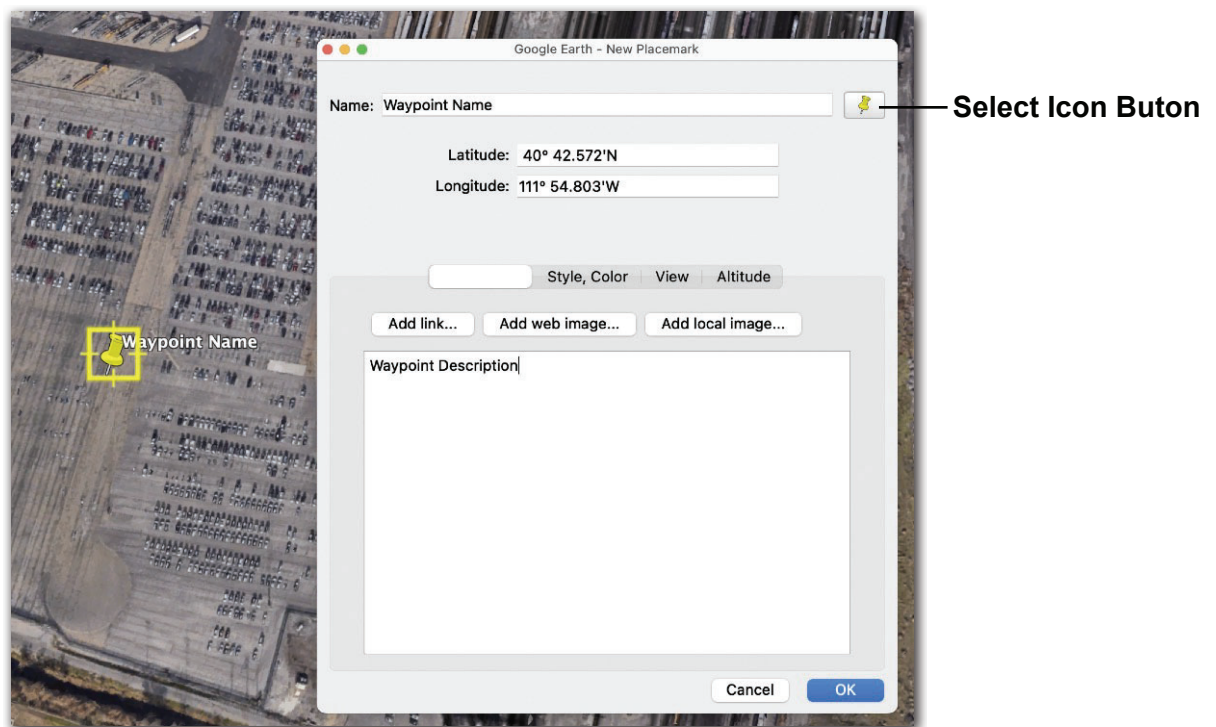
When choosing a waypoint icon, select a supported icon or use the **Add Custom Icon...** option at the bottom of the icon menu.

To select a waypoint icon, click the icon button in the upper right corner of the waypoint menu and select an icon from the subsequent page.

Once an icon has been selected, click **OK**.



Default Icon

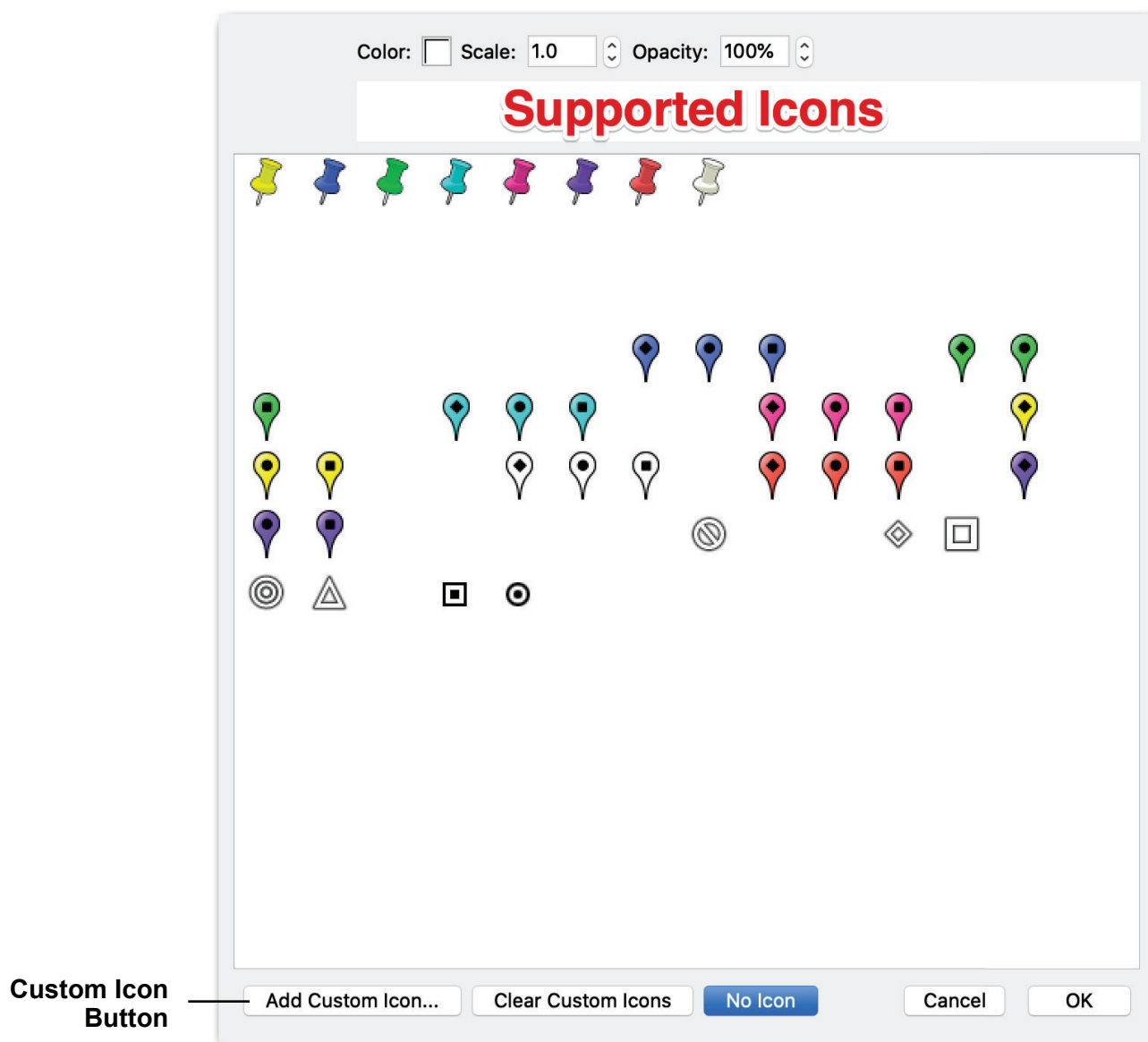


Adding Waypoints with Google Earth Pro

21. CUSTOM CONTENT

Supported Icons

The image below depicts the icons that are supported in ForeFlight Mobile. Use the **Add Custom Icon** button at the bottom of the menu to use an image from your computer as the waypoint icon.



Supported Icons

21. CUSTOM CONTENT

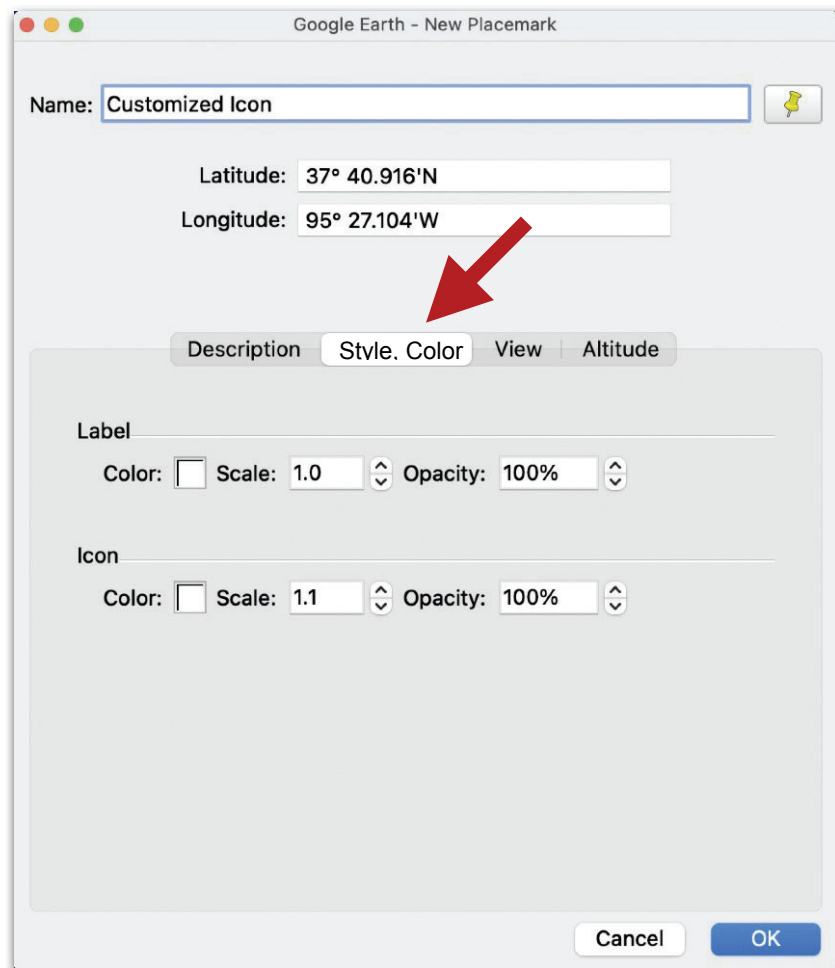
Custom Icons

For best results, custom icons should be PNG image files with transparent backgrounds. The image should be approximately 100 pixels by 100 pixels.

When using a custom icon, your map layer must be saved as a *KMZ file*. KMZ files are zipped files with KML map data and the custom icon image files.

21.7.4 Label and Icon - Style and Color

Label and icon color, size, and opacity can be customized. To make style adjustments, select **Style**, **Color** from the Google Earth waypoint menu. Not all customization fields are supported in ForeFlight. See the following pages for additional information.

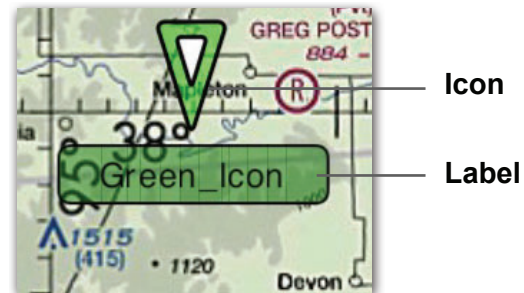


Customizing Waypoints

21. CUSTOM CONTENT

Color and Opacity

Waypoint icons and their associated labels share color and opacity attributes. To adjust the color or opacity of a waypoint, use the *Icon* settings in Google Earth to make adjustments. When using a supported icon, it's not possible to differentiate the color or opacity of the waypoint icon and its label.



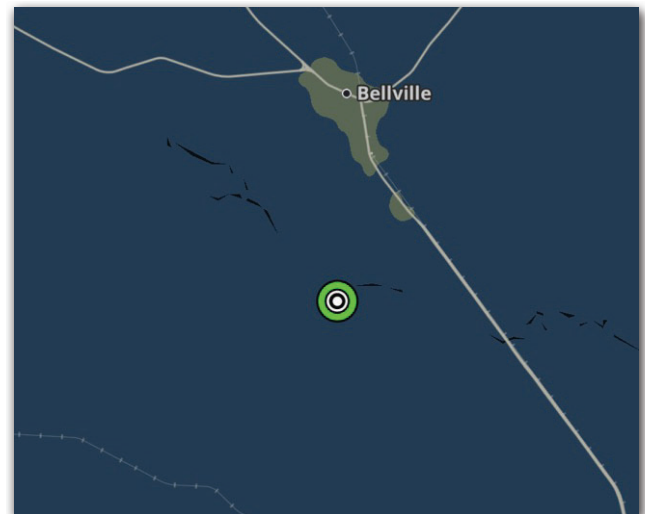
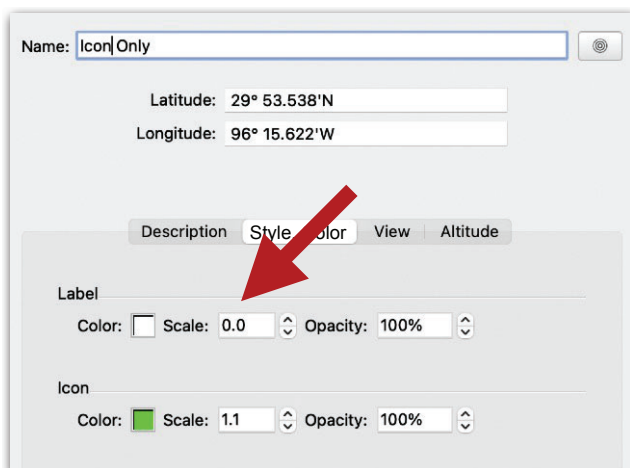
Green icon and label with 50% opacity

Scale

Icon and label scale (size) can be independently adjusted. The maximum label scale is one. A label scale greater than one will not be reflected in ForeFlight.

Specifying a label scale of zero results in the label not being displayed. If the label is not displayed, the waypoint's name can still be used for flight planning purposes. To create a map layer with only icons, set *label scale* to zero as in the image below.

There is no upper limit for *icon* scale. An icon scale greater than one results in a larger icon in ForeFlight. To display a label without an icon, use the **Add Custom Icon** option and use a blank image.

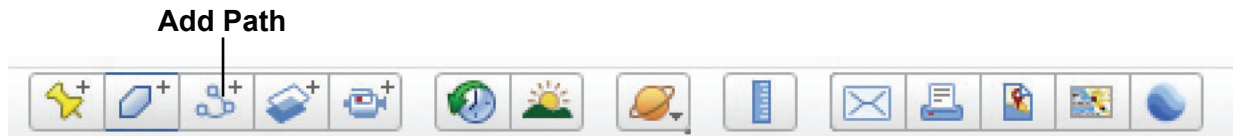


Icon Only Waypoint - Label scale equal to zero

21. CUSTOM CONTENT

21.7.5 Lines

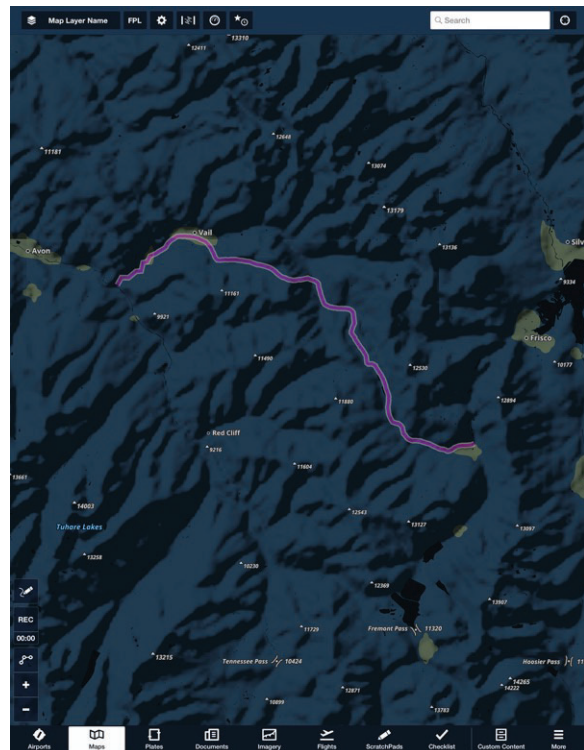
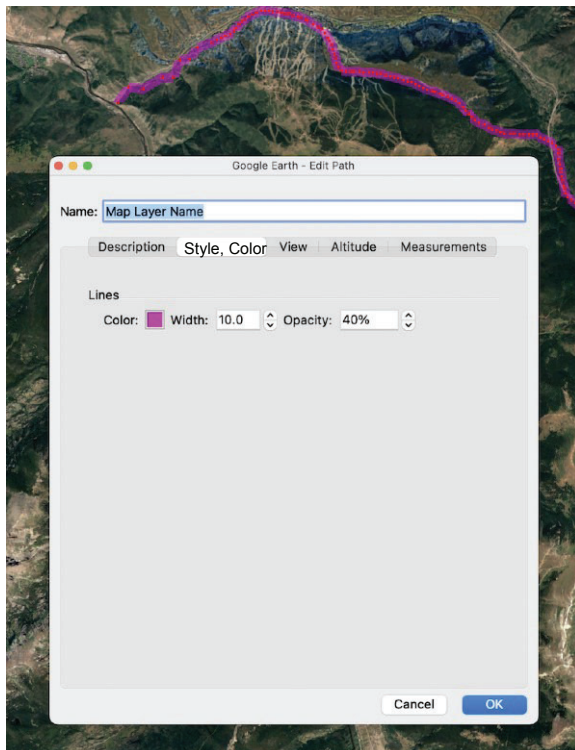
Custom map layers can depict lines. Lines can be included in the same file as waypoints and custom shapes. To add lines to a custom map layer, select the **Add Path** button in the Google Earth Pro upper toolbar.



Google Earth Pro Toolbar

Use the mouse and cursor to add points to the path. Adjust line width and color by selecting **Style, Color**. When all points have been added, click **OK**.

It's not necessary to provide the path with a name as ForeFlight will ignore it. The KML/KMZ file name is what will appear in the map drop-down menu.

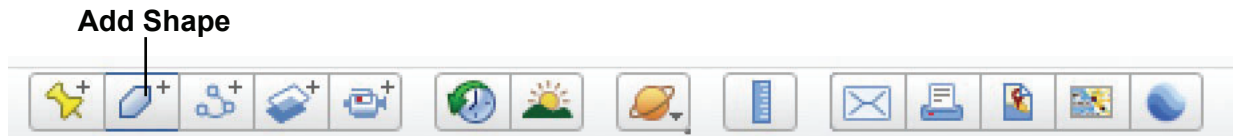


Custom Map Layer Line (path) in Google Earth and ForeFlight Mobile

21. CUSTOM CONTENT

21.7.6 Shapes

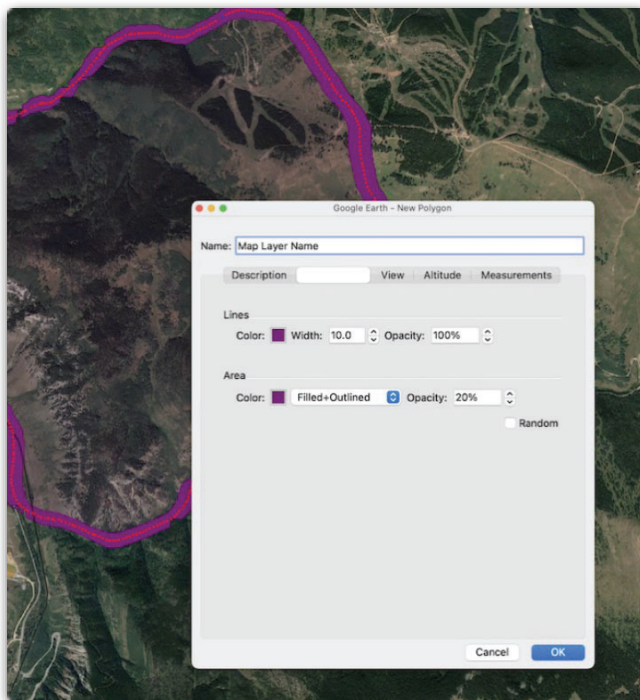
Custom map layers can depict shapes. Shapes can be included in the same file as waypoints and lines. To add shapes (Google Earth Polygons), select the **Add Shape** button in the Google Earth Pro upper toolbar.



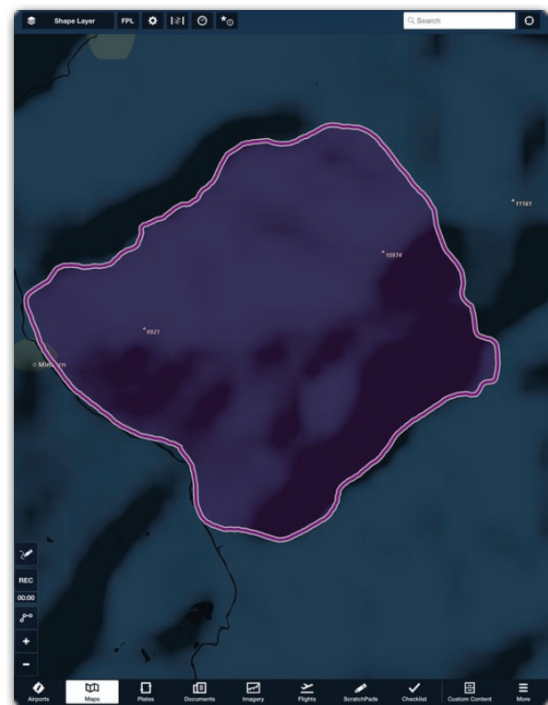
Google Earth Pro Toolbar

Use the mouse and cursor to add points to the shape. Adjust the appearance of the shape with the line and area settings in **Style, Color**. When all points have been added, click **OK**.

ForeFlight does not recognize a shape's name. To display a name over the center of a shape, add a custom waypoint (placemark) with the shape's name.



Google Earth - Polygon



ForeFlight Mobile Custom Map Layer - Shape

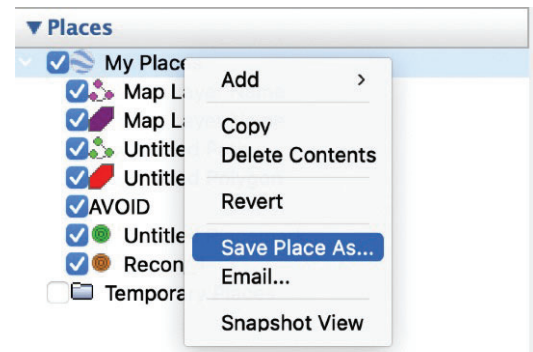
21. CUSTOM CONTENT

21.8 Importing Custom Maps

Custom map layers can be imported via Content Pack or as a stand-alone file. To import a custom map, it must first be exported. To export a map layer, right-click the folder that contains the custom data.

Map layers and folders are displayed in the left column of Google Earth Pro under the **Places** menu.

Select **Save Place As....** and provide a name for the file. The file's name is what will appear in **More > Custom Content > Custom Map Layers** and in the map layer drop-down menu.

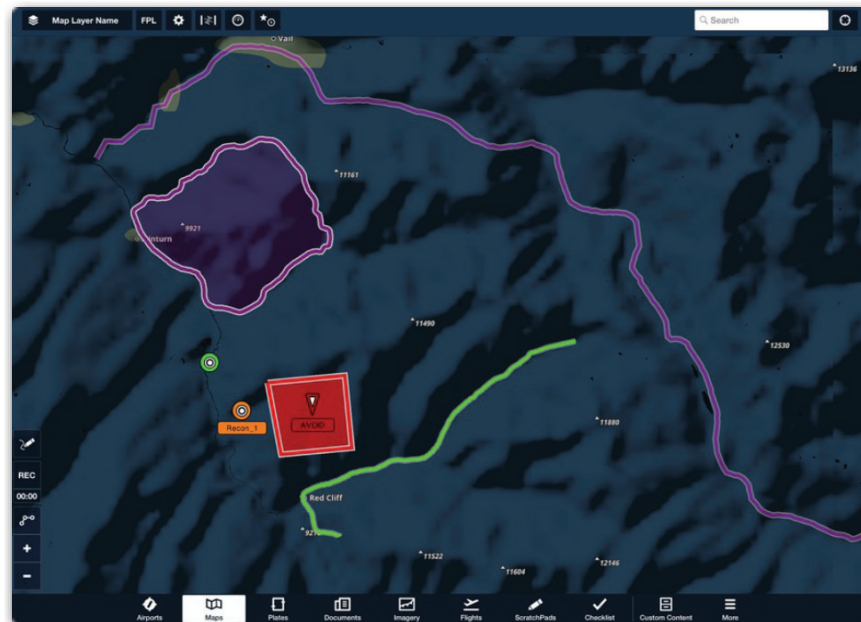


Save Place As....

If the file contains custom icons, ensure the KMZ file format is selected. After exporting the file to your computer, share the file to your iPad/iPhone via AirDrop, Email, or File Transfer.

When your iPad/iPhone receives the file, a list of installed apps which are capable of importing the file are listed. Select **ForeFlight** from the list of installed apps. ForeFlight will automatically open and provide prompts for importing the custom map.

Once the map has been imported, it can be selected from the map drop-down menu. Select **More > Custom Content > Custom Map Layer** to share, delete, or show the map layer.



Custom Map Layer with Waypoints, Lines, and Shapes

21. CUSTOM CONTENT

21.9 Custom Charts

The Custom Charts feature allows you to import custom georeferenced charts in MBTiles, Geospatial PDF, or GeoTiff (MFB only) format. Custom charts can be displayed on the Maps view on top of other charts. Multiple custom charts can be displayed simultaneously on the map.



Custom Chart in ForeFlight Mobile

ForeFlight can not create custom charts. If a chart does not contain geospatial information, a 3rd-party program can be used to add the data. ForeFlight recommends Map Tiler for creating MBTile custom charts and QGIS for creating geospatial PDF. For additional information, see our [Custom Content Support Page](#).

21. CUSTOM CONTENT

21.10 Custom Plates (BYOP)

The Bring Your Own Plates (BYOP) feature allows you to add PDF plates to *published* airports, heliports, and private airports. Common BYOP plates include airport diagrams, private terminal procedures, arrivals, departures, or any other plate needing to be associated with a published airport. It's possible to import custom plates via Content Pack and as stand-alone files. Importing custom plates via Content Pack is recommended and discussed in this chapter.

Custom plates are accessed from the Plates, Airports, or Maps procedure view similar to published procedures. If the BYOP plate is georeferenced, the plate is able to be sent to the Map with a Pro Plus or higher subscription. If a plate is not georeferenced, geospatial data can be added to the PDF with various mapping programs. For more information, visit the [How do I create a Geospatial PDF](#) support article.

21.10.1 BYOP Naming Convention

Adding a plate to an airport or heliport is done by renaming the plate according to a specific naming convention. BYOP file names contain three elements separated by underscores. (e.g., *AirportCode_CategoryName_Procedure Name.pdf*). Plates must end with a *.pdf* extension. The three naming elements and examples are listed below.

- **Four character ICAO airport/heliport code:** ICAO codes should be all caps with no spaces immediately followed by and underscore. (e.g., KLAX, 38TE)
- **Procedure Category:** Procedures are divided into four categories by default: Airport, Departure, Arrival, and Approach. Custom plates can be added to the existing categories. If the category name is omitted, a fifth category is created by ForeFlight. The fifth category is named *Other* and any plate without a specified category is added to this folder.

If a category name other than one of the four existing categories is used, a custom procedure category is created in ForeFlight for the airport/heliport. See the example on the following page.

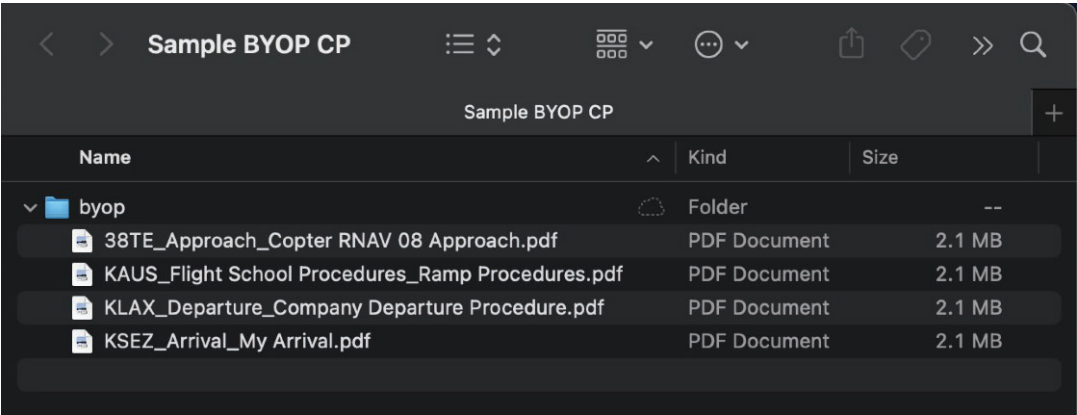
- **Procedure Name:** The procedure name supports letters, numbers, and special characters. The procedure name should be entered exactly as it is to appear in ForeFlight (e.g., COPTER RNAV 09 APPROACH, Ramp Operations).

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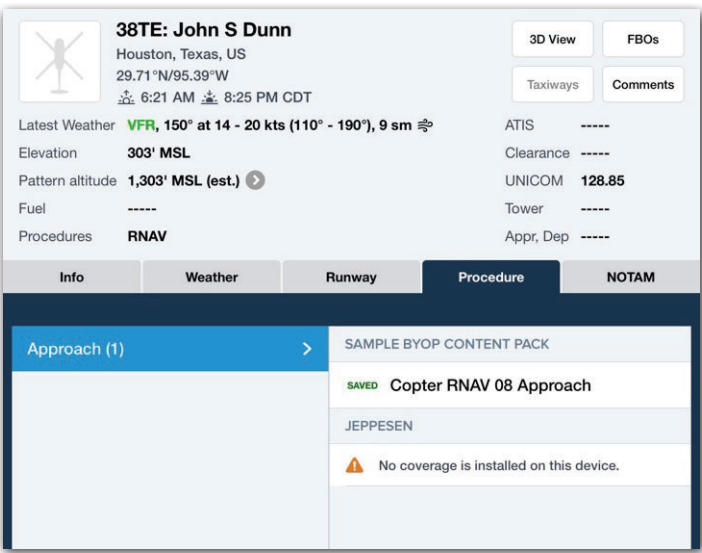
BYOP Examples

In the example below, the first plate (38TE_Approach_Copter RNAV 08 Approach) is added to the existing *Approach* category (left image).

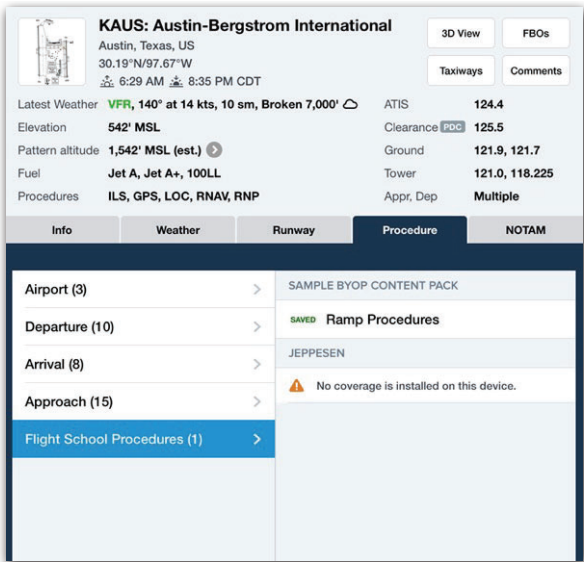
The second plate (KAUS_Flight School Procedures_Ramp Procedures) creates a custom category for Austin International Airport (right page) and adds the Ramp Procedures plate to the category.



BYOP Subfolder



38TE Copter Approach



KAUS Flight School Procedures

21. CUSTOM CONTENT

21.10.2 Importing Plates (BYOP)

Standalone BYOP files can only be imported via wired connection, using Finder (MacOS Catalina 10.15 or later) or iTunes (MacOS Mojave 10.14 or earlier).

To import BYOP files without using Finder or iTunes, the files must be imported via **Content Pack**. For information on importing standalone BYOP files, refer to the **BYOP Support Page**.

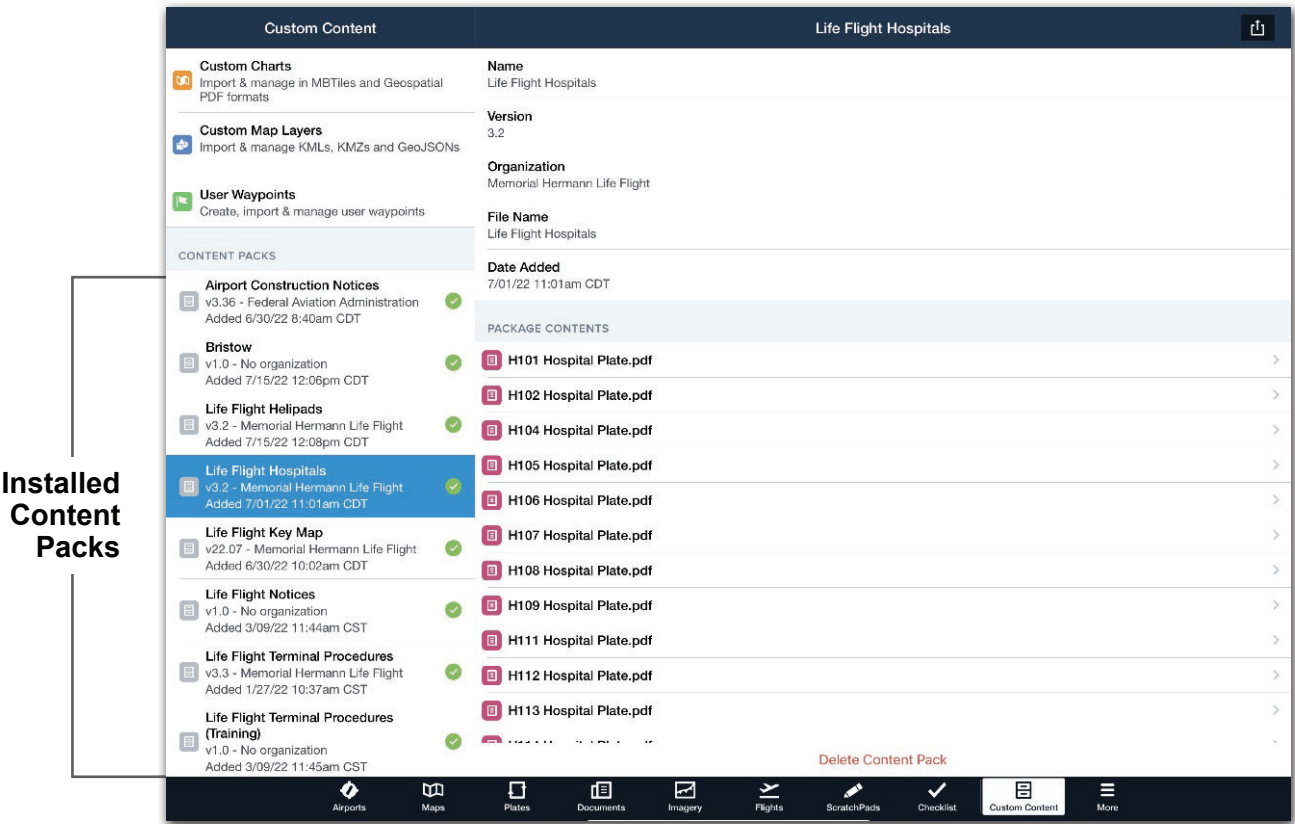
21. CUSTOM CONTENT

21.11 Content Packs

A Content Pack is a single file that can contain various types of custom content. Content Packs are easy to create, install, share, manage, and delete. Content Packs add additional capabilities to the custom content features, including the ability to associate files with the waypoints in custom map layers.

Content Packs can range from a basic list of user waypoints to complex bundles of geo-referenced charts, plates, map layers, and linked files. Content Packs are listed in the left column of the Custom Content view. When tapped, the contents of a pack are listed in the detail view.

Multiple Content Packs can be installed on a device. Content Packs are available to all individual subscribers and Performance level business and MFB subscribers. Example Content Packs can be found at www.foreflight.com/support/content-packs.



Custom Content View - Content Packs

21. CUSTOM CONTENT

21.11.1 Package Contents

Content Packs can contain multiple types of custom content. There's no limit to how many custom content types a Content Pack can have. Content Packs must be 2GB or smaller and must contain at least one type of custom content. The following custom content can be added to a Content Pack.

- Custom Charts
- User Waypoints
- Plates (BYOP)
- Map Layers
- Associated Files

21.11.2 Creating Content Packs

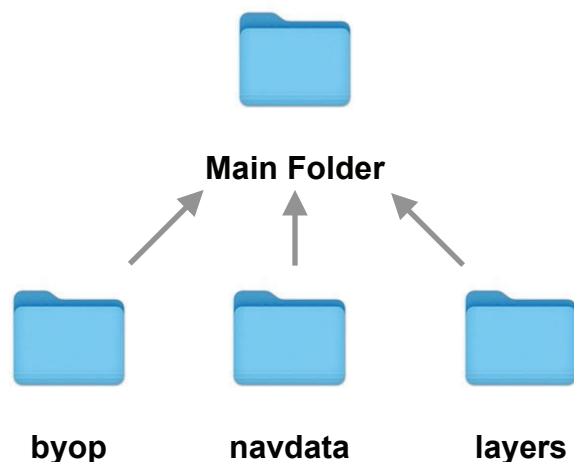
Content Packs can not be created with ForeFlight. To create a Content Pack, you'll need to use a computer. To create a Content Pack, begin by dragging and dropping custom content to the appropriate subfolder as described in this section.

Content Pack Structure

Content Packs have a main folder and up to three subfolders. The subfolders are placed into the main folder and must be named exactly as depicted below. If a subfolder is empty, it is not necessary to include it in the Content Pack.

The main folder becomes your Content Pack once all custom content is added. The main folder does not have a specific naming requirement. Assign the main folder a name that is easily recognizable. The main folder (Content Pack) name is displayed in ForeFlight.

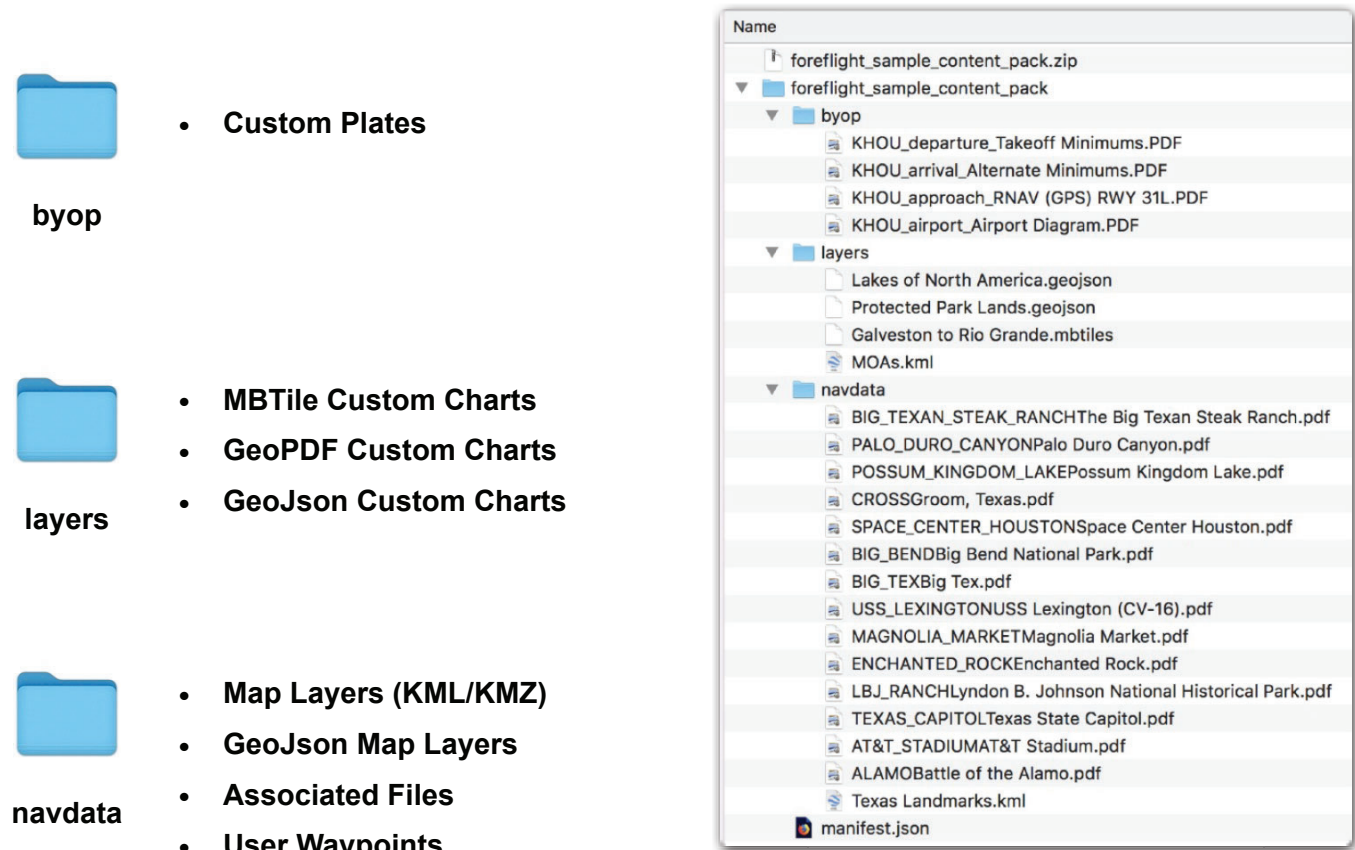
Content Pack Folder Structure



21. CUSTOM CONTENT

21.11.3 Adding content to subfolders

The type of custom content determines which subfolder it's placed in. Add custom content to subfolders per the image below. Each subfolder which contains custom content should be placed in the main Content Pack folder.



Content Pack Folder Structure

21.11.4 Manifest

Content packs can also include an optional manifest. The manifest provides information about the content pack to help distinguish it from other content packs. Information specified in the manifest is displayed at the top of the Content Pack details view in **More > Custom Content**.

Manifests are placed in the main Content Pack folder. If you don't include a manifest, ForeFlight will use the Content Pack's file name by default.

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Manifest Structure

The manifest JSON file has the following structure:

```
{  
  
  "name": "Sample Content Pack",  
  "abbreviation": "FFCP.V2",  
  "version": 2.0,  
  "expirationDate": "20230101T00:00:00",  
  "effectiveDate": "20220101T00:00:00",  
  "organizationName": "ForeFlight"  
  
}
```

Effective & Expiration Dates

You may specify effective and expiration dates in a content pack's manifest. The dates are depicted in the content pack's detail view. ForeFlight will also display red warning text in both the expiration date field and the content pack's summary in the left-hand list for any content pack that has passed its expiration date.

If the content pack includes plates within the **byop** folder, expired plates will display a red "EXPIRED" banner at the top of the Plates view. Expired content packs remain fully functional. The red banners only serve as a notice to the user that the Content Pack expiration date has passed.

Dates must be specified using the format "YYYYMMDDThh:mm:ss", where Y=year, M=month, D=day, h=hour, m=minute, and s=seconds. Single digit months, days, hours, minutes, and seconds should be preceded by a single 0 character. The "T" in the string date is required, and is a delimiter that separates the date portion from the time portion (see the example manifest JSON above). Both times are interpreted in relation to the device's local time setting, *unless* a "***Z**" suffix is added to indicate zulu time, as in: "YYYYMMDDThh:mm:ss**Z**"

For ForeFlight Military Flight Bag customers, special logic has been implemented to impose an expiration date on *Giant Report* zip files downloaded from the NGA aerodata website. Any content pack with a file name formatted as "Giant_Reports-YYYY-MM-DD" will automatically be assigned an expiration date corresponding to 8 days after the publication date identified in the file name.

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21.11.5 NavData

The navdata subfolder contains **custom map layers**, **user waypoints**, and files that are associated with map layer waypoints.

Content Pack Map Layers

Custom map layers imported via Content Pack behave similar to map layers imported as standalone files. The exception is that map layers imported via Content Pack can have waypoints that are linked to supporting files (associated information).

Content Pack User Waypoints

User waypoints imported via Content Pack are not appended to the user waypoint list. As a result, user waypoints imported via Content Pack are not synced to the account. A user waypoint file added via Content Pack is selectable from the map layer dropdown menu. The CSV file name appears in the map layer dropdown menu.

Associated Information

Files that are related to a waypoint in a KML, KMZ, or geojson map layers can be added to the navdata subfolder. Associated files can be image or PDF documents. Adding a file to the navdata subfolder allows you to select the file for viewing from the Maps page.

Associated files are linked to waypoints by their naming convention. To link a file to a waypoint, use the following file naming convention: “Waypoint _Name Document Description”.

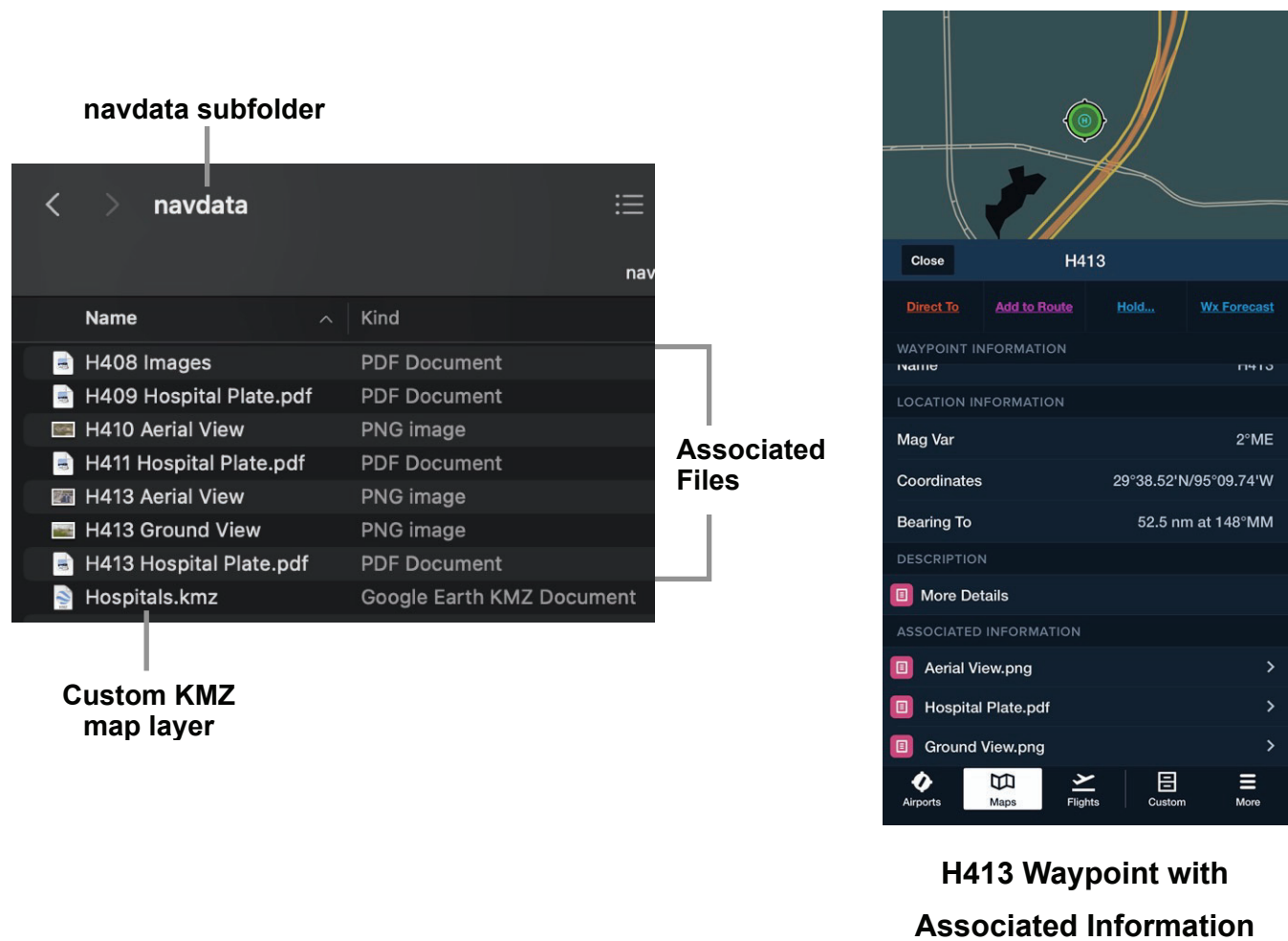
The waypoint name and document description are separated by a space. For example, a document named “H413 Aerial View” links the “Aerial View” file to the H413 waypoint.

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The first component of a document’s name (H413) links the document to the waypoint in the custom map layer. The waypoint name in the associated file should match the waypoint name in the custom map layer.

The second component of the file’s name is what will be displayed in the waypoint’s slide-over menu. In the image below, note how multiple associated files are linked to the waypoint H413. Each file is accessible by tapping the waypoint on the map. The document description is displayed in ForeFlight exactly as the file is named (e.g. Aerial View, Hospital Plate, Ground View).

Associated PDF, PNG, and IMG files can be accessed from the map by tapping the custom map layer waypoint icon and selecting an associated file. Tapping an associated file opens the file in the Documents view.



21. CUSTOM CONTENT

21.11.6 Layers

The layers subfolder contains custom charts. Custom charts in content packs operate the same as they do on their own. Content packs support the following types of map layer files: MBtiles, FBtiles, geospatial PDF, KML, and GeoJSON.

MBtiles, FBtiles, and geospatial PDFs appear at the bottom of the left column in the Maps layer selector, and KML and GeoJSON files appear in the bottom of the right column.

21.11.7 Importing Content Packs

Before a Content Pack can be imported, it must be compressed (zipped). Compress the main folder of the Content Pack and share the zipped file to your device via one of the supported methods. Files can be compressed by right-clicking the Content Pack's main folder and selecting **compress** from the menu.

Content Packs can be imported via AirDrop, Mail, web browser, hyperlink, and cloud document drive (DropBox, Box, S3). Once a Content Pack has been shared with the device, a menu appears that lists all installed apps capable of importing the Content Pack. Select **ForeFlight** from the list of installed apps.

After selecting ForeFlight, the app will automatically open and import the Content Pack. Once the Content Pack is installed, a confirmation message will appear with options to dismiss the message or view the Content Pack. Selecting **View** in the pop-up menu displays the Content Pack in **More > Custom Content**.

Importing/Hosting via Hyperlink

If you have a content pack hosted somewhere that you want to make available for download in ForeFlight, you can configure a hyperlink to make the content pack download through ForeFlight using this URL scheme: "https://foreflight.com/content?downloadURL=<The URL to the Content Pack location>".

Users can install the Content Pack to a device with ForeFlight installed by tapping or long-pressing the link and selecting **Open in ForeFlight**. Opening the link with ForeFlight adds the Content Pack as an available download. If Automatic Downloads are enabled on the device, the Content Pack will automatically download.

To see this in action, long-press on [this link](#) using a device with ForeFlight installed and tap **Open in ForeFlight**. You can also tap on the link and swipe down on the next page (a 404 page) to find the Open in ForeFlight banner at the top of the page.

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21.11.8 Content Pack Cloud Drive Integration

If you have a Pro Plus, Performance Plus, Business Performance or MFB Performance plan, you can import content packs into ForeFlight using a linked cloud storage account (Dropbox, Box, or Amazon S3). Importing via cloud drive is the recommended method for multi-pilot accounts.

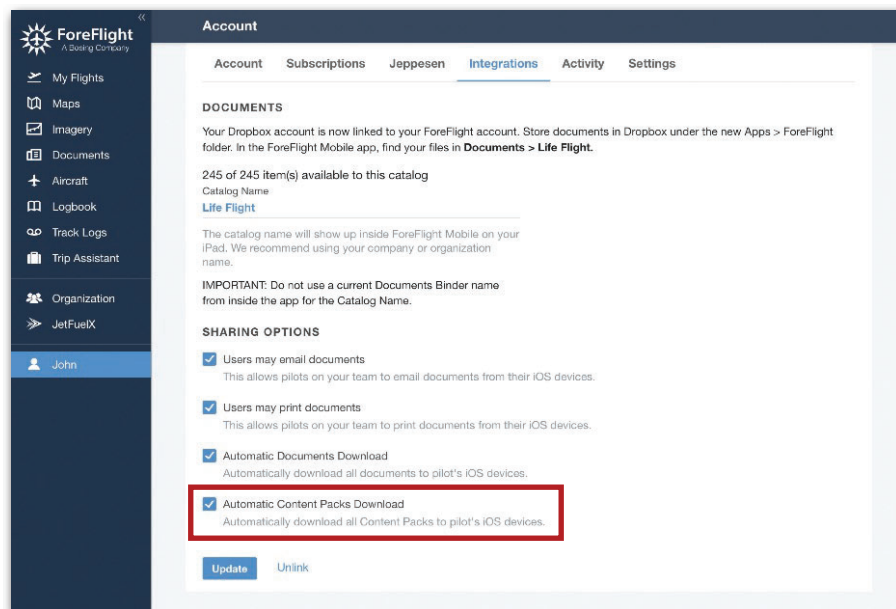
To import Content Packs via Cloud Documents, add a folder named “contentpack” to the folder you use to import documents. The content pack subfolder must be located in the root folder as depicted below.

- **Dropbox:** ~/Dropbox/Apps/ForeFlight/contentpack/
- **Box:** ~/Box Sync/ForeFlight/contentpack/
- **Amazon S3:** Add the “contentpack” subfolder to the drive used to import documents

Once the contentpack folder is created, add zipped content packs to the folder. Individual files imported via cloud documents, including Content Packs, must be below 500MB in size.

Automatic Content Pack Download

Content Packs imported via cloud drive can be installed automatically or manually. To specify how Content Packs should be installed, log into **ForeFlight Web** from an administrator account and select **Account** (left sidebar) > **Integrations** > **Cloud Documents**.



Automatic Content Pack Download Setting

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When automatic Content Pack downloads are enabled, users are prompted and required to download Content Packs. A red download badge is displayed for Content Packs that are uploaded to the document drive and not yet downloaded to the device. When deleting a Content Pack from ForeFlight Mobile, a prompt to reinstall the Content Pack is immediately displayed.

If automatic Content Pack downloads are enabled and **Automatic Downloads** are enabled on the device, Content Packs uploaded to the cloud drive will be automatically installed on the device when connected to the internet.

If automatic Content Pack downloads are disabled, users are not required to download Content Packs. Content Packs uploaded to the cloud drive appear as available for download in the **Custom Content** view but a badge is not depicted when new Content Packs are available.

Updating Content Packs

Content Packs can be updated by replacing the Content Pack in the cloud drive with a file with the same name. When Content Packs are replaced in cloud drives, ForeFlight installs the updated content pack and automatically removes the old one.

The old Content Pack is *not* removed if an updated Content Pack is installed with a different name. If updating a Content Pack via a method other than integrated cloud drive, ForeFlight does not automatically remove the old Content Pack.