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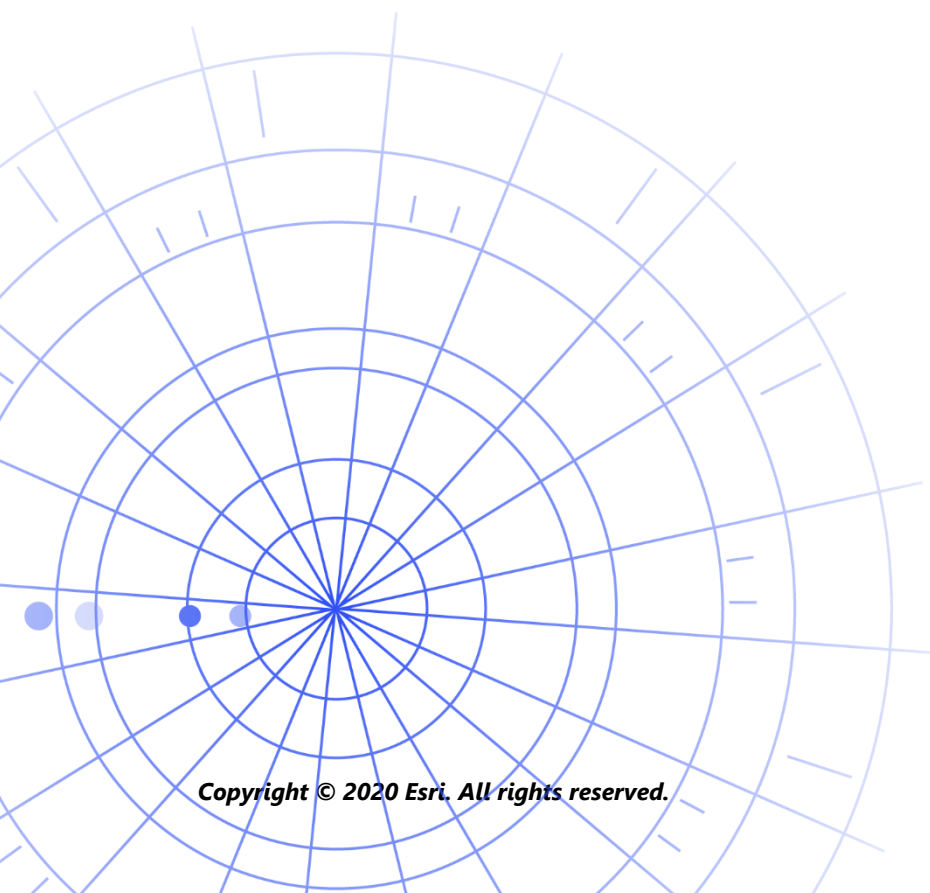
Field Operations

Take Your Web Maps Offline

Essential tasks and best practices for taking your web maps offline and into the field.

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. Configure the app	<input type="checkbox"/>
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8. FAQ	<input type="checkbox"/>



1. Introduction

With ArcGIS field operations, you can take your work offline and with you wherever you go. It could be within 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, we have you covered.

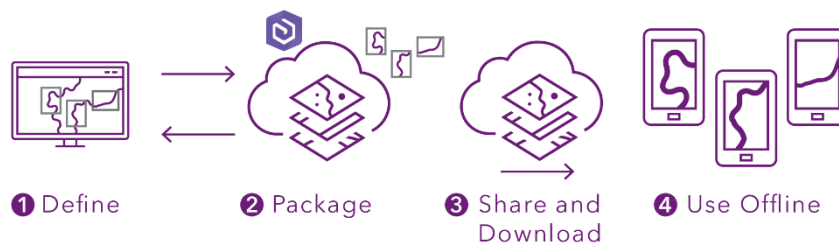
This guide will teach you how to configure your web maps for offline use in ArcGIS Collector and ArcGIS Explorer. Once configured, your mobile workers can collect data and explore assets regardless of whether they have an internet connection. Any work they do offline can be synced to the office once they are back in a connected environment.

You can prepare web maps for offline workflows using either 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

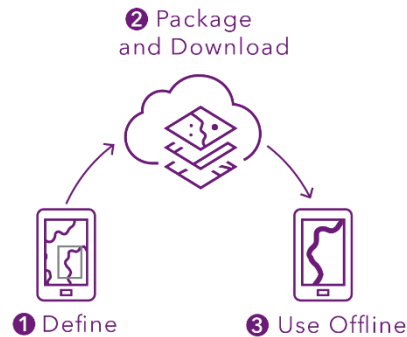
There are three main processes involved with taking web maps offline:

Make map areas in the office—Package areas of your web map for download using 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 your 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 your 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.



Workflow for making a map area on a mobile device

Sync data—When your 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:

- Create maps for Navigator
- 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

You can refer to our help documentation to learn more:

- See [Create an MMPK for download for Explorer](#)
- See [Prepare maps for Navigator](#)
- See [Prepare basemaps for offline use for Survey123](#)

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 Collector 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 your mobile worker's device (see [Section 3](#)).

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

Data must include an editable layer (Collector only)

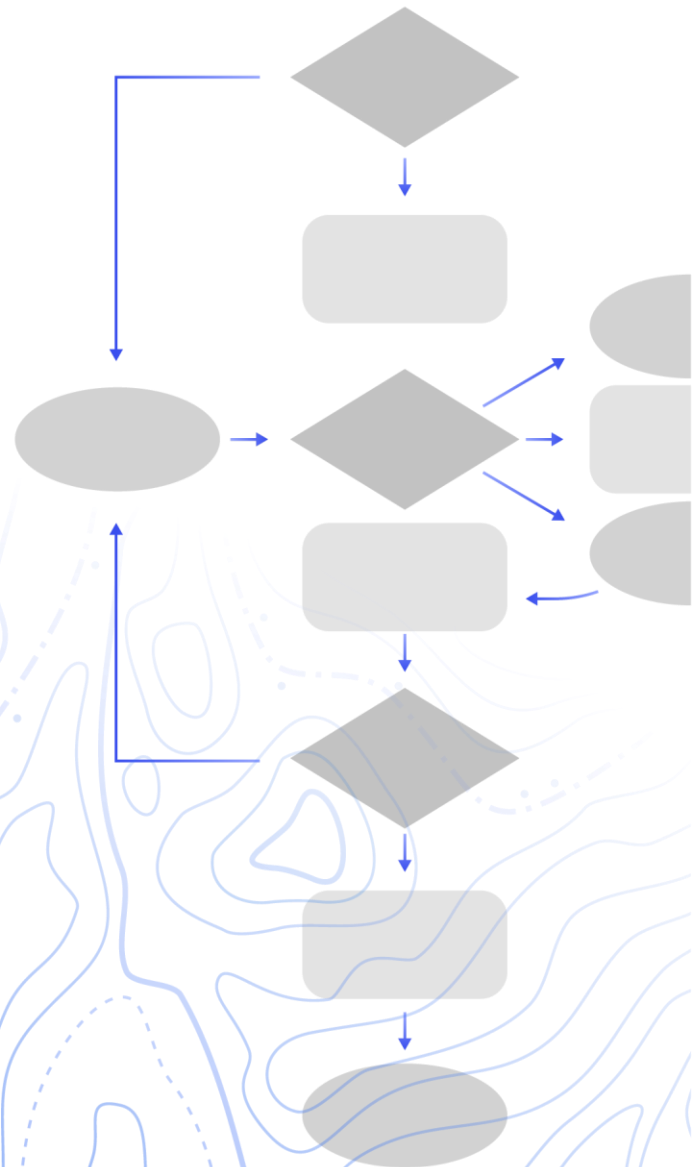
Maps in Collector require editable data. The mobile worker will need to edit and collect data while using the map.

See [Data requirements for Collector](#)

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 web map's or layer's item page in either ArcGIS Online or ArcGIS Enterprise.

- See [Enable the layers and map for offline use in ArcGIS Online](#)
- See [Enable the layers and map for offline use in ArcGIS Enterprise](#)



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 [Copy a basemap for Collector](#)
- See [Create a basemap to copy directly onto devices for Explorer](#)

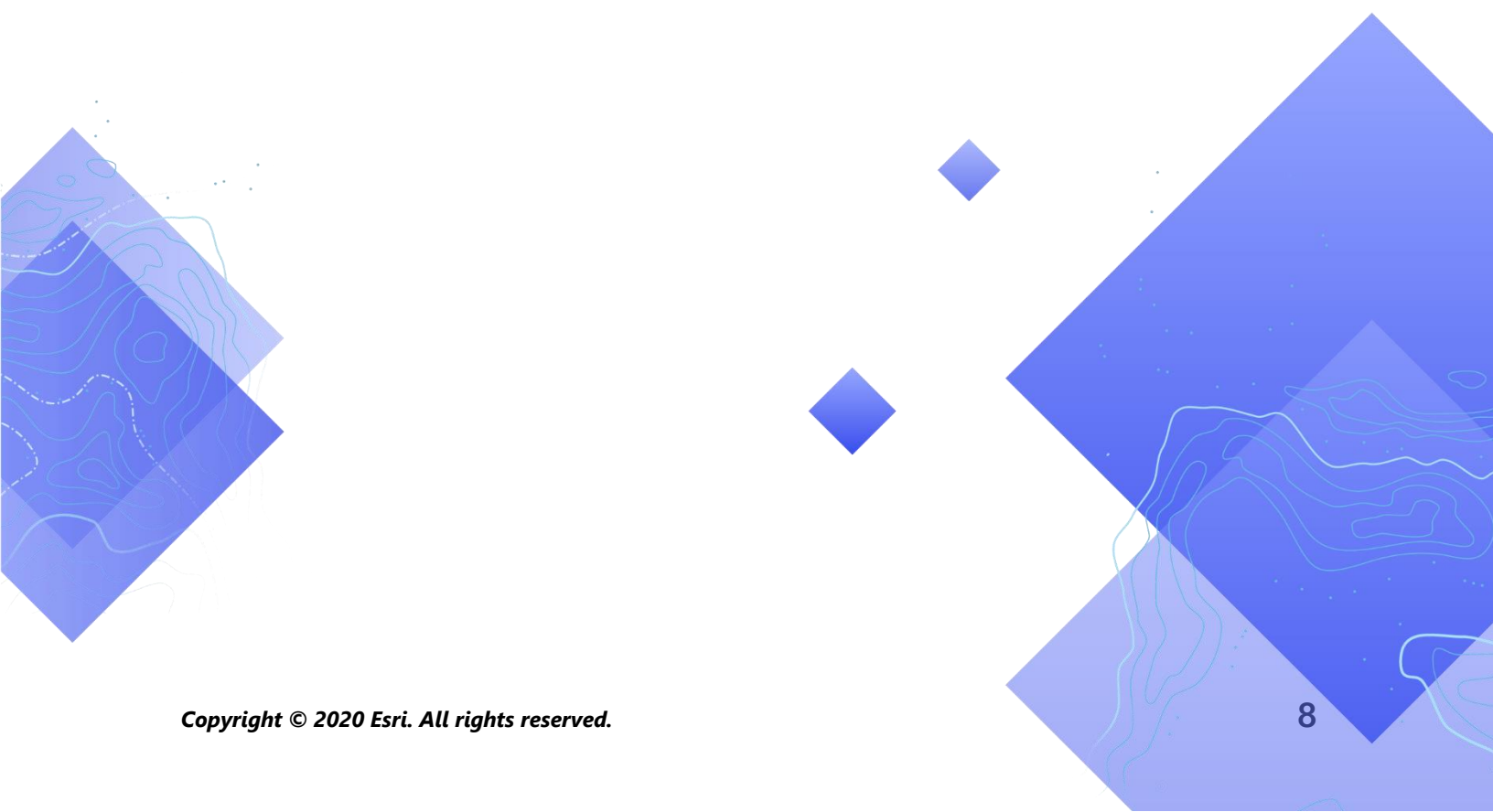
4. Create map areas as part of the map

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 ArcGIS Online or ArcGIS Enterprise can be accessed in Collector or Explorer on a mobile device. Mobile workers can then work with map areas offline the same way they work with a web map.

- See [Create, edit, and manage map areas in ArcGIS Online](#)
- See [Create, edit, and manage map areas in ArcGIS Enterprise](#)



5. Configure the app

Now that you have configured your map, configure the app for offline use on your mobile device. After installing and opening either Collector or Explorer, take one or more of the following steps to prepare your mobile worker for offline work.

Download an existing map area

If you already created map areas in either ArcGIS Online or ArcGIS Enterprise, they are available for download on the mobile device. 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 an existing map area in Collector](#)
- See [Download defined offline areas in Explorer](#)

Define and download a map area in the app

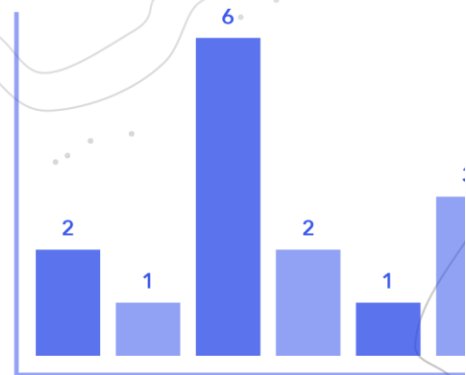
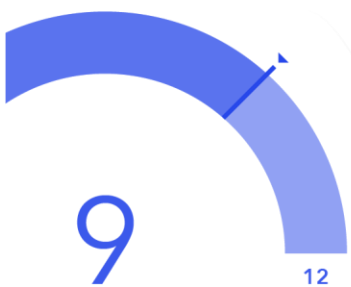
You can't always plan everything ahead of time for your mobile worker. If they need to do offline work in an unexpected or unique area, they can define and download a map area on their mobile device. Once the map area is defined, it is automatically packaged, downloaded, and ready to use offline.

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

Enable automatic sync in Collector

Mobile workers may have sporadic connectivity. Enabling automatic sync sends the mobile worker's edits and retrieves the latest changes when there is a data connection without the mobile worker needing to explicitly sync.

- See [Enable automatic sync in the app settings for Collector](#)



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 data updates to both the office and to other mobile workers. They can also receive any data updates made by the office or 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.

Since Explorer provides read-only maps, you can only receive data updates when using the app; you can't send them. Sharing markup you've made while offline requires a different set of steps. To learn more, see [Share markup in Explorer](#).

Sync data changes made on a mobile device (Collector)

When a mobile worker is back in a connected environment, they can tap the sync button in Collector to sync data updates. If automatic sync is enabled, 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.

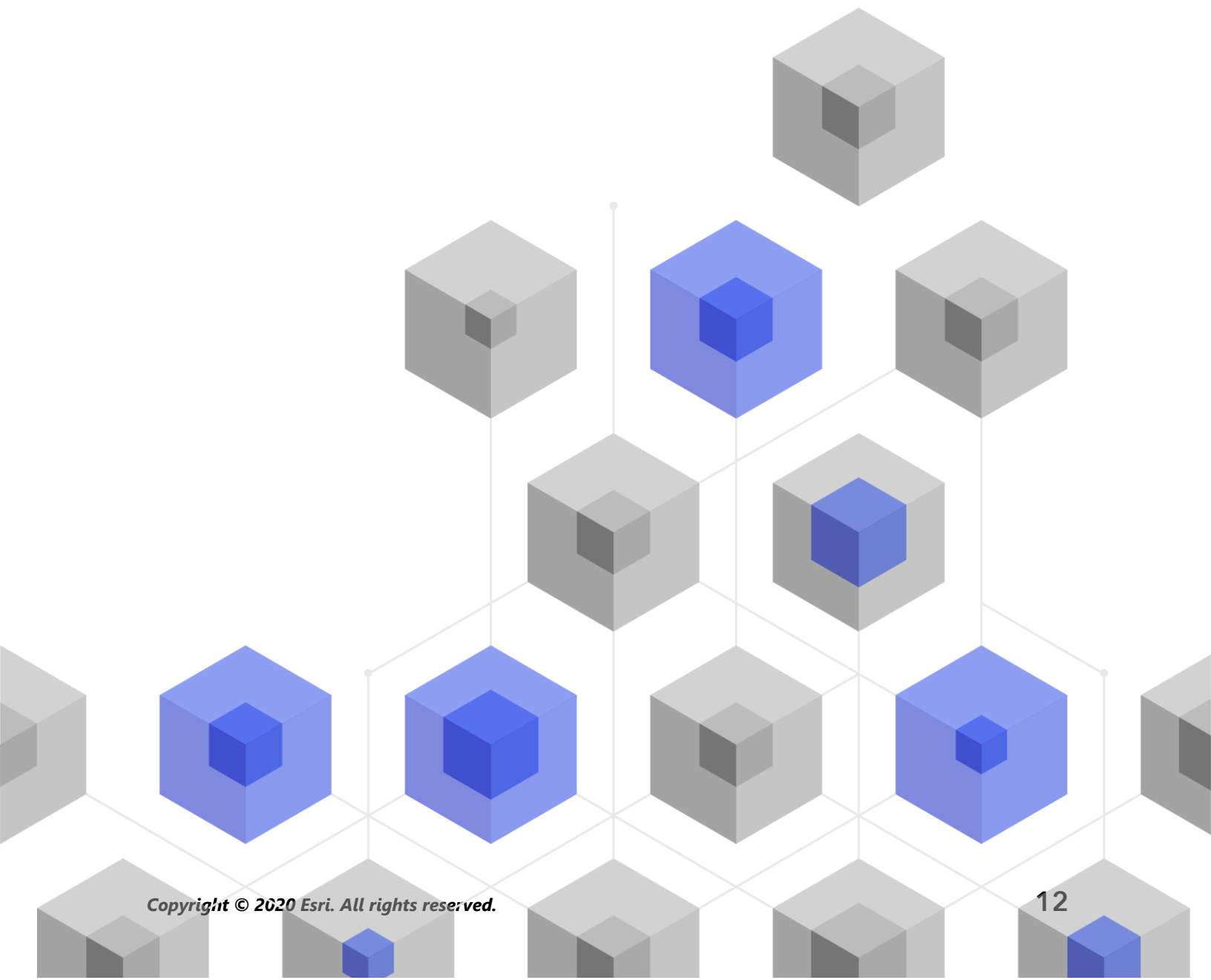
- See [Sync your work in Collector](#)

Sync data changes made in the office

Data changes made to map areas in the office can be synced with your 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 the mobile device.

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](#).

To learn how to update map areas on the mobile device, see [Sync your work in Collector](#) or [Update a downloaded map in Explorer](#).



7. Update offline maps

You can make changes to the map or map layers that you've configured for offline use. 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 a map area the mobile worker made on their device.

To learn how to update offline maps see [Update your map in Collector](#) or [Update your map in Explorer](#).

8. FAQ

What other field applications work offline?

[ArcGIS Navigator](#), [ArcGIS Survey 123](#), [ArcGIS Tracker](#), and [ArcGIS QuickCapture](#) all work offline as well. They just have different workflows and requirements.

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. For use in Survey123, a map area must be prepared in ArcGIS Online or ArcGIS Enterprise.

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 made.

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). You can copy an MMPK to Explorer, Navigator or Survey123. See [Create an MMPK for download for Explorer](#), [Prepare maps for Navigator](#), or [Prepare basemaps for offline use for Survey123](#).

Can I take a web map offline in Survey123?

Yes, you can. If you create a map area in ArcGIS Online or ArcGIS Enterprise (see [Section 4](#)) you can link that map area to a Survey for offline use. However, only the basemap within that map area will be displayed in the app. See [Prepare basemaps for offline use for Survey123](#).