



ArcGIS Field Maps



Field Operations | Focused apps for each activity...



Field Operations | ArcGIS Field Maps





Why Field Maps?

2 years ago...



6 Key Customer Benefits of Field Maps

1. Single app to deploy + learn
2. Sign in once
3. Eliminate duplication of offline content
4. Smaller Aggregate App Footprint/Download
5. Consistency
6. Improved feature delivery time



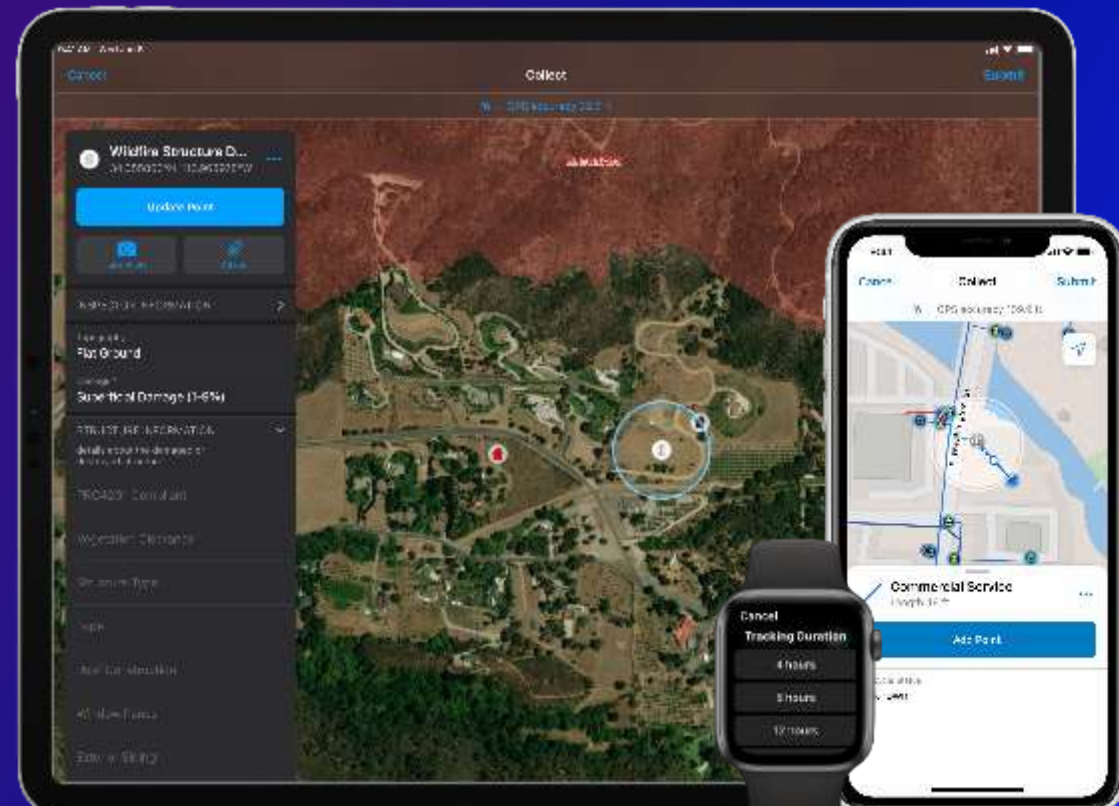
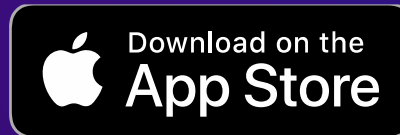
- Smart forms
- Indoor mapping
- Indoor positioning
- Utility Network support
- Geofencing alerts
- Routing and navigation using live traffic
- More location tracking capabilities
- More work management capabilities
- ...



ArcGIS Field Maps

The foundational app for your mobile workforce enables you to:

- Perform inspections
- Collect & edit data with high-accuracy
- Work with maps, even offline
- Share current location
- Record location history



ArcGIS Field Maps Strategy

Five apps to become a single app that supports every phase of fieldwork

Included in Dec 2020 Release



ArcGIS Collector**



ArcGIS Explorer**



ArcGIS Tracker*

Coming Soon!



ArcGIS Workforce



ArcGIS Navigator

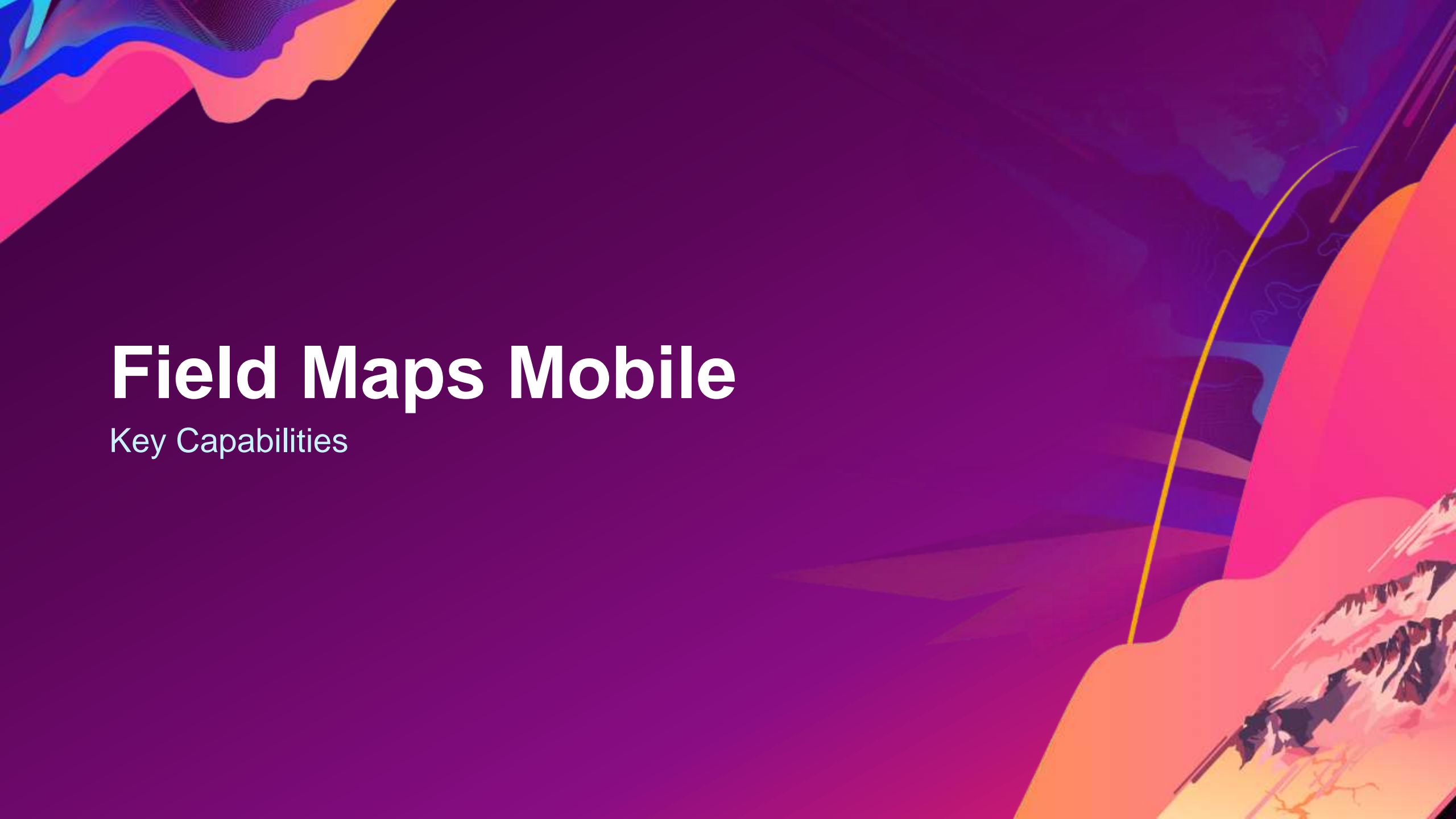


*ArcGIS Collector, Explorer, & Tracker apps on Android & iOS retired Dec 2021. See [announcement](#).

** ArcGIS Collector & Explorer on Windows do NOT have a retirement date.

Field Maps Mobile

Key Capabilities





ArcGIS Field Maps mobile | Key Capabilities

Key capabilities

- Map viewing
 - View rich cartographic maps, update in real-time
 - Search location, addresses, features
 - Support for Indoor maps
- Map markup
 - Freehand sketch, marker placement
 - Share peer-to-peer, by email, to organization
- High accuracy data collection
 - Capture point, line, area features
 - Use external GPS or map
- Robust smart form editing
 - Simplified form management, conditional visibility, required fields
- View, record and share location tracks
 - Apple watch support, track for duration



Field Maps requires iOS 13.5, Android 8 (API 26)



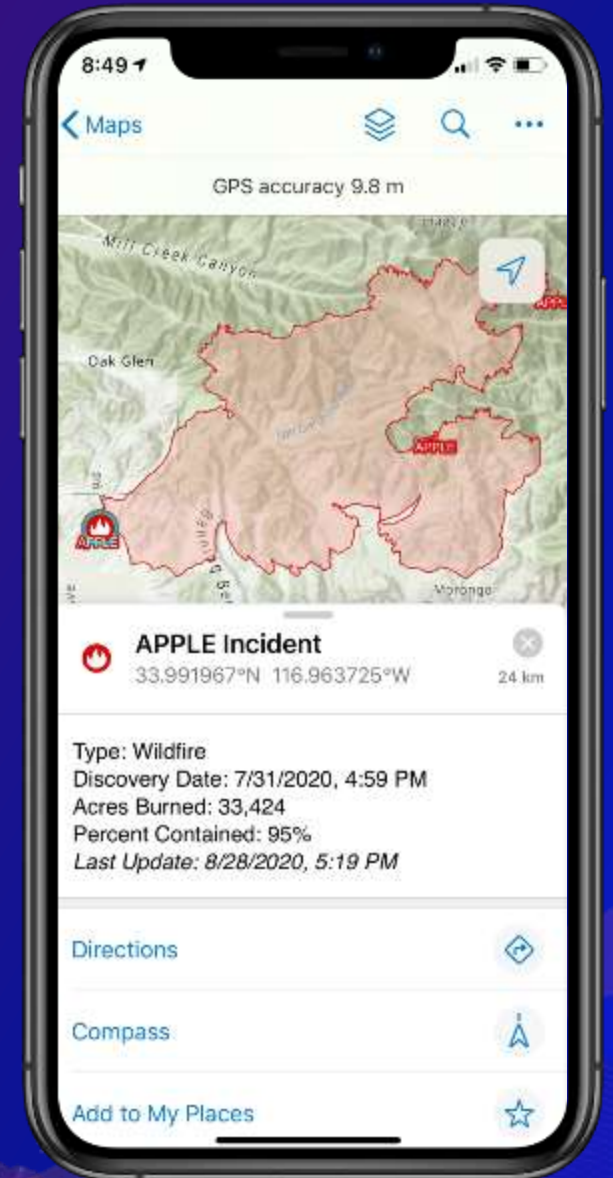
ArcGIS Field Maps mobile | Map Viewing capabilities

Map Support

- Advanced symbology/Labeling (w/Arcade)
- Group layers, Annotation
- Popups (w/Arcade including feature sets)
- Layer refresh for auto-updates

Map Tools

- GPS (rotate using compass)
- Basemaps, Bookmarks, Layers, Legend
- Measure (lines, areas)
- Search (locations, coordinates, features)
- Share Map
- Sync map changes (when offline)
- Directions (Navigator, Google Maps, Apple Maps)
- Compass





ArcGIS Field Maps mobile | Map markup capabilities

Markup Tool

- Freehand sketch lines and areas
- Add markers, lines, arrows, areas
- Shape Recognition
- Turn markup layers on/off with Layers tool

Share Markup

- OTA, by email, text message
- ArcGIS organization





ArcGIS Field Maps mobile | High-accuracy data collection

- Need better GPS accuracy
 - 1 – 3 meters for above ground assets
 - > 1 foot for below ground assets
 - Cm accuracy for construction projects
- Key GNSS Partners
 - Dual, Garmin
 - Eos Positioning Systems, Geneq, Bad Elf
 - Juniper, Trimble, Leica
- Different ergonomic solutions
 - Pole mount
 - Back-pack
 - 3D printed attachments...





ArcGIS Field Maps Mobile | High-accuracy data collection

- GPS Capture capabilities
 - Single Point/vertex capture (w/ Z-value)
 - Streaming data capture (lines/areas)
 - Averaging
- Understanding Accuracy
 - GPS bar
 - GPS metadata
 - Required accuracy
 - Confidence level
- Connecting to Receiver
 - Location Provider
 - Location Profile

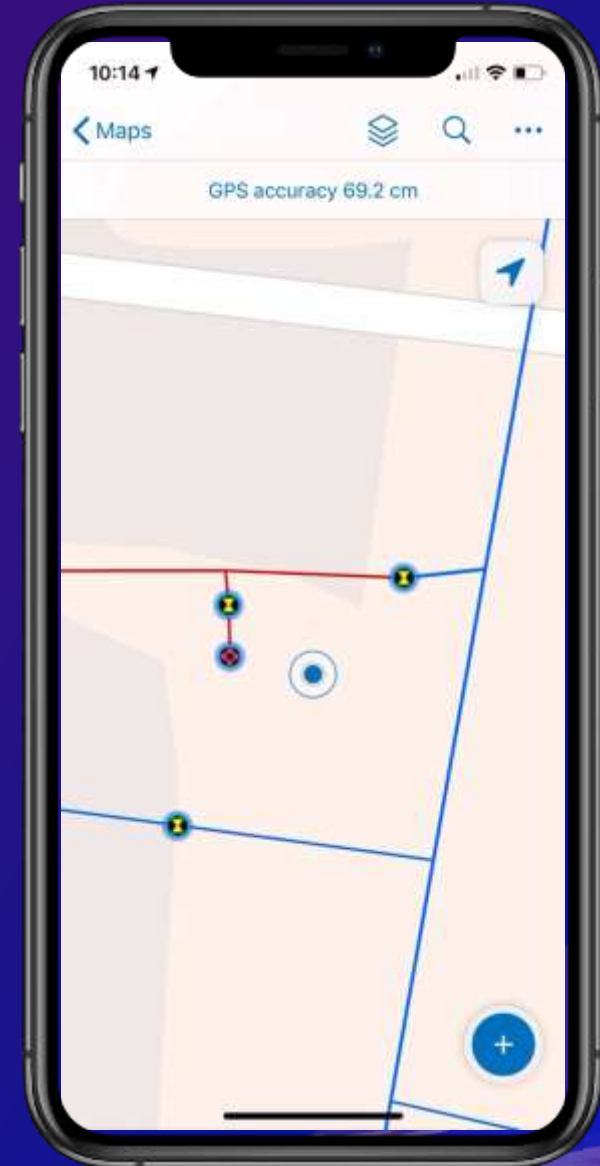
The image displays five overlapping screenshots from the ArcGIS Field Maps Mobile application, illustrating various settings for high-accuracy data collection:

- Accuracy**: A settings screen titled "Accuracy" with a "95% Confidence" toggle switch turned on. It lists "Distance (centimeters)" as 5 and "Centimeters" as the selected unit.
- Streaming**: A settings screen titled "Streaming" with "Distance" selected as the unit and "Distance (meters)" set to 3.
- GPS Details**: A detailed view of GPS data showing "Provider" as R2, 5544S01871; Trimble, "Altitude (HAE)" as 1,183.9 ft, "Horizontal Accuracy (RMS)" as 0.6 in, "Vertical Accuracy (RMS)" as 1 in, "Fix Type" as RTK Fixed, "Satellites (Used/Visible)" as 13/31, and "Battery" at 52%.
- GPS Averaging**: A settings screen titled "GPS Averaging" with a toggle switch turned on and "Points to Average" set to 5.
- Add Provider**: A screen titled "Add Provider" showing a list of providers, with "Bad Elf #145285" highlighted and an "Add" button next to it.



ArcGIS Field Maps mobile | Inspections

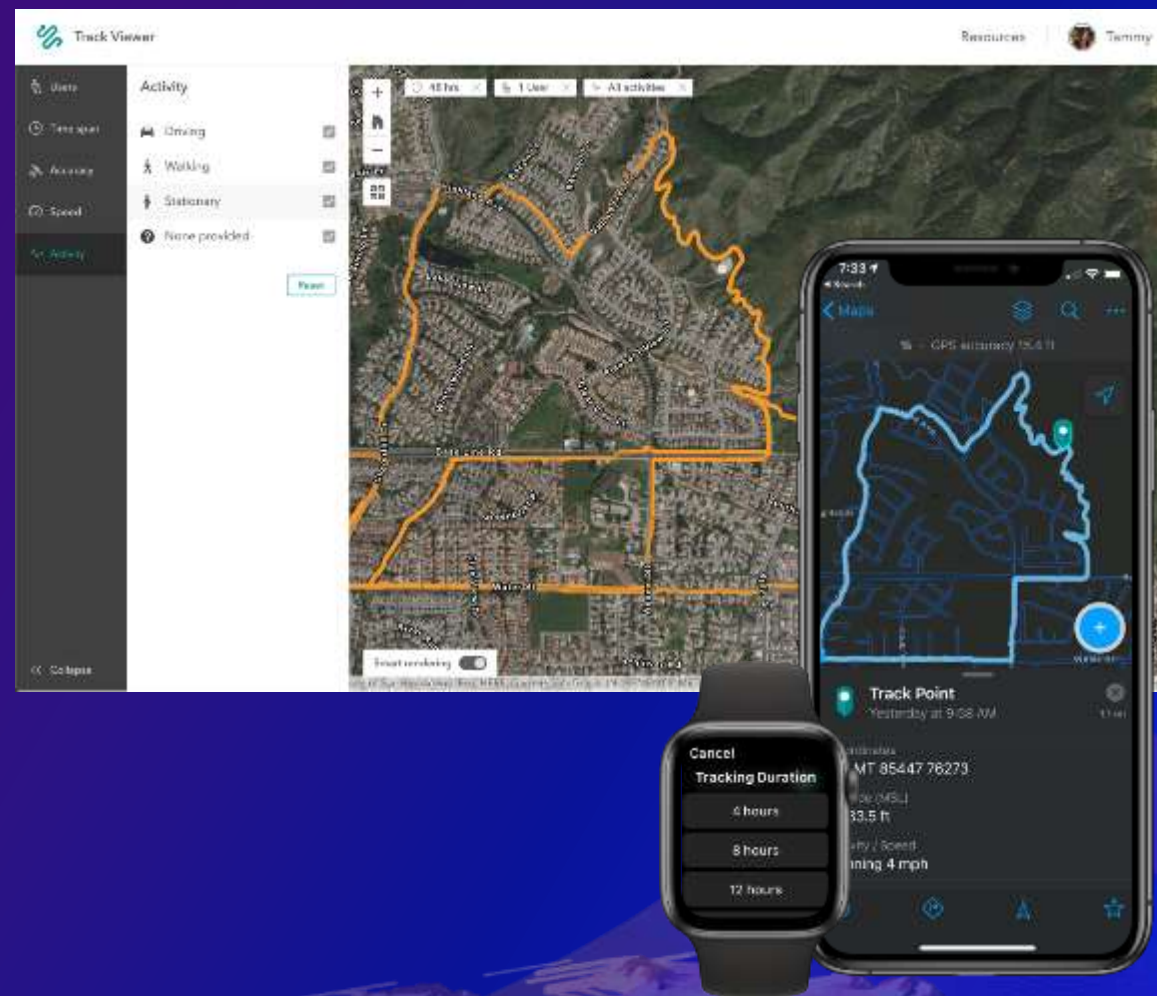
- Transaction model support
 - Non-versioned
 - Traditional versioning
 - Offline Branch versioning (10.8.1+)
- Inspection types
 - Feature inspections (new feature, update attributes on existing)
 - Historical, tabular inspections (model using 1:M relationships)
- Smart forms supported on layers and tables
 - Group fields, apply conditional visibility
 - Use pick lists, required and read-only fields





ArcGIS Field Maps mobile | Location Tracking

- Switch tracking on/off for all maps from maps screen or within a map
 - Track for a duration
- View location tracks in any map (iOS/Android)
 - Turn tracks layer on/off
 - Set track duration
- Supported on Apple Watch
- Use Track Viewer to share tracks with others
- New Track lines layer for improved viewing

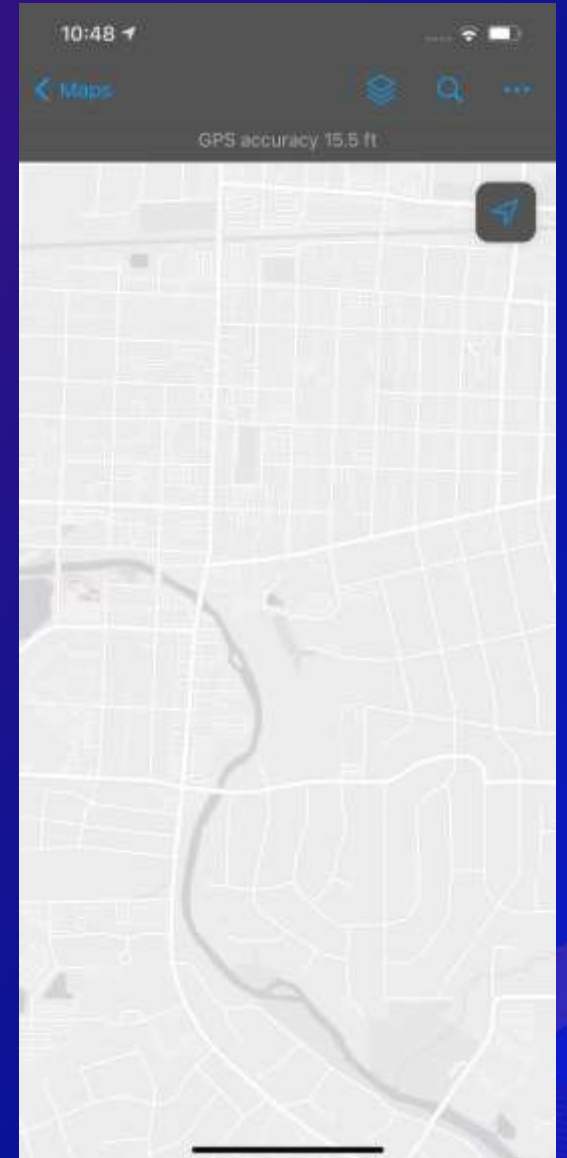




ArcGIS Field Maps mobile | Indoor Mapping

ArcGIS Field Maps supports the Indoors information model

- Map packages
- Web maps





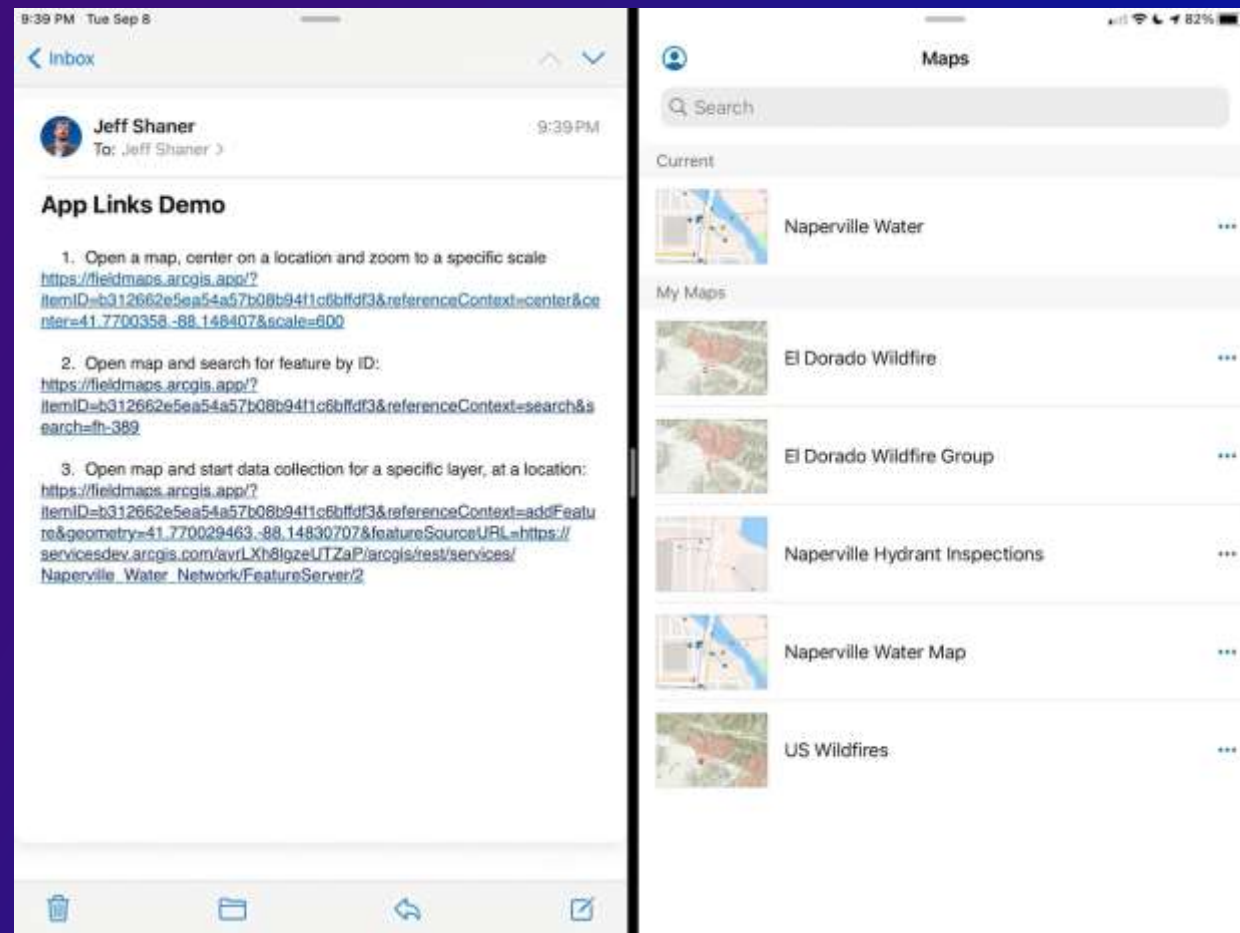
ArcGIS Field Maps mobile | Universal app links

Remotely control Field Maps using App Links

- From another app
- From an email or text message

App Link capabilities include:

- Opening a map or map package
- Centering a map at a certain location/scale
- Searching a map using coordinates, locations, feature attributes
- Starting data collection (with a location, spatial reference, collection of attributes)
- Updating attributes of an existing feature
- Callback to another application

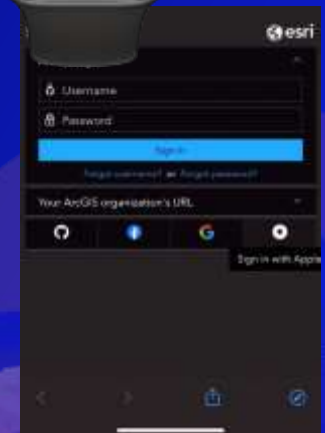
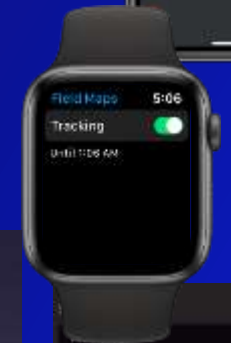
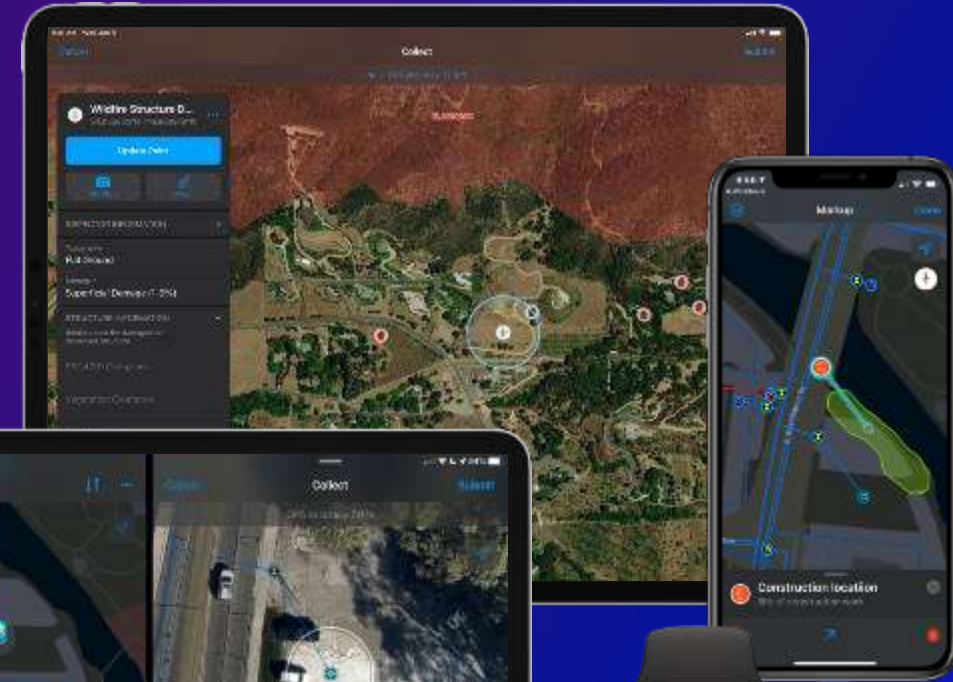
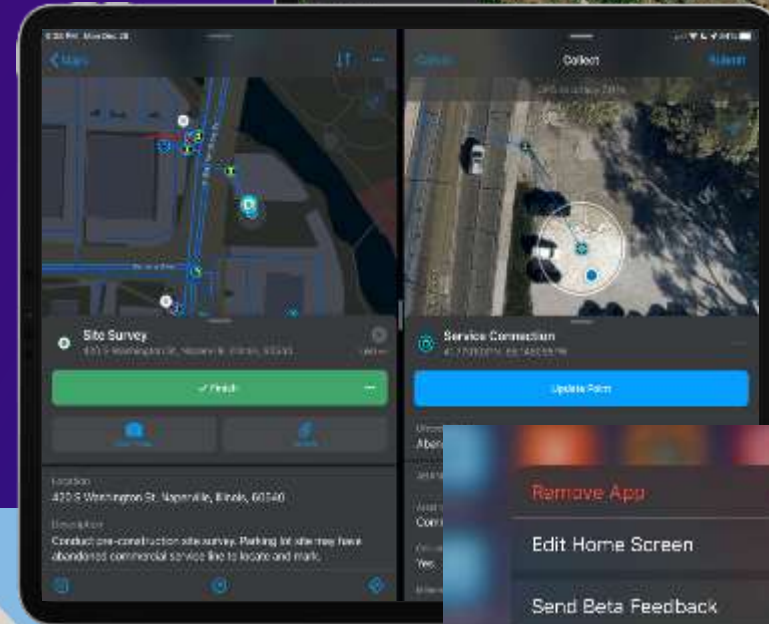




ArcGIS Field Maps mobile | iOS Specific Features

Several Field Maps features unique to iOS devices include:

- Sign in with Apple
- Dark Mode support
- Split View on iPad
- Scribble support on iPad
- Apple Watch support for location tracking
- Quick actions





ArcGIS Field Maps mobile | Mobile device management

Benefits

- Easily manage devices in your organization
- Improve efficiency of app deployments
- Keep apps and data secure
- Active monitoring for malware and other threats

Field Maps capability

- Application configuration keywords
 - portalURL key/value pair
 - anonymousAccess key/value pair
- App-level VPN

The screenshot shows the 'Field Maps - Assignment' interface. On the left, there is a navigation menu with options: 'Distribution', 'Restrictions', 'Tunnel & Other Attributes', and 'Application Configuration' (which is selected). The main area is titled 'Application Configuration' and features a section for 'EMM Managed Access' with a toggle switch that is turned on. Below this, there is a 'Send Configuration' toggle switch, also turned on, and an 'UPLOAD XML' button. A table lists configuration keys and values:

Configuration Key	Value Type	Configuration Value
portalURL	String	https://myportal.mycompany.com/va/ogis
anonymousAccess	Boolean	true

At the bottom of the table, there is an 'ADD' button.



The background features a stylized map of a mountainous region in shades of blue and purple. Overlaid on this are large, vibrant, semi-transparent shapes in pink, orange, and yellow. A thin yellow arc curves across the right side of the image.

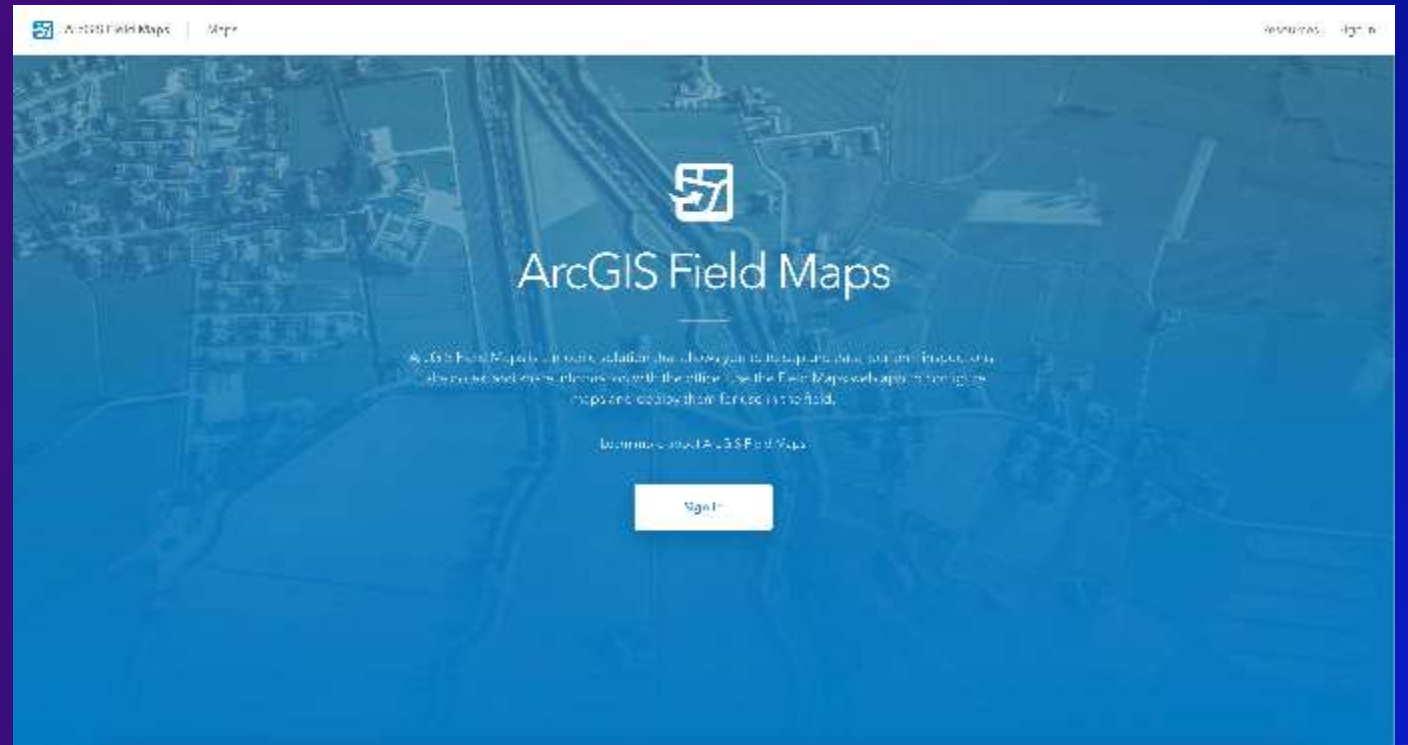
Field Maps Web App

A new tool for map authors and administrators

Field Maps Web App

Benefits

- Configure map properties
- Configure your content (layers, tables, smart forms)
- Manage offline experience
- Share and deploy maps





ArcGIS Field Maps Web | Web app

Who is it for?

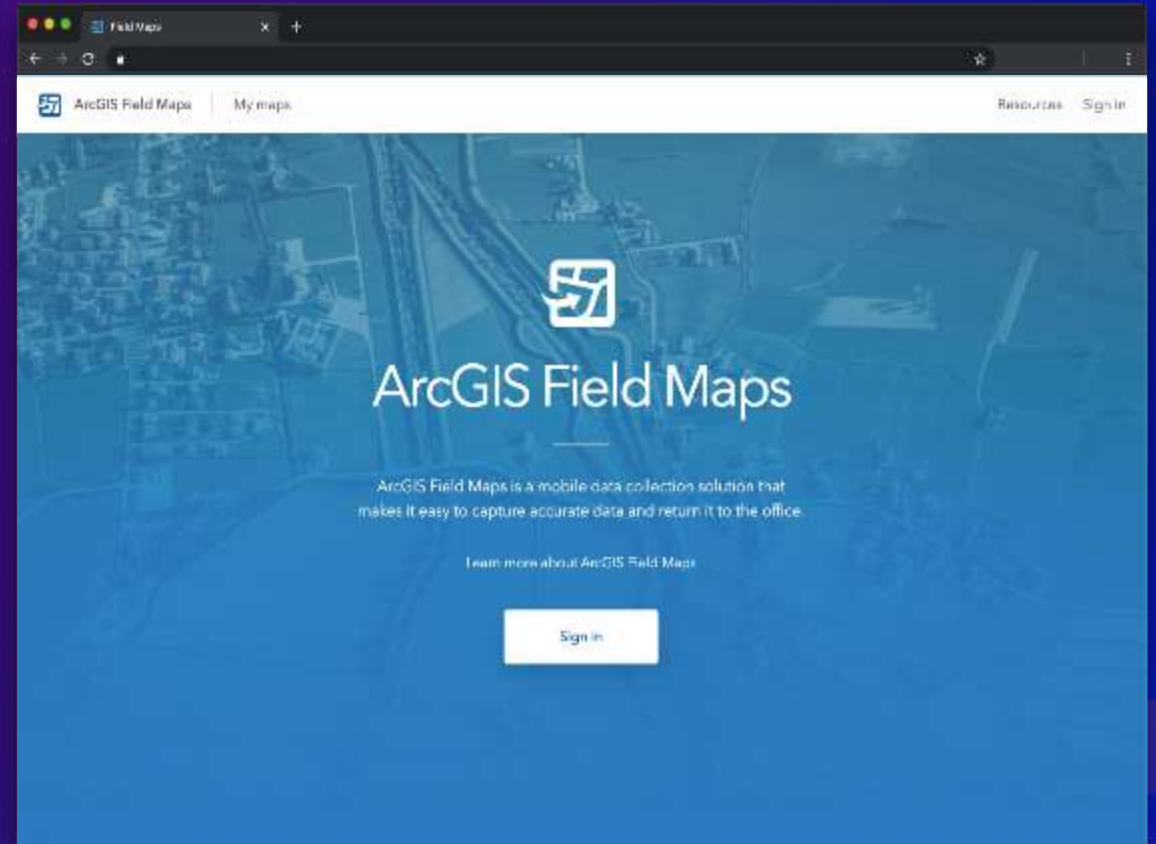
- GIS Analysts – configure and deploy maps

Requirements

- ArcGIS Online or ArcGIS Enterprise 10.8.1+
- Supported browsers (minus IE 11)
- Create privilege required
- Maps you own or in a shared update group

Capabilities

- Configure
 - Map properties
 - Smart Forms Experience
 - Content (layers, tables) and settings
- Manage offline experience
- Share and deploy maps





ArcGIS Field Maps Web | Map Settings Configuration

- Map Tools, Feature Actions

- Edit Multiple
- Collect Here
- Copy

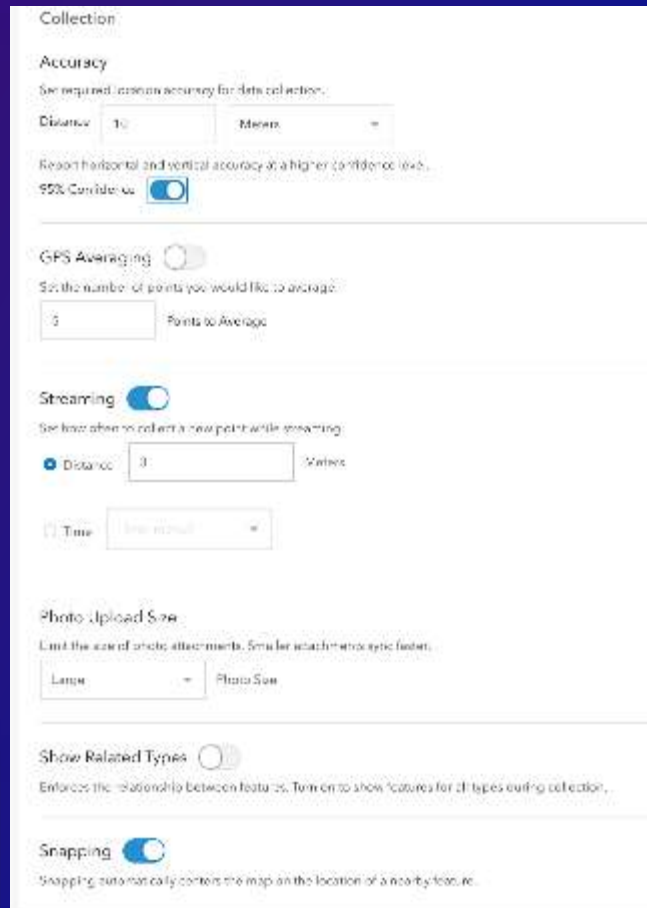
- Collection settings

- Location accuracy
- Photo size
- Show Related Types
- Snapping
- GPS Averaging
- GPS Streaming

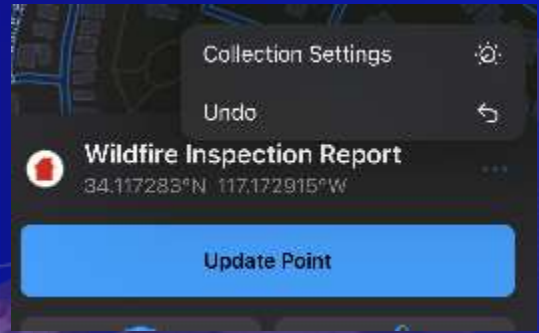
- Collection settings are now available when capturing data.



Map Tools, Feature Actions



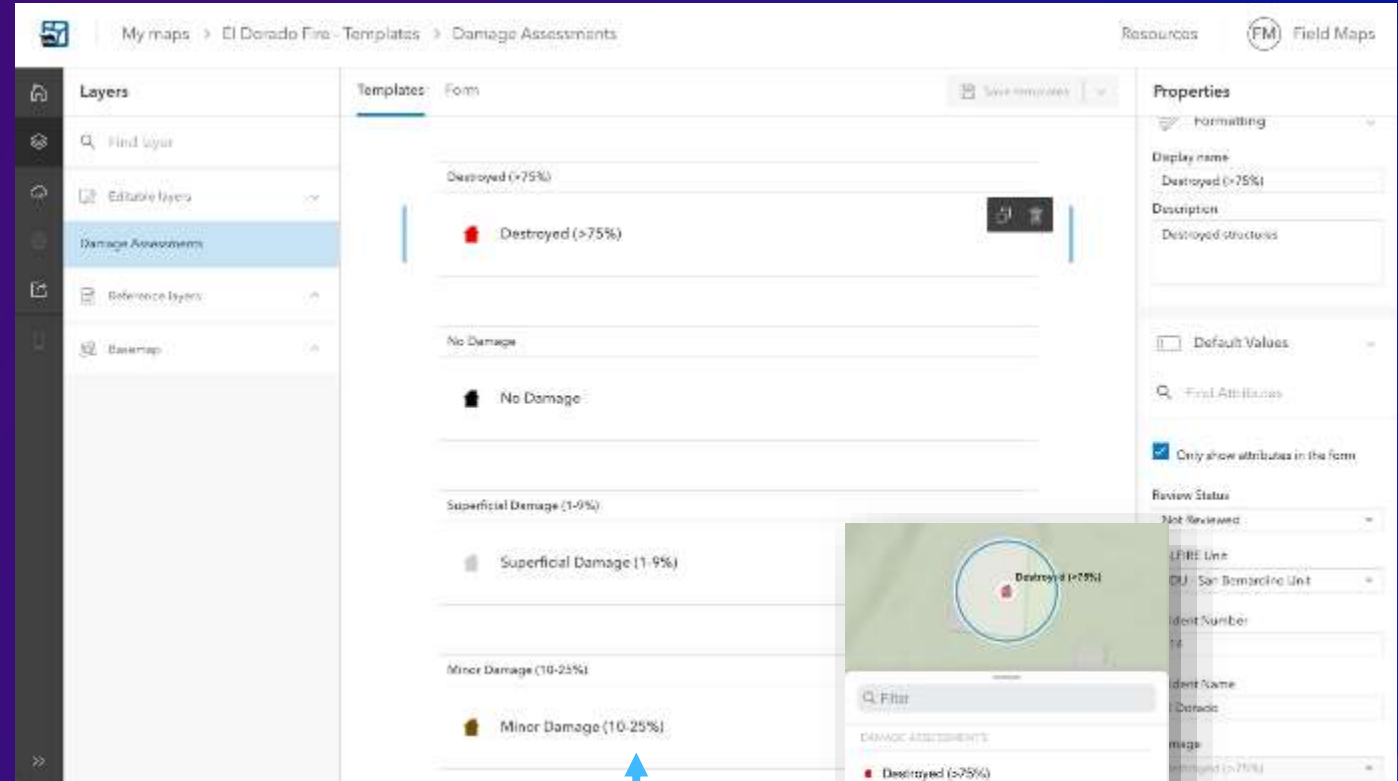
Collection settings



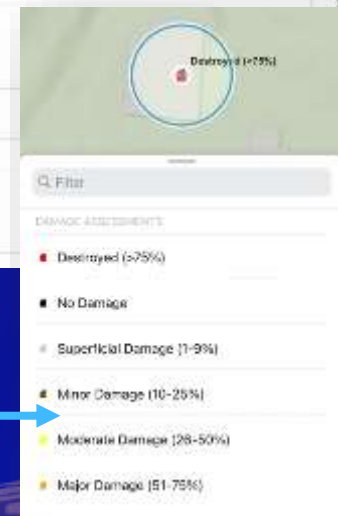


ArcGIS Field Maps Web | Feature Templates

- Unique types of features you create in a feature layer using the map or GPS
- Include a symbol, name, description, and set of values
- Configuration Capabilities
 - Order Feature Templates and Types
 - Alter name and description
 - Apply default values per template
 - Delete templates
 - Duplicate templates



Feature templates



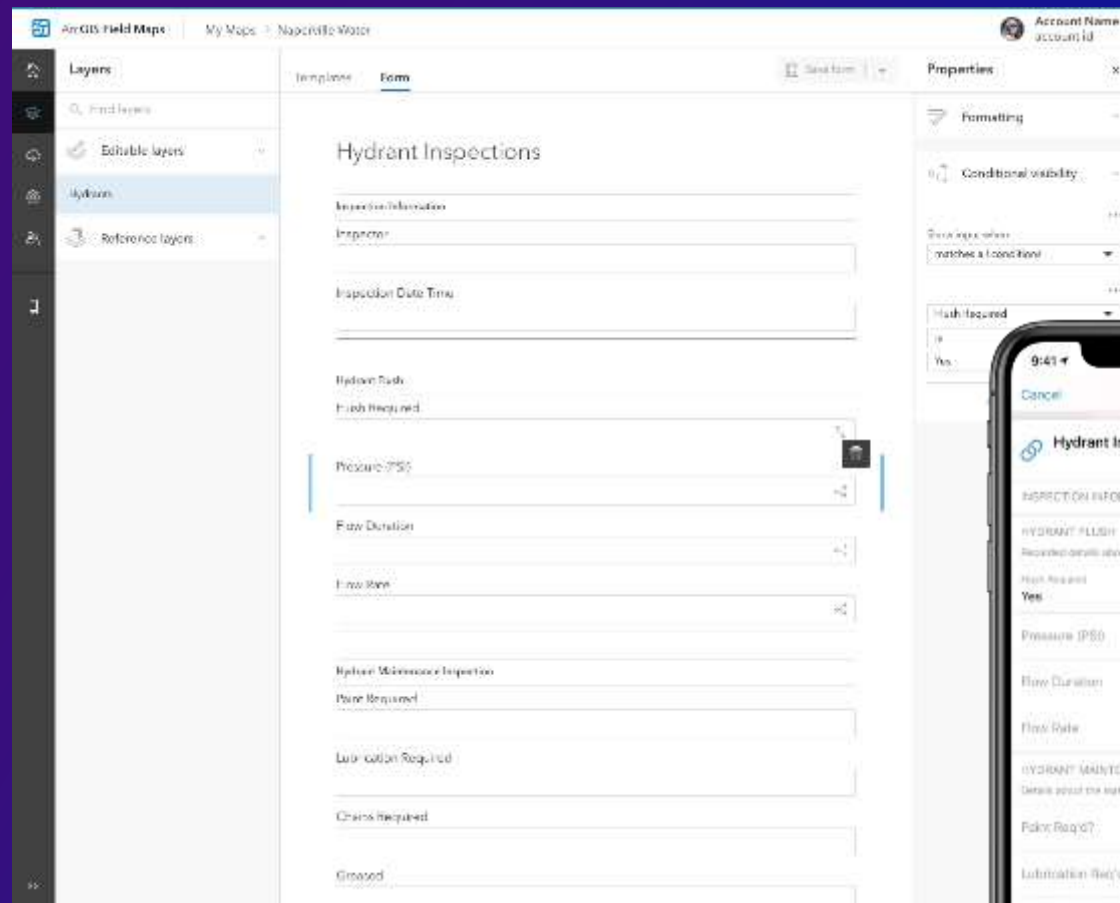


ArcGIS Field Maps Web | Smart Forms

- New way to create and edit attributes in ArcGIS
 - Included in the [web map specification](#)
 - Supported in Map Viewer
 - Simplifies field editing experience
- Design experience in Field Maps web app

Key capabilities

- Use groups to organize fields
- Apply conditional visibility to fields
- Format your form and it's fields
- Qualify required and read-only fields



Much more to come in future phased releases...



• Descriptive text properties

- Field Name
- Description
- Caption

Description

Choose Yes only if vegetation is greater than 30 feet from the structure.

• Read-only fields

- Visible in form but not editable
- Example "In Service Date"

Configuration for 'In-Service Date' field:

- Range end: [dropdown] [calendar icon]
- Required
- Allow mobile users to edit

Mobile view preview:

```

Lifecycle Status
In Service
In-Service Date
1/1/20, 4:16 PM
  
```

• Required Fields

- Must enter a field value before you can submit edits
- Only required when visible

Configuration for 'Flow Rate' field:

- Input type: Text box
- Required
- Allow mobile users to edit

Mobile view preview:

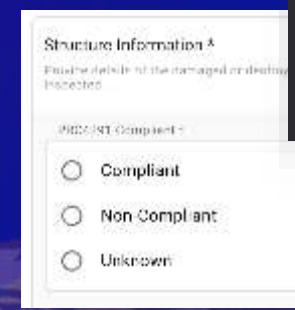
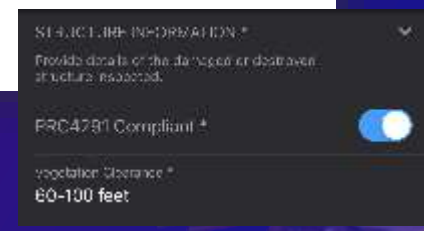
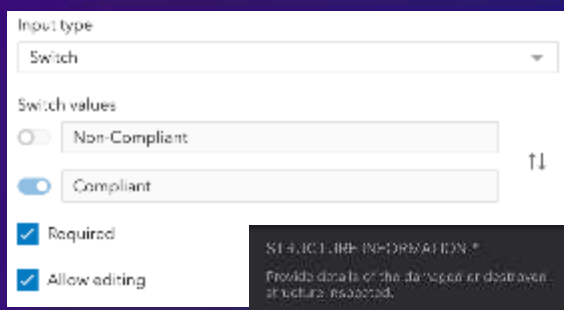
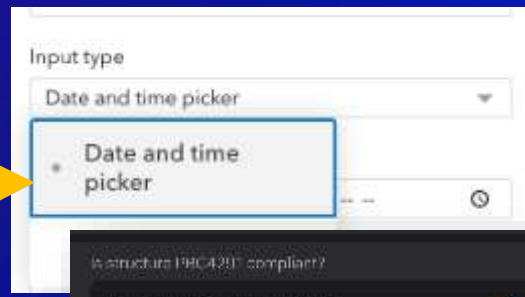
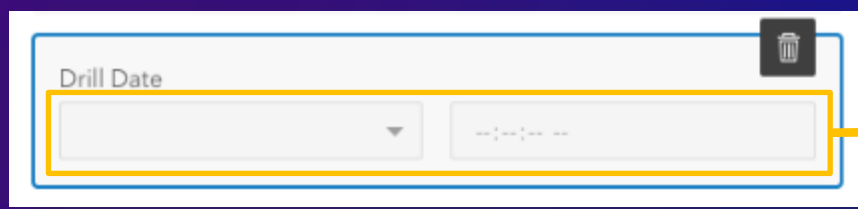
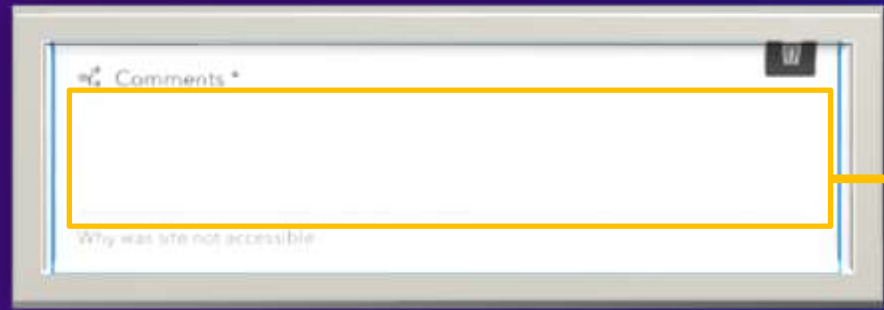
```

HYDRANT FLUSH DETAILS *
Complete details when hydrant flush is required.
Flow Rate *
  
```



Input Types

- Defines constraints and method for entry
 - TextBox | TextArea
 - Date | Date and time
 - Combo box | Radio Button
 - Barcode Scanner
 - Switch – **New for June Release**
- Can optimize data entry
- Options based on field data type





Use Groups to organize fields

- Order and group fields the way that information needs to be filled out
- Provide a name and meaningful description for groups
- Collapse and expand groups to save space on forms

A screenshot of a Smart Form group titled "Inspector Information". The group contains several fields: "CALFIRE Unit*" with a dropdown menu, "Collector Name*" with a text input field, "Collection Date and Time*" with a date and time picker, and "Comments" with a text area. A yellow arrow points from the group title to the "Display name" field in the adjacent panel.

A screenshot of the "Formatting" panel for a Smart Form group. The panel has a title "Formatting" and a dropdown arrow. It contains three sections: "Display name" with a text input field containing "Inspector Information"; "Description" with a text area containing "Pick your assigned unit, enter name and date, and add structure details."; and "Initial state" with a checked checkbox labeled "Expanded". Below these sections is a "Conditional Visibility" section with a dropdown arrow and a "+ Add expression" button.

A screenshot of a collapsed Smart Form group. The group title is "INSPECTOR INFORMATION*" with a dropdown arrow. Below the title is a description: "Pick your assigned unit, enter name and date, and add structure details.". The group is expanded to show the following fields: "CALFIRE Unit*" with the value "BDU - San Bernardino Unit", "Collector Name*" with the value "Jeff Shaner", "Collection Date and Time*" with the value "11/30/20, 11:59 PM", and "Comments:".



Apply conditional visibility

- Use Arcade expressions to control field visibility
- Apply visibility to fields or groups
- Uses the [Arcade Constraint profile](#)
 - Evaluates for True or False
- Apply a name and test your expression

The image shows a sequence of steps to configure conditional visibility for a form field:

- Top Left:** A form field titled "Structure Information" with a sub-field "Structure Type". A yellow arrow points from this field to the configuration panel.
- Top Right:** A configuration panel for "Conditional Visibility". It shows a dropdown menu with "Conditional Visibility" selected and a text area for the "Evaluate Damage" expression. A yellow arrow points from the "Structure Information" field to this panel.
- Bottom Left:** A dark-themed "Damage" profile card. It is titled "Destroyed (>75%)" and contains the text "STRUCTURE INFORMATION * Provide details about the damaged or destroyed structure that you have inspected." A yellow arrow points from this card to the "Evaluate Damage" expression field.
- Bottom Right:** A detailed view of the "Evaluate Damage" expression editor. The expression is: `DomainName($feature, "Damage") != "No Damage"`. A yellow arrow points from the "Evaluate Damage" text area to this editor.



Manage Offline Map Capabilities

- Enable/Disable offline mode
- Diagnose and fix map layer issues
- Create and manage offline map areas
- Adjust delivery of features and attachments
- Reference offline basemaps

The collage includes several screenshots from the ArcGIS Field Maps interface:

- Enable offline mode:** A toggle switch is turned on. Below it, a 'Layers' panel shows a message: "A layer in this map needs to be updated to enable offline mode". Under 'Reference layers', 'Fire Perimeter' has a red 'X' and the text "Sync is not enabled.".
- Map Areas:** A 'Manage areas' window shows a map with a red polygon. A list on the left includes 'Oak Glenn' and 'Forest Falls'.
- Features and attachment delivery:** A settings panel with two sections:
 - Editable features:**
 - Device will download and get updates to features and attachments.
 - Device will download and get updates for features only.
 - Device will never download and get updates for features.
 - Read-only features:**
 - Device will download and get updates for features and attachments.
 - Device will download and get updates for features only.
- Use a tile package for the offline basemap:** A settings panel with two radio options:
 - Device will use the basemap defined by the web map.
 - Device will use a tile package it already has.
 Below is a text input field containing 'VectorTopo.vtpk' and a note: "Enter the filename of the package on your device."

The background features a vibrant, abstract design with a color palette of deep purple, magenta, and bright orange. A thin, glowing yellow arc curves across the right side. In the bottom right corner, there is a stylized, high-contrast illustration of a mountain range with a winding path or road.

Additional resources

Level up your Field Maps game

Additional Resources

- Try ArcGIS Field Maps (Discovery Path)—<https://learn.arcgis.com/en/paths/try-arcgis-field-maps/>
- Migrate to ArcGIS Field Maps (blog article)—<https://www.esri.com/arcgis-blog/products/field-maps/field-mobility/migrate-to-arcgis-field-maps/>
- ArcGIS Field Maps Migration Guide (PDF)—<https://www.esri.com/content/dam/esrisites/en-us/media/pdf/implementation-guides/field-maps-migration-guide.pdf>
- ArcGIS Field Maps Offline Guide (PDF)—<https://www.esri.com/content/dam/esrisites/en-us/media/pdf/implementation-guides/take-your-web-maps-offline-field-maps.pdf>
- App Linking in Field Maps (help topic)—https://doc.arcgis.com/en/field-maps/android/help/deploy-your-map.htm#ESRI_SECTION1_F7DE2402BA8743E5BFC4A1241072960E
- Inter-app Communication with ArcGIS Apps (video)—<https://www.youtube.com/watch?v=lwZqvqO1aB4>
- Configure maps for the field in the Field Maps web app (blog article)—<https://www.esri.com/arcgis-blog/products/field-maps/field-mobility/configure-maps-for-the-field/>
- Field Maps Resources page—<https://www.esri.com/en-us/arcgis/products/arcgis-field-maps/resources>



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