

## REPRESENTING CLIMATOLOGICAL DATA FOR ROMANIA USING ARCGIS ONLINE PLATFORM

Eng. Alexandra TRIF<sup>1</sup>

Scientific Coordinator: Lect. PhD. Doru MIHAI<sup>1</sup>

<sup>1</sup>University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59 Mărăști Blvd, District 1, 011464, Bucharest, Romania, Email: trif\_alexandra@yahoo.com

Corresponding author email: trif\_alexandra@yahoo.com

### Abstract

*In this paper I intend to represent the maximum and minimum air temperatures for every month on record in some areas of Romania. I chose to present this town on a map and for this I used StoryMap-ArcGIS online application because it's always easier to read a map. I inserted data, metadata and photos for every single location.*

**Key words:** Geographic Informational systems, StoryMap ArcGIS Online, Earth Observation, Temperature, Clima.

### INTRODUCTION

Story Maps, represents a web map format for a new type of users. This combines web maps with web applications and templates which offer information based on text, multimedia and different interactive functions in order to make maps for the purpose of education, inspiration.

The most used template is Storytelling Map Tour. This template combines a interactive map, a panel that shows pictures together with text and a scrolling section with miniature images.

### MATERIALS AND METHODS

In order to make this project I used the ArcGIS Online platform for representing climatological data of Romania, such as: minimum and maximum air temperatures, unusually high rainfall in each separate month. Climatological data was taken from the database of National Meteorological Administration interpreted and shown on GIS map.

### RESULTS AND DISCUSSIONS

Before starting I created a GIS account on the following site: [www.arcgis.com](http://www.arcgis.com) then I

followed the instructions, completing the fields with necessary data (Figure 1).

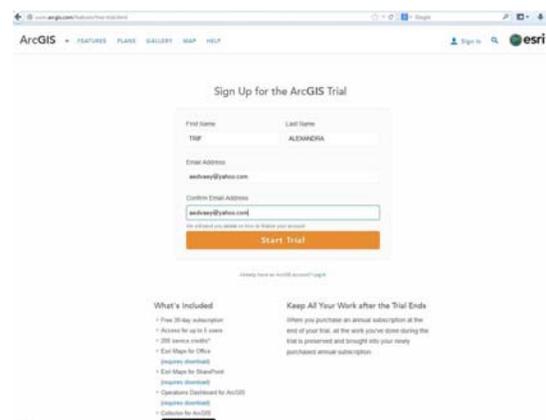


Figure 1

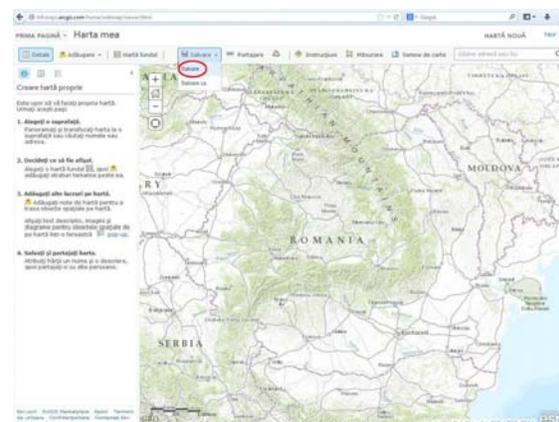


Figure 2

I clicked on Map option in order to make the web map, then I saved the project without adding any point on the map (Figure 2).

To continue I saved and completed all the fields concerning the future project such as: Title, Description, Key words, just like in Figure 3.

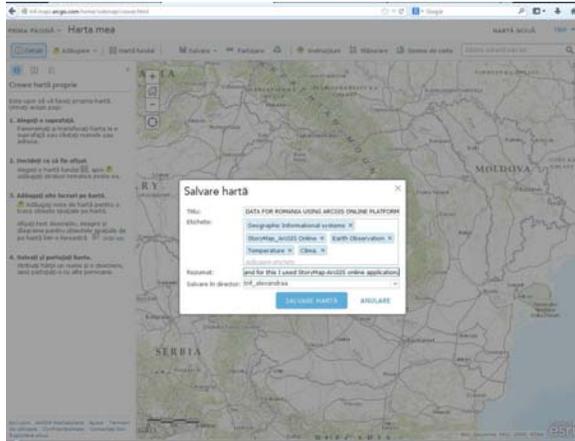


Figure 3

Next step is making the web application which is done following these steps:

First of all the map must be shared with all users. For this I have to click the “Share” button, tick the option that makes possible sharing with every user and choose the “Make a web application” option.

Then I move to the second application page and choose “Map Tour” then click on “Publish” (Figure 4).

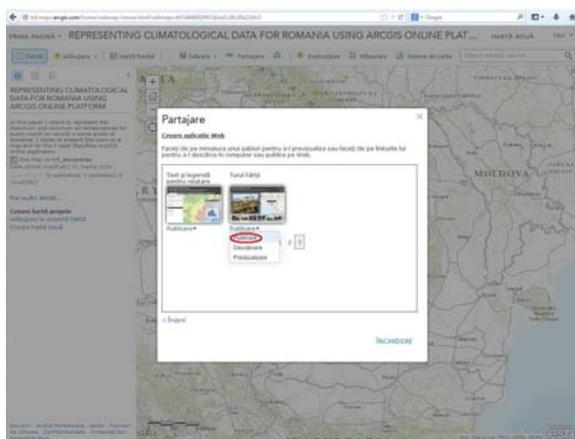


Figure 4

After this I choose “go to the item right now” (this option is inside the text “You can go to the item now to share and configure your application or click Close below to return to the map”) (Figure 5).

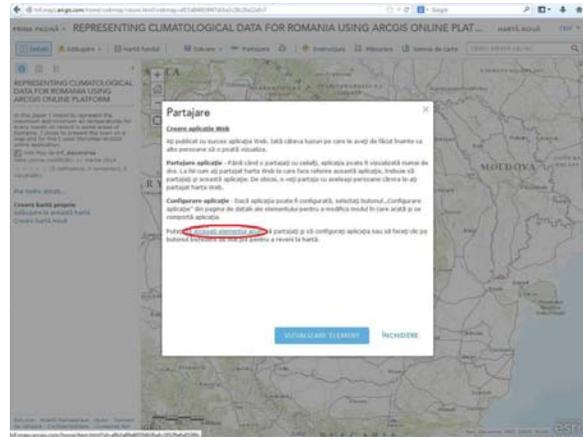


Figure 5

I then clicked on the thumbnail (or you can click on Open and select View application).

I selected the option “Start from scratch.”

I choose “Add” for adding the first location on the map (Figure 5).

Then add the url location of the photos; This are the photos corresponding to the map locations which will be inserted. They must be uploaded on existing free internet sites using online accounts (Figure 6’).

In this way it’s possible to use the same url address for Picture and Thumbnail.

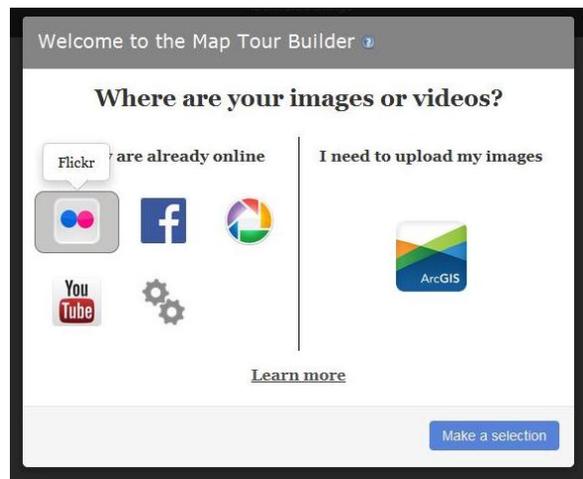


Figure 6

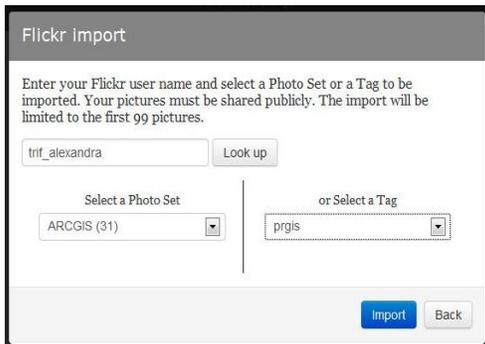


Figure 6

Completing the fields in Information section (name and description for the point added on map) Figure 7.

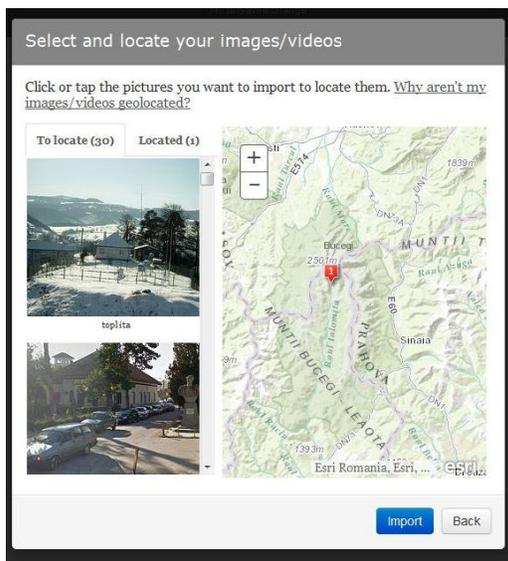


Figure 7

There are two ways for entering values in “Location” section. If geographical coordinates are known then latitude and longitude field will be filled, otherwise the icon will be moved and location point zoomed, in order to fix the point on a known location.

The topographic map used as background map for Tour Map application, gives the possibility to easily identify known locations.

Click on “Add tour point” after all tabs are completed.

Click on “Save” to save the application.

The same procedure is used for the rest of point to be added.

Settings tab gives the possibility to customize the application (Figure 8).

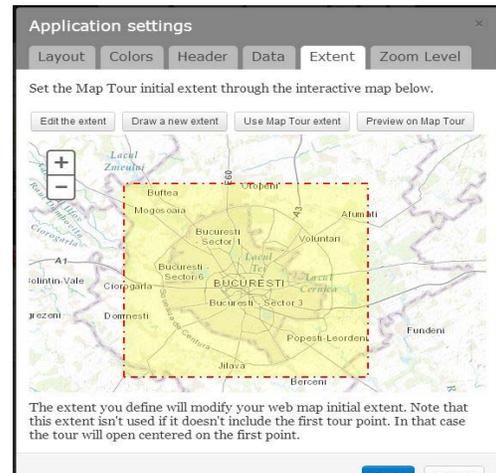


Figure 8

Map Extent is another element which can be established depending on the area of cover/interest.

Click on Extent tab and then on Draw new extent in order to establish the area of cover/interest.

After establishing the extent, click on Apply and then click on Save.

Personalisation of application can be made after putting on the map all interest points based on new criteria, like for example: location order on the map, marker colour for field location points (Figure 9).



Figure 9

## CONCLUSIONS

In conclusion making the GIS map was successful and I inserted all the possible values for Romania. The points are shown in the following figure (Figure 10).



Figure 10

The red points on map show maximum values for air temperature, the blue points on map show the minimum values for air temperature, the green points show areas where at different dates were recorded minimum and maximum values for air temperature and the two indigo show the maximum air temperature ever recorded in Romania in the town of Ion Sion, Braila County, 44.5 degrees Celsius on 10 August 1951, respectively the minimum air temperature recorded in the town of Bod, Brasov county, -38.5 degrees Celsius the night of 24/25 January 1942. It's worth mentioning that the meteorological station in the town of Bod is no longer functional (Figure 12).



Figure 11



Figure 12

## REFERENCES

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