



ArcGIS Field Maps

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Field Operations

Focused apps for each activity...



Field Operations | ArcGIS Field Maps





ArcGIS Field Maps | Mobile app



Best in breed mapping system



World class data collection solution



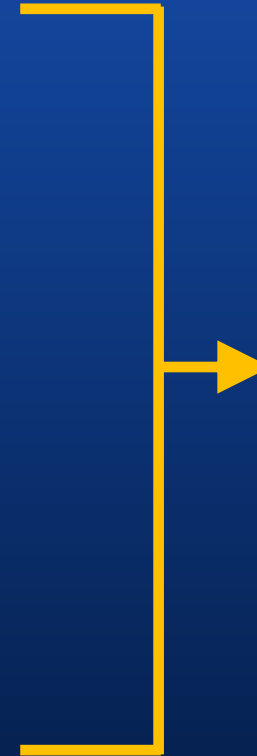
Revolutionary location tracking technology



World class tasking and work management



State of the art navigation capabilities



Capabilities coming together in phases



5 Key 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 across apps



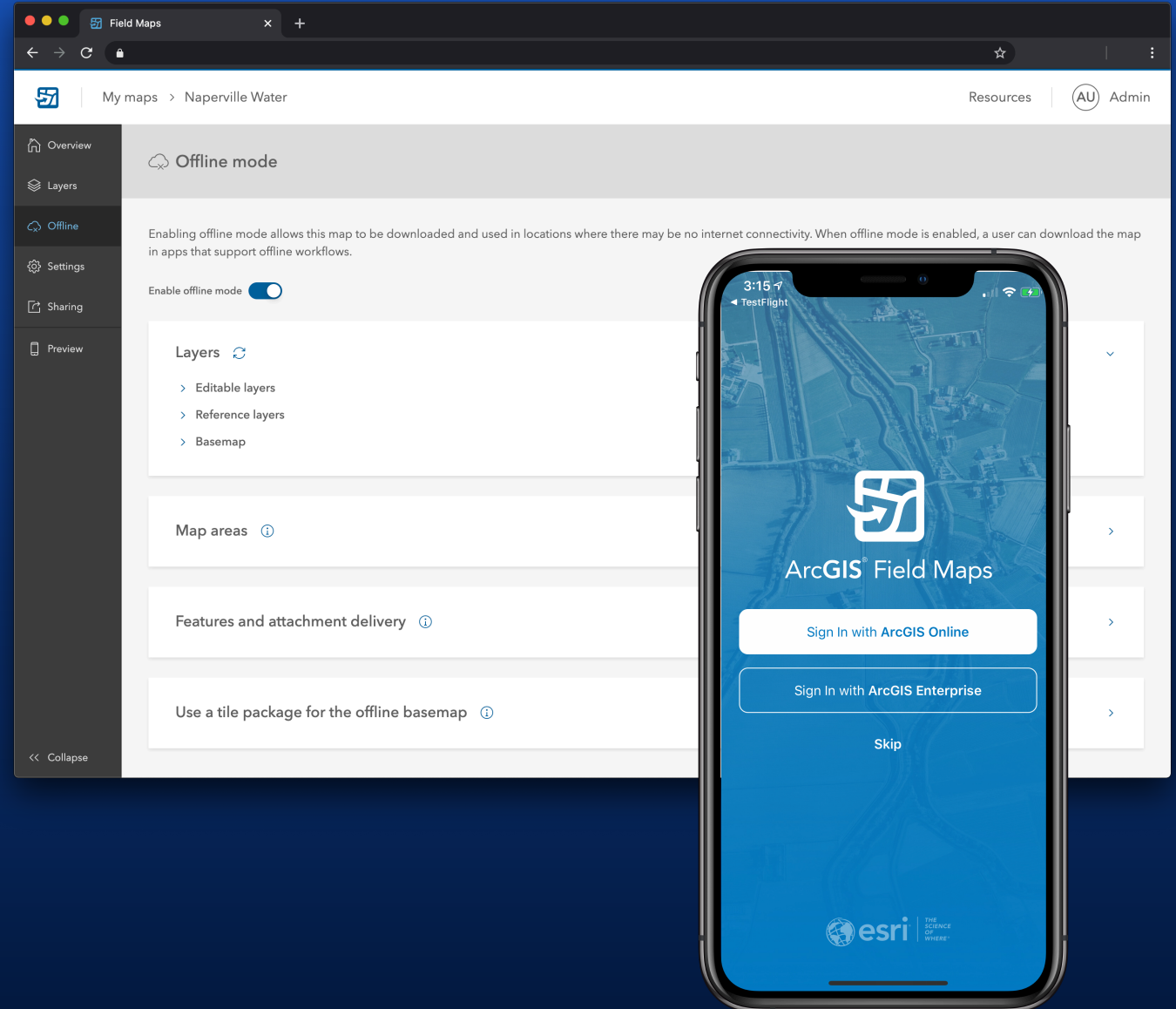
ArcGIS Field Maps

Full featured mobile app:

- View maps
- Collect and update data
- Record and share tracks
- Indoor mapping
- Receive and complete work assignments
- Turn-by-turn navigation

Back-office web app:

- Simplify map deployments
- Configure and deploy maps
- Manage offline content
- Create and preview smart forms
- Dispatch and manage work



* Coming in additional phases

Esri's premier maps app on iOS and Android devices.



ArcGIS Field Maps | Mobile app

Key capabilities (Fall 2020)

- Anonymous map use
 - Browse public maps and map packages
- Map viewing
 - View rich cartographic maps, update in real-time
 - Search location, addresses, features
- 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 for inspections
 - Enter required information, supports conditional visibility
- View, record and share location tracks
- Indoor mapping support







Field Maps requires iOS 13, Android 8 (API 26)

Field Maps | User Types and licensing

If you have a...

In Field Maps, you can...

- | | | |
|---|---|---|
|  | Field Worker, Creator, or GIS Pro named user | Perform inspections, create or update your asset inventory, add photos/attachments, and simplify multi-app workflows |
|  | Viewer named user | Achieve situational awareness workflows, view dynamic web maps, use offline maps, create markup |
|  | ArcGIS Tracker premium app license | Enable location tracking workflows, report your location in real-time, record a 'breadcrumb' trail of your location history |
|  | ArcGIS Collector app license | Create and edit GIS data from your mobile device with high accuracy, add attachments, work offline |





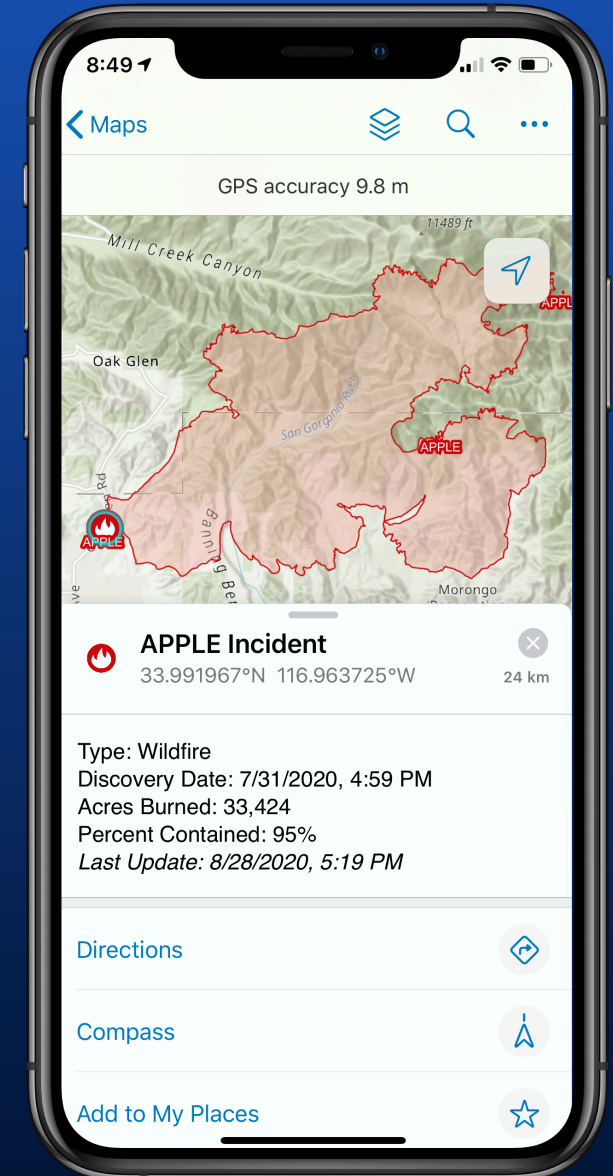
ArcGIS Field Maps | Map Viewing Capabilities

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 | Map Markup Capabilities

Markup Layers

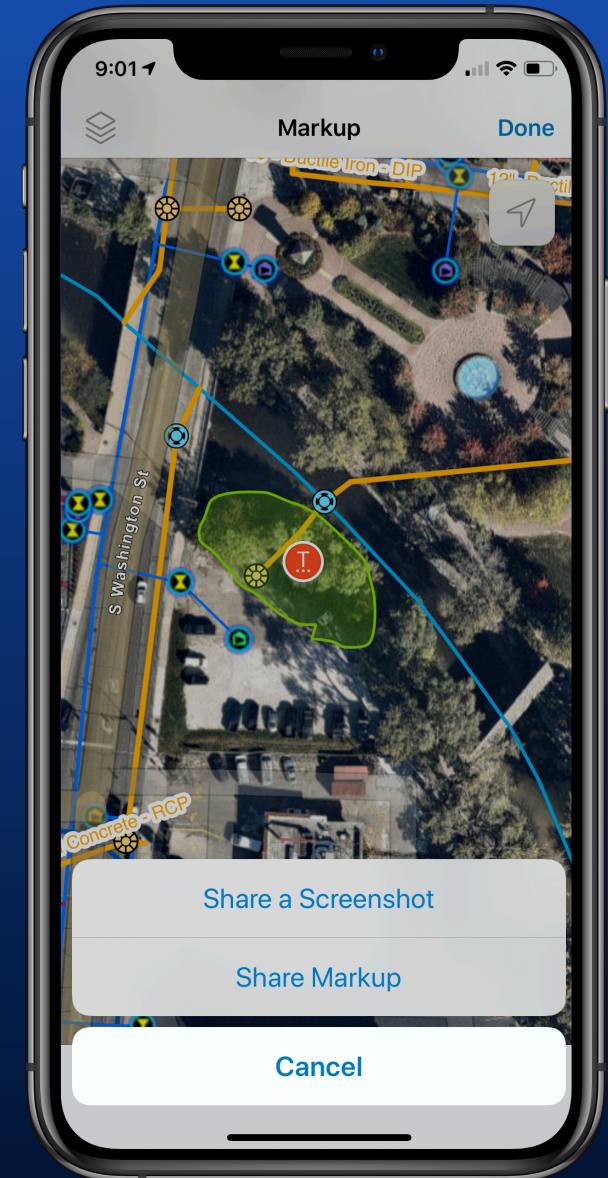
- Markers, lines, arrows, areas
 - Choose color
 - Label and note attributes
- Save markup in one or more layers
- Turn markup layers on/off with Layers tool

Markup Tool

- Place a marker
- Freehand sketch lines and areas
- Recognize shapes
- Move graphics

Share Markup

- OTA, by email, text message
- ArcGIS organization





ArcGIS Field Maps | 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 | 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

< Profile

Accuracy

Distance (centimeters) 5

Set required location accuracy for data collection.

Centimeters ✓

Meters

95% Confidence ☒

Report horizontal and vertical accuracy at a higher confidence level.

GPS Details

Updated Just Now

Provider R2, 5544S01871: Trimble

Altitude (HAE) 1,183.9 ft

Horizontal Accuracy (RMS) 0.6 in

Vertical Accuracy (RMS) 1 in

Fix Type RTK Fixed

Station ID --

Correction Age 1 sec

Satellites (Used/Visible) 13/31

Current Location Profile Esri base station

Correction Source NTRIP

Battery 52 %

< Profile

Streaming

Time

Distance ✓

Distance (meters) 3

Set how often to collect a new point while streaming.

GPS Averaging ☒

Points to Average 5

Set the number of points you would like to average.
Minimum number of points is 2.

Cancel Add Provider

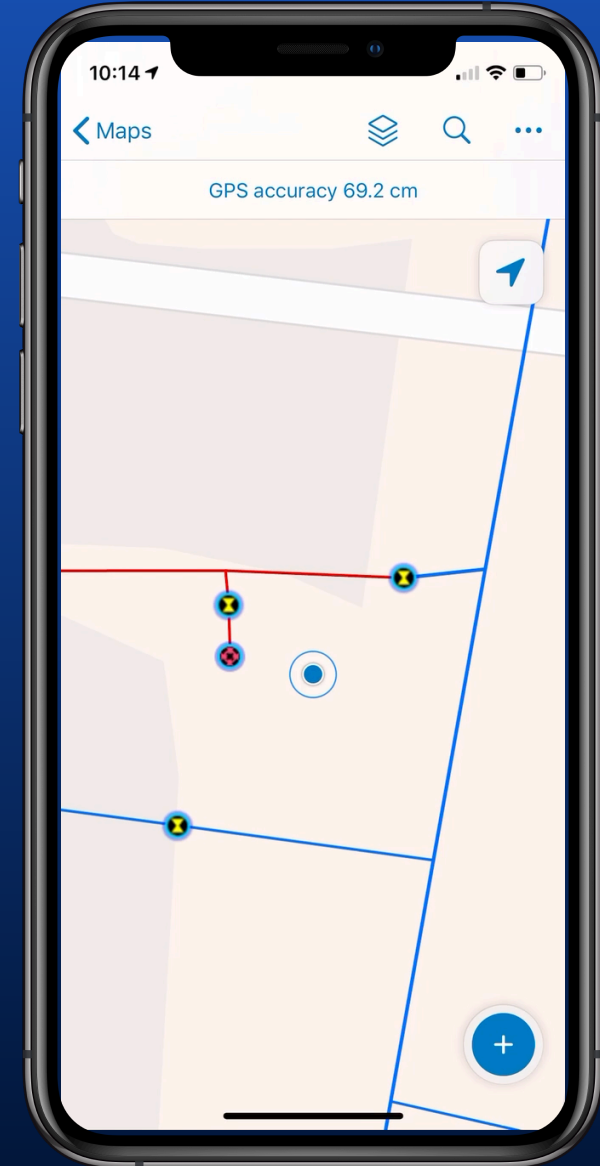
Bad Elf #145285 Add

To pair a new receiver to your device, go to
Bluetooth Settings.



ArcGIS Field Maps | Inspections

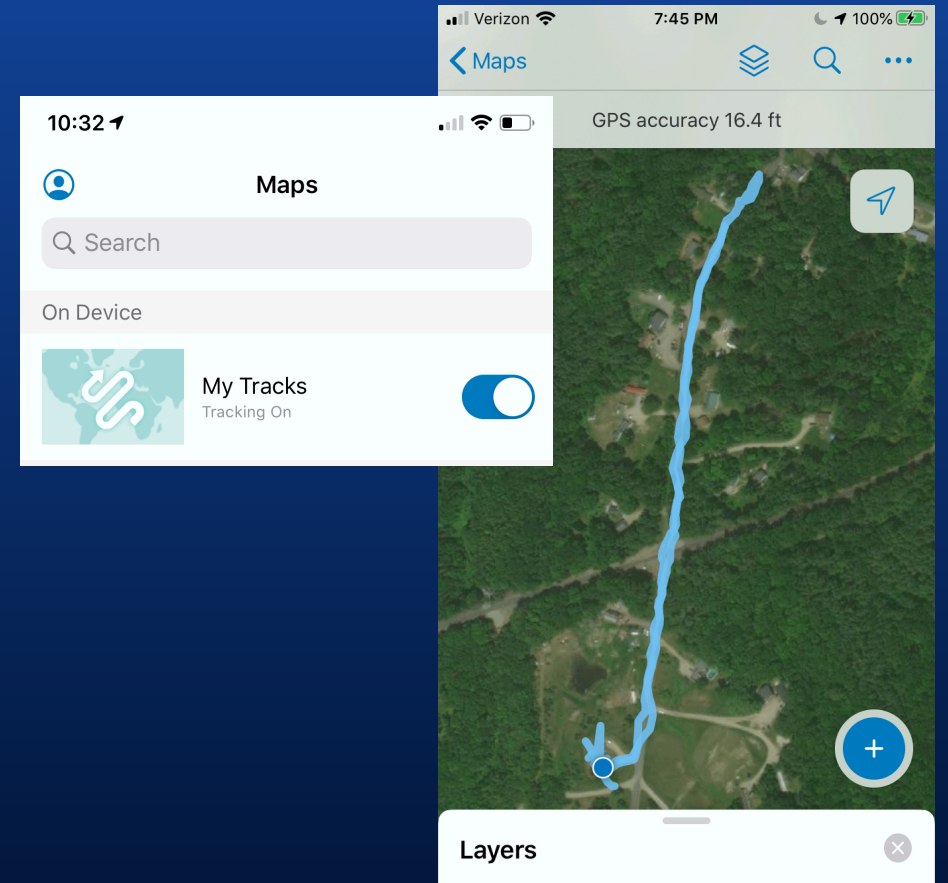
- Transaction model support
 - Non-versioned
 - Traditional versioning
 - Offline Branch versioning (10.8.1+)
- Historical inspections
 - Model using 1:M relationships
- Smart forms capability
 - Organize attributes
 - Conditional visibility
 - Pick lists
 - Required fields





ArcGIS Field Maps | Location Tracking

- Supports Viewer user type + ArcGIS Tracker license
- Special map card to turn tracking on/off from maps screen
 - Open map card for advanced viewing capabilities
- Battery savings location tracking capability
- Switch available on the GPS bar
- View location tracks in any map (iOS/Android)
 - Turn tracks layer on/off





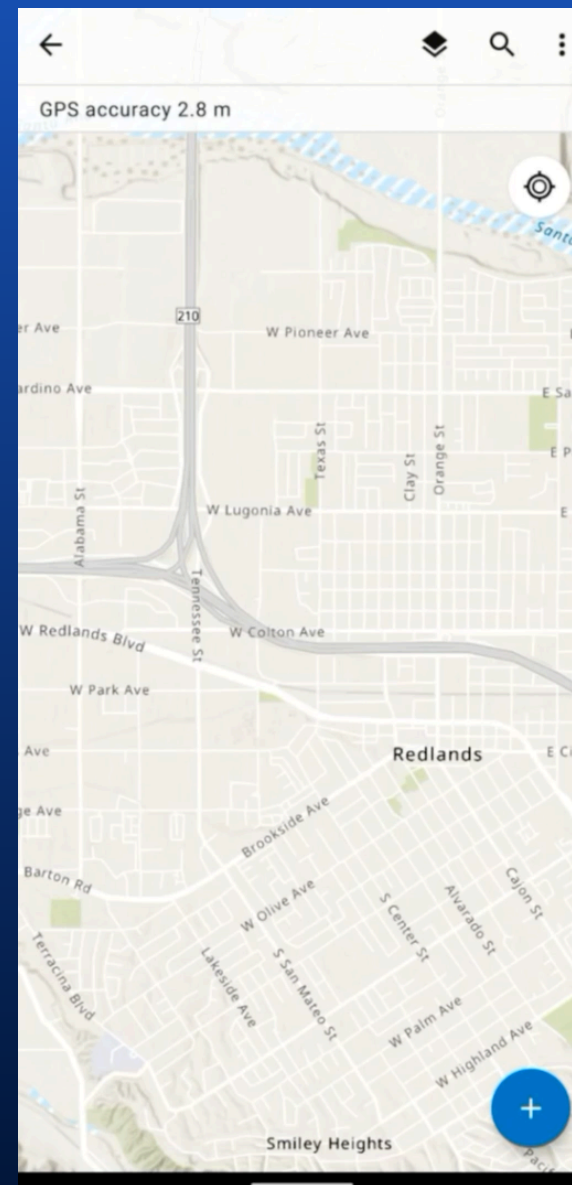
ArcGIS Field Maps | Indoor Mapping

ArcGIS Field Maps supports the Indoors information model

- Map packages
- Web maps
- Floor picker and floor panel
 - Available when Facilities, Levels layers are present in the map

Sites	Facilities	Levels	Units
SITE_ID	FACILITY_ID	LEVEL_ID	UNIT_ID
	SITE_ID	FACILITY_ID NAME VERTICAL_ORDER	LEVEL_ID NAME

- Additional web feature layers that conform to the model will be filtered as well.
 - Including editable feature layers





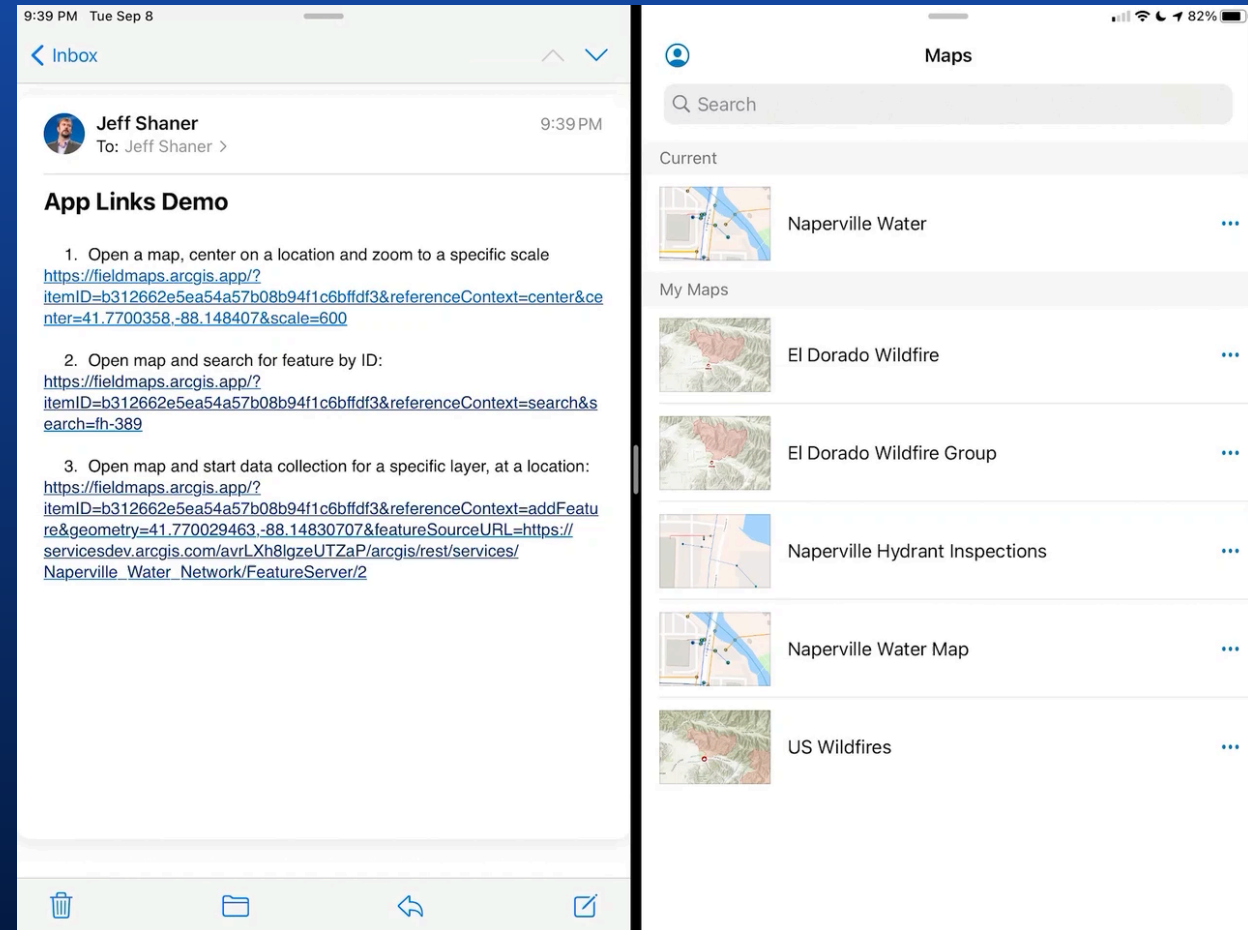
ArcGIS Field Maps | Universal App Links

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



<https://fieldmaps.arcgis.app/>



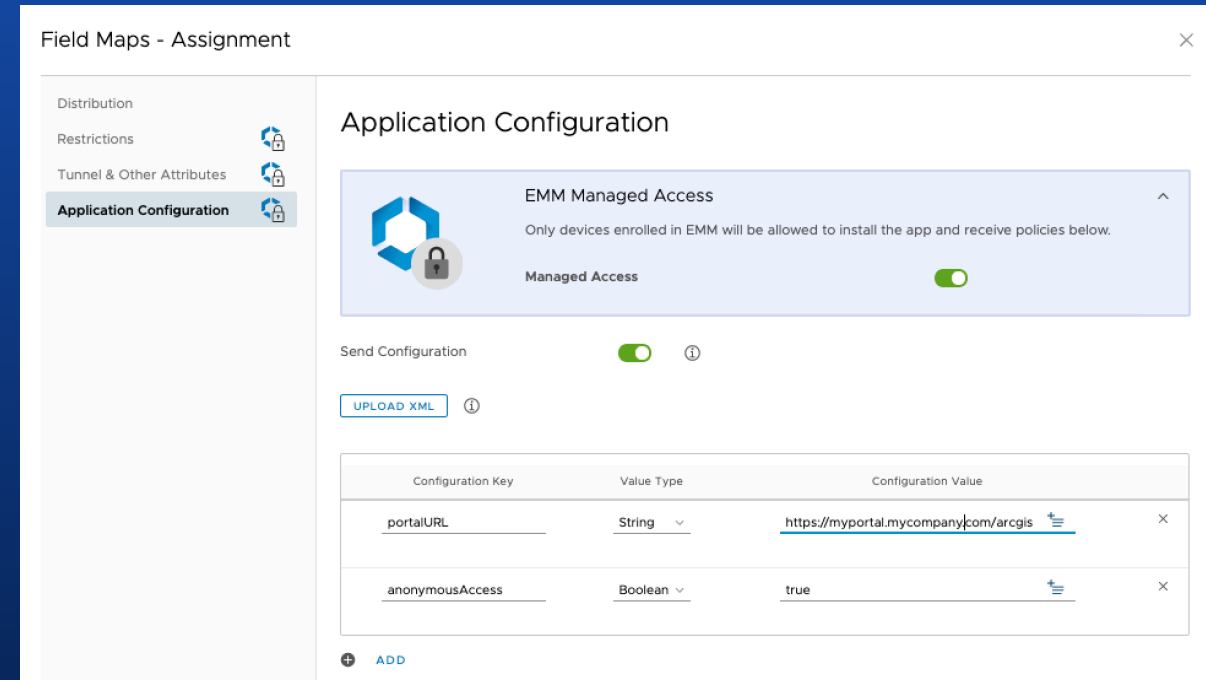
ArcGIS Field Maps | Mobile Device Management

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





ArcGIS Field Maps | Mobile App functionality

Functionality	Beta 1	Beta 2	Final
Sign into ArcGIS Online (all user types)	x		
Sign into ArcGIS Enterprise (10.6.1+)	x		
Use read-only web maps	x		
Use editable web maps	x		
Use mobile map packages	x		
Download pre-defined, on-demand offline areas	x		
Use app links to integrate with other apps	x		
Mark up maps	x		
Use markup in editable maps	x		
Capture and update points, lines, areas	x		
Add and update related records	x		
External GNSS receiver support (other)	x		
Use External GNSS receivers with read-only maps	x		
Direct GNSS receiver support (Trimble)		x	
Smart Forms: work with required fields		x	
Smart Forms: use conditional form logic		x	
Smart Forms: Work with groups in the form		x	
Location tracking		x	x
Indoor mapping			x

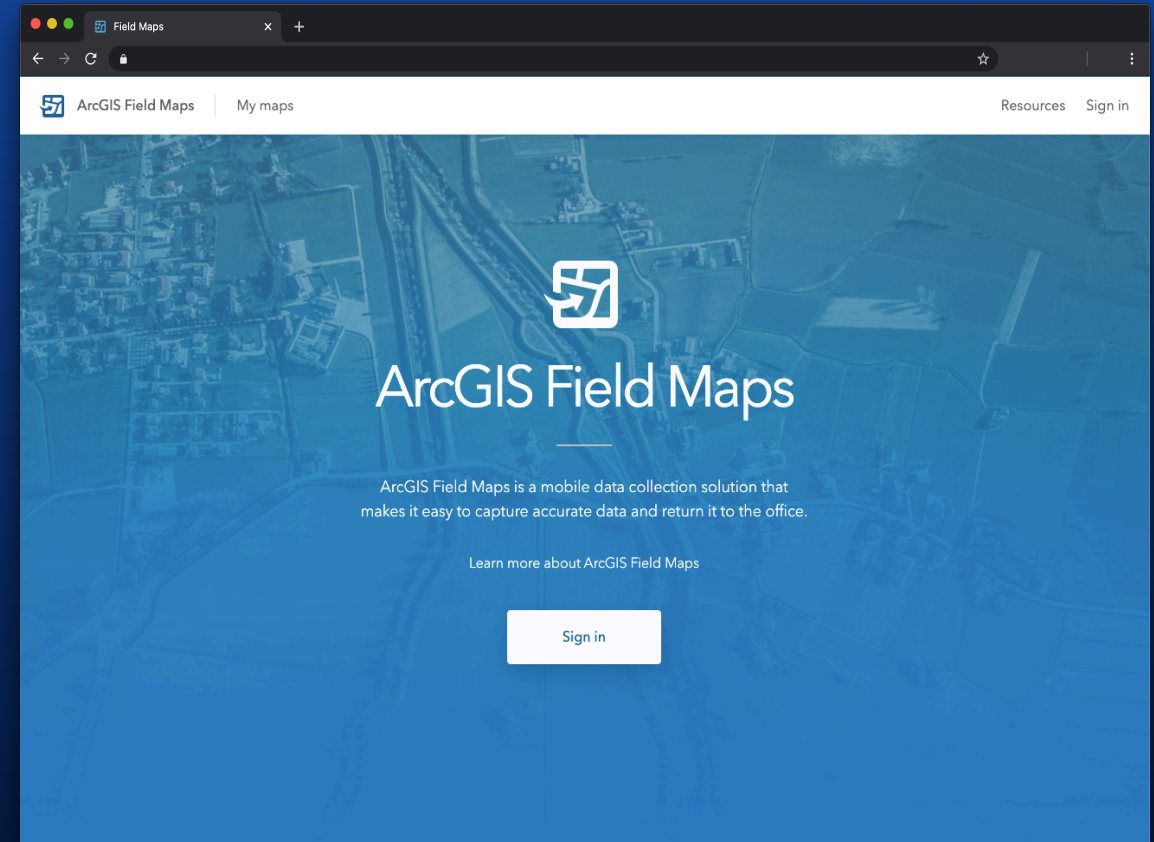
Location tracking will not be functionally equivalent with ArcGIS Tracker



ArcGIS Field Maps | Web app

Key capabilities (Dec 2020)

- Integrated into App Launcher
- Centralized experience for deploying maps
- Configure map layer capabilities
 - Manage templates and default values
 - Create smart forms
- Manage offline capabilities
 - Quickly configure settings
 - Manage offline map areas
 - Configure download and sync settings
- Preview forms
- Share and deploy maps





ArcGIS Field Maps | Feature Templates

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

The screenshot displays the ArcGIS Field Maps interface for a map titled 'El Dorado Fire - Templates' under the 'Damage Assessments' layer. The 'Templates' tab is active, showing a list of feature templates. Each template includes a symbol, a name, and a description. The templates listed are:

- Destroyed (>75%)
- No Damage
- Superficial Damage (1-9%)
- Minor Damage (10-25%)
- Moderate Damage (26-50%)
- Major Damage (51-75%)

A blue arrow points to the 'Minor Damage (10-25%)' template. Another blue arrow points to a dropdown menu that lists the same damage assessment categories. The 'Properties' panel on the right shows the 'Formatting' section with fields for 'Display name' and 'Description'. The 'Default Values' section is also visible, showing a 'Find Attributes' search bar and a 'Review Status' dropdown menu.



ArcGIS Field Maps | Smart Forms

Smart forms

- New way to create and edit attributes
- Included in the [web map specification](#)
- Simplifies field editing experience

Key capabilities

- Convert pop-ups to forms
- Organize Attributes using groups
- Qualify required fields
- Apply conditional visibility to fields using Arcade expressions

The screenshot displays the ArcGIS Field Maps web interface for a 'Hydrant Inspections' form. The interface is divided into three main sections: 'Layers' on the left, the 'Form' in the center, and 'Properties' on the right. The 'Layers' panel shows a list of layers including 'Hydrants'. The 'Form' panel is titled 'Hydrant Inspections' and contains several input fields organized into sections: 'Inspection Information' (Inspector, Inspection Date Time), 'Hydrant Flush' (Flush Required, Pressure (PSI), Flow Duration, Flow Rate), and 'Hydrant Maintenance Inspection' (Paint Required, Lubrication Required, Chains Required, Greased). The 'Properties' panel on the right shows 'Formatting' and 'Conditional visibility' options. A smartphone on the right displays the mobile version of the form, titled 'Hydrant Inspection Number:', with sections for 'INSPECTION INFORMATION', 'HYDRANT FLUSH', and 'HYDRANT MAINTENANCE INSPECTION'.

Much more to come in future phased releases...



ArcGIS Field Maps | Offline Capabilities

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 image displays several screenshots of the ArcGIS Field Maps application interface, illustrating the settings for offline map capabilities.

Enable offline mode: A toggle switch is shown in the 'On' position.

Layers: A list of layers is displayed, including 'Editable layers', 'Reference layers', and 'Basemap'. A red message indicates: 'A layer in this map needs to be updated to enable offline mode'. Under 'Reference layers', 'Fire Perimeter' is listed with a red 'X' and the text 'Sync is not enabled.'.

Manage areas: A map view shows a terrain map with a red polygon area labeled 'EL DORADO'. A sidebar on the left lists 'Map Areas' with a search filter and a 'Create new area' button. Below this, two areas are listed: 'Forest Falls' (116.7 MB) and 'Oak Glenn' (121.9 MB).

Features and attachment delivery: A settings panel shows options for 'Editable features' and 'Read-only features'. For both, the selected option is 'Device will download and get updates to features and attachments.'.

Use a tile package for the offline basemap: A settings panel shows two options: 'Device will use the basemap defined by the web map.' (selected) and 'Device will use a tile package it already has.' Below this, a text field contains 'VectorTopo.vtpk' and a note says 'Enter the filename of the package on your device.'



ArcGIS Field Maps | Web App functionality

Functionality	Beta 1	Beta 2	Final
Integration with App Launcher (ArcGIS Online)	x		
Integration with ArcGIS Enterprise (10.8.1+)			x
Browse web maps you own	x		
Overview tab (edit name and summary)	x		
Sharing (maps and layers)	x		
Offline layer settings – enable sync	x		
Offline layer settings – access item details	x		
Offline layer settings – open web map	x		
Offline map settings – download settings	x		
Offline map settings – using tile packages	x		
Create offline map areas	x		
Re-order feature templates	x		
Duplicate feature templates	x		
Rename feature templates	x		
Configure default values	x		
Smart forms – add groups		x	
Smart forms – organize attributes		x	
Smart forms – conditional visibility (Arcade)			x
Preview maps/forms			x



ArcGIS Field Maps | Phase 1 Release

• Schedule

- Field Maps Mobile App Final release (**Fall 2020**)
 - Mobile app only release in late October
 - Web app will remain in beta until December
 - Supported with ArcGIS Enterprise 10.6.1+
- Will include the capabilities of:



Collector



Explorer



Tracker

- Field Maps Web App Final release (Dec 2020)
 - Simplify field deployments
 - Smart forms capability officially released



Questions

