

# Survey123 for ArcGIS: An Introduction

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# Forms

a printed or typed document with blank spaces for insertion of required information

The image shows two overlapping survey forms. The top form, titled "Getting To Know You Survey", is a personality or interest assessment. It includes a header with contact information for "Digital Advanced Control" and a "Directions" section. The main body consists of a list of statements on the left and a grid of checkboxes on the right, with columns labeled "Never", "Sometimes", "Often", and "Always". The bottom form, titled "Digital Advanced Control Light Controller Survey Form", is a more technical survey. It includes a header with contact information and a grid for recording responses to various statements related to light controller usage.

# Many Industries

Forestry

Public Safety

Government

Health

Transportation

Utilities

Emergency Management

# Many Needs

Incident Reports

Damage Assessments

Inspections

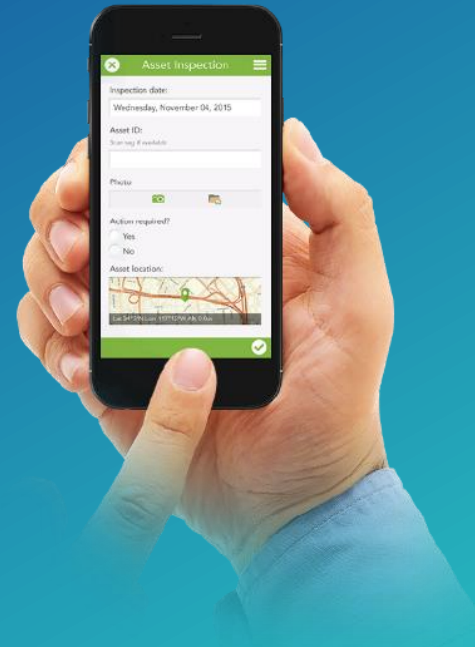
Asset Inventories

Interviews

# Smart Forms for ArcGIS

Easily convert paper forms into Digital Smart ArcGIS Forms

The image shows two overlapping paper forms. The top form is a 'Digital Asset Inspection Checklist' with various checkboxes and fields. The bottom form is titled 'Getting to Know Your Survey' and contains a large table with many small checkboxes.







## Case Study

### Water

#### User

Atascadero Mutual Water Company

#### Challenge

Collect data to meet NPDES permit requirements

#### Solution

Use Survey123 for ArcGIS® to provide a mobile solution for data collection

#### Results

Save time and increase data quality for NPDES permit reporting

## Meeting NPDES Requirements with Survey123 for ArcGIS®

Atascadero Mutual Water Company (AMWC) is located in San Luis Obispo County, California. It was incorporated on August 13, 1913, and is the oldest continuously operating company in Atascadero. AMWC serves the entire City of Atascadero and properties in adjacent unincorporated areas. It is one of the largest mutual water companies in the state and is responsible for supplying water to more than 30,000 people for domestic and fire suppression purposes. AMWC's water system comprises approximately 250 miles of pipeline, 9 storage tanks, 17 active wells, and around 10,500 service connections.

### The Challenge

The National Pollutant Discharge Elimination System (NPDES) permit program is authorized by the Clean Water Act (CWA) to control water pollution by regulating sources that discharge pollutants into the waters of the United States. Beginning in 2016, the California State Water Resources Control Board required all water systems that were not covered by a municipal separate storm sewer system (MS4) permit to apply for a newly implemented, statewide NPDES permit for drinking water system discharges. To comply with the NPDES permit requirements, AMWC needed an efficient way to collect information about each discharge.



## Apps Are the New Workflows

Gulfport Energy Saves Time and Money with ArcGIS® Apps for Field Data Collection

Gulfport Energy is an independent oil and natural gas exploration and production company, headquartered in Oklahoma City, Oklahoma. To best serve its shareholders, the company is using technology to reduce costs while the market is tight and prepare for the inevitable rebound. Gulfport puts geographic information system (GIS) technology at the core of many critical activities and operations conducted in the office and the field.

Recently, Gulfport Energy deployed ArcGIS® apps for the field. The company's existing ArcGIS implementation included access to Collector for ArcGIS and Survey123 for ArcGIS at no additional cost, and use of the apps required minimal staff training. Previously, Gulfport had relied on third-party data collection services and applications, which were costly. Also, these came in paper forms, which made them difficult to share and led to inaccuracies.

Gulfport Energy used the Collector for ArcGIS app to identify suitable pad site locations as well as locating rights-of-way for above ground water pipelines. Collector—chosen for its map-centric workflow and ease of use for existing field crews—enables Gulfport to view and edit possible pad site locations to select the most suitable location. Collector helped to eliminate costly return trips to verify office analysis. Collector was also used in the waterline route planning to help secure rights-of-way while in the field. They now have more accurate data, have gained efficiencies in field workflows and are providing up-to-date pad site and rights-of-way maps that can be easily viewed and shared across departments.



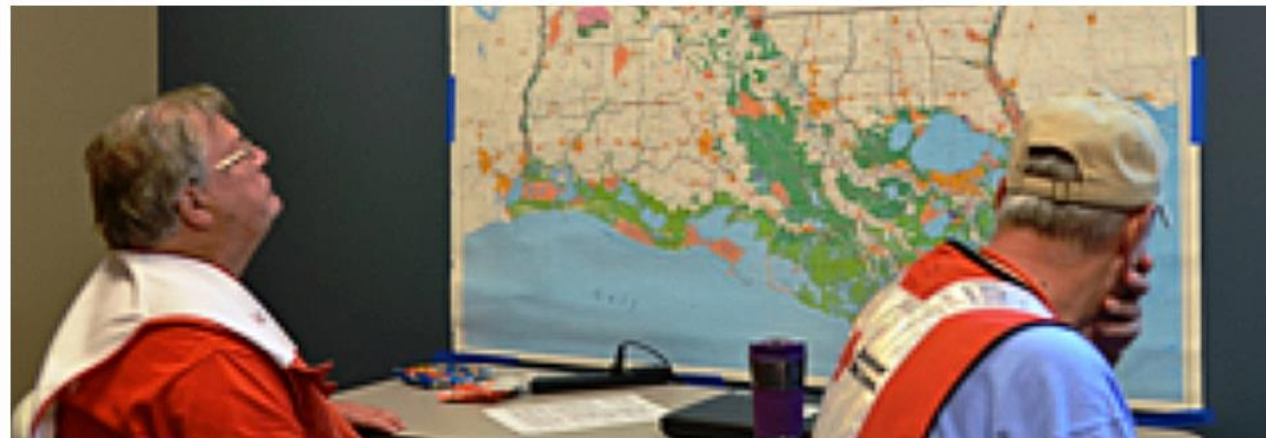
Access to pipelines requires accurate rights-of-way data collection in the field.







## Disaster Assessment – As Easy As 1-2-3



*It will cut in half  
the time it takes  
us to complete  
the assessment.*

Posted September 11, 2016, Todd James, Baton Rouge, LA

Red Cross Disaster Assessment teams are part of the first step in the recovery process. They visit neighborhoods and homes immediately after a disaster to assess and verify the level of damage incurred. The Red Cross and its partners—like FEMA and the United Way—use this information to provide financial aid and other resources. It often takes one to two weeks to visit to every home, gather and enter the information and distribute it to everyone who needs it to begin providing aid. It's vital that this process is done to make sure families get the help they need and that donor and taxpayer dollars are used wisely.

After the record flooding that occurred in Louisiana, Disaster Assessment is being done in a new way—a way that will make it faster and easier. Disaster Assessment now has an application and Red Cross teams are using it to get help to clients in a matter of days, not weeks. Survey123 allows the teams to enter information on the spot—not fill out forms that then have to be entered into a system. And, in conjunction with the Red Cross' RC VIEW Disaster Event Management System, real time mapping of areas affected allows service delivery to begin with days.

Sarah Perkins is a veteran Red Cross Disaster Assessment volunteer who's worked on 45

## Mobilizing Inspections Saves \$40,000

Source: Field Technologies Magazine

By *Brian Albright*, Field Technologies

*A new mobile application has reduced inspection reporting processing from 30 minutes down to 5 for a municipal utility.*

San Francisco is a big, complex city that is getting bigger by the day — a challenging prospect for public utility agencies that have to juggle new construction projects and maintenance of aging infrastructure. The San Francisco Public Utilities Commission (SFPUC) is the third-largest municipal utility in the state and provides retail drinking water and wastewater services to San Francisco, wholesale water to three Bay Area counties, and green hydroelectric and solar power to San Francisco's municipal departments, and now with CleanPowerSF, cleaner energy to residents and businesses in San Francisco.



The SFPUC's Wastewater Enterprise (WWE) operates and maintains the city's 1,000-mile-long combined sewer system and 17 pump stations that collect sewage from homes and businesses and stormwater in the same network of pipes, moving the wastewater to the three treatment plants for treatment and discharge to San Francisco Bay and the Pacific Ocean. With the city's steeply pitched streets and proximity to the ocean, maintaining the combined sewer system is critical, particularly during heavy rains.

When there is new sewer construction, inspectors from the SFPUC's Collection System Division are responsible for inspecting and documenting exactly what is underground and how it was built.

Field inspectors previously documented these sewer inspections using handwritten notes and digital cameras, and by redlining journal notes onto a digital map created by using Esri's ArcGIS platform and a Latitude Geographics GeoCortex Essentials viewer. The digital photos had to be uploaded to the SFPUC's network, and then all of the documents were printed and assembled for a report that had to be scanned for digital storing. The process took up to 30 minutes for each inspection.



Esri Nonprofit

@Esri\_Nonprofit

Following



ProNatura wins highest [#conservation](#) award from Mexican government in collaboration with [#NGO](#) Puente Institute using [#Survey123](#)!



Retweet

1

Likes

4





# Why Smart Forms in ArcGIS?

- **Reduce Errors**
  - During Data Capture
  - Transcribing data from paper to digital
- **Boost Field Data Capture productivity**
  - Precompute responses
  - Associate photos with alphanumeric data
- **Data: From the field to the office in Real Time**
- **All data captured is georeferenced**





## 1- Ask Questions

(Design & Publish)



## 2- Get Answers

(Capture Data)



## 3- Make Decisions

(View & Analyze)

# 1: Ask Questions (Tools for authoring your surveys)



- **Survey123 Web Designer:**
  - Build smart forms graphically right from your web browser
  - Very easy to get started.
  - Ideal for simple forms
- **Survey123 Connect:**
  - A downloadable desktop tool. Works in combination with Microsoft Excel.
  - Requires learning and familiarity with XLSForms specification
  - Complete smart form capabilities



# 1: Ask Questions (Publishing and Sharing)



- Publishing

- Survey123 Smart Forms are published into ArcGIS
- Forms are a new type of item
- Feature layers (new or existing) store captured data
- ArcGIS Online and ArcGIS Enterprise support

- Sharing

- Survey123 leverages the ArcGIS security model: Named Users and Groups
- You can define distinct security rules to:
- Field Users: Submit data to your survey
- Stakeholders: View the results of your survey

# 1: Ask Questions (Considerations for survey authors)



- What data must be captured?
  - Decide what questions will be included in your survey instrument
- User Input Validation rules
  - Add data constraints, calculations and smart defaults
- Optimized user experience
  - Decide what user input controls to use (Question Types and Appearances)
  - Logically organize your survey (Groups, Relevancy rules)
  - Web and/or Native
  - Branding
  - Style questions and survey

2017 UC Field Apps Preconference Survey

Overview Design Collaborate Analyze Data <

4 Do you have some experience creating and working with web maps?

☐ Yes ☐ No

5 Do you have some experience creating and using feature services?

☐ Yes ☐ No

6 Which ArcGIS Field Apps have used?

☐ Collector

☐ Explorer

☐ Navigator

☐ Operations Dashboard

☐ Survey123

☐ Workforce

☐ Other

7 How would you evaluate your current expertise of the ArcGIS Field Apps?

+ Edit Theme Settings

Common Questions

Singleline Text Multiline Text

Single Choice Multiple Choice

Dropdown Rating

Number Date

Time GeoPoint

Image Email

Website

Saved Preview Publish

# Create & Publish a Survey





# 1- Ask Questions

(Design & Publish)



# 2- Get Answers

(Capture Data)



# 3- Make Decisions

(View & Analyze)

## 2: Get Answers



- **Survey123 WebForms**

- Capture data from a web browser. Can be embedded within a web site.
- Nothing to install.
- Online only. Add new data only.

- **Survey123 Field App**

- Available for download (Google Play,iOS, Windows, Mac)Leverage device sensors (external GPS, camera etc)
- Can work Online and Offline
- Can add new data and update existing features.

## 2: Get Answers



- **Private Surveys**


- Shared with a well-known group of users (secured access).
- Requires use of one ArcGIS accounts per every field user.
- Enables Editor Tracking capabilities.
- Ideal for sensitive data or when you want to understand who is doing what.

- **Public Surveys**

- Shared with everyone.
- No need for ArcGIS accounts. Anyone can submit data.
- Ideal for crowd-sourcing initiatives.




My Surveys




Attendee Survey

2017 UC Field App...




BikeshareReport - Integration




esri redlands campus


Campus Asset Inspection




Drone2Map GCP Form




Fire Hydrant Inventory form



Fishing Log (South Dakota)





2017 UC Field Apps Preconference Survey

Do you have some experience creating and working with web maps?

☒ Yes ☐ No

Do you have some experience creating and using feature services?

☒ Yes ☐ No

Which ArcGIS Field Apps have used?

☐ Collector ☐ Explorer ☐ Navigator ☒ Operations Dashboard ☒ Survey123 ☐ Workforce ☐ Other

How would you evaluate your current expertise of the ArcGIS Field Apps?

NoneBeginnerIntermediateAdvancedNinja

What do you want to get out of the seminar?

# Survey123 Field App

Supporting Text



## 1- Ask Questions

(Design & Publish)



## 2- Get Answers

(Capture Data)



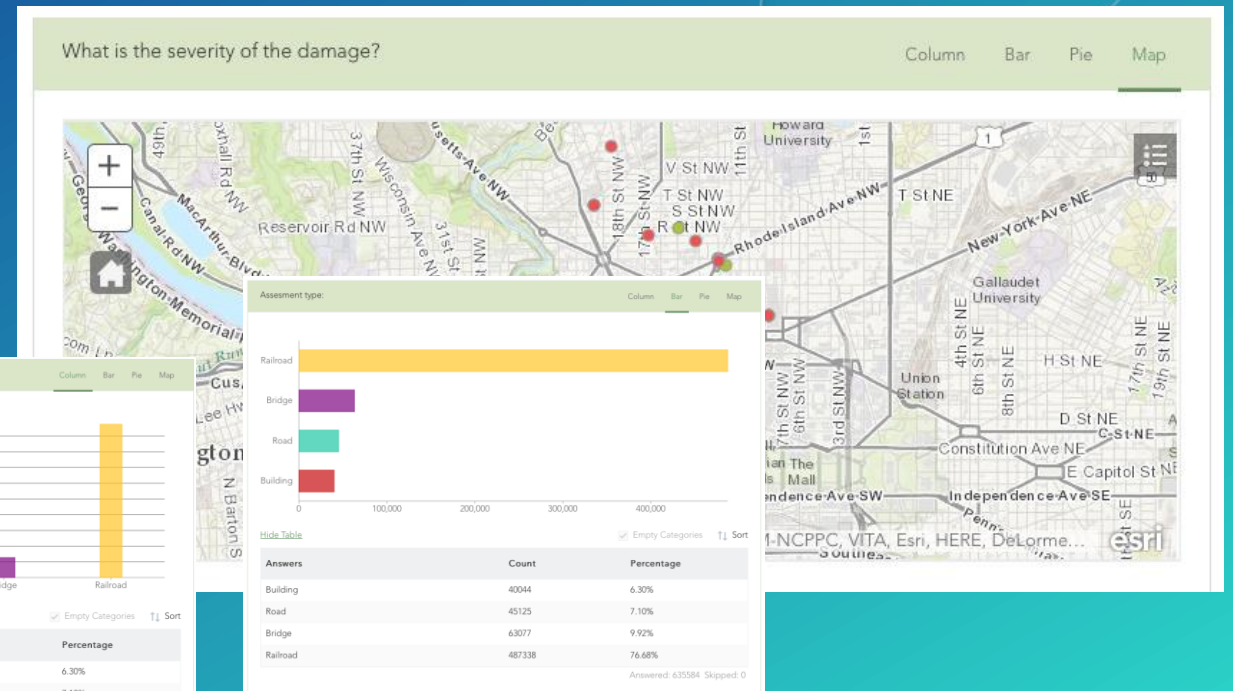
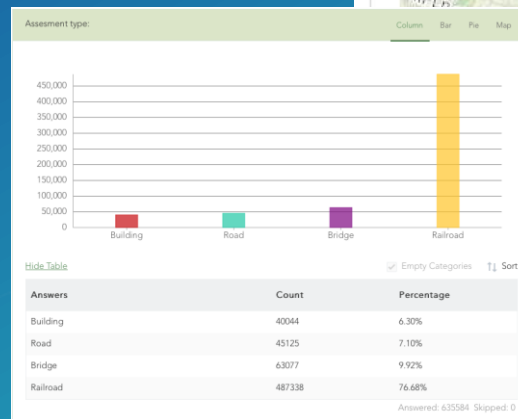
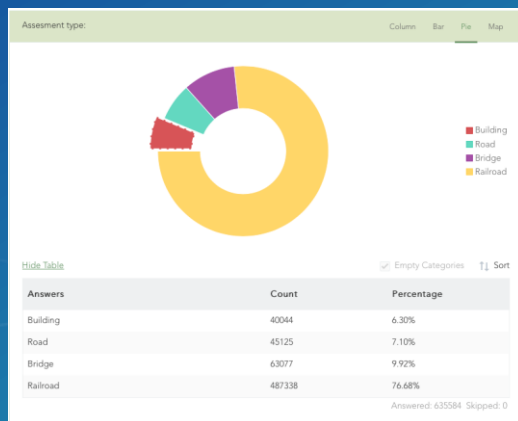
## 3- Make Decisions

(View & Analyze)

### 3: Make Decisions



- Ready to use Reporting tools
  - Understand data submission patterns
  - Create detailed survey reports
  - Aggregate survey data
  - Selectively download data



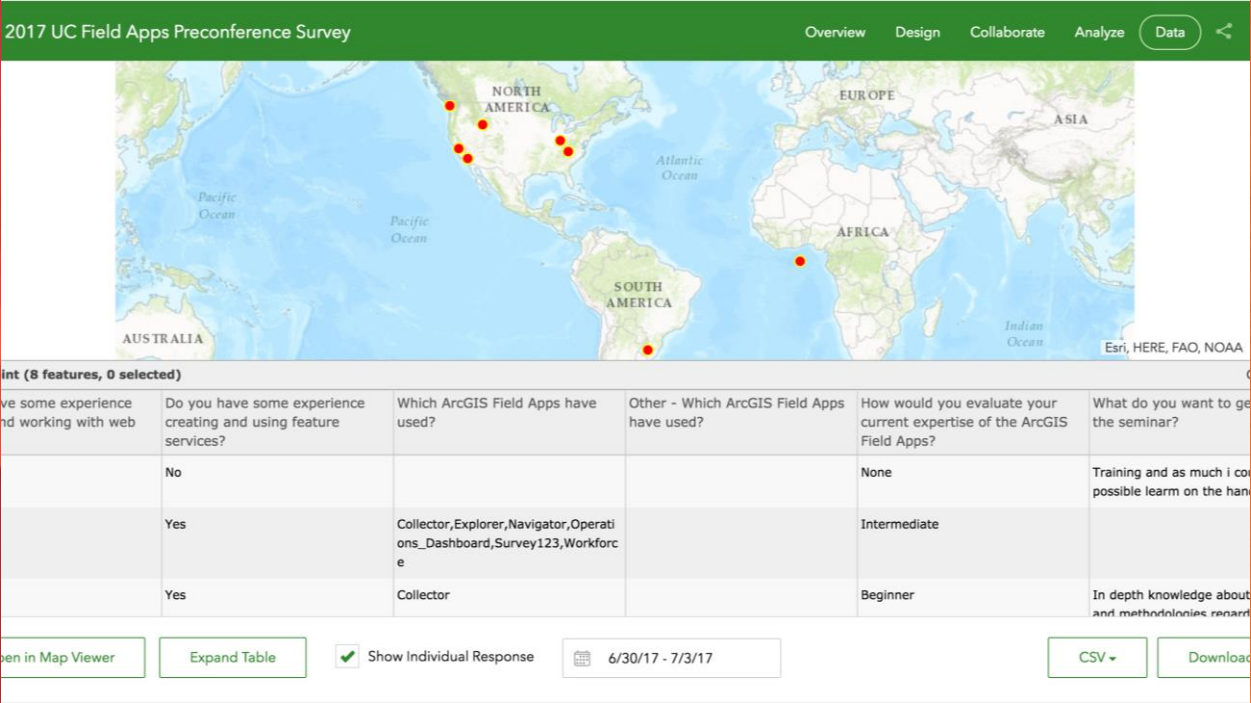


### 3: Make Decisions



- Real-Time data collection
  - Survey123 submitted data is immediately available for visualization and analysis
- All data stored in ArcGIS Feature Services
- Multiple Uses of data





# Survey Data & Results

Supporting Text



## 1- Ask Questions

(Design & Publish)



## 2- Get Answers

(Capture Data)



## 3- Make Decisions

(View & Analyze)



# Please Take Our Survey on the Esri Events App!

Download the Esri Events app and find your event



Select the session you attended



Scroll down to find the survey



Complete Answers and Select "Submit"





esri

THE  
SCIENCE  
OF  
WHERE