

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

# Management of The Third NWMP Digital Platform Training Manual

**InfoGraph**

الشركة الإستشارية لأنظمة المعلومات البيانية  
Information & Graphics Systems Consultants L.L.C.



**esri** Official  
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## NWMP-3 Digital Platform Overview

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### NWMP-3 Digital Platform Objective

- Ensure the sustainability and institutionalization of the NWMP activities for support future planning and decision making by:
  - providing a specialized programming and web- based development services for presenting the NWMP-3 results and to enable all counterparts to update these results based on the updated information which shall be provided from the different data sources.
  - The platform is expected to include gradually the tools needed to connect (wherever possible) to various related data sources so it can be used as a data-driven decision & analytical tool

### NWMP-3 Digital Platform Implementation Methodology

- Review all documents & presentations produced by each NWMP volume along with the time schedules links between volumes and identify the core information such as (analysis results, maps, charts and tables)
- Review and analyze all data types, GIS layers and their sources as needed to build the Geo-Platform.
- Consultation with stakeholders for initial input and analyze the quality of all data types needed to define the NWMP results.
- Study and understand the NWMP objectives by conducting meetings with GIZ and counterpart staff (MWI, WAJ, Water Utilities, and JVA)
- Assembly and mapping of base line information (land use, topography, drainage, vegetation, infrastructure, protected areas, cultural sites, etc.)
- Build the database design required to operate the Geo-platform and host the data from various sources
- Implement and deliver a digital platform for the water sector (NWMP) based on ArcGIS environment

## Geo-Platform Architecture

The following functionality are available through the Portal interface:

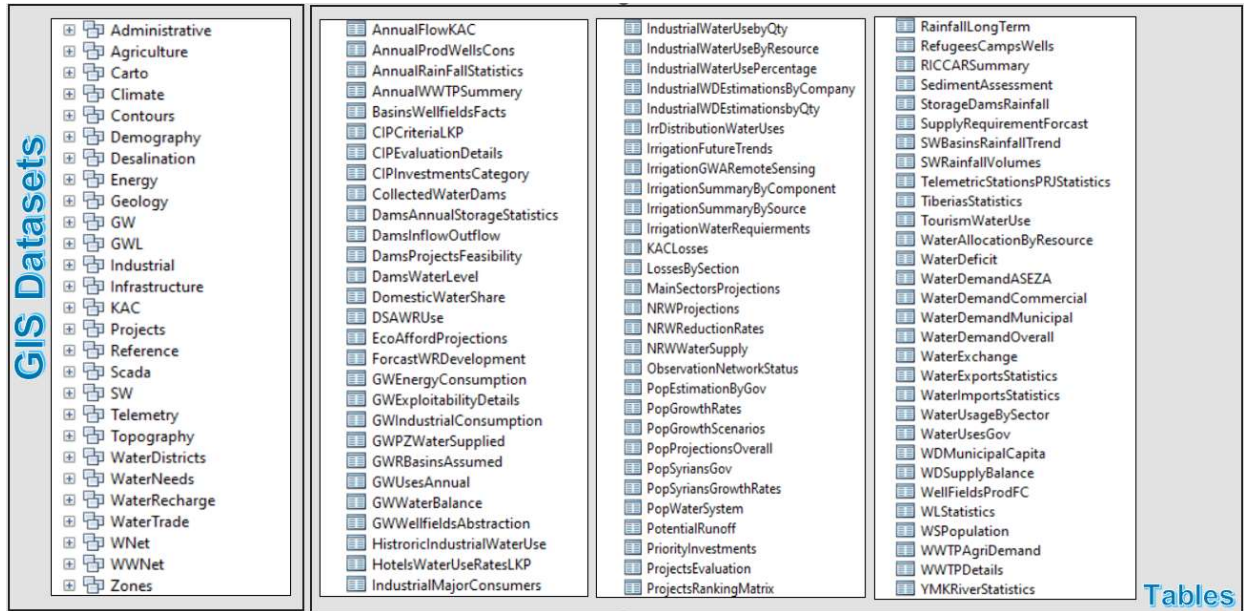
### Users Level:

- Volumes Oriented Architecture
- A gallery of maps, tables and applications are available to be used by the platform users
- A dynamic map viewer that allows to navigate the map layers
- Data Entry Application to allow editing the tables content
- Ready to use Dashboards

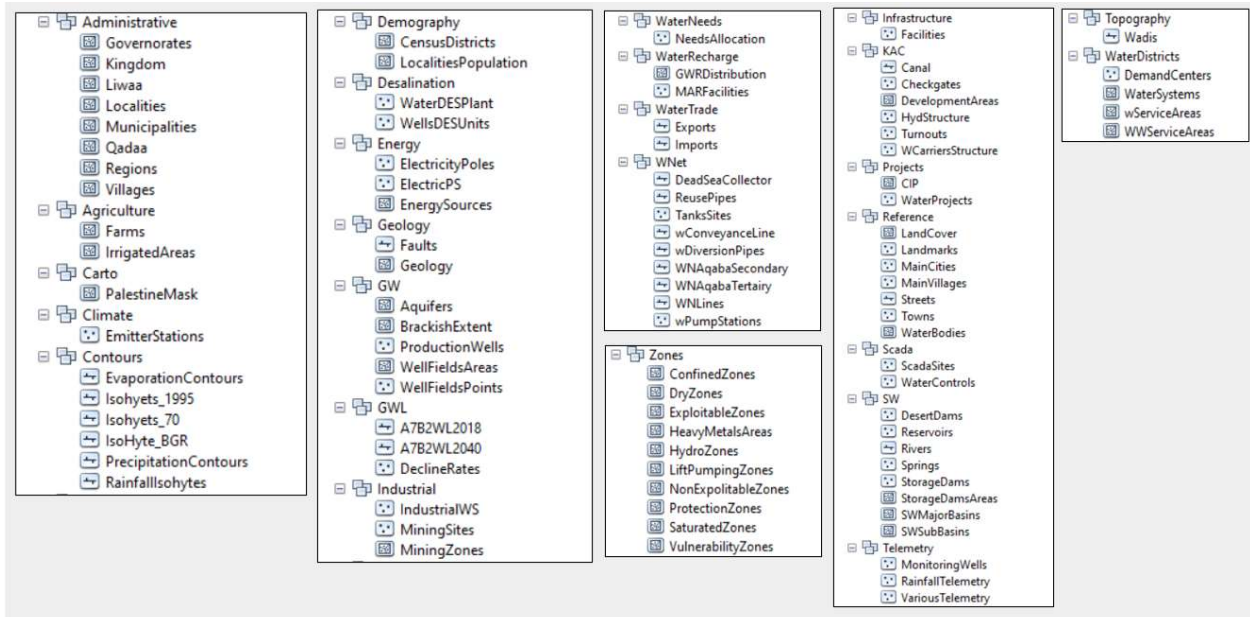
### Admin Level:

- Portal interface to create and manage groups to control access (including the public access) to the maps, tables, applications, and other Platform information.
- A central location to add and share maps and data with others in user organization
- Ability to add/delete/modify the contenet of the volumes
- Ability to modify the map layers, sympology and dashboards

# The NWMP-3 Platform DB Design (Schema)



# GIS Layers



# Introduction To ArcGIS Platform

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# Esri ArcGIS platform Overview

ArcGIS is central platform which consists of data (provided as files and cloud sources), professional desktop tools (GIS), GIS servers (web service delivery and consumption), a secure collaboration framework (portal) and a wide range of integrated applications for day-to-day use

The following diagram illustrates the major components of the proposed ArcGIS platform. This includes ArcGIS for Desktop, Portal for ArcGIS, ArcGIS for Server and a suite of web and native applications for use as needed.



## ArcGIS Desktop



The slide features a blue background with a central cloud icon. To the left, a person icon is shown at a computer labeled 'ArcMap Desktop'. To the right, a computer monitor displays a 3D map. The text 'Desktop' is in the top left, and 'Professional GIS' is to its right. A central cloud icon is labeled 'Web GIS (Online/Portal)'. Above the cloud are icons for 'Apps' (laptop, tablet, smartphone). Below the cloud are icons for 'ArcGIS Pro' and 'ArcMap'. A blue box on the right lists 'New and Improved' features, and a green box lists 'Coming' features. A blue banner at the bottom reads 'Providing Mapping, Visualization, Editing, and Analysis'. The slogan '... Simplifying and Improving' is at the bottom right.

# Desktop

Professional GIS

Apps

ArcGIS Pro

ArcMap Desktop

Web GIS (Online/Portal)

### New and Improved

- Geoprocessing
- Space-Time Modeling
- Image Processing
- LAS Tools
- Customization of Pro

### Coming

- More Analytics & 3D
- Vector Tiles
- Mobile Map Packages
- Better Metadata
- Concurrent Pro Licensing

Providing Mapping, Visualization, Editing, and Analysis

... Simplifying and Improving

The professional desktop tools serve as the center point of the ArcGIS platform. Built for the GIS/IT professional they allow analysts and IT staff to edit, perform analysis, automate, and administer spatial databases and GIS servers. These tools have extensions available for specialists to perform specific tasks. These tasks include raster (or grid) analysis, network (linear modeling) analysis, geostatistical analysis, and 3D analysis. For additional details on ArcGIS for Desktop, please visit: <http://www.esri.com/software/arcgis/arcgis-for-desktop>.

## GIS Server and Portal

The diagram illustrates the ArcGIS Server and Portal architecture. It shows a central 'Portal' component connected to 'Users' (represented by icons of a laptop, tablet, and smartphone), 'Apps', and a 'Server'. The 'Portal' is also connected to 'ArcGIS Online' (represented by a cloud icon). The 'Server' is connected to 'ArcGIS Online'. The background features a server room with blue lighting.

**Server** ▶ Enterprise Web GIS in Your Infrastructure

**New and Improved**

- Smart Mapping
- 3D Web Scenes
- Spatial Analysis
- Azure Support
- Stronger Linux
- Geocoding

**What's Coming**

- Big Data GeoAnalytics
- New Utility Network
- GeoJSON
- Google Cloud
- Distributed Portals

Providing Enterprise Management, Analysis, and Mapping

... Supporting On-Premises and Cloud Platforms

ArcGIS Server is the workhorse technology for the ArcGIS Platform. It allows, from a wide range of data sources, the ability for anyone to create standards-based web services for mapping, visualization, analysis and administration.

ArcGIS Portal allows organizations to organize discover, use and share spatial information products across an entire enterprise. It is engineered to be an organization's central location for maps, data and applications. It can be deployed on premises (ArcGIS Portal), in the cloud (ArcGIS Online) or a hybrid approach.

For more information about ArcGIS Server, ArcGIS Online or ArcGIS Portal, please visit:

<http://www.esri.com/software/arcgis/arcgisonline> and  
<http://www.esri.com/software/arcgis/arcgisserver>

## Applications



The ArcGIS Platform comes with a variety of applications that natively connect to the platform. These applications allow organizations to provision users into the platform via clients that are of the most use to a group or individuals based on their workflows. For more information about the capabilities and the applications that are provided with the ArcGIS Platform, please visit: <http://www.esri.com/software/arcgis/capabilities>.

## Application Frameworks and Builders

**ArcGIS App Builders** Frameworks for Easily Building Apps

Supporting Low Code / No Code Development

**Web AppBuilder**

- Vector & Raster Visualization
- Improved Accessibility
- Many Ready-to-Use Widgets
- 3D

**Experience Builder**

- Better Web Mapping
- Mobile Optimized
- Flexible Design
- 2D & 3D in One App

**AppStudio**

- Configurable Templates
- Works Offline
- Supports Instant Apps
- Native Mobile Apps (iOS, Android, Windows)
- Deploy to Enterprise or App Stores

**Web**

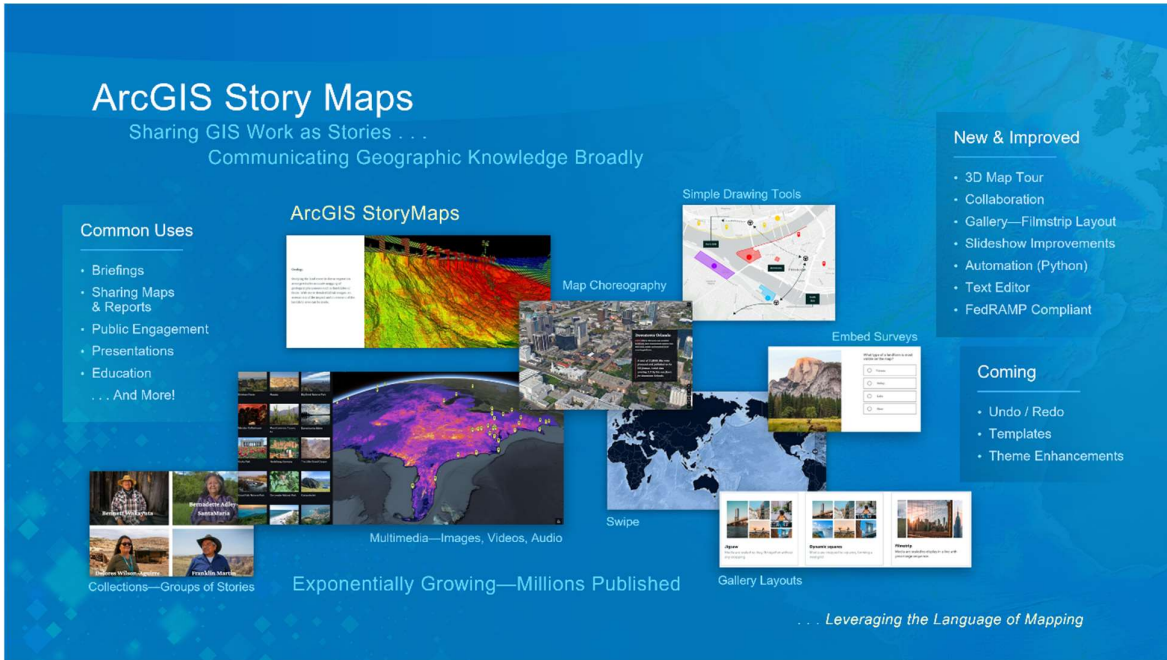
Millions of Apps Created & Deployed

**Mobile**

*Included with ArcGIS*

The ArcGIS Platform comes with a set of frameworks for application development that allows developers and non-developers alike to create and share applications very quickly. These builders allow non-developers to configure through wizard's web and mobile applications based on content from an organization's ArcGIS Portal implementation. These templates and wizards also provide the source code for the respective application, allowing developers to extend applications quickly and focus on custom capability rather than basic mapping.

## ArcGIS Story Maps:



The graphic features a blue background with a world map. At the top left, the title "ArcGIS Story Maps" is displayed in white, with the subtitle "Sharing GIS Work as Stories . . ." and "Communicating Geographic Knowledge Broadly" below it. A central collage of images shows various StoryMap examples: a 3D terrain map, a map with colored overlays, a 3D city model, a map with a filmstrip layout, a survey form, a world map, a gallery of small images, and a collection of photos. Text labels identify these as "Simple Drawing Tools", "Map Choreography", "Embed Surveys", "Multimedia—Images, Videos, Audio", "Swipe", and "Gallery Layouts".

**ArcGIS StoryMaps**

Sharing GIS Work as Stories . . .  
Communicating Geographic Knowledge Broadly

**Common Uses**

- Briefings
- Sharing Maps & Reports
- Public Engagement
- Presentations
- Education
- . . . And More!

**New & Improved**

- 3D Map Tour
- Collaboration
- Gallery—Filmstrip Layout
- Slideshow Improvements
- Automation (Python)
- Text Editor
- FedRAMP Compliant

**Coming**

- Undo / Redo
- Templates
- Theme Enhancements

**Exponentially Growing—Millions Published**

*. . . Leveraging the Language of Mapping*

ArcGIS StoryMaps is a story authoring web-based application that allows you to share your maps in the context of narrative text and other multimedia content. You can use ArcGIS StoryMaps to do the following:

- Author stories with the story builder. Stories can include maps, narrative text, lists, images, videos, embedded items, and other media.
- Publish and share your stories. Published stories each have their own URL, and you can use these URLs to share your stories within your organization, to specific groups, or with everyone.
- Create and publish collections. Collections can include stories and ArcGIS web apps bundled together for easy sharing and presenting.
- Manage your stories. View and edit your stories from the **Stories** page, find stories authored by others in your organization, and add stories to your favorites list.



The slide features a blue background with a grid pattern. On the left, a woman is shown in profile, looking at a computer monitor displaying a dashboard. The dashboard includes a map of the United States, a bar chart, and a table of data. The main title 'Dashboards Dynamic Visual Reporting' is in white. To the right, there are two callout boxes: 'New & Improved' and 'Coming'. The 'New & Improved' box lists: Accessibility, Authoring Tools, CSV Download, Table Visualization, and Performance (Client Side). The 'Coming' box lists: Data Filtering, Arcade, and Mobile Ready. The bottom right of the slide has the text 'Providing Relevant & Timely Information at a Glance'.

## Dashboards Dynamic Visual Reporting

- Easy to Configure
- Ready-to-Use
- Interactive
- Highly Scalable
- Embeddable

Visualize Trends

Monitor Status

Manage Performance

### New & Improved

- Accessibility
- Authoring Tools
- CSV Download
- Table Visualization
- Performance (Client Side)

### Coming

- Data Filtering
- Arcade
- Mobile Ready

*Providing Relevant & Timely Information at a Glance*

A dashboard is a view of geographic information and data that allows you to monitor events, make decisions, inform others, and see trends. Dashboards are designed to display multiple visualizations that work together on a single screen. They offer a comprehensive view of your data and provide key insights for at-a-glance decision-making. Similar to web maps and web layers, dashboards are part of the ArcGIS geoinformation model. They are items within your organization that can be identified by their icon 📊 when browsing and searching for content.

## ArcGIS Sites

The infographic features a central image of four people (three women and one man) gathered around a laptop, looking at the screen. The background is a vibrant blue with abstract light patterns. Text and graphics are arranged around this central image to highlight the capabilities of ArcGIS Sites.

**ArcGIS Sites Supports Engagement and Collaboration**

Extending GIS . . .  
Organizing Community Initiatives,  
Teams and Activities

- Enables Open Data
- Manages Initiatives
- Organizes Teams & Communities
- Creates Engagement

**New & Improved**

- Location-Aware Discussions
- Community Content Uploads
- Shareable Cards (Site Content)
- Map-Based Surveys
- Federated Data Catalog Standards

Organizing Initiatives . . .

And Engaging Communities

Over 50 Thousand Dep

City of Boise

Save Our Saguaros

California 30 x 30

Government of Ireland

... Taking GIS Into the Community

ArcGIS Enterprise Sites allows you to create a tailored web page experience for your users to help you share your portal's authoritative GIS data to other departments more easily, even if they are not used to working in your GIS. Instead of learning to navigate the portal and access groups, members can go directly to the custom web page you create to navigate the content relevant to them.

Web pages created with Sites are built to be easily navigated by non-GIS users, but are powerful enough to let users interact with, download, and create apps from your data. Sites feature a built-in web page designer that integrates a drag-and-drop experience with HTML markup, giving you absolute control over the design of the web pages you create. You can also add non-GIS content, such as videos and documents, to your Site to create a central place for material relevant to your users to be hosted and accessed.

## Portal for ArcGIS

The Esri solution is very much used by the organizations to provides a framework to easily manage and secure geographic assets within the organization and enabling better decision making.

Portal for ArcGIS helps in organizing and sharing information throughout an organization with those who need it via maps and apps. Some of the rich information in these maps and apps originates from a database within an organization.

- **The portal's role in ArcGIS**

Portal for ArcGIS plays a central role in organizing and sharing information within the ArcGIS system. The portal provides a user-friendly, searchable repository for maps and apps. It also helps in creating and sharing new maps and apps.

The portal will helps map and app creators to find and use these web services. The portal provides an easy window into your GIS content without requiring GIS software training.

- **Common clients of Portal for ArcGIS**

Portal for ArcGIS designed to expand the use of maps and GIS applications via a wide variety of end-user applications that are utilized to interact with maps and other items in portal.

- **Ready-to-use apps**

Ready-to-use apps do not require any customization to use them—just connect it to portal and take advantage of the functionality the apps provide

- **Portal Users**

ArcGIS Portal is sold per number of named users and their types. User types provide a flexible way for people to license the capabilities and apps they need to do their work in ArcGIS Online. All user types include identity, capabilities, and apps:

- ✓ **Creator:** Creators can create and edit content such as maps and apps, perform spatial analysis using the analysis tools in ArcGIS Online, collect data, and collaborate and share content for use in apps.
- ✓ **Field Worker:** connect the field users to the office using apps for real-time data collection, tasking, and operations.
- ✓ **Editor:** Editors can view and edit data in ArcGIS maps and apps that are shared with them by other ArcGIS users. This user type is ideal for users who need to access and edit data that is shared with them and includes access to a selection of apps.
- ✓ **Viewer:** securely view your organization maps & apps (dashboards) to monitor performance and use location data to make better decision.

# Chapter 1



# Publish data Using ArcGIS Pro

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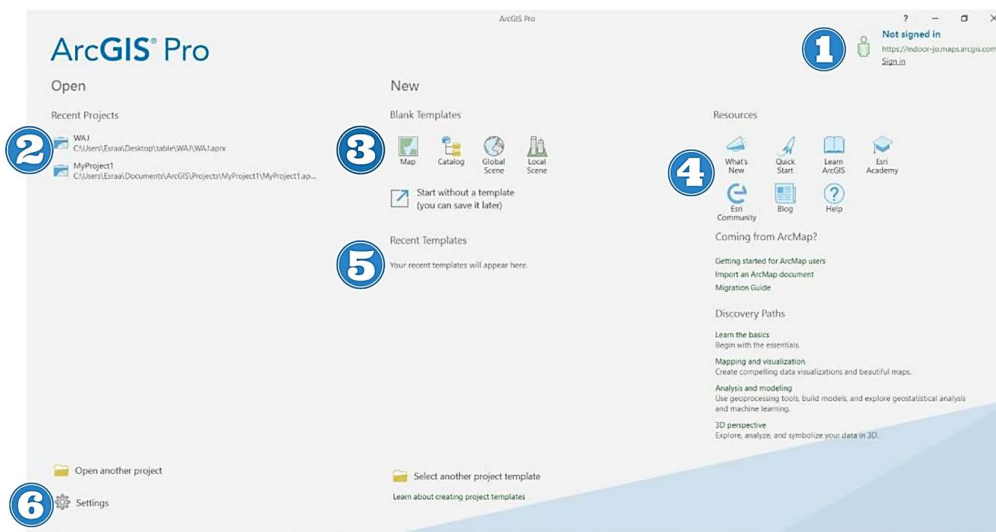


# Chapter 1: - Publish data Using ArcGIS Pro

ArcGIS Pro is a full-featured professional desktop GIS application from Esri. With ArcGIS Pro, you can explore, visualize, and analyze data; create 2D maps and 3D scenes; and share your work to ArcGIS Online or your ArcGIS Enterprise portal.

## Data Preparation Using ArcGIS pro

### 1. Create and open projects

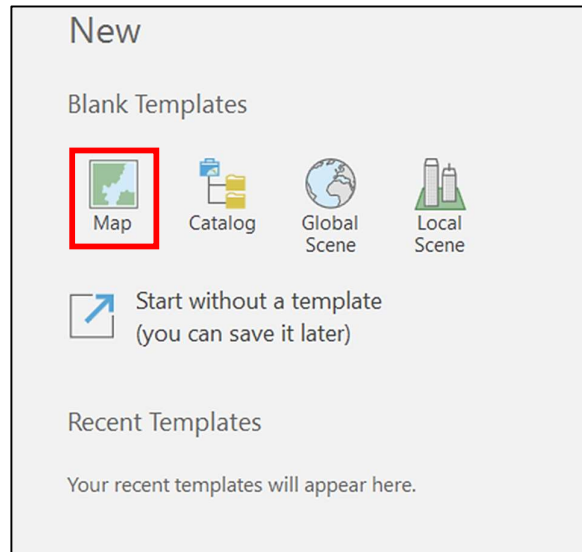



1. Sign in or out of your active portal.
2. Open an existing project. ArcGIS Pro keeps a list of projects you have used recently.
3. Create a project from a default ArcGIS Pro template.
4. Access learning resources, including tutorials, courses, community support, blogs, and documentation.
5. Create a project from a custom template. ArcGIS Pro keeps a list of templates you have used recently.
6. Access project and application settings.

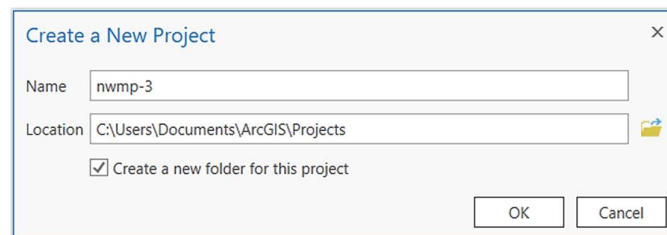
### 2. Create new project

Most projects are created from a project template, which specifies the project's starting contents. For example, a template can specify that new projects contain a map that opens to a particular extent and uses a particular BaseMap. ArcGIS Pro provides some default project templates. You can create custom project templates to start projects with maps, layouts, data, and connections to resources such as local system folders, network drives, or enterprise geodatabases. In this way, project templates help you create projects that support specific themes, tasks, or applications.

1. In the New Section click on **Map**

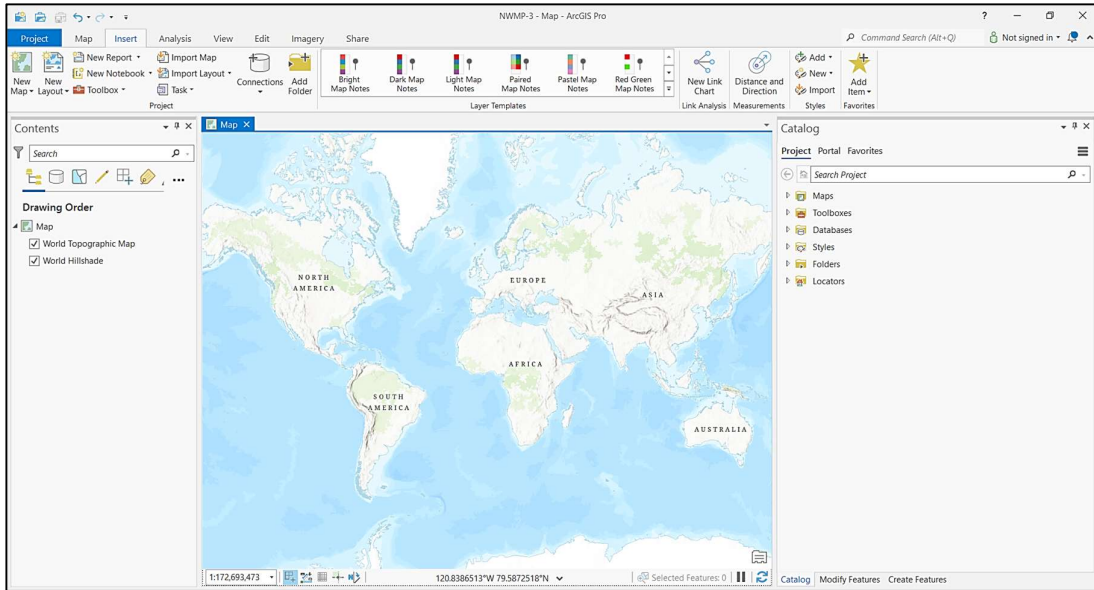


2. Create a New Project window appear.
  - type NWMP-3 in the Name box.  
The name is applied to the project file, the default geodatabase, the default toolbox, and the home folder. It can't be changed after the project is created.
  - Optionally, type a different path in the **Location** text box or click **Browse**  and browse to a location.



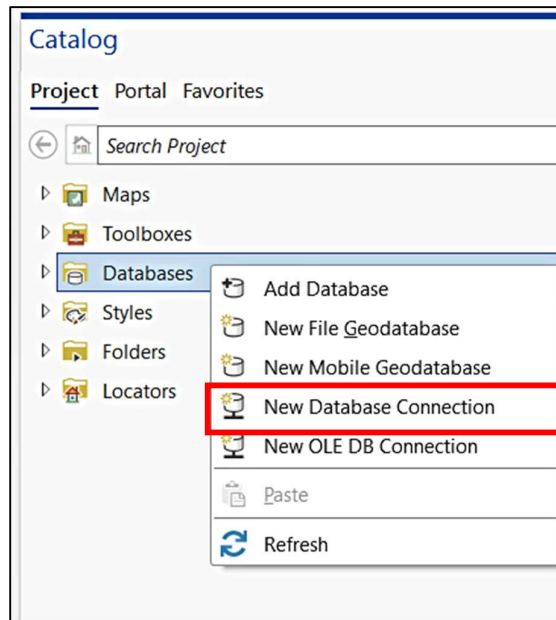
3. Click **OK**.

The project is created and opened.

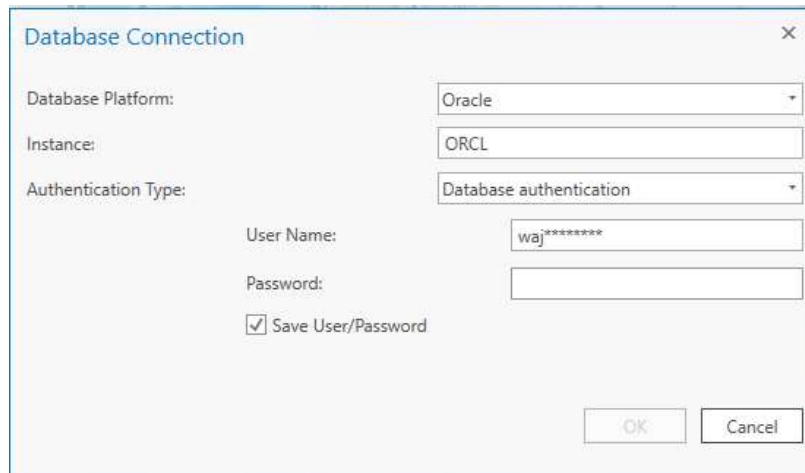


### 3. New Database connection

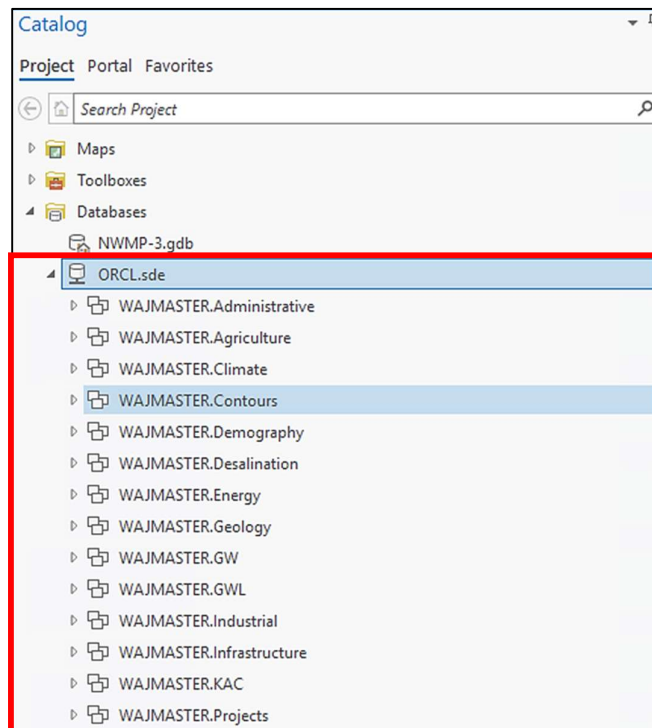
1. From the catalog pan, Right click on Database.
2. Select New Database Connection



3. Database Connection window Appear
  - Choose **Oracle** from the **Database Platform** drop-down list to connect to an Oracle database.
  - Instance: The name of the Oracle server
  - Choose **Database authentication**, and provide a valid username and password
4. Click on Ok.



Nwmp3-database appear on catalog, This database contain all layer, table that you need to Create and manage the maps, chart, tables ,application inside the platform.



#### 4. Add Layer

Next, add layers you need to build map same as Figure 23 / volume B.

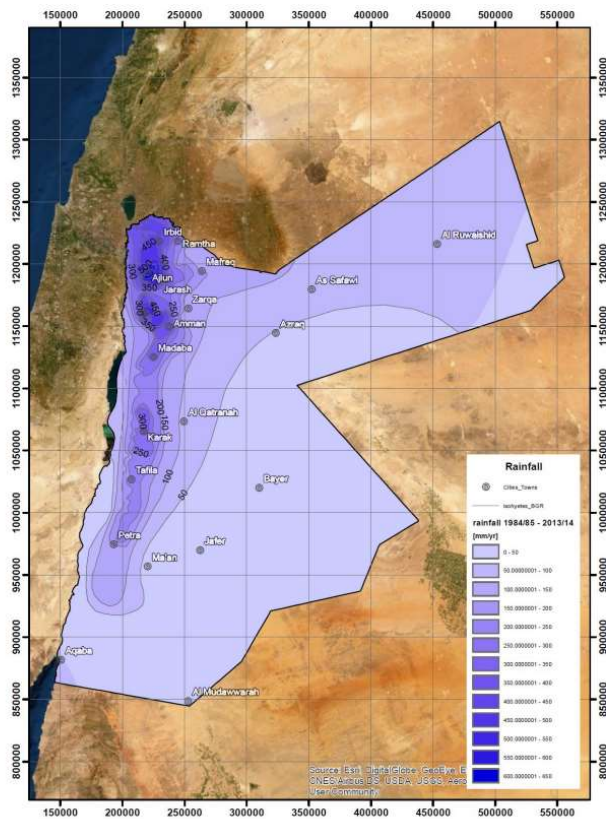
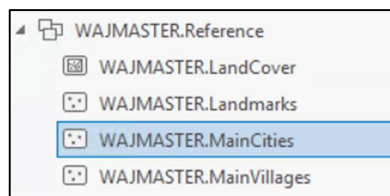


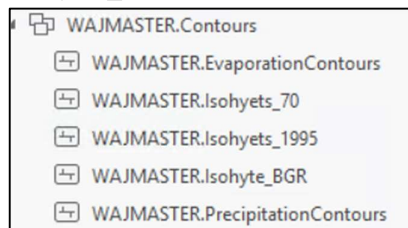
Figure 23: Rainfall Distribution Map for 30-years Average of Water Years 1984/85 – 2013/14 (BGR, 2017)

We need three layer to represent the map:

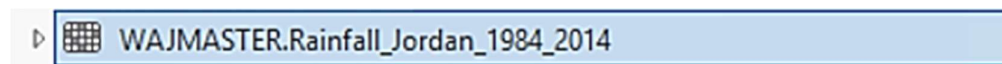
1. **Main cities** under dataset **Reference** .



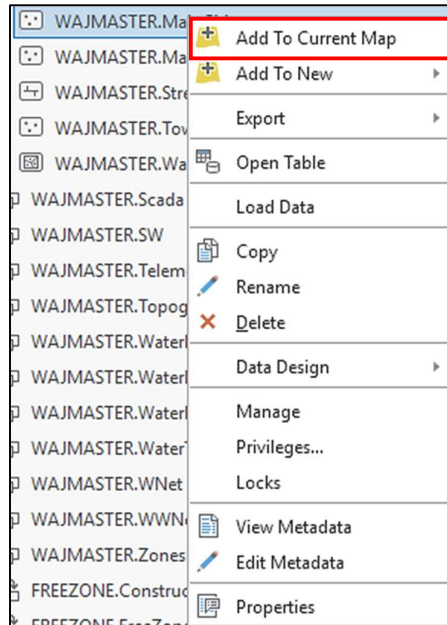
2. **Isohyets\_BGR** under dataset **Contours** .



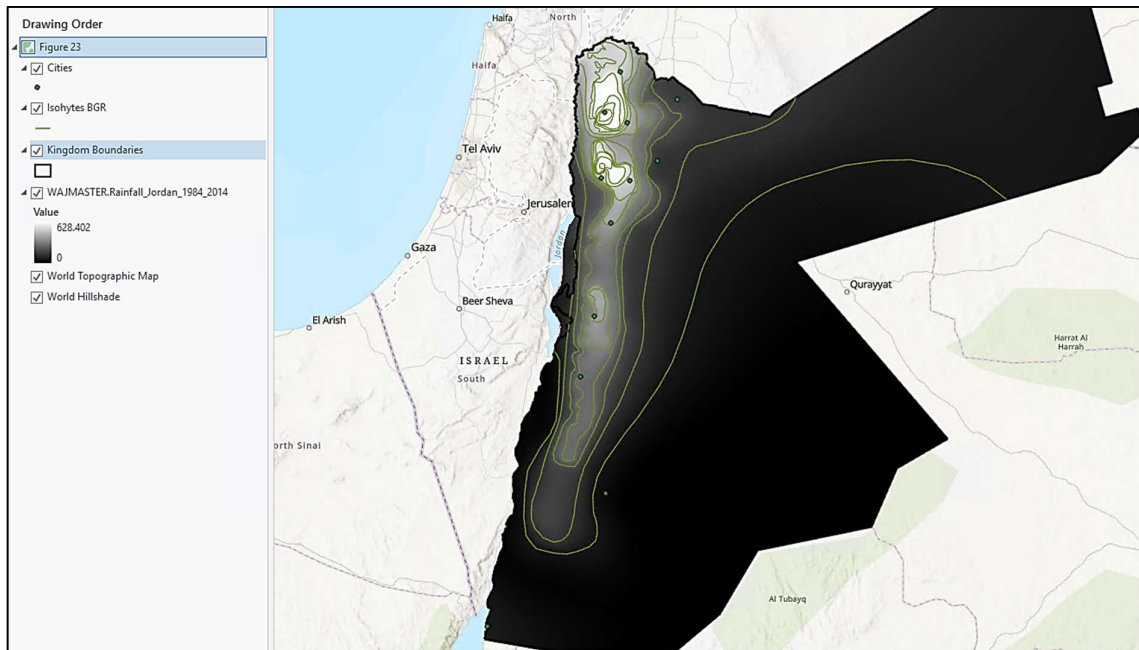
3. **Grid: Rainfall\_Jordan\_1984\_2014**.



5. **Kingdom** under dataset **Administrative**.
6. **Right click** on the layer you want to add and click on **Add To Current Map**.

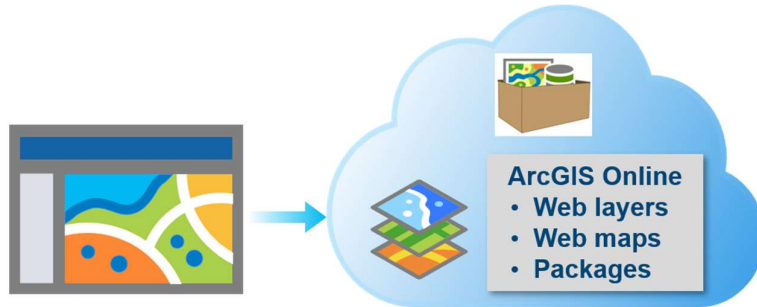


After you add all layer, the map should look like this.



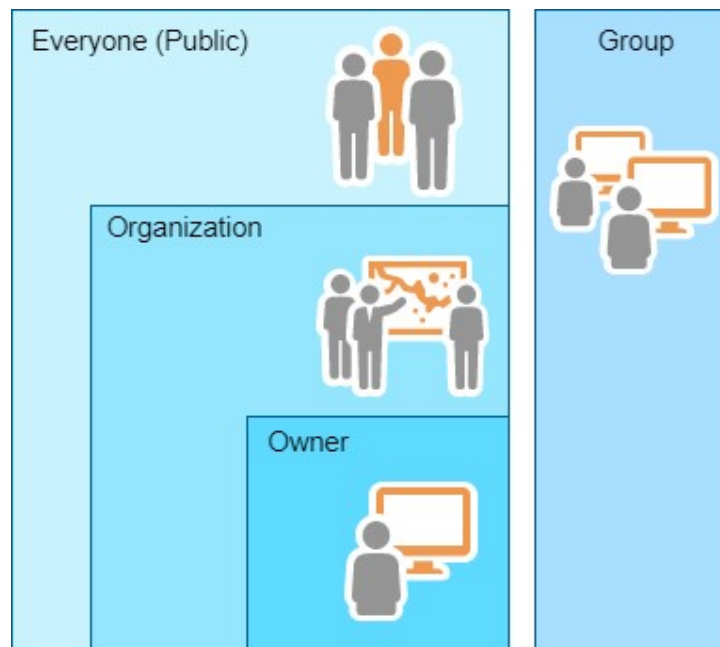
## Share your work in ArcGIS Pro

In ArcGIS Pro, you can share your layers, maps, data as a web layer or web map. Users can access your shared content directly through ArcGIS Pro or the ArcGIS Online website. sharing web layers and web maps is used for sharing to a broader audience.



### 1. Sharing roles and permissions

When you share content using ArcGIS Portal, you determine the audience that you share with so that you can control who can see your content. You may not want the public to see it and may only want to share it within your organization, or with specific groups in the organization. For example, you may have information that you want to share with the field collection group, so you share it to that group so only they can access it.



The levels of sharing in ArcGIS Portal enable you to collaborate with people who are internal or external to the organization. Groups can be made available only inside the organization, or they can be made available to the general public.

**Owner**

Owner (also referred to as private) content is only visible to the content owner and the administrator or administrators of the organizational site. Owner sharing is the default option in ArcGIS Pro.

## **Group**

A group is a collection of items in ArcGIS Online that is related to a specific area of interest or job role. You can use groups to organize your online content and control access to that content. As a group owner, you have control over items shared to the group, and you can invite others to join. Content shared to a group is visible to the members of that group. Groups may be organized based on job duties, such as fieldworkers or data analysts. You can have group membership without being a member of an organization.

## **Organization**

Any member of the organizational site can access content shared to the organization.

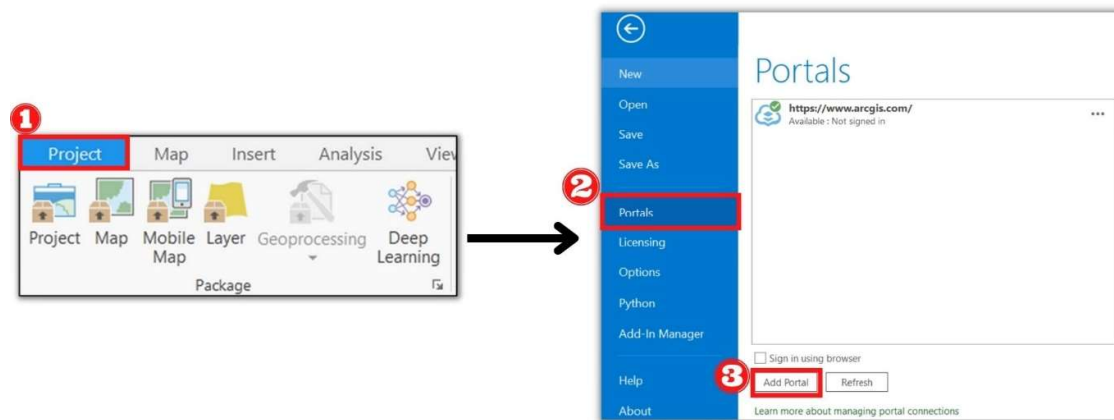
## **Public**

Content shared with the public is visible to anyone.

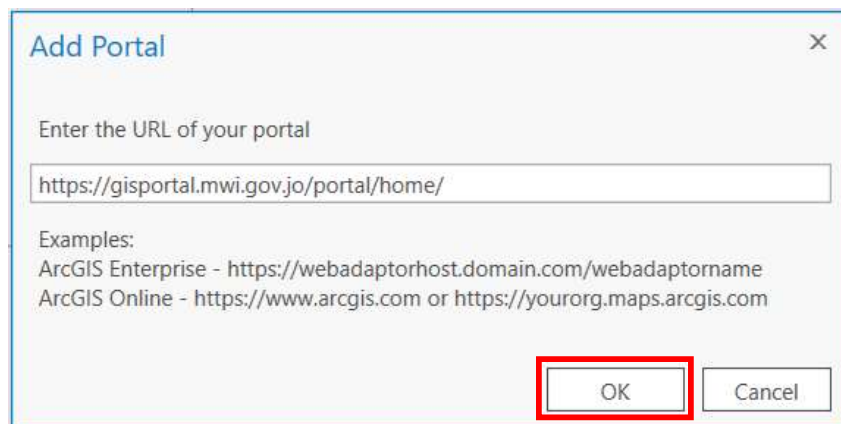
## 2. Sign into your organization

You can sign into your organization from either the **Sign In** menu at the top corner or by clicking the **Project** tab on the ribbon and clicking the **Portals** page. Signing into your organization also allows you to access your content, group content, and your organization's content in your project. You can sign in to additional portals to use their content as well. You must also sign in to publish and share with your organization.

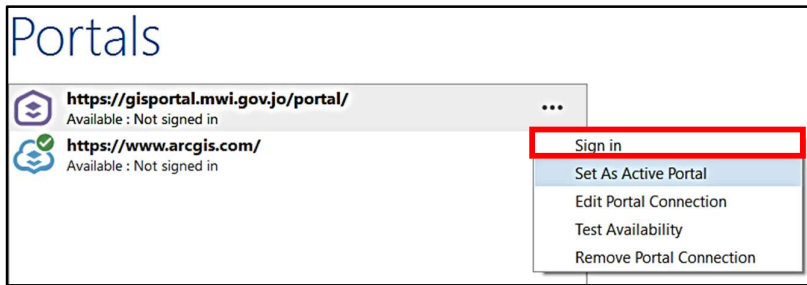
1. Click on **Project** tab on the ribbon and
2. Click on **Portals** page.
3. Click on **Add Portal**.



4. Add Portal Window appear, paste the URL of WAJ portal:  
<https://gisportal.mwi.gov.jo/portal/home/>
5. Click **Ok**.

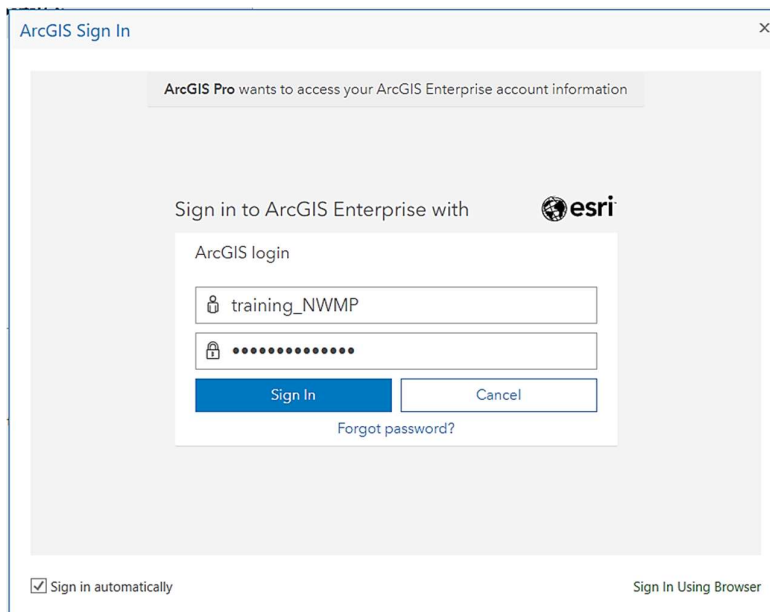


1. Waj portal added to portals, Next click on **Options** button **...** and click **Sign In** .

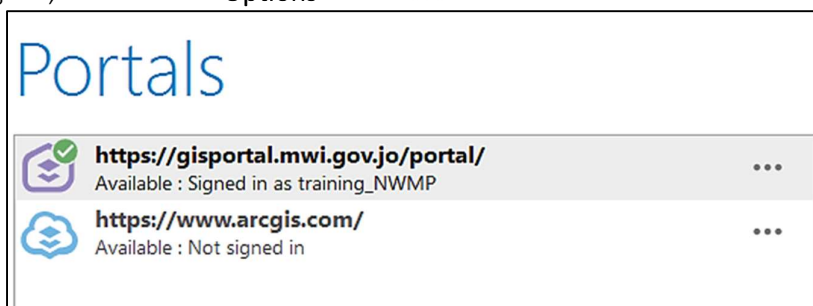


ArcGIS Sign In window appear, login with username and password bellow :-

**Username:** training\_NWMP  
**Password:** training\_NWMP3



2. Click on sign in, Next click on **Options** button **...** and click **Set as Active Portal**.



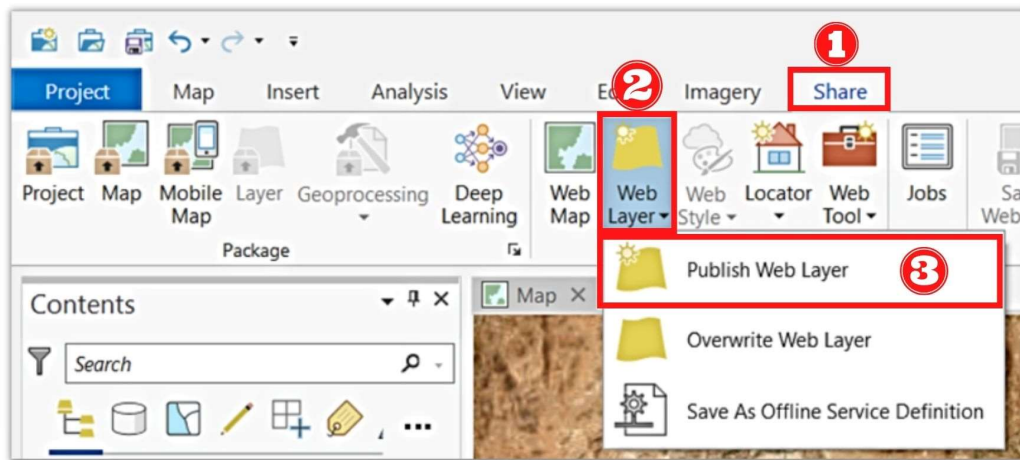
3. Back to project area, click on the arrow button in the upper left corner.



### 3. Share a web feature layer

Web feature layers support vector querying, visualization, and editing. They are appropriate for visualizing data on top of a BaseMap and can be used as inputs for analysis and in sync-based workflows.

1. Share all usable layers in the map as a web layer. On the **Share** tab, click the **Web Layer** drop-down arrow and click **Publish Web Layer**.



The **Share as Web Layer** pane appears.

2. Provide a name for the web layer write “B\_Figure 23\_Your name Map”.
3. Complete the **Summary**: “Figure 23” and **Tags** fields:” Volume B, Figure 23 , map, Waj , NWMP-3,your Name”.

You can enter a maximum of 128 tags.

4. for **Layer Type**, click **Feature**.

Reference datasets in a registered enterprise database, confirm that **Map Image** is selected under **Reference registered data**. Check the **Feature** check box to share the web feature layer as a dependent layer to the map image layer.

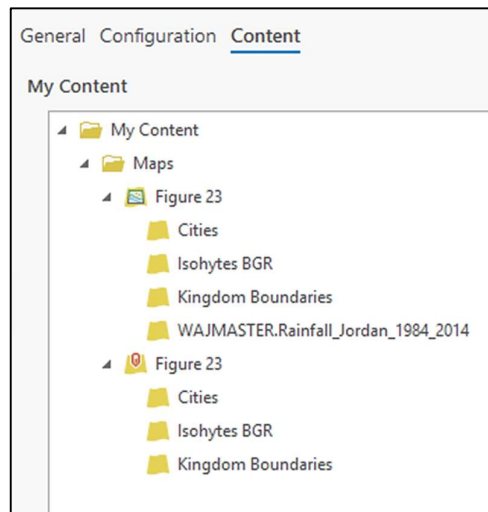
5. Under **Location**, use the **Folder** menu to choose a **Your Name** folder in your portal content in which to store the web layer.


6. Use the **Server and Folder** drop-down menus to specify the federated server where the service is published and the folder where it is stored. Optionally, create a folder. By default, the service is stored in the root folder of the server.
7. Under **Share with**, specify how the web layer will be shared:
  - a. **Everyone**—Share your content with the public. Anyone can access and see it.
  - b. **My organization**—Share your content with all authenticated users in the organization. This option is available when you are signed in with an organizational account.
  - c. **Groups**—Share your content with groups to which you belong and their members.



Leave all options unchecked to set the sharing level to the owner of the item.


- **Check Organization.**

8. Click the **Content** tab to view the new web layer or layers and all associated components.



9. Under **Finish Sharing**, click **Analyze**  to review for potential problems.

Errors and warnings are listed on the **Messages** tab. Right-click a message to open its help topic or take corrective action in the software. Errors  must be resolved before you can share your GIS resource. Resolving warnings  is recommended but not required.

10. After you have resolved errors, and optionally, resolved warnings, click **Publish**  to share the web layer.

**Share As Web Layer** ?

Sharing Figure 23 As A Web Layer

**General** Configuration Content

**Item Details**

Name  
Figure 23

Summary  
Figure 23

Tags  
Volume B × Figure 23 × map × Waj × NWMP-3 ×  
Add Tag(s)

**Data and Layer Type** ⓘ

Reference registered data

Map Image

Feature

Vector Tile

Map Image and Feature

Copy all data

Feature

Tile

Map Image

Vector Tile

Feature ⓘ

**Location**

Portal Folder  
Maps

Server and Folder  
https://gisportal.mwi.gov.jo/arcgis (Hosting Server)

Select or create folder

**Share with**

Everyone

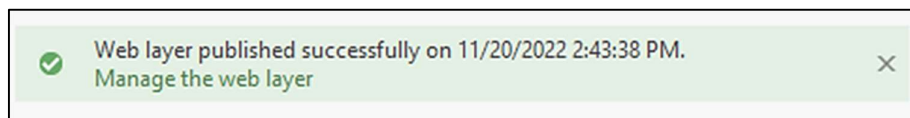
ArcGIS Enterprise

Groups

**Finish Sharing**

Analyze Publish Jobs

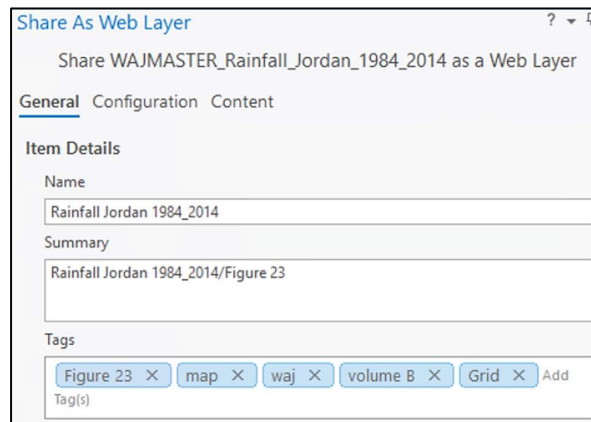
- Once the web layer has been successfully published, click the **Manage the web layer** link to manage the web feature layer through your portal.



### Share imagery Layer

- Right click on **Rainfall\_Jordan\_1984\_2014** From the Catalog.

2. Click on **Share as Web Layer**  .
3. Repeat Previous Steps.



Share As Web Layer

Share WAJMASTER\_Rainfall\_Jordan\_1984\_2014 as a Web Layer

General Configuration Content

Item Details

Name

Rainfall Jordan 1984\_2014

Summary

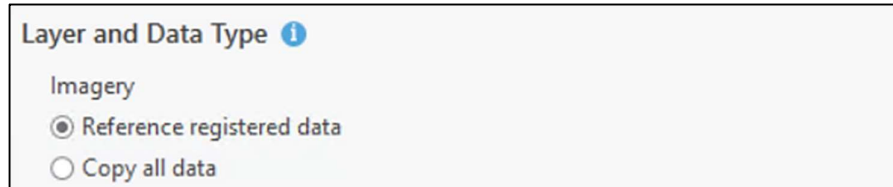
Rainfall Jordan 1984\_2014/Figure 23


Tags

Figure 23 × map × waj × volume B × Grid × Add

Tag(s)

4. Under Layer Data Type, Imagery check Reference registered data.





Layer and Data Type 

Imagery

Reference registered data

Copy all data

5. Under **Finish Sharing**, click **Analyze**  to review for potential problems.
6. After you have resolved errors, and optionally, resolved warnings, click **Publish**  to share the web layer.

# Chapter 2



# ArcGIS Portal

InfoGraph

الشركة الإستشارية لأنظمة المعلومات الجيائية  
Information & Graphics Systems Consultants L.L.C.



## Chapter2: - ArcGIS Portal

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The ArcGIS Enterprise portal is a component of ArcGIS Enterprise that allows you to share maps, scenes, apps, and other geographic information with other people in your organization. The front-end portal is powered by the back-end infrastructure of Portal for ArcGIS. The organization administrator can customize the portal to fit your organization's look and feel.

The ArcGIS Enterprise portal brings together all your geographic information and shares it throughout your organization. With it, you can:

- Create, save, and share web maps and scenes.
- Create and host web mapping apps.
- Search for GIS content within your organization.
- Create groups to share GIS information with colleagues.
- Share links to GIS apps.
- Share map and layer packages to use in ArcGIS Pro.

The ArcGIS Enterprise portal includes the following:

- **The ArcGIS Enterprise portal website**—At the front end of the portal, users sign in to search, use, and share content.
- **Map Viewer and Map Viewer Classic**—These apps within the portal website allow you to view, design, and save web maps. Think of them as canvases in which you combine GIS information and services to make your own maps. You can save your maps, share them with others, and embed them in apps you create using ArcGIS Configurable Apps templates or ArcGIS Web AppBuilder.
- **ArcGIS Web AppBuilder**—The portal website includes an embedded interactive app for designing and building web applications from your web maps. Applications you create with Web AppBuilder require no programming knowledge and are HTML-based, meaning they work on desktop browsers, tablets, and smartphones without needing a plugin. Web AppBuilder comes with a variety of themes you can customize and widgets that allow you to deliver advanced functionality such as high-quality printing, geoprocessing, editing, and search. To learn more, see [What is ArcGIS Web AppBuilder](#).
- **Scene Viewer**—In the ArcGIS Enterprise portal, the Scene Viewer application is used for viewing 3D geospatial content. Scene Viewer works with desktop web browsers that support WebGL, a web technology standard for rendering 3D graphics.
- **ArcGIS apps**—The ArcGIS Enterprise portal supports user-friendly applications that allow people to interact with web maps and scenes from your portal. For a full list of portal-ready applications, see [Common clients of ArcGIS Enterprise](#).

## Sign in into ArcGIS Portal organization account

You need the following information:

1. The URL for the portal website: <https://gisportal.mwi.gov.jo/portal/home/>
2. sign in using this account:

**Username:** training\_NWMP  
**Password:** training\_NWMP3

Once you are signed in, you can begin using the portal website.



Three users to control the platform: -

- 1) Waj User for viewing only:

NWMP-3 Supervisor

- 2) Waj Admin have access to data entry application






NWMP-3 Admin

- 3) Waj Supervisor have access to edit and add new maps, app, storymaps ...

NWMP-3 User

## ArcGIS portal structure

ArcGIS Online has a basic structure with everything that you need to create, update, display, and store maps and other items. The following table includes a high-level view of the different tabs, or web pages. The last two are only available when signed into an ArcGIS Online organization.

-  A gallery of maps and apps available for you to use.
-  A map viewer that allows you to create maps and share them with others.
-  Scene Viewer, which allows you to display 3D and 2D layers in a web scene and share it with others.
-  A way to create and manage groups to control access to the maps, apps, scenes, and other geographic information you store in the portal.
-  A central location for sharing items with others in your organization.

### Gallery

The gallery is a place to browse featured maps, web mapping apps, and mobile apps. Your organization's administrator selects which items appear in the gallery and can pick items important for your work projects and show useful examples, including content from ArcGIS Living Atlas of the World.

### Map

Click **Map** to open your default viewer: either Map Viewer or Map Viewer Classic. Use the viewer to build interactive web maps and share them with others in your organization. Choose or add a BaseMap, define an area of interest, and add information layers to the map.

### Groups

Groups are a collection of items usually related to a specific area of interest. Create groups to organize and share items. As a group owner, you decide who can find the group, if others can request to join, and who can contribute content.

The **Groups** page includes the following three tabs:

- **My Groups**—This tab displays the groups you belong to and the groups you own.

- **Featured Groups**—Groups that the organization administrator wants to highlight or promote in the organization appear on this tab.
- **My Organization's Groups**—All groups in the organization that you can access appear on this tab. That means you'll see all groups you own, groups shared to the organization, and groups shared to the public.

## Content

The **Content** page allows you to see all the content in the portal to which you have access, and it also allows you to open details for individual items. Access all the content available to you in the portal by using one the following tabs:

- **My Content**—This tab displays all the items you own in the portal. You can organize these items in folders, add items to the portal, and mark items you own as favorites to make them easier to find.

If your portal role does not allow you to create content, you will not see this tab.

- **My Favorites**—Any item you've added to your list of favorites appears on this tab.
- **My Groups**—The items available to groups to which you belong appear on this tab.
- **My Organization**—All items in the portal organization that you can access appear on this tab. That means all items you own, all items shared with the public, and all items shared with the organization.
- **Living Atlas**—By default, ArcGIS Enterprise portals access ArcGIS Living Atlas of the World content curated by Esri from ArcGIS Online. You can access that content from the **Living Atlas** tab.

If your organization administrator has disabled access to this content, you will not see this tab.

You can change how items appear on the different tabs in **Content** by choosing either a list, table, or grid view. Filter the content on each tab by item type, creation date, last modified date, or sharing level to help find what you need. From each of these tabs, you can access the items' details pages.

## Organization

The **Organization** page of the website is used primarily by the organization administrator to manage the portal website and members. This page may not be available to you if you are not an administrator. If it is available, **Organization** allows you to view the items and groups owned by each portal member and view each member's profile.

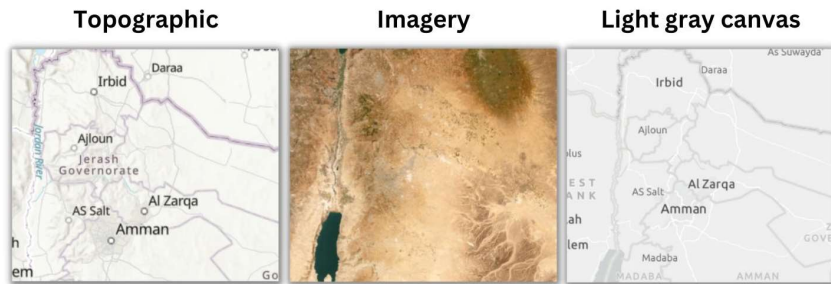
## Components of a web map

You have seen how ArcGIS Portal provides for organizations to manage data, content items, members, and groups. Now you will focus on a core component of GIS: the web map.

ArcGIS Portal is used to create web maps for visualization, analysis, and presentation. Web maps are made by adding and combining layers, just like paper or desktop software maps. The layers are made from data; they are logical collections of geographic data.

Map layers fall into two categories: BaseMap and operational. Together, BaseMap and operational layers make up most web maps.

- **BaseMap layers:** These layers are static, usually displayed under other layers, and provide a frame of reference for the map audience. They typically do not have attributes or updatable symbols or labels. BaseMap can have more detail to help orient the map user or less detail to highlight the operational layers.



- **Operational layers:** These layers are often interactive, with underlying attributes that show focused features, items, or places of interest. These layers can be symbolized, analysed, edited, filtered, and queried.

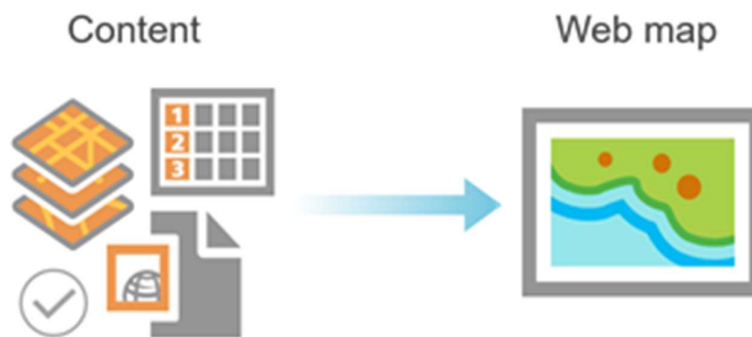
The screenshot shows a search interface with a search bar containing 'Zoom to' and a result for 'مادبا'. Below the search bar is a table with the following attributes:

مادبا	
OBJECTID	9
CITY NAME ARABIC	مادبا
CITY NAME ENGLISH	MADABA
CREATE WHO	
CREATE WHEN	
UPDATE WHO	
UPDATE WHEN	

There are many different types of map layers; the type depends on the data source and how the layer is created.

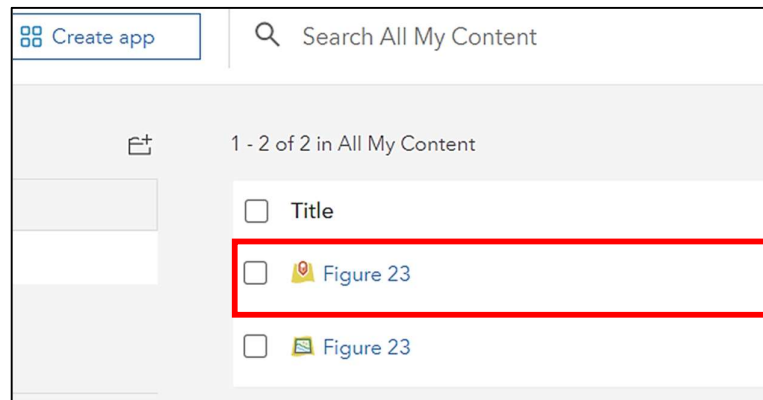
maps are useful to an ArcGIS Portal organization, and they can be easily created in a few simple steps.

1. Open a new map.
2. Add layers.
3. Select the BaseMap.
4. Style the layers.
5. Configure additional settings.
6. Save the web map.

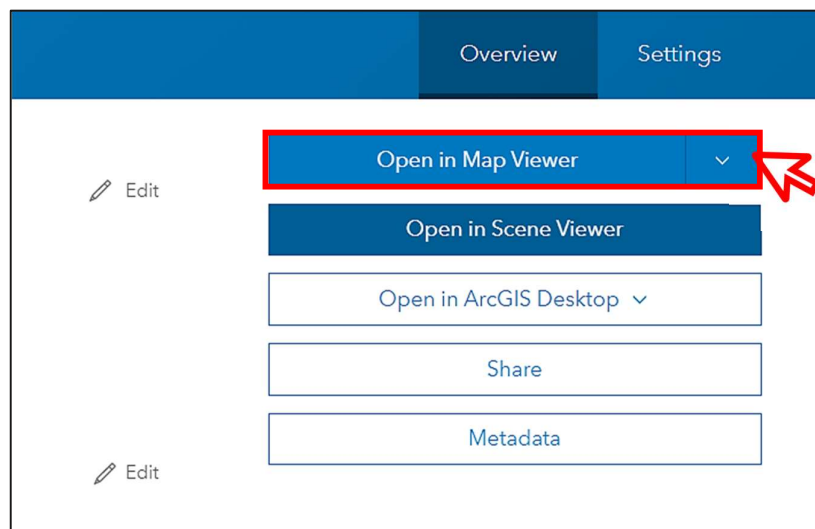


## Create Web Map

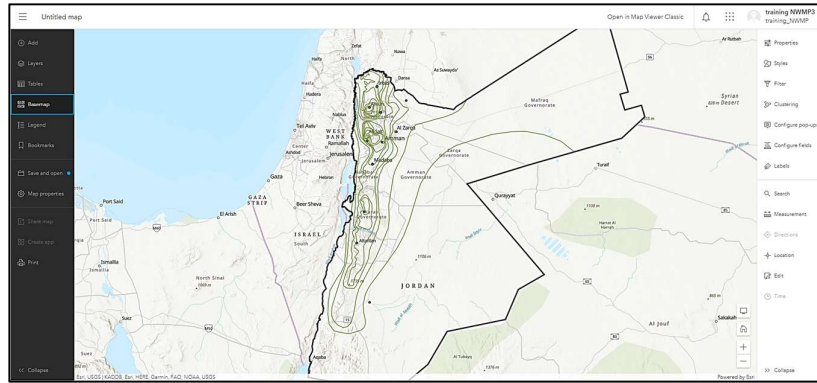
1. From content Ribbon click on Content.
2. In the Folder section Select the folder.
3. Now you see the Feature Layer you publish from ArcGIS pro in previous chapter click on it.



4. Feature Service Overview Open, Next Click on and choose **Open in Map Viewer**.





Now Map Viewer Open with the layer you publish



## 5. Save the map

It is good practice to save a map before making changes. Now, you will save this map and add metadata before adding more layers.

- a. On the left, from the Contents toolbar, click Save  And Open  and choose Save As.

.In the Save Map dialog box, set the following parameters:

- i. For title, type **B\_Figure23\_map**.
- ii. For tags, type **Volume B, Figure23, NWMP3**.
- iii. For Summary, type *Rainfall Distribution Map for 30-years Average of Water Years 1984/85 - 2013/14 (BGR,2017)*.
- iv. For Save In Folder, choose Your Folder .
- v. Click Save map.

Save map ✕

---

Title

Tags

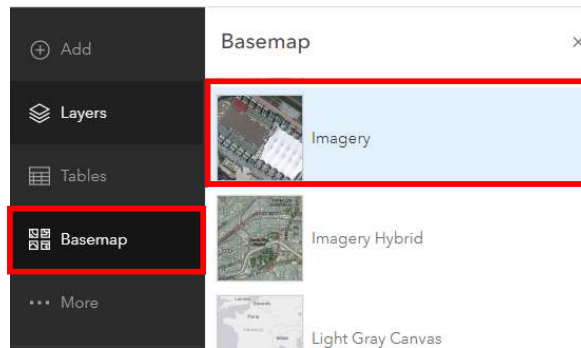
Summary

Save in folder

Now that the map is saved, the changes that you have made will be preserved. It is a good idea to save the map periodically as you continue to make changes.

6. Change the BaseMap to Imagery

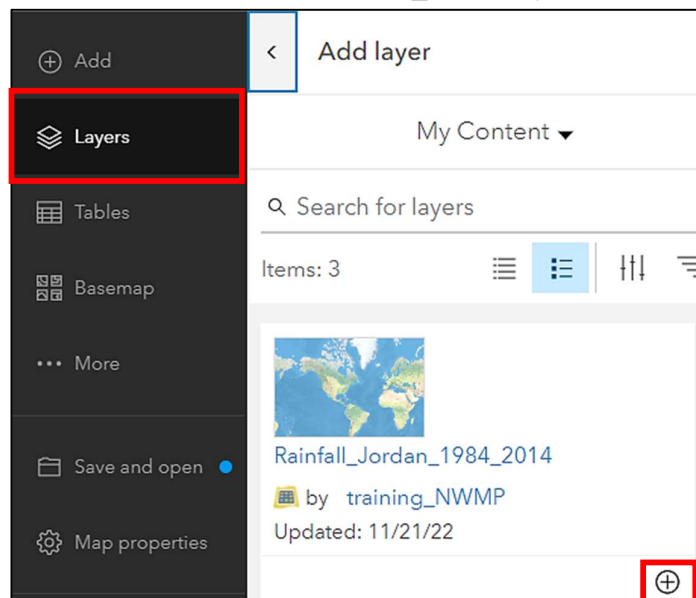
- a. To the left of the map, in the content toolbar, click on Base map, Choose Imagery.



7. Add additional map layers

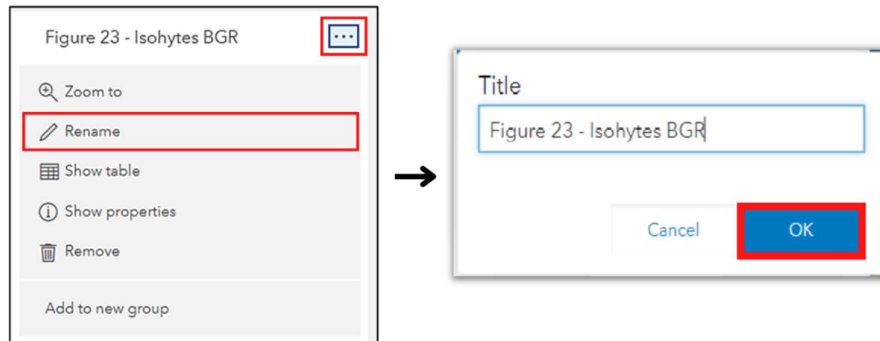
Next, you will add more layers and update some symbolization settings.

- a. To the left of the map, in the Layers pane, click Add Layer, Browse layers.
- b. From My Content, add Rainfall Jordan 1984\_2014 Layer.



- c. At the top of the pane, to the left of Add Layer, click the Back arrow to return to the Layers pane.
- d. Drag and drop the Rainfall image layer and put it under layer.

- e. Click On the Option button and select **Rename**, change the layer Name to **Isohyetes\_BGR** same as legend in the Volume B Document, Click **OK**.



Repeat previous Steps and Rename all layer, and it should look like this

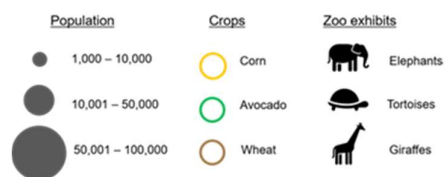


## Changing map layer appearance

Making a web map is important because a map is an information product that can be used for analysis, added to presentations, or shared with others. It is likely that you or someone else may want to improve or change things about the map. For example, you may want to update a feature's appearance to make the map clearer for the audience. Some ways to change a map layer's appearance are to update its symbology; add filters, labels, or pop-up content; and use effects.

### Symbology

Update symbol settings to change how the audience perceives the information in a map. Change symbol sizes, colours, or shapes to make them stand out.



Varying symbol size, color, or shape are common ways to vary the symbols for vector features.

### Filtering

Add a query to display only important features on the map. Use filters to remove smaller features that clutter or distract from your map, such as small towns or local streets.



Filtering reduces the number of features displayed on the map.

### Labels

Turn on labeling or customize existing labels to enhance a map's readability or to draw attention to certain features.



Rules about fonts and colors associate labels with specific feature types, such as water features.

## Pop-up content

Customize pop-up content to show graphs, images, or calculated fields that use code expressions.




Pop-up windows are a dynamic feature of web maps that can be customized extensively.

## 1. Change style

You will update the symbology to differentiate the layers. Symbolization means representing the features in the data in a way that helps the map audience understand what it is.

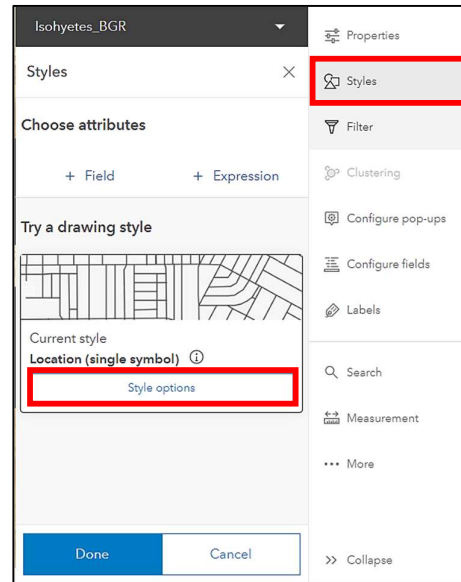
- a. In the Layers pane, verify that the **Isohyetes\_BGR** layer is selected.

Layer selection is indicated by a vertical blue line to the left of the layer name. When a layer is selected, several options become available in the Settings toolbar on the right.

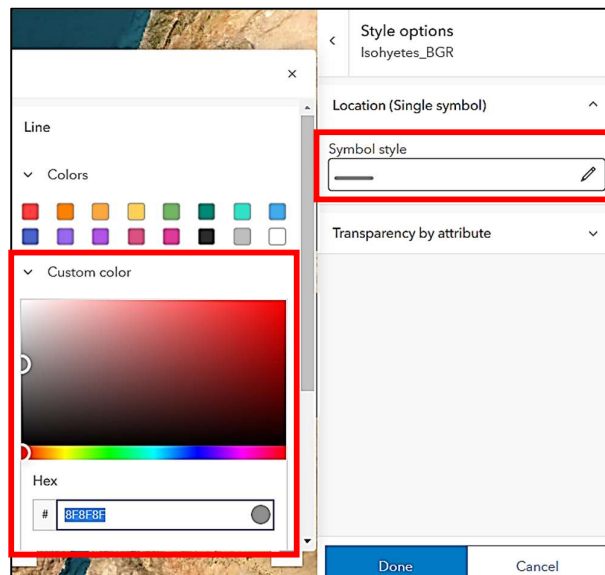
- b. From the Settings toolbar, click Styles .

The Styles pane opens.

- c. Click on Style option



- d. In the Style Options pane, under Symbol Style, click the layer symbol in the Custom color section Paste #8F8F8F, In Strok sectio put the width for 2px, click Done.



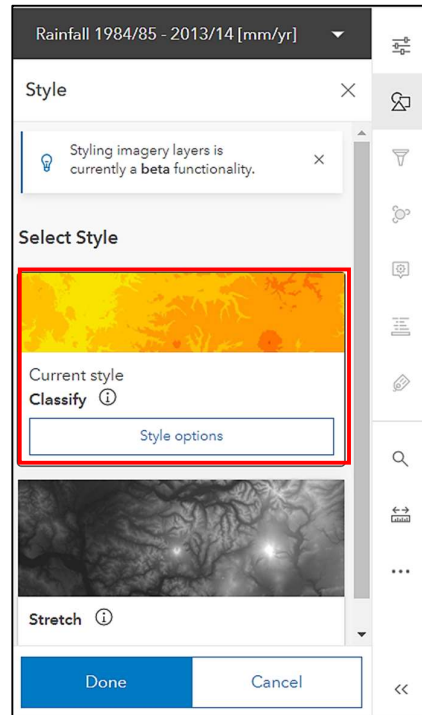
Output Should look like bellow for Now .



Reapeate previous steps for cites\_Towns layer and change the color to gray and size to 12px.

Next you will change the style for Rainfukk 1984 ..

- a. From the Settings toolbar, click Styles.
- b. Click on Current Style, Classify

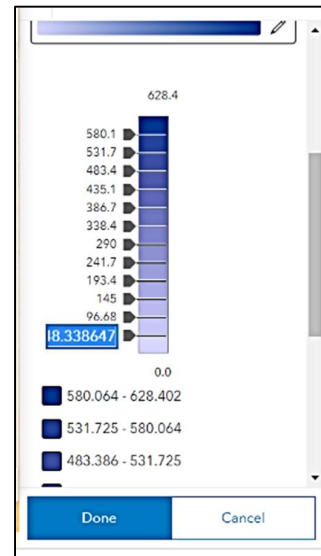
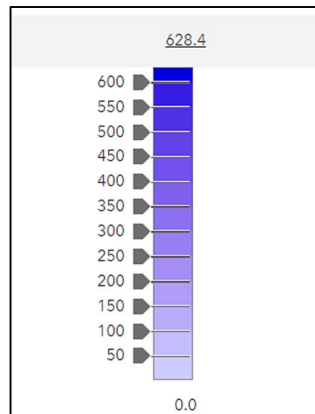


c. Style option Pane appear Now you will change some option

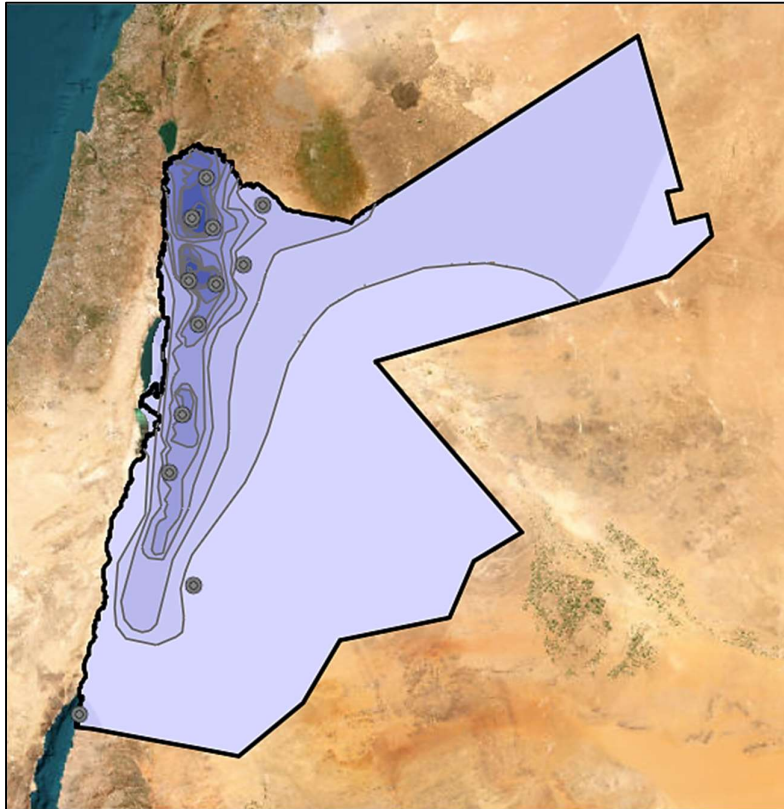
- For the Field Select **value**
- For the Method select **Manual interval**
- For Number of classes type **13**
- For Color scheme select **blue Scheme**

Next in interval Section set the interval same as the interval in document

Select the value and type the new one repeat the steps for all values,click Done ..

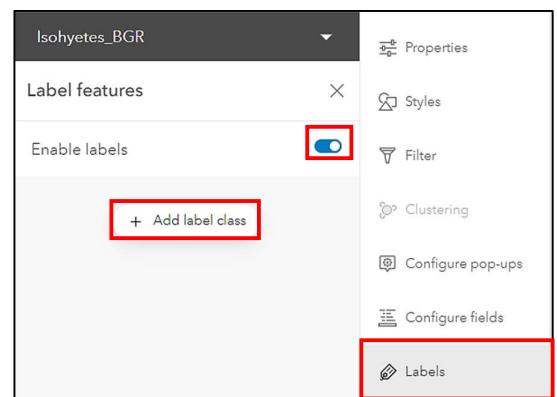


Now your map should look like this ..

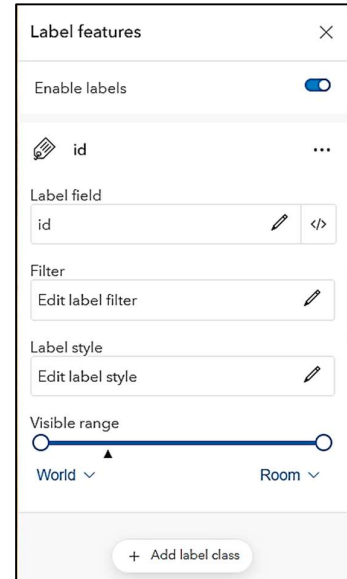
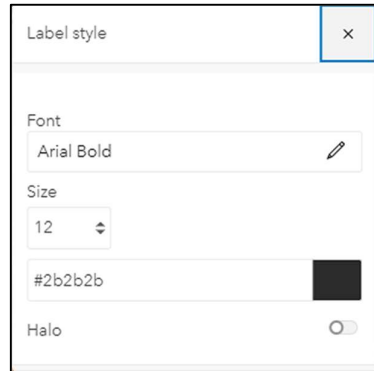


## 2. Configure Label

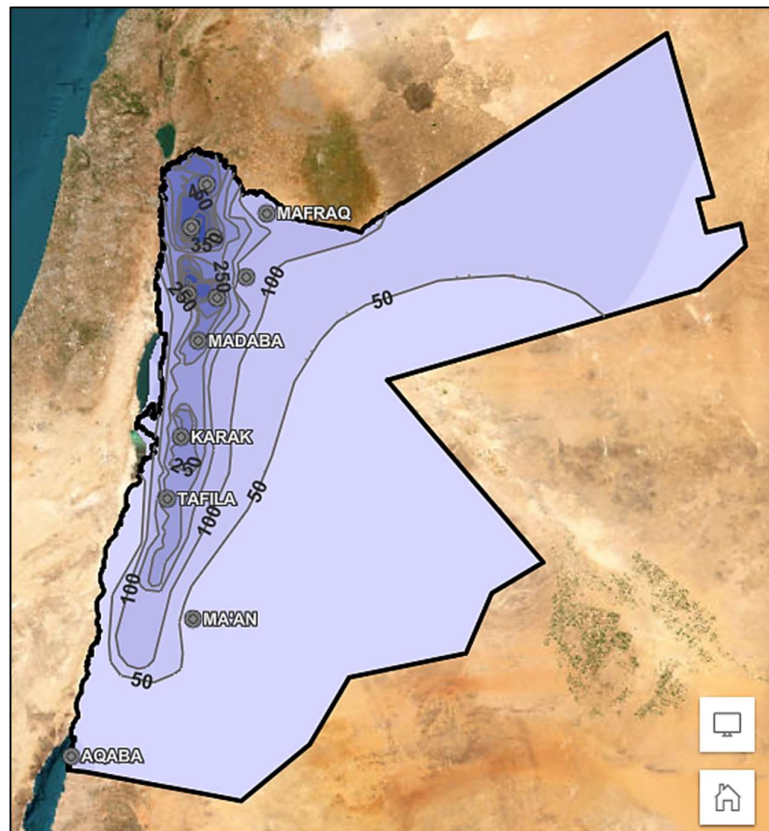
- Select Isohyets\_BGR layer.
- From the Settings toolbar, click Label.
- Enable the label for the layer.
- Click on Add label class.



- e. Class added ,
- In Lable field select Id.
  - No need to filter the data.
  - In label Style set below option.



Repeat previous steps on Cites\_towns then the map should look like below.



- f. Save the changes to your map.

### 3. Customize pop-up content

You can also highlight map features and provide more information about these features by configuring pop-up content. A pop-up window is an informational dialog box that opens when a map user clicks a feature. The default is to include all attributes, but pop-up content in ArcGIS Portal can be customized to show the relevant information that you would like to highlight.

- a. On the map, click any mine feature to see its pop-up content.

المفرق	
OBJECTID	1
CITY NAME ARABIC	المفرق
CITY NAME ENGLISH	MAFRAQ
CREATE WHO	
CREATE WHEN	
UPDATE WHO	
UPDATE WHEN	

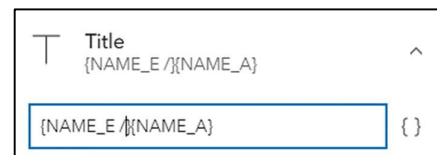
 The information shown in the pop-up window will vary depending on which feature you click.

Some of these attributes are informative, but an attribute like Feature ID is probably not relevant to your map audience. Attributes like CREATE WHO or Feature Class in this small dataset are the same for every feature, so they do not add any new information either. Other attributes have had their names truncated, so you can update display names to be more readable. You will update pop-up configuration.

- b. From the Settings toolbar, click Configure pop-up.

Pop-up content is enabled by default on all layers. If necessary, you can disable pop-up content on layers that do not require them. For example, you could prevent pop-up windows for multiple feature layers from appearing when map users only expect to see a pop-up window for one layer. Pop-up windows also default to showing all attributes, which you will change.

- c. In the Pop-Ups pane, to the right of Title, click the down arrow.



- d. Click on Add field and select the field you want to add. We need to show the English and Arabic

name for cities\_Towns Layer **{NAME\_E } {NAME\_A}** Write a space between two values and dash **{NAME\_E } / {NAME\_A}**

KARAK / الكرك

- e. In the Pop-ups pane, click Fields List to expand the section.
- f. To the right of the following attributes, click the X to remove them from the pop-up content:
- OBJECTID
  - CREATE WHO
  - CREATE WHEN
  - UPDATE WHO
  - UPDATE WHEN
  - COMMENTS

The changes that you make to the pop-up configuration are updated instantly, which enables you to see the effect of your choices as you make them.

- g. On the map, review the information displayed in a mine feature pop-up.



The pop-up content is more concise. Now you will turn off pop-up content for Kingdom layer.

- In the Layers pane, click the Kingdom Boundaries to select it.
- In the Pop-ups pane, turn off the Enable Pop-Ups option.
- Save the map

# Chapter 3



# Experience Builder

InfoGraph

الفرقة الإستشارية لأنظمة المعلومات البيانية  
Information & Graphics Systems Consultants L.L.C.



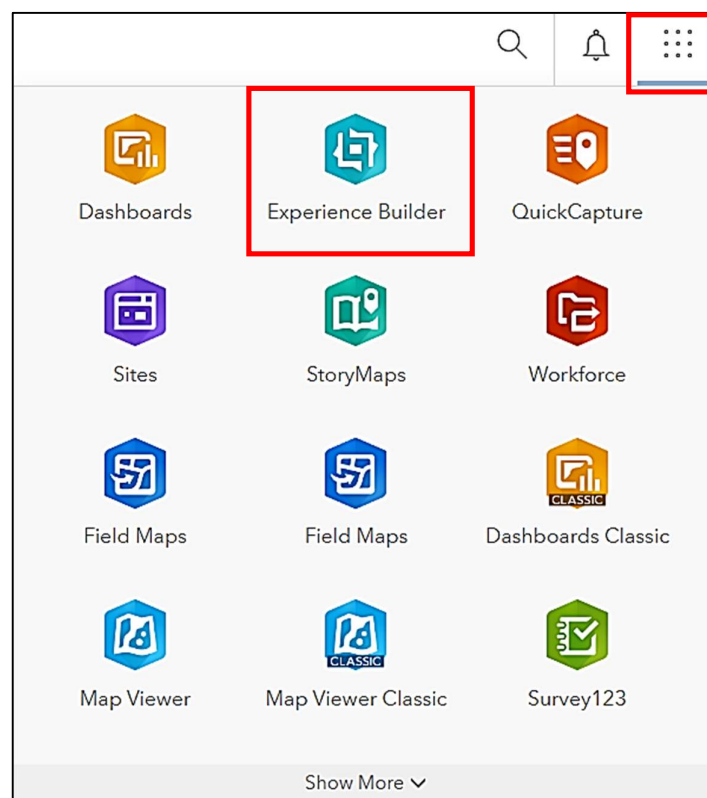
## Chapter 3: - Experience Builder

ArcGIS Experience Builder allows you to create unique web experiences using flexible layouts, content, and widgets that interact with data.

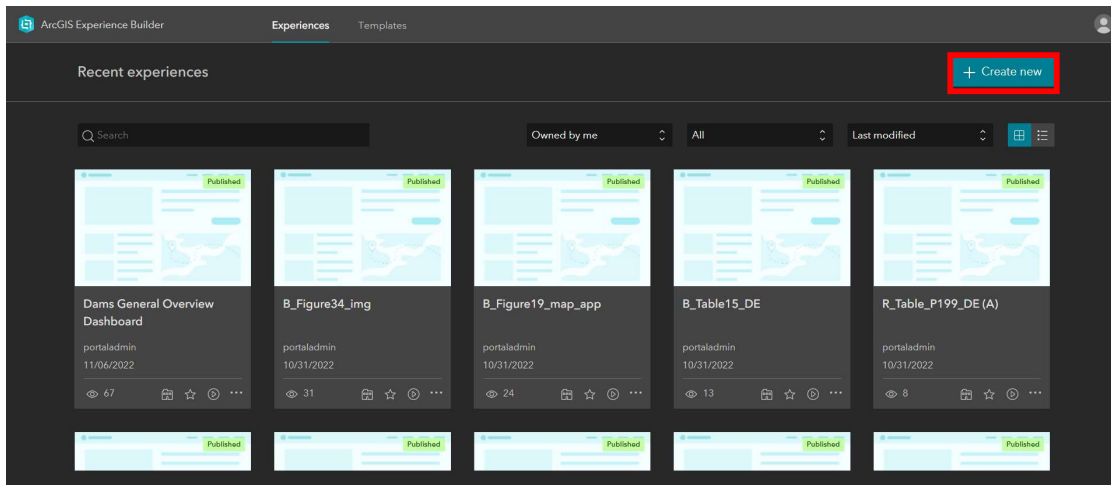
In NWMP-3 project we create two types of app: first one **map app**, and the second type table app allows you to Access to the data Entry application from table.

### Create Map Web App

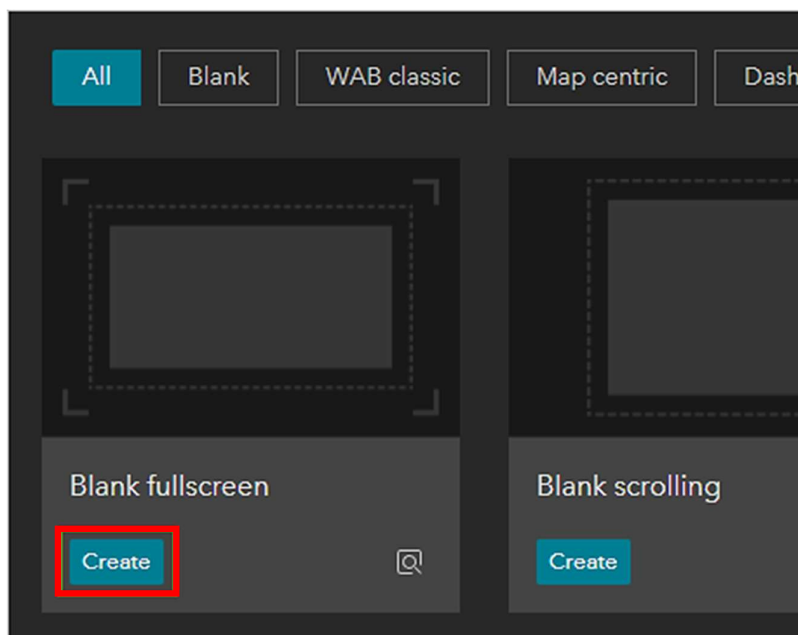
1. From the apps button, click on Experience builder.



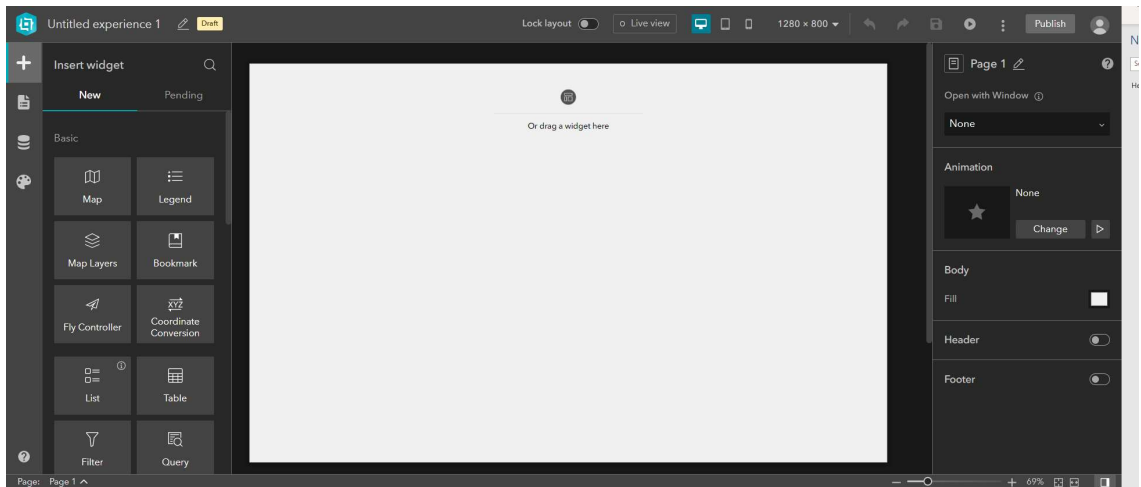
2. Experience builder home page opens, it contains all the Experience app you add to your portal, click on create new [+ Create new](#) .



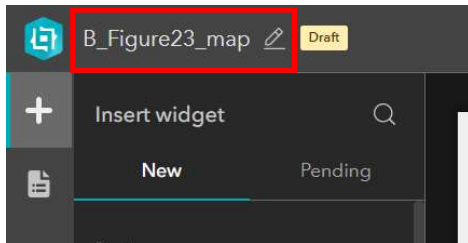
3. A template gallery appears. For future projects, these templates can save you time by preconfiguring the layout, but for this Nwmp-3 project, you'll start with a blank canvas so you can more directly learn how to structure a layout.
4. On the **Blank Fullscreen** card, click **Create**.



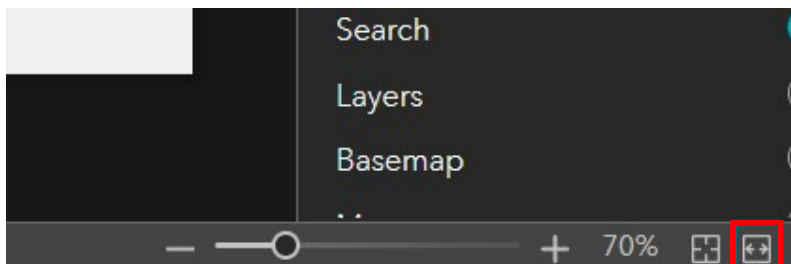
5. ArcGIS Experience Builder appears, You'll rename your experience with a more meaningful title includes (volume Name\_Figure Number\_map\_your Name)(B\_Figure23\_map\_name).



6. On the top ribbon, click **Untitled experience** and type B\_Figure23\_map.

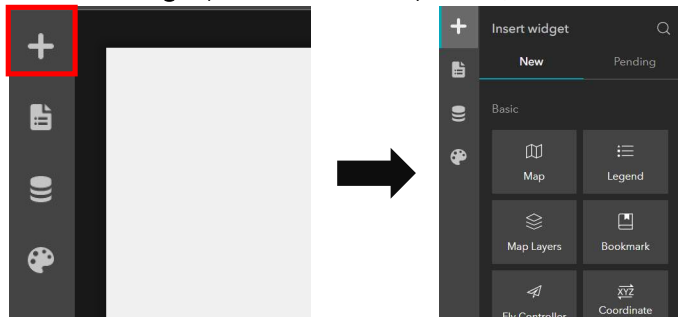


7. In the bottom right corner of the screen, click the **Fit width to the current window** button.



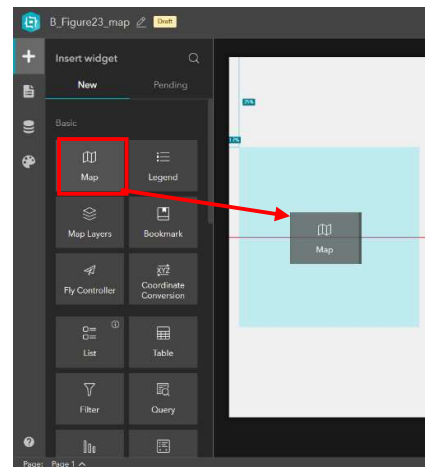
- Add map Widget

8. If the **Insert widget** pane is not already visible, on the side toolbar, click the **Insert** button.

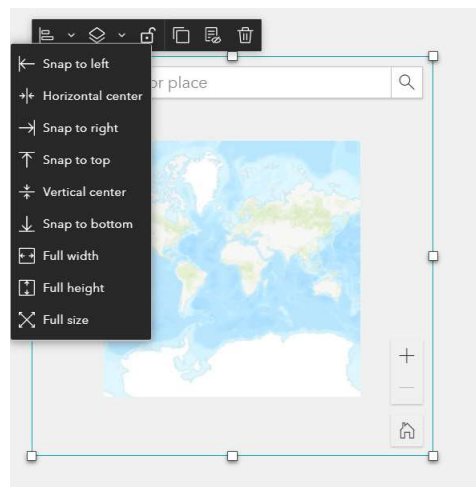


9. Go to the **Insert widget** pane and find the **Map** section.

10. Drag the **Map** widget onto the canvas.

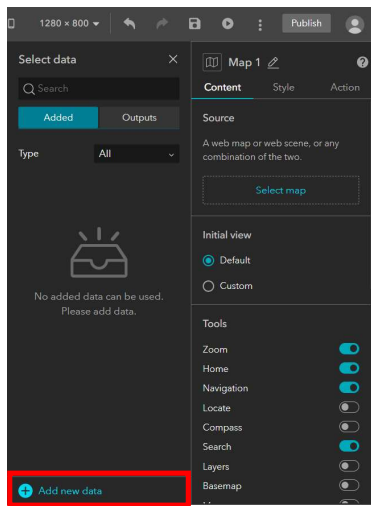


11. On the Map widget's toolbar, click the position button and click **Full size**.

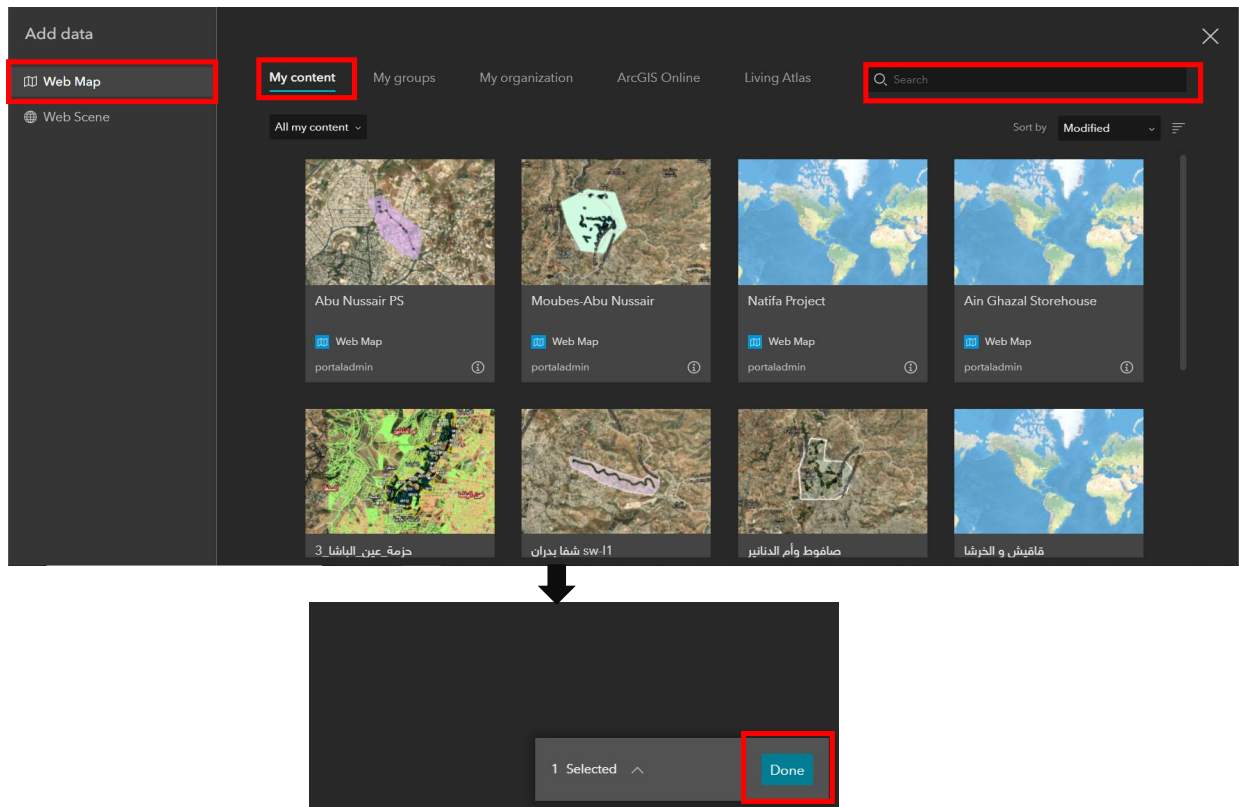


The map expands to fill the entire canvas.

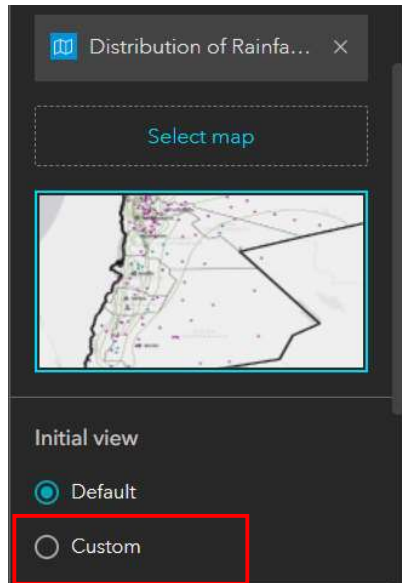
12. In the **Map** pane, under **Initial view**, click **Select map** and click on  **Add new data**.



13. From add data window select the Web map you want to add, click done.

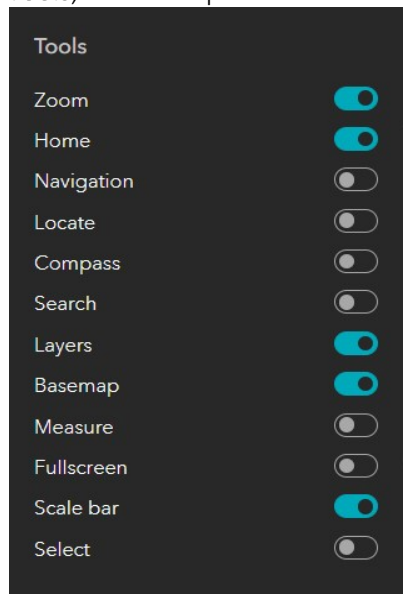


14. Back to the map pane, select the map you add.
15. In the **Map** pane, under **Initial view**, click **Custom** and click **Modify**.



The **Modify initial view** window appears.

16. Zoom to the extent that make the map appear in full extent OR the extent that serve the purpose of the map, Click Ok.
17. In the **Map** pane, under **Tools**, Turn On option below.



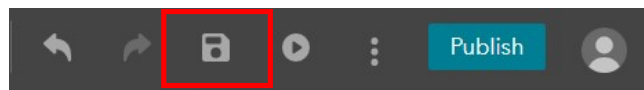
18. Near the bottom of the **Map** pane, under **Tools layout**, under **large and medium size**, choose the second option.



The map's navigation controls move to the bottom right corner of the map.

19. On the builder toolbar, click the **Save** button.

20. When the **Saved successfully** message appears, click the **Preview** button, then publish.

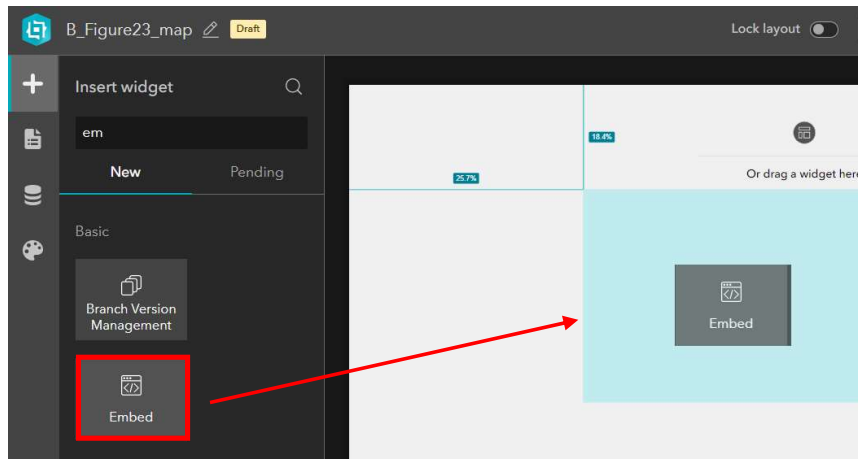


you've found a web map, modified it for your needs, and converted it into a web app in ArcGIS Experience Builder.

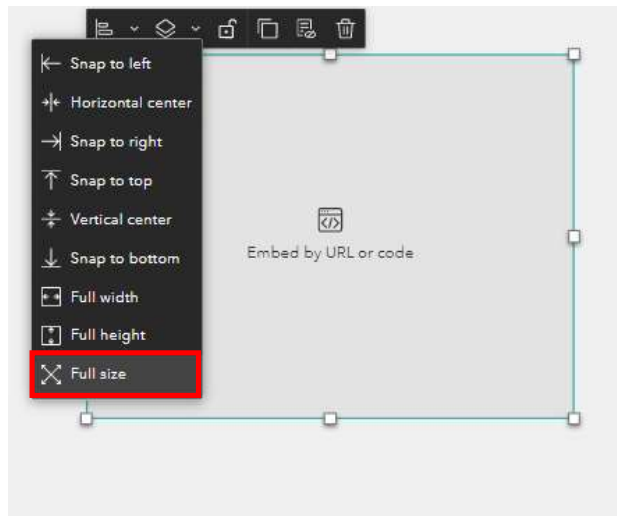
## Create Table Web App: -

- **Add Embed Widget**

1. Repeat steps 1-8.
2. Now we want to create app for table 11 in Volume B.
3. If the **Insert widget** pane is not already visible, on the side toolbar, click the **Insert** button.
4. Go to the **Insert** widget pane and find the **Embed** section.
5. Drag the **Embed** widget onto the canvas.



6. On the Embed widget's toolbar, click the position button, and click **Full size**.

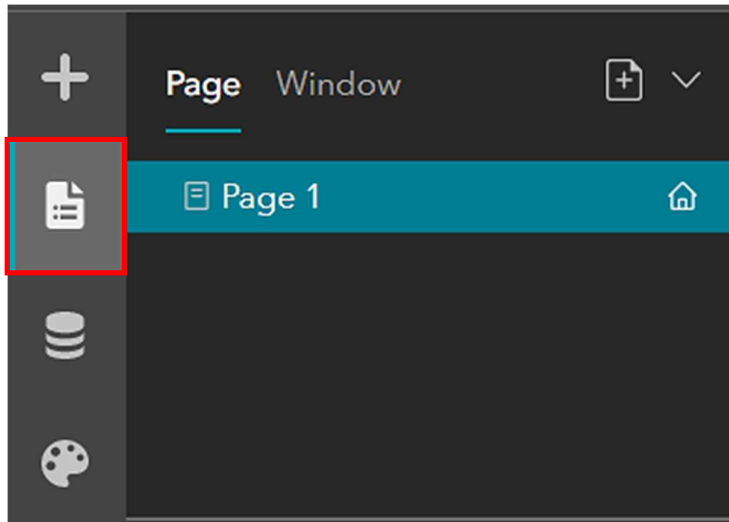


7. In the **Embed** pane, for **Embed by**, choose **URL**.
8. Paste the following URL :  
<https://gisportal.mwi.gov.jo/wajdata/observationnetworkstatus>
9. The Table appears on the canvas.

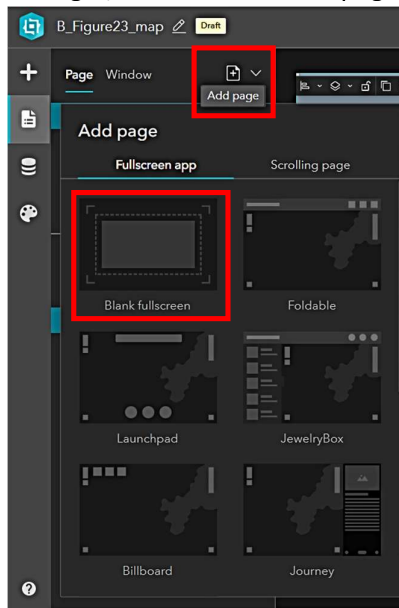
- **Add a page**

Next, you'll add data entry page related to the table, you'll add a second page to the app and embed URL in it.

1. On the side toolbar, click the **Page** button.

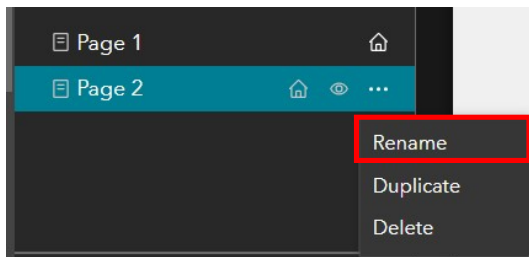


2. In the **Page** pane, click the **Add page** button and click the **Blank Fullscreen** option.

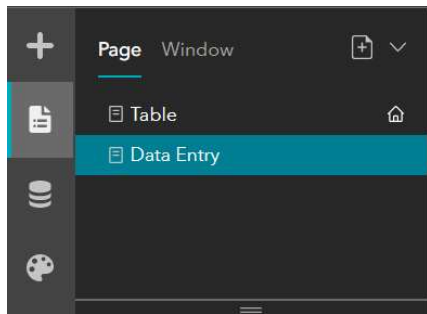


A new blank canvas appears.

3. In the **Page** pane, point to **Page 2** and click the **More** button. Click **Rename**.



4. Rename **Page 2** to Data Entry. Rename **Page1** to Table.



5. Next repeat steps 1-8 from Add Embed widget, for the URL past:-

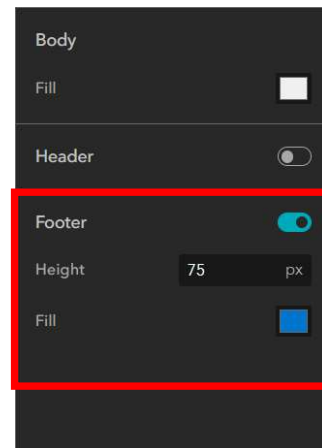
<https://gisportal.mwi.gov.jo/wajdataentry/dataentry?tableName=Telemetric%20Stations%20Projects>

This URL point to data entry application and it select the table that related to the table in the volume so you can add edit, update, delete data.

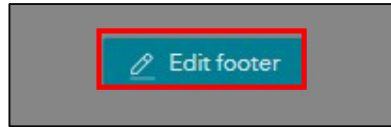
- **Add a Button widget**

Next, you'll add a Button widget. This will provide a way for users to switch between the two pages of your app. To prevent the button from hiding parts of the table, you'll add a footer to the page first.

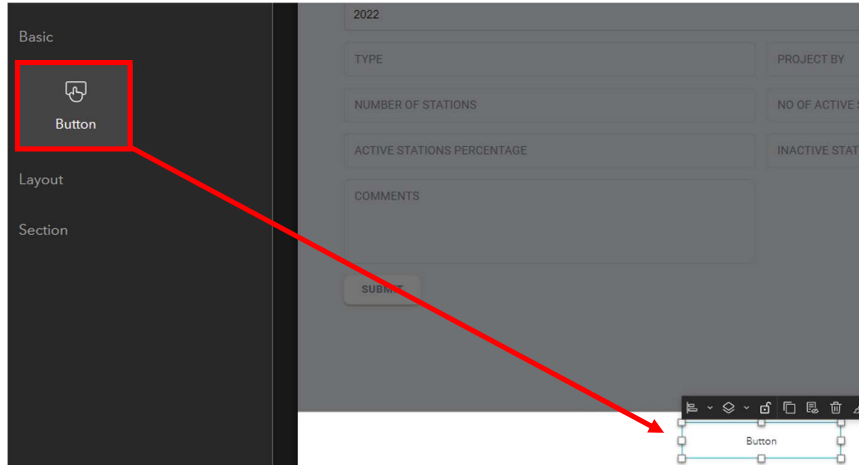
1. In **Data Entry** pane, turn on **Footer**.  
A blue bar appears at the bottom of the page
2. For **Height**, type 50 px, Change Fill to #ffffff.



3. Point to the **Footer** and click **Edit footer**.



4. From the **Insert widget** pane, add a **Button** widget to the page footer.



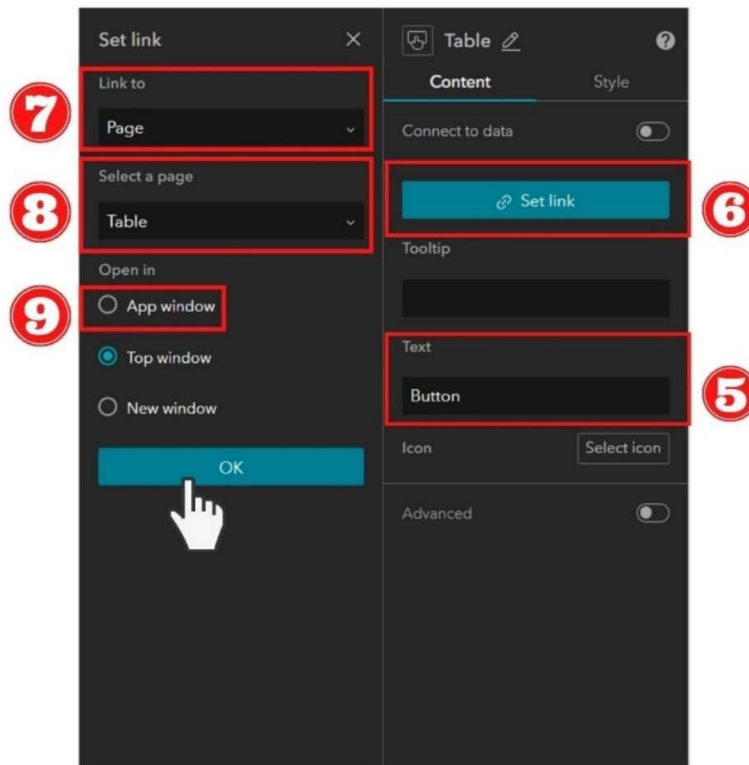
5. In the button pane, on the **Content** tab, in text section write **Table** because you will link the button to table page.

6. Click on Set link .

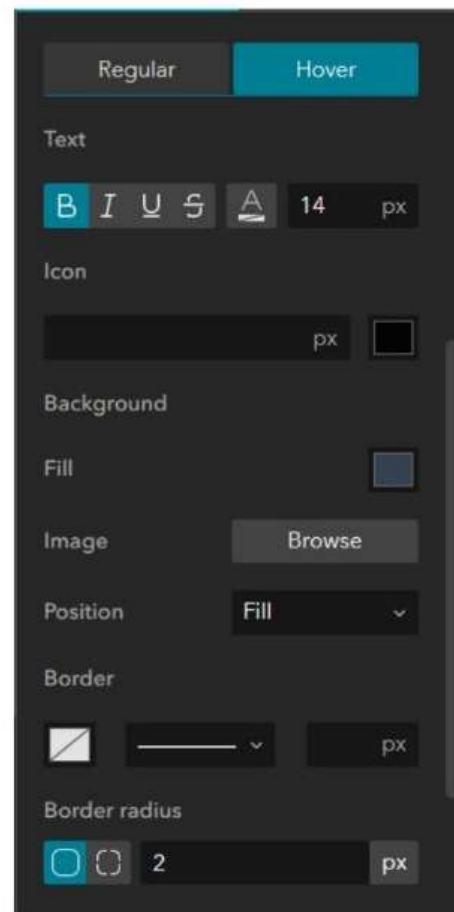
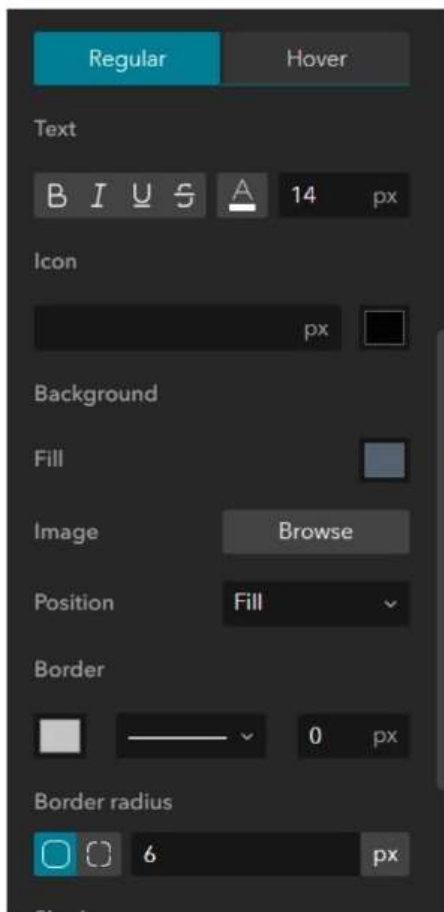
7. In the set link pane click on **Link to** and select **page**.

8. In **Select Page** select Table Page.

9. In **open in** section click on **App window**.



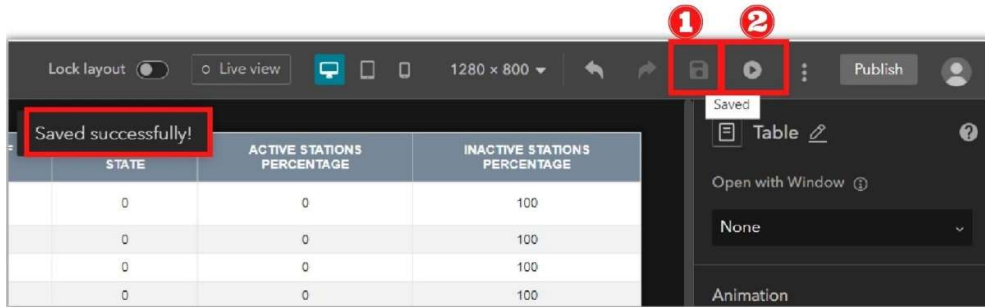
10. Next, add another button and link into Data Entry page.
11. In button pan, active Advance.
12. For Changing the button style click on Regular Section, First change the **Fill** color to #54616f, in **Border radius** set for 6px.
- 13.
14. In Hover Section, change Fill color to #35424f in **Border radius** set for 2px.



## Finalize and publish

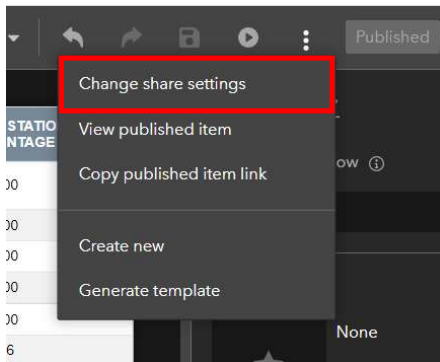
To finish the project, you'll preview, publish, and share the web app.

1. On the builder toolbar, click the **Save** button.
2. When the **Saved successfully** message appears, click the **Preview** button.

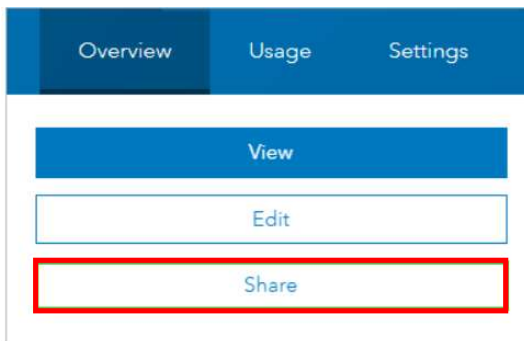


A new browser window appears with your app.

3. Test the app by exploring the table.
4. Return to the Experience Builder editing tab. On the builder toolbar, click **Publish**. You'll also update the app's sharing settings to make it accessible to the organization.
5. Click the **More** button and click **Change share settings**.



6. Click **Share**.

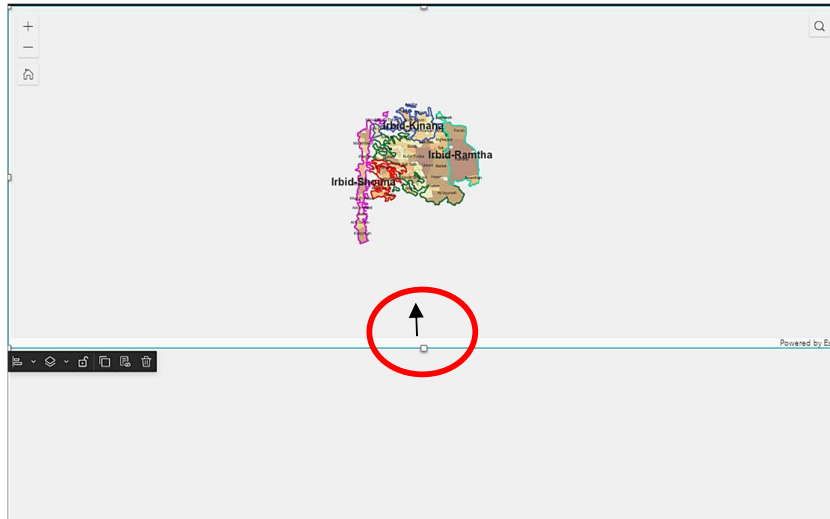


7. Click **Organization** and click **Save**.

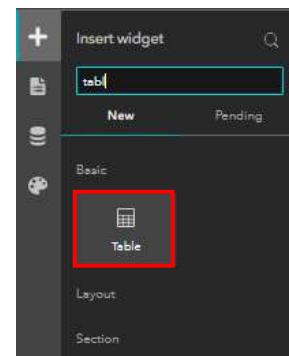
## Exercise: Design Map application with different widget

- **Add Table Widget**

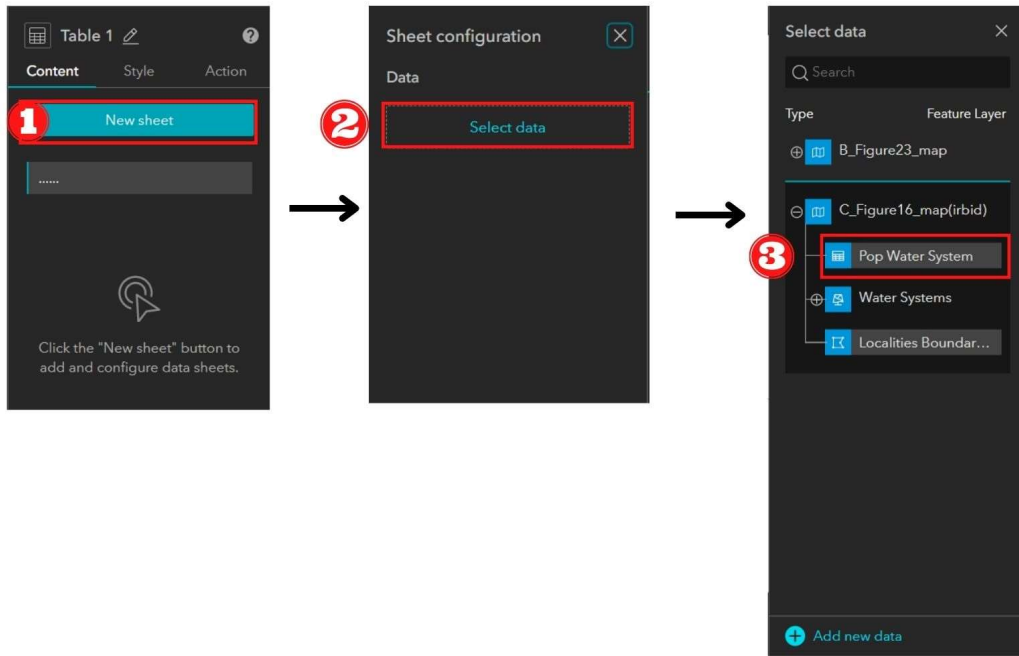
1. Follow previous section and add **C\_Figure16\_map(Irbid)**
2. Resize the map from the bottom and make Space under the map to add the table



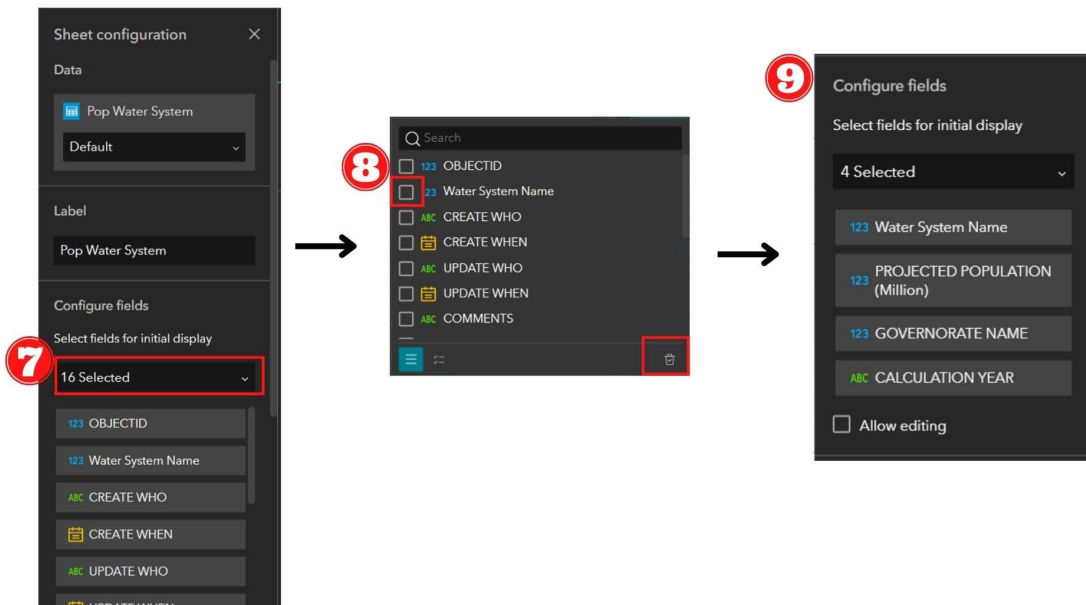
3. In **insert widget** search for table widget, drag and drop under the map.



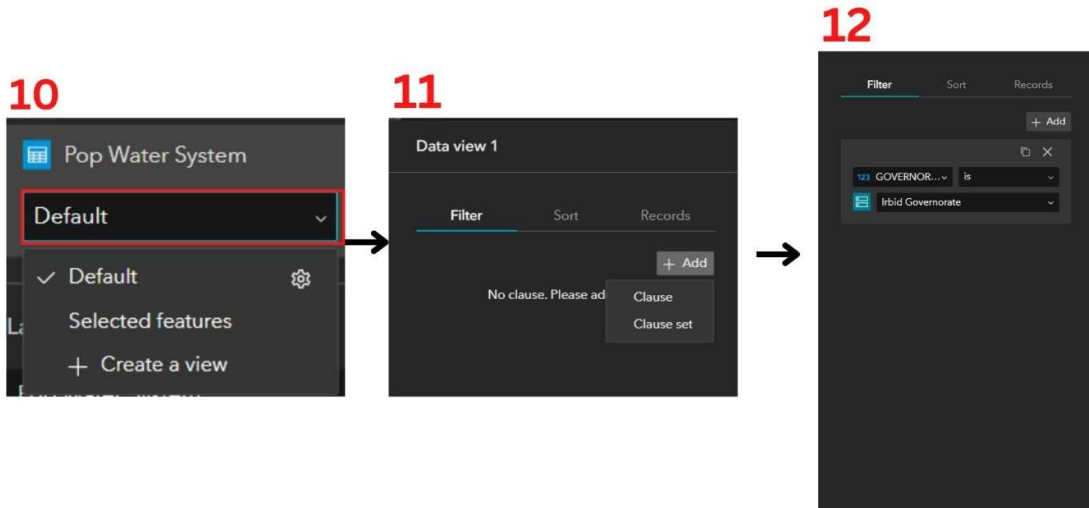
4. In the Table setting pane click on **new sheet** button.
5. Sheet configuration pane appear, click on **select data**.
6. In Select Data pane, click on **+** button and choose **pop water system** table.



7. Sheet configuration pane appear, in configure fields click on **Select fields for initial display** drop down list.
8. unselect all field
9. select: -water system name /projected population /gov name/calculation year

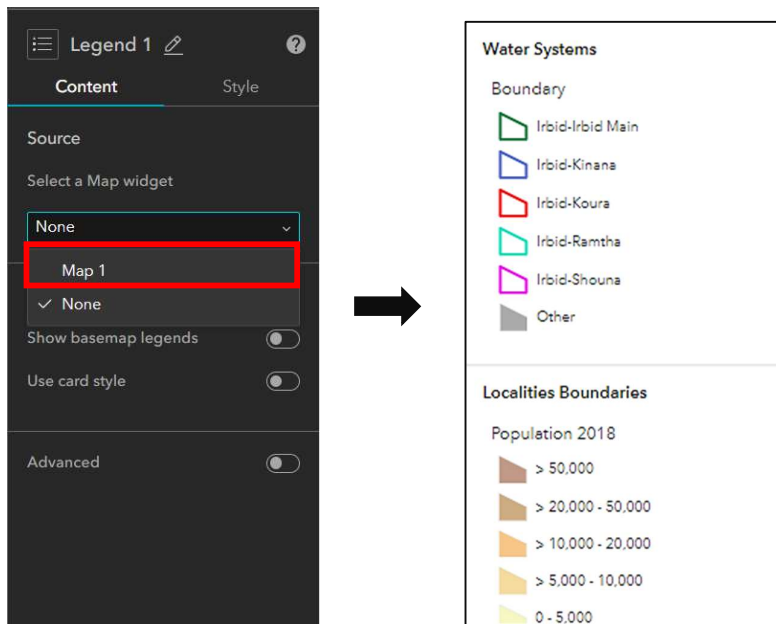


10. Next, you will create view to filter the table to show only Irbid water system data, from data section click on the drop down list and select **+Create a view**
11. Data view window appear click on Add button, select clause.
12. Select this clause **Governorate Name is Irbid Governorate.**



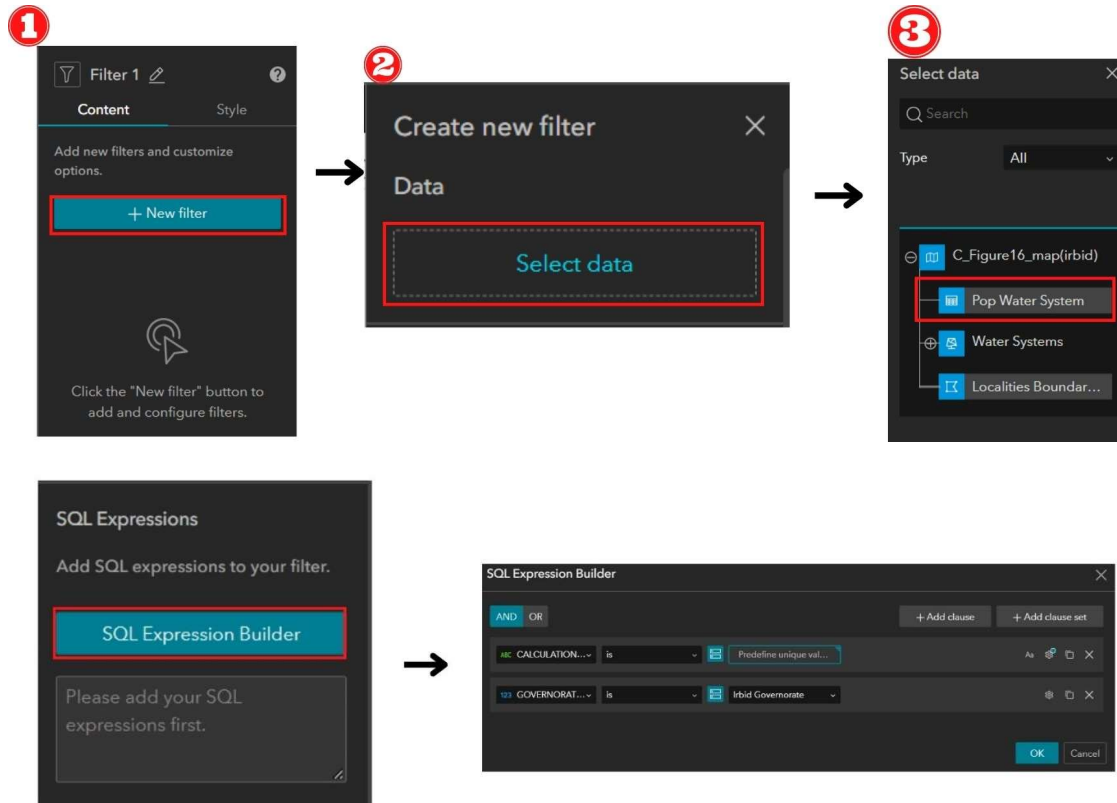
- **Add Legend Widget**

1. Add legend widget from Insert widget pane, and from legend sitting pane Select your map

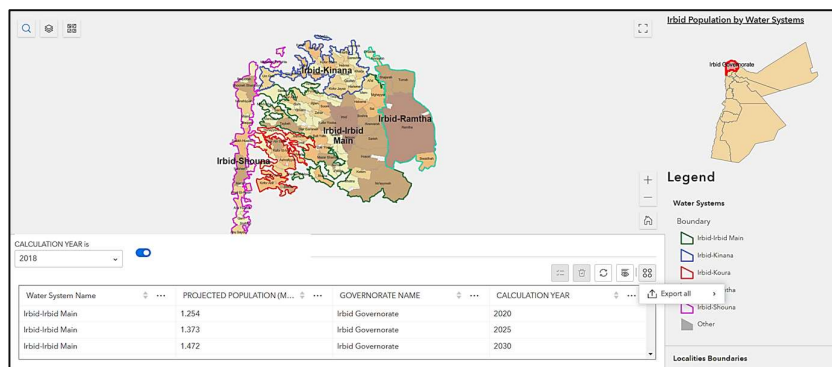


- **Add Filter Widget**

1. Add legend widget from Insert widget pane.
2. Click on New filter button to add and configure filters.
3. Create New filter pane and click select data.
4. Choose pop water system from C\_Figure16\_Map.
5. In SQL Expressions section click on SQL Expression Builder button.
6. Add clause you want to display.



Add Irbid map place it above legend save and publish you app , and now your app should look like below.



# Chapter 4



# Dashboard

InfoGraph

الشركة الإستشارية لأنظمة المعلومات البيانية  
Information & Graphics Systems Consultants L.L.C.

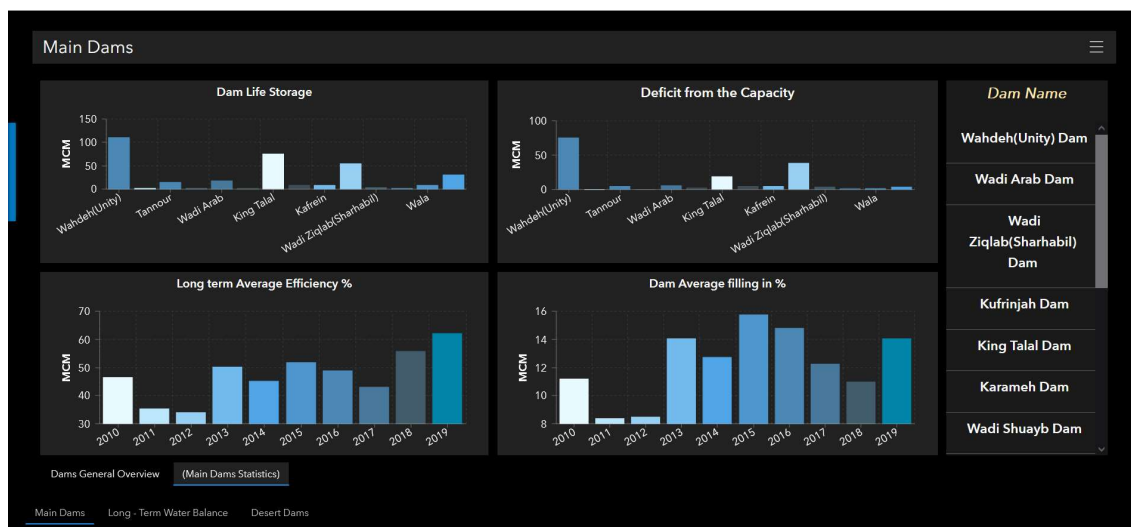


# Chapter 4: - Dashboard


## What is a dashboard


ArcGIS dashboards help your organization share information using intuitive and interactive visualizations. Dashboards can be easily understood as all relevant data is displayed on a single screen. They can be configured to specific audiences, events, and situations. Interactivity can also be added to help your audience solve problems by interacting with the dashboard's map view or elements.

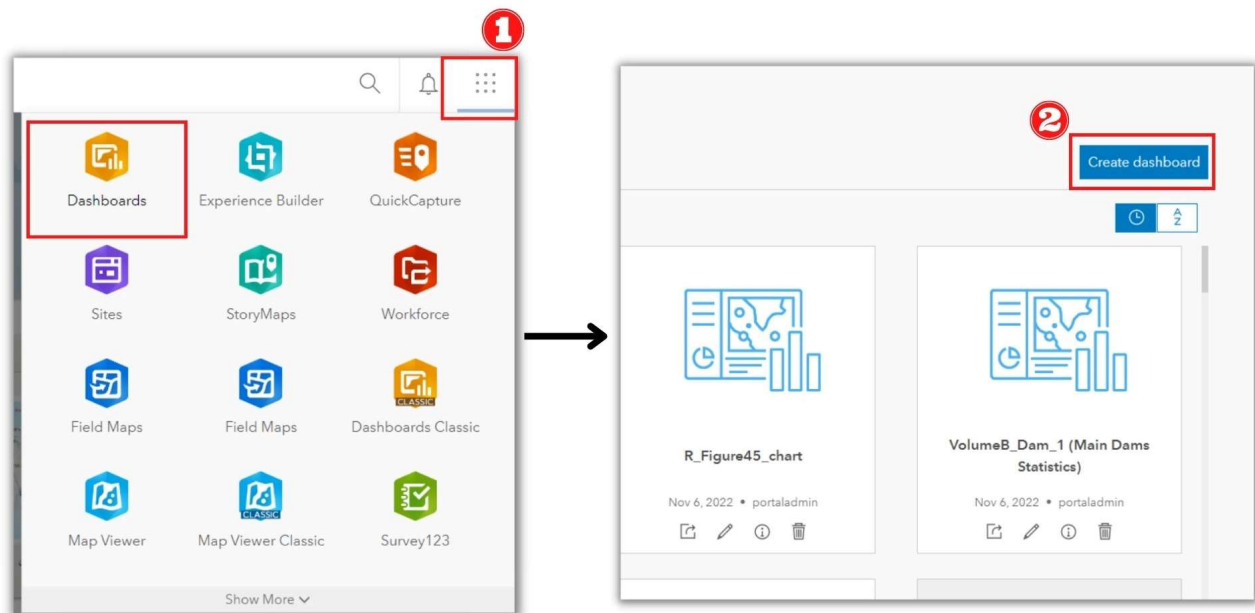
ArcGIS Dashboards provides the tools to create compelling dashboards with your data.



## Create Dashboard

1. Click the app launcher button  in the header of the site and click **Dashboards**.
2. Click **Create dashboard**.
3. Provide a title for the dashboard.
4. Optionally, specify search tags, a summary, and a target folder.
5. Click **Create dashboard**.

 Be sure to choose Dashboards and not Dashboards Classic, which is a previous version of ArcGIS Dashboards.



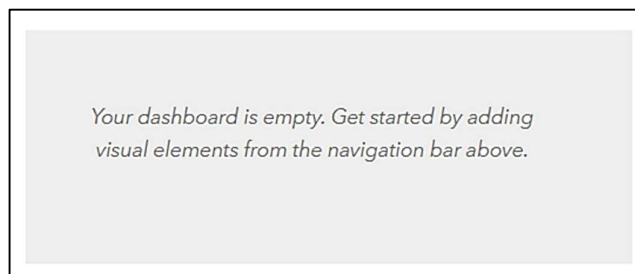
Create new dashboard window appear

6. For Title, type **Desert Dam**.
7. For Tags, type the following tags, pressing Enter after each one: -
  - **Volume B**
  - **Desert Dam**
  - **Chart**
  - **NWMP-3**
  - For Summary, type **Desert Dam Dashboard**
  - For Folder, choose the **Dashboard** folder



The screenshot shows a form for creating a dashboard. It has four main sections: 'Title\*' with a text input containing 'Desert Dam'; 'Tags' with a dropdown menu showing four selected tags: 'Desert Dam x', 'Volume B x', 'Chart x', and 'NWMP-3 x'; 'Summary' with a text input containing 'Desert Dam Dashboard'; and 'Folder' with a dropdown menu showing 'Dashboard'. At the bottom right, there are two buttons: 'Create dashboard' (in blue) and 'Cancel'.

8. Click Create dashboard.












The dashboard opens empty, and you can begin to add elements.

## Add Elements

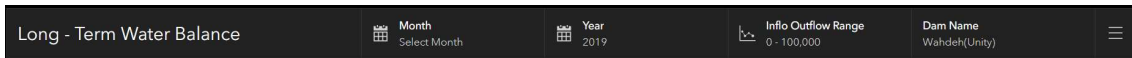
Elements are configurable parts that display data and make up a dashboard. It is essential to understand what element functionality is available to you as you design your dashboard. In addition, the answers to your design questions will help determine what elements you may want to add to your dashboard.

The following table describes available dashboard elements:

Element	Description
Header 	Provides a title, subtitle, logo, and background for branding. Provides options for selectors, hyperlinks, and a sign-out link.
Serial chart 	Makes comparisons between different groups or tracks changes over time. Supports bar, line, and smooth line charts.
Pie chart 	Shows part-to-whole relationships. Provides option for chart legends or labels.
Indicator 	Displays counts, summary statistics, or comparisons. Can apply filters and conditional formatting.
Gauge 	Shows the value of a single metric compared to minimum and maximum values.
List 	Displays a collection of features or rows from a data source. Can format the content displayed as well as sort and filter the content.
Details 	Displays specific details about features or rows from a layer. Is based on the layer's pop-up information.
Rich text 	Allows for text content being displayed in the dashboard. Is used to provide credits, additional information, or other static content.
Embedded content 	Provides a way to add other web-based content to the dashboard.

# Header

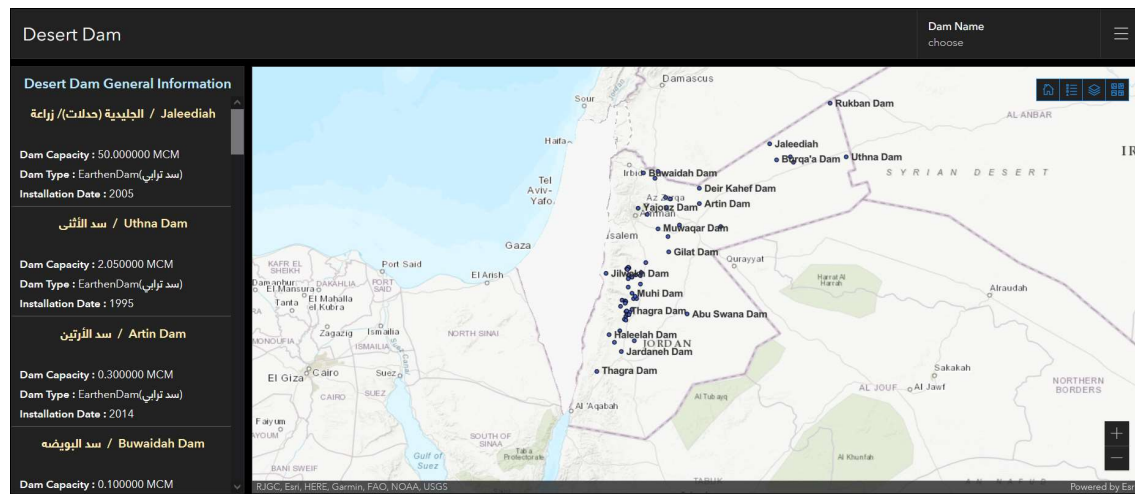
A header is a reserved area along the top of your dashboard that you can use to give your dashboard a unique identity, apply corporate branding standards, and provide links to additional content. You can also use it in interactive dashboards to host one or more selectors. A dashboard can only have one header, and it's designed to always occupy the entire width of a dashboard.



Header from Dam Dashboard

## Map

Maps play a central role in many dashboards. Not only are they often the most effective way to display your geographic information, but their operational layers can also be used by other data visualizations on the dashboard to create interesting, intuitive, and compelling information products. Map elements display web maps authored in applications such as your organization's Map Viewer.



## Map options

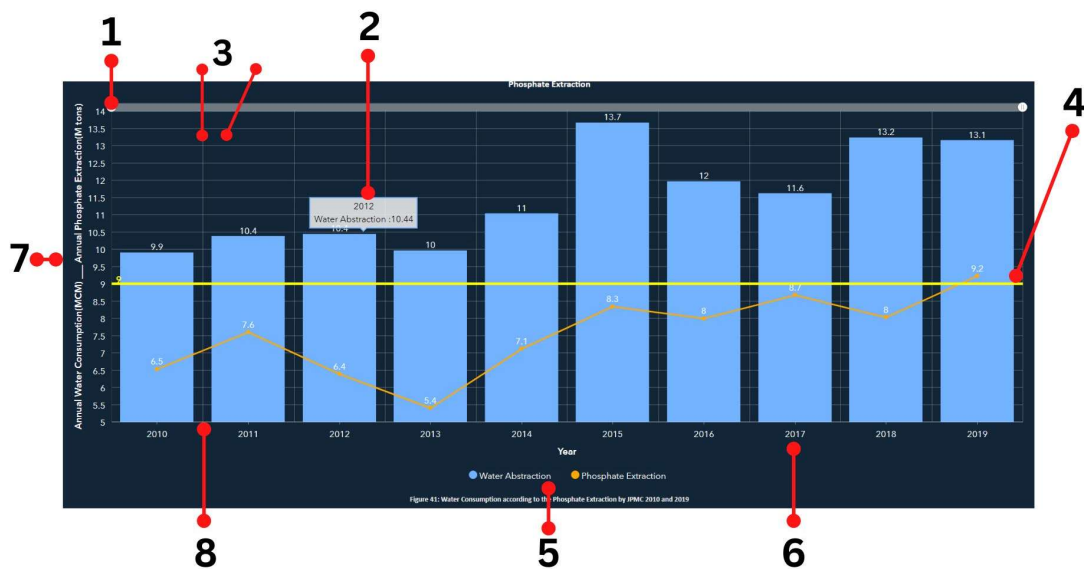
The map element includes settings that can be switched on or off at design time:

- **Pop-ups**—Displays descriptive information about a feature when clicked.
- **Scalebar**—Displays a scale bar in the lower section of the map. The supported styles are line and ruler. When users are signed in, the display units reflect their profile settings. For anonymous access users, the style is always line and the units are dual (both United States and metric).
- **Default Extent and Bookmarks**—Provides preexisting bookmarks on your map and a way to return to the map's initial extent.
- **Legend**—Displays the map's legend.
- **Layer Visibility**—Allows you to switch operational layers on or off.
- **Basemap Switcher**—Allows dashboard users to change the basemap at run time.
- **Search**—Allows users to find locations or search features on the map. By default, search uses settings configured in the web map. If these are not set, Dashboards uses the ArcGIS World Geocoding Service.
- **Zoom In/Out**—Allows you to zoom in or out on a map.
- **Point Zoom Scale**—Allows you to set the zoom scale used when a zoom action is configured on a map.

## Serial chart

A serial chart visualizes one or more series of data points along a horizontal (x) axis and a vertical (y) axis. Serial charts show more than one series of data. In the following chart, there are two series of data: one showing **Water Abstraction** by Year and the other showing a **Phosphate Extraction**. Each series in a serial chart has a type that determines the way the data points are visualized.

In the following example describing the components of a serial chart, the series showing **Water Abstraction** by Year has the column type and the series showing **Phosphate Extraction** has the line type.



1. Scroll bar—Allows users to control the number of data categories displayed.
2. Hover text—Displays additional information about a data point while you hover over it.
3. Grid lines—Improve chart readability. You can control how horizontal and vertical grid lines are displayed.
4. Guides—Provide context to the data being displayed on a chart by representing goals or thresholds. Guides can be lines that represent a single value or a shaded area that represents a range of values. In addition, serial charts can have multiple guides.
5. Legend—Conveys the meaning of colors used in the chart. How you configure the data in the chart determines the position of the chart's legend.
6. Label—Describes categories and values. Labels are automatically generated; however, you can override them at design time. For instance, when the category axis shows dates, you can adjust their display through [date formatting](#). You can also control value axis labels through [unit prefixing](#) or [number formatting](#).
7. Axis title—Summarizes the types of categories or values shown on the axis. Each axis can have its own title.

8. Axis—One axis in a serial chart displays the category of each data point, while the other axis displays its numeric value. The category axis can show discrete values or continuous values such as dates. In the previous chart, the categories are displayed along the horizontal axis, and the values are displayed along the vertical axis. However, you can reverse this setup. You can display the vertical columns horizontally by changing the orientation of the axes, so that the horizontal axis displays values and the vertical axis displays categories.

## Series types

Serial charts can either be column, or line or smooth line charts. Each series type is best suited for a different type of data. You can choose the series type from the **Series** tab.

- **Column charts**

On a column chart, data points in the series are represented by a box where the height of the box is determined by numerical values of points. Columns can be horizontal or vertical, depending on the chart's orientation. Column charts are best suited for data with discrete categories, but you can also use them to display data with continuous categories.

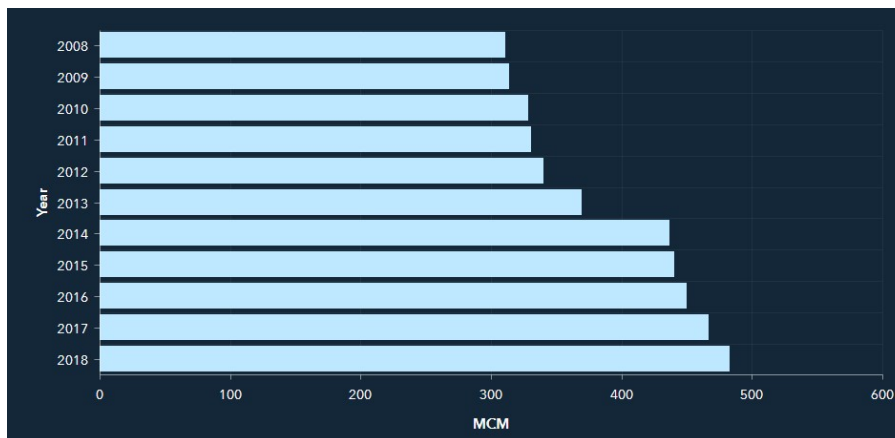
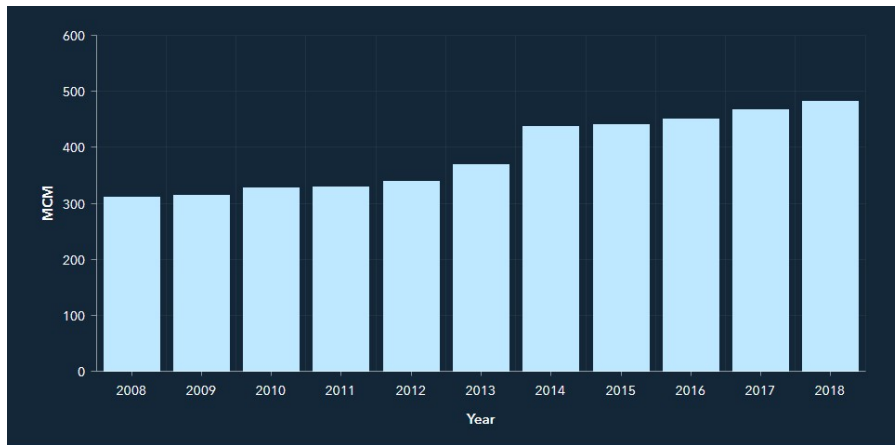


Figure 11: Municipal Water Use [MCM] 2008-2018 (Source: MWI & WAJ 2018)

- **Line and smoothed line charts**

Data with continuous categories, such as dates, are best suited for line and smoothed line charts.



Figure 47: Annual Water Consumption by Small & medium Size Fertilizers Industries

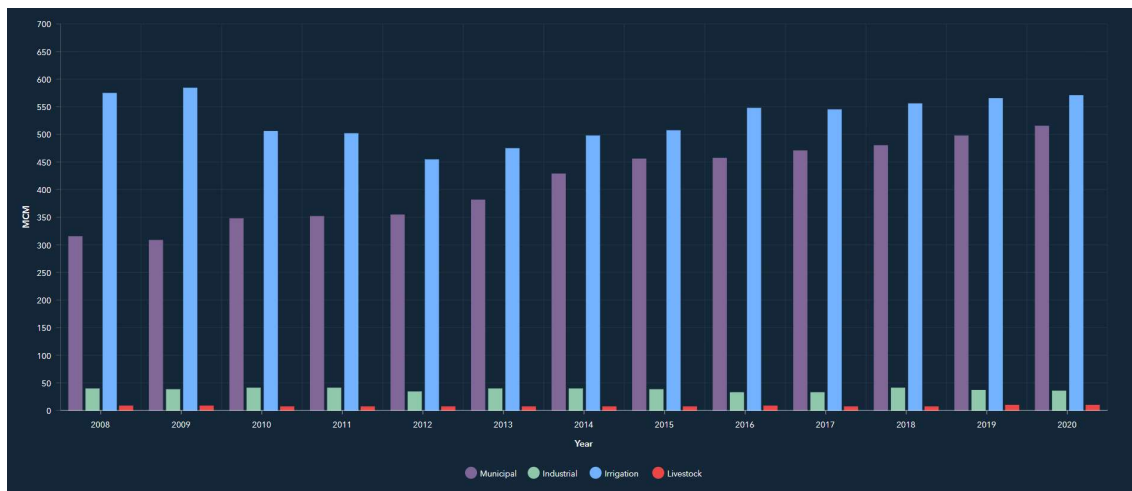
- **Multiseries charts**

There are two ways to create multiseries charts. The method you use depends on how your chart's categories are determined from its data. If your chart's categories are based on grouped values, you can create a multiseries chart by specifying **Split by field**. If your chart's categories are based on features, you can manually include multiple series in the chart by clicking **Add series**. See Data series for details on how to determine the basis of your chart's categories.

When each series in a multiseries chart is a different series type, such as the first chart in this topic, it is considered a combo chart. When all the series are the same type, they can be grouped, stacked, or 100% stacked. When creating multiseries charts, by default it will generate a grouped chart. You can change the stacking in the **Series** tab.

- **Grouped charts**

Grouped charts are used for showing information about different subgroups of main categories. A separate column or line represents each of the subgroups, which are displayed in different colours to distinguish them. When configuring a grouped chart, limit the amount of information to ensure it's easy to understand.



Volume C /Figure 1: Development of Water Usage 2008-2020 (MWI Water Budget)

- **Stacked charts**

Stacking allows series to be placed on top of each other without overlapping. A stacked chart is similar to a grouped chart in that it can be used to display information about subgroups that comprise different categories. In a stacked chart, the data points representing subgroups are placed on top of each other (or side by side when the chart is displayed horizontally). Different colours are used to indicate the contributions of the different subgroups. The overall value is the total size of the category.

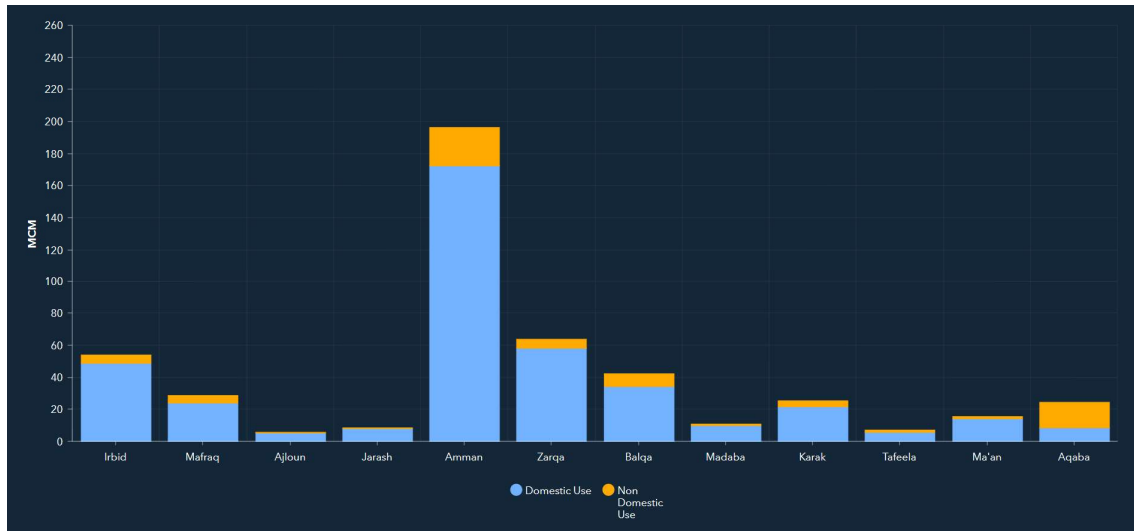


Figure 12: Domestic and Non-Domestic share of Municipal Water Use in 2018

- **100% stacked charts**

A variation of a stacked chart is a 100% stacked chart. This shows relative differences within each category. The total of each column is always 100 percent, and the length of each subgroup is its contribution to the total in terms of percent.

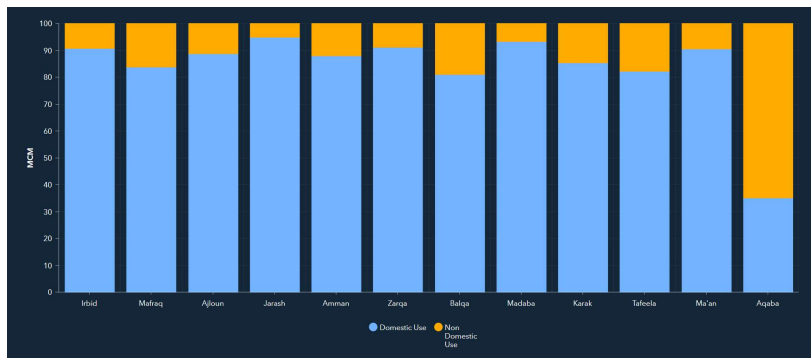


Figure 12: Domestic and Non-Domestic share of Municipal Water Use in 2018

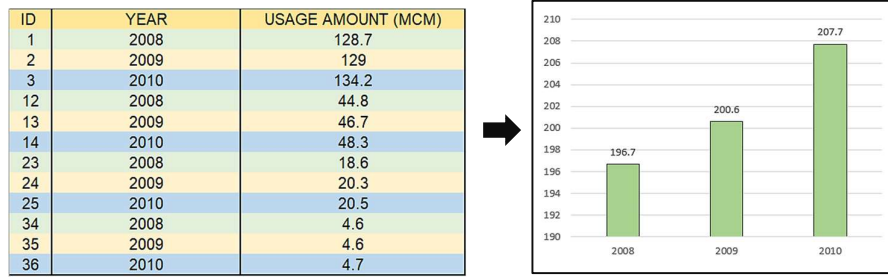
- **Using a data series**

A data series is a set of data displayed on a chart, such as a pie chart or a serial chart. Serial charts allow you to show more than one data series at a time using lines, columns, or bars. You create a serial chart or pie chart element based on a layer set as the data source. Each layer has one or more columns of attributes that you can use to create a series using one of the following three options:

**Grouped Values**

The Grouped Values option uses data aggregation to create a series. Unique values in a designated attribute field are used to create categories, and summary statistics are calculated using a second attribute field.

Below table is sample from table use to represent figure 11 in volume C

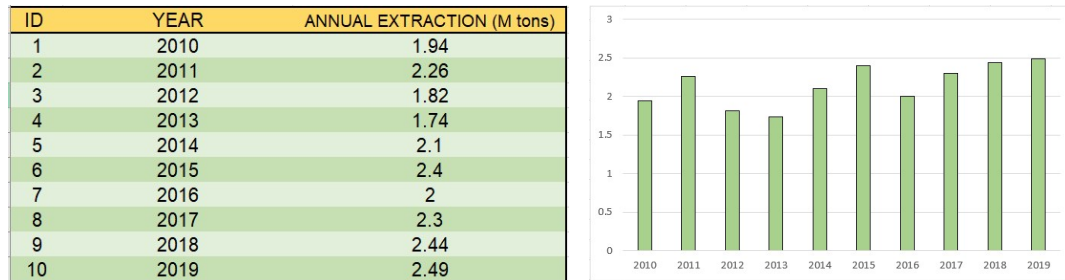


The Grouped Values option sum the amount for each year is listed.

**Features**

The Features option is the simplest and uses the feature in the layer to create a series, which causes the chart to draw the fastest. One attribute field name the feature, and a second attribute field provides the value to plot on the chart.

Below table is sample from table **Industrial Water Useby Qty** use to represent Figure 42 in Volume C.



**Fields**

The Fields option uses one or more numeric attribute fields to create a series. A summary statistic can be calculated on each field to provide the value to plot on the chart.

## Pie chart

A pie chart is a circular chart divided into sections. Each section is proportional to the quantity it represents. A pie chart contains a single series of data points.

Use pie charts to show part-to-whole relationships or for data composition. Pie charts are not intended for comparing individual sections with each other or representing exact values (use a serial chart for that). Pie charts are also not meant to show more than seven or eight data points.

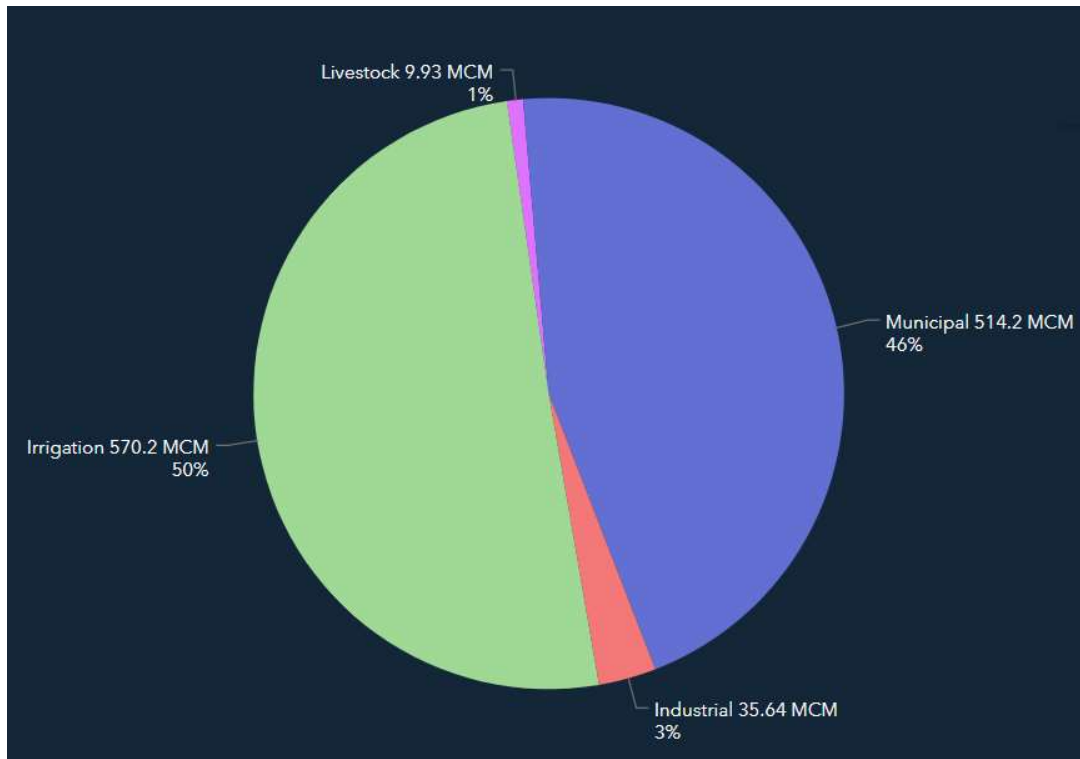
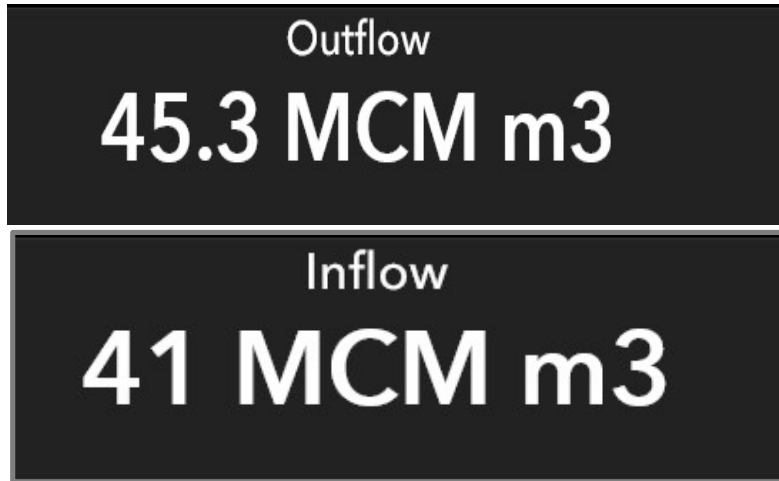


Figure 2: Water Use [in MCM and percentage of total ] by Sector 2020 (MWI Water Budget)

## Indicator

An indicator is a card that you can add to your dashboard to show the numeric attributes of individual features or display a summary statistic.

The following are examples of indicators used in dam dashboard:



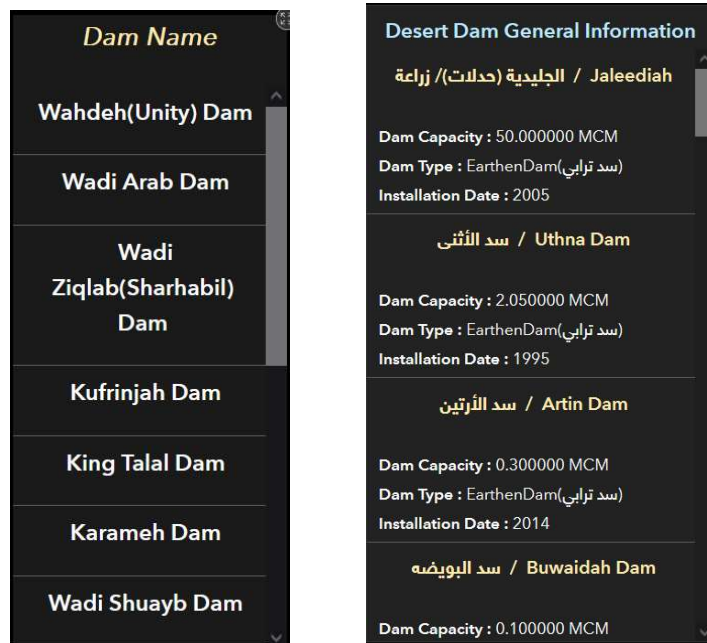
Inflow out flow indicator from dam dashboard

### Indicator options

On the Indicator tab, you can configure the visualization. The area for the visualization is divided into three areas: top, middle, and bottom. Each area is optional and can display any combination of unique text, the indicator's value, reference value, or a predefined calculation. As the indicator is resized, the text displayed in the top, middle, and bottom areas scales to fit the size of the indicator.


## List

You can use a list to show features or rows from a layer. You can configure lists to show field values, unique text, images, and more. When available, field formatting information in a list is based on information found in the layer.



As with all data-driven elements, you can create filters for lists to limit the amount of information they display. You can also limit the number of features displayed in a list at once. Additionally, you can specify the order in which the features are sorted in the list. For example, you can configure the list so that rows with certain attributes for a date-based field appear near the top, which is particularly important in real-time scenarios.

## List options

You can configure how information is displayed in a list using the rich text editor or on the **List** tab. Since lists show layer rows or features, you can insert field values directly into the displayed text. To do this, click the **Insert fields** button  and choose a field. At run time, the field values will be interpreted and displayed.

You can enable the **Show search** button to include a search box at the top of your list. Dashboard viewers can use the search box to find list items.

You can also configure the text, background, and selection colors for the list.

## Actions

You can configure a list to have a single row or multiple row selection mode. Which selection mode to choose is an important consideration when you are building an interactive dashboard in which a list can be either the source or target of an action. When a list is the source of an action, it can, for example, trigger a map to pan or zoom. Conversely, when a list is the target of an action such as a map extent change, the list can filter so the data it displays corresponds with the map's new extent.

## Embedded content

The embedded content element allows you to embed documents, images, video, or other web content into your dashboard. There are two options for configuring embedded content: static and feature. When you configure the element to be static, you only need the URL of the content to be embedded. When you configure the content to be by features, the element is data driven and you need to identify a data source. This means that each feature's attribute information can be used to dynamically construct a URL at run time. When configured by features, the embedded element can be the target of an action.

The screenshot displays a dashboard titled "Main Dams". On the left, there is a table with the following data:

DAM NAME	VALLY/WADI N...	WATER USE	CONS
Wadi Easal		Industrial,Irrigation	32
Wadi Mousa		Irrigation,Municipal	7
Wadi Al Wadat		Irrigation,Recharge,Dome...	5.75
Wadi Mousa		Irrigation,Municipal	0
Wadi Nukheillah		Domestic,Irrigation,Industry	26.2
Telal		Irrigation,HydroPower Ge...	31.5
Wadi Nukheillah		Domestic,Irrigation,Industry	31.5
Meddein		Store excess water overto...	25.24
Hisban		Store excess water overto...	31.5
Wadi Fifa		Irrigation(Agriculture)	14
Wadi Jurum		For flood protection and ir...	8.2

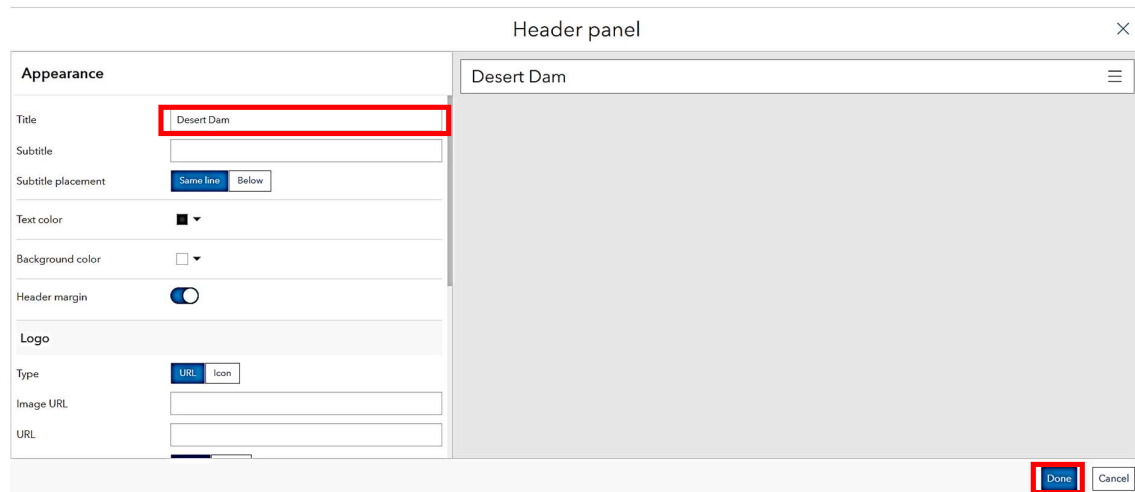
On the right, there is a map showing a topographic view of a region with a river network. A red dot on the map is labeled "Meddein". The map includes navigation controls (zoom in, zoom out, home) and a status bar at the bottom right that reads "Selected features: 0".

## Exercise 1: - Create Desert map Dashboard

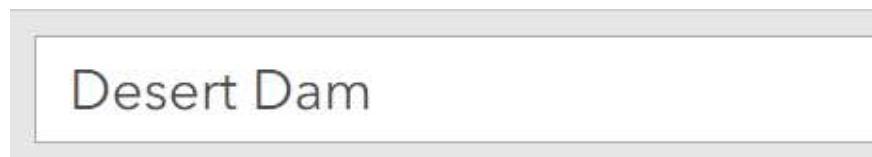
### 1) Add a header element: -

At the top Left, click the Add button **+** and choose Header.

1. For the **title** write Desert Dam, click **Done**.



The header panel opens. On the left, you can configure the header, and on the right, you can view a preview.



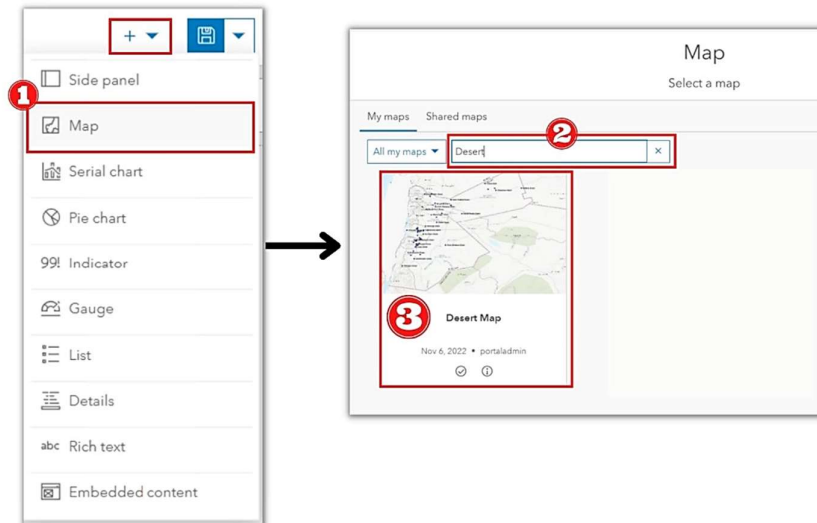
Your header now appears at the top of your dashboard.


## 2) Add a map element

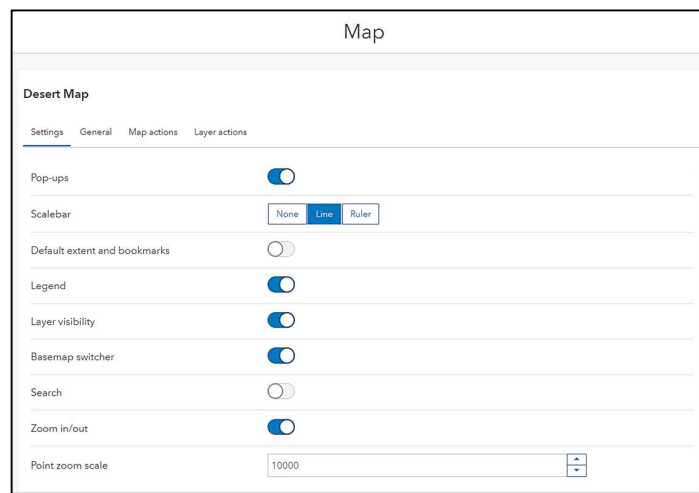
With the header in place, you now will add a map element.

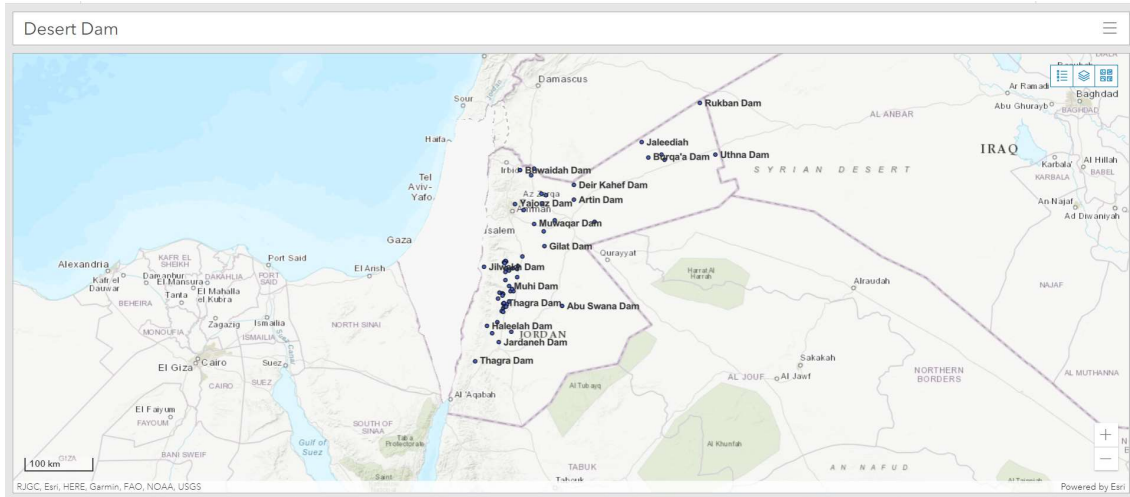
1. Click the Add button + and choose Map.

A gallery of maps appears. You will select a map to display in your dashboard



2. In the filter box, type Desert.
3. Point to the Desert Map thumbnail and click Select.
4. Next you will configure the map element.
5. Click the Settings tab, and then enable the following Settings: -  
Pop-ups, legend, layer visibility, BaseMap switcher, Zoom in/out, click **Done**.
6. Click on save  bouton.



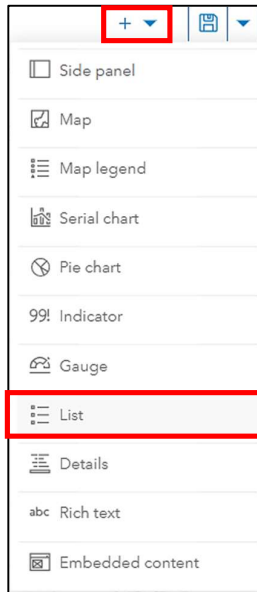


The dashboard map now has the functionality legend, layer visibility, zoom to the map extent, and zoom in and out.

### 3) Add a list element:

The final element that you will add to your dashboard is a list element, which will show a list of states.

1. Click the Add button + and choose List.



2. Click on Desert Dam from layer from map.



- On the left, click the General tab, and then change the name to *Desert Dam General information*, For the Title click Edit, paste the Name for the title and change the text colour to blue,


Data	<b>General options</b>	
List		
General	Name	<input type="text" value="Desert Dam General information"/>
Actions	Title	<input type="button" value="Edit"/>
	Description	<input type="button" value="Edit"/>

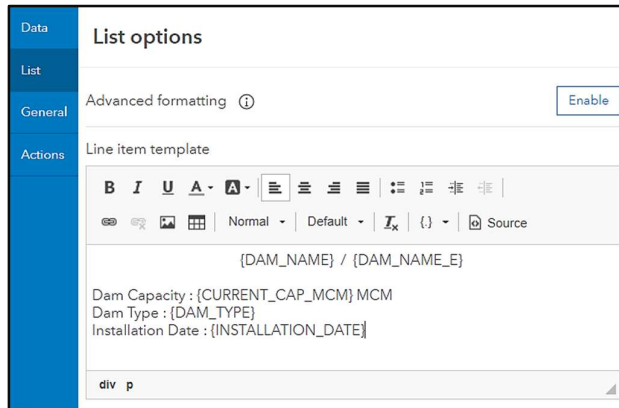
- Click the Data tab, and then change Maximum Features Displayed to 60.

Data	<b>Data options</b>		<input type="button" value="Show data table"/>
List			
General	Layer: Desert Dams	<input type="button" value="Change"/>	
Actions	Filter	<input type="button" value="+ Filter"/>	
	Maximum features displayed	<input type="text" value="60"/>	<input type="button" value="▲"/> <input type="button" value="▼"/>
	Sort by	<input type="button" value="Add field ▼"/>	

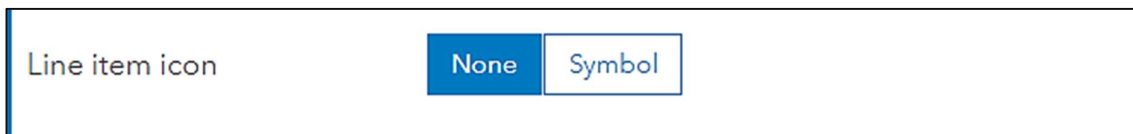
- Click the List tab.

The **Line Item Template** editor provides a simple way to customize the list element by combining text and field values.

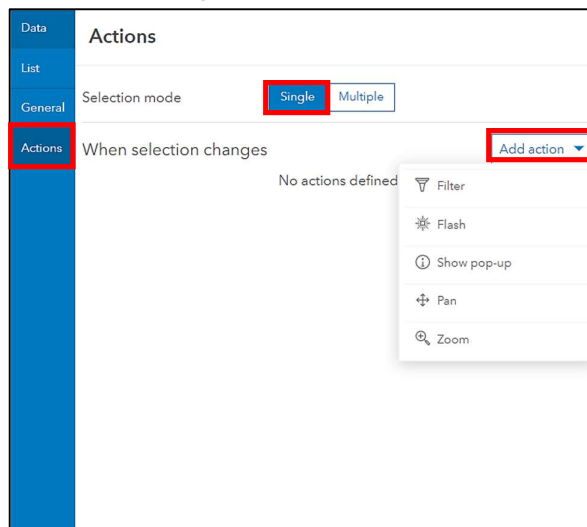
- After `{DAM_NAME}` click space then slash `{DAM_NAME_E}` and change the colour for yellow colour
- Type Dam Capacity: and then add a space after the colon
- Click the Insert Fields button  and choose `{CURRENT_CAP_MCM}`, repeat previous steps for the rest of list.



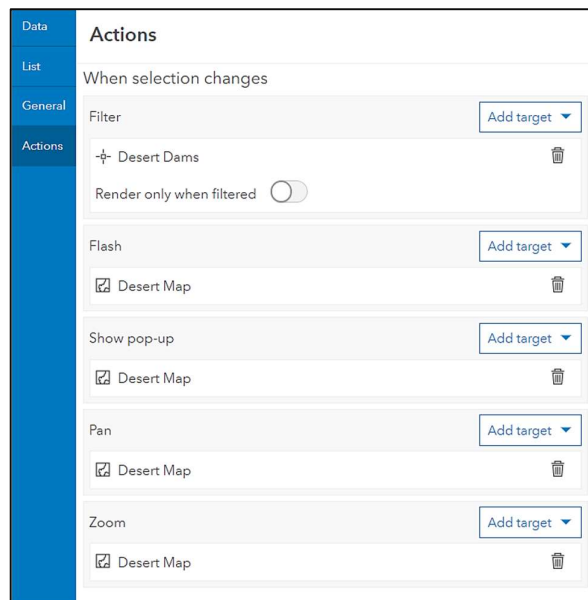
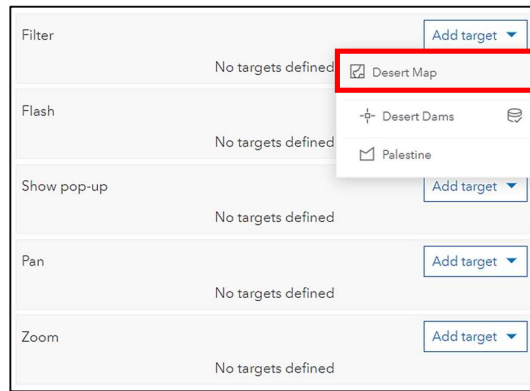
4. For the Line item icon click **None**



5. Click Action Tab, Selection mode Single, click on add action, added all option .



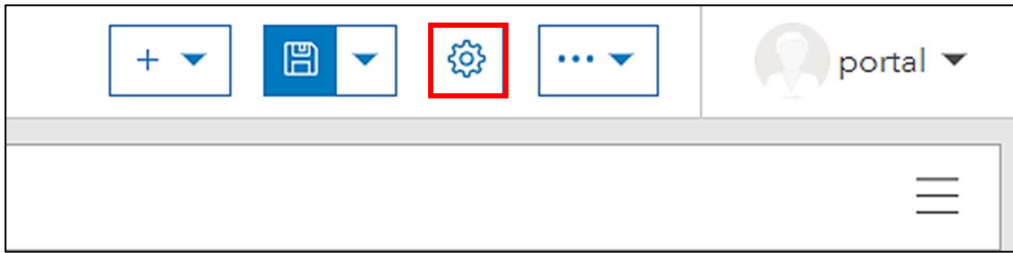
6. In Filter part, click on add target and select Desert Map.



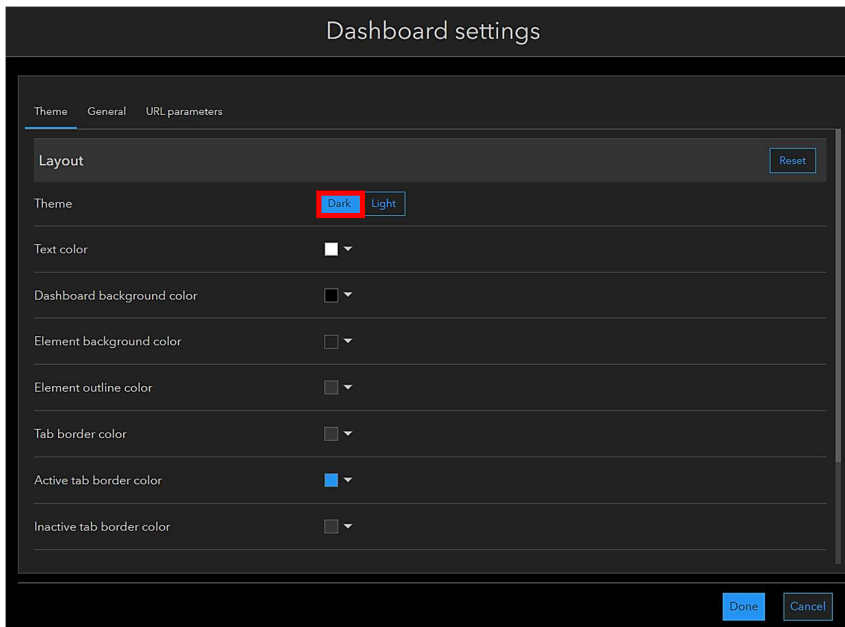
These actions will Filter, Flash Show pop-up, Pan, Zoom the Map for selected Dam from list.

## 4) Dashboard settings

1. In Rippon click on sitting.

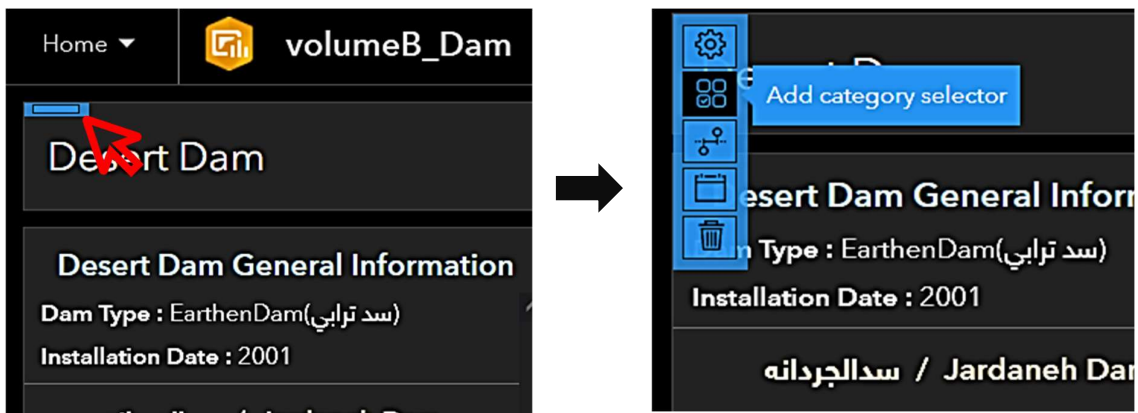


2. For theme click on Dark.

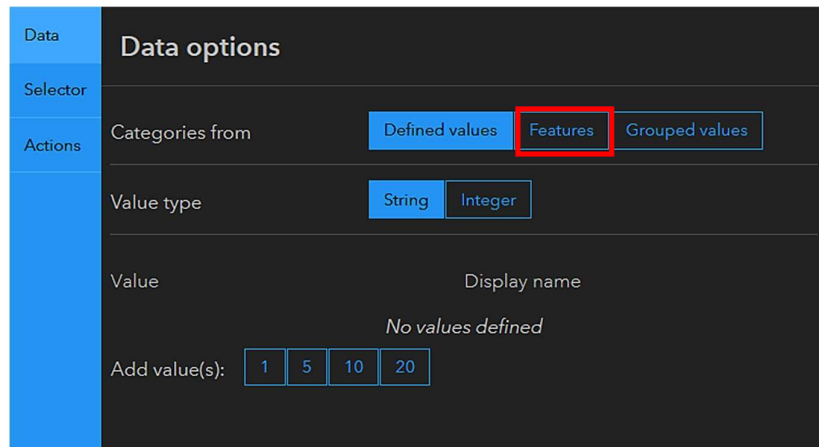


## 5) add Selector

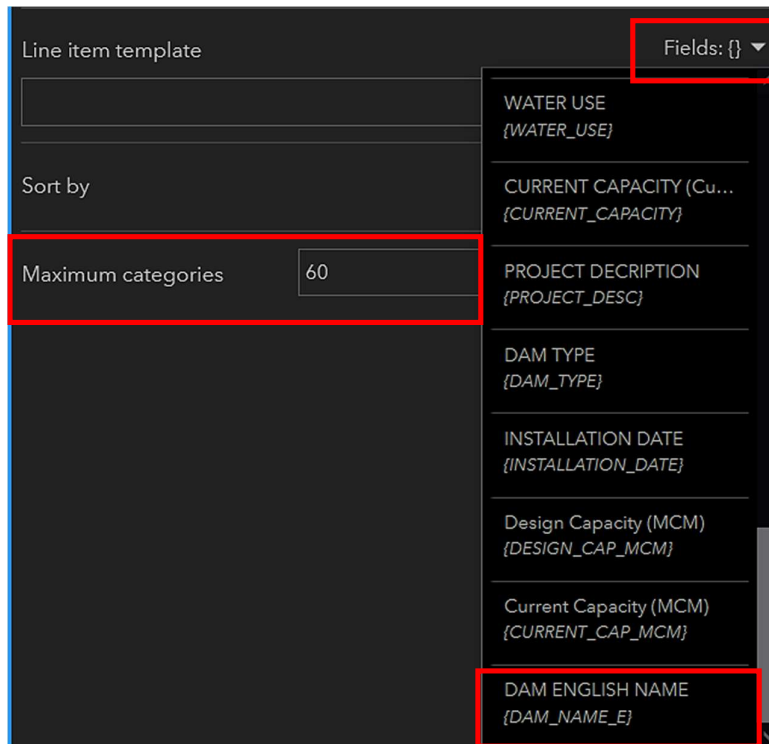
1. Point to the upper left of the Header element to display the menu, and then click the Add Category Selector button.



- From the Data tab, for Categories From, choose **Features**.



- Click on Desert Dams and select it.
- in Line item template click on Fields and choose **DAM ENGLISH NAME**, and for maximum categories write 60.



5. in the selector tab

- Title: Dam Name.
- Presentation mode: Dropdown



- Selection: Single



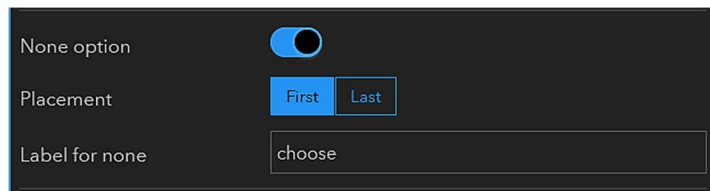
- Show filter



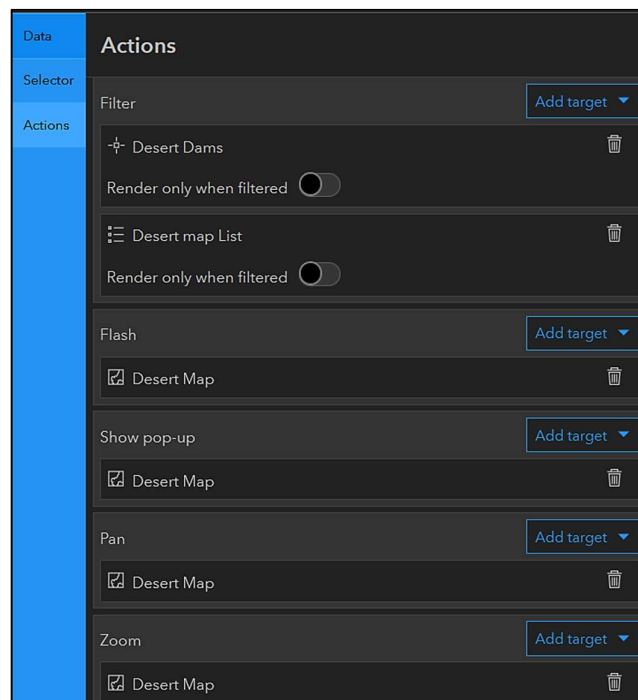
- Show reset



- None option



6. In action tab put the target as bellow image, click done

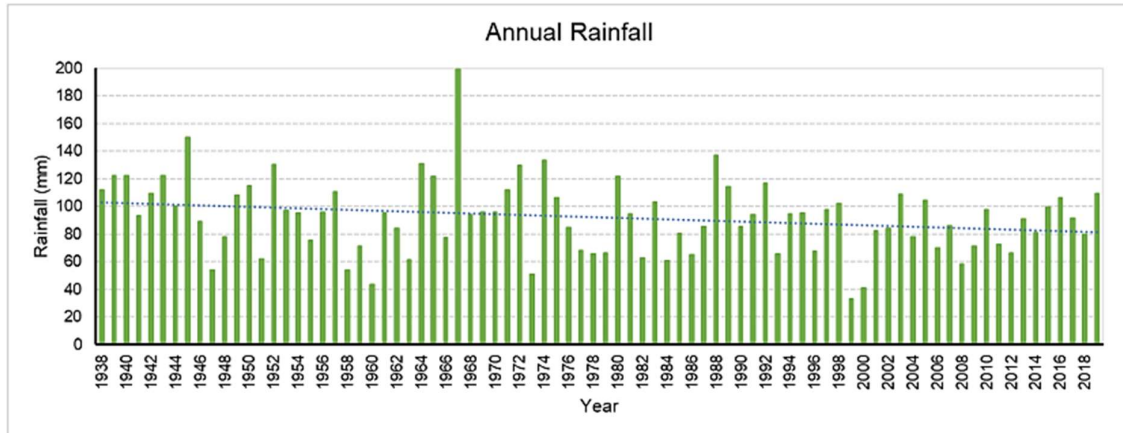


These actions will filter the map and the list for the selected Dam.

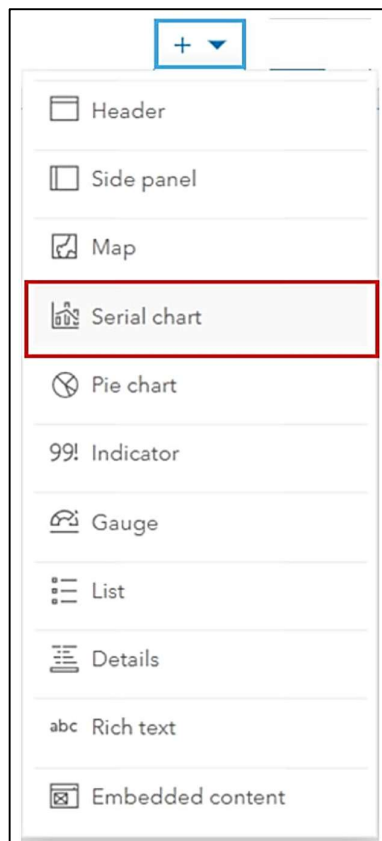
## Exercise 2: - Create serial chart (Features)

Next, you will Create New Dashboard and add elements to your dashboard: -

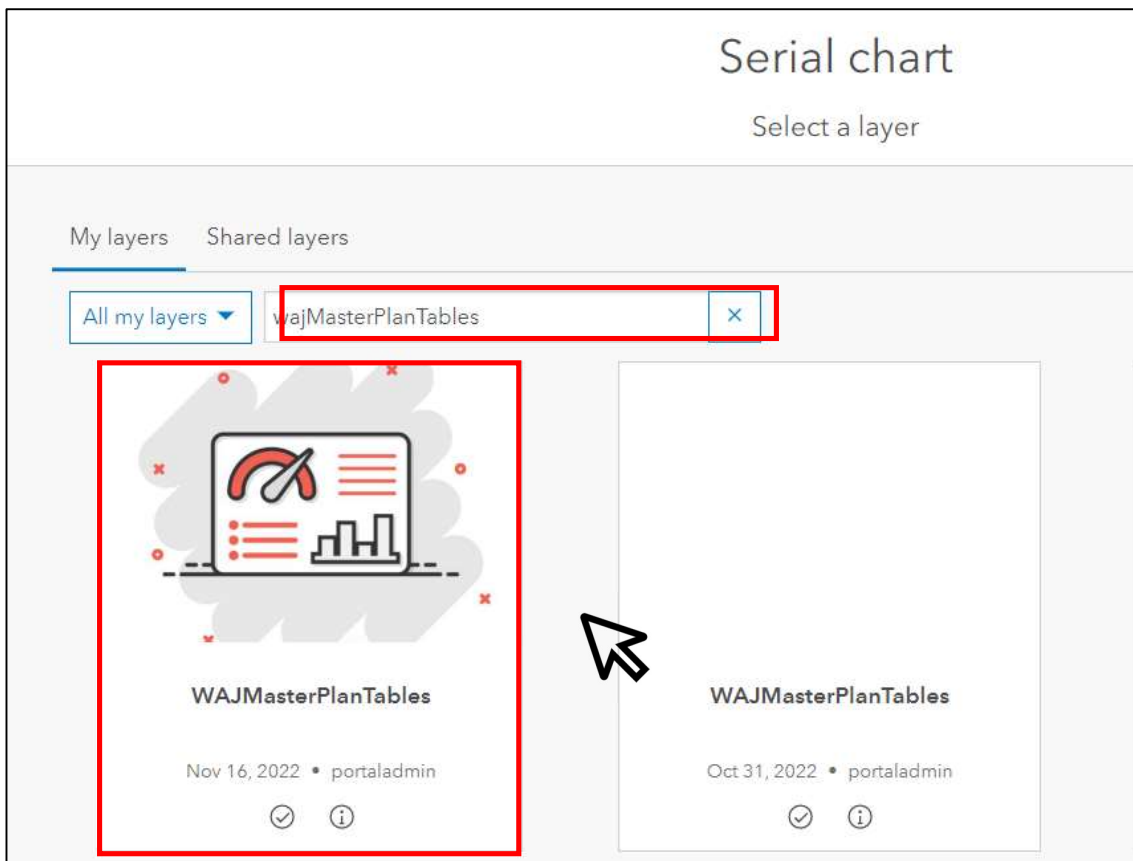
The chart shows the annual rainfall 1938-2019 for entire Jordan



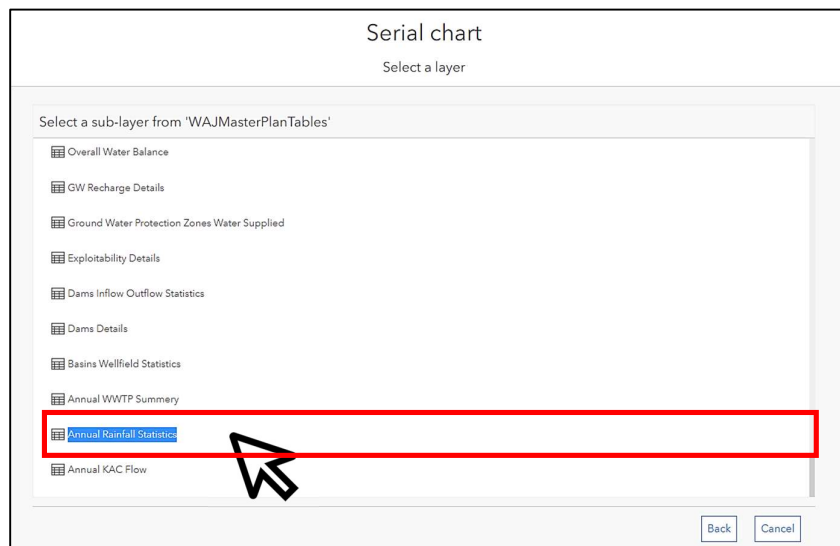
1. Chart type is serial chart, At the top right, click the Add button + and choose Serial chart.



2. In the **Select a layer** window, Click on **Browse all layer**, search for **WAJMasterPlanTables**, this layer contains all table used in the master plan and it's the source for all the chart in the NMWP3.



3. Next search for table name: **Annual Rainfall Statistics**, click on the table.



4. In the **Data options** pane, set the following parameters:
  - For **Categories from**, choose **Features**.

- For **Category field**, choose **CALCULATIONYEAR**
- For **Series**, click **Add series** and choose **RAINFALL\_MM**.
- For Sort by, click on **Add field** and choose **CALCULATIONYEAR**.

The screenshot shows a configuration panel with the following settings:

- Categories from:** Features (highlighted in red)
- Category field:** CALCULATION YEAR (highlighted in red)
- Parse dates:**
- Series:** RAINFALL\_MM (highlighted in red)
- Sort by:** CALCULATION YEAR (highlighted in red)
- Maximum categories:** No limit

Next, you will format the chart to match the Document colors.

5. Click on **chart** and for Font size (px) :14 px.

The screenshot shows the 'Chart options' panel with the following settings:

- Chart:** Selected tab (highlighted in red)
- Text color:**
- Font size (px):** 14 (highlighted in red)
- Orientation:** Vertical

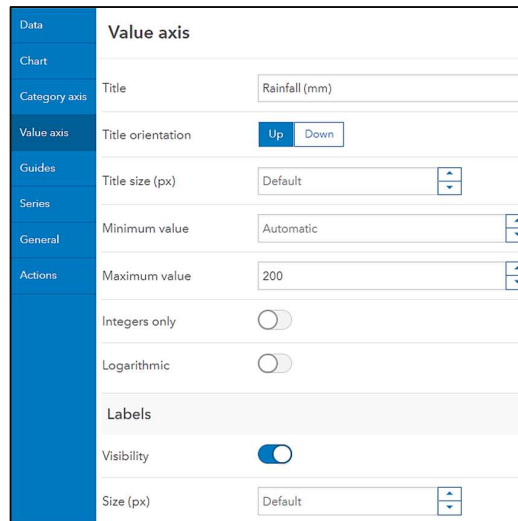
6. Click on **Category axis tab**, For the **Title:** Year.

The screenshot shows the 'Category axis' panel with the following settings:

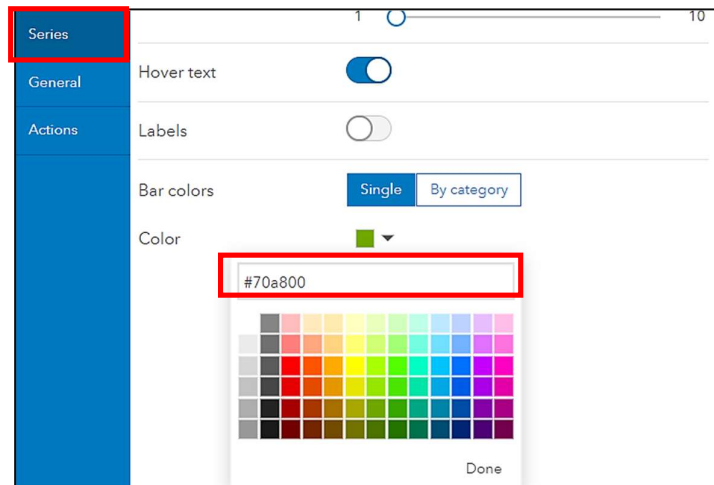
- Category axis:** Selected tab (highlighted in red)
- Title:** Year
- Title size (px):** Default
- Scrollbar:**

7. Click on Value axis,

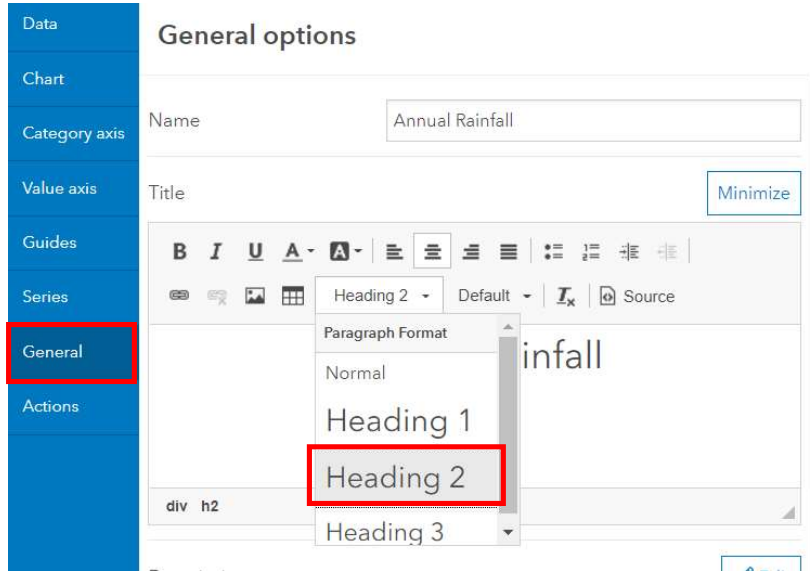
- For the Title: Rainfall (mm)
- For the maximum value :200
- Labels -Visibility On.



8. Click the **Series** tab. Under **Bar colours**, click **Colour**. For **Hex**, type #70a800 and press Enter.

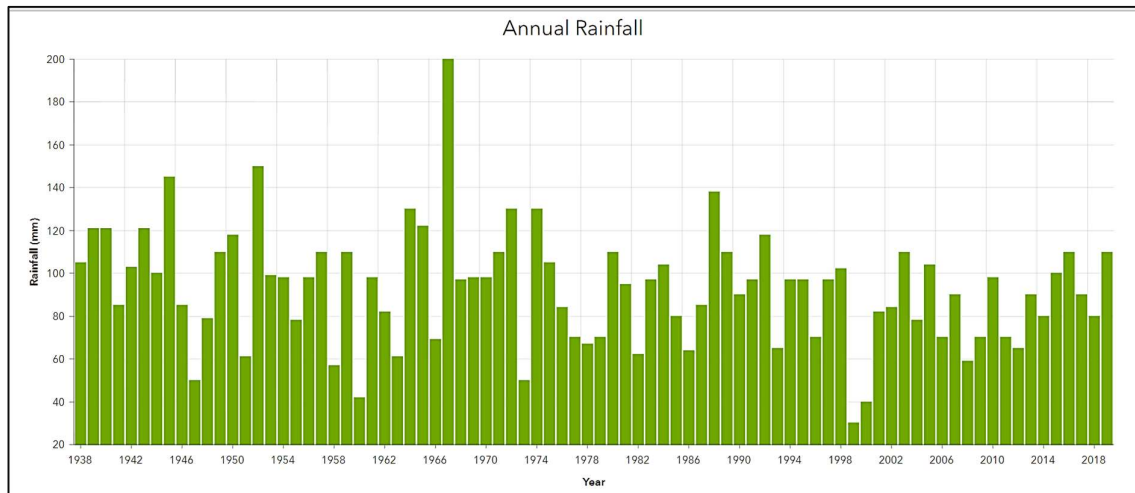


9. Click the **General** tab. In the **General options** pane, for **Title**, click **Edit**.
10. In the text editor, type *Annual Rainfall*.
11. Highlight the text. Click **Normal** and choose **Heading 2**.



12. Click **Done**.
13. Click **Save**.

Annual rainfall Chart added.



### Exercise 3: - Create serial chart (Grouped values)

Repeat Steps from previous exercise, Choose **Water Uses Gov** table.

1. In the Data tab,
  - In Category from select **Grouped values**
  - In Category field select
  - For **Category field**, choose **CALCULATIONYEAR**
  - For **Statistic**, Choose **Sum**, all data that have the same Category will be calculate
  - For Field select **USAGE AMOUNT (MCM)**
  - For Sort by, click on **Add field** and choose **CALCULATIONYEAR**.

Categories from: **Grouped values** | Features | Fields

Category field: CALCULATION YEAR

Parse dates:

Split by field: [Empty]

Statistic: Sum

Field: USAGE AMOUNT (MCM) decimal

Sort by: [Add field] | CALCULATION YEAR

Maximum categories: No limit

2. Click on **chart** and
  - In Text colour choose white.
  - In Font size (PX) :14.

Chart

Category axis: Text color [White]

Value axis: Font size (px) 14

Guides: Orientation [Vertical] | Horizontal

3. Click on **Category axis** tab:
  - In **Title** write: Year.
  - Change the axis colour to white.
4. Click on **Value axis**:
  - For the Title: Rainfall (mm)
  - For the maximum value :200
  - Labels -Visibility On.
  - Change the axis colour to white.

## Exercise 4: - Create a Pie chart (Grouped values)

Next, Create Pie chart same as Figure 2/Volume C.

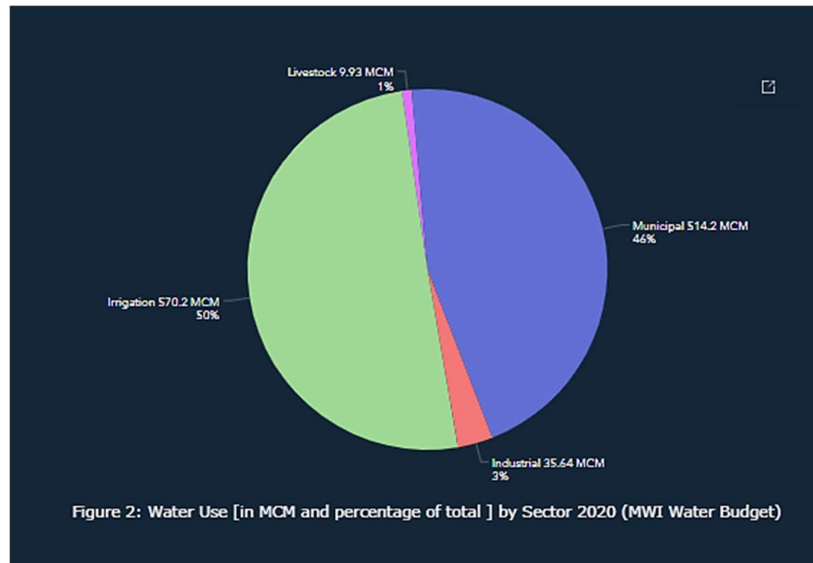


Figure 2: Water Use [in MCM and percentage of total] by Sector 2020 (MWI Water Budget)

Repeat Steps from Exercise 2, choose pie chart from list and select Water Allocation By Resource Table.

From the caption we figure that the chart does not represents all the data from the table we need to filter to specific year (2020), Follow the below steps:

1. Next, you will add a filter to show only Data from 2020 year.
2. From the Data tab to the right of Filter, click + Filter.
3. Click the Field for The Condition down arrow and choose CALCULATION YEAR.
4. For the operator, choose Equal.
5. For Value, click 2020.

Filter

CALCULATION YEAR string

equal




Value Field

2020

AND OR

- In **Categories from** click on **Grouped values**.
- In **Category field** select WATER USAGE
- In **statistic** Select **Sum**

- In **Field** Select VOLUME (MCM)
- In **Sort by** select WATER USAGE

Categories from	<b>Grouped values</b>   Features   Fields
Category field	WATER USAGE ▼
Statistic	Sum ▼
Field	VOLUME (MCM) decimal ▼
Sort by	<b>Add field</b> ▼
▲ WATER USAGE ▼	  

Next in chart tab.

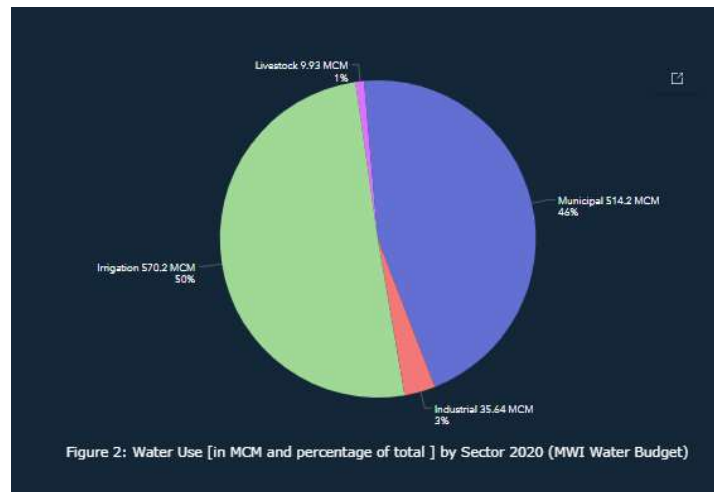
6. In Chart option set the following properties

- Font Size (px) :12
- In Start angle :85
- Hover Text On .

7. In labels Visibility choose percentage ,label offset :20.

Data	Chart options	
Chart		
Slices	Text color	<input type="color" value="#000000"/>
General	Font size (px)	<input type="text" value="12"/>
Actions	Start angle	<input type="range" value="85"/>
	Inner radius (%)	<input type="range" value="0"/>
	Hover text	<input checked="" type="checkbox"/>
Labels		
	Visibility	<input type="button" value="Hide"/> <input type="button" value="Value"/> <input checked="" type="button" value="Percentage"/>
	Labels offset (px)	<input type="text" value="20"/>
	Label line opacity	<input type="range" value="1"/>

8. Click Done.



# Chapter 5



# Web App builder

InfoGraph

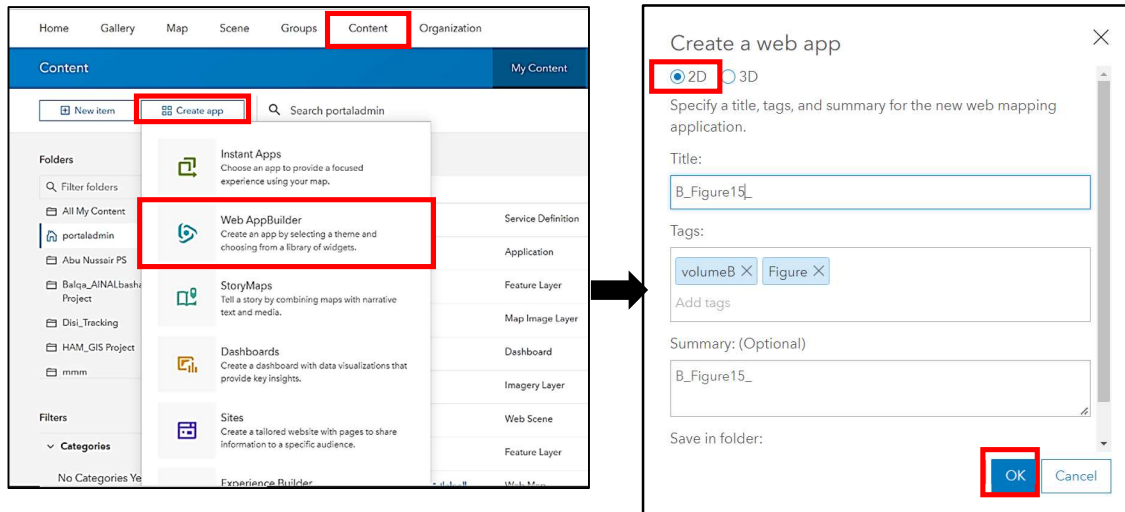
الشركة الاستشارية لأنظمة المعلومات البيانية  
Information & Graphics Systems Consultants L.L.C.



## Chapter 5: - Web app builder

### 1) Create a Web AppBuilder

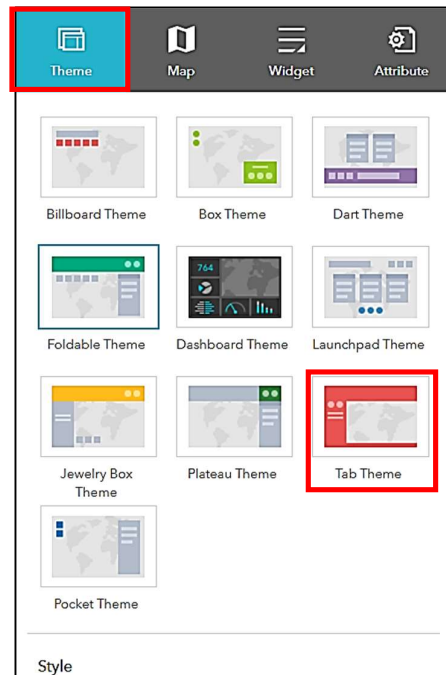
1. On the **My Content** tab of the content page,
2. Click **Create app**.
3. choose Web AppBuilder, and **select Web AppBuilder** .



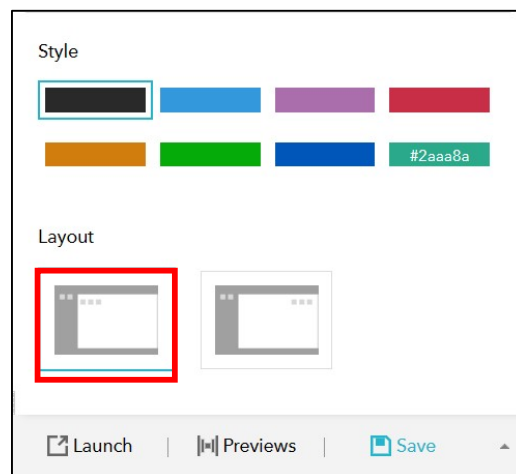
## 2) Choose a theme

The Theme tab in Web AppBuilder provides out-of-the-box themes. A theme is a template framework representing the look and feel of an app. Content in a theme includes a collection of panels, styles, and layouts, and a set of preconfigured theme widgets.

1. In the Theme Tab, from the Theme gallery select Tab Theme.

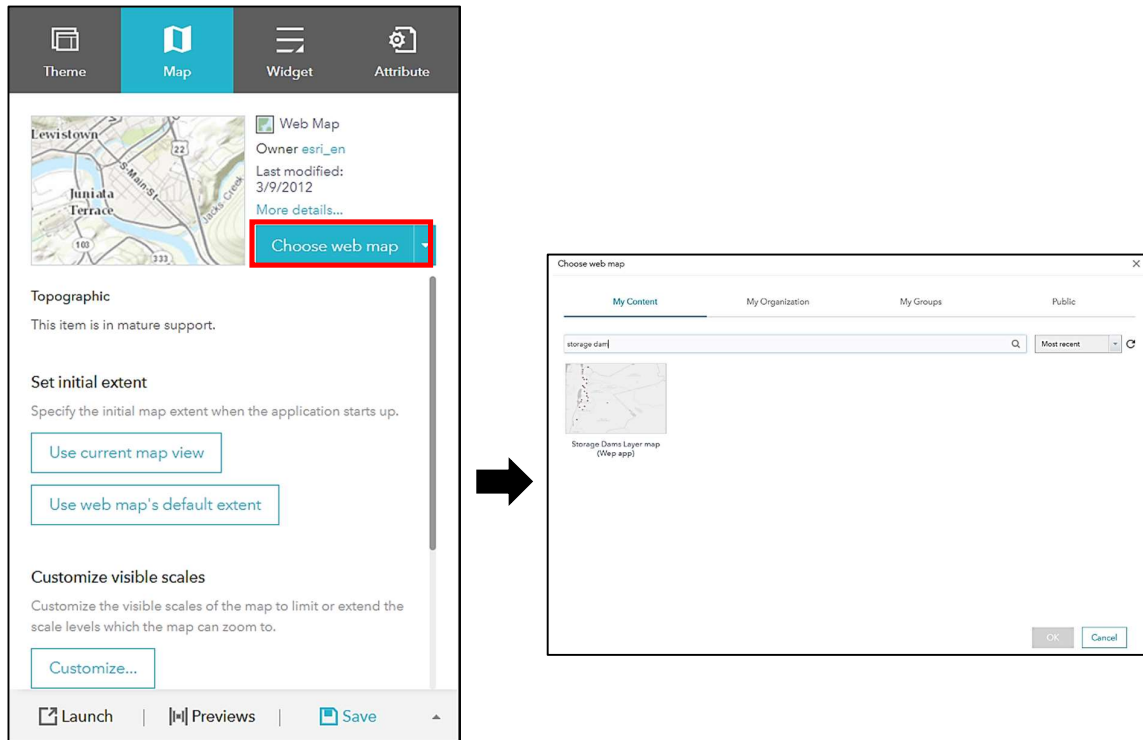


2. In the style section select Black colour.
3. In the layout section, select the first one.
4. Click save





### 3) Select a map

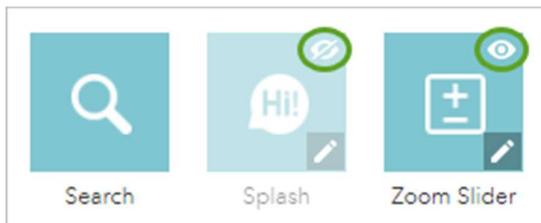
1. In **Map Tab**, Click Choose web map
2. The **Choose web map** windows are categorized by how they are shared
3. From my content search on storage dam, **select** the map, click ok.
4. Click save.





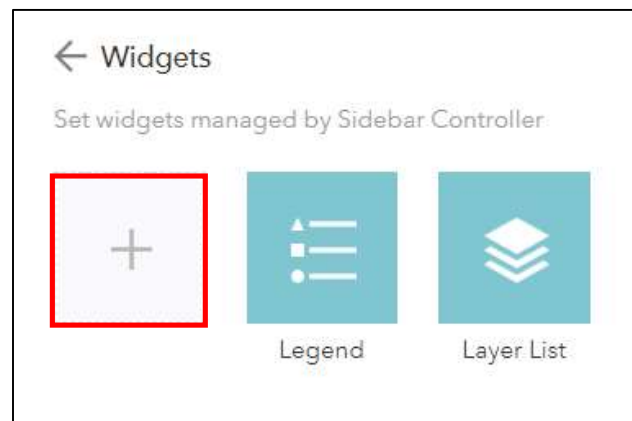
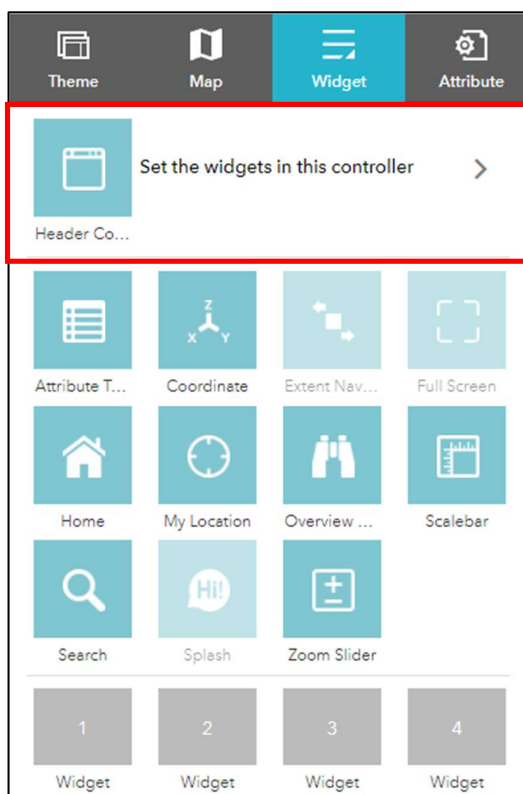
## 4) Add widgets

The **Widget** tab allows you to configure the functionality of the app.

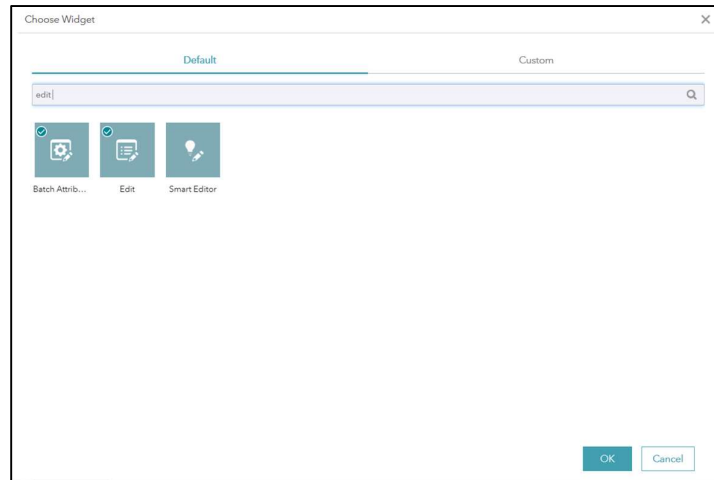
1. To turn a widget on or off in the app, hover over the widget and click the **Show this widget** button  or **Hide this widget** button .




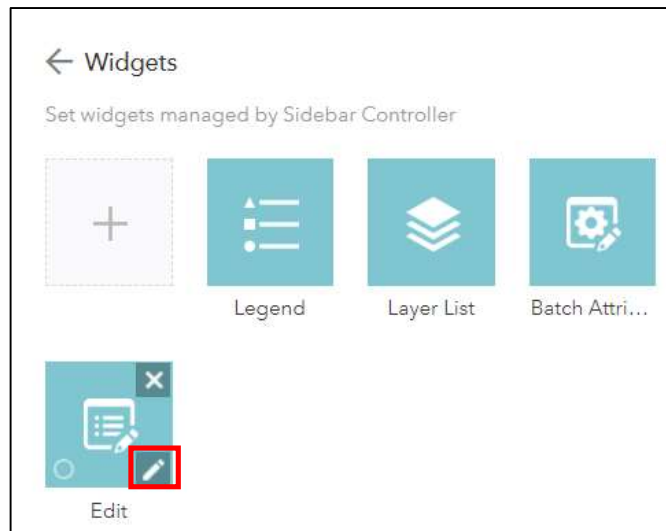
2. To configure a widget, hover over the widget, click the **Configure this widget** button , and modify the settings in the widget configuration window that appears.
3. To Set widgets managed by Sidebar Controller, click on  plus sign .



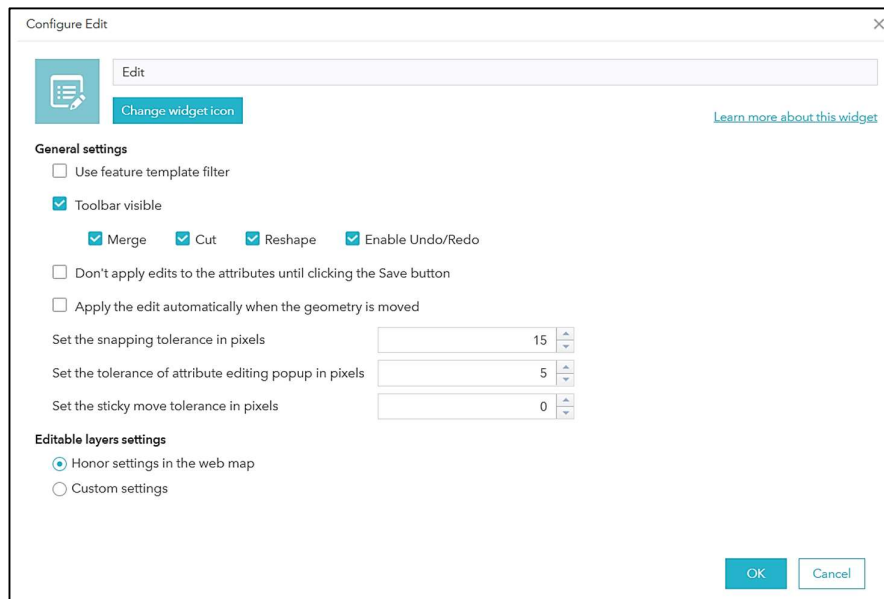
- In the **Choose Widget** window, search for a Edit widget and select Edit widgets, Batch Attribute Editor. The selected widgets display a checkmark in the blue boxes.
- Click Ok



- Configure edit widget by click on 



7. Make sure you select Toolbar visible (Merge, Cut, Reshape, Enable Undo/Redo), Click Ok.

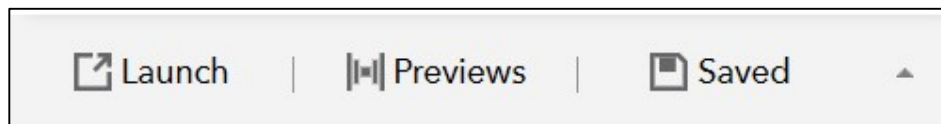


8. Click Save

## 5) Preview, save, and open

In the bottom of the side panel, you can find three options: -

- **Launch** button: - When you've completed the previous steps, save, and launch your new app.
- The **Previews** button: - allows you to interactively preview the app in a simulated device browser. You can interact with the application as if it was a live app on various simulated platforms.
- **Save** button to save your changes



# Chapter 6



# ArcGIS StoryMaps

InfoGraph

الفرقة الإستشارية لأنظمة المعلومات البيانية  
Information & Graphics Systems Consultants L.L.C.



## Chapter 6: - Create Story Maps

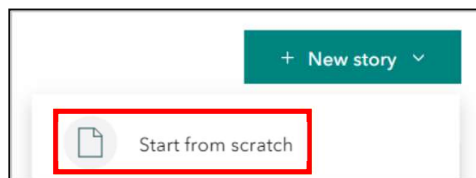
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### 1) Create a Story Maps

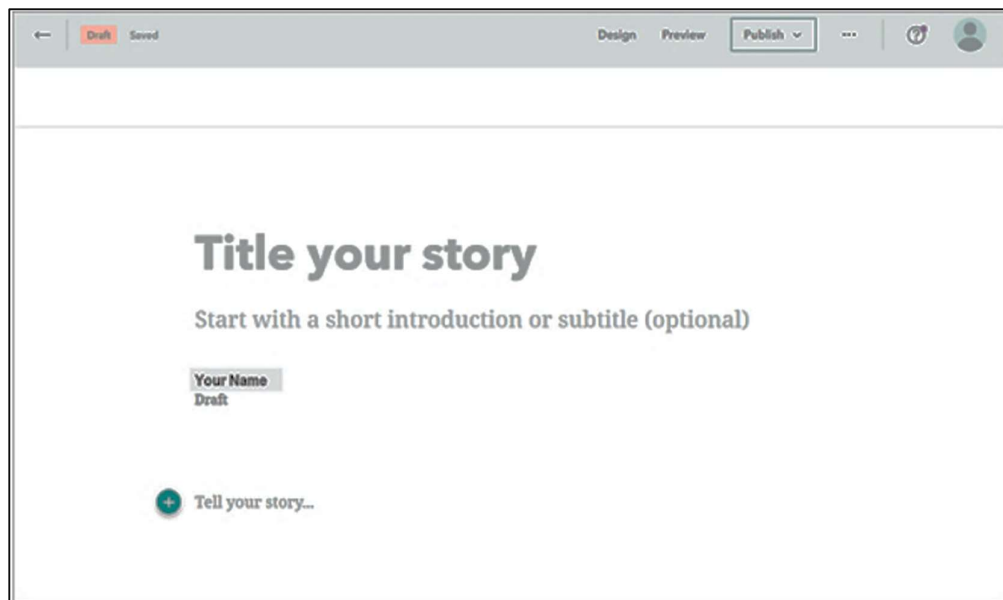
1. In the **StoryMap\_Data** folder, open the **Rainfall and Related Observation Network** document.
2. Open the ArcGIS StoryMaps builder and Sign into your ArcGIS organizational account.

<https://gisportal.mwi.gov.jo/portal/apps/storymaps/>

3. Click the **New story** button and then click **Start from scratch**.



A blank story template appears.



## 2) Add content blocks

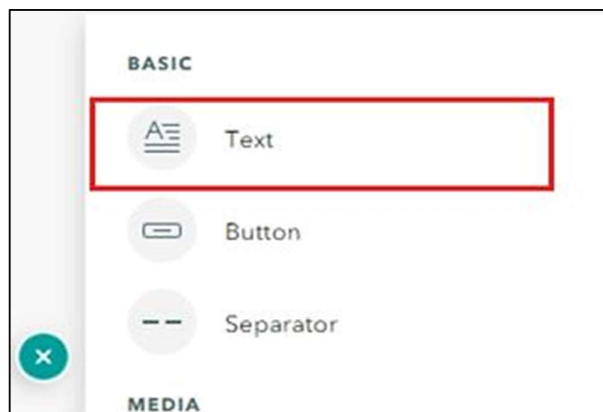
4. For **Title your story**, type in the *Rainfall and Related Observation Network*.

The ribbon updates with the new title.



You can change the title at any time. Next to the Draft page, you'll see evidence of the autosave feature in ArcGIS StoryMaps; any time you edit your story, that text will let you know your story is saving and then confirm that your changes have been saved.

5. Scroll past the cover. Next to **Tell your story**, click **Add content block** and choose **Text**.



The block palette contains options for adding content. You'll tell your story using these blocks to add sections of content to the body of your story.

There are a few types of blocks you can choose from. There are **Basic** elements such as text blocks—paragraph, heading, quote, and so on—and there are also a few options for adding small visual accents, such as a separator or a button. Then there are **Media** blocks such as an embed (for external web content), image, video, or map. And finally, there are **Immersive** blocks such as sidecar, slideshow, and a map tour.

**Immersive** blocks are unique in that they become full-screen takeovers of your story, providing different, interactive reading experiences. Those familiar with the classic Story Maps Journal template, for example, may recognize the split-screen feel of sidecar, where a fixed media panel displays visual content while a smaller narrative panel scrolls by.

6. Type or paste the following:

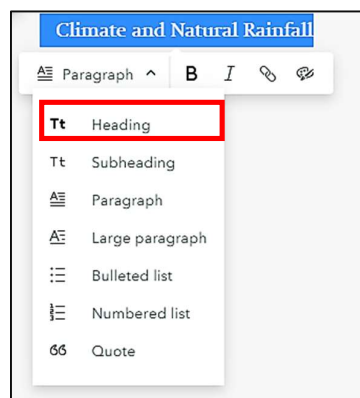
**Facts**

Rainfall is the source of all water resources used in Jordan, both surface and groundwater. Rainfall contributes to the groundwater recharge and to the direct surface runoff. Due to natural conditions, rainfall in Jordan is highly variable in space and time. Climate change will have a high impact on future rainfall and temperature distribution in the Middle East region. The monitoring and assessment of rainfall (and other climatic parameters) provide the best basis for the assessment of long-term available quantities of water resources. Therefore, rainfall monitoring is essential for investment planning in the water sector. It is essential to consider climate change in all related planning. Current internal long-term conventional water resources availability is 65 m<sup>3</sup>/ca/yr. Due to climate change and population increase, availability would decrease to 46 m<sup>3</sup>/ca/yr.

These paragraphs serve as both an introduction and a summary to your story.

Add a third Text content block and type or paste *Climate and Natural Rainfall*

7. Highlight the text, click **Paragraph**, and choose **Heading**.



This text serves as your first heading. Now, you'll add the rest of the text.

8. Paste the rest of the story content to the builder from the In the **Rainfall and Related Observation Network** Text document. Use the block palette to format all subtitles and paragraphs as needed.

The text is broken into sections, each with a few paragraphs. Once all the text is in place, you'll start adding media elements.

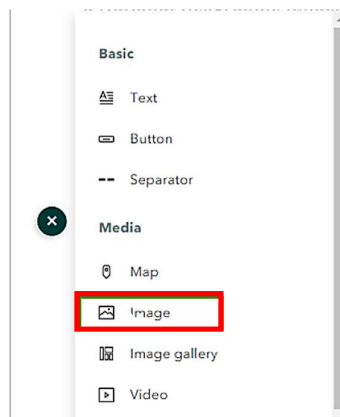
### 3) Work with media

Once you've added your text, you'll start adding and adjusting media to bring your expedition to life. Images, video, and other media are important because they break up a long narrative and provide context. You'll add both individual images and an immersive sidecar to the story and change their appearance to best fit the story. You'll also add video footage to the story.

#### Add image

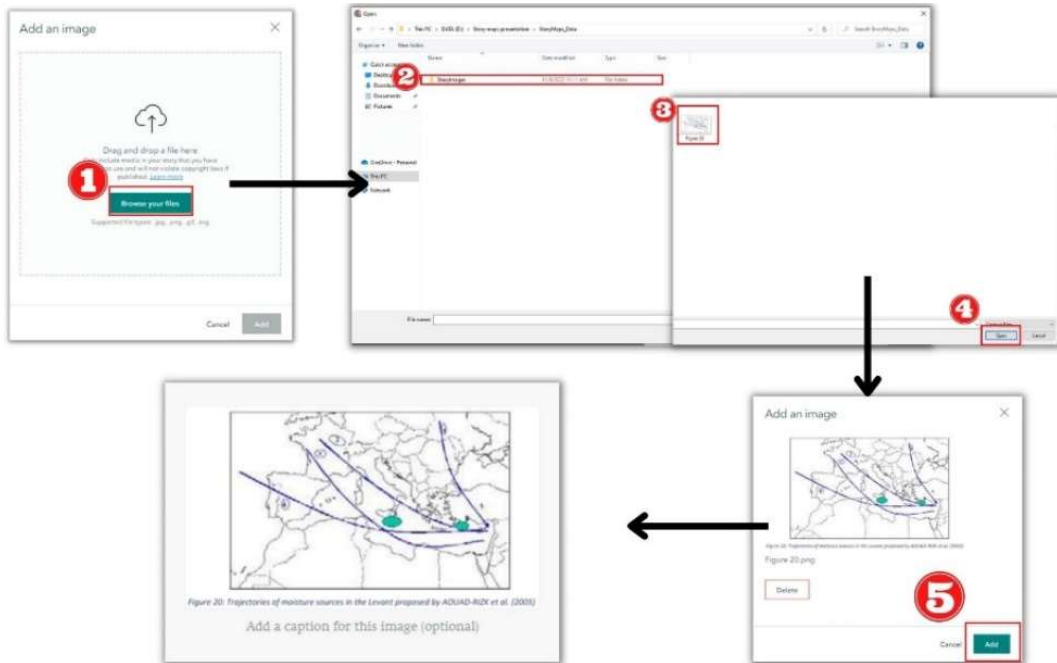
The first image you see in the example story is

Figure 20: Trajectories of moisture Sources in the Levant proposed by AOUAD-RIZK et al. (2005)



1. In the **Add an image** window, on the **Upload** tab, click **Browse your files** and browse inside the **StoryMap\_Data**, **StoryImages**, and **Beginning** folders.
2. Choose **Figure 20.jpg**. Click **Open** and click **Add**.

The image is added to the story in the smallest form.

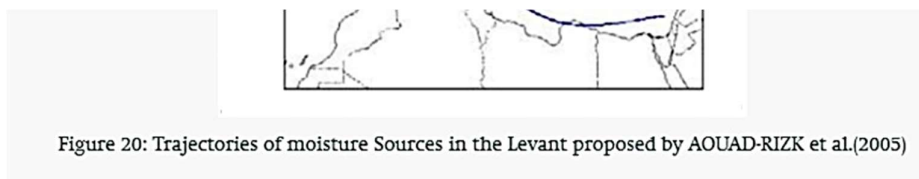


3. Hover over the image. In the toolbar, click **Float right**.



4. Under the image, click **Add a caption for this image** and type or paste the following text:

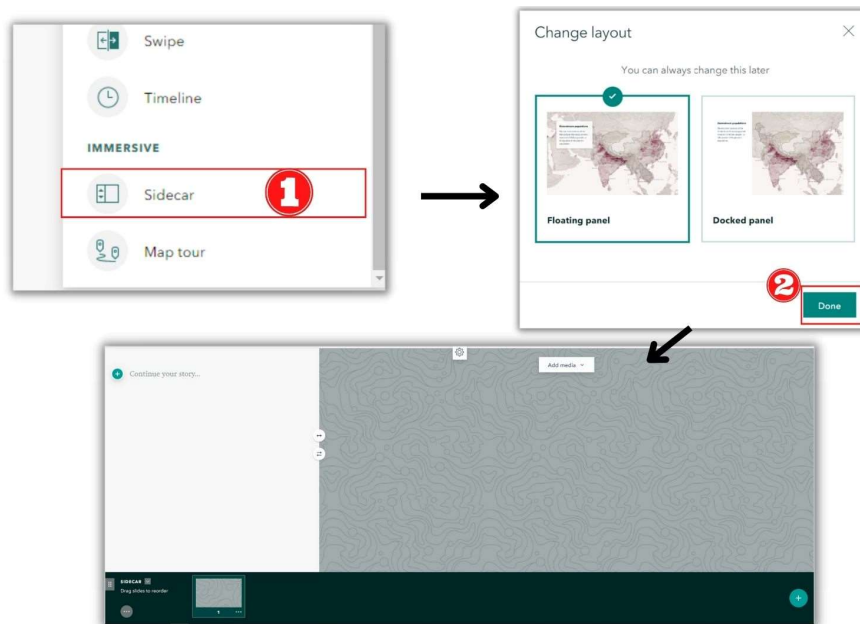
*Figure 20: Trajectories of moisture Sources in the Levant proposed by AOUAD-RIZK et al.(2005)*



## Add Sidecar

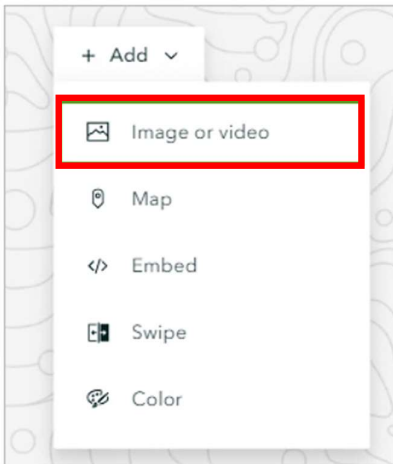
Modelling your story on the published version, continue adding text and images to the story

5. In the **Facts** section, after the first paragraph block, click the **Add content block** button and choose **Sidecar**.



A sidecar is an immersive block with a side-by-side reading experience composed of a narrative panel on one side and a media panel on the other. Together, these two panels constitute a slide.

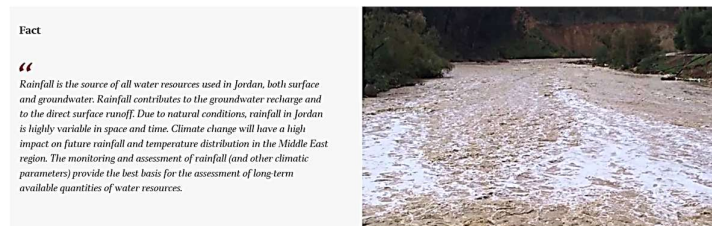
6. Click **Add** and choose **Image or video**.



7. In the **Add an image or video** window, click **Browse your files**, choose **Rainfall.jpg** from the **Beginning** folder, and click **Add**.

The image of raw Rainfall is added to the story.

8. Next to the image, click **Continue your story** and type or paste the fact paragraph.
9. Highlight the caption text, click **Paragraph**, and click **Quote**.



The first sidecar slide is complete.

At the bottom of the sidecar block is the slide panel. In the slide panel, you can add or remove slides, adjust the transitions between them, or remove the sidecar block from your story entirely. You can change which side the narrative panel is on by using the double-arrow button where the media and narrative panel meet.

10. In the slide panel, click the **new slide**.

A blank slide is added to the pane.

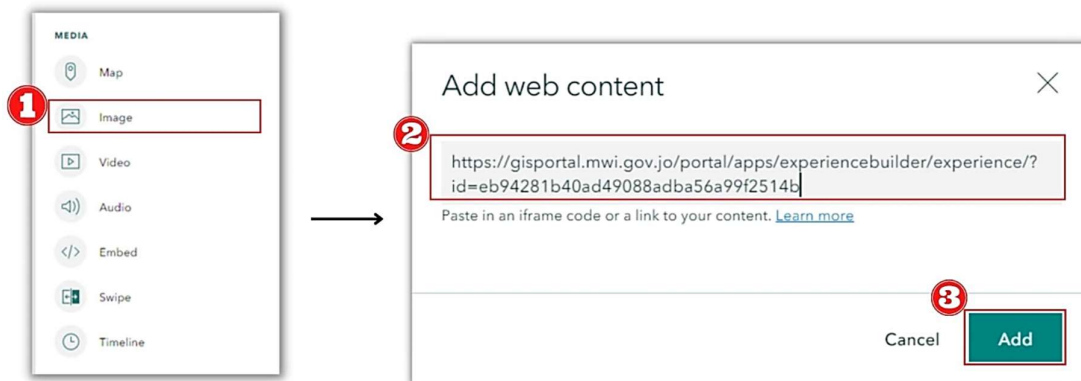


11. Click **Add** and click **Image or video**. Choose **Rainfall2.jpg**. Add the Second fact paragraph.

### Add embeds

You can add a wide variety of online content, such as web apps, dashboards, to a story using the Embed block. You can change the formatting of embedded online content to fit the content and your story.

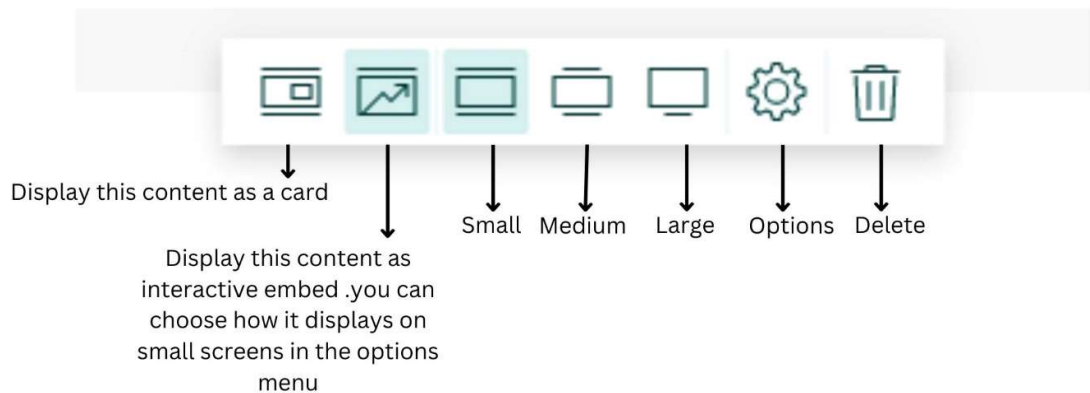
1. click the **Add content block** button and choose **Embed**.
2. add URL for **table 11** you will find in links text document in Add web content
3. click Add.



### Formatting tips for embedded content

Consider the following when formatting embedded content:

- You can change the embed format by hovering over the embedded content and selecting the embed card or interactive embed format from the embed editing toolbar.



- or interactive embedded content,
  - click the **Options** button to open the **Embed options** pane and configure the large-screen or small-screen appearance.
  - For large screens, you can choose whether to include a button on the embed to open live content in a new tab, and whether to hide the **Click anywhere to interact** overlay on the embed that allows readers to directly interact with the embed.
  - For small screens, you can customize the card details.
- For embed cards,
  - click the **Options** button to open the **Card options** pane
  - customize the card details and copy the embedded content reference URL.
- On mobile devices, all embedded online content is displayed as cards.

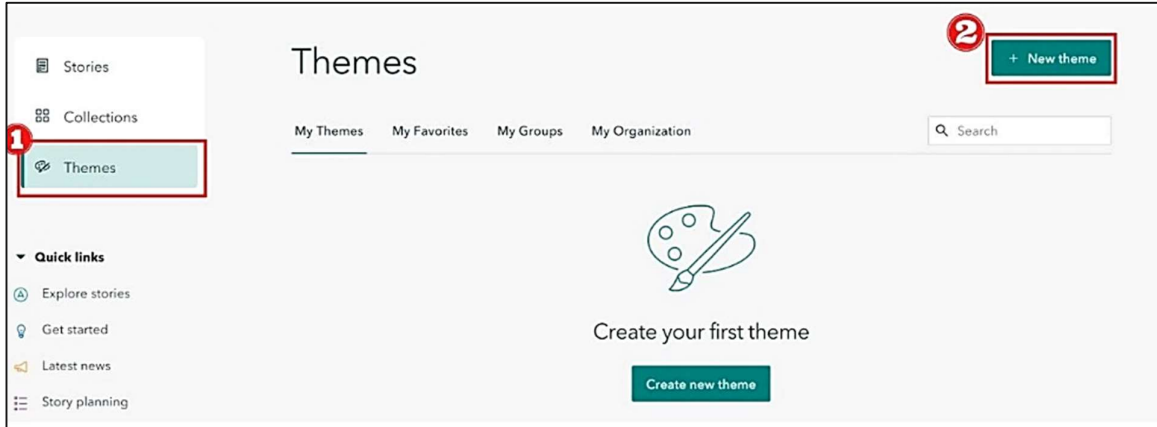
#### 4) Create a theme

- Click Themes on the website header to browse to the Themes page.

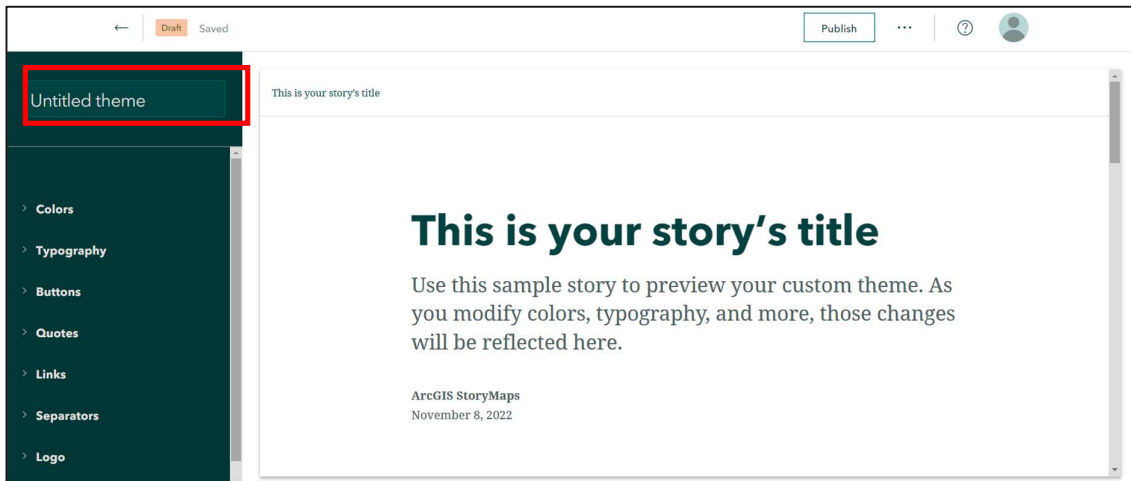
You can also access the Themes page from the story builder by clicking Manage my themes in the Theme section of the Design panel.

- Click New theme to launch the theme builder.

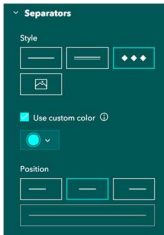
The theme builder displays a sample story with content blocks and a panel for the theme builder options.



- Give your theme a title by replacing the Untitled theme text at the top of the panel with (Volume B Theme).



Theme element	Options
Colours	Story header and footer  Story background #1A3C40  Accent colours
Typography (font and colour)	Title and headings #FFD32D

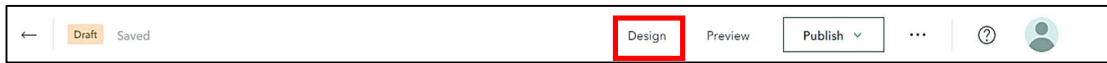
	<p>Paragraph text #FFFFFF</p> <p>Caption text #C2C2C2</p>
Buttons	<p>Style and colour</p> 
Quotes	<p>Style, colour, and alignment</p> 
Links	<p>Style and colour</p> 
Separators	<p>Style, colour, and position</p> 
Logo	<p>Logo image: upload the image from story images folder</p> <p>Logo link : <a href="https://gisportal.mwi.gov.jo/portal/apps/sites/#/nwmp-3">https://gisportal.mwi.gov.jo/portal/apps/sites/#/nwmp-3</a></p> <p>Logo alternative text : NWMP-3 Home Page</p>

As you build your theme, the theme preview scrolls to the active element and the sample story updates to preview how the theme looks with each of the content blocks.

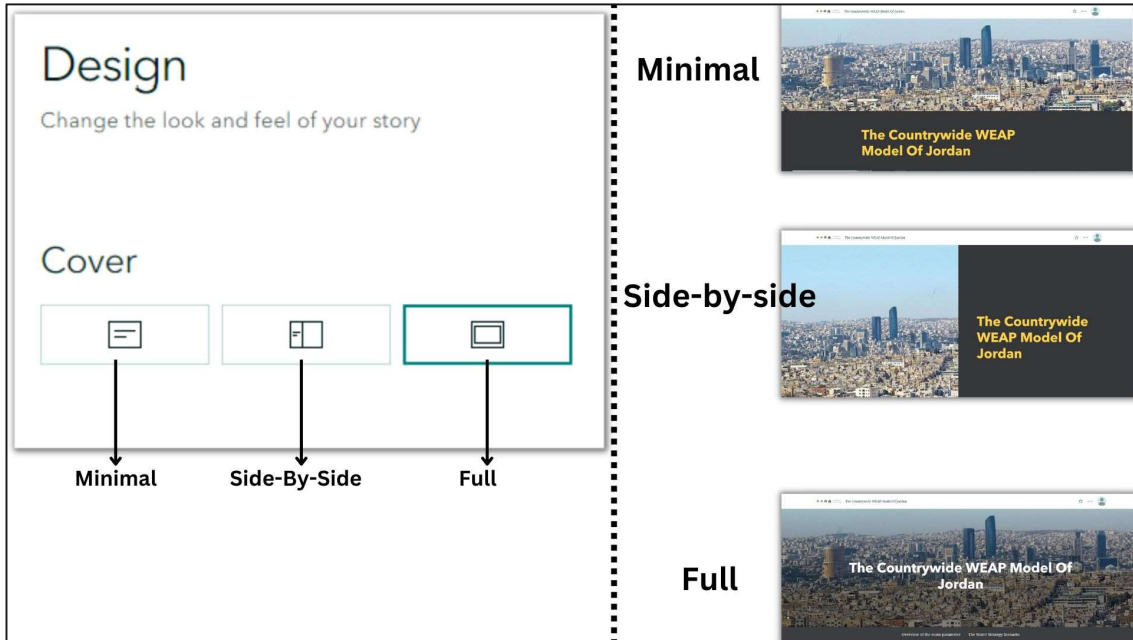
5. Click Publish in the theme builder header to start the publishing process.
6. In the publishing process, you select the audience for your theme and click Publish.

## 5) Review the story

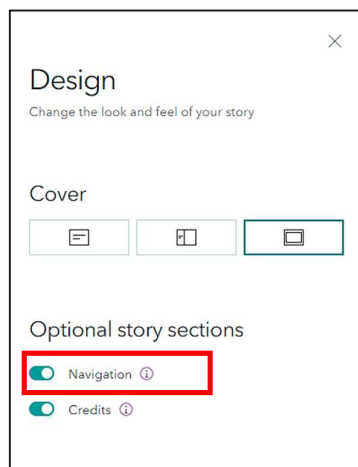
1. On the ribbon, click **Design**.



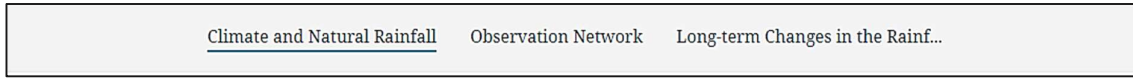
2. For **Cover**, **Minimal** is selected by default, select Full.



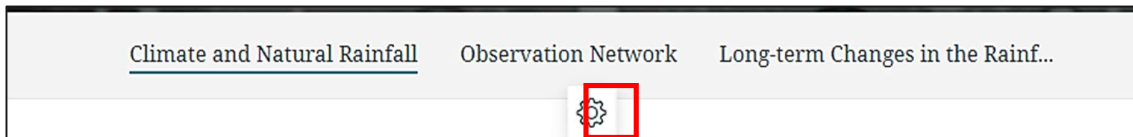
3. In the **Design** pane, under **Optional story sections**, turn on **Navigation**.



Navigation provides a link for readers to jump to the various sections. Next, you'll set the theme for the story.



For editing the Navigation, click on option under the navigation bar, here you can edit the heading, hide some heading, click save.



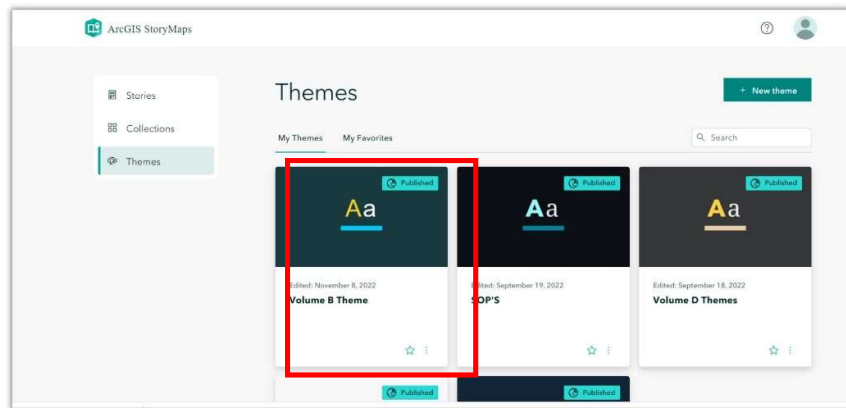
### Story navigation

Select up to 30 headings to be used as story navigation links. You can rename links as needed, with a limit of 30 characters per link.

- Overview of the main parameter
- The Water Strategy Scenario
- Volume D main Chapters

Cancel **Save**

4. For **Theme**, click on Browse themes, then from **Choose a theme you create**

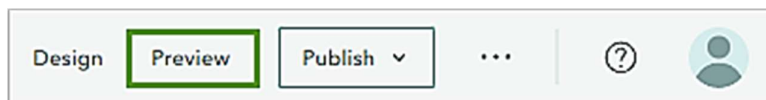


Story themes affect everything from color scheme to typography, all with a single click. You can switch between themes as much as you like while trying to decide which one is most aligned with your story, watching your content transform immediately.

## 6) Preview Your Story

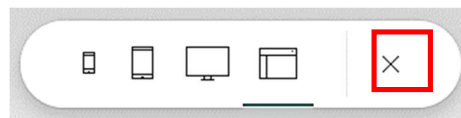
Before publishing, you'll review the story. This step is important because you want to make sure what you're sending out to the public is accurate and represents the best telling of your story. In addition to proofreading and editing your own story, this is a good point to ask others for feedback on the story.

1. On the ribbon, click **Preview**.



The Preview mode allows you to see a story as a user would.

2. When you are done reviewing, at the bottom of the screen, click Close preview to return to the editing mode to make changes.



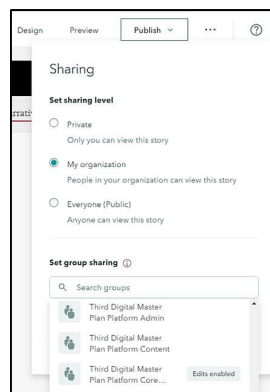
## 7) Publish and share

Finally, you'll publish your finished story and share it with others. Once it's published, you can choose to share the story with only people in your organization, or you can share it publicly.

1. On the ribbon, click **Publish**.

The **Publish** button is only visible in the **Draft** view.

2. In the **Publish story** menu, for **Sharing level**, choose **My organization, Groups you want to share with** and click **Publish**.



Sharing the story publicly allows anyone to search and view it. Choosing **My organization** keeps viewership limited to your ArcGIS organization. You can update these sharing settings later through the **More Options** menu in the story builder's header.

The story is now available to others. If you click **Edit story**, you see the **Draft** badge is replaced with a **Published** badge.

After publishing, you can continue to make edits or updates without affecting the shared story. When you make a change, the **Published** badge in the builder header changes to **Unpublished changes**. This signals that you've made some revisions to your story, but they have yet to be pushed to the published version.

Once you have your adjustments finalized, click **Publish** again to update the shared story. Or you can discard your unpublished changes using the **More actions** menu in the header. This is also where you can unpublish your story entirely, which will revert it to a draft and unshare the story.

## 8) Create Stories Collection

An ArcGIS StoryMaps collection is a group of stories that you can share or present as a cohesive, navigable set of items. Collections can include your own stories as well as stories that you have added to your favourite list, that have been shared with you through your organization, or that are available on ArcGIS Living Atlas of the World. Other items such as ArcGIS apps, media, and files can also be added to a collection as supporting content.

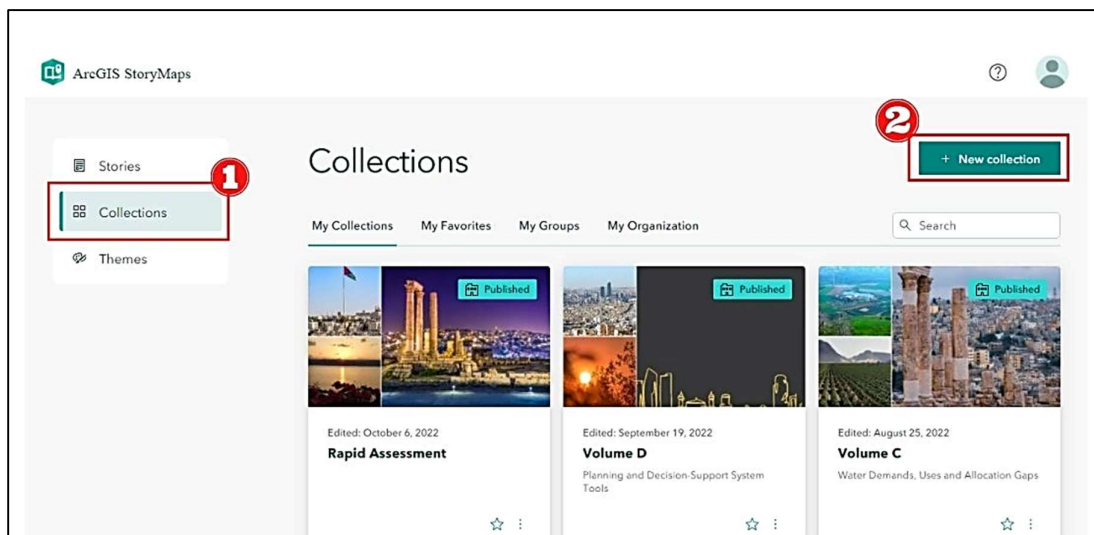
You can use one of the six standard themes or apply a custom theme to a collection. Collections follow the same creating, publishing, and sharing patterns as stories created with ArcGIS StoryMaps.

Use the following steps to author and publish a collection:

### Create a collection

7. Browse to the Collections page in ArcGIS StoryMaps by clicking Collections at the top of the page.
8. Click **+ New collection**.

The collection builder launches and opens a new untitled collection. The collection builder is where you assemble stories and apps into a collection.



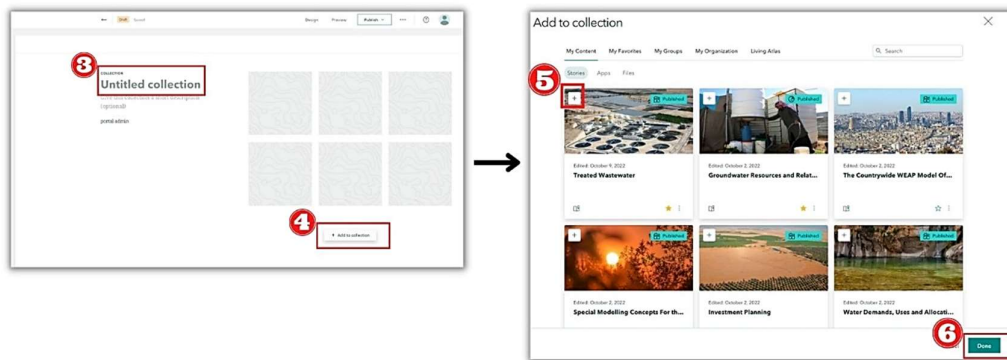
8. Add a title and description to this new collection.

### Add items to the collection.

9. Click Add to collection and select one of the options: ArcGIS content you want to add

10. Select stories, apps, and files to add to the collection.

11. Click add



12. Optionally, change the display order of the items in the collection by dragging the item cards to the collection overview page.

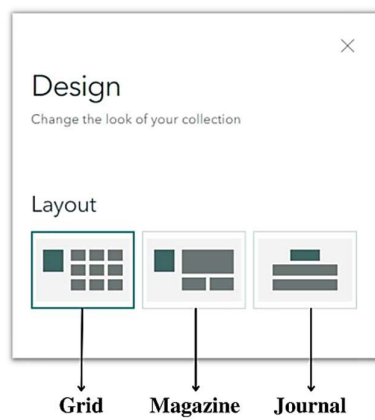
### layout style

Select the layout style you want to use for the collection.

13. Click Design in the collection builder header.

14. Select a layout style: Grid, Magazine, or Journal.

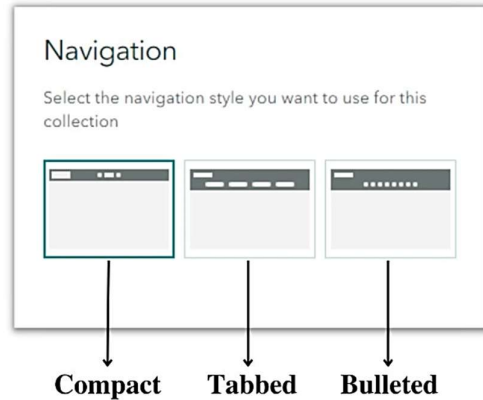
15. Click outside of the design panel or click the close button to close the design panel.



## Navigation

Select the navigation style you want to use for the collection.

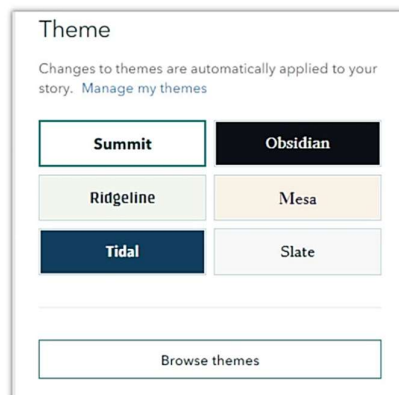
16. Click Design in the collection builder header.
17. Select a navigation style: Compact, Tabbed, or Bulleted.
18. Click outside of the design panel, or click the close button to close the design panel.



## Collection theme

Configure the collection theme.

19. Click Design in the collection builder header.
20. Select the theme you want to apply to your collection by choosing one of the six standard themes **or** click Browse themes to apply a custom theme.
21. You can click Manage my themes to edit a theme or create one. For more information on themes.
22. Click outside of the design panel or click the close button to close the design panel.



### Preview the collection.

23. Click Preview in the collection builder header to open the collection preview.
24. Preview your collection as your audience will see it.
25. The multiple-device preview includes options to see how the story will be displayed on three screen sizes and ratios: phones, tablets, and desktop browsers.
26. Return to the collection builder to make any revisions and publish by clicking Edit collection in the header.

### Publish the collection.

27. Click **Publish** in the collection builder header to start the publishing process.
28. In the publishing process, select the audience for your collection and click Publish collection.

# Chapter 7



# ArcGIS Site

InfoGraph

الشركة الاستشارية لأنظمة المعلومات البيانية  
Information & Graphics Systems Consultants L.L.C.




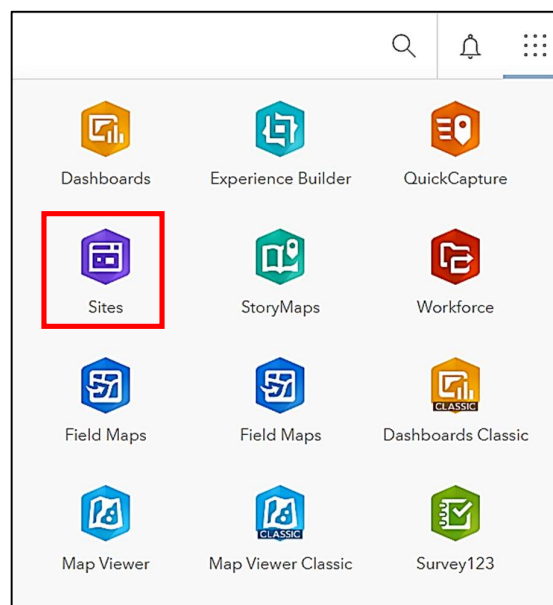
## Chapter 7: - Build a site

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ArcGIS Enterprise Sites allows you to create a tailored web page experience for your users to help you share your portal's authoritative GIS data to other departments more easily, even if they are not used to working in your GIS. Instead of learning to navigate the portal and access groups, members can go directly to the custom web page you create to navigate the content relevant to them.

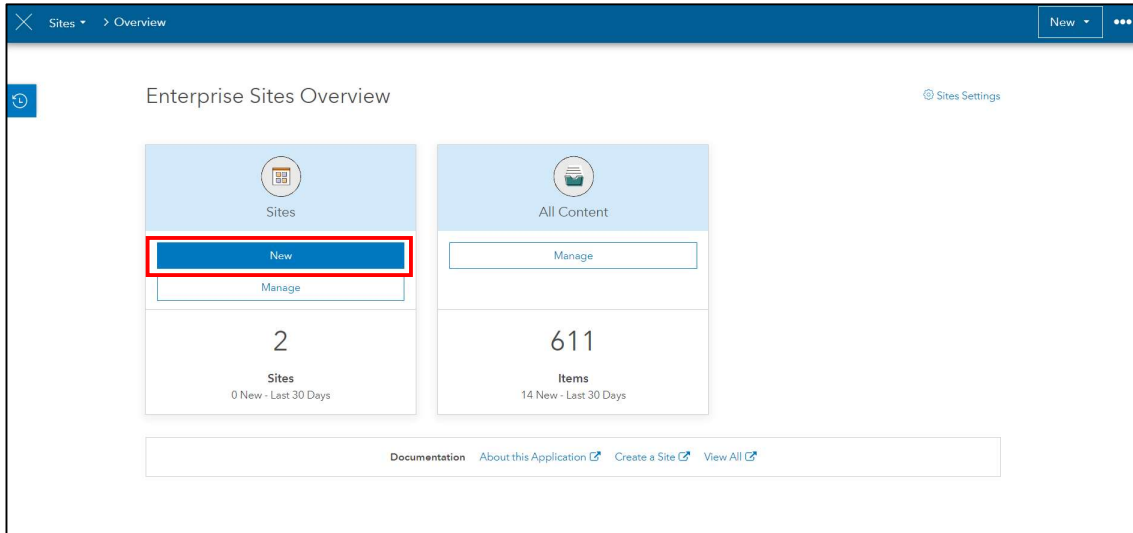
Web pages created with Sites are built to be easily navigated by non-GIS users, but are powerful enough to let users interact with, download, and create apps from your data. Sites features a built-in web page designer that integrates a drag-and-drop experience with HTML markup, giving you absolute control over the design of the web pages you create. You can also add non-GIS content, such as videos and documents, to your Site to create a central place for material relevant to your users to be hosted and accessed.

1. Sign into your ArcGIS organizational account.
2. Click the app launcher button  in the header of the site and click Sites.

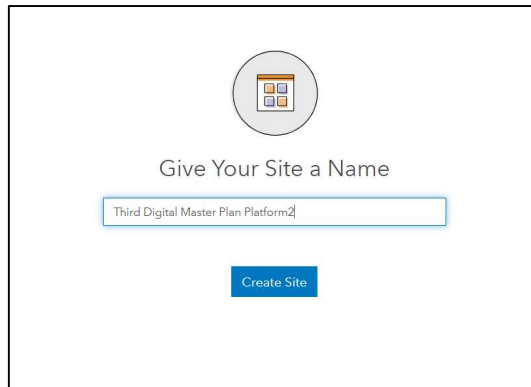


The ArcGIS Site home page provides access to several key workflows: creating and managing sites, adding content..., You can return to the overview at any time by clicking the Edit Navigation bar and choosing Overview.

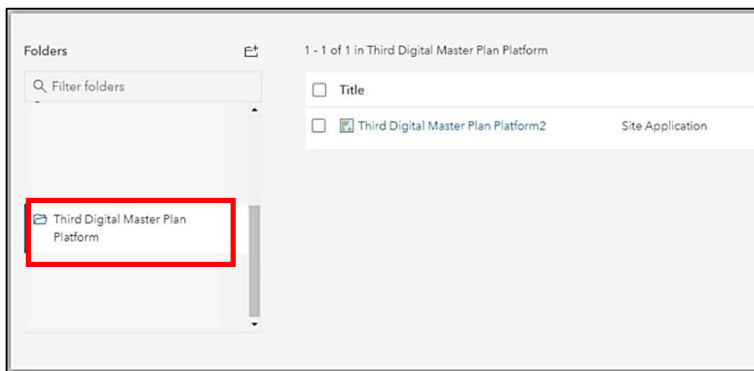
3. Under Sites card click new



4. For **Title**, type Third Digital Master Plan Platform
5. Click **Create Site**



6. When you create a Site, New items added to the content: -
  - New folder add to the content folder with the name of Site contain the a site item



- New three groups are created for you in ArcGIS Enterprise Account. These groups can be used to manage your Site content (Content group), team members (Core Team group), and

the people who sign up to receive updates about the site (Followers group). The site is automatically shared to the Core Team group so that members of your team can update the site.

### User Groups and privilege

1. Third Digital master plan platform **core team**.
2. Third Digital master plan platform **admin**.
3. Third Digital master plan platform **content**.

### **Third Digital Master Plan Platform Core Team**

Member of this Group: - portal admin - NWMP-3 Supervisor

Users have a privilege to view and update everything in the site

### **Third Digital Master Plan Platform Admin**

Member of this Group: - portal admin - NWMP-3 Admin

Users have a privilege to view Volumes and Dashboards and update Data entry.

### **Third Digital Master Plan Platform Content**

Member of this Group: - portal admin - NWMP-3 Admin - NWMP-3 User.

Users has a privilege to view the Volumes and Dashboards.

Now, Site created, a Get Started window may appear with information about ArcGIS site.

7. If necessary, close the Get Started window.

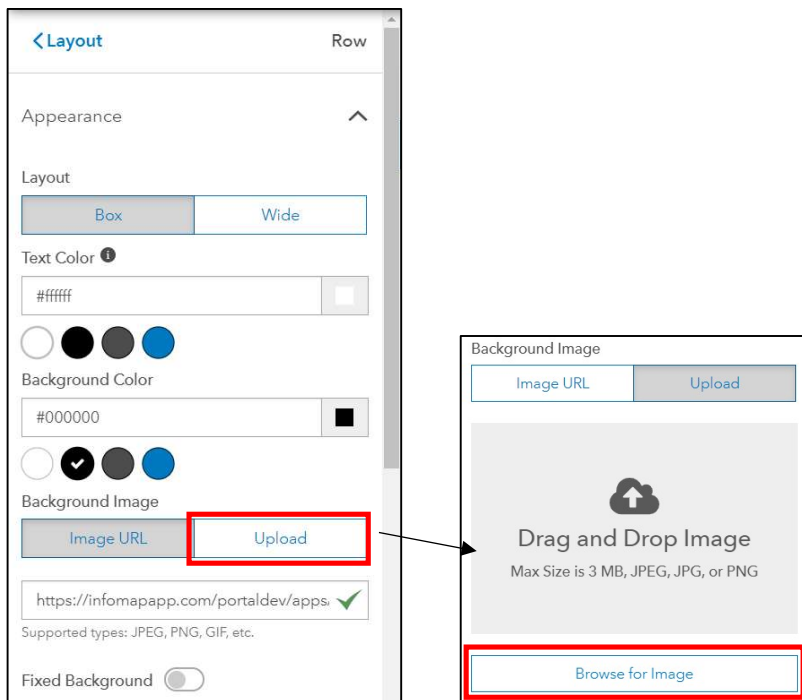
## 1) Design your Site

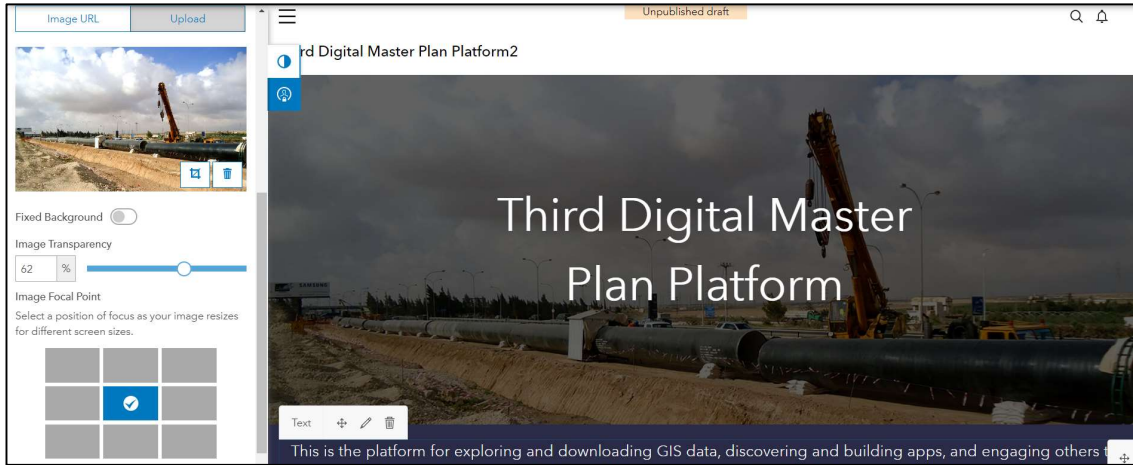
### Add background image

1. First, you'll upload one of the images from folder to use as the banner at the top of your Sites. In ArcGIS Sites, content is organized into rows. The banner is the first row of your Site.
2. In ArcGIS Sites, point to the first row (the banner with an image background and your initiative's title). In the toolbar that appears to the side of the banner, click the edit button.



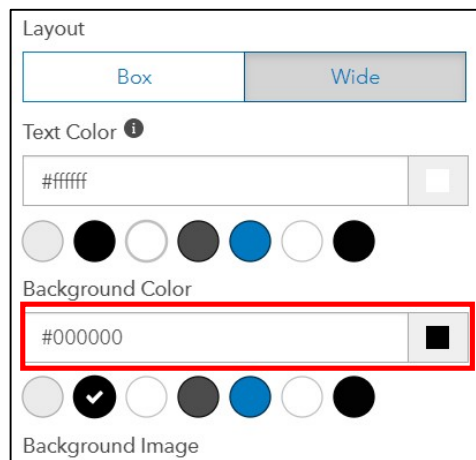
3. The Row Appearance side panel appears. Here, you'll configure design options specifically for this row.
4. In the Appearance side panel, under Background Image, click Upload. Click Browse for Image.





The image is uploaded as the background image for the row. You'll also change the row's transparent background colour to provide a filter that complements the image.

- For Background Colour, type #000000.



- By default, the background for this row has an image transparency of 30 percent. You can change this value with the Image Transparency parameter at the bottom of the Appearance side panel.

## Edit the title text

1. Point to the title text in the banner row. Above the text, on the Text toolbar, click the edit button.

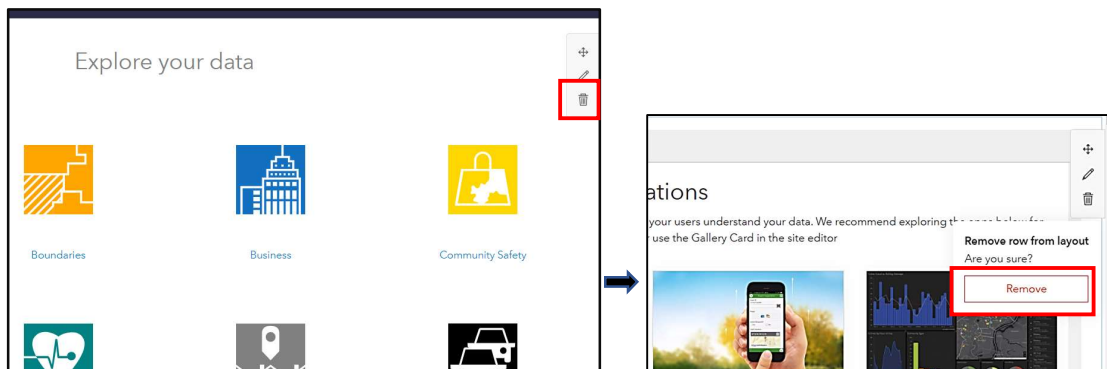


The text becomes editable.

2. Delete all the text and add the text you want to add.

The New sites display several examples of how to configure the page layout. Because you'll be building a customized site, you'll delete all template information that won't be used. In this case, you'll delete 10 rows of content between the title row and the contact row.

3. Scroll down and point to the Explore your data. On the toolbar next to the row, click the delete button.



A window appears, asking you to confirm that you want to delete the row.

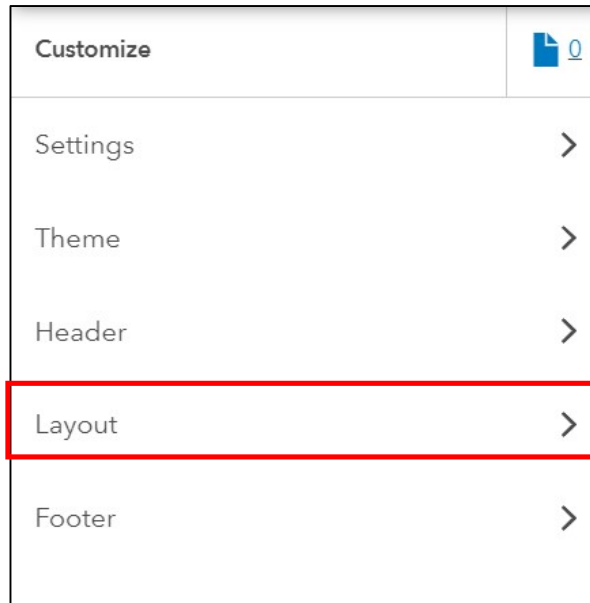
4. In the Remove row from layout window, click Remove.
5. On the ribbon, click **Save**.



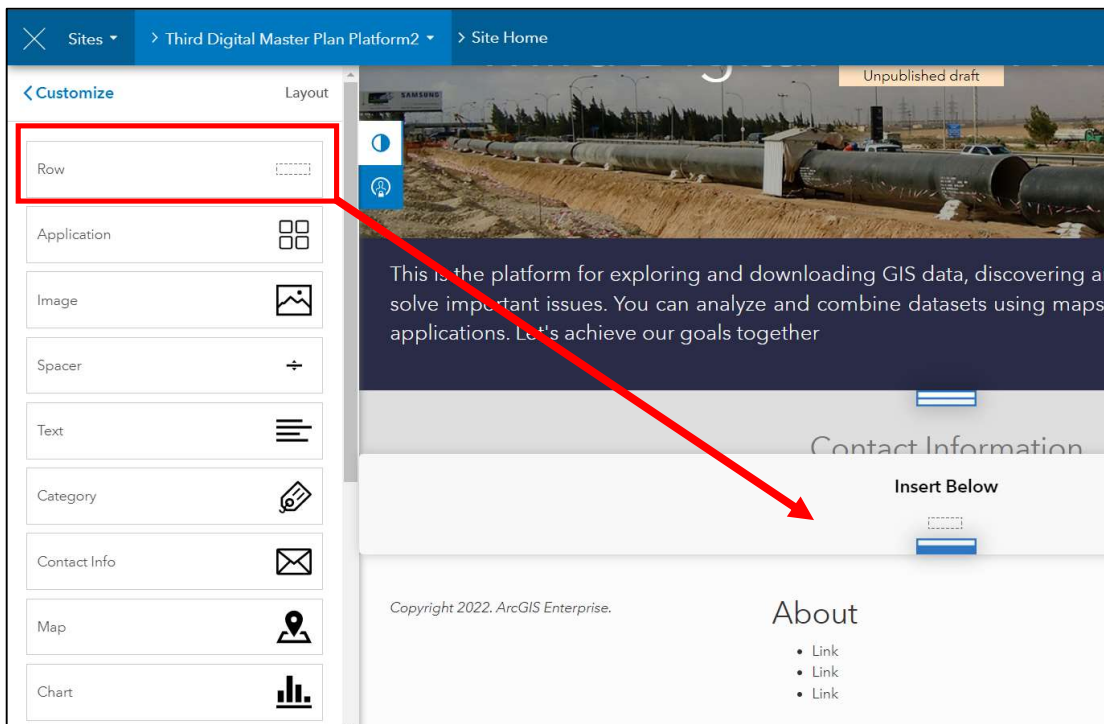
Your changes are saved.

## Add Layout

1. In the Customize side panel, click Layout.



2. In the Layout side panel, drag a Row card under the title row and drop it in the Insert below drop zone.



An empty row is created. You'll drag a text card into the row.

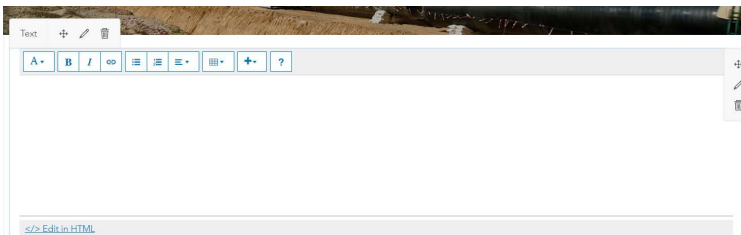
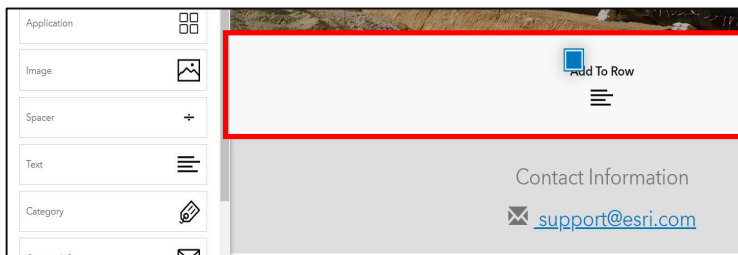
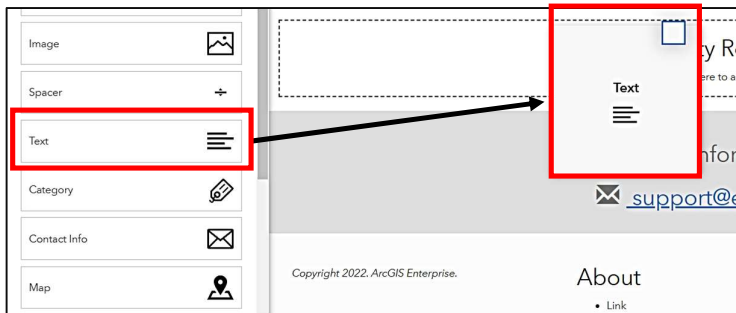
3. In the **Row Settings** side panel, click **Layout**.

4.



You return to the **Customize** panel.

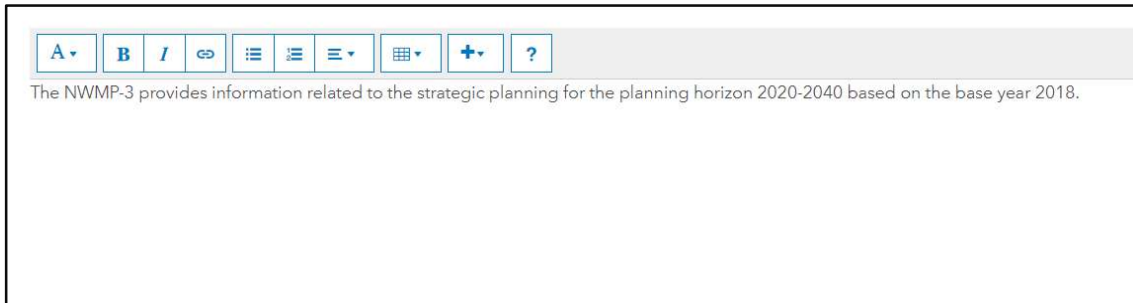
5. Drag a **Text** card into the empty row and drop it in the **Add to Row** drop zone.



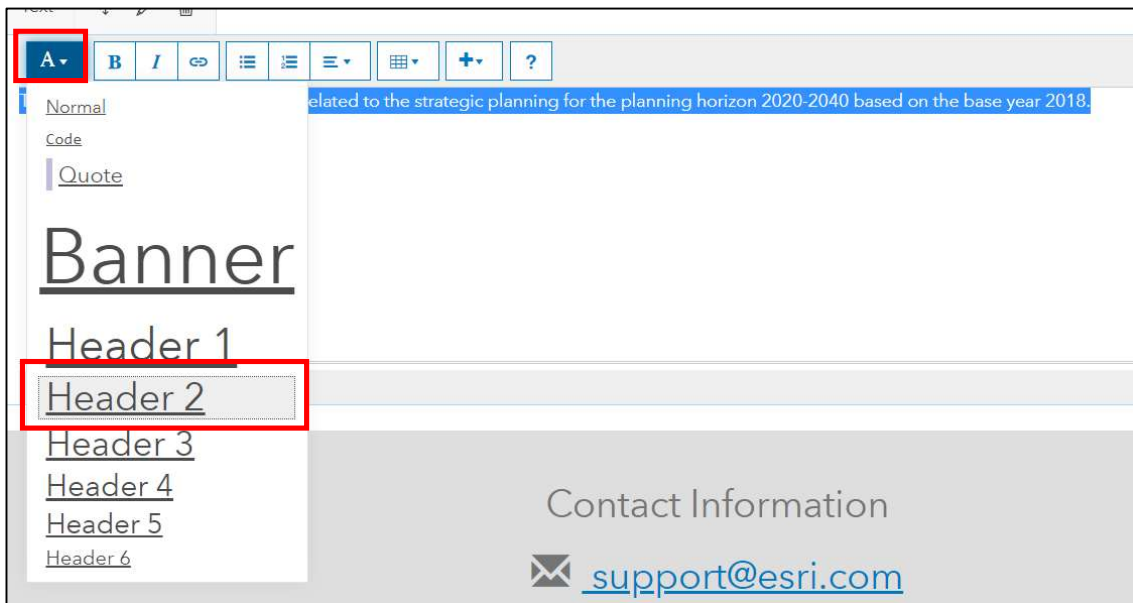
A text editor appears.

6. In the text editor, copy and paste the following text:

The NWMP-3 provides information related to the strategic planning for the planning horizon 2020-2040 based on the base year 2018.




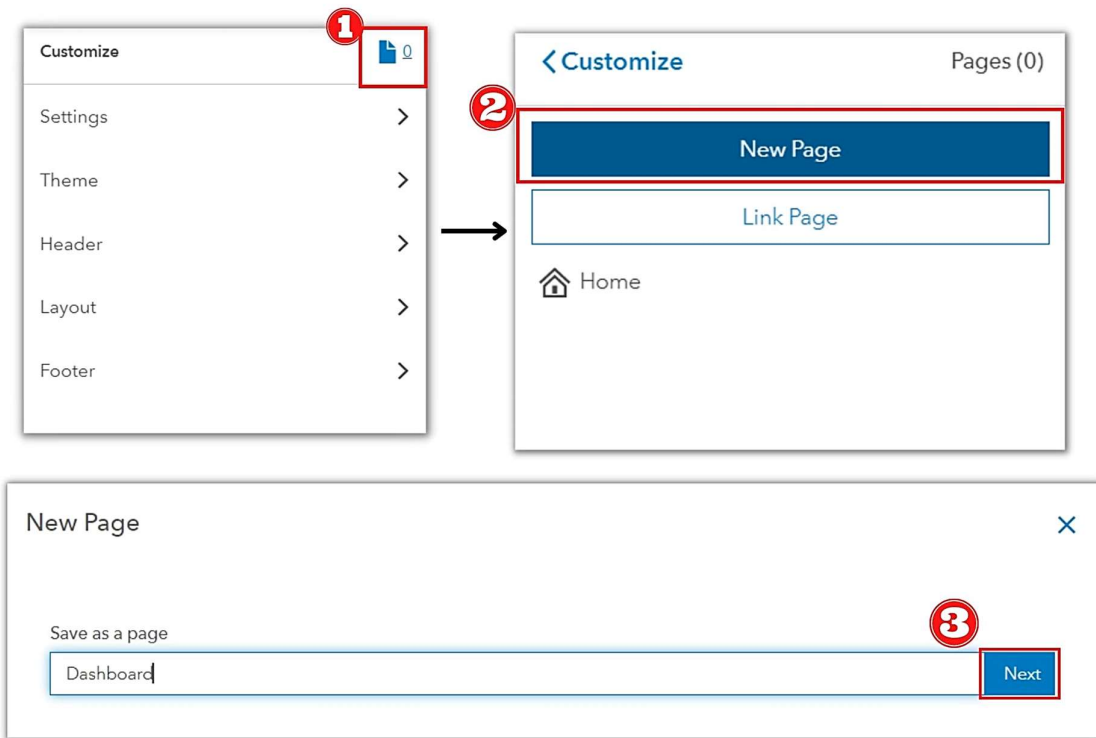
7. Highlight the text. Click the Style button and choose Header 2.



8. Unselect all the text.

## 2) Add New pages to your site:

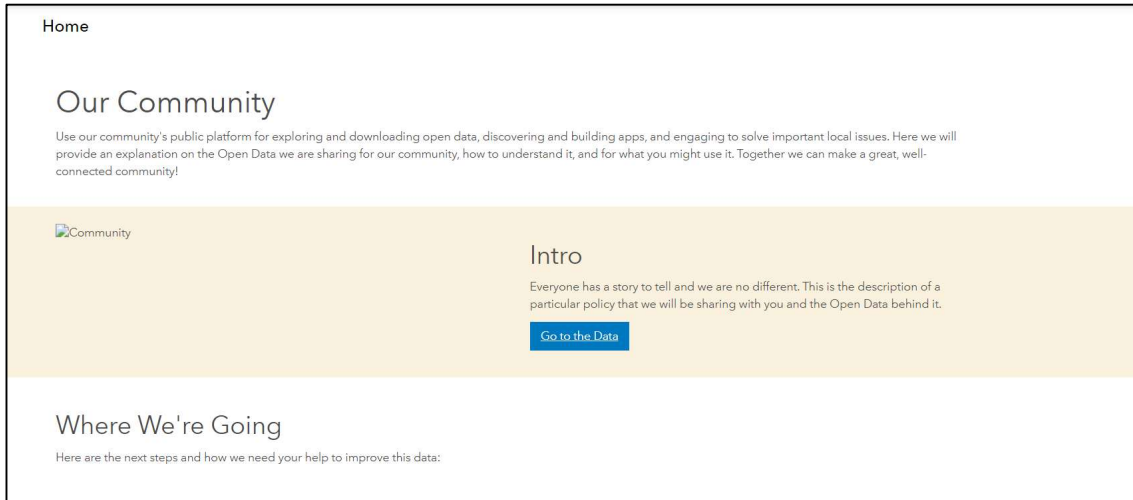
1. On the side panel, click the pages button .
2. Click **New Page**.
3. type a name for the page, and click Next.



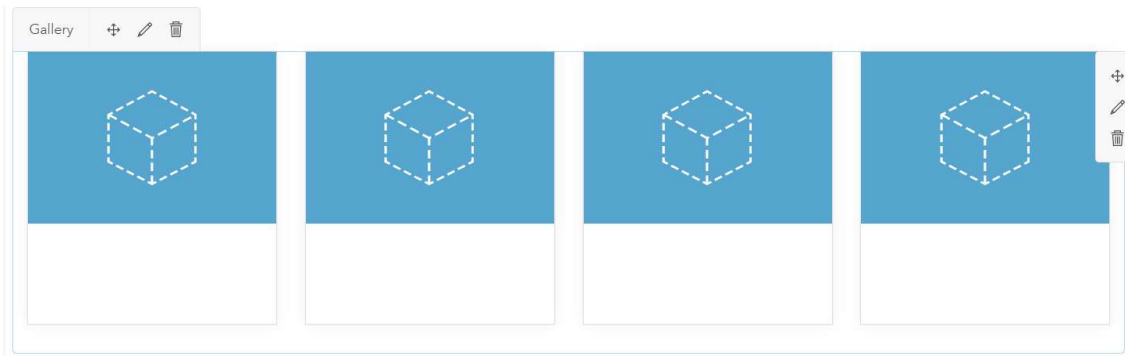
Now new page added to your site you can link it to header and to another page in your site.

### 3) Page Edit

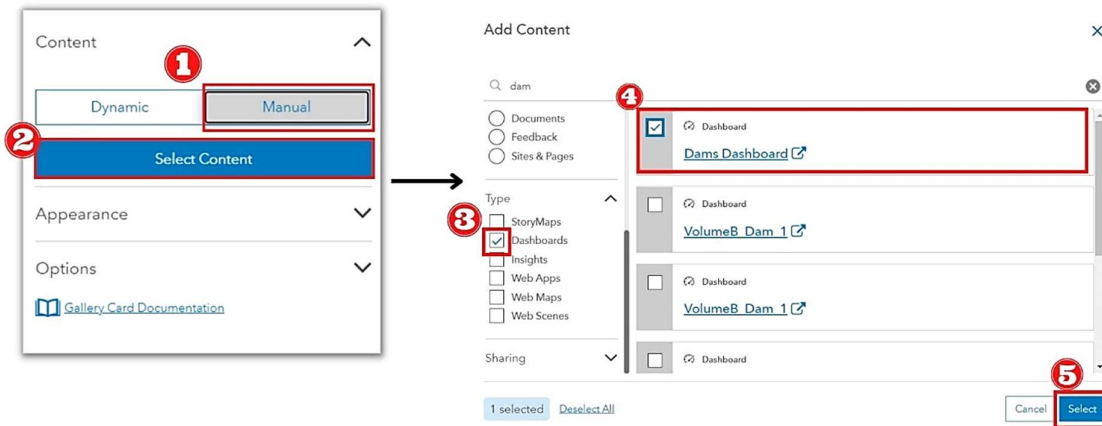
Blank page added to your site, now you can edit and add new items.



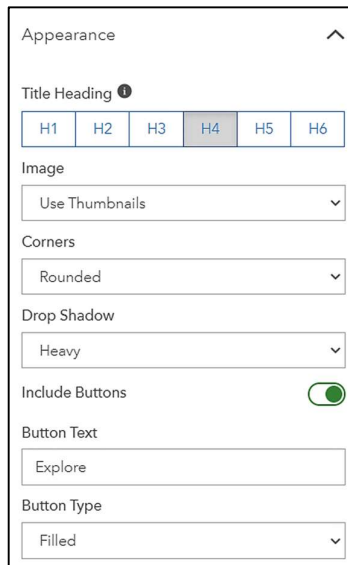
1. Remove all the rows
2. Add **new row** as we learned before
3. Add **text box** and write Dashboard and format the text as you want to appear to audience
4. Drag a **Gallery card** onto an existing row.



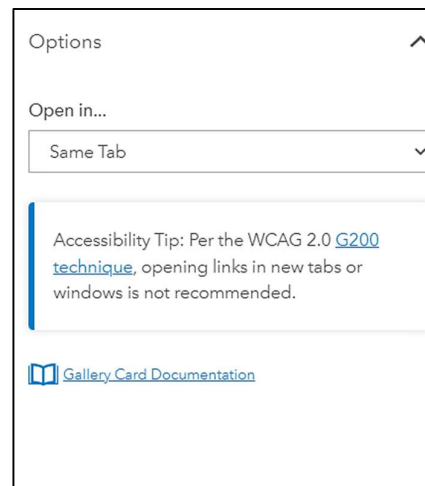
- In the content section select Manual, Select Content, filter on dashboard, select dam dashboard, volume C dashboard, CIP Dashboard, click select.



- in Appearance section set the Properties below.

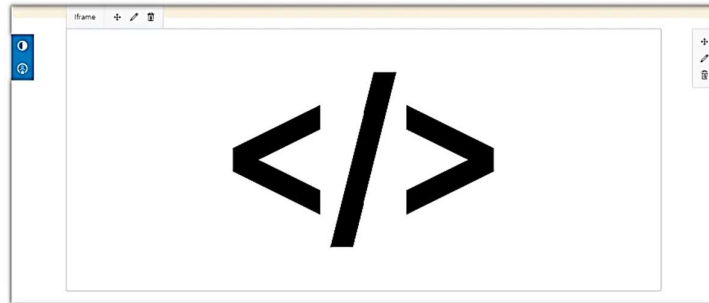


- In option section select Open in... Same Tab.

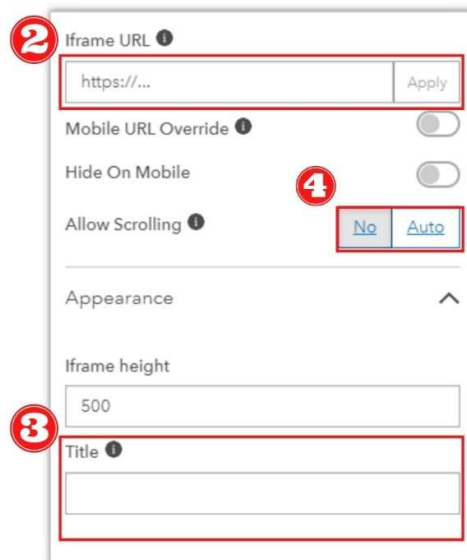


Now move to data entry page repeat the steps 1,2,3 but we need to add Iframe include the data entry application.

1. Add an Iframe card to an existing row.

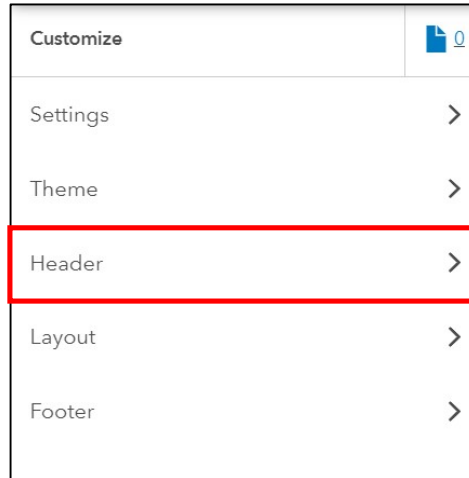


2. paste in the URL that you want to embed, click apply.
3. Add a title to your iframe.
4. Enable scrolling by turning on Auto.

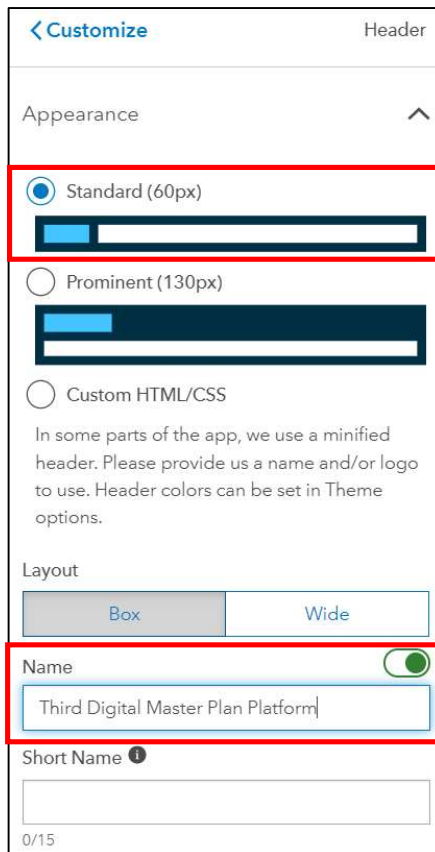


## 4) Configure branding and global navigation

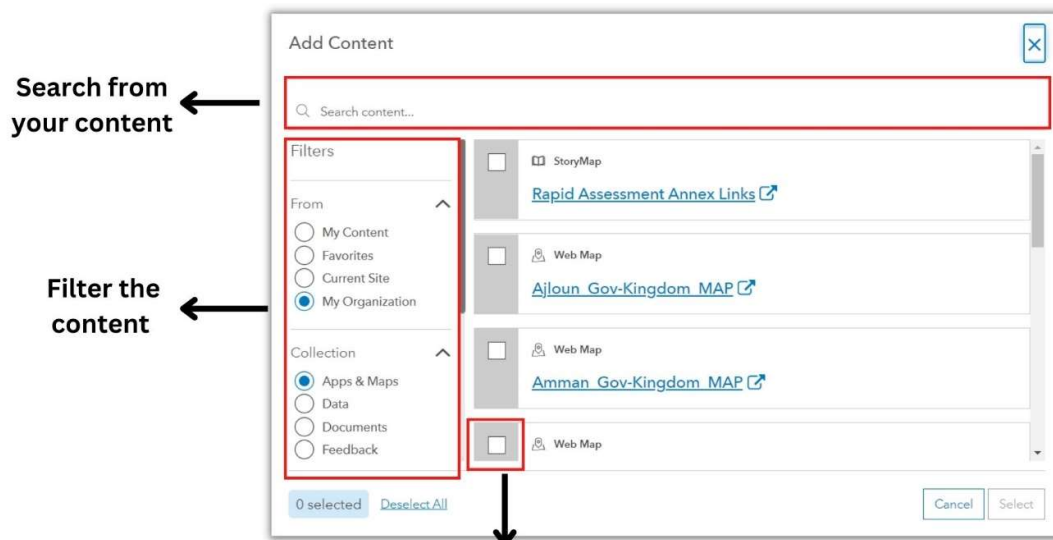
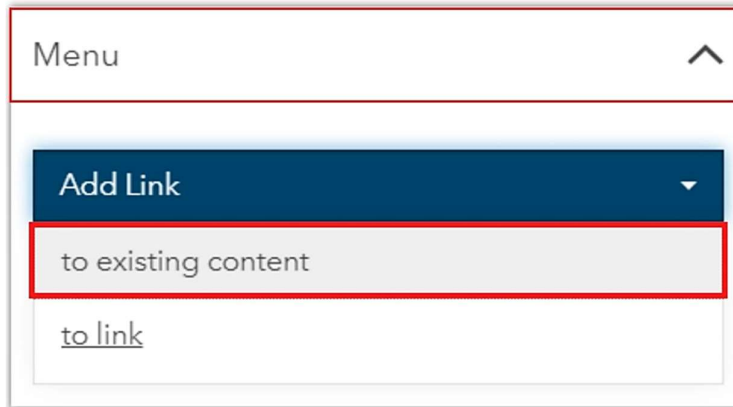
1. In the Customize side panel, click Header.



2. In the Appearance section, Select **Standard Appearance** and change the **Name** to Home

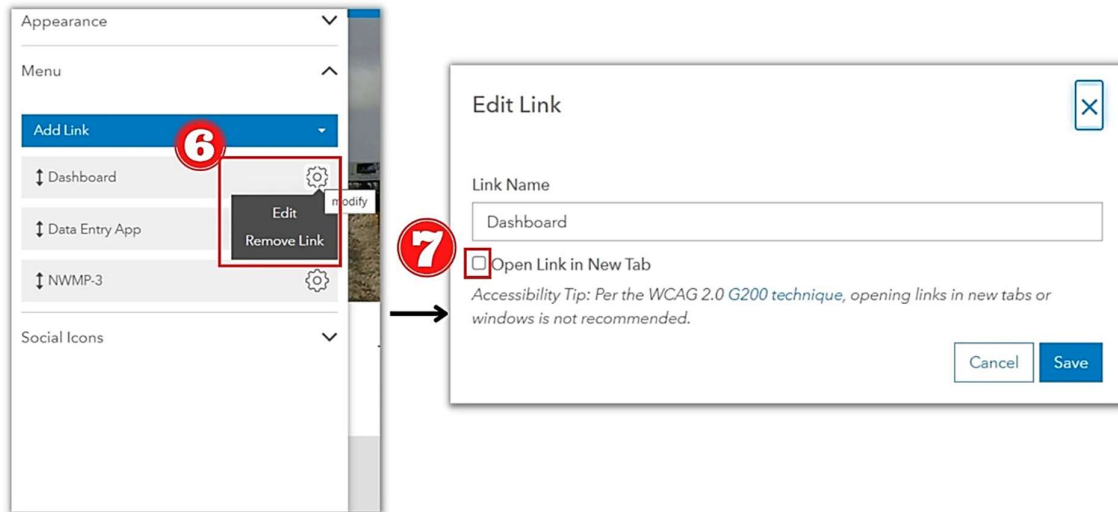


3. For the logo Upload the GIZ.png logo from Site Images folder.
4. In Menu Section click **Add Link**, then click on **existing content** to add element from your content.



**Select the app you want to add...  
you can select multiple app...**

5. Select the pages you created and Click Select.
6. After You add the pages, you can change order by Drag and drop using the arrow in the left side and Edit the link or remove it by click on modify in the right side.
7. In the edit link window, if you want to open the page in new tab check on the box, click save



## 5) Save and Publish site

Use the Publish Draft option when you are ready to launch a new site or page or when you want to replace an existing version with the changes made during the most recent editing session.

1. Click the **Save** drop-down menu.
  2. Click **Publish Draft**.
- 6) View the current version of a site or page
1. Click the **Save** drop-down menu.
  2. Click **View Published**.

# Chapter 8

# Data Entry Application

InfoGraph

الشركة الإستشارية لأنظمة المعلومات البيانية  
Information & Graphics Systems Consultants L.L.C.

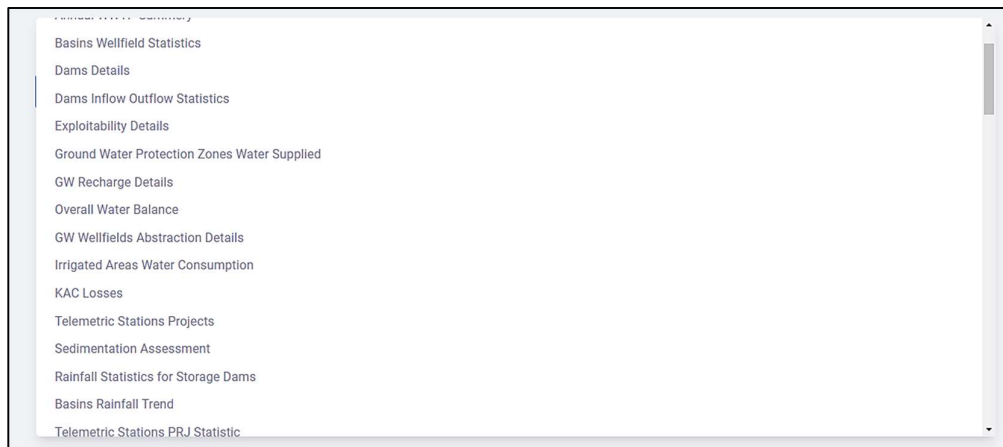
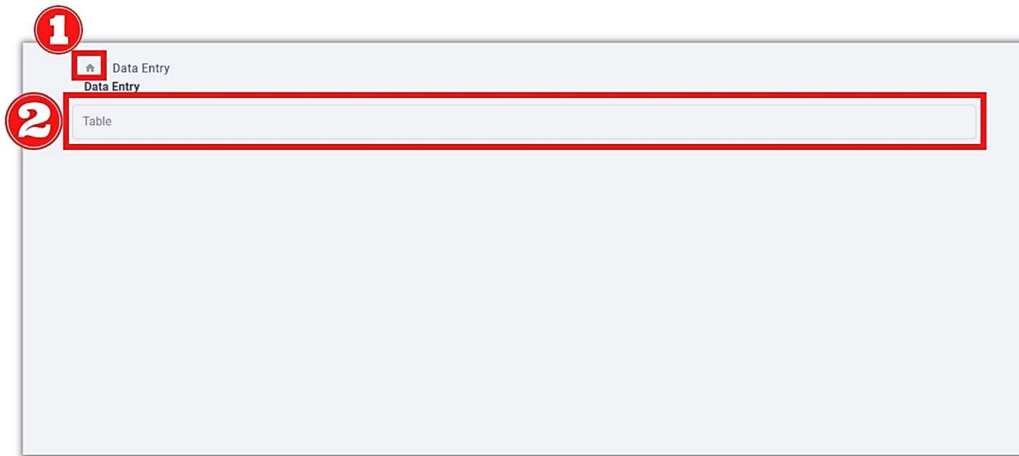


## Chapter 8: - Data Entry Application

The data of tables and charts inside the platform are changeable using the Data Entry tab.

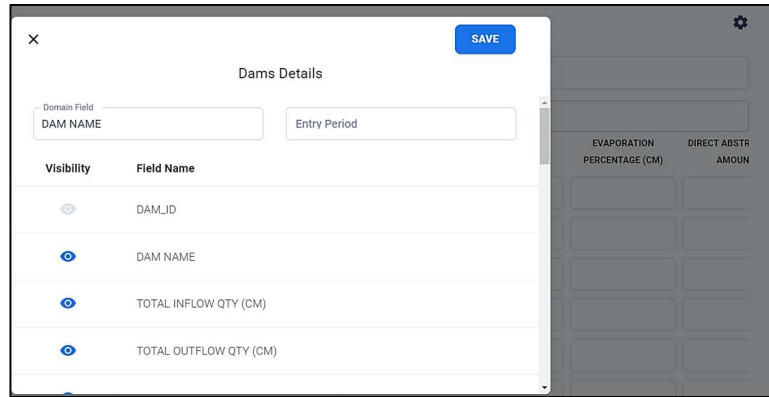
### Data Entry Home Page Overview: -

1. Data Entry Home Page
2. Data entry table list

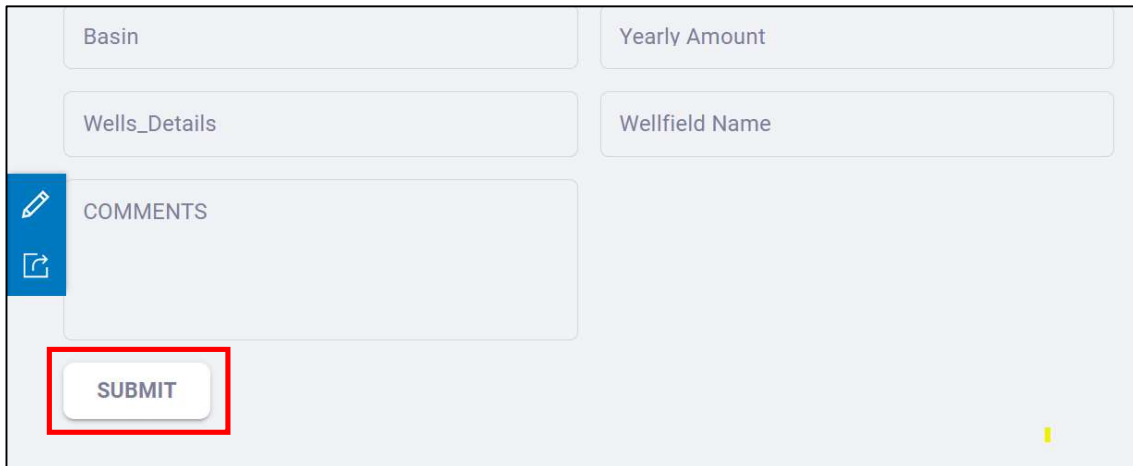


3. User selects table depend on chart, figure, Table from any table exactly read.

- Once the user selects a table from the D.D.L the settings icon appears above the table.
- From the sitting, user select the domain.
- Click save at the end of editing.



- The columns of the selected table appear as a separated fields to enter new Data in the table.
- The user starts filling the data.
- The user Click Submit when updating data finished.



[Exercise 1: - Update Data From AnnualRainfallStatistics Table](#)

1) Add Data to " Annual Rainfall Statistics" Table.

1. Access the data entry application from link:

<https://gisportal.mwi.gov.io/wajdataentry/dataentry?tableName=Telemetric%20Stations%20Projects>

The screenshot shows a web application interface for data entry. At the top left, there is a breadcrumb trail: "Data Entry" > "Data Entry". Below this, the text "Table" is followed by a text input field containing "Annual Rainfall Statistics". Underneath, there is a text input field containing "2022". To the left of a larger text area labeled "COMMENTS" is a text input field labeled "Calculated By". At the bottom left, there is a "SUBMIT" button. A gear icon is visible in the top right corner.


2. Rainfall\_mm doesn't appear, Click on option





This image is a close-up of the top right corner of the data entry form. A red square highlights a gear icon, which is used to access configuration options for the form fields.

3. The option of Annual Rainfall Statistics Table window appears.

- For Domain Field Set to none

The screenshot shows a configuration window titled "Annual Rainfall Statistics" with a "SAVE" button in the top right corner. A dropdown menu is open for the "Domain Field" of the "Calculated By" field, with "None" selected and highlighted by a red box. Below the dropdown, a list of fields is shown with eye icons to toggle visibility: "CALCULATION YEAR", "RAINFALL\_MM", "COMMENTS", and "Calculated By". The "COMMENTS" and "Calculated By" fields have their visibility icons turned on (blue), while the others are turned off (grey).

- And turn on all fields by click on the view button  .





Visibility	Field Name
	CALCULATION YEAR
	RAINFALL_MM
	COMMENTS
	Calculated By

- Click, Save.

✕SAVE

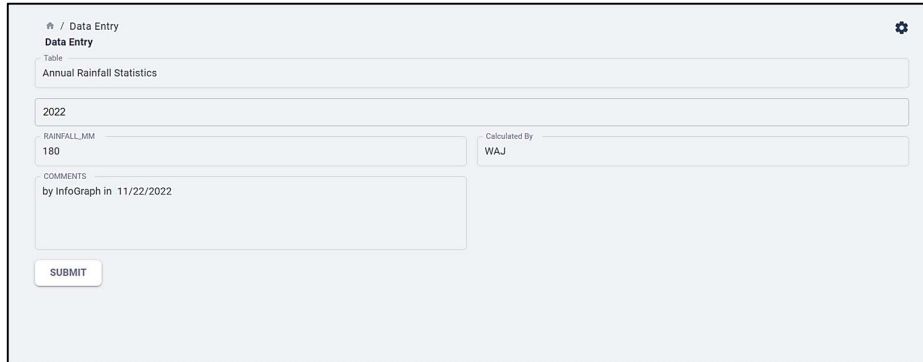
### Annual Rainfall Statistics

Domain Field

Visibility	Field Name
	CALCULATION YEAR
	RAINFALL_MM
	COMMENTS
	Calculated By

4. Now all fields are visible Next, we will insert new value for 2022.

- In **Calculation Year** Select 2022.
- For **RAINFALL\_MM** Type 180.
- **Calculated By** WAJ.
- In **comment** Type your name.

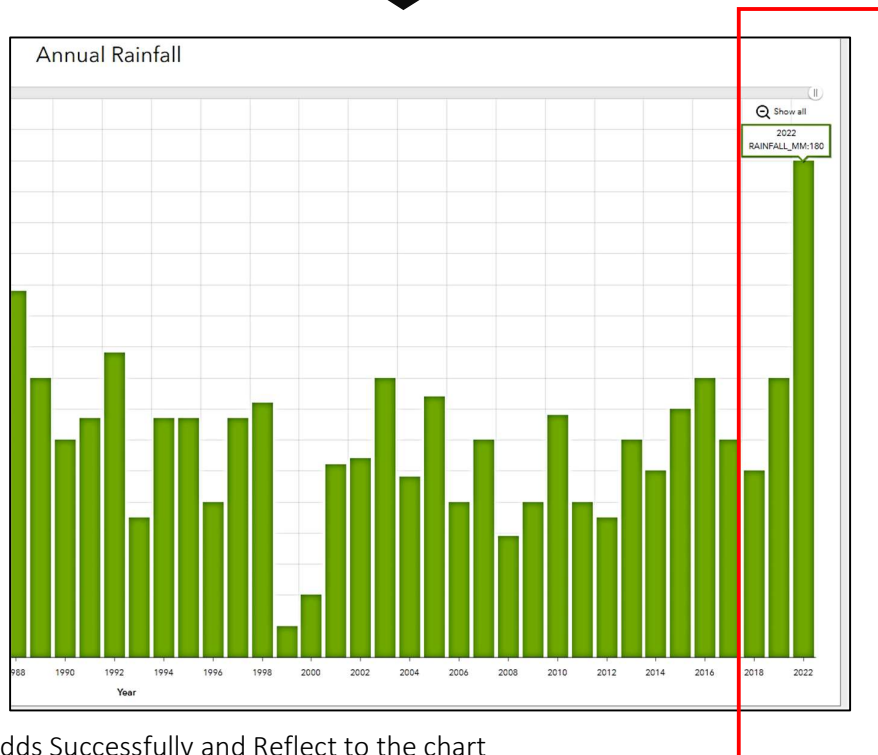
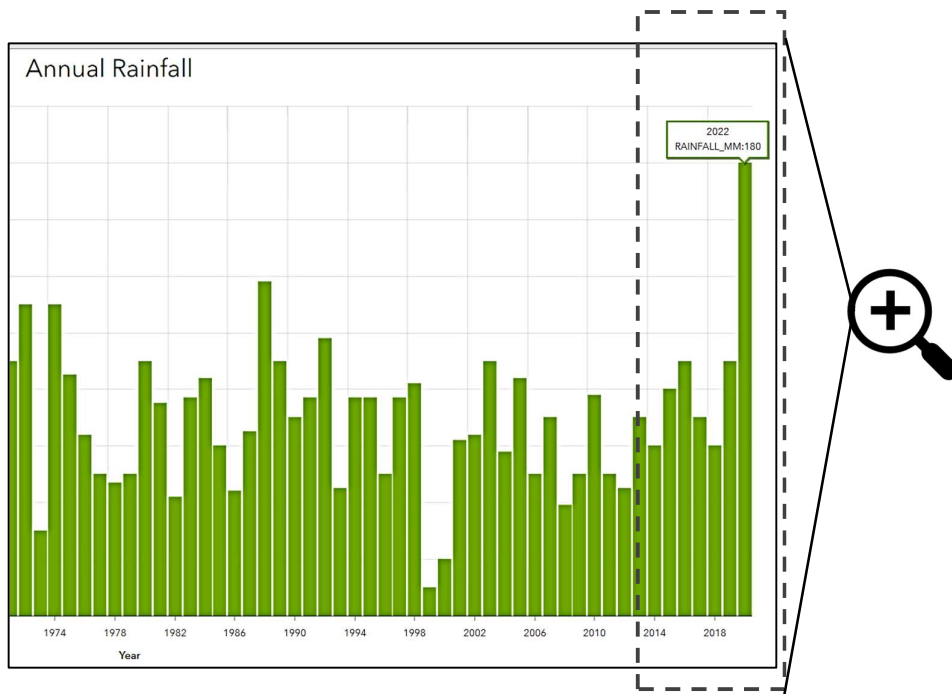


The screenshot shows a web interface for data entry. At the top, it says 'Data Entry' and 'Annual Rainfall Statistics'. There is a dropdown menu for the year, currently set to '2022'. Below this are two input fields: 'RAINFALL\_MM' with the value '180' and 'Calculated By' with the value 'WAJ'. There is also a 'COMMENTS' section with a text area containing 'by InfoGraph in 11/22/2022'. A 'SUBMIT' button is located at the bottom left of the form.

5. Click **SUBMIT** button  .

6. Now The data has been entered into the table, and reflect to Figure 22/volume B.





The value adds Successfully and Reflect to the chart

## 2) Update Existing Value in "Annual Rainfall Statistics" Table.

1. Select Annual Rainfall Statistics from the table list.
2. For the **calculation year** select 1994 all data entered for this year appeared in the form.
3. Change the value for RAINFALL\_MM to 190.
4. Click **SUBMIT**.
5. Go back to **Figure 22/Volume B** and Notice the changes that have occurred.

🏠 / Data Entry

### Data Entry

Table  
Annual Rainfall Statistics

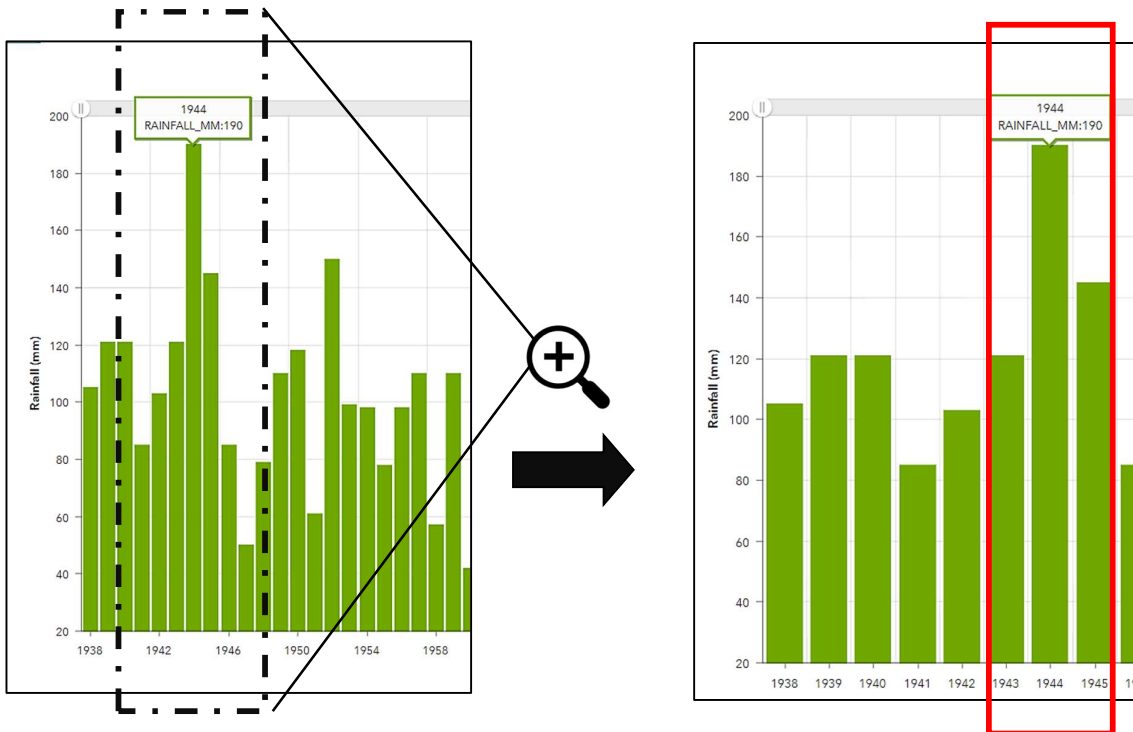
1944

RAINFALL\_MM  
100

Calculated By  
MWI

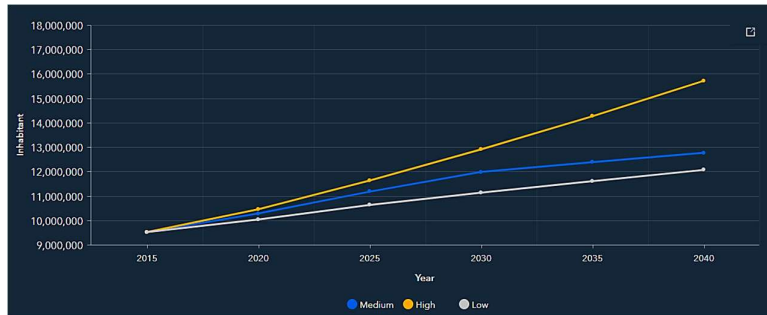
COMMENTS  
Annual rainfall 1938 -2019 for entire Jordan incl. a decreasing trend (based on data of MWI)

SUBMIT



## Exercise 2: - Update Data from Pop Growth Scenario Table

This table use to represent Figure 6/volume



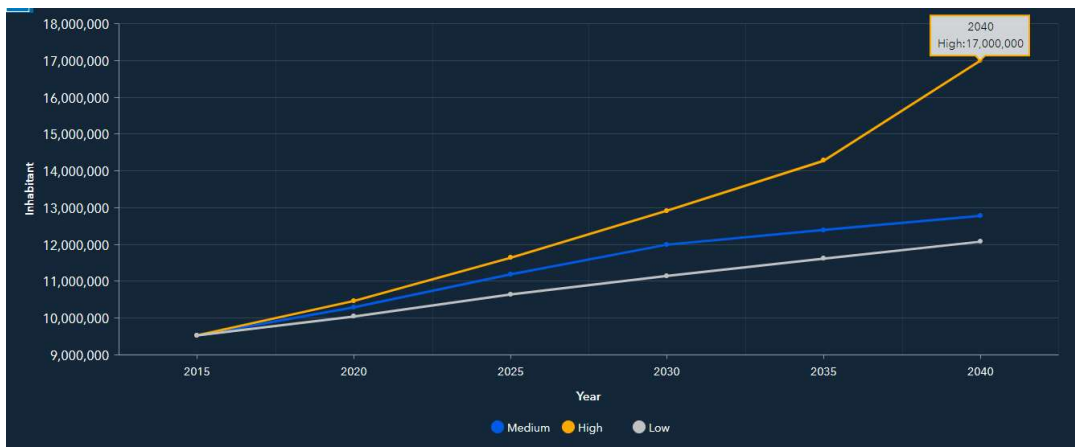
1. From data entry application select **Pop Growth Scenario** table from list
2. Click on option button and in domain Field select Scenario, to convert the screen from form to table, click save.

3. The form converts to table

- Next, from calculation year select 2040.
- Change high scenario **INHABITANT** From 15727857 to 17000000.
- Click submit.
- Notice changes reflect to Figure as below.



Before



After

### Exercise3: - Update Data For Pop Growth Rate Table.

this table used to represent table 6/volume C.

#### A. Insert new data

1. Select **Pop Growth Rate** Table from table list.
2. Click on **option** and make sure to set the option same as image bellow, Click save.

×SAVE

Pop Growth Rates

Domain Field

Visibility	Field Name
<input checked="" type="checkbox"/>	GOVERNORATE NAME
<input checked="" type="checkbox"/>	CALCULATION YEAR
<input checked="" type="checkbox"/>	GROWTH PERCENTAGE
<input checked="" type="checkbox"/>	COMMENTS
<input checked="" type="checkbox"/>	Nationality

3. Select year 2045 from calculation year tab.
4. Enter value 4 in Growth percentage for all governorates.
5. in comment enter your (name + test).
6. Click **submit**.

🏠 / Data Entry

Data Entry

Table

Pop Growth Rates

2045

GOV_NAME	GROWTH PERCENTAGE	COMMENTS	Nationality	DATA RANGE
Irbid Governorate	4	InfoGraph test	1	
Mafraq Governorate	4	InfoGraph test	1	
Jarash Governorate	4	InfoGraph test	1	
Ajloun Governorate	4	InfoGraph test	1	
Karak Governorate	4	InfoGraph test	1	
Tafeela Governorate	4	InfoGraph test	1	
Maan Governorate	4	InfoGraph test	1	
Aqaba Governorate	4	InfoGraph test	1	
Belqa Governorate	4	InfoGraph test	1	
Zarqa Governorate	4	InfoGraph test	1	
Madaba Governorate	4	InfoGraph test	1	
Amman Governorate	4	InfoGraph test	1	

GOVERNORATE NAME	2020	2025	2030	2035	2040
Irbid Governorate	2.03 %	1.89 %	1.65 %	1.49 %	1.40 %
Mafraq Governorate	2.29 %	2.12 %	1.88 %	1.76 %	1.70 %
Jarash Governorate	2.42 %	2.22 %	1.87 %	1.67 %	1.65 %
Ajloun Governorate	2.34 %	2.17 %	1.92 %	1.77 %	1.69 %
Amman Governorate	1.45 %	1.34 %	1.12 %	0.94 %	0.86 %
Zarqa Governorate	1.93 %	1.82 %	1.55 %	1.33 %	1.23 %
Balqa Governorate	2.02 %	1.88 %	1.66 %	1.52 %	1.46 %
Madaba Governorate	1.82 %	1.67 %	1.46 %	1.33 %	1.24 %
Karak Governorate	1.82 %	1.71 %	1.56 %	1.45 %	1.35 %
Tafeela Governorate	2.14 %	1.93 %	1.64 %	1.49 %	1.43 %
Ma'an Governorate	2.23 %	2.01 %	1.68 %	1.51 %	1.46 %
Aqaba Governorate	1.69 %	1.59 %	1.42 %	1.30 %	1.23 %

Before

GOVERNORATE NAME	2020	2025	2030	2035	2040	2045
Irbid Governorate	2.03 %	1.89 %	1.65 %	1.49 %	1.40 %	4.00 %
Mafraq Governorate	2.29 %	2.12 %	1.88 %	1.76 %	1.70 %	4.00 %
Jarash Governorate	2.42 %	2.22 %	1.87 %	1.67 %	1.65 %	4.00 %
Ajloun Governorate	2.34 %	2.17 %	1.92 %	1.77 %	1.69 %	4.00 %
Amman Governorate	1.45 %	1.34 %	1.12 %	0.94 %	0.86 %	4.00 %
Zarqa Governorate	1.93 %	1.82 %	1.55 %	1.33 %	1.23 %	4.00 %
Balqa Governorate	2.02 %	1.88 %	1.66 %	1.52 %	1.46 %	4.00 %
Madaba Governorate	1.82 %	1.67 %	1.46 %	1.33 %	1.24 %	4.00 %
Karak Governorate	1.82 %	1.71 %	1.56 %	1.45 %	1.35 %	4.00 %
Tafeela Governorate	2.14 %	1.93 %	1.64 %	1.49 %	1.43 %	4.00 %
Ma'an Governorate	2.23 %	2.01 %	1.68 %	1.51 %	1.46 %	4.00 %
Aqaba Governorate	1.69 %	1.59 %	1.42 %	1.30 %	1.23 %	4.00 %

After

## B. Update Existing value

- Update **GROWTH PERCENTAGE** for Aqaba governorate.

- Select Year 2020.

Aqaba Governorate	1.69	Annual Growth Rates for all Residents excluding	1	2018-2020
-------------------	------	---	---	-----------

Before

Aqaba Governorate	1.69 %
-------------------	--------

- In field **GROWTH PERCENTAGE** Change the value for Aqaba in 2020 to 4 .

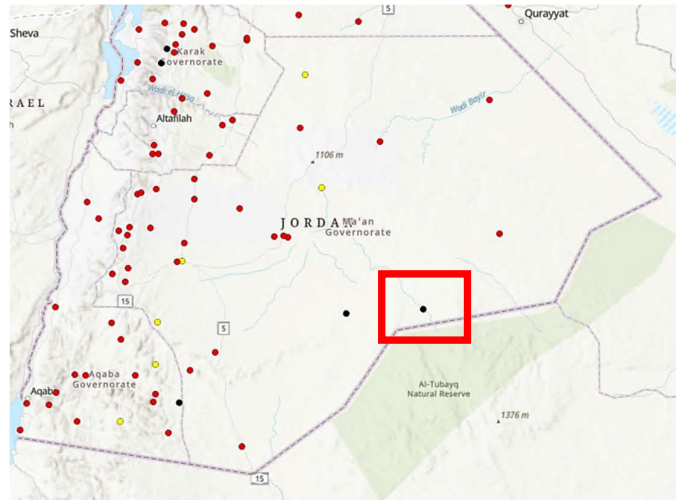
- Click submit.

GOVERNORATE NAME	2020
Irbid Governorate	2.03 %
Mafraq Governorate	2.29 %
Jarash Governorate	2.42 %
Ajloun Governorate	2.34 %
Amman Governorate	1.45 %
Zarqa Governorate	1.93 %
Balqa Governorate	2.02 %
Madaba Governorate	1.82 %
Karak Governorate	1.82 %
Tafeela Governorate	2.14 %
Ma'an Governorate	2.23 %
Aqaba Governorate	4.00 %

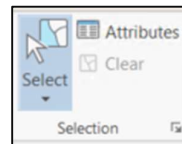
After

## Exercise4: - Updating GIS data From ArcGIS Pro: -

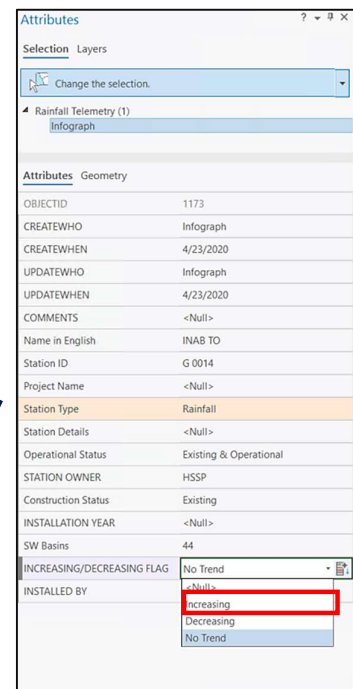
1. Open ArcGIS pro.
2. Connect to database.
3. Add Layer Rainfall Telemetry under Telemetry dataset to new map.
4. Next, select any point and change the attribute for one point.



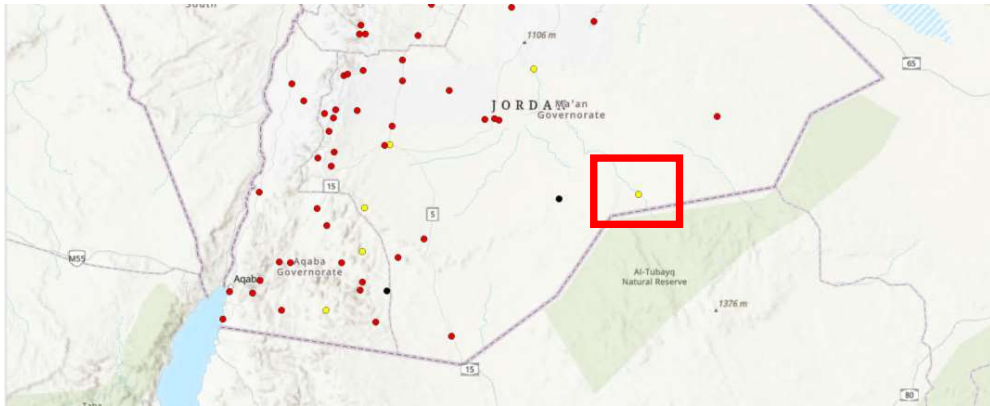
5. On edit ribbon start editing
6. Select point
7. From Selection section click on attributes



8. Attribute pane appear, In **INCREASING/DECREASING FLAG** field change the value from No trend to Increasing, save.



9. Change Reflect in the map in ArcGIS pro.



10. Go Back to Rainfall Story map and search for Figure 25 /volume B.

1. Changes in map viewer.

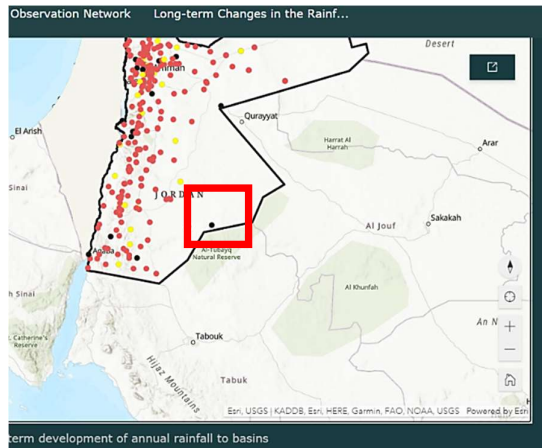
INAB TO	No Trend
Construction Status	Existing
DECREASING	13
INCREASING	1
INSTALLATION YEAR	
Name in English	INAB TO
NO	2
Operational Status	Existing & Operational
Project Name	
Rainfall Trend Range	1990-2019
Station Details	
Station ID	G 0014
STATION OWNER	HSSP
Station Type	1
sw bASIN	Jafer
KW Basins	Jafer

Before

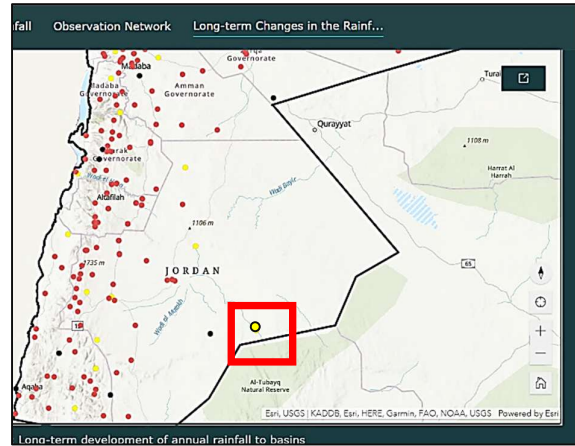
INAB TO	Increasing
Construction Status	Existing
DECREASING	13
INCREASING	1
INSTALLATION YEAR	
Name in English	INAB TO
NO	2
Operational Status	Existing & Operational
Project Name	
Rainfall Trend Range	1990-2019
Station Details	
Station ID	G 0014
STATION OWNER	HSSP
Station Type	1
sw bASIN	Jafer
KW Basins	Jafer

After

## 2. In Experience builder map app inside Rainfall story map



Before

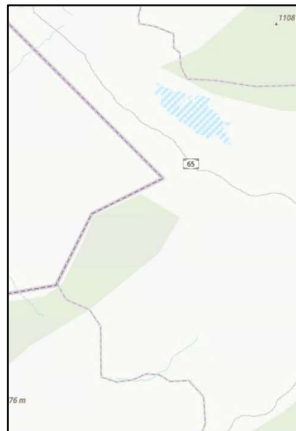


After

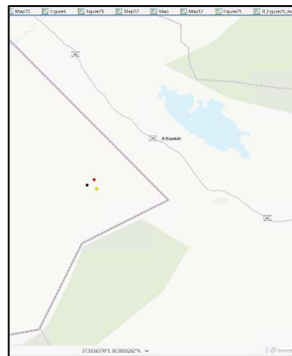
This procedure can apply in any layer you want to update.

### Add New Point to Rainfall Telemetry layer

1. Same layer in ArcGIS pro.
2. Start editing and create three new points in the right corner.

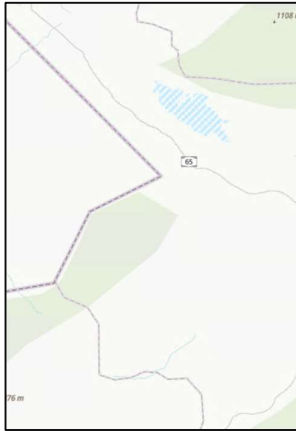


3. Save, stop editing.

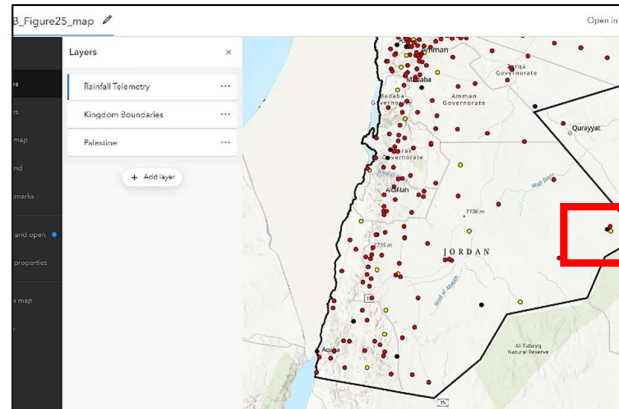


4. Go Back to Rainfall Story map and search for Figure 25 /volume B.

### Changes in map viewer

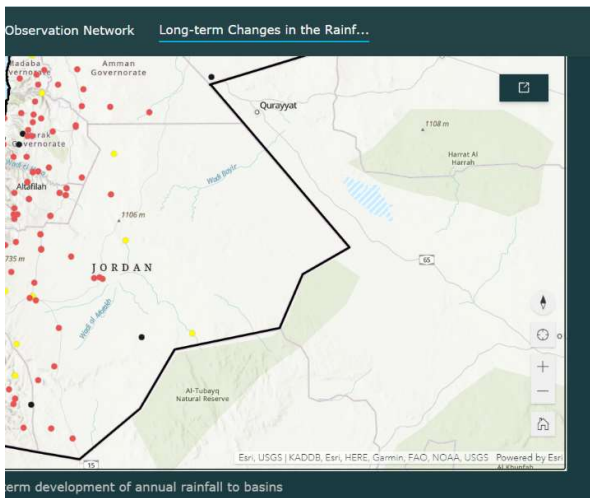


Before

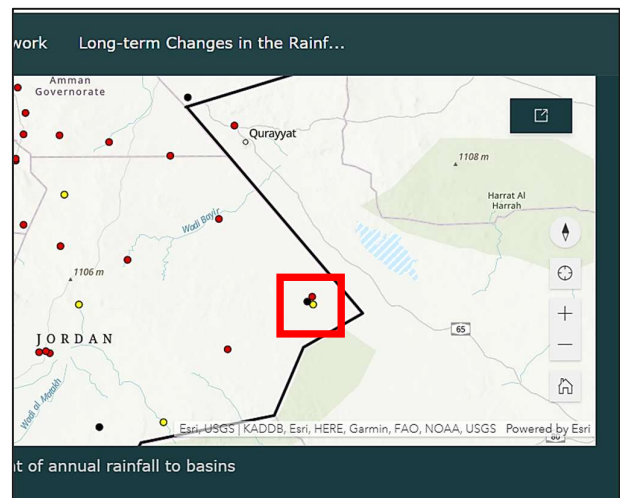


After

### In Experience builder map app inside Rainfall story map



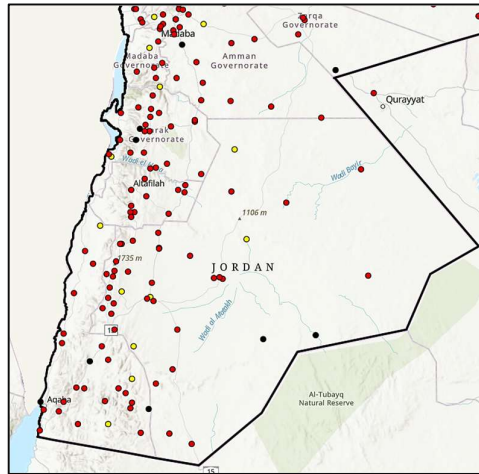
Before



After

## Delete point from Rainfall Telemetry layer

1. Go back to ArcGIS Pro and delete the three point you previous add to the layer.
2. Check on map viewer and story maps.



Map viewer

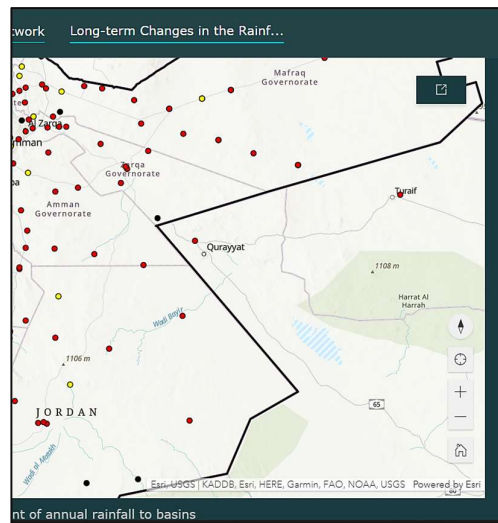
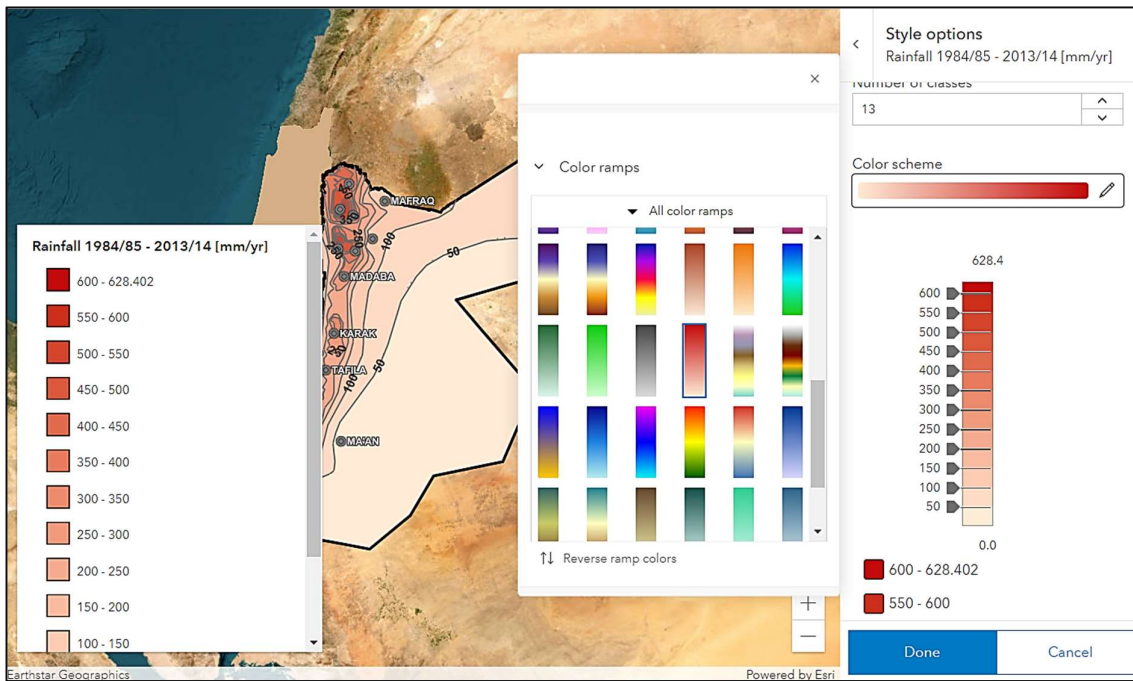


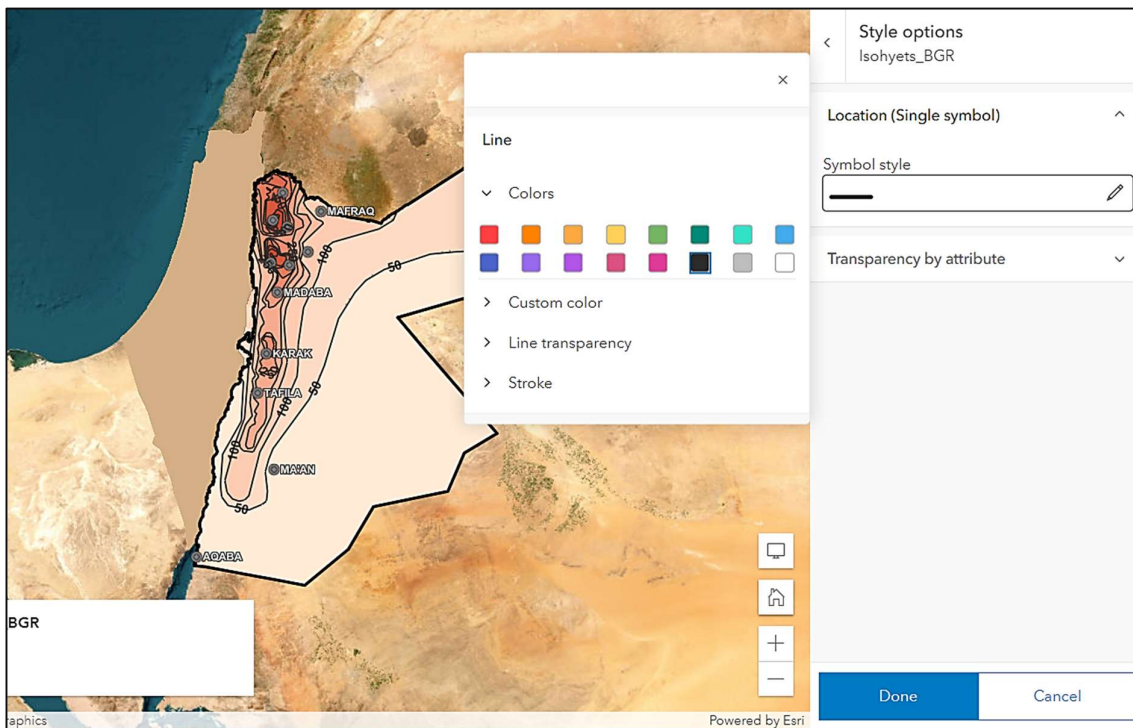
Figure 1 StoryMaps / Experience Builder

## Exercise5: - Changing the Symbology of layers and features in web maps

1. Open **B\_Figure23\_map** in map viewer.
2. Change the colour scheme to Red, click done.

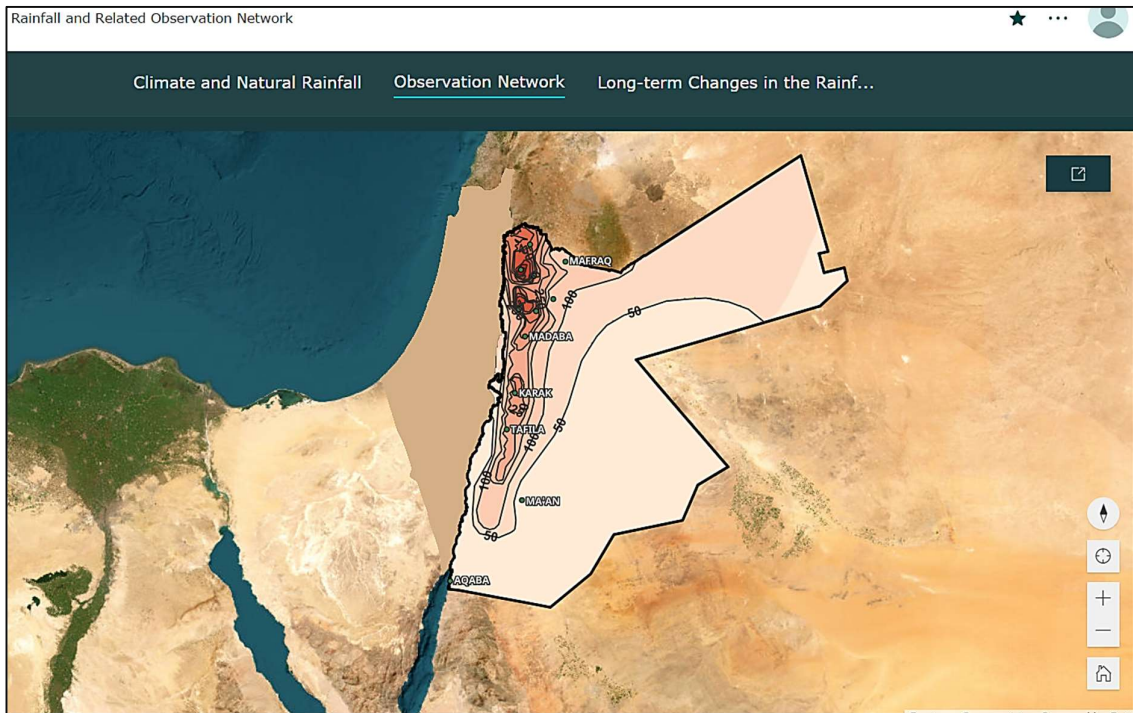


3. Change the style colour for **Isohyets\_BGR** to black.



4. Click done, save the map.

5. Go to Rainfall Story maps and check the changes on Figure 23.



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