

ArcGIS Field Maps: Data Collection & Inspection Workflows

Kevin Burke, Carol Ghostine

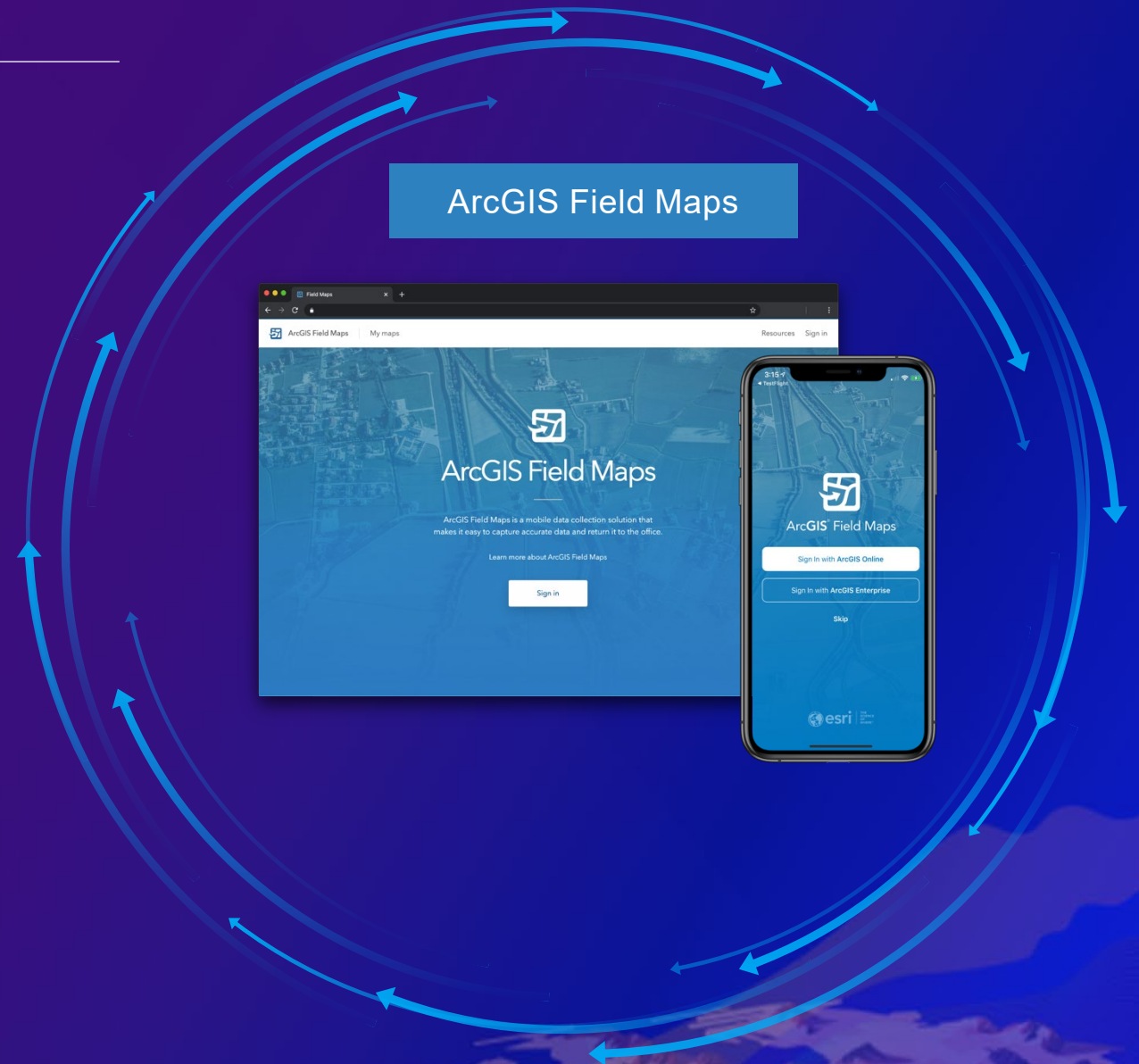


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Where we're going

- Overview of Field Maps
- Methods for capturing assets
- Performing asset inspections
- High accuracy data collection
- Additional resources
- Q & A





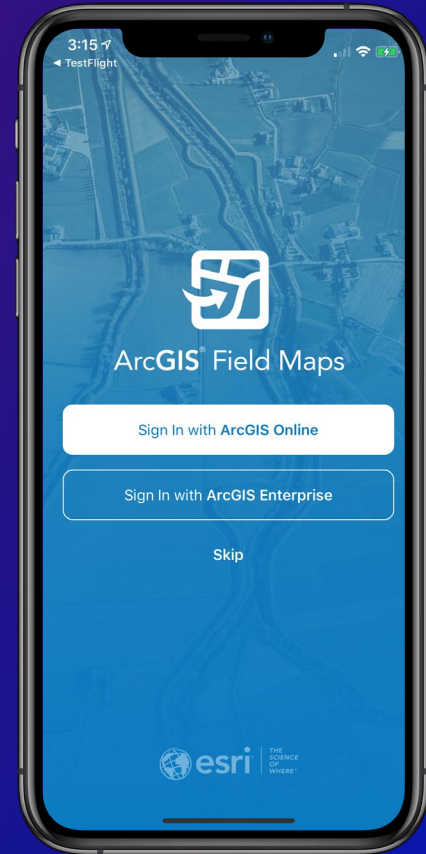
ArcGIS Field Maps | Introducing Field Maps Mobile app

Requirements

- iOS 13.5 & Android 8 (API 26)

Capabilities

- Map viewing
- Robust **smart form** editing for inspections
 - Simplified form management, conditional visibility, required fields
- High accuracy data collection
- Indoor mapping
- Map markup
- Record and share tracks



View



Collect

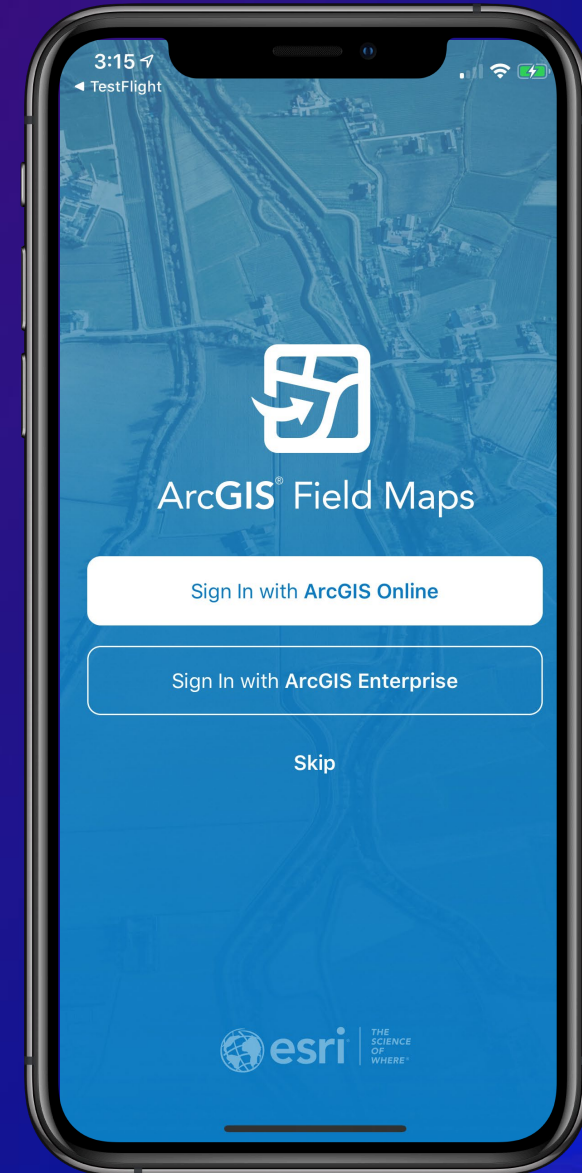
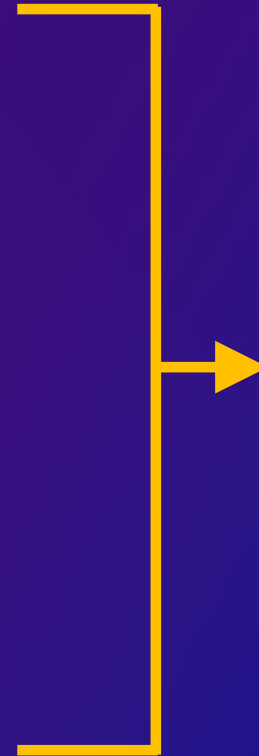


Track



ArcGIS Field Maps | Key Benefits

- Single app to deploy and learn
- Sign in to ArcGIS only once
- Eliminate duplication of offline content
- Consistent user experience
- Improved feature deployment



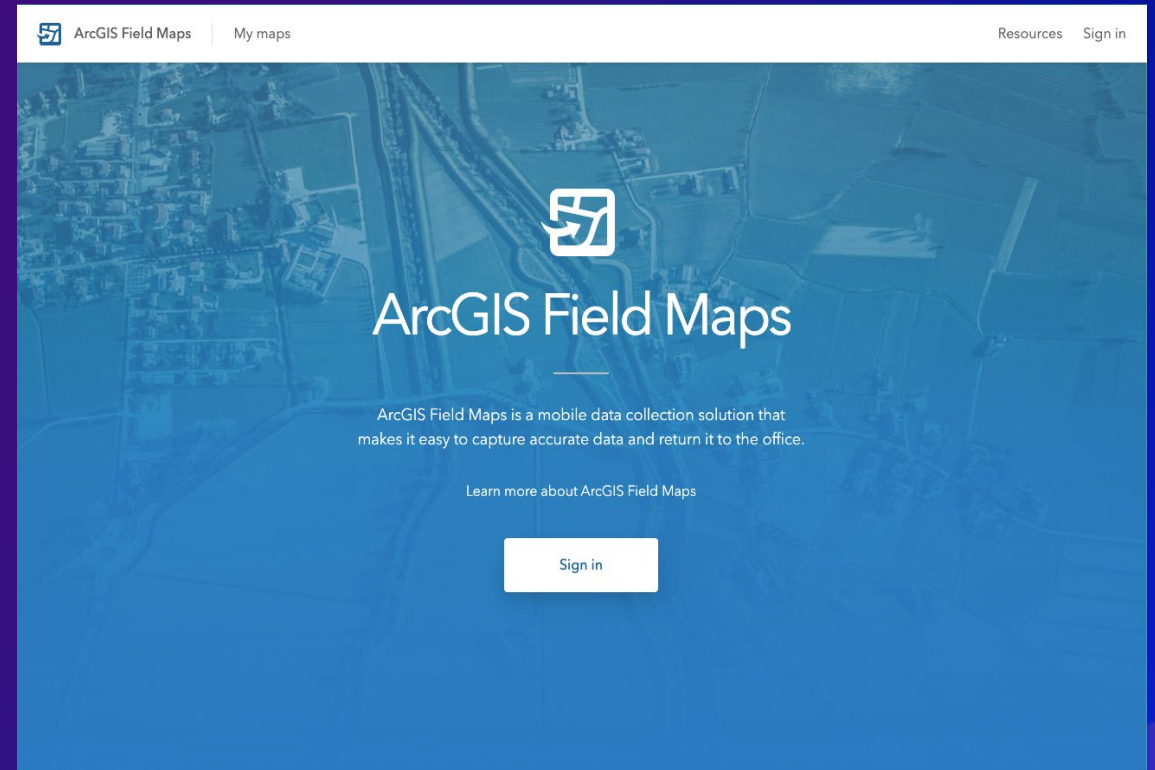
ArcGIS Field Maps | Introducing Field Maps Web app

Requirements

- ArcGIS Online or ArcGIS Enterprise 10.8.1+
- Create privilege required
- Maps

Capabilities

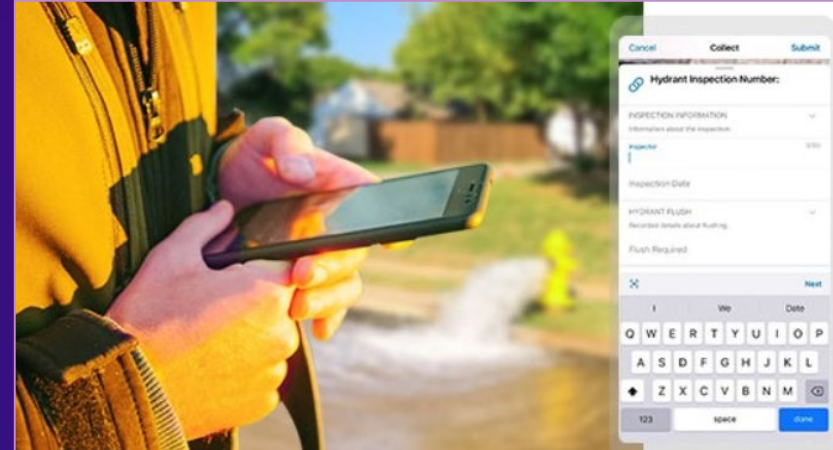
- Configure map properties
- Configure your content (layers, tables)
- Manage offline experience
- Share and deploy maps



ArcGIS Field Maps | Workflows and Use cases



Capture assets and observations



Hydrant Inspections

Capture Assets and Observations

- New Feature inspection
- Improve accuracy of data
- Modernize field workflows



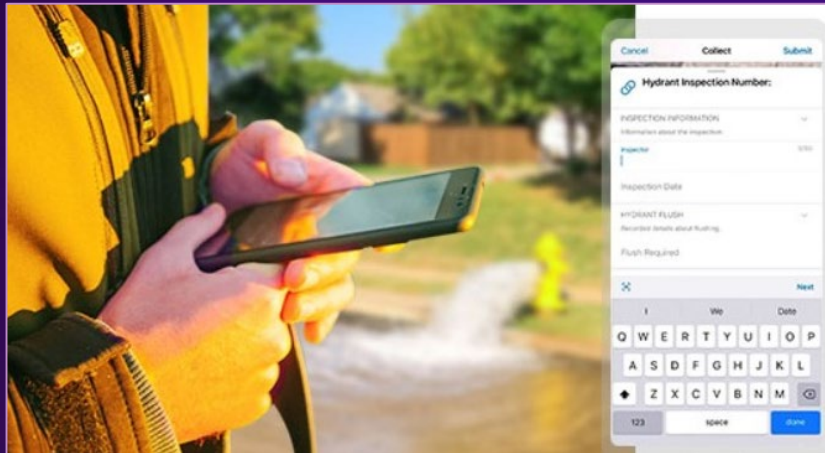
Sign Inventory



Hydrants Collections

Perform Inspections

- Field inspections (update attributes on existing features)
- Historical, tabular inspections (model using 1:M relationships)



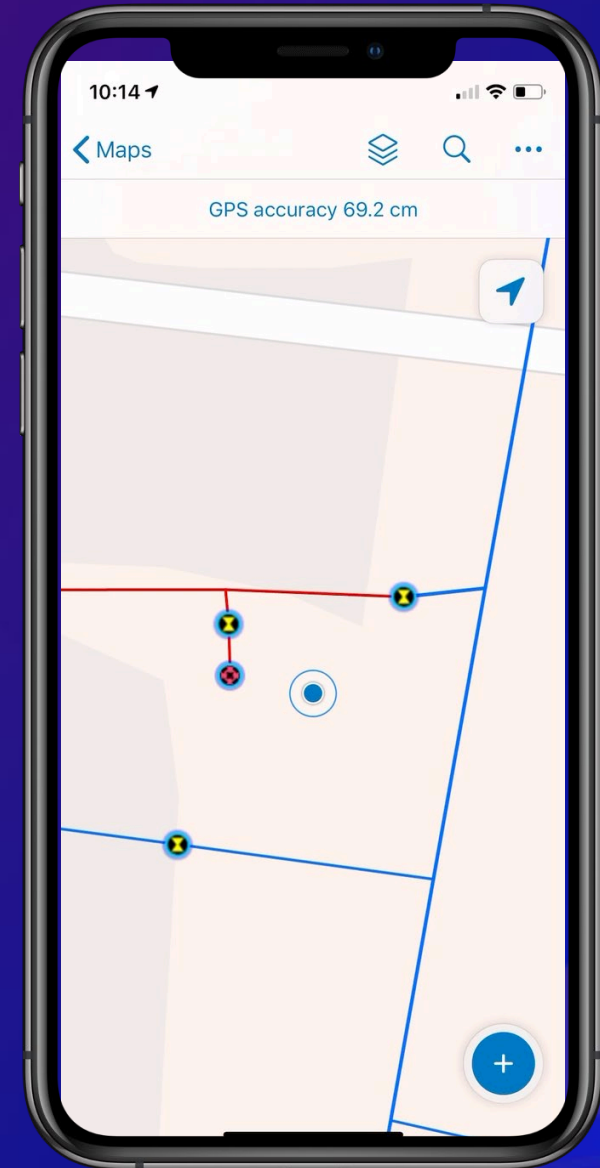
Hydrant Inspections



Pipeline Operations

Supported Editable Data

- Feature services hosted in:
 - ArcGIS Online
 - ArcGIS Enterprise 10.5+
 - Portal for ArcGIS 10.4.1 or earlier
 - ArcGIS Server
- Transaction model support
 - Non-versioned
 - Traditional versioning
 - Offline Branch versioning (10.8.1+)



The background features a vibrant, abstract composition. On the left, there are layered, wavy shapes in shades of blue, purple, and pink. On the right, a stylized mountain range is depicted in warm tones of orange, red, and yellow, with a prominent yellow arc curving over it. The overall aesthetic is modern and digital.

Methods for Capturing Assets

Configuring Data for Asset Collection

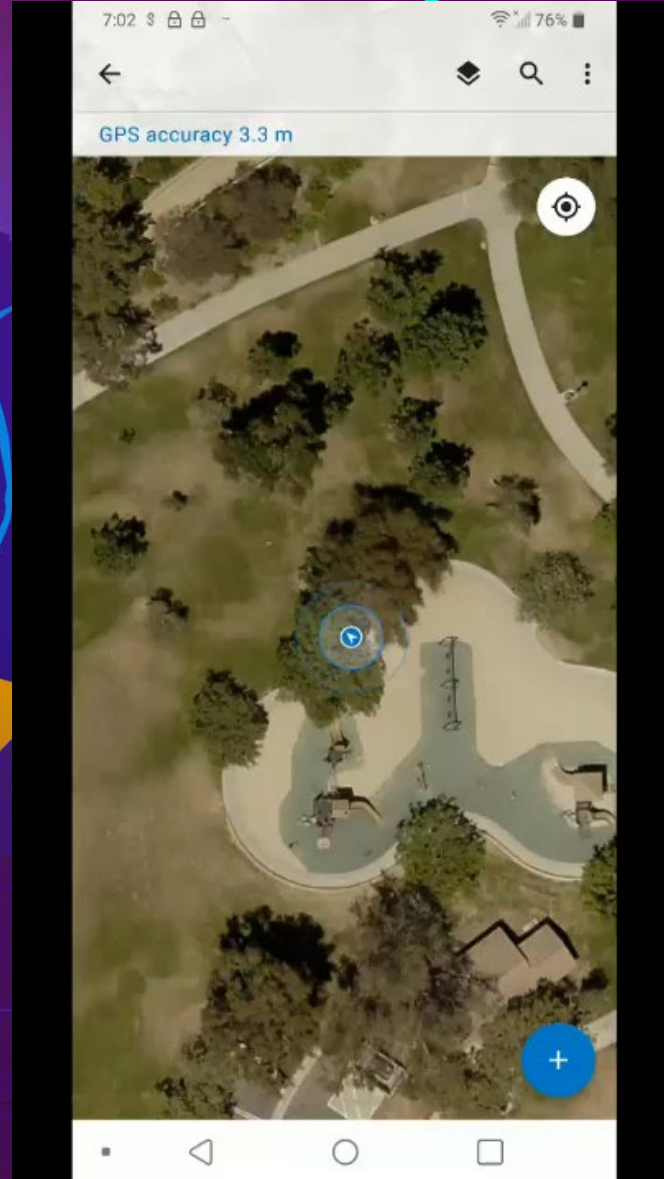
The screenshot displays a web-based map application titled "Park Asset Inventory". The interface includes a top navigation bar with a menu icon, the title, a link to "Open in Map Viewer Classic", a notification bell, a user profile for "Kevin Burke" (kburke_Nitro), and a search icon. On the left, a "Layers" panel is visible, listing "Amenities", "Paths", and "Areas", with an "Add layer" button below. The main map area shows a satellite view of a residential and commercial area in Rancho Cucamonga. Overlaid on the map are several asset layers: a large green area labeled "Rancho Cucamonga Central Park", a red-outlined area labeled "Jungo Hills Senior Center (50+)", and a red-outlined area labeled "Jungo Hills Senior Center (55+) Lower Community Center". The map also features a vertical toolbar on the right with various navigation and tool icons, and a bottom toolbar with zoom and home controls. The footer of the map indicates "Maxar | City of Rancho Cucamonga, Esri, HERE, Garmin, IPC" and "Powered by Esri".



Setup | Overall Map Configuration

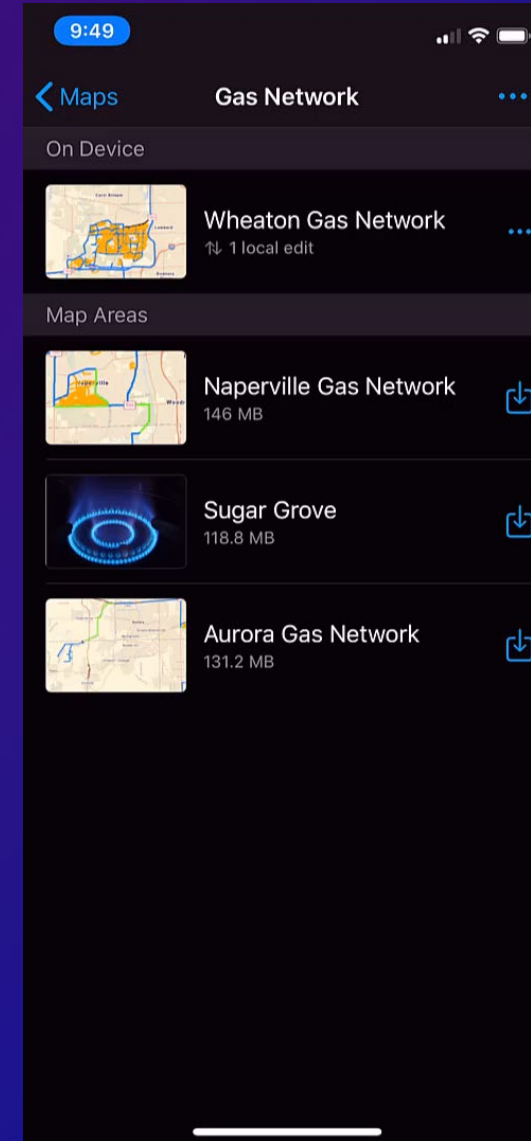
- Use the Field Maps web app to:
 - Configure smart forms for layers and tables
 - Specify default values for editing templates
 - Configure map settings
 - Generate offline map areas
 - Share maps with groups and generate QR codes
 - Etc.
- Available in ArcGIS Online and ArcGIS Enterprise 10.8.1+.

Capturing Assets in the Field



Asset Collection | Barcode Scanning

- Scan QR/Barcode data into fields within the form:
[Extracting information from the barcode with Arcade](#)



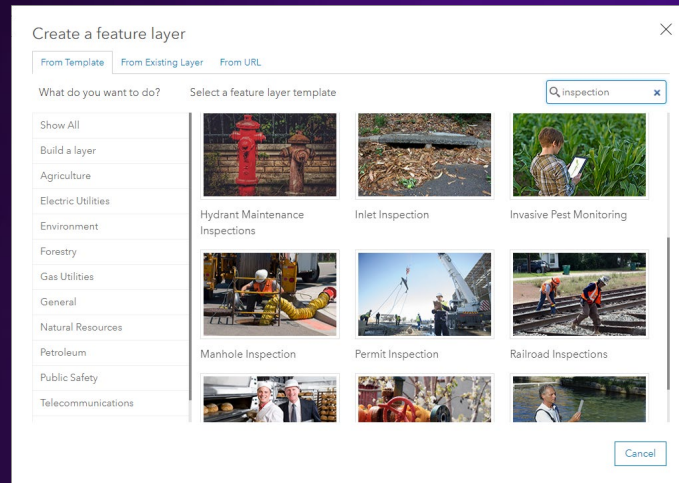
Performing Asset Inspections

The background features a vibrant, abstract design. It consists of several overlapping, wavy shapes in shades of purple, pink, and orange. A prominent yellow arc curves across the right side of the image. The overall aesthetic is modern and dynamic.

How to get started?

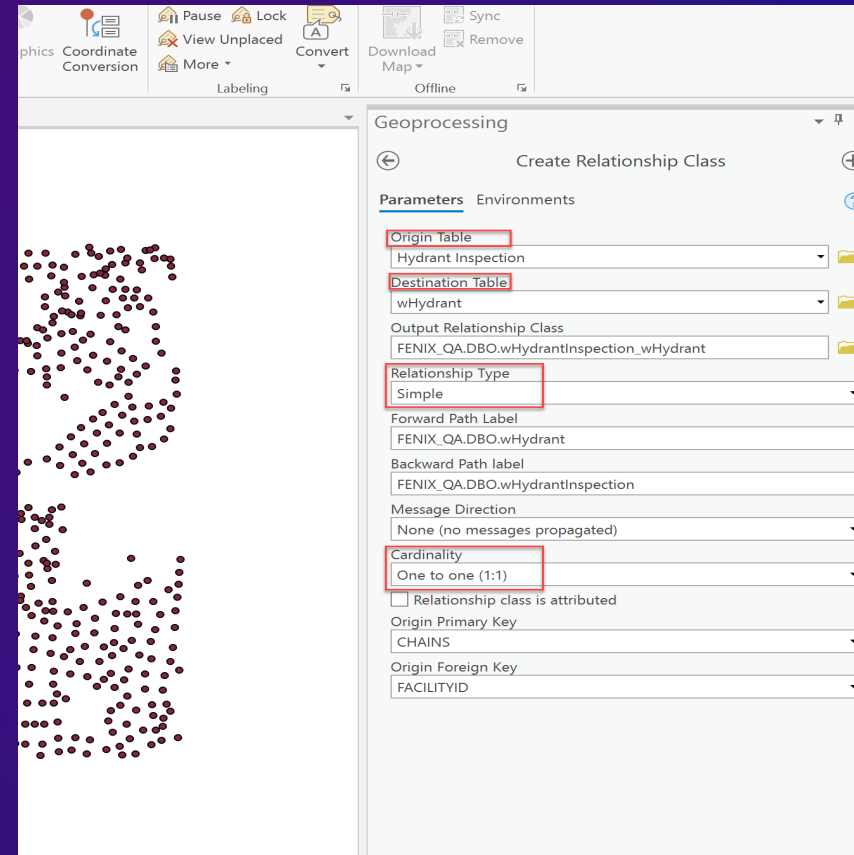
1. Feature template

i.e. Hydrant Maintenance Inspections



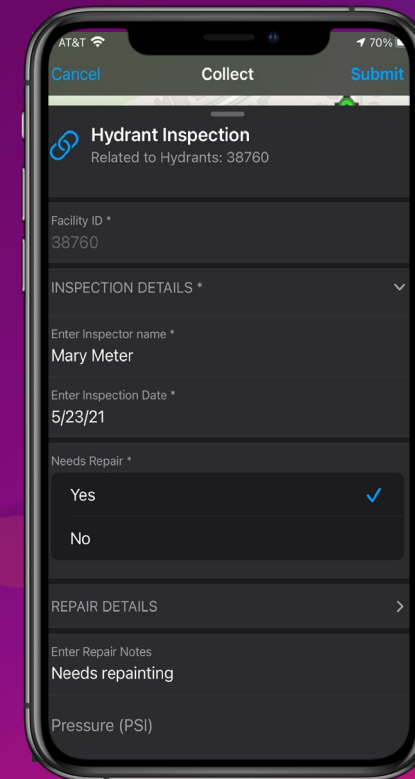
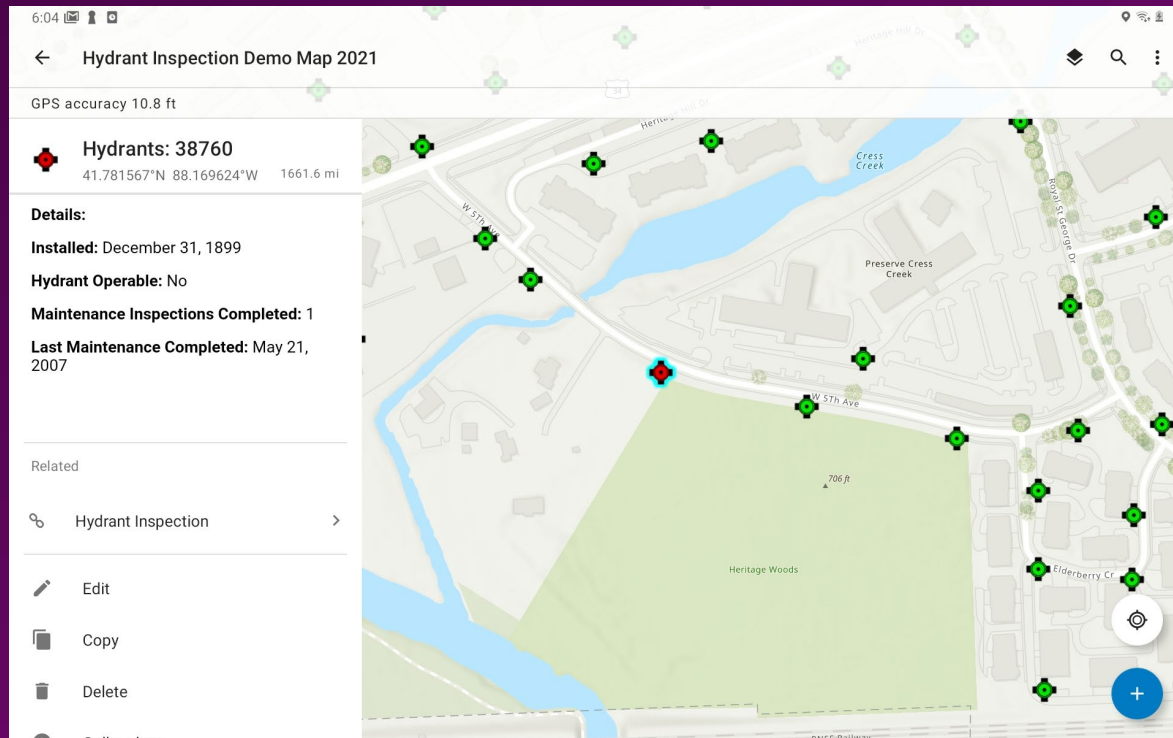
2. Create own relationship class

in ArcGIS Pro



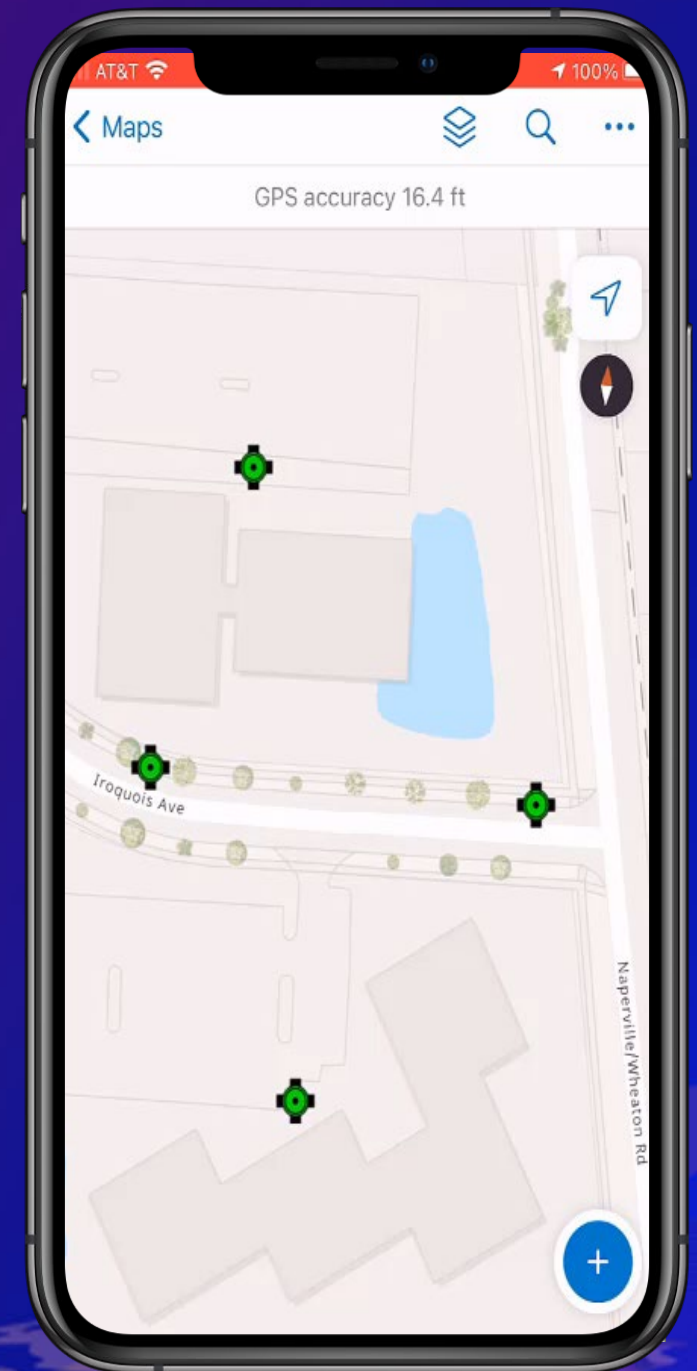
Relationships overview

Data collection and Inspection demo



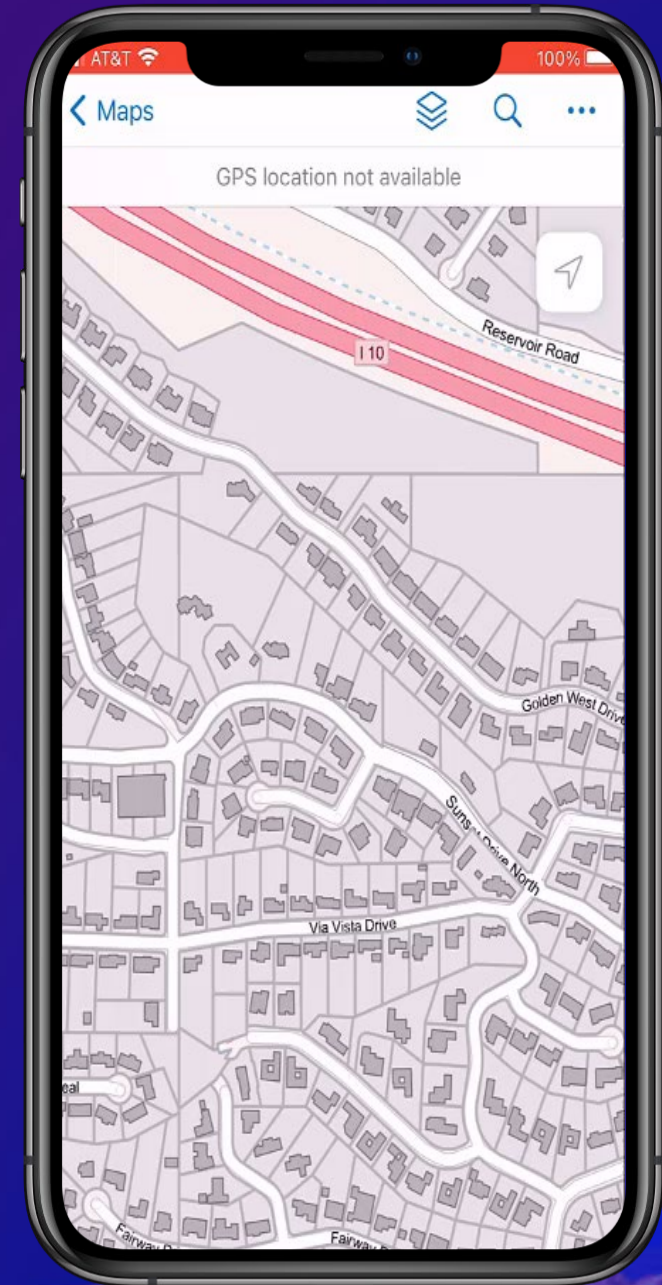
ArcGIS Field Maps Asset Inspections

- Includes all capabilities in Collector
- Perform inspections, create or update asset inventory
- Form support – Groups, Required Fields and Conditional visibility
- Use Copy and Recent Values to improve data collection efficiency



Editing multiple features simultaneously

- Good for inspection workflows where existing asset or observation is updated.
- Update attribute information for several features at once
 - One layer at a time
 - Two or more features





Using High Accuracy GNSS Receivers

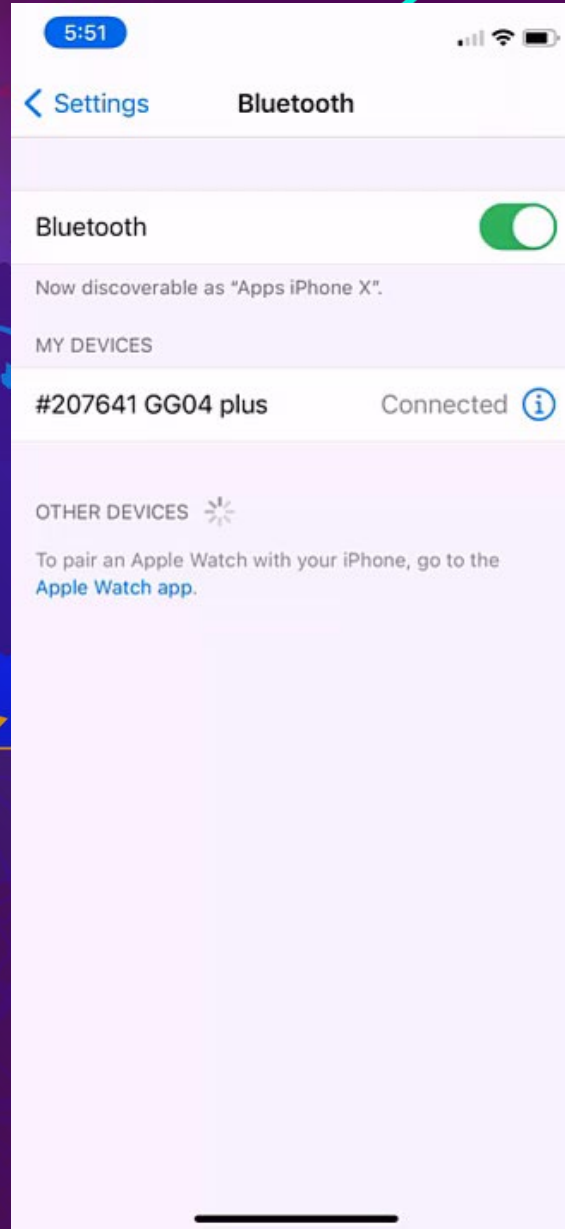


Using GNSS Receivers | Introduction

- Easy to setup and use
 - Set up receiver with Location Provider
 - Refine collection with Location Profile
- Supports a wide range of receivers to achieve your accuracy needs
- Efficient processing on the fly
- Confident with GPS metadata for individual assets



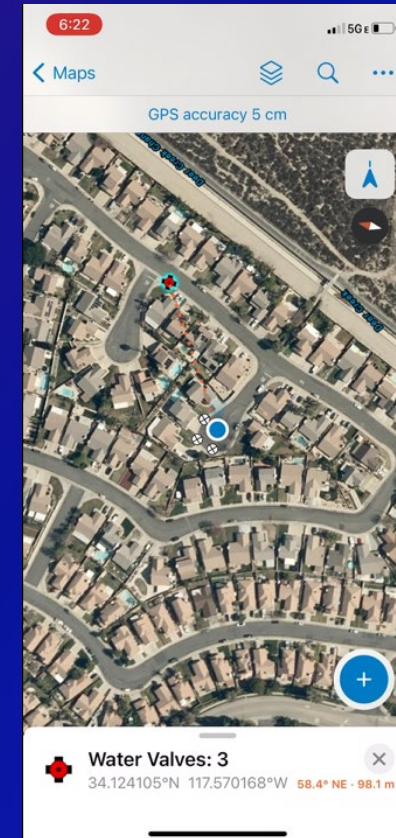
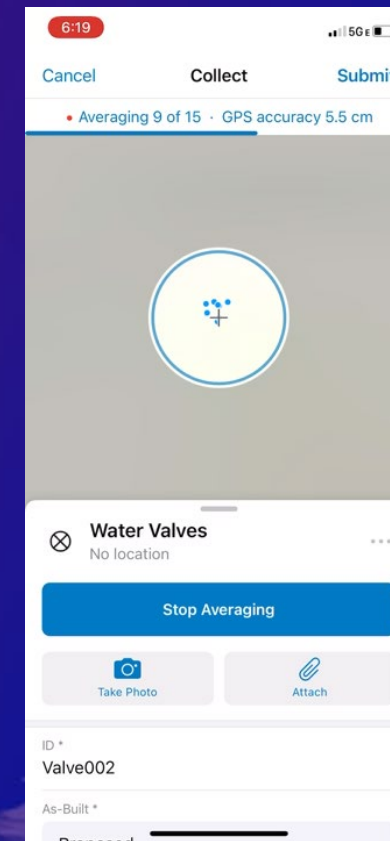
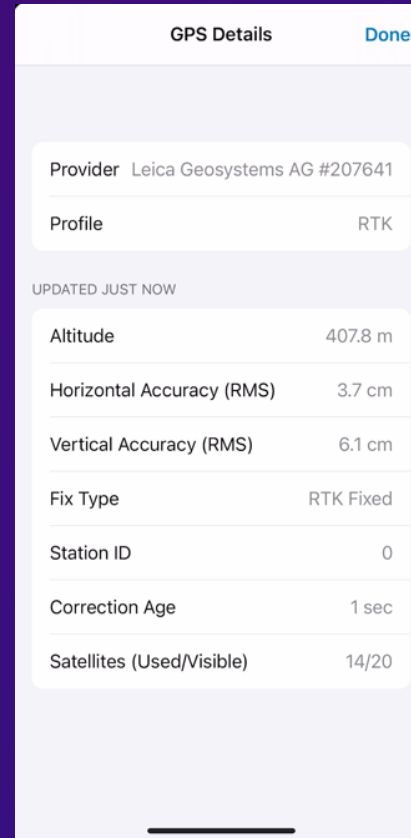
High Accuracy Data Collection





Receiver Usage | Map Tools

- GPS Details
 - Useful for troubleshooting
- Basemap overzoom
 - Zoom in beyond minimum scale range (resampled)
- Compass Mode
 - Navigate from your current GPS location to an existing feature or proposed location of new feature.



Store Receiver Info | GNSS Metadata

- GPS Metadata fields

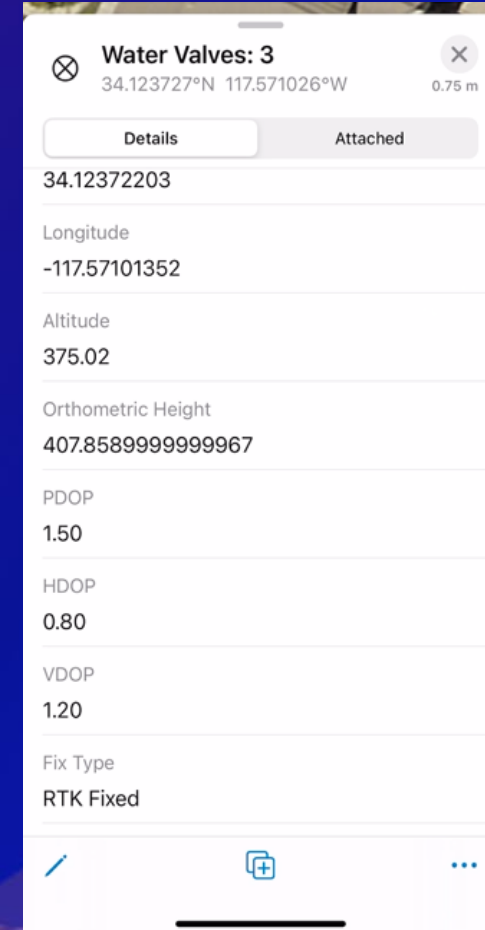
- Stores the raw GNSS measurements from the GPS receiver. (Points Only)
- Useful for performing further data analysis and for performing QA/QC on the field measurements
- The fields can be created several ways:
- 'Add GPS Metadata Fields' tool using ArcGIS Pro
- When creating new feature layers through AGOL or ArcGIS Enterprise using a template and checking the box for 'Capture GPS receiver information'.
- Python scripts available in the collector-tools GitHub repo.

- Orthometric Height (Z-value) - Arcade Expression

- Popup Expression = `Geometry($feature).z`

Position source type**
Receiver Name
Latitude
Longitude
Altitude
Horizontal Accuracy
Vertical Accuracy
Fix Time
Fix Type
Correction Age
Station ID
Number of Satellites
PDOP
HDOP
VDOP
Direction of travel**
Speed**
Compass reading**
Average Horizontal Accuracy*
Average Vertical Accuracy*
Number of positions averaged*
Standard Deviation*

*Only when using Averaging
**Recently Added



Additional Resources



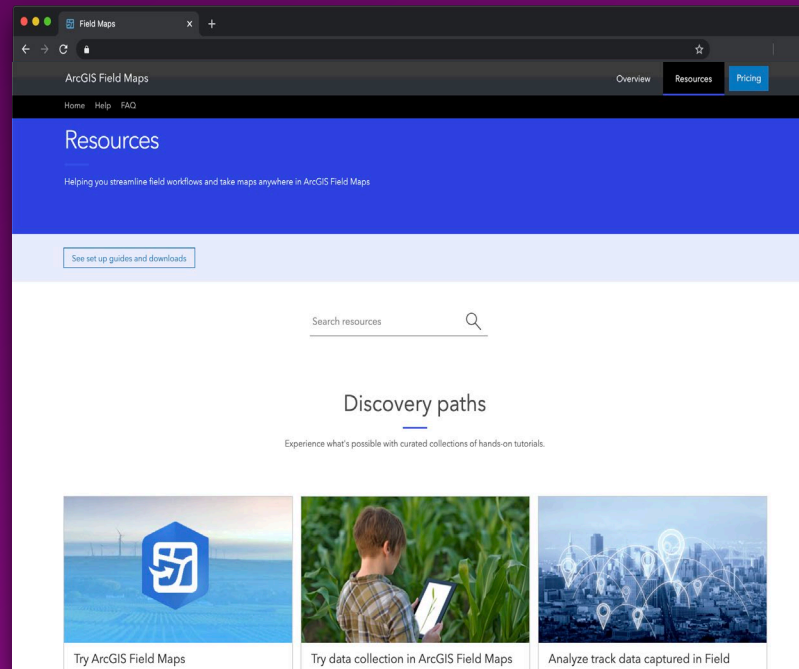
Product Page



Resource Page



Blog Articles



Feedback? Email ArcGISFieldMaps@esri.com





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The background is a vibrant, abstract composition. It features large, flowing shapes in shades of blue, purple, pink, and orange. A prominent feature is a wireframe globe in the center, rendered in a light blue color. The overall aesthetic is modern and digital.

Please provide your feedback for this session by clicking on the session survey link directly below the video.