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Take Your Web Maps Offline

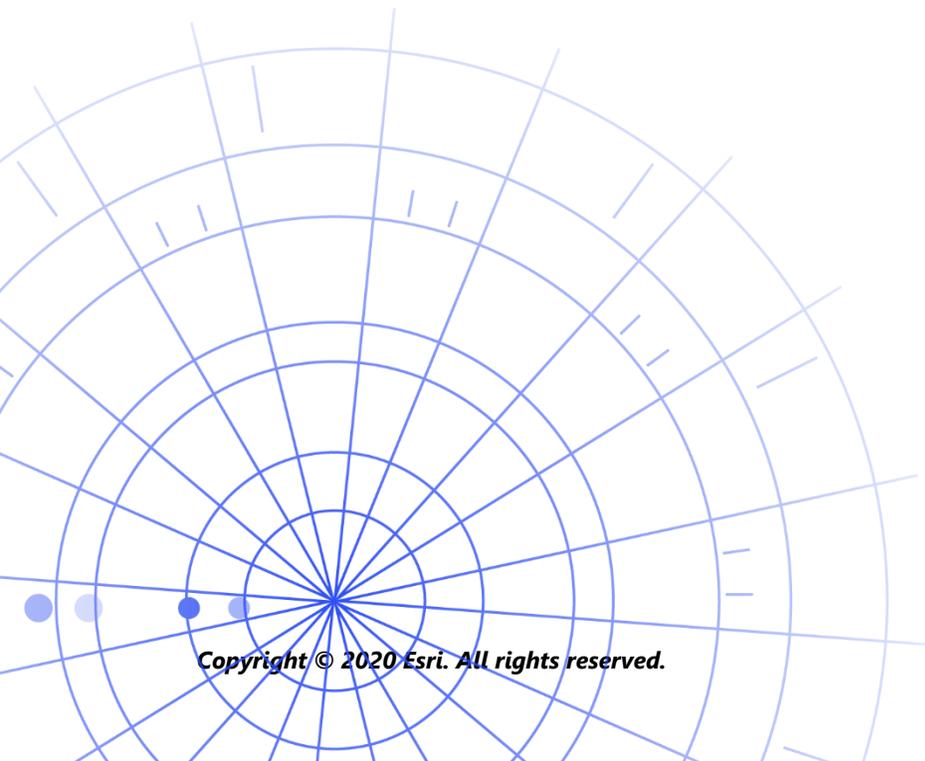
with ArcGIS Field Maps

Essential tasks and best practices for taking your web maps offline and into the field with ArcGIS Field Maps.



Task checklist

TASK	COMPLETE
1. Introduction	<input type="checkbox"/>
2. Prepare data	<input type="checkbox"/>
3. Copy a basemap (optional)	<input type="checkbox"/>
4. Create map areas as part of the map	<input type="checkbox"/>
5. Download map areas	<input type="checkbox"/>
6. Sync data	<input type="checkbox"/>
7. Update offline map areas	<input type="checkbox"/>
8. FAQ	<input type="checkbox"/>



1. Introduction

With ArcGIS Field Maps, you can take your web maps offline and with you wherever you go. It could be in a wildlife preserve, 50 yards off the coast, or in a section of town notorious for spotty cell service. If your mobile workers don't have an internet connection, or if you don't want them using cellular data, Field Maps has you covered.

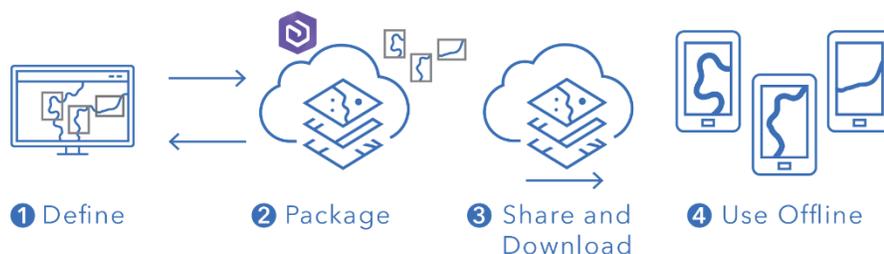
Once your maps are configured for offline use, your mobile workers can collect data and explore assets whether or not they have an internet connection. Any work they do offline can be synced to the office once they are back in a connected environment.

You can prepare web maps for offline workflows using the Field Maps web app, ArcGIS Online, or ArcGIS Enterprise. If you need to take local data, or data not supported by web maps, offline, see [this note](#).

Main processes

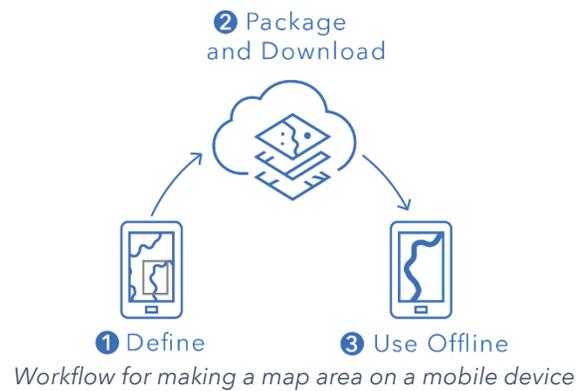
There are three main processes involved with taking web maps offline:

Make map areas in the office—Package areas of your web map for download in the Field Maps web app, ArcGIS Online, or ArcGIS Enterprise. You can customize the extent of your map area, and package it with all of the assets and attachments within that extent. It becomes available to download on the mobile worker's device—ready for offline use.

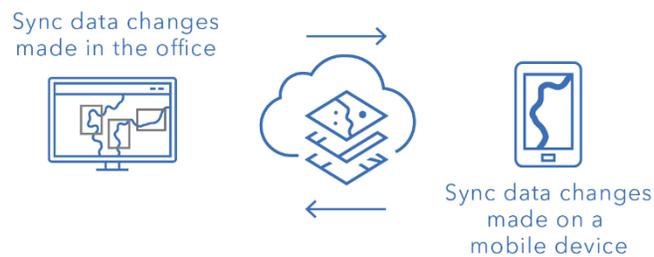


Workflow for making a map area in the office

Make map areas on a mobile device—When mobile workers come across unexpected work, or a unique area not already defined, they can make a map area on their device. After they define its extent, the map area is packaged and automatically downloaded with all of its assets and attachments—ready for offline use.



Sync data—When mobile workers are back in a connected environment, they can send and receive data updates between their devices and the office.



Workflow for syncing data changes between the office and mobile devices

Note: This guide teaches you how to take web maps offline. If you need to do any of the following, create and share a mobile map package (MMPK) for offline use instead:

- Copy maps directly to a mobile device
- Include local data that you don't want to publish online
- Include data or advanced symbology not supported in web maps

For more information, see [Create an MMPK for download](#).

2. Prepare data

Before you begin creating an offline map, make sure your data meets the following requirements for offline use:

- Data must be available online
- Data must include a basemap
- Data used in a map enabled for editing must include at least one editable layer
- Layers must be enabled for offline use

Data must be available online

Because the offline map you will be creating is derived from a web map, your data must be available online and not just locally (on your desktop). One way to make your data available online is by publishing it as a hosted feature layer on either ArcGIS Online or ArcGIS Enterprise.

- See [Publish hosted feature layers in ArcGIS Online](#)
- See [Publish hosted feature layers in ArcGIS Enterprise](#)

Data must include a basemap

Choose a basemap that includes the reference data your mobile workers need. You can select a basemap in ArcGIS Online or ArcGIS Enterprise. The basemap you choose will also be the basemap that is taken offline with your map by default. Additionally, you can copy your own basemap to the mobile worker's device (see [Copy a basemap](#)).

- See [Choose basemap in ArcGIS Online](#)
- See [Choose basemap in ArcGIS Enterprise](#)

Data must include an editable layer

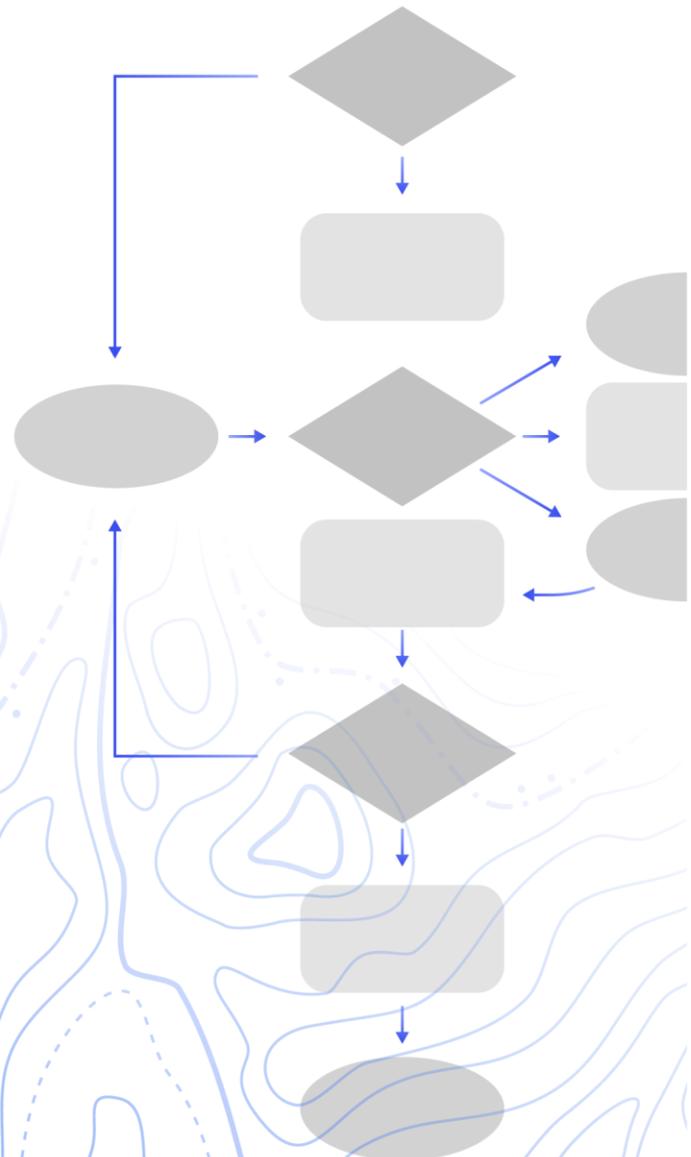
Maps enabled for editing require editable data. The mobile worker will need to edit and collect data while using the map.

See [Data requirements for maps enabled for editing](#)

Layers must be enabled for offline use

Web maps and their layers must be enabled for offline use. You can enable this setting on the item page for the web map or layer in either ArcGIS Online or ArcGIS Enterprise. You can use the Field Maps web app to check if layers are enabled for offline use and to enable sync.

- See [Enable the layers and map for offline use in ArcGIS Online](#)
- See [Enable the layers and map for offline use in ArcGIS Enterprise](#)
- See [Configure the map in the Field Maps web app](#)



3. Copy a basemap (optional)

You can copy a basemap directly to the mobile worker's device and reuse it across multiple maps. This has a few advantages over downloading the basemap:

- It's faster than downloading the same basemap
- It allows you to prepare basemaps for much larger areas
- Basemaps copied to the device are available to all mobile workers, saving space on shared devices

If you want the copied basemap to be the default used when downloading a map, the map must reference it and it must be copied to the mobile worker's device. This avoids downloading the basemap along with the rest of the data.

- See [Create a basemap to copy directly onto devices](#)

4. Create map areas as part of the map

Creating map areas ahead of time is the best way to take web maps offline. Creating map areas allows you to prepackage one or more areas of a map. A map area includes all data and attachments within the packaged area. Mobile workers can download map areas without having to configure the extent or level of detail of the map they'll be working with.

It's good practice to create map areas when you have multiple users performing work in the same areas. Create a map area for any place where mobile workers won't have a reliable internet connection.

Map areas created in the Field Maps web app, ArcGIS Online, or ArcGIS Enterprise can be accessed in the Field Maps mobile app. Mobile workers can then work with map areas offline the same way they work with a web map.

- See [Configure the map in the Field Maps web app](#)
- See [Create, edit, and manage map areas in ArcGIS Online](#)
- See [Create, edit, and manage map areas in ArcGIS Enterprise](#)

5. Download map areas

Now that you have configured your map for offline use, mobile workers can either download map areas you defined, or they can define and download map areas in Field Maps.

Download an existing map area

If you already created map areas in the Field Maps web app, ArcGIS Online, or ArcGIS Enterprise, they are available for download in the Field Maps mobile app. Search for the web map that contains the map areas you created and select the map area to download. Once the map area is downloaded, it is ready for offline use.

- See [Download defined offline areas](#)

Define and download a map area in the app

You can't always plan everything ahead of time for your mobile workers. If they need to do offline work in an unexpected or unique area, they can define and download a map area on their mobile device. Once the map area is defined, it is automatically packaged, downloaded, and ready to use offline.

- See [Define and download a map area](#)



6. Sync Data

Sync refers to updating changes in data between the office and the mobile worker. Once the mobile worker is back in a connected environment, they can send and receive data updates to and from the office and other mobile workers.

Rather than downloading the entire map again, sync only downloads the changes made since the previous version. This makes syncing data between the office and mobile devices a relatively quick process.

If mobile workers are using read-only maps, they can only receive data updates when using the app—they can't send them. They can take notes on the map while offline and share their markup once back in a connected environment. To learn more, see [Share markup](#).

Sync data changes made on a mobile device

When a mobile worker is back in a connected environment, they can tap the sync button to send their data collection updates. By default, automatic sync is enabled. This means the device automatically syncs when it detects a data connection.

Any synced data updates the map in the office as well as the map on other mobile devices. Sync also updates the mobile device with any data changes made by other mobile workers, or the office, during their time offline. To learn how to sync updates, see [Sync your work](#).

Sync data changes made in the office

Data changes made to map areas in the office can be synced with a mobile worker's device. You can manually update the map areas once your changes are made, or you can schedule updates. Once a map area is updated in the office, an update is available for sync or download on mobile devices.

To learn how to update map areas in the office, see [Create, edit, and manage map areas in ArcGIS Online](#) or [Create, edit, and manage map areas in ArcGIS Enterprise](#).

7. Update offline map areas

While you can use Sync to update your map area with the latest data changes, updating other parts of the map requires a different process. To make changes to the map's symbology, add or remove layers, update the form used for data collection, or change anything other than what is included in synced data updates, you will need to do one or both of the following:

- Re-create a map area made in ArcGIS Online or ArcGIS Enterprise. The mobile worker will need to remove the old map area from their device and download the new one.
- Remove, re-create, and download the map area the mobile worker made on their device.

See [Update an offline area](#) for more information.

8. FAQ

Is it better to make map areas in the office or on a mobile device?

That depends. It's typically best practice to make map areas ahead of time, in the office. This way mobile workers won't have to wait for their map area to package when getting ready for work. A map area made in the office is also shared with your entire organization.

A mobile worker should only be making a map area on their device when they come across unexpected work or work that is unique to them. That map area will only be available on the device it was created on.

Can I copy a map directly to a mobile device for offline use?

Absolutely. To copy a map to a mobile device, create a mobile map package (MMPK). See [Create an MMPK for download](#).

Can I use location tracking offline?

Yes. Location tracks will be stored on your device while working offline. Once you are back in a connected environment, the tracks will upload to your location tracking service.

What offline capabilities are included with the Field Maps web app?

The Field Maps web app allows you to enable maps for offline use, configure offline settings, and create map areas for use in the Field Maps mobile app. See [Configure the map](#).