

# Europeana Learning Scenario

## Title

**Let's explore the wetlands of the Danube!**

## Author(s)

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## Summary

### Table of summary

<b>Subject</b>	Interdisciplinary lesson: Geography, Ecology, Space science, Mathematics, Art
<b>Topic</b>	Maps of the Danube
<b>Age of students</b>	12-16
<b>Preparation time</b>	10' Teacher has to print geographic maps of the lower Danube River or the Balkan peninsula from the Europeana Collection and provide a link to the Copernicus site or Google Maps. Before implementing the learning scenario, students will need to familiarize themselves with the Copernicus program or Google Maps.
<b>Teaching time</b>	120'
<b>Online teaching material</b>	<a href="http://www.scientix.eu/projects/project-detail?articleId=627021">http://www.scientix.eu/projects/project-detail?articleId=627021</a> <a href="https://www.esa.int/Our_Activities/Observing_the_Earth/Copernicus">https://www.esa.int/Our_Activities/Observing_the_Earth/Copernicus</a> <a href="https://www.google.com/maps">https://www.google.com/maps</a> <a href="http://www.space-awareness.org/en/">http://www.space-awareness.org/en/</a> <a href="https://www.earthkam.org/">https://www.earthkam.org/</a>
<b>Offline teaching material</b>	Computer, laptop, printed geographic maps, coloured pencils, ruler
<b>Europeana resources used</b>	<a href="https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource_3000115528644.html?q=europeana_collectionName%3A%229200378_Ag_EU_TEL_a1230_NationalLibraryBulgaria%22#dclid=1550646337979&amp;p=1">https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource_3000115528644.html?q=europeana_collectionName%3A%229200378_Ag_EU_TEL_a1230_NationalLibraryBulgaria%22#dclid=1550646337979&amp;p=1</a> <a href="https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource_3000115528644.html?q=europeana_collectionName%3A%229200378_Ag_EU_TEL_a1230_NationalLibraryBulgaria%22#dclid=1550646337979&amp;p=1">https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource_3000115528644.html?q=europeana_collectionName%3A%229200378_Ag_EU_TEL_a1230_NationalLibraryBulgaria%22#dclid=1550646337979&amp;p=1</a> <a href="https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource_3000115528610.html?q=europeana_collectionName%3A%229200378_Ag_EU_TEL_a1230_NationalLibraryBulgaria%22#dclid=1550646337979&amp;p=4">https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource_3000115528610.html?q=europeana_collectionName%3A%229200378_Ag_EU_TEL_a1230_NationalLibraryBulgaria%22#dclid=1550646337979&amp;p=4</a>

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[https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource\\_3000115528675.html?q=europeana\\_collectionName%3A%229200378\\_Ag\\_EU\\_TEL\\_a1230\\_NationalLibraryBulgaria%22#dclid=1550646337979&p=5](https://www.europeana.eu/portal/bg/record/9200378/BibliographicResource_3000115528675.html?q=europeana_collectionName%3A%229200378_Ag_EU_TEL_a1230_NationalLibraryBulgaria%22#dclid=1550646337979&p=5)

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## Integration into the curriculum

The proposed scenario fits with its topic "Man and Nature" into subjects Physics and Astronomy, Geography.

## Aim of the lesson

At the end of the lesson, the students will be familiar with the environmental changes caused by humans and more precisely with the disappearance of the wetlands along the lower Danube.

## Trends

**Cloud Based Learning:** data, tools, software is all online and can be reached and modified from different devices.

**IBSL:** Inquiry Based Science Learning

**Project-Based Learning:** students get fact-based tasks, problems to solve and they work in groups. This kind of learning usually transcends traditional subjects.

## 21<sup>st</sup> century skills

### INFORMATION, MEDIA & TECHNOLOGY SKILLS:

- Students will be able to work with satellite images and compare them to traditional geographic maps, as well as to use GPS

### ENVIROMENTAL LITERACY:

- Students will enrich their ecological culture and human responsibility towards nature

### LEARNING & INNOVATION SKILLS:

- Creativity and Innovation - students will have to use two radically different resources - "old" - geographic maps of several centuries ago and "new" - satellite imagery
- Critical Thinking and Problem Solving - by analyzing the reasons for removing wetlands, students will develop their critical thinking, but by proposing their recovery - solving problems
- Collaboration - students will work in groups of 3 and will have to cooperate very closely

## Activities

Name of activity	Procedure	Time
<b>Warm-up</b>	Through a brief presentation the teacher introduces the pupils to the wetlands along the Danube and why they are so important. The teacher introduces the Europeana platform and short navigation guidelines.	5'
<b>Conceptualization</b>	The teacher presents the aims and tasks of the lesson.	5'
<b>Formulation of research questions and/or hypothesis</b>	The teacher stimulates students through a discussion of the problem formulation / research questions. For example: <ol style="list-style-type: none"> <li>1. Have the areas of wetlands along the Danube River changed over the years?</li> <li>2. Does the removal of wetlands impact the environment?</li> </ol>	10'
<b>Research activities 1.</b>	The class is divided in groups of 3 students. The teacher distributes pre-printed geographic maps (from Europeana and satellite maps) and other materials. Students explore and compare localized wetlands and track for changes in satellite imagery or Google Maps and when they happen. They also review articles, publications related to wetlands. Students conduct a field study - conversations with elderly people from the settlement about memories of swamps or other wetlands.	90'
<b>Research activities 2.</b>	Students record the collected information, calculate the area of the missing wetland and its location by the GPS coordinates of the map, drawing on the map.	
<b>Research activities 3.</b>	Students explore which bird species live in wetlands, as well as plants and trees.	
<b>Additional educational activities</b>	Pupils get acquainted with the NASA Sally Ride <a href="#">EarthKAM training project</a> and the opportunity to take their own photos from Earth's Space from the International Space Station board as well as the <a href="#">SPACE AWARENESS project</a> , "Our Fragile Planet".	
<b>Discussion</b>	At the end of the lesson, the teacher encourages students to discuss what difficulties they encountered while performing the tasks, the disappearance of wetlands, how we can restore them, environmental effects on the wetlands.	10'

**Assessment**

Students will use [Kahoot](#) for self-assessment.

\*\*\*\*\* AFTER IMPLEMENTATION \*\*\*\*\*

**Student feedback**

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**Teacher's remarks**

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**About the Europeana DSI-4 project**

[Europeana](#) is Europe's digital platform for cultural heritage, providing free online access to over 53 million digitised items drawn from Europe's museums, archives, libraries and galleries. The Europeana DSI-4 project continues the work of the previous three Europeana Digital Service Infrastructures (DSIs). It is the fourth iteration with a proven record of accomplishment in creating access, interoperability, visibility and use of European cultural heritage in the five target markets outlined: European Citizens, Education, Research, Creative Industries and Cultural Heritage Institutions.

[European Schoolnet](#) (EUN) is the network of 34 European Ministries of Education, based in Brussels. As a not-for-profit organisation, EUN aims to bring innovation in teaching and learning to its key stakeholders: Ministries of Education, schools, teachers, researchers, and industry partners. European Schoolnet's task in the Europeana DSI-4 project is to continue and expand the Europeana Education Community.