COPERNICUS DATA IN SUSTAINABLE DEVELOPMENT GOALS USING IMAGE MAPS

Diploma Thesis

OVERVIEW

The world today confronts a range of arduous global issues such as climate change, pandemics, food insecurity, water contamination, biodiversity loss, socioeconomic disparities, political discord and other related complications. In order to address such global challenges and achieve better and more sustainable future for all, the UN member states adopted the global agenda of Sustainable Development Goals in 2015. This research aims to demonstrate the power Copernicus as a free and open-source earth observation platform in managing and monitoring SDG indicators through the innovative use of image maps. The concept encourages inclusive and harmonized collaboration with a deeper understanding of how the integration of earth observation together with cartography can enable the accurate assessment of the advancements made towards the specific SDGs.

OBJECTIVE

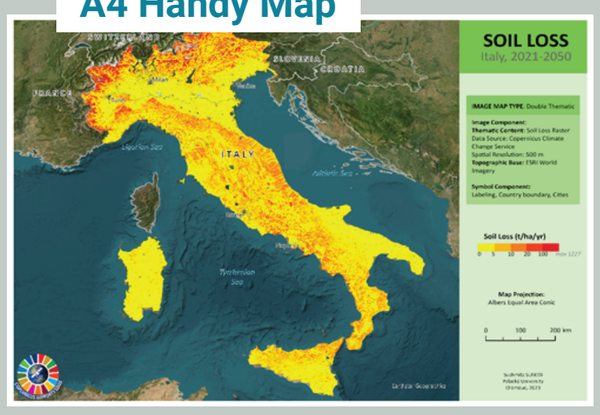
The main goal of the thesis is to design and compile a set of image maps from the data of the Copernicus project and thereby demonstrate the applicability of satellite data to support solutions to the selected Sustainable Development Goals (SDGs).

The sub-goals of the thesis can be as divided as follows:

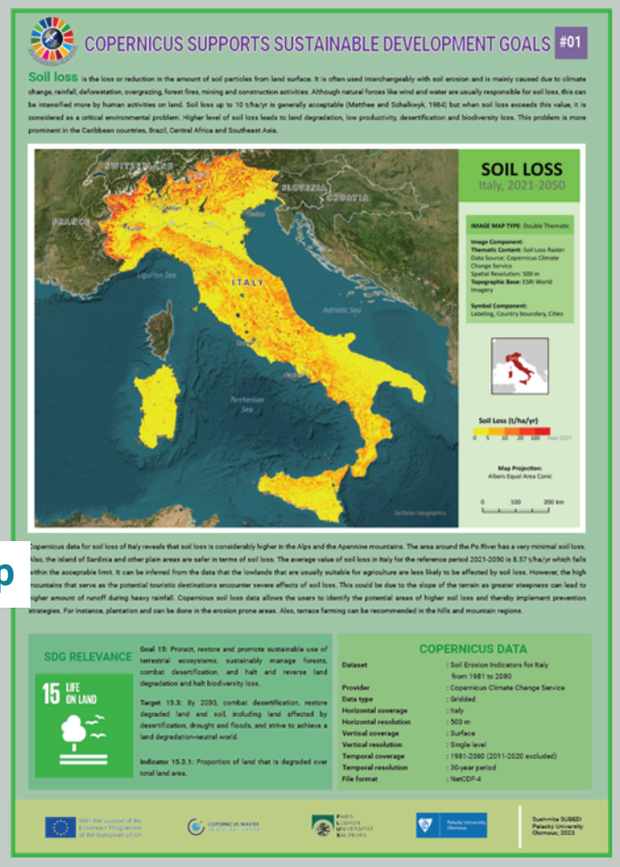
- To monitor the progress of selected SDG indicators over space and time
- To present different prototypes of image maps and their suitability in visualizing the SDG indicators
- To demonstrate a concept of geovisualization utilizing different forms of cartographic information products

RESULTS

A4 Handy Map



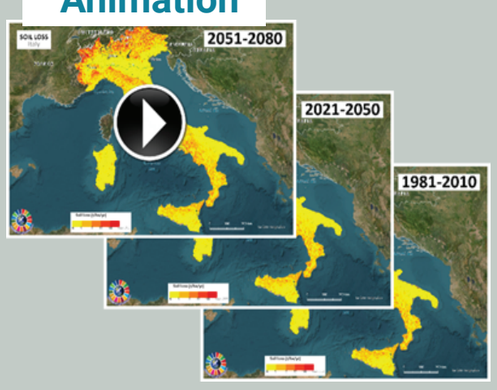
A3 Large Map



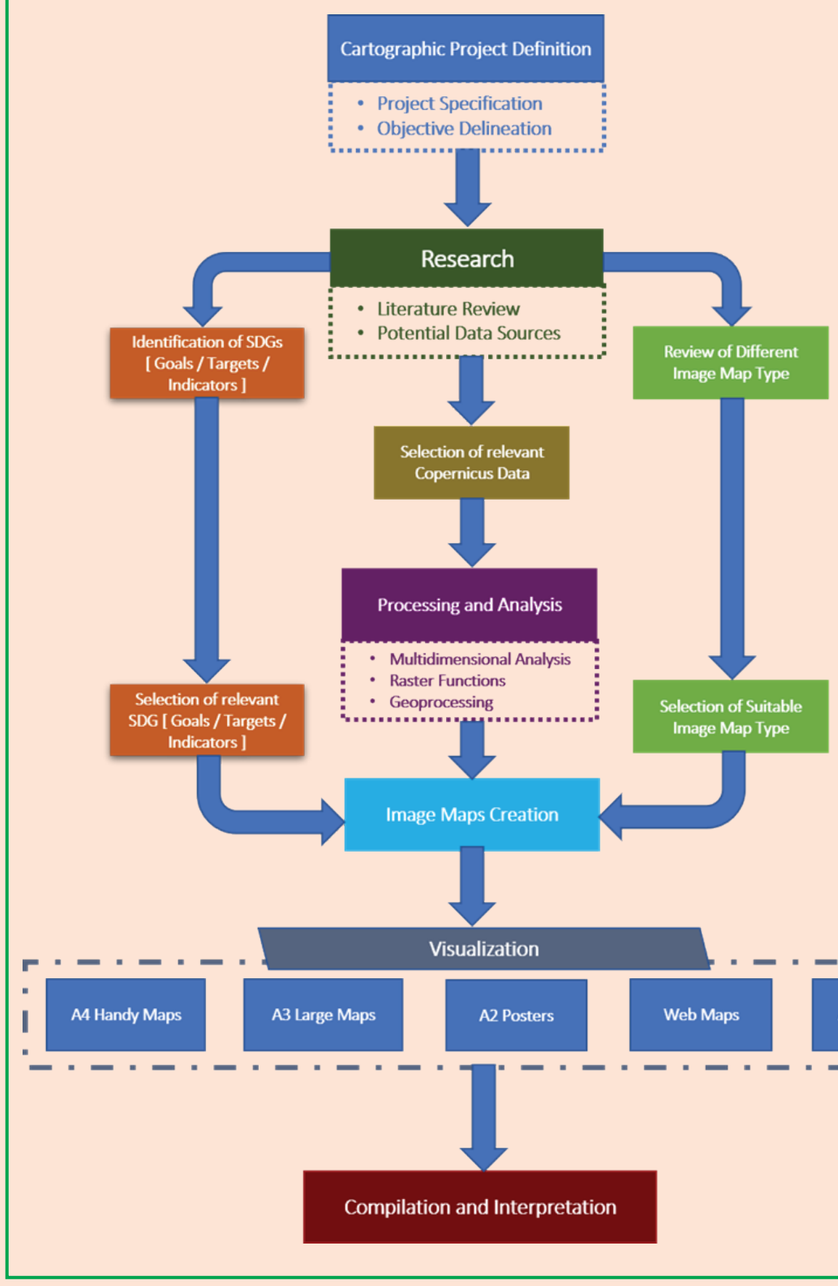
Web Map

A2 Poster

Animation



WORKFLOW



DATA AND SOFTWARE

1. Copernicus Data
2. GIS Data
3. Statistical Data

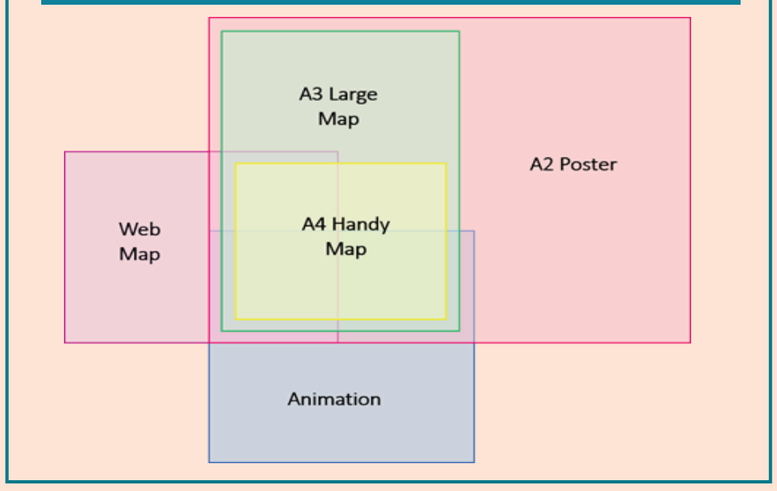
SOFTWARE

Flourish

CONCLUSION

The thesis was successful in meeting the set objectives of demonstrating the applicability of Copernicus data in devising solutions to the Sustainable Development Goals. 15 thematic image maps depicting the selected SDG topics were designed and compiled by utilizing the data from five of the Copernicus services. The image maps were subsequently transformed into five sets of different cartographic information adopting a unique concept of geovisualization. The application of multidimensional analysis on Copernicus data facilitated in detecting meaningful trends, patterns and interlinks that occurred in the datasets. The research outcomes serve to assist the policy makers in informed decision making and effective policy formulation with a rationale that an incremental progress towards the SDG targets will be achieved in due course.

CONCEPT OF GEOVISUALIZATION



Scan for Webmaps

Scan for Animations

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COPERNICUS MASTER IN DIGITAL EARTH

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