INTRODUCTION TO GIS & DATA DRIVEN DESIGN

This course focuses on *"Data Driven Design"* strategies and techniques behind procedural data analysis and production of maps with vector, raster, and text-based data — often combined.

We explore topics ranging from finding, manipulating and evaluating — with probabilistic methods and according to the spatial and statistical properties, of various datasets to the automatic creation of maps. The outcome of this course is visualizations of spatial and temporal relations as well as statistical analysis of different dataset in Denmark.

We learn how to access server-side and locally stored data to develop maps and visualizations that can be shared and interacted with in various open-source desktop packages such as QGIS and Google Docs.

TARGET GROUP:
The course addresses people who have no/minor prior GIS education or work experience within Data Driven Design. Requirements for this course are, previous experience with OSX or Windows-based software for basic file management and -browsing, basic usage of spreadsheets.

WE LEARN TO:
- Quickly create and share maps using QGIS, web-based tools, and content.
- Finding and organizing geographical data and other GIS resources for a mapping project.
- Viewing objects in a map and efficiently access information about them.
- Analyzing maps to identify and locate the objects that meet certain criteria. (query building)

SOFTWARE USED:
- QGIS for Desktop
- Google Docs (web)

LANGUAGE:
We teach in Danish and English, and most of the resources are in Danish. The course material is in English. (*You can request for a DK version*)

PRICE: Please contact Ali Tabatabai for details.

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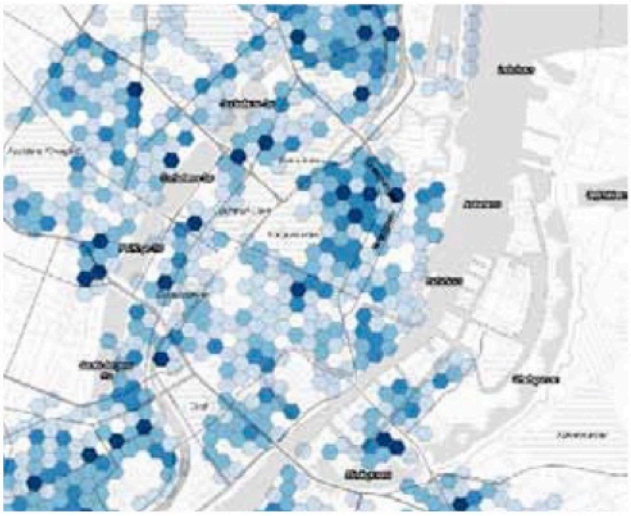

DAY-1
Introduction to Data Driven Design – we take a closer look at some available tools and resources, e.g. QGIS, Kortforsyningen, Open Data, and so forth, and we elaborate on the concepts of procedural data manipulation, and information enriched maps. We take a look at different data formats in general, which are available to us in Denmark. (e.g. shp, geoJSON, CSV etc...) We learn what spatial data is and how we can work with it.

DAY-2
Continuing from the Day-1 activities, we will start with the introduction to basic data-join, -manipulation and -analysis of different tabular and spatial datasets. We look further into the advanced query building and more sophisticated choropleth techniques. Building a ground up for map creation and data visualization in general with multiple and joined dataset.

DAY-3
Introduction to raster data – we take a close look at the different raster data which are available to us in Denmark, e.g. OrthoPhoto, DEM (Digital Elevation Model), and other raster data from Kortforsyningen. The primary focus for the Day-3 activities is exploration and extraction of hydro/water related data from rasters in conjunction with vector data.

OUTCOME:
This course teaches the participants what GIS is and how they can use it. We learn to work with different components of the QGIS desktop system – an open-source, multiplatform and community-based package. We create maps, examine and analyze the data behind the maps and apply methods to share the data quickly with others. At the end of the course, participants have a solid understanding of different dataset which is available for free and how GIS tools are used to visualize real-world objects, discover patterns, gather information and communicate this information using static and interactive maps.

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