3° Corso di Digital Mapping
Water, Food, Energy and Environment Nexus

Perugia, 21 Nov 2018

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WARREDOC
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Outlines

- Background & goals
- The 3rd Digital Mapping Course theme: water, food, energy and environment nexus
- Work on your project: Specs. of the STORY MAP
- The competition: evaluation criteria
Produce a digital map including the UNESCO heritage sites with particular cultural and environmental values in Umbria and Italy

http://whc.unesco.org/en/interactive-map/
STORYTELLING USING DIGITAL MAPS

GIS STORY MAPS to communicate

The history and culture of our cities and lands, the resources and the natural and anthropic risks COMMUNICATED using Digital Story Maps that integrate “human experience” also captured extracting/filtering social network posts.
Story Map Case Study: The City of Rome
Cultural Heritage
Story Map Case Study: The City of Rome
Heritage at Risk

A story map by Francisco Peña

Historic Center of Rome

Heritage at Risk

Heritage assets are at risk as a result of neglect, decay or inappropriate development. Natural disasters and climate change are considered major threats to World Heritage property and it’s important to establish mechanisms for the optimal conservation.

On the local level, the General Urban Plan of Rome regulates the entire territory of the city and represents an innovative and flexible tool for the protection, promotion and presentation of the World Heritage property. Specifically, it extends the classification of “historic city” to the whole World Heritage property and to the surrounding areas of the town. Here, the regulations take into account the integrity of the urban fabric and the features of the building typologies, allowing different practices and quality controls. It selects, defines and regulates the areas of strategic planning (e.g., the Tiber, the Forums, the city walls) as well as those for potential development. It also outlines fundraising mechanisms for conservation, promotion and presentation of the site.

Rome Capitale has developed a strategic plan containing actions and major interventions aimed at protecting and promoting the values of the property.

VATICANO OBESA RETENZIONE

Fiume Tevere

Vaticano

Piazza della Repubblica

Piazza Venezia

Sant’Agnese in Agone

San Pietro in Vincoli

San Paolo fuori le mura

Campidoglio

Colosseo

Santa Maria Maggiore

Violent protests, Pope's bended knee, terrorism threats, pollution and lack of maintenance represent a serious risk to Rome’s cultural heritage.
Roadmap

1st Digital Mapping Course
May 2016
120+ Participants
Mapping UNESCO Heritage Sites

2nd Digital Mapping Course
May 2017
45 Participants
Active Citizenship (All topics)
What is the water, food, energy and environment nexus?
StoryMap structure

1- Introduction (1 page): Select a video that best describes the topic and write a brief introduction
StoryMap structure

2- GIS section (1-2 pages): Create two maps to display the connection between water and energy (at the local, national, regional or continental scale)

Water, Food, Energy and Environment Nexus

PERUGIA (Italia), 21 NOVEMBRE 2018 – PALAZZINA LUPATTELLI

www.warredoc.unistrapg.it
StoryMap structure

3- Human experience (1 page): Integrate the user experience into your map by adding social media content (using keywords and hashtags) to obtain meaningful insights on human behavior.
## Mapping Social Open Data in GIS Environment

**Volunteered Geographic Information (VGI)**  
**User Generated Content (UGC)**  
**and Human Sensor Data (HSD)**

### Tools

<table>
<thead>
<tr>
<th>Feature</th>
<th>ARCGIS Story Maps</th>
<th>BirdIQ</th>
</tr>
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<tbody>
<tr>
<td>User-friendly interface</td>
<td><strong>✓</strong></td>
<td><strong>✗</strong></td>
</tr>
<tr>
<td>Allows to geocode social media content to obtain the real “user experience”</td>
<td></td>
<td></td>
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<tr>
<td>Performs spatial analysis</td>
<td></td>
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<tr>
<td>Web-based platform to download data</td>
<td><strong>✓</strong></td>
<td><strong>✗</strong></td>
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<tr>
<td>Full control of the social media content</td>
<td></td>
<td></td>
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<tr>
<td>Add value to map when customized properly</td>
<td></td>
<td></td>
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<tr>
<td>Full control for post processing digital maps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The filter control is limited</td>
<td><strong>✗</strong></td>
<td><strong>✓</strong></td>
</tr>
<tr>
<td>Search results depend on the user privacy settings and map zooming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display results not older than 7 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not automatic</td>
<td><strong>✓</strong></td>
<td><strong>✗</strong></td>
</tr>
<tr>
<td>Limited to 500 tweets per search</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternative approaches are needed to obtain what you are looking for because not all tweets contain geotagged location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requires manual work: Download the image, open tweet, create shapefile…</td>
<td><strong>✓</strong></td>
<td><strong>✗</strong></td>
</tr>
<tr>
<td>Time consuming</td>
<td></td>
<td></td>
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</tbody>
</table>
Mapping Social Open Data in GIS Environment

Perugia/@43.0949969,12.3101129,12:

- BIRD IQ
- ARCGIS ONLINE
- GOOGLE TABLES
- GOOGLE MAPS
StoryMap structure

4- Discussion and References (2 pages): Create a brief summary of your main points and also include a bibliography.
3° Digital Mapping Course
2018 Project Tutoring & Evaluation

3rd Digital Mapping Course
Water, Food, Energy and Environment Nexus:
Technical requirements of Digital Maps

Reference Documents
- 3° Digital Mapping Course: Technical requirements
- 3° Digital Mapping Course: Terms and Conditions
- 3° Digital Mapping Course: FAQ

Material
- Tutorial: Water-Food Nexus
- Tutorial: Water-Energy Nexus
- Tutorial: Water-Environment Nexus

2018 Tutors
Francisco Pena
Antonio Annis
Andrea Spasiano
Giulio Castelli
Fabio Palmi

• Content (Narrative text, images and multimedia)
• GIS and StoryMap (Quality and presentation of data)
• Social Media Component (‘User experience’)
Digital Mapping Competition
2018 Jury

Fernando Nardi (President of the Jury)
Francisco Peña (WARREDOC)
Antonio Annis (WARREDOC)
Andrea Spasiano (WARREDOC)
Pietro Coffaro (ESRI Italia)
Matteo Coffaro (ESRI Italia)

Thomas Cech (MSU of Denver)
Nona Shipman (MSU of Denver)
Jennifer Riley-Chetwynd (Denver Botanic Gardens)
Maria Cristina Rulli (Polytechnic of Milan)
Rosaida Dolce (FAO)
Giuseppina Monacelli (ISPRA)
Raffaella Zucaro (CREA)
Laurens Thuy (UNESCO WWAP)