



Grasshopper/Mormon Cricket Visual Surveys Field Map 2026 User Manual



Florida Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Bugwood.org



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Program: Grasshopper / Mormon Cricket (GHMC)

Application: ArcGIS Field Maps

Host: USDA-MRP GIS Enterprise (Portal)

URL: <https://maps.mrp.usda.gov/arcgis/>

Map Title: PPQ GHMC Surveys 2026 Field Map

****Refer to the “[Mobile Data Collection Tools](#)” public webpage for all training support.****

2026 Disclaimer: Training techniques or workflows held within are designed as basic job aids. Mobile collection tools and technology used are constantly being improved upon. End users should consult with management for current workflows and standards.

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Web GIS Contact: WebGIS.Connect@usda.gov

Overview and What's New 2026

This document provides guidelines for conducting electronic data collection for the Grasshopper/Mormon cricket (GHMC) program using the [ArcGIS Field Maps](#) application on mobile devices. The application was developed to reflect program specifics and is intended to replace paper surveys.

There are some data collection changes and map updates for the 2026 application from the previous year. Changes include the following:

1. Due to a change in functionality in the Portal environment, one of our key data assurance tools has been lost. After entering a number for the Pest Density field, the choices for Pest Lifestage will not be filtered accordingly. If you enter a pest density value of 0, please remember to select "No Life Stage Listed" as the value for the pest lifestage.
2. The "Field Sample ID" field will be displayed on the data entry form only when a Pest Density value greater than 0 is entered.
3. The Latitude and Longitude fields in the "Location Information" section of the form will be auto-populated when you add a survey point to the map.

ArcGIS Enterprise (USDA-MRP GIS Portal)

Sign In

Refer to the ArcGIS Enterprise Sign In User Guide on the [Mobile Data Collection Tools](#) website for more information on signing in.

Disconnected Data Collection

****The ArcGIS Field Maps application is specifically designed to operate in disconnected mode.**

An area of interest is downloaded to your device while connected to a Wi-Fi network. Then the device is disconnected from the internet and field data collection is performed. Once a reliable network connection is regained, the data is synchronized with the online map hosted in the USDA-MRP GIS Enterprise (Portal). Using Field Maps in disconnected mode is the only way to ensure that you can continue working in the field if there are ever interruptions to the USDA-MRP GIS Portal or network services.

It is common for a pest program surveyor to download one or more map areas to use throughout the season. This requires **synchronization of the mobile device twice each day** – once in the morning, before beginning work, and again at the end of the work day. Failure to sync your device puts you at risk for data loss.

The diagram below (Figure 1) represents the workflow of the disconnected mode concept.

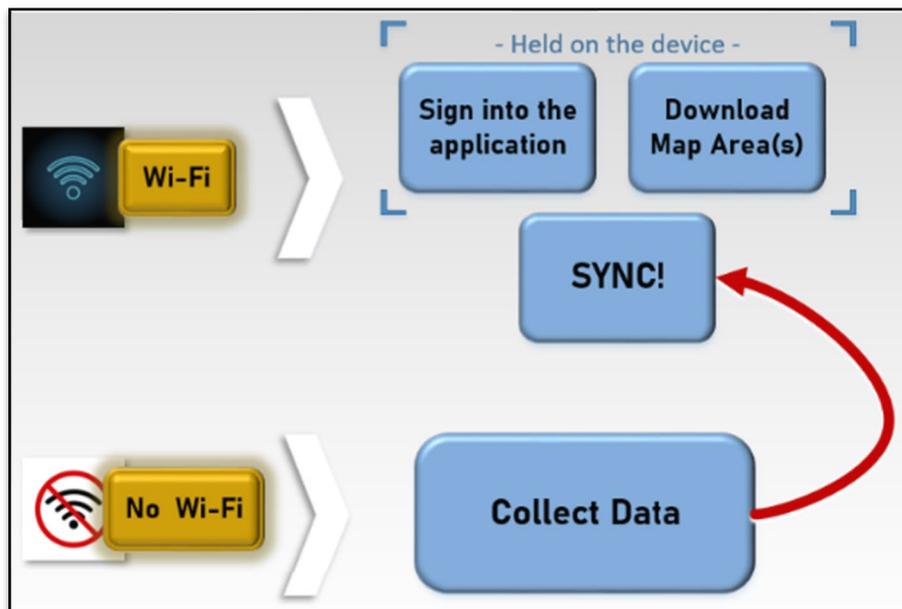


Figure 1. *Wi-Fi preparation and disconnected data collection*

Before You Go

Be sure all is ready for field data collection in disconnected mode **before** you leave. This includes downloading and testing a map area and performing a [data sync](#).

Download Map Area(s)

Requires Wi-Fi connection.

This step may be carried out or overseen by your supervisor or local GIS Specialist. If performing yourself, make sure you understand how to select the appropriate level of detail for your map extent.

Maps are shared to Groups. If your portal user account is added as a member to a group, you will find this group or groups listed on the Maps landing page.

From the Maps landing page, tap the appropriate Group card (named “PPQ GHMC Surveyors”). Within the group, locate the map card. Look for the map name on the first page of this document. If you have not downloaded a map, the map card contains an overflow menu represented by three blue dots. See the red arrow in Figure 2.



Figure 2. View of map card within a group

Tap the three blue dots to reveal the overflow menu. Next tap “Add Offline Area”. (Figure 3)

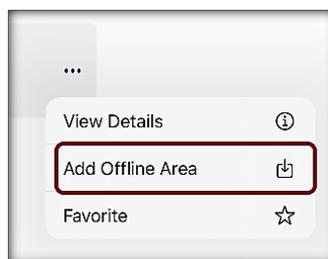


Figure 3. Overflow menu

The Add Offline Area defaults to the set map extent and basemap type. A name is assigned automatically (Area 1, etc.) which can be changed once the map successfully downloads. The Level of detail starts at the highest level of detail: Room. This is nearly always too much detail. (Figure 4)

Steps to downloading a map area:

1. Change level of detail
Tap the blue word “Room” and choose the level decided by your supervisor...usually “Streets” or “Neighborhood”.
2. Center on location assigned
Tap the grey airplane at the top right corner of the map to center on your current GPS location OR Use two fingers to zoom in or out. Tap, hold, and drag to center the map as you wish.

Wait for the map to display completely.

3. Tap “Download Area”

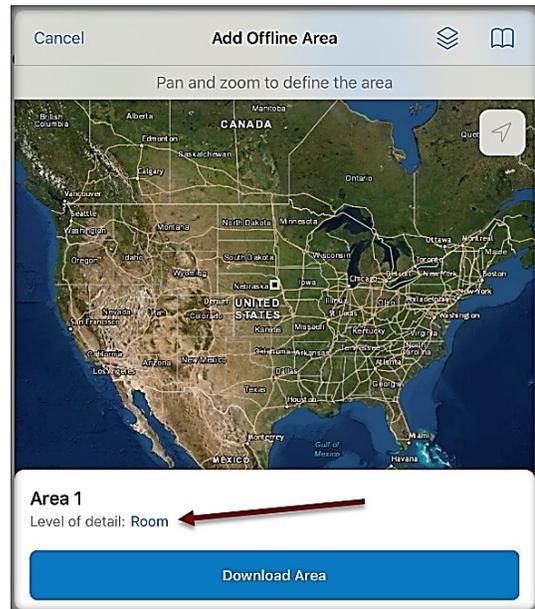


Figure 4. Add Offline Area

The new offline map card is created with a progress message – “Downloading” and a blue progress circle updating the status of the download. (Figure 5)

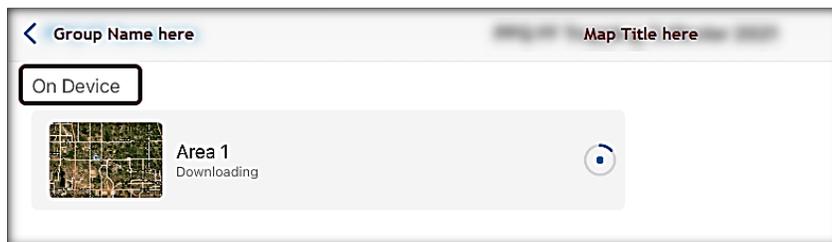


Figure 5. Map area download in progress

Once the download is complete, the progress messaging updates to indicate the size of the download and when it was downloaded to the device. The progress bar circle changes to an overflow menu. (Figure 6)

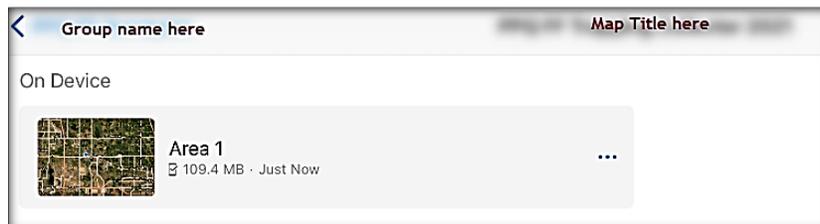


Figure 6. Map area download complete

It is highly recommended that you rename downloaded map areas. Use the naming convention established by your supervisor.

To rename a map area, tap the overflow menu on the map area card, tap “Rename” and type in a new name. (Figure 7)

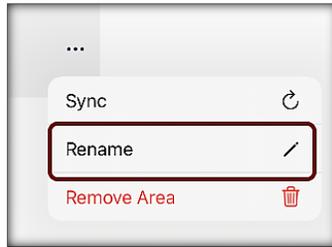


Figure 7. Downloaded map area overflow

Never assume you are prepared for offline data collection. ALWAYS perform a test in the parking lot each day before you leave for the field. For a sample set of steps to test your readiness, see the next section, [Parking Lot Test](#).

Parking Lot Test

From the Settings application on your device:

1. Turn Wi-Fi OFF (on a phone: also turn off Cellular Data)
2. Turn Location Services ON
3. Open the ArcGIS Field Maps app
4. Locate and open the offline map area:
 - a. Zoom in/out
 - b. Tap the add data button to be sure the data form appears to the left with GPS reading in blue (not red)
 - c. Tap “Cancel”
 - d. Then “Discard” that point

You have confirmed offline use. Now you are ready to head out to the field!

**If you do not see your map or it does not open as expected or you are not signed in...
Go back inside, connect back to Wi-Fi, and try again.**

Collect Data

Reminder! Synchronize your map at the beginning and the end of each workday.

ArcGIS Field Maps automatically opens in the last map view used. If the [Before You Go](#) steps were performed, opening ArcGIS Field Maps should also open the previously downloaded map area. Tap the back arrow at the top left of the screen to locate the appropriate downloaded map area for data collection, if needed.

****Always follow program survey protocol to determine suitable locations for performing surveys.**

The PPQ GHMC Surveys 2026 Field Map has 3 layer groups (Grasshopper Surveys 2026, Mormon Cricket Surveys 2026, and Historic Surveys). To interact with map layers, tap the layers icon  in the top ribbon above the map.

At startup, all groups are visible and expanded by default. However, within each group, all layers are turned off by default. (Figure 8)

Before entering data, you must make the appropriate layer visible on the map. Tap the toggle switch to the right of the desired layer name to make a layer visible and enabled for data entry. A blue toggle switch indicates a layer is visible and available for editing.

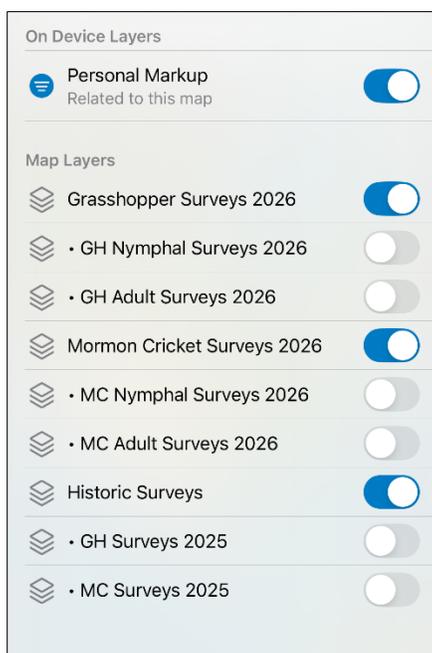


Figure 8. GHMC Surveys Map Layers menu

The following section will explain how to [Record a Visual Survey](#).

Record a Visual Survey

1. Tap the layers icon  and tap the toggle switch to the right of the desired layer name to make a layer visible for data entry. A blue toggle switch indicates the layer is visible.
2. Stand near the survey location.
3. Tap the blue icon with the white plus sign  located in the lower-right corner of the screen.
4. Select the appropriate pest/survey stage layer. If you do not see the needed pest/survey stage, check that the layer is visible within the layers list.
5. Fill out the Survey Details data form. When a value is entered in the Pest Density field, the map symbol will change to match the legend. (Figures 9a & 9b)

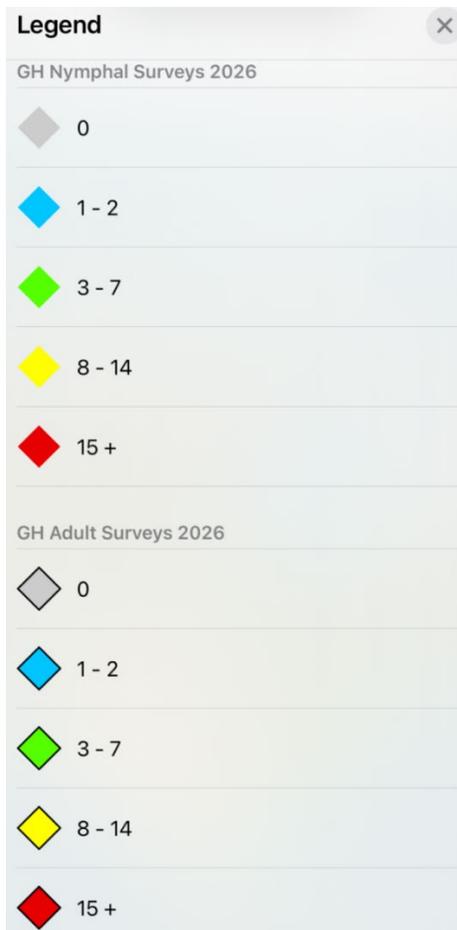


Figure 9a. Legend of GH Symbols

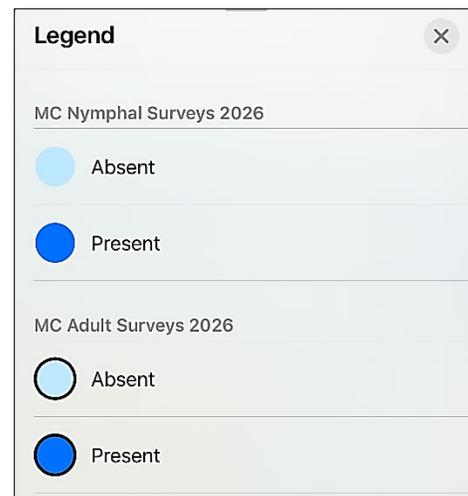


Figure 9b. Legend of MC Symbols

- Review your entered data carefully prior to submitting the form. * Asterisks indicate mandatory fields. Optional fields should be completed following survey protocol. Verify the Survey Date entry is correct.
- Tap the **Submit** button on the upper-right corner of the screen to save the new survey record.

NOTE: If the Submit button fails, you have not completed all required fields or GPS accuracy requirements were not met.

Daily Data Sync

****Sync your data first thing in the morning AND last thing at night – DAILY!**

This process both pushes your data collection out and brings in other edits to your map. Be sure you are connected to a strong Wi-Fi network when you sync.

If you are unable to sync your device, [ask for help](#) right away. Your data may be at risk if you delay synchronizing your device.

Be sure you are connected to a strong Wi-Fi network.

Be sure **Auto-Sync is OFF**. Tap the sync button  and then toggle to disable Auto-Sync (Figure 10). Enabling Auto-Sync while in the field is not recommended because it will run down your device's battery faster and you risk data loss if your connection to the Internet is interrupted during a Sync operation.

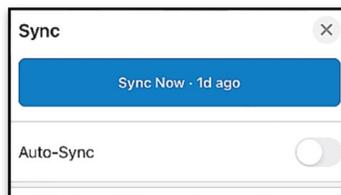


Figure 10. Auto-Sync toggled to OFF

You may choose the sync icon from within a map area. Tap the sync icon at the top right of the map. (Figure 11)



Figure 11. Icon menu within the map

OR

You may also choose to sync by choosing the ellipsis menu found on each Offline Area. You will have the option to Sync, Rename, or Remove Area. (Figure 12)

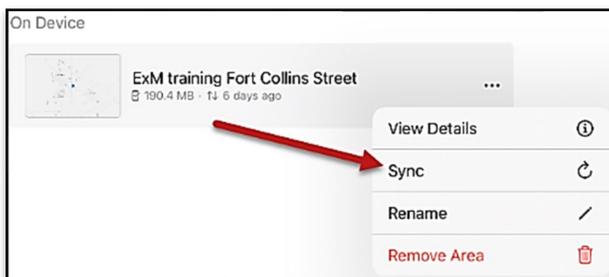


Figure 12. Offline Area menu

Getting Help

APHIS PPQ

Before requesting technical support, be prepared with detailed information, including the name of the map, and error messaging experienced. Be as specific as possible. Include screenshots, any troubleshooting you have performed, and indicate the type of device (iPad, laptop, phone, etc.).

For APHIS PPQ users, if you are having issues with the iPad, laptop, Wi-Fi settings, or issues dealing with installing software, please visit the [CEC's Digital Workplace](#), or send an email using this shortcut on your Desktop. (Figure 13)

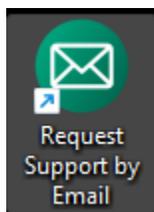


Figure 13. Request Support by Email

If you need technical support or help using the ArcGIS Field Maps application, follow this order:

1. Your field supervisor
2. Local GIS Specialist that supports your area
3. Email WebGIS.Connect@usda.gov

Cooperators & Other Nonfederal Users

Contact your State Plant Health Director's office for assistance.

All Training Resources

As new applications and programs are supported, training documents and self-paced training videos are shared on the APHIS public facing website: [Mobile Data Collection Tools](#)
Bookmark this site and visit often.

Provide feedback to WebGIS.Connect@usda.gov.