Crowdmapping Competition Guidelines
City of Rome Case Study

1   Introduction

Rome is an astonishing artistic heritage masterpiece and one of the world's most visited cities. As part of the 51 Italian UNESCO Heritage Sites, the city of Rome has plenty to offer and considering the amount of historic buildings, monuments, parks and gardens, a scope is required to define your project at best. The Trevi Fountain is a famous established focal point for arts and cultural activities in Rome, attracting millions of visitors every year, but it's also vulnerable to natural factors, climate change and human behavior. The purpose of this tutorial is to create a story map presenting a general view of the City of Rome and to provide a real user experience of the Trevi Fountain giving two different scenarios: **Cultural Heritage** and **Risks**.

Note: Use this tutorial as an inspiration to develop your story map. To be considered in the competition, the story map must comply with the structure. Visit the **official UNESCO Heritage Site** to gain valuable knowledge of your site and enrich your map content.

➢ Before you start the project, create a **new folder** in your **Desktop** with the name of the **Italian UNESCO Heritage Site,** to **store all maps and features** from your ArcGIS PRO project. In this case we will name the folder **City of Rome**

2   ArcGIS PRO

2.1   Create a new project

- Start ArcGIS Pro from your desktop.

- On the start page, click **Blank** to create a new blank project.

- On the **Create a New Project** dialog box, in the **Name** box, type **City of Rome**
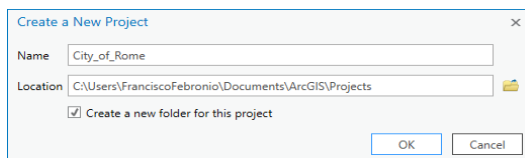
Note: By default, the project is store automatically into a specific location. **Make sure** you assign the right path in the location box.

- On the **insert** tab, in the **project** group, click the **New Map** drop-down menu and choose **New Map.** Now on the **map** tab click **basemaps. Basemaps** provide the context for your work. For this project choose the imagery style.

- On the **map** tab click **explore** and use your mouse to navigate around the globe. Use the mouse wheel to zoom in and out the map. To find an address click **locate** in the **Inquiry** group, type **Rome** and press enter.

2.2   Reference

- Go to your browser and search for **UNESCO Italian Heritage Sites (http://whc.unesco.org/en/statesparties/it).**

- On the cultural heritage list find the Historic Center of Rome. This site is a great source of historical open data to develop and shape your project. Take a look at the description of the area, maps, gallery, media and documents to understand the area of study. **Nine sites** (9) have been selected for this case study: **The Archbasilica of San Giovanni, Basilica of Santa Maria Maggiore, Piazza Spagna, Altare della Patria, Pallazo della Cancelleria, Piazza della Repubblica, the Tiber River, the Vatican and the Trevi Fountain.**

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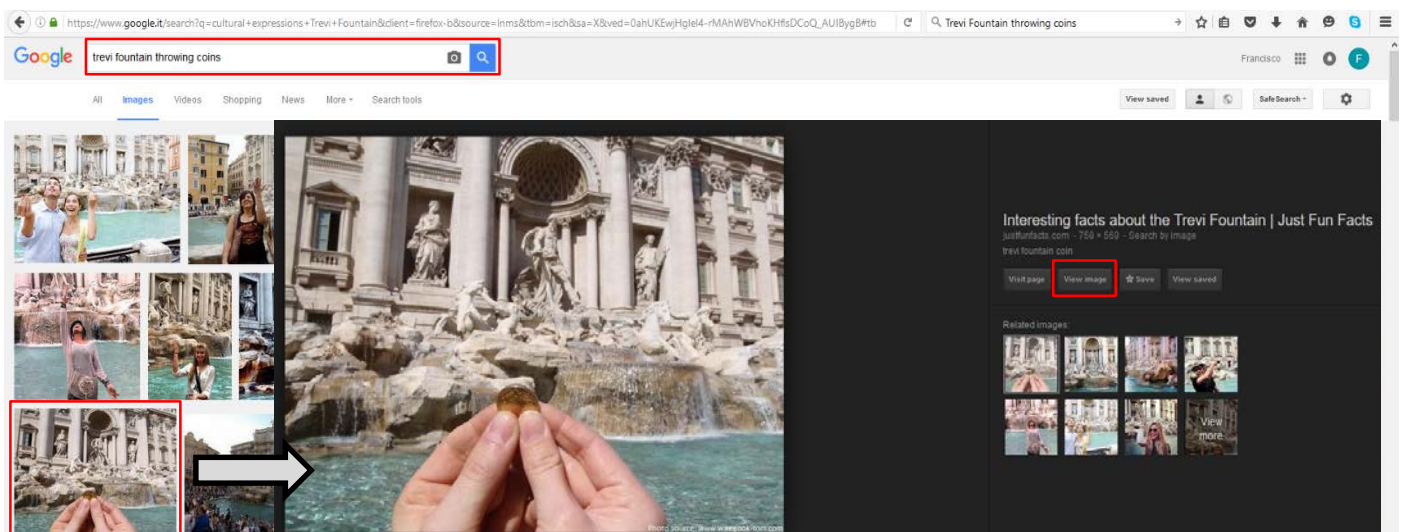+39.075.57461 - warredoc@unistrapg.it

2.3 Create new features

- To **create** new **features**, go to the **project panel** located in the right of your screen and right click on **Datasets**, right click in **City of Rome** and choose **New Feature Class**. On this tutorial, you will delimitate the following features for the City of Rome and the Trevi Fountain user experience:
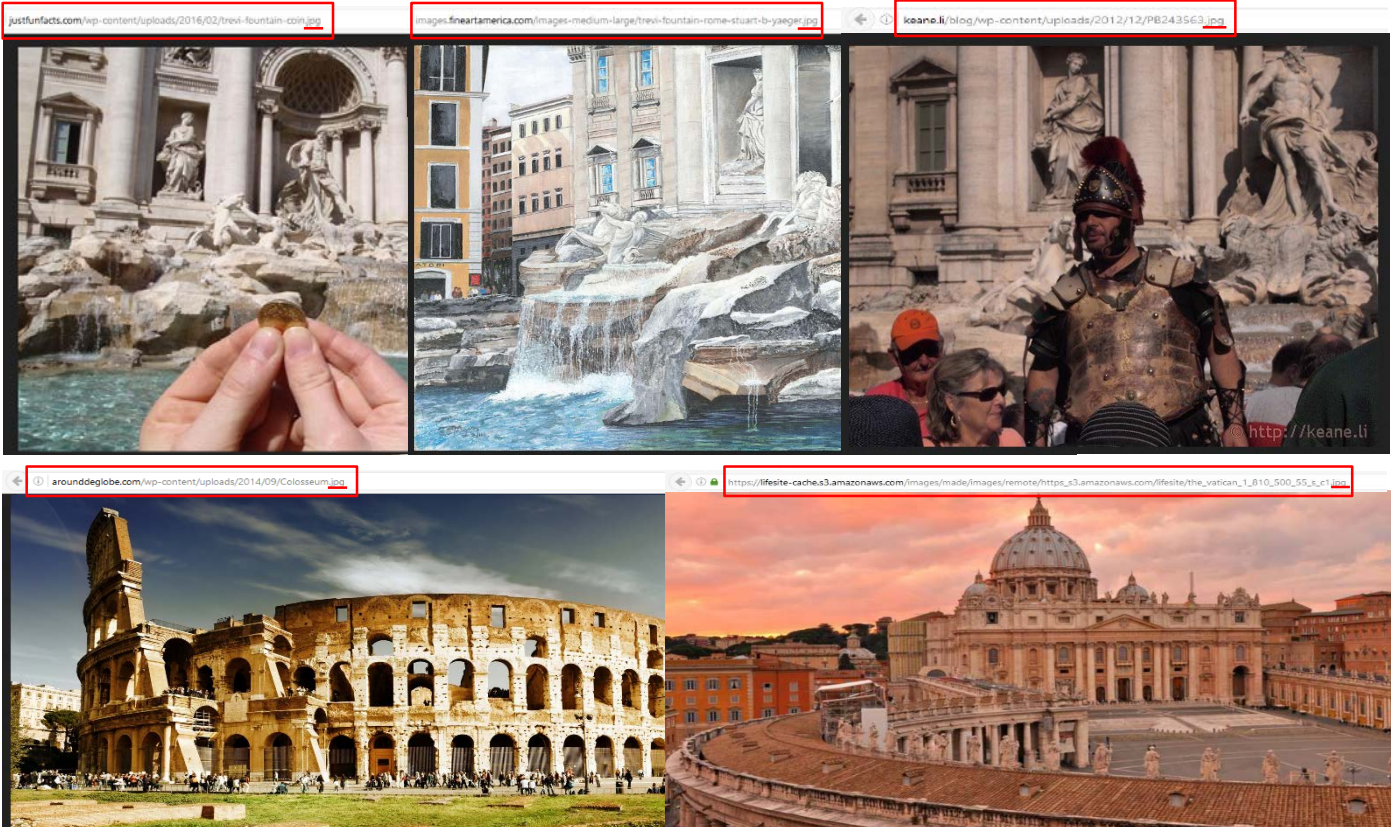
No.	Name of Layer	Geometry type		No.	Name of Layer	Geometry type
1	Complesso_SG	Polygon		9.1	Art_and_Culture1	Point
2	SM_Maggiore	Polygon		9.2	Art_and_Culture2	Point
3	Piazza_Spagna	Polygon		9.3	Art_and_Culture3	Point
4	Altare_della_Patria	Polygon		9.4	Art_and_Culture4	Point
5	P_Cancelleria	Polygon		9.5	Art_and_Culture5	Point
6	Piazza_Repubblica	Polygon		9.6	Art_and_Culture6	Point
7	Fiume_Tevere	Polygon		9.7	Art_and_Culture7	Point
8	Vatican	Polygon		9.8	Cultural_Heritage_at_Risk1	Point
9	Trevi_Fountain	Polygon		9.9	Cultural_Heritage_at_Risk2	Point
*	HC_Rome	Polygon		9.10	Cultural_Heritage_at_Risk3	Point
*	Cultural_Heritage	Point		9.11	Cultural_Heritage_at_Risk4	Point
*	Risks	Point		9.12	Cultural_Heritage_at_Risk5	Point

Note: To create new features, replace all spaces with underscore.

- To set the **coordinate system,** choose **WGS_1984_Web_Mercator_Auxiliar**.

- Remember to **put in practice** your imagination, creativity and talent to **create powerful maps**. In this step, you will search on google for **images** of each site (No.1-9). For the defined point layers, choose a picture that characterize the diversity of cultural expressions for **each site**. Open air concerts, urban art, paintings, the gladiators, horse carriages or the traditional toss-coin are considered vibrant cultural expressions which surrounds the Trevi Fountain. Choose the picture you like, click on it and then click **view image** to display the picture in **jpg** or **jpeg** file extension. This is **critical step** to create an **effective story map**. This process takes up to 10 minutes so take your time and **try to identify the location** to provide better location accuracy to the user. **Do not close the search tabs!**
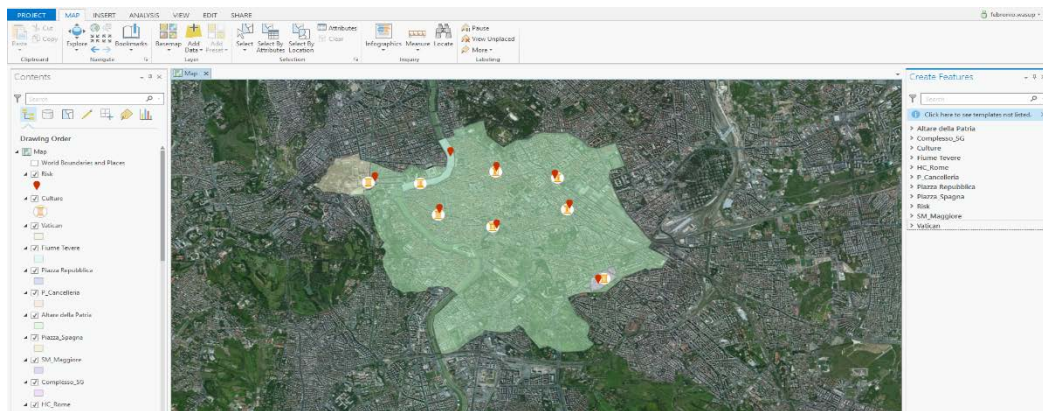

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- To create a polygon feature, go to the **edit tab** and click on **create**. The **create features panel** will appear on the right of your screen. Click on the **HC_Rome** feature, click **polygon** 🖋 and digitize the Historic Center of Rome. Repeat the same process for all polygon features.

- To create a point feature click on **Cultural_Heritage** and **point** 📍 to create **one new feature** for layers 1 to 8 (page #2). Repeat the process and follow the same sequence for **Risks**. This is important to link the images to each feature. On the contents pane, right click on **Cultural_Heritage** and select attribute table. To create a new field first go to the edit tab and click save, then create. The create icon will be enable on the attribute table. Now create three new fields: name, description and picture. Set the alias, data type and length as preferred. Save when done
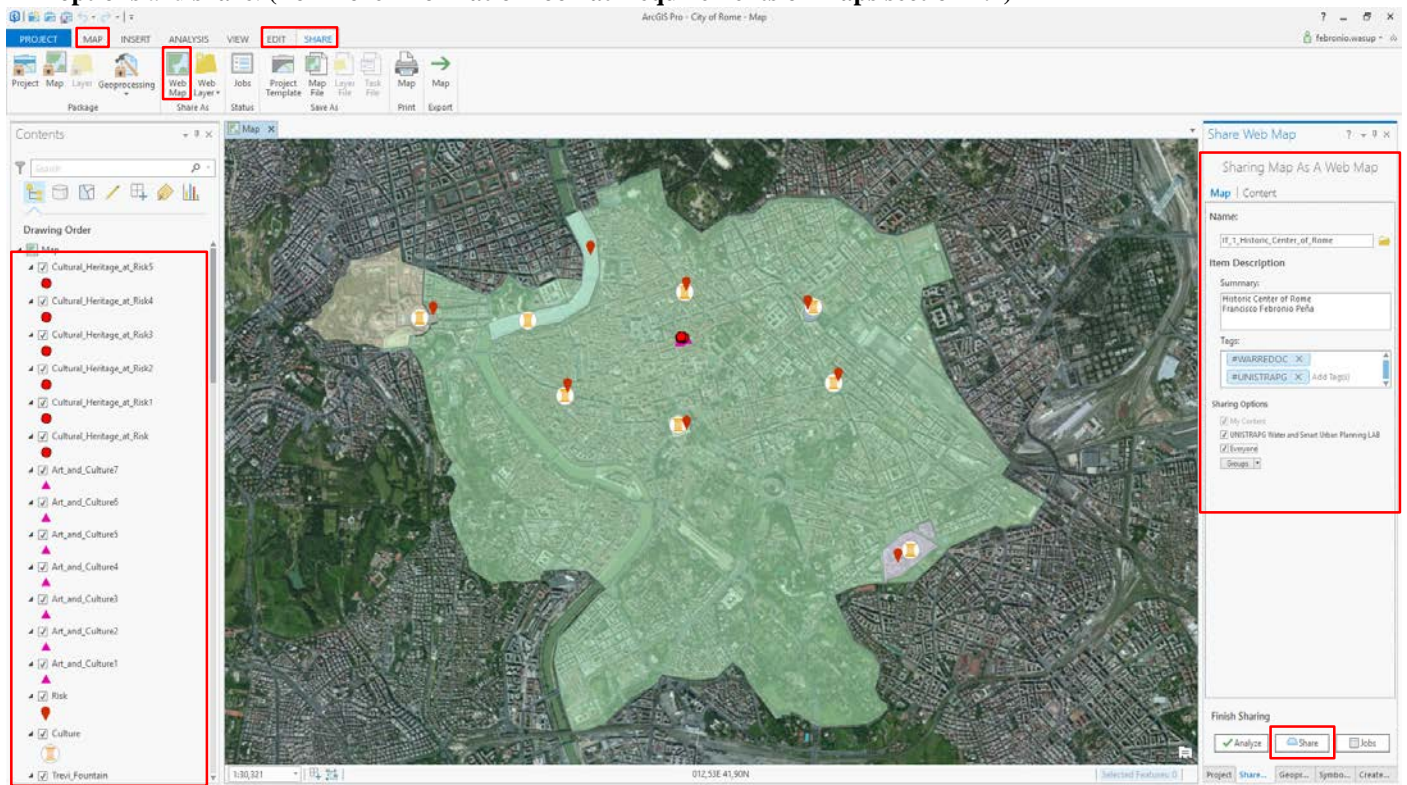

- To **improve visualization** change the **format** and **color** of your feature. To open the symbology pane left click on the **symbol** underneath the **UNESCO Boundary shapefile**, click on **properties** to edit the color of your polygon. Click on the **layers icon** to add effects and change the dimensions of your perimeter. In the **feature layer** ribbon, click on **appearance** to add visibility and transparency effects into your project. To complete the process click **apply** when done.
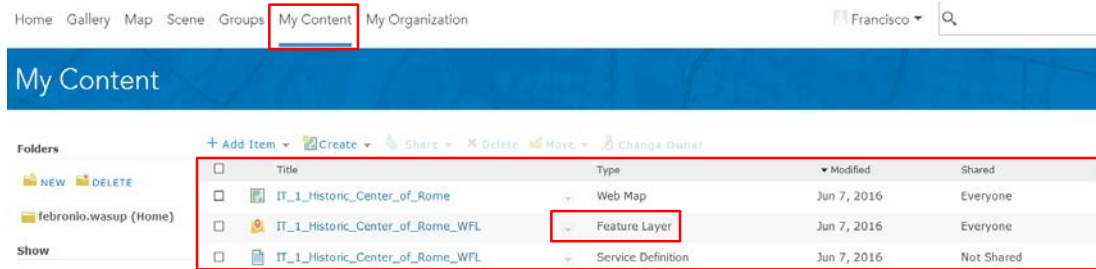

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- **Repeat** the same process for the **Trevi Fountain.** Several factors challenge the structural quality and integrity of the fountain, including deterioration caused by the environment or fatigue induced by human activities. As a result, maintenance and efforts from the local authorities are necessary to protect and preserve the monument. **Add five new locations** for Cultural Heritage at Risk and **seven** more for **Art and Culture** to the map based in the searched pictures which will be linked to your features using ArcGIS Online.
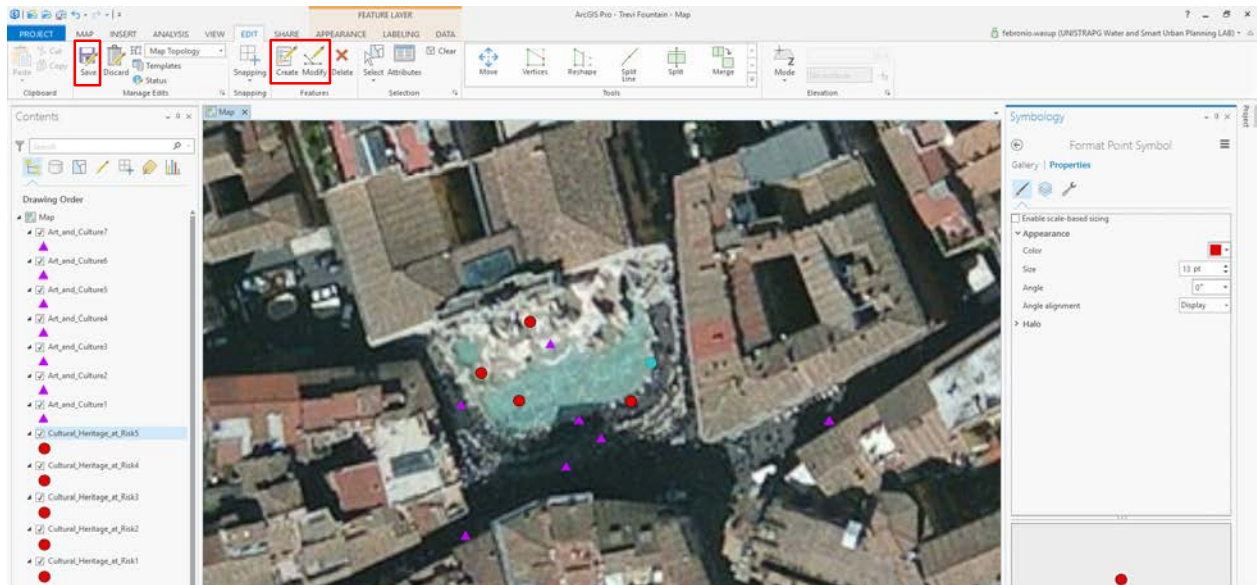
- Click on the **area feature**, click **polygon** and digitize the Trevi Fountain Boundary. To reshape, rotate, move or digitize more features, go to the **edit tab** and click **modify**. In the **feature layer** ribbon. Add transparency or change color if needed. Click **save** when done.

- To share your work as an online map, go to the **share tab** and click **web map**. The **share map panel** will appear on your right. On the name blank, write **IT_1_Historic_Center_of_Rome, fill the blanks as follow** click **everyone** on **sharing options** and **share**. **(For more information look at Requirements of Maps section 4.1)**

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The map is now available on your **ArcGIS online account**!
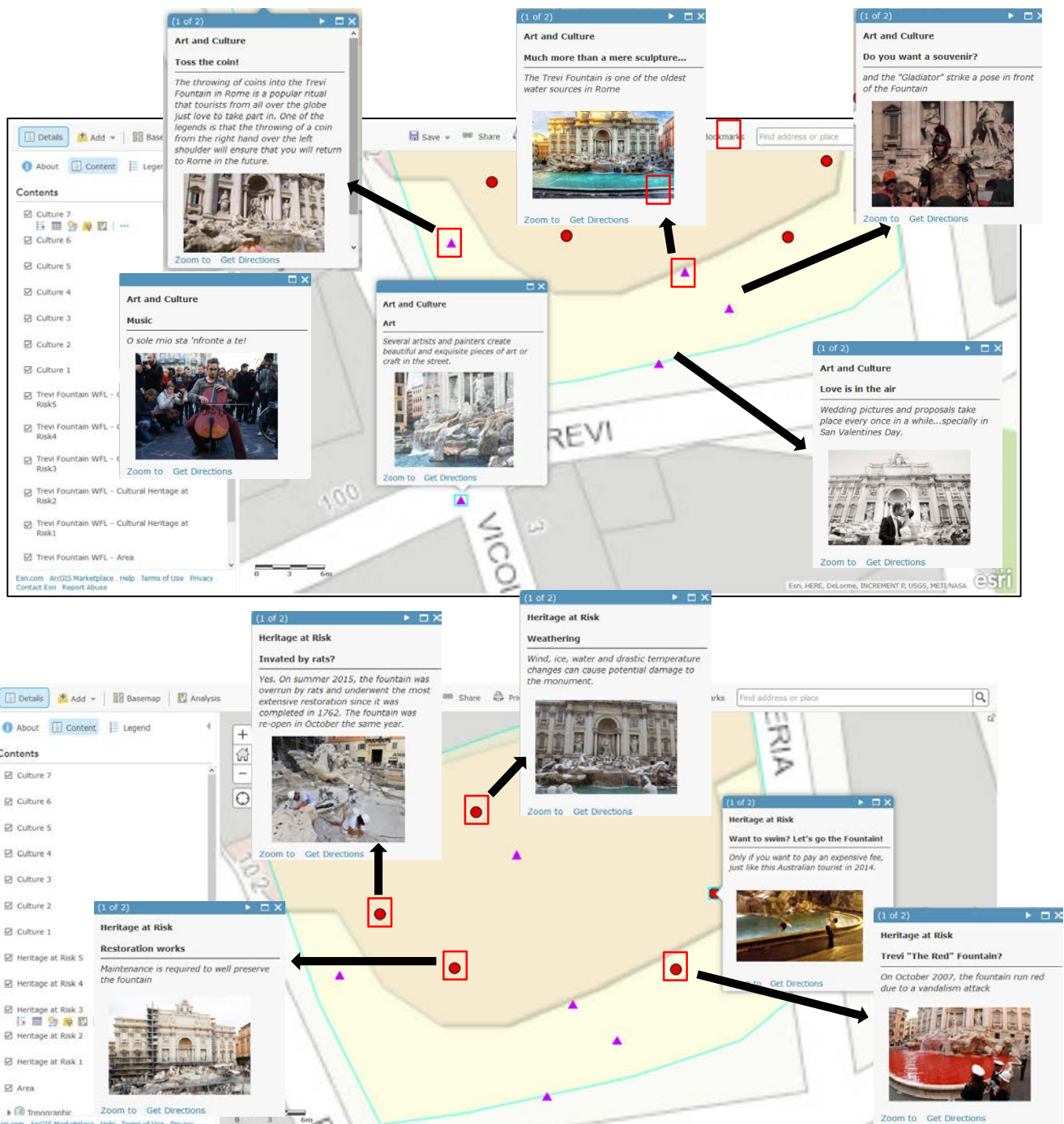

3   ArcGIS Online

3.1   Create a map

- Click on the drop-down menu next to feature layer and choose **Add layer to map**. ArcGIS Online interface will show up on your screen. Our goal is to improve the existing features and shape them with the content of your story.

- On the **contents panel**, click on **more options** ⋯ and click **rename** to change the name of all features.

Note: There are two possible ways to link an image with a layer: In section 2, in the attribute table we created new fields for the layers **Culture** and **Risk**. ArcGIS Online enables you to add media content directly from the interface.

- To add text and pictures select the feature **Art and Culture3**, click on **more options** ⋯ and click **configure pop-up**. Erase the pop-up title box and adapt the content. On the pop-up contents menu display **no attribute information**. On the pop-up media menu, click **add image** to configure the **pop-up** window. First, write an appropriate **title** and **caption** according to the site and picture. **<u>Make sure you copy the URL with a .jpg extension at the end of the domain</u>**. There is also an option to add a link that will re-direct you to another website if clicking on the image. Click OK when done.
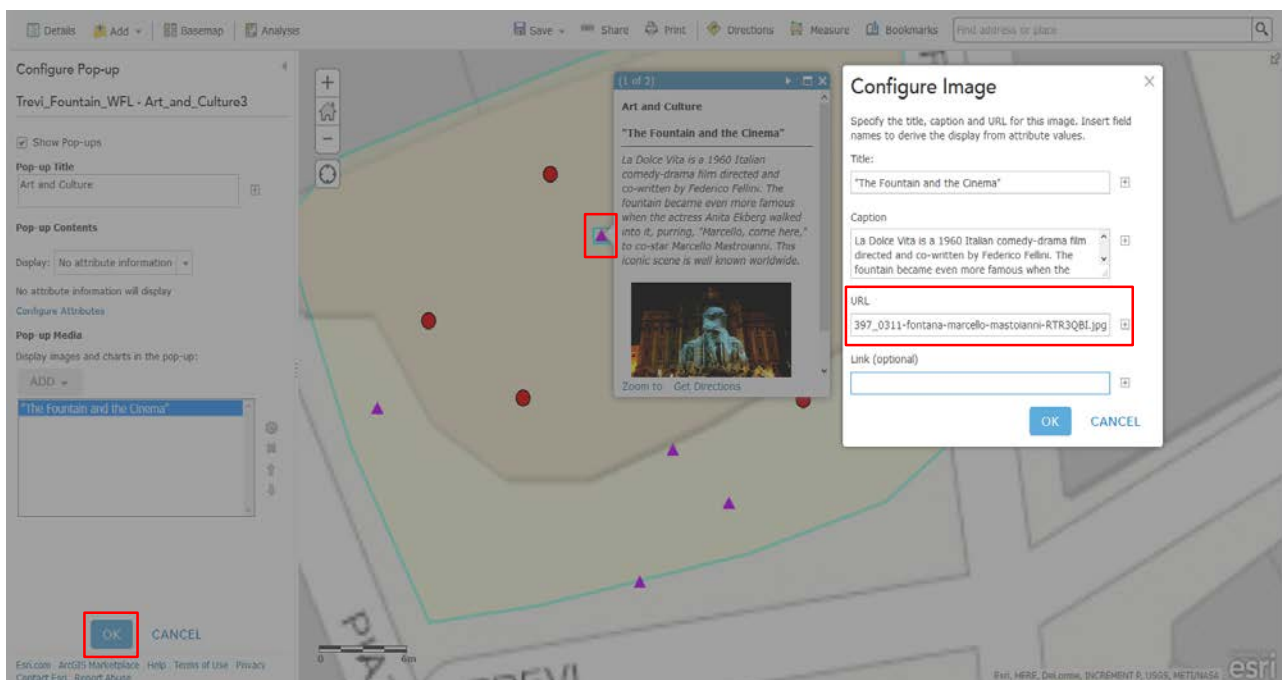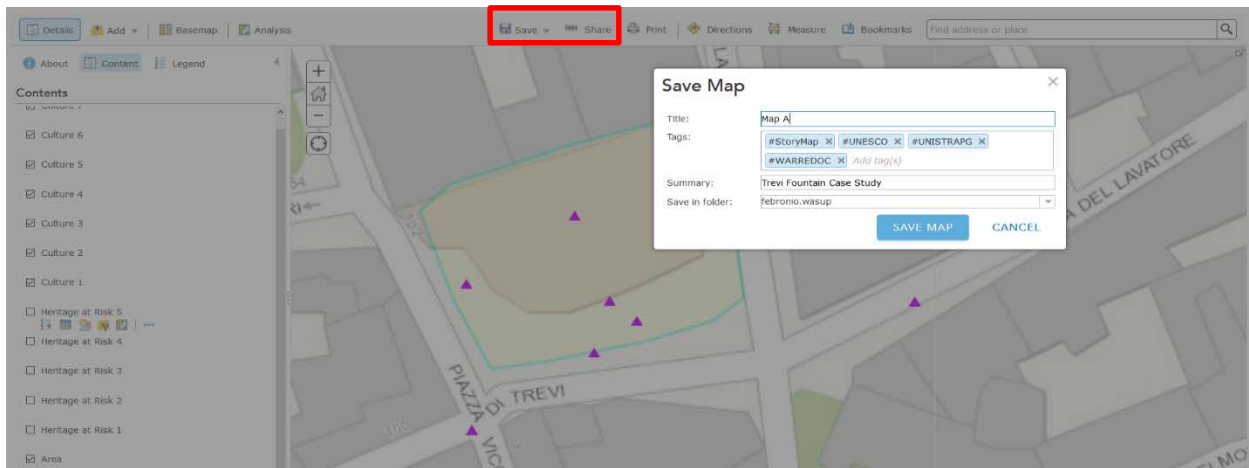

- Repeat the process for **all your features**. Be creative and original during the making of your story. When you finish the edition of all **Cultural** and **Sites at Risk,** the final product of the **Trevi Fountain** area will look like this.

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- Select the **Area** feature, click on **more options** ··· and click **remove pop-up**.

- In this step we will create three maps with different features:
  - Map A (Art and Culture)
  - Map B (Cultural Heritage at Risk)
  - Map C (Area)
 - Map D (Art and Culture + Cultural Heritage at Risk + Area)

Let's start with Map A. On the table of contents, deactivate all check boxes except for Art and Culture and save as new map. For Map B repeat the process deactivating all except Heritage at Risk and so on. Deactivating features is needed when working with overlap layers, to have better visualization of a specific area. The more maps you create, the more flexibility you'll have on the design of your story.

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- Let's focus now on the City of Rome cultural features. A handful of option within the interface can be used to improve the map. For the case study follow the next steps:
    - Deactivate the Risks feature
    - Create labels for each polygon feature, except HC_Rome
    - Configure pop-up and media content and link the attribute table
    - Hide legends
    - Add transparency, change color and icons for each Culture feature
    - Add a new point layer for the Colosseum and polygon layer for the Roman Ruins.

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Note: You can always incorporate new layers and features from your organization content. The Colosseum and Roman ruins layers were not created from the beginning. To do this, go back to ArcGIS PRO, create both layers and as many features as you want, save and share as web map, then click add [Add ▾] choose search for layers and bring the desire layer to your current map.

- When done save each of your layers from the contents pane and name your new map "Cultural Sites Rome CS". Now repeat the same process for the Risks features.
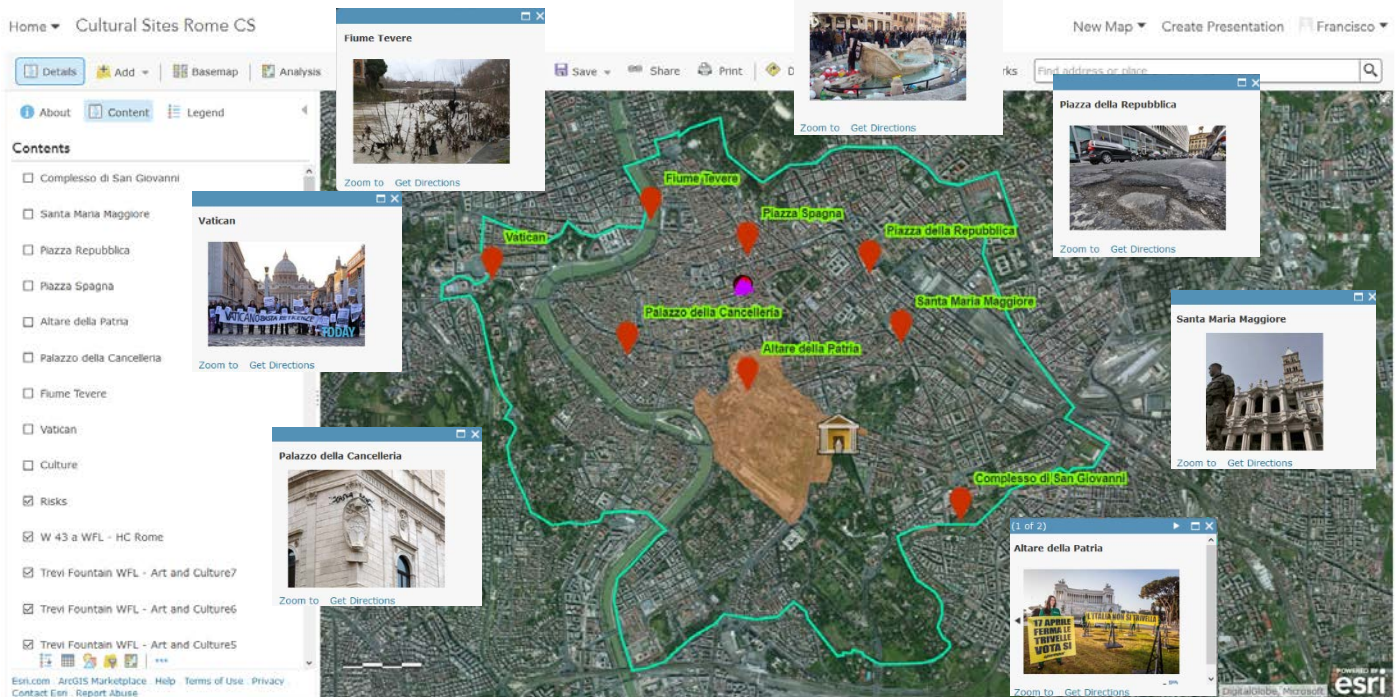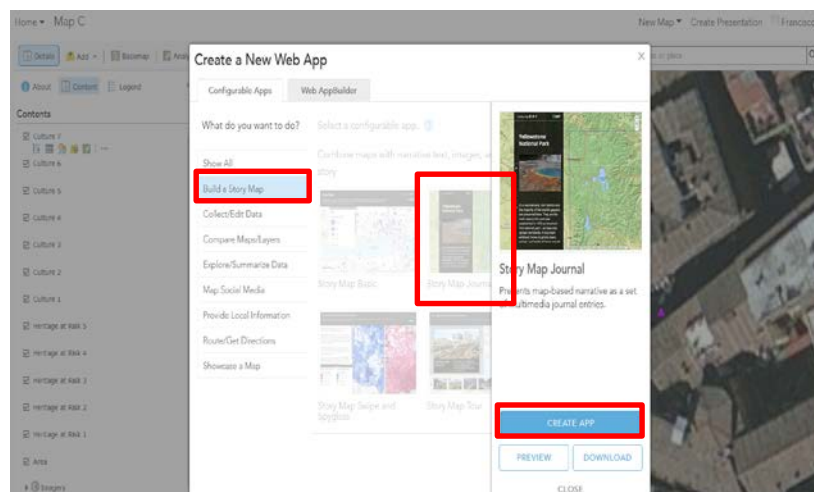

- When done save all layers and name your new map "Risk Sites Rome CS".

  You have completed the **2nd phase** of the **Trevi Fountain tutorial**. Now it is time to **create** your **story map.**
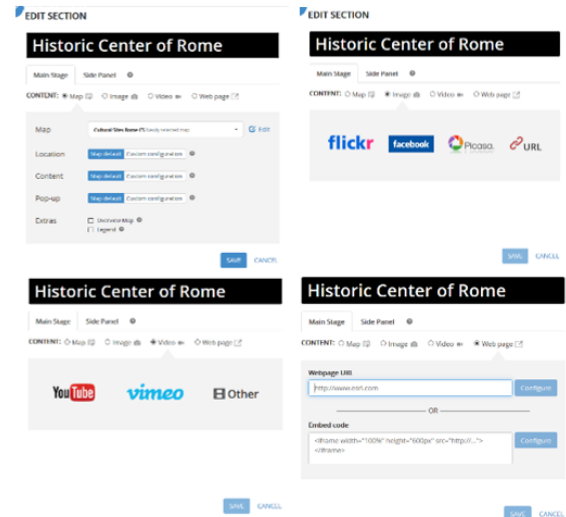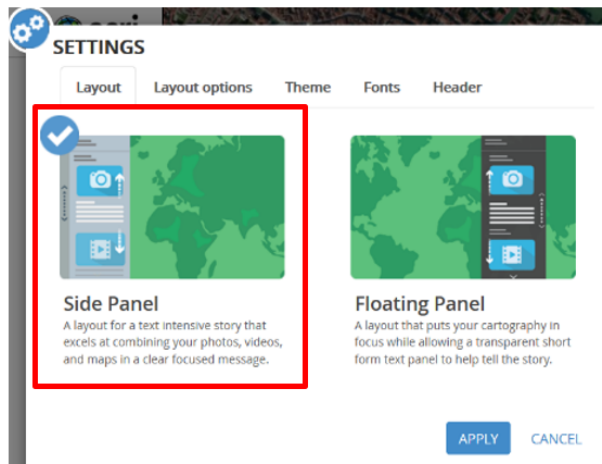
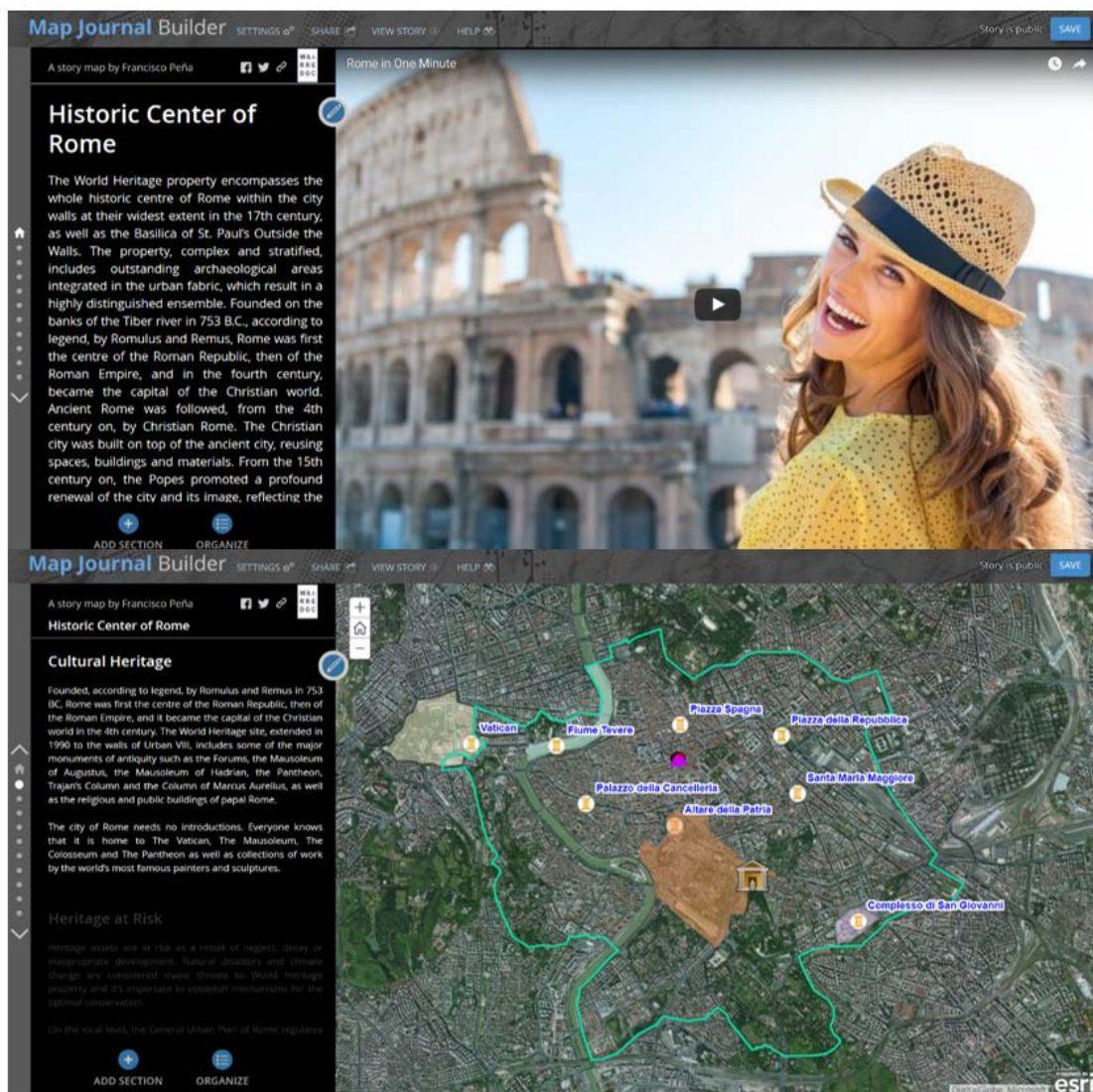# 4   StoryMap

4.1   Create a story map

- In the **Contents pane** click on the **share button** and check the box next to **Share with everyone** to enable access to the general public. Now click on **Create a Web App**, select **Build a Story Map**, choose Story Map Journal and **create app**. Specify the title, tags and summary for the new web app and click done to proceed.

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- On the **Map Journal** builder select the **side panel**, title the map "**Historic Center of Rome**" and customize your story as preferred. Combine narrative text with maps and other embedded content for all your sections. Build unlimited slides following a story-telling structure, put ideas into practice using the interactive builder and take users through multiple maps and associated media content to provide them with engaging information from the official **UNESCO World Heritage Site** or other sources to develop your story.

- When you complete the editing process, your story map should look like this.

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Note: You can always go back on your map to add more detail and information.

- Click on **share** to make your **story public.** Now **save** your story map and click **view story**.

Congratulations!

You have successfully **completed** this tutorial.