

UA Libraries Data Cooperative Unit's

GIS TUTORIALS

CREATING SURVEYS IN SURVEY123

NONE

SOFTWARE USED

4

TUTORIAL NUMBER



DIFFICULTY LEVEL



LEVEL OF STOKE



HARDWARE NEEDED:

desktop or laptop computer
internet connection

SOFTWARE NEEDED:

none



INTRODUCTION

4

The purpose of this tutorial is to teach you the basics of using Esri's Survey123 to create a survey that will allow you to capture form based (tabular) data, geographic locations, and other media as needed. Survey123 is a flexible survey-based solution that allows you to develop surveys that can be taken by participants or be used by field workers.

Upon completion of this tutorial, you should be comfortable:

- 1.** Logging into Esri's Survey123 online survey development platform.
- 2.** Gaining an understanding how to create a survey in Survey123.
- 3.** Understanding how to share a survey and view the results on an online map.

OPENING SURVEY123

This tutorial is meant to show you the basics of creating a survey in Esri's Survey123 online survey builder. The survey used in this tutorial is one that was deployed in the UA Library's Digital Borderlands in the Classroom geospatial and storytelling workshop. You do not need to replicate this survey and can create your own survey to better suit your needs.

1. Open a web browser and navigate to the ArcGIS Survey123 website:

[Survey123 Webiste](#)

Click on the Sign In button.

In the Sign in window expand the Your ArcGIS organization's URL pane and type in **uagis**.

The URL should read:

uagis.maps.arcgis.com

Click on Remember this URL to save uagis for future ArcGIS Online log-ins.

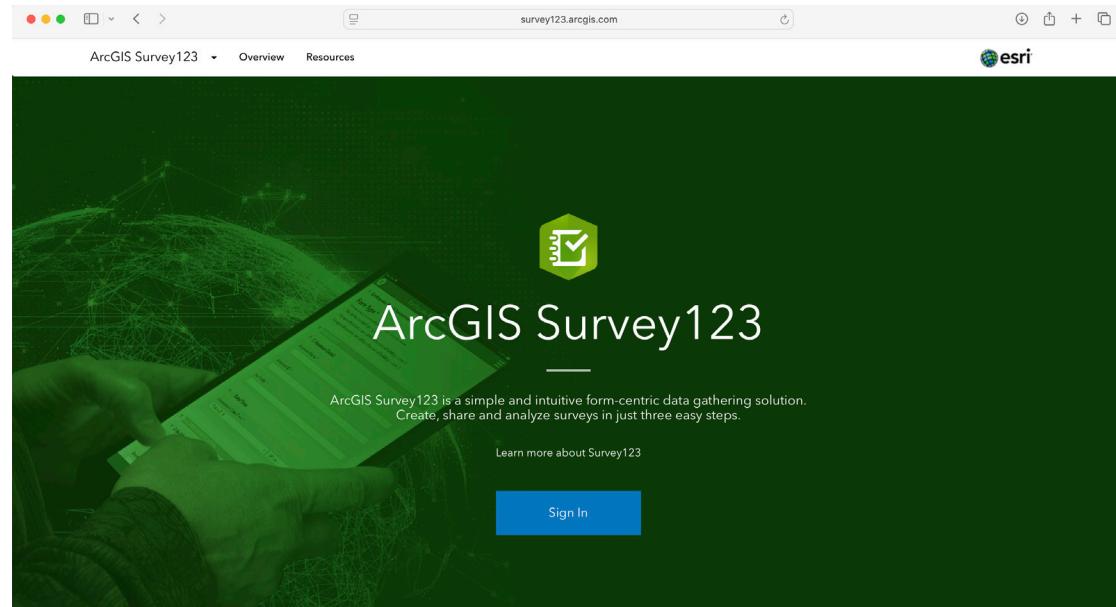
Click Continue.

In the Sign in to University of Arizona GIS window click on USE YOUR UArizona NETID HERE.

You will be redirected to a Shibboleth Page to enter your NETID and Password.

SURVEY 123:

Survey123 allows you to design smart forms and surveys to accelerate data collection, visualization, and analysis. Esri points to five reasons that Survey123 is becoming their most popular platform for field data collection.



BUILDING A SURVEY

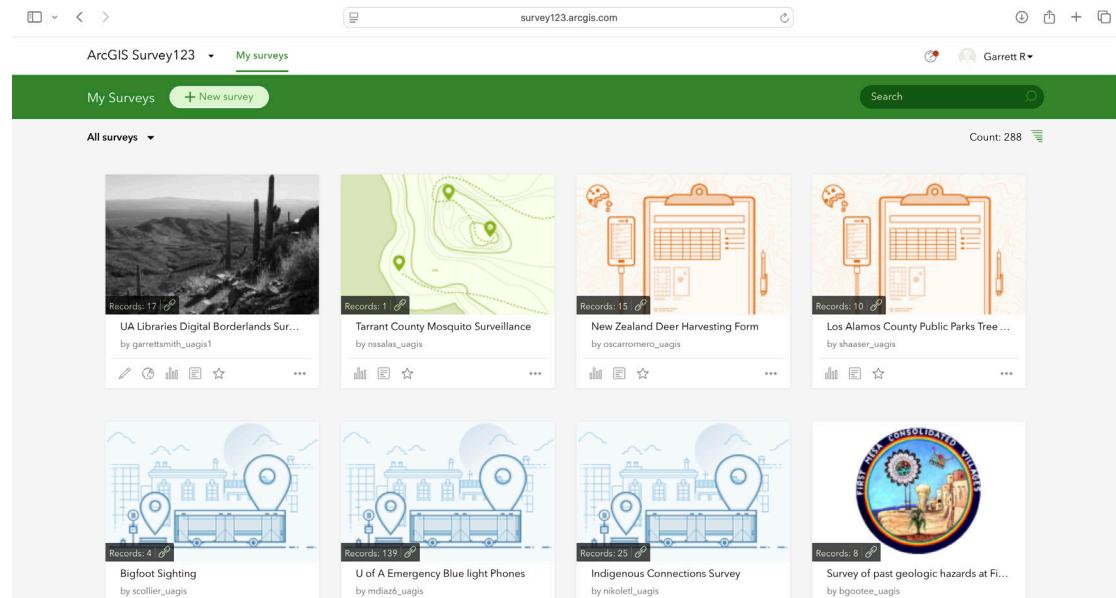
1. On the My Surveys page click on New survey.
2. On the New survey page click on Blank survey icon.

HELPFUL HINT:

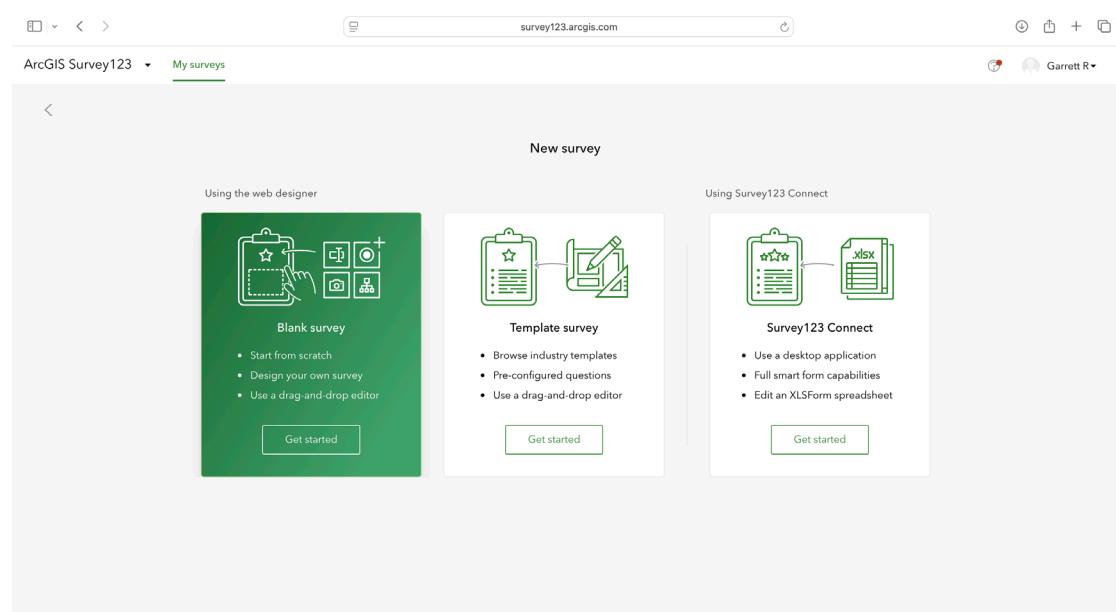
When you first log into Survey123 you will notice that your My Surveys page contains a number of surveys. These are surveys that have been created by other University of Arizona Esri users and have been shared within the University of Arizona organization.

SURVEYING AND COLLECTING FIELD DATA:

One of the advantages of using Survey123 for survey based research and/or work is that you can design a form-based survey that solicits feedback from external users or you can also design a field-based survey that you and others can use in the field to collect geographic data that will also contain a related attribute table (form). Users can take surveys on mobile devices, desktop computers, and laptop computers depending on the type and location of data that you are trying to collect.



1



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- 3.** The survey Design tab is where you will build your survey.

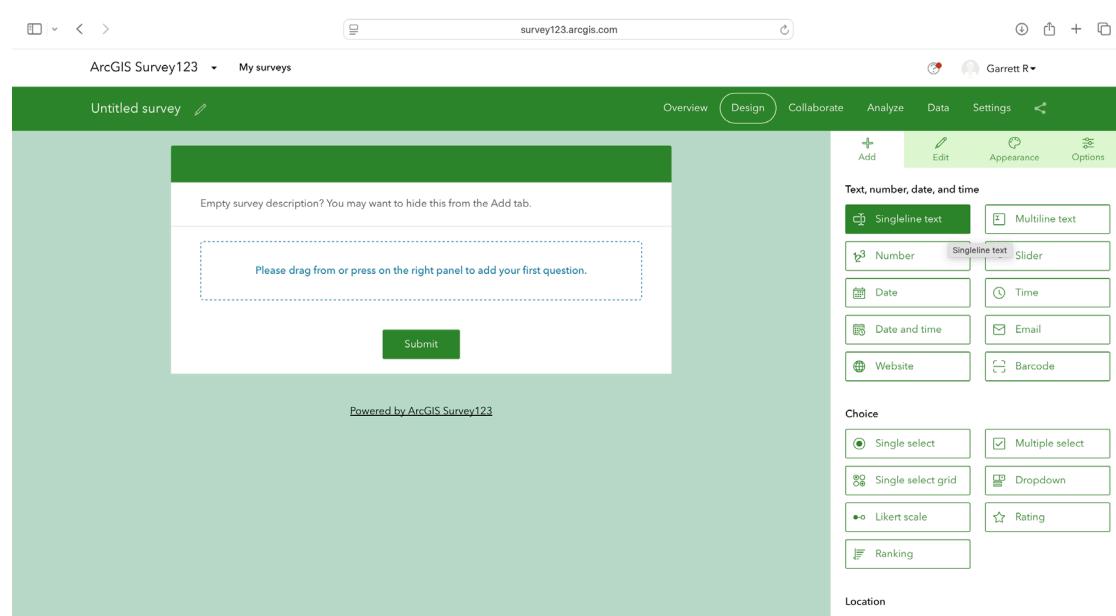
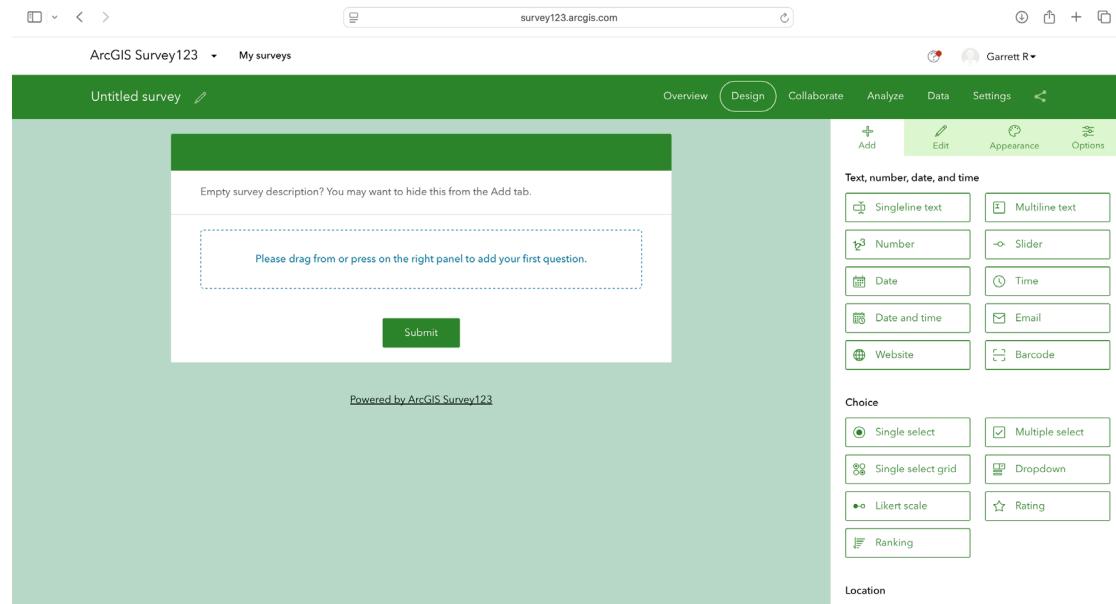
The main pane shows the questions that will be used in your survey.

The panel to the right contains different question types that you can use in your survey. You can also further customize your survey in this pane.

- 4.** To add a question to the survey highlight the question type Under the Add tab and drag it to the Please drag from or press on the right panel to add your first question window.

HELPFUL HINT:

Survey123 has a multitude of preformatted survey questions that you can use in your survey design. You can scroll down in the Add tab to look at all the questions available to you. The type of questions that you select will be determined by the type of questions that you would like answered by those that are participating in your survey and/or are collecting geospatial data in the field.



- 5.** When you add a question to your survey you can click on that question to open up the Edit tab.

In the Edit tab you will be presented with a number of options that relate specifically to the question type that you have included on your survey.

- 2.** If you would like for your users to either take or upload a photograph or image from their mobile device or computer you can add an Image question to your survey.

Some options to keep in mind when using the Image question is to decide if you would like users to be able to only take pictures with a mobile device's camera or if you would also like users to browse for images on the device they are using to take the survey.

HELPFUL HINT:

When designing a survey it is a good habit to make all of your questions required. If there are particular questions that are more important than other ones in your survey you can make those required and make the others optional. It is important to include descriptive hint text for all questions. This text generally includes instructions on what you are expecting either yourself or the user (if this survey will be used by some else) to do with each question. This ensures that data is collected in the same way each time, which is important for field-based data collection.

IMAGE QUESTIONS:

It is possible to have more than one Image question in your survey if you would like survey participants to take more than one photo. Also, you can control the size of the photos that people can upload which will be dependent on how you intend to use the photos.

The screenshot shows the ArcGIS Survey123 interface. A single-line text question is displayed with the title "Borderlands Representation Name*" and the instruction "What is the name of the place that you have chosen that represents your conception of the Borderlands in your local area?". Below the question is a text input field and a "Submit" button. To the right of the question, the "Edit" tab is selected, revealing various configuration options: Singleline text, Label (set to "Borderlands Representation Name"), Hint (describing the question), Default value (empty), Calculation (empty), Validation (checkbox checked for "This is a required question"), and Constraint (empty). The number "5" is overlaid in red at the bottom center of the screen.

The screenshot shows the ArcGIS Survey123 interface with two image questions. The first question, "Borderlands Representation Name*", is identical to the one in the previous screenshot. The second question, "Borderlands Representation Photo*", has a larger input field labeled "Drop image here or select image". To the right of the second question, the "Edit" tab is selected, showing the "Image" configuration section. The "Label" is set to "Borderlands Representation Photo". The "Hint" field contains the instruction "Please take or upload a picture of a local place that you believe is representative of the concept of Borderlands in your area." The "Image source" section offers "Browse images or use camera" and "Camera only" options. The "Validation" section includes a checked checkbox for "This is a required question". The number "6" is overlaid in red at the bottom center of the screen.

- 7.** If you would like for users to collect spatial information you can add a Map question to your survey.

In the Map's Edit tab, as you scroll down, you will notice that there are additional options available for you to choose from.

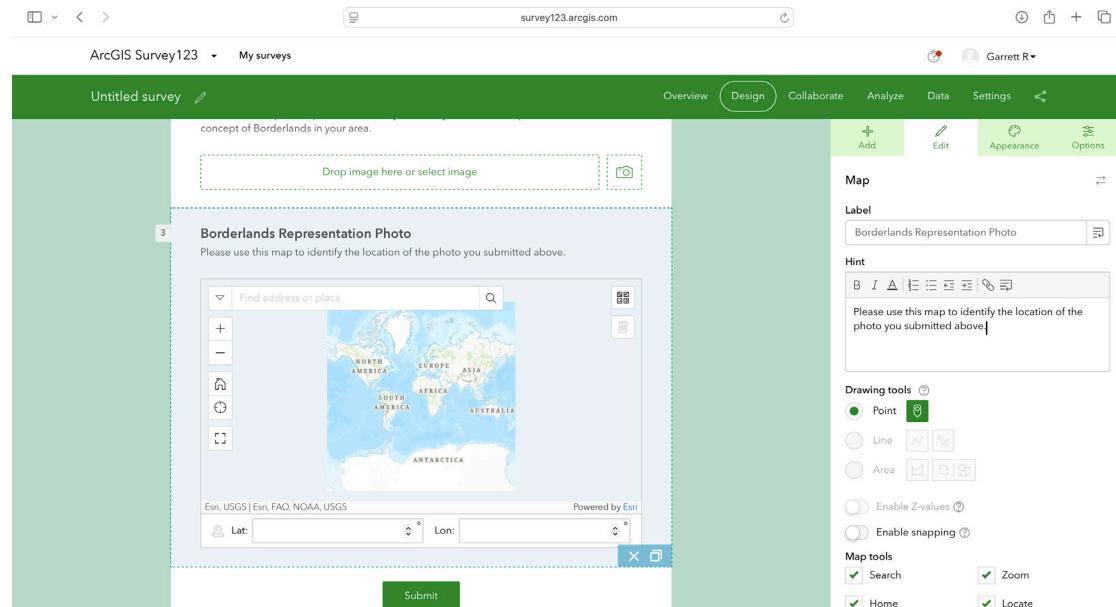
- 8.** In your Web map's Overview tab click on Open in Map Viewer.

DRAWING TOOLS:

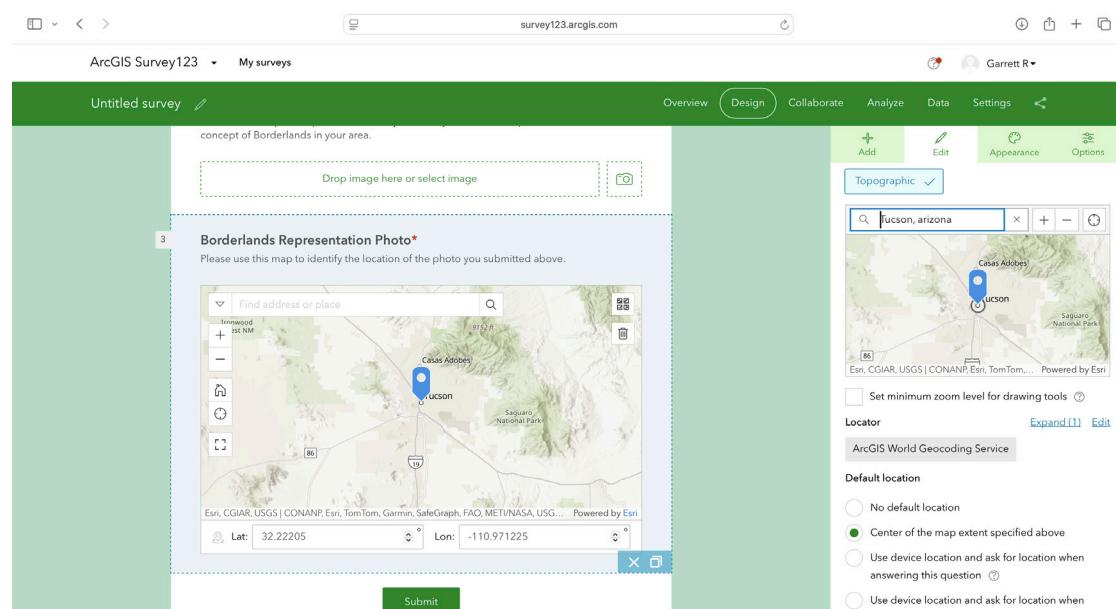
Survey123 allows you to create a vector based feature layer (point, line, or polygon) as well as the associated attribute table (form). The map question will create the geographic feature and the rest of the questions can be used to build the attribute table as well as to attach media and files.

HELPFUL HINT:

By using Survey123's online survey developer you are limited to only collecting one geographic feature per survey. Survey123 Connect, a desktop software program, uses XLSForm (Excel spreadsheets) instead of a drag and drop interface to construct surveys. If you need more than one geographic feature you will have to use Survey123 Connect.



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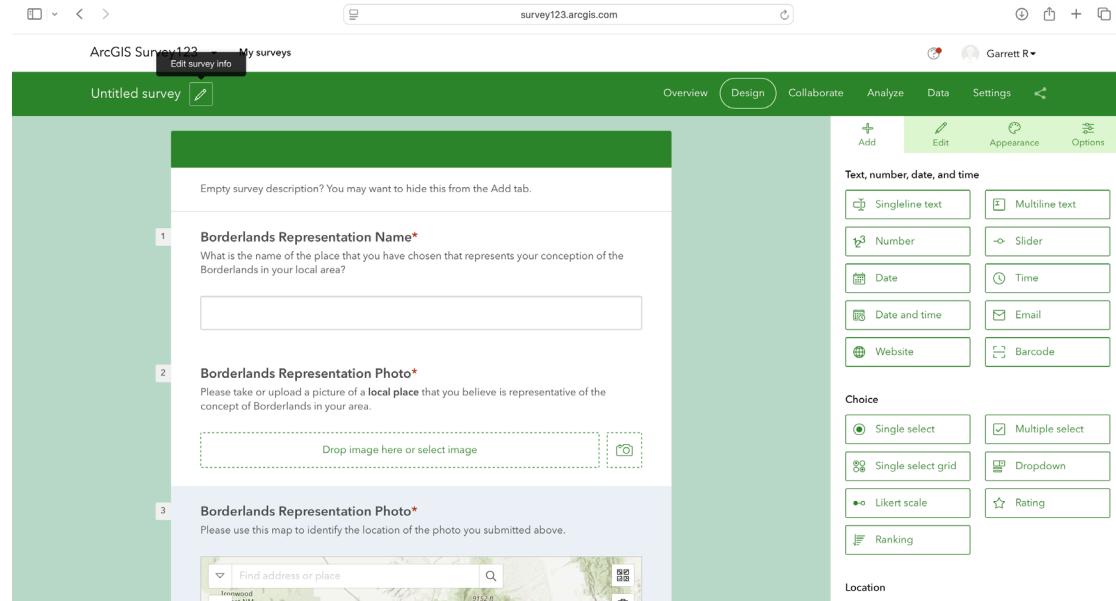


8

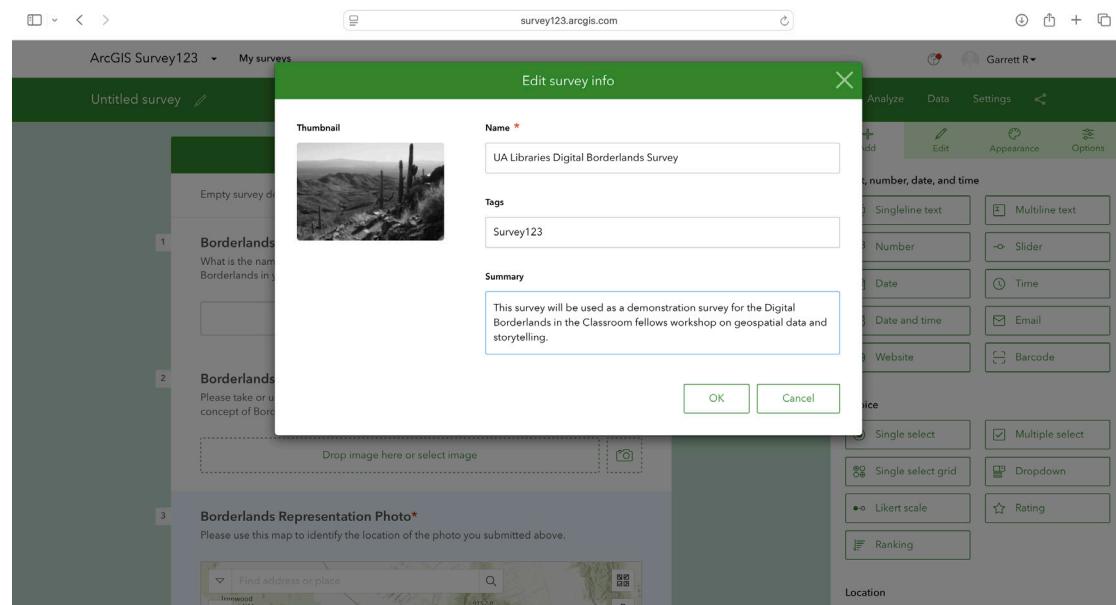
- 9.** Once you have finished building your survey, at the top of the Survey Design window click on the Edit button next to Untitled survey.
- 10.** In the Edit survey info window give your survey a Name and provide a Summary that explains what the survey is going to be used for.

You can upload a Thumbnail from your computer for the survey by clicking on the Thumbnail icon and navigating and saving the image. Images make it easier for people to find your particular survey, this is especially important if you have survey participants or field workers that have downloaded multiple surveys on their personal mobile devices. The thumbnail image will not be visible if people are directed to the survey via a url.

Click OK.



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- 11.** To include a description of your survey that participants or field workers will see when they open the survey click on the Survey description bar at the top of the survey.

In the Survey description Edit pane you can provide a description of the purpose of the survey. You can also include other information including links to websites, photos, etc...

- 12.** To include a Survey header that participants or field workers will see when they open the survey click on the Survey header bar at the top of the survey.

Include a header in the form of either Text or an Image.

In general we can think of space as an abstract concept and we talk about space we tend to do so in terms of measurable characteristics (e.g., the location of a mountain summit on a map). Alternatively, places are spaces that have an inherent meaning to those that are defining them (e.g., the same summit can be special to the first person that summited it).

For this survey you will select a place in your local area that you believe is representative of your conception of the Borderlands in your local area.

The purpose of this short place-based survey is to show you how to collect both quantitative and qualitative spatial data.

Borderlands Representation Name

What is the name of the place that you have chosen that represents your conception of the Borderlands in your local area?

Borderlands Representation Name*

What is the name of the place that you have chosen that represents your conception of the Borderlands in your local area?

Borderlands Representation Photo*

Please take or upload a picture of a **local place** that you believe is representative of the concept of Borderlands in your area.

11

In general we can think of space as an abstract concept and we talk about space we tend to do so in terms of measurable characteristics (e.g., the location of a mountain summit on a map). Alternatively, places are spaces that have an inherent meaning to those that are defining them (e.g., the same summit can be special to the first person that summited it).

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What is the name of the place that you have chosen that represents your conception of the Borderlands in your local area?

Borderlands Representation Photo*

Please take or upload a picture of a **local place** that you believe is representative of the concept of Borderlands in your area.

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- 13.** At the bottom of the survey click on the Publish button.

Note that since this survey has already been published Survey123 notes that there is already data that has been collected and if needed the already collected data can be deleted.

In the Publish Survey window click on the Modify schema button.

- 14.** In the Modify Schema window you can change the Name of each of your questions. By default Survey123 add and underscore between each of your Label names and turns all title cases to lower case. You can change the Names of each of the questions so that it is something that is either less clunky and/or might make more sense to you if you were to export this data for analysis in a program such as Microsoft Excel or R Studio.

Click Publish

SCHEMA:

It is a good idea to develop a naming convention for your questions as these will become your column names should you export the data from Survey123 in tabular form. Unlike other survey-based programs that export the questions as default column names Survey123 allows you to change column names to something that you feel is more appropriate before data is being collected and not in post-data collection data wrangling.

UA Libraries Digital Borderlands Survey

Overview Design Collaborate Analyze Data Settings <

Publish Survey

You have chosen to delete the following questions from your survey, but answers have already been collected for these questions. The following table shows the number of answers that have been collected for each question. Collected answers are preserved in the survey's data, unless you choose to delete them.

To delete collected answers for a question, select the question below:

Borderlands Representation Name (answers: 17)
Borderlands Representation Photo (answers: 17)
Borderlands Representation Photo Location
Borderlands Place Adjective (answers: 17)
Borderlands Place Description (answers: 17)

Changes made to the survey will be available for all users that the survey is shared with. Are you sure you want to publish the survey?

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UA Libraries Digital Borderlands Survey

Overview Design Collaborate Analyze Data Settings <

Modify Schema

All survey data is stored in a feature layer associated with your survey. Use the settings below to control the field names of your feature layer as well as the values stored for choices in your survey. Once published, changes to name and field length are not allowed for existing questions.

Label	Name	Field type	Field length
Borderlands Representation Name	borderlands_representation_na me	esriFieldTypeString	255
Borderlands Representation Photo	borderlands_representation_ph ot	esriAttachment	
Borderlands Representation Photo	borderlands_photo_location	esriFieldTypeGeometry	
Borderlands Place Adjective	borderlands_place_adjective	esriFieldTypeString	255
Borderlands Place Description	borderlands_place_description	esriFieldTypeString	1000

Publish Survey

You have chosen to delete the following questions from your survey, but answers have already been collected for these questions. The following table shows the number of answers that have been collected for each question. Collected answers are preserved in the survey's data, unless you choose to delete them.

To delete collected answers for a question, select the question below:

Borderlands Representation Name (answers: 17)
Borderlands Representation Photo (answers: 17)
Borderlands Representation Photo Location
Borderlands Place Adjective (answers: 17)
Borderlands Place Description (answers: 17)

Changes made to the survey will be available for all users that the survey is shared with. Are you sure you want to publish the survey?

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SURVEY123 DATA EXPLORATION

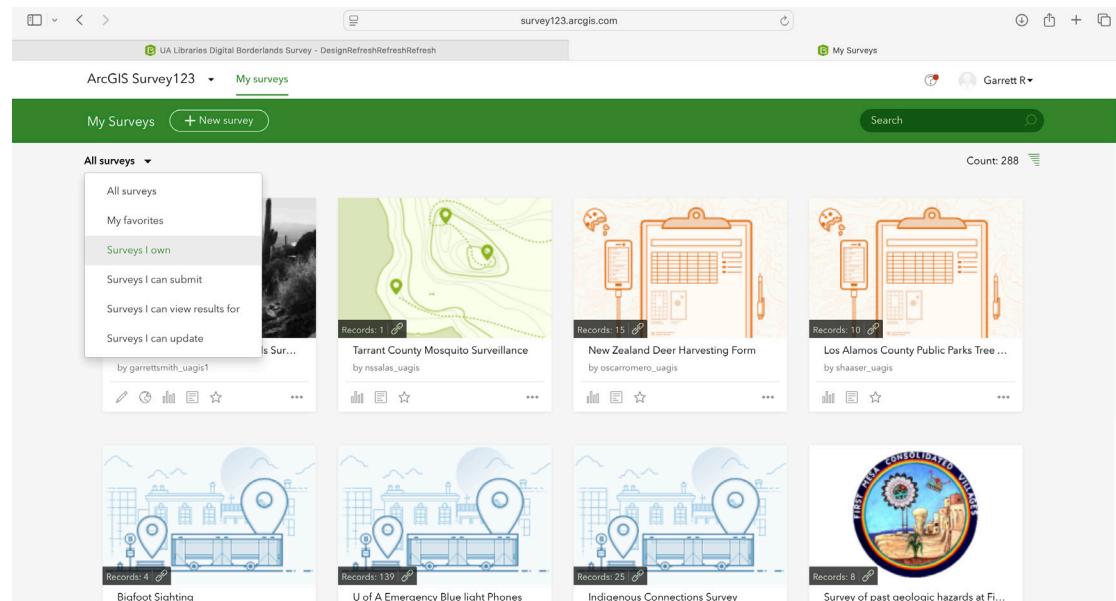
1. Return to your Survey123 homepage.

In the My Surveys window Expand the All surveys drop down menu and select Surveys I own to only show the surveys that you created in Survey123.

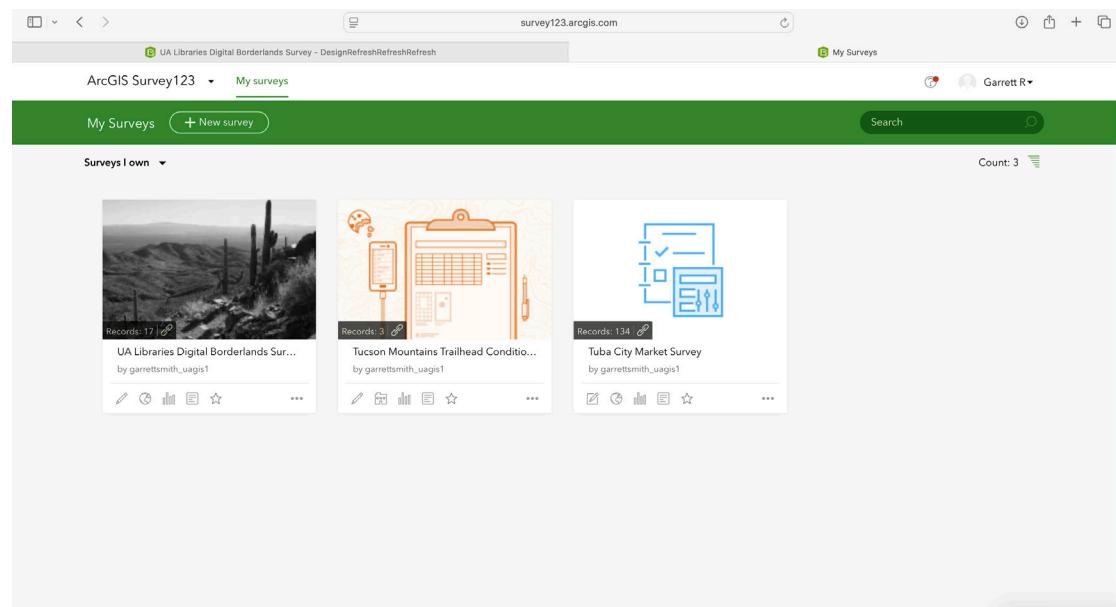
2. In the My Surveys window click on the survey that you just created.

HELPFUL HINT:

If you would like to do a quick check to see how many surveys have been taken you can open the My Surveys window and look at the Records icon in the bottom left-hand corner of the survey thumbnail.



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3. Within your survey, click on the Data tab.

In addition to looking at the number of records that have been collected with your survey on the My Surveys window you can also explore the geographic and form-based data on the Data tab

4. Within your survey, click on the Collaborate tab.

The Collaborate tab allows you to make a number of decisions about your survey including how you would like for it to be taken, who can take it, what users that can take it can do with the data, etc.. These decisions will all be based on when and where you would like users to take the survey.

A screenshot of the ArcGIS Survey123 interface. The top navigation bar shows 'survey123.arcgis.com' and the title 'UA Libraries Digital Borderlands Survey - DesignRefreshRefresh'. Below the title, there are tabs for Overview, Design, Collaborate, Analyze, Data (which is selected), and Settings. The main content area features a map of a desert landscape with various locations labeled, including 'San Luis Rio Colorado', 'Cabeza Prieta National Wildlife Refuge', 'Ironwood Forest NM', 'Tohono O'odham Nation Reservation', 'Green Valley', 'Sierra Vista', and 'Aqua Prieta'. A table below the map lists survey responses:

Edit Date	Borderlands Place Adjective	Borderlands Place Description	Borderlands Representation Name
7/16/2025, 2:57 PM	yum	A place to gather and enjoy food.	Food Truck
7/16/2025, 2:56 PM	Cozy	This neighborhood food market truly reminds me of El...	Food City
7/16/2025, 2:21 PM	Living	Every year as the summer heat starts to kick in the sag...	Yetman Trail
7/16/2025, 2:16 PM	Reflective	This is an art installation in the Tucson Museum of Art ...	Tucson Museum of Art
7/16/2025, 2:16 PM	compelling	This is one of the murals in downtown Tucson, on 6th ...	4th avenue mural

3

A screenshot of the ArcGIS Survey123 interface showing the Collaborate tab. The left sidebar has a green header 'Share survey' with options: Share results, Update survey, and Group settings. The main content area includes a 'Share this survey' section with a link input field containing 'https://arcg.is/1fp5qb2' and three sharing options: 'Open the survey in a browser directly' (selected), 'Ask the user how to open the survey, in a browser or in the Survey123 field app', and 'Open the survey in the Survey123 field app directly'. Below this is a 'Learn more about survey links' link. The next section is 'Embed' with 'Embed in website' and 'Who can submit to this survey?'. Under 'Who can submit to this survey?' are checkboxes for 'Everyone (public)', 'Members of my organization (University of Arizona GIS)', and 'Members of the following groups': 'PLG458558_2022Fall_UA' and 'SC River Wildlife Refuge'. At the bottom, there's a note about editing results and a checkbox for 'Only add new records'.

4

SURVEY123 AND ARCGIS ONLINE

1. Open a web browser tab and navigate to the ArcGIS Online website:

[ArcGIS Online](#)

Click on the Sign In button.

In the Sign in window expand the Your ArcGIS organization's URL pane and type in **uagis**.

The URL should read:
uagis.maps.arcgis.com

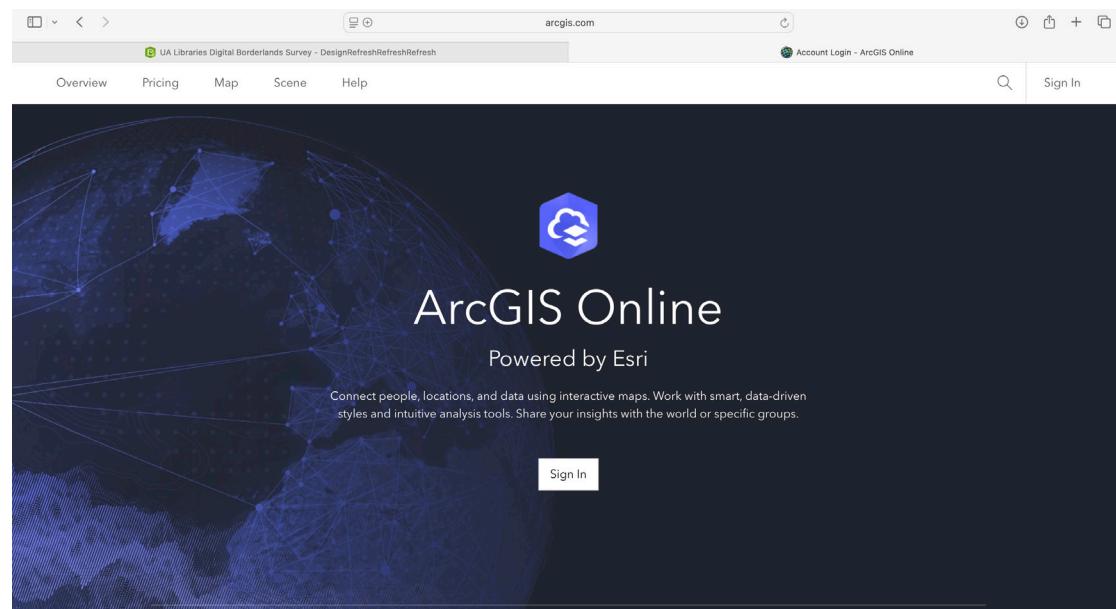
Click on Remember this URL to save uagis for future ArcGIS Online log-ins.

Click Continue.

In the Sign in to University of Arizona GIS window click on USE YOUR UArizona NETID HERE.

You will be redirected to a Shibboleth Page to enter your NETID and Password.

Once signed-in click on the Content tab.



- 2.** Within your ArcGIS Online account Survey123 will automatically create a folder that contains a number of important files.

Note that the survey used for this tutorial was also used for a workshop at the library and the survey folder contains additional files. The files created by Survey123 are outlined below.

- 3.** Click on the survey's Name Feature layer (hosted).

FORM:

Contains the survey that can be opened in the Survey123 field app and web app.

FEATURE LAYER (HOSTED):

Stores the responses to the survey.

RESULTS FEATURE LAYER (HOSTED, VIEW)

Used to manage permissions for accessing the survey's data as a non-owner.

FORM FEATURE LAYER (HOSTED, VIEW):

Manages permissions for submitting and editing survey responses as a non-owner and are set on the Share page on the Survey123 website.

WEB MAP:

A Web map that contains the Feature Layer collected from the survey.

Title	Type	Modified	Actions
UA Libraries Digital Borderlands Survey	Form	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Survey	Feature layer (hosted)	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Survey_results	Feature layer (hosted, view)	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Survey_form	Feature layer (hosted, view)	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Online Map Demonstration	Web map	Jul 16, 2025	Preview ...
UA Libraries Digital Borderlands Workshop StoryMap	Web map	Jun 26, 2025	Preview ...
UA Libraries Digital Borderlands StoryMap	Web map	Jun 26, 2025	Preview ...
Tracing The Line Monuments	Feature layer (hosted)	Jun 19, 2025	Preview ...
Southwest Border	Feature layer (hosted)	Jun 15, 2025	Preview ...
Southwest Border	Shapefile	Jun 15, 2025	Preview ...

2

Title	Type	Modified	Actions
UA Libraries Digital Borderlands Survey	Form	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Survey	Feature layer (hosted)	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Survey_form	Feature layer (hosted, view)	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Survey_results	Feature layer (hosted, view)	Jul 27, 2025	Preview ...
UA Libraries Digital Borderlands Online Map Demonstration	Web map	Jul 16, 2025	Preview ...
UA Libraries Digital Borderlands Workshop StoryMap	Web map	Jun 26, 2025	Preview ...
UA Libraries Digital Borderlands StoryMap	Web map	Jun 26, 2025	Preview ...
Tracing The Line Monuments	Feature layer (hosted)	Jun 19, 2025	Preview ...
Southwest Border	Feature layer (hosted)	Jun 15, 2025	Preview ...
Southwest Border	Shapefile	Jun 15, 2025	Preview ...

3

4. Within the Survey's Feature layer (hosted) window click on Open in Map Viewer.

5. The data collected from the survey are represented on the map. You can click on one of the feature layer points to view the pop-up window.

The pop-up window contains the answers to the questions that you asked in your survey. If you had an Image or other attachment question the pop-up will also include that.

To learn how to work with spatial data and Web maps in ArcGIS Online please see the other ArcGIS Online tutorials.

This screenshot shows the ArcGIS Online item details page for a survey titled "UA Libraries Digital Borderlands Survey". The "Layers" section displays a single point layer named "survey". The "Description" section contains a placeholder message: "An in-depth description of the item is not available." The "Details" sidebar on the right provides ownership information (Garrett R Smith), statistics (View count: 25), and a URL link ([https://services1.arcgis.co...](https://services1.arcgis.com...)). A red number "4" is overlaid on the bottom right of the screenshot.

This screenshot shows the ArcGIS Online Map Viewer displaying the survey data as a point layer. The map shows the location of the survey points in the borderlands area of Arizona and Sonora, Mexico. A red number "5" is overlaid on the bottom right of the screenshot.

END