

EX.1: GETTING STARTED WITH ARCGIS Pro

GOALS

- Get an introduction to ArcGIS Pro
- Know how the different datasets are stored
- Extract data in ArcGIS Pro and create a map
- Save the map as an image file

DATA

All data used in the course is available at

<\\hypatia.uio.no\\lh-mn-geofag-felles\\kurs\\GEO\\GEO3460\\Data\\GIS1>

(this folder is available only within UiO). We recommend that you map this folder in File Explorer. File Explorer -> right click "This PC"-> "Map Network Drive". Map only this part of the path: <\\hypatia.uio.no\\lh-mn-geofag-felles\\kurs\\GEO\\GEO3460> .

Map Network Drive

What network folder would you like to map?

Specify the drive letter for the connection and the folder that you want to connect to:

Drive: K: ▼

Folder: \\hypatia.uio.no\\lh-mn-geofag-felles\\kurs\\GEO... Browse...

Example: \\server\\share

☒ Reconnect at sign-in

☐ Connect using different credentials

[Connect to a Web site that you can use to store your documents and pictures.](#)

Finish Cancel

Data that is available:

From N50 datasets for the Oslo fjord area :

Municipalities	<i>Municipalities.shp</i>
Water bodies	<i>Water.shp</i>
Layerfile	<i>Water.lyr</i>

METHOD

1. CREATE A WORKING FOLDER

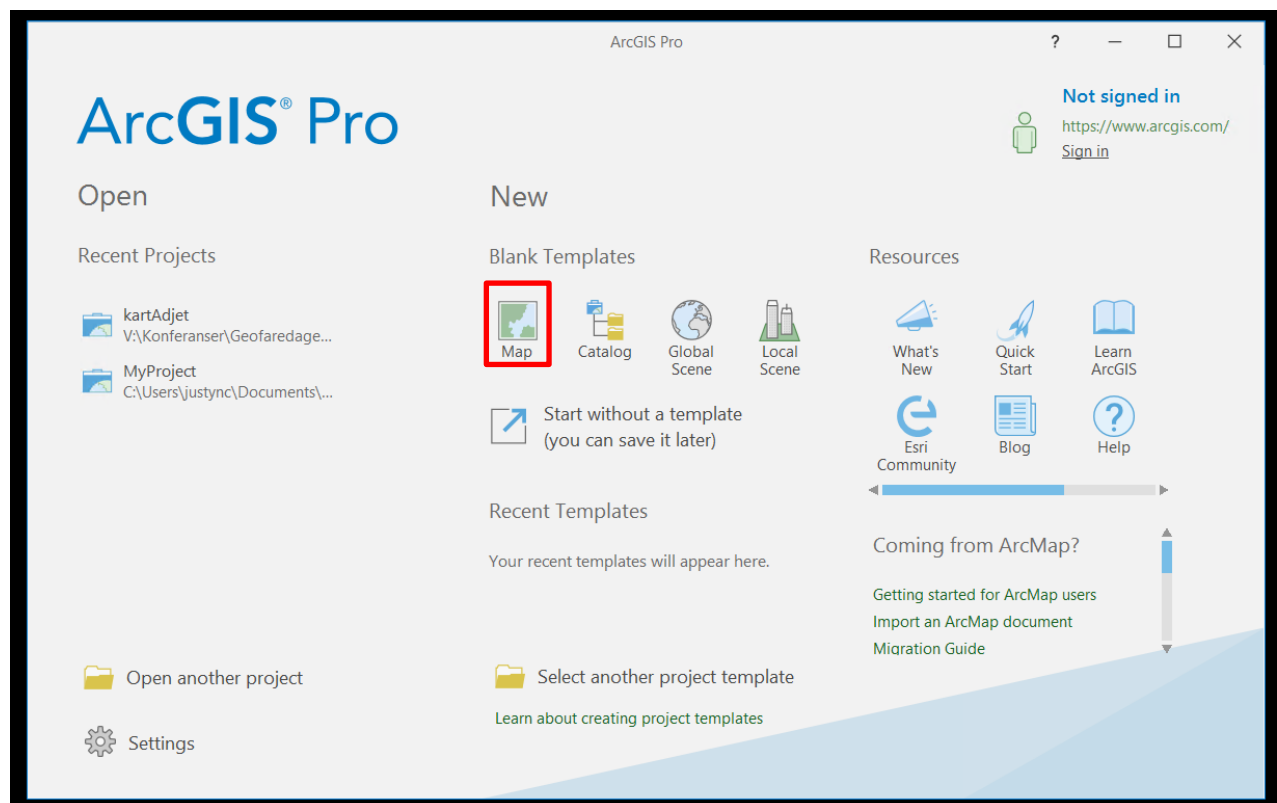
Create a new folder in K:\, named “Your UIO-username”. NB! If you use your own name avoid using letters like “æøå”.

Copy the GIS1-folder in K:\Data\GIS1 into your own working folder you created.

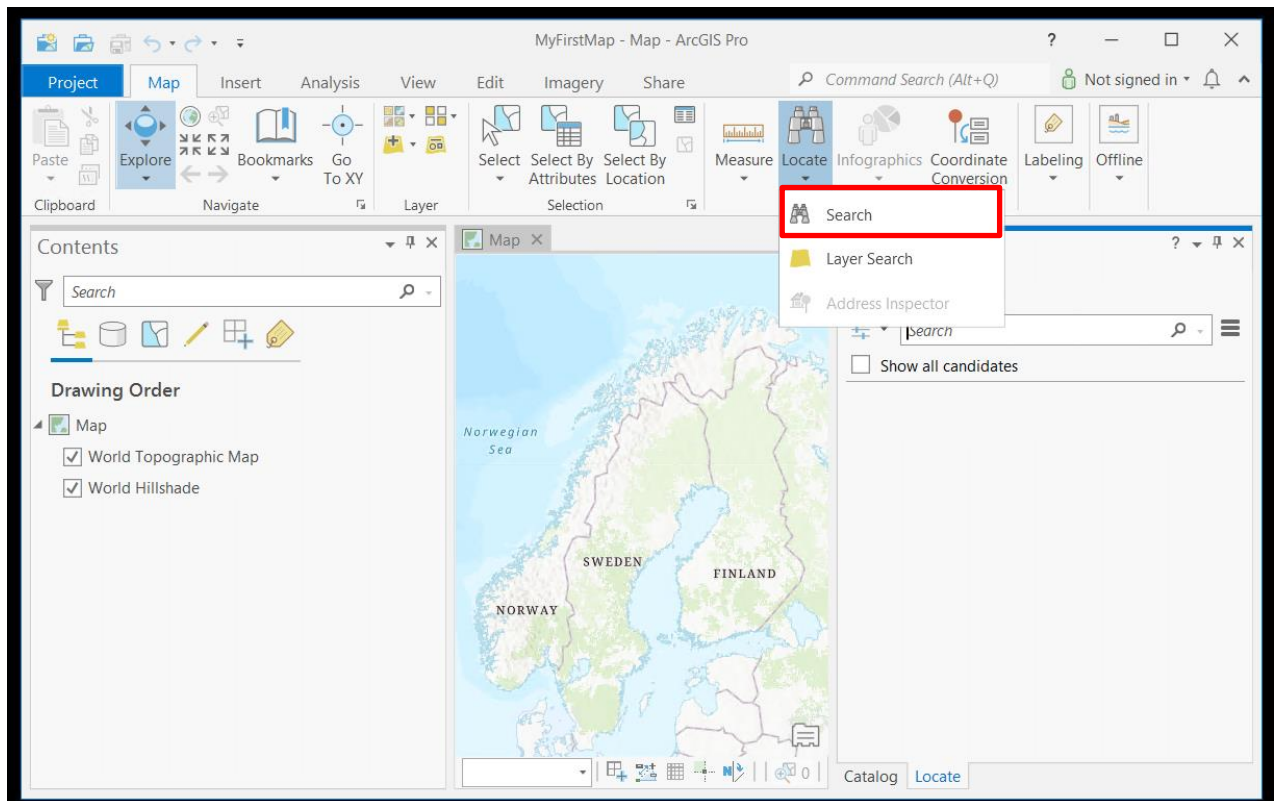
2. START ARCGIS PRO

Start -> All Programs -> ArcGIS Pro.

Choose "Blank templates"-> “Map” and press "OK". Give project a name, e.g. “MyFistMap” and choose location in K: drive. After opening, you should see a topographic basemap.

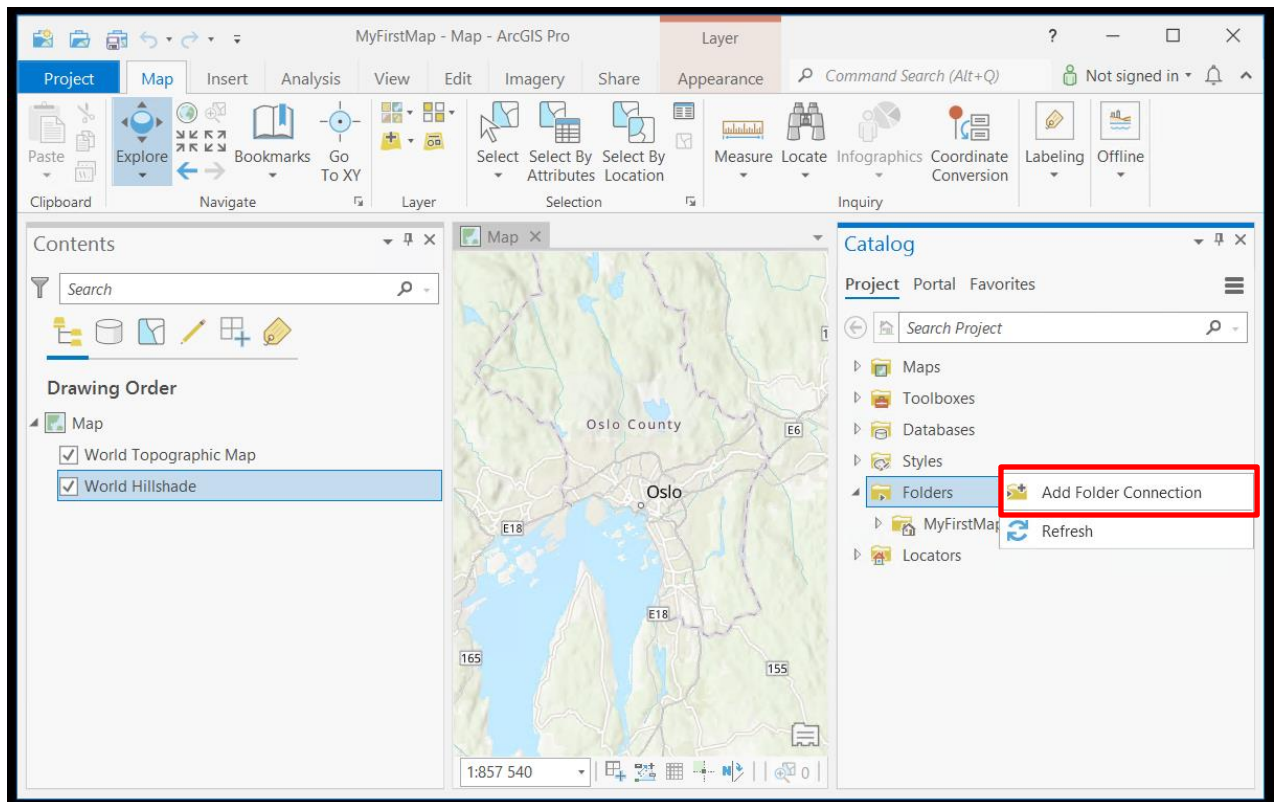


Locate the study area by searching “Oslo”. “Map”->”Locate”-> “Search”-> type “Oslo”.
Choose “Oslo, NOR”.

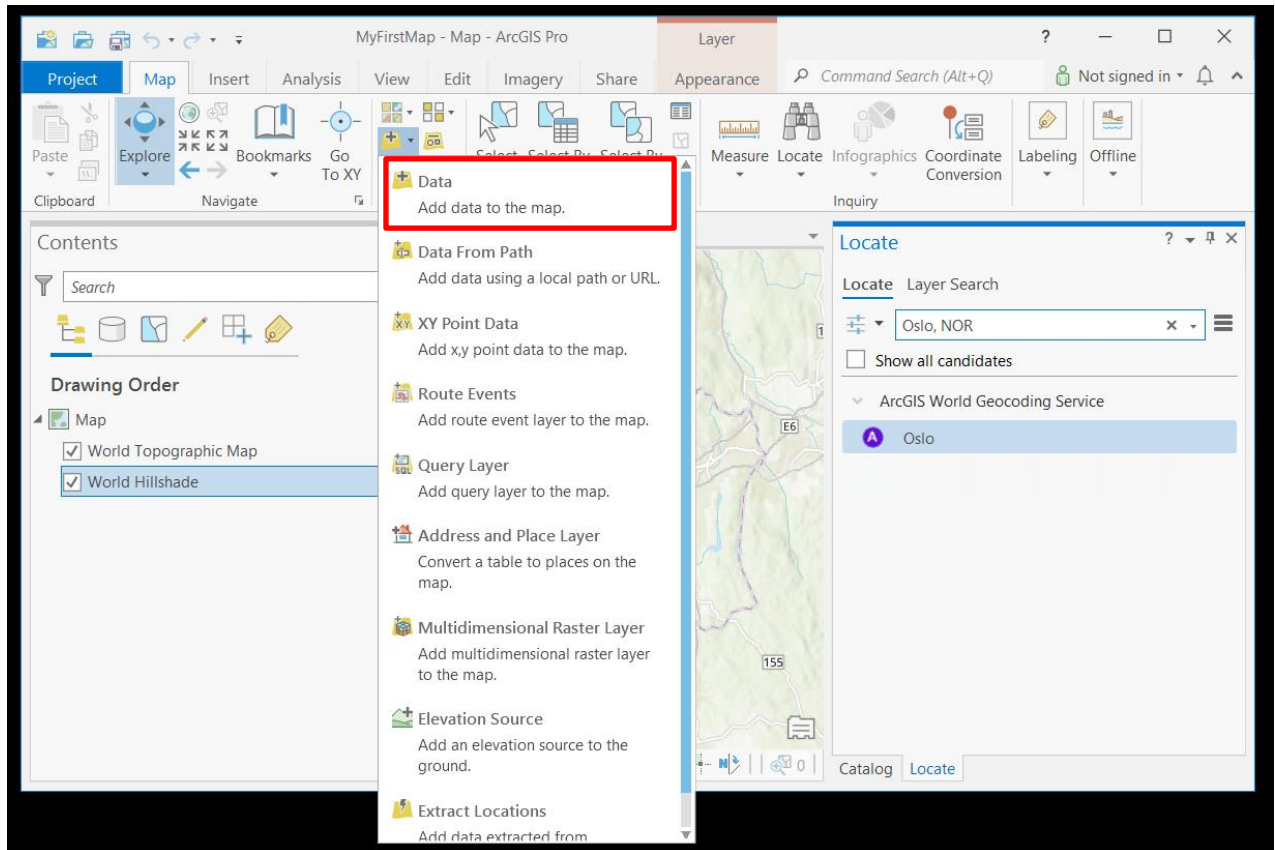


3. ADD DATA:

If you are not connected to the K:-disk, go to the right pane “Catalog”, right click on “Folders”, press ”Add Folder Connection”, and connect to K:



Get geographical data with "Map" on the ribbon -> "Data" (See below). Navigate to *K:\Your working folder\GIS1* and select the shapefile *Municipalities.shp*. Press "Add", and the file is now added into the project.



4. OPEN THE DATASET WITH WATER-INFORMATION

Add also "Water.shp". Navigate to *K:\Your working folder\GIS1* and select the shapefile *Water.shp*

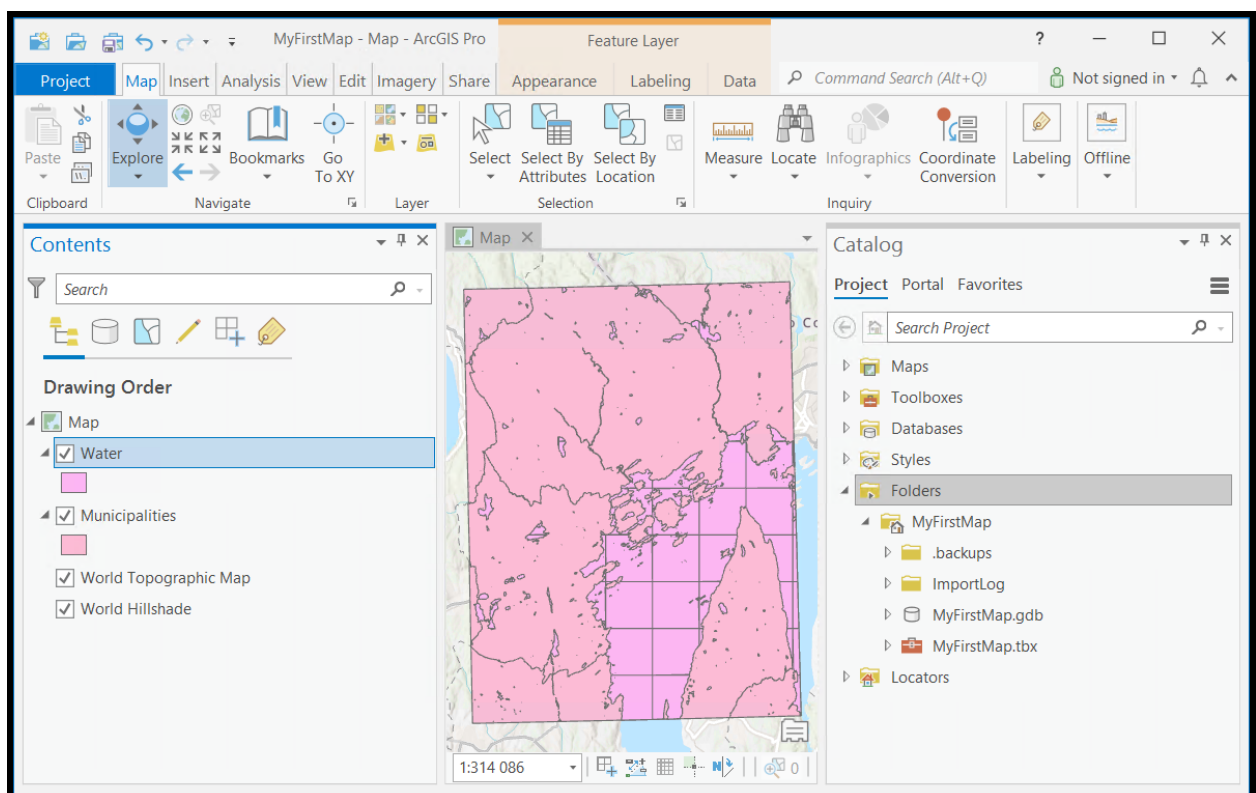
Press "OK". The file "*Water*" is now in the project and listed above the "*Municipalities*" in *Table of Contents*.

5. SAVE THE PROJECT

You should save your ArcMap-project during your work from time to time. You can use CTRL+S.

6. VIEW DATASETS, AND CHANGE ORDER

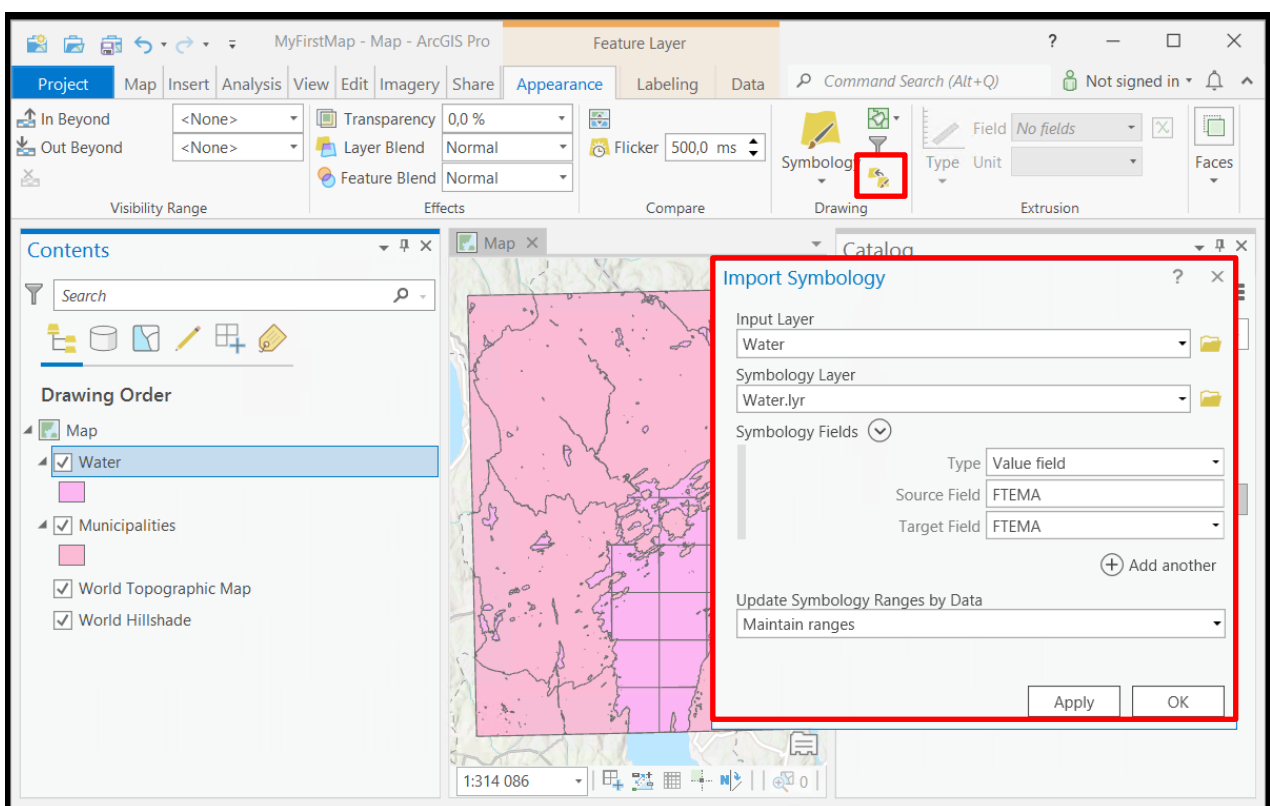
Mark a dataset to visualize it. The datasets are drawn on top of each other as different layers. The topmost dataset in the list on the left side is drawn after the layers below and therefore in front of the others in the map view. Try to change the order of the datasets (pull the bottom layer to the top with the mouse). If you don't like the colours, don't worry, it is easy to change, and you will learn this soon!



7. CHANGE SYMBOLOGY

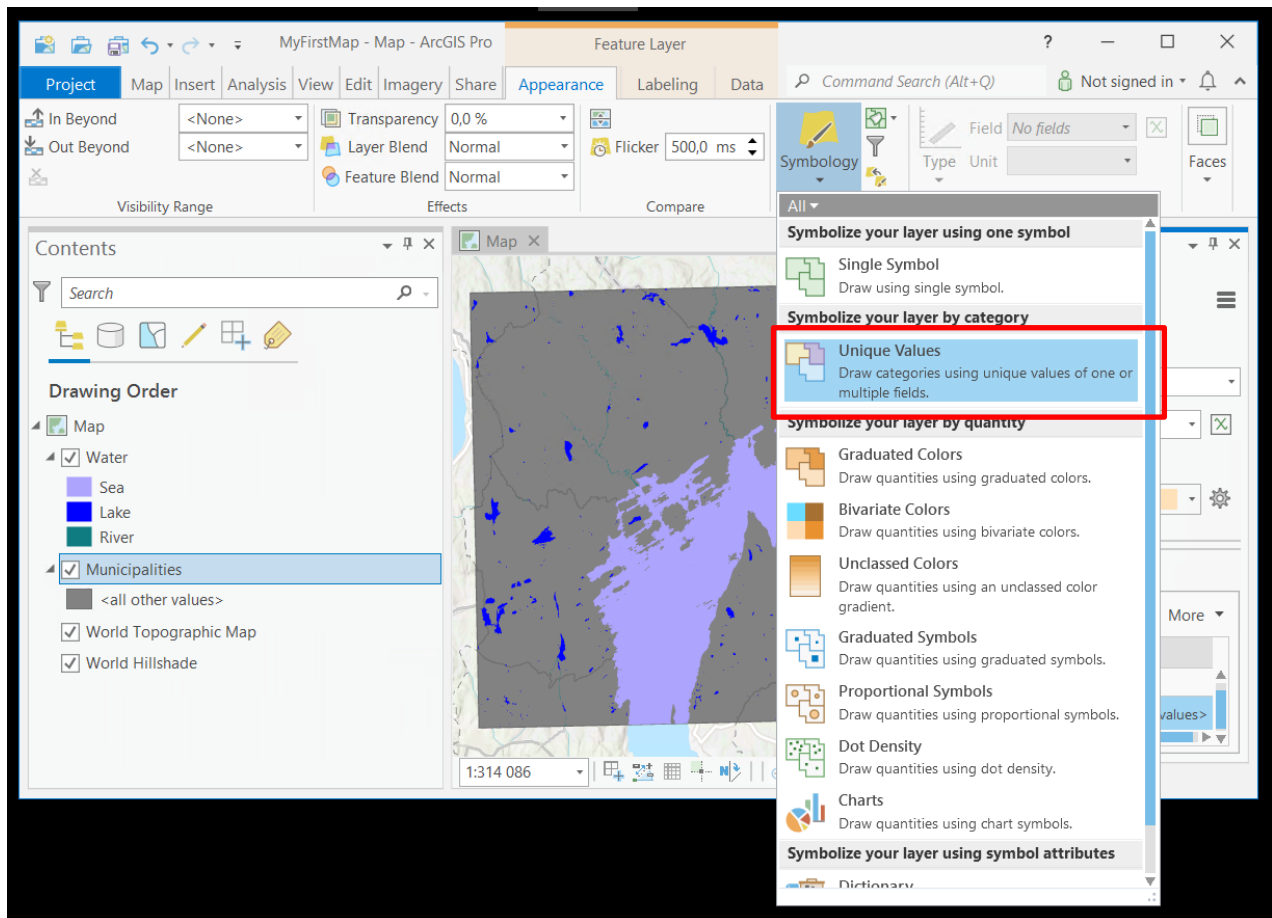
Pre-made symbology:

Click on layer with “Water”. You should see “Feature Layer” -> “Appearance” -> section “Drawing”. Next to “Symbology”, click on “Import”. Find the file *Water.lyr* under Symbology Layer. Agree to choose FTEMA as “Value Field”. You will now get the symbology “Sea, Lake and River”. The main window will then be updated with a symbology corresponding to the water objects in the map.

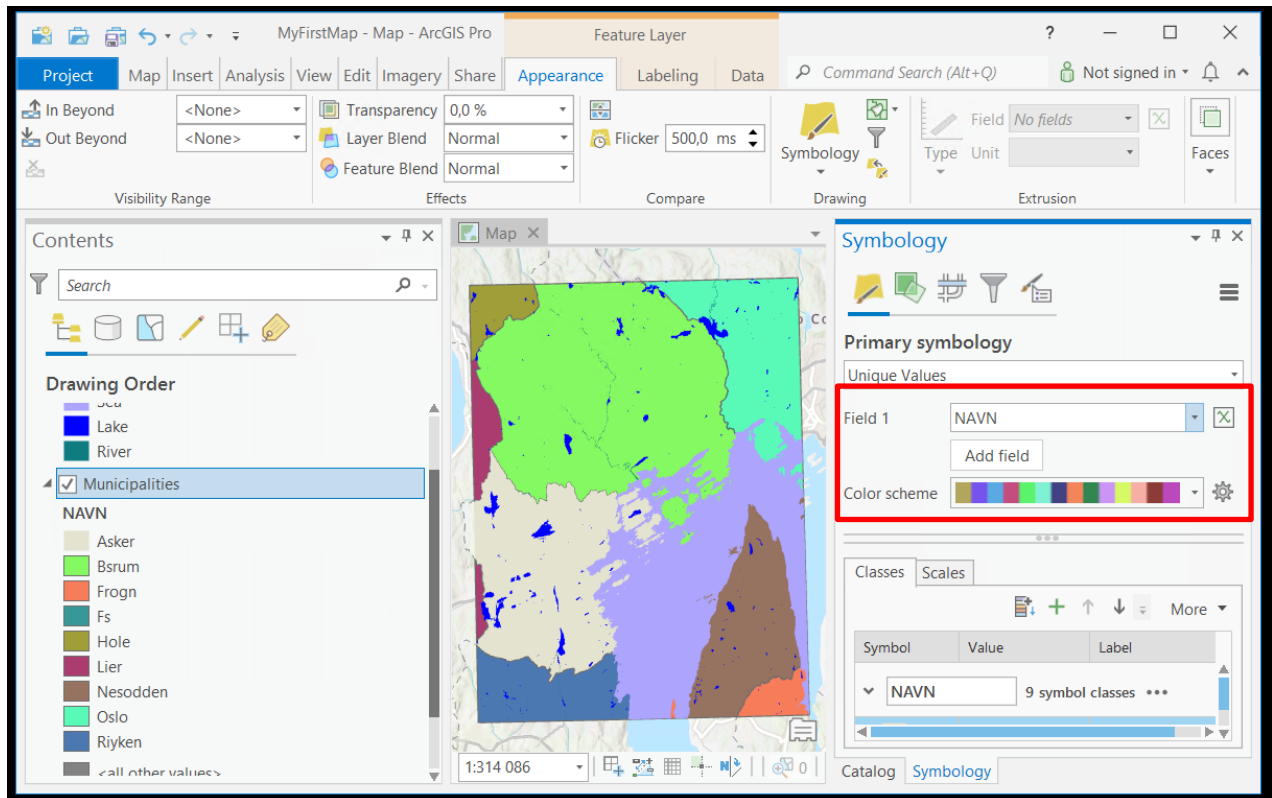


Custom symbology:

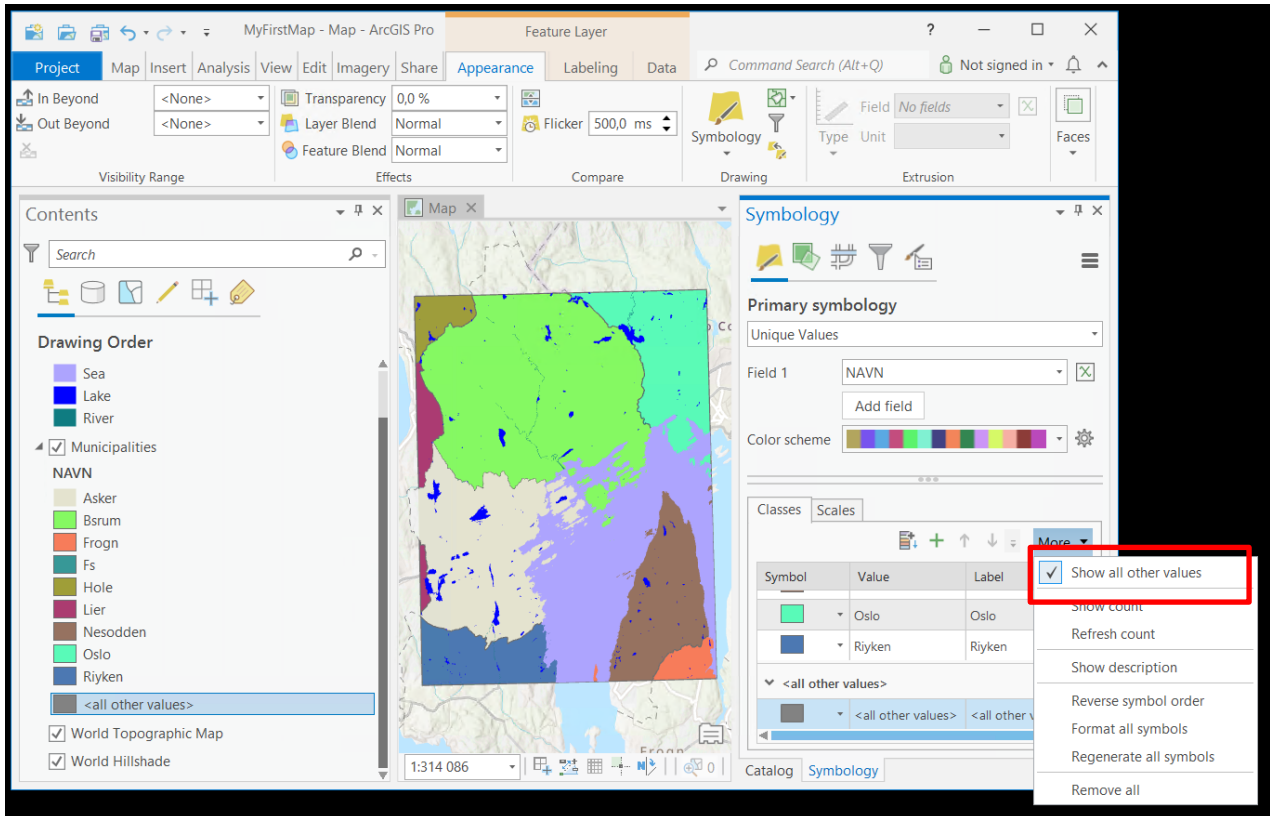
In the contents pane click on *Municipalities*, then “Symbology”. Select “Unique Values”.



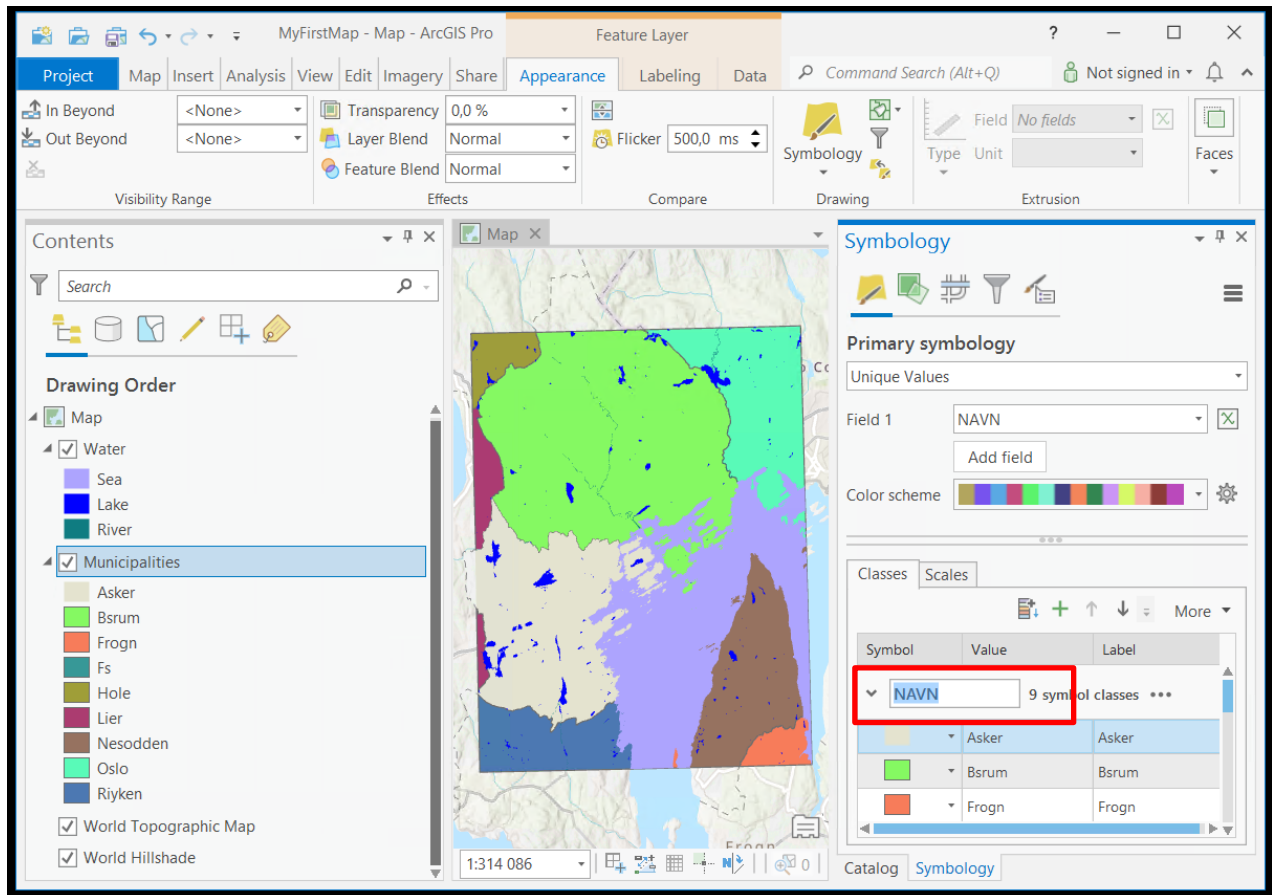
A new pane will show up below. Choose the attribute NAVN (name) under "Value Field". A suggestion of colors for each class (municipality) is now shown. You can change the color by choosing a color composition under "Color Scheme", or double-click on the color you want to change in "Contents". Try out different colors, and find the ones you like best. The colors can be changed later if you want.



For a better visualization, remove the mark under “Symbol/More” for “<all other values>” (this class has no data). They can be turned off by unticking “Show all other values”.

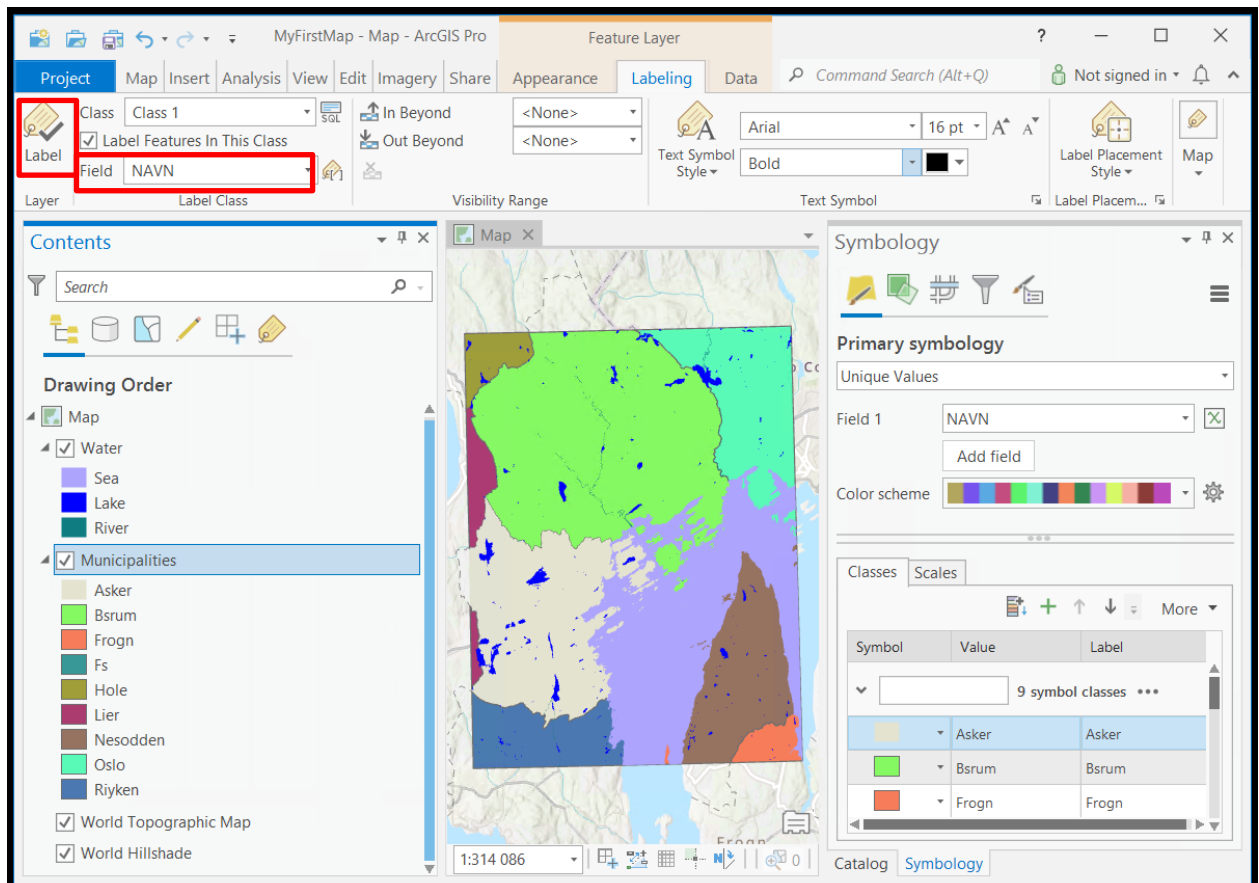


Delete NAVN as Heading (See below; just clear the text). It is possible to change names of the layers directly in the Table of Contents, but for now Water and Municipalities are suitable names.

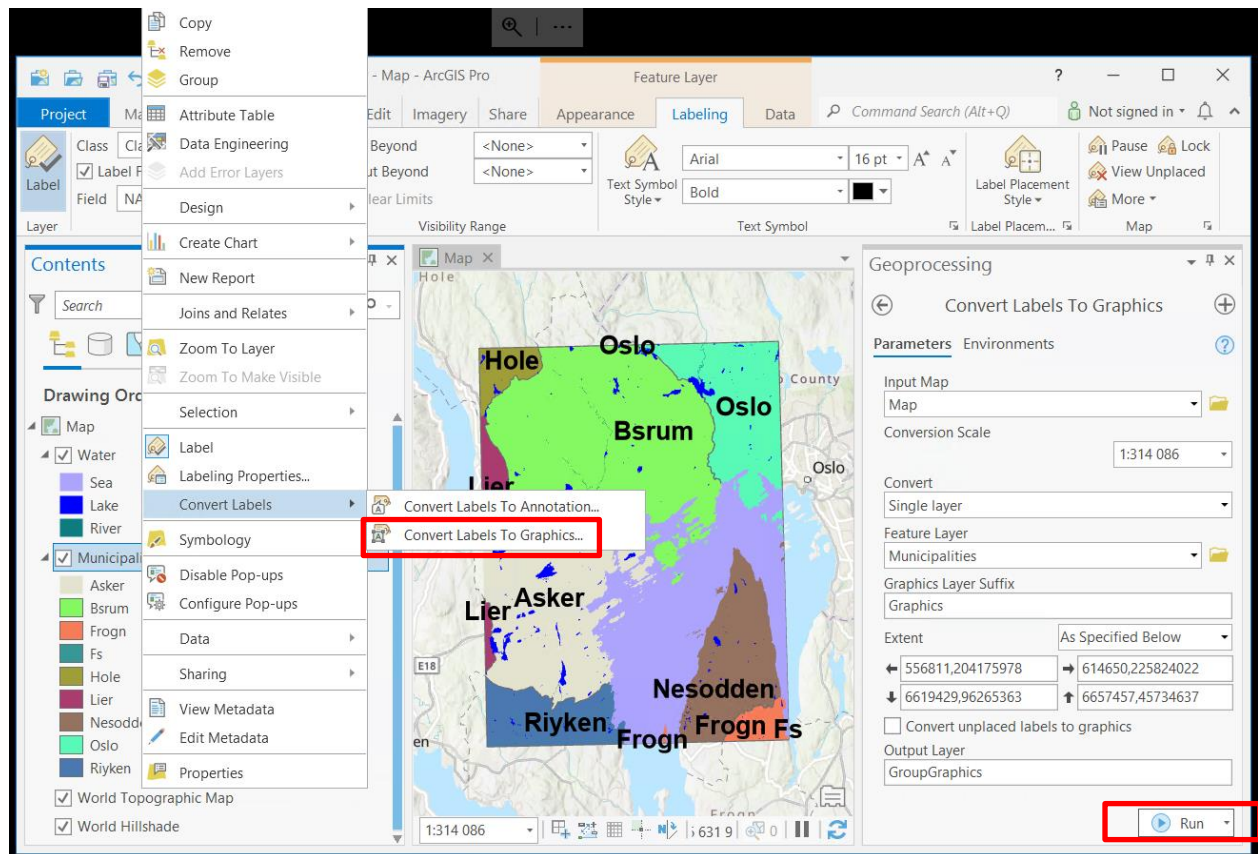


8. ADD LABELS

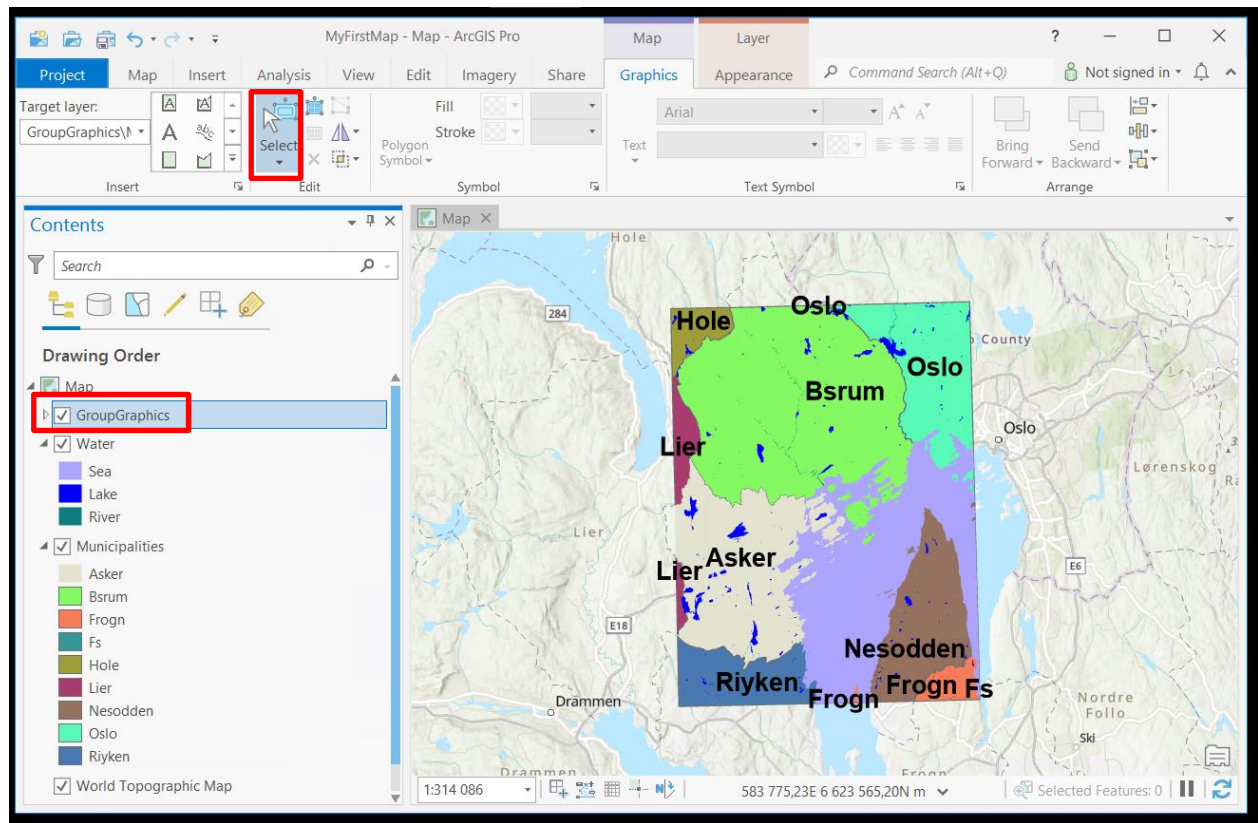
Click on the Municipalities-dataset, choose “Labeling” tab and “Navn” in the “Field”. You can also change the text properties here. The names are automatically placed in the map according to the settings in "Placement Properties". Press "Label".



In ArcGIS it is not possible to do direct editing of the label text in the map. To do manual changes it is necessary to convert from "labels" to "annotation"/"graphics". Right click the municipality dataset, and select "Convert Labels" -> "Convert Labels to Graphics". Press "Run".

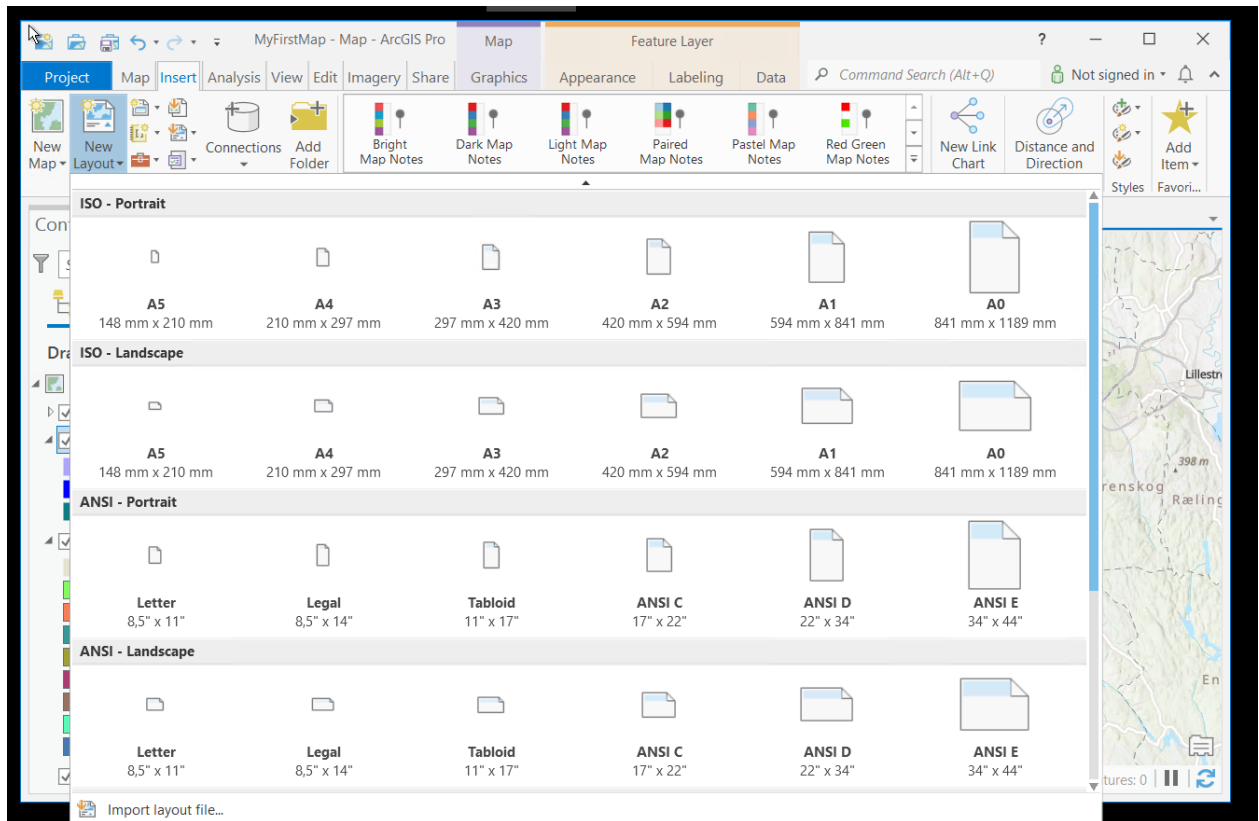


To edit the labels, click on “GroupGraphics” in the “Contents” pane. In the “Map->Graphics” tab, you will find “Select”. Click on any label and you can edit it, move it or delete it. Note that some Norwegian letters got lost. The county names should be: Bærum (not Bsrum), Røyken (not Riyken), Ås (not Fs). To leave the select mode choose the first “Map” tab and e.g. “Explore”.

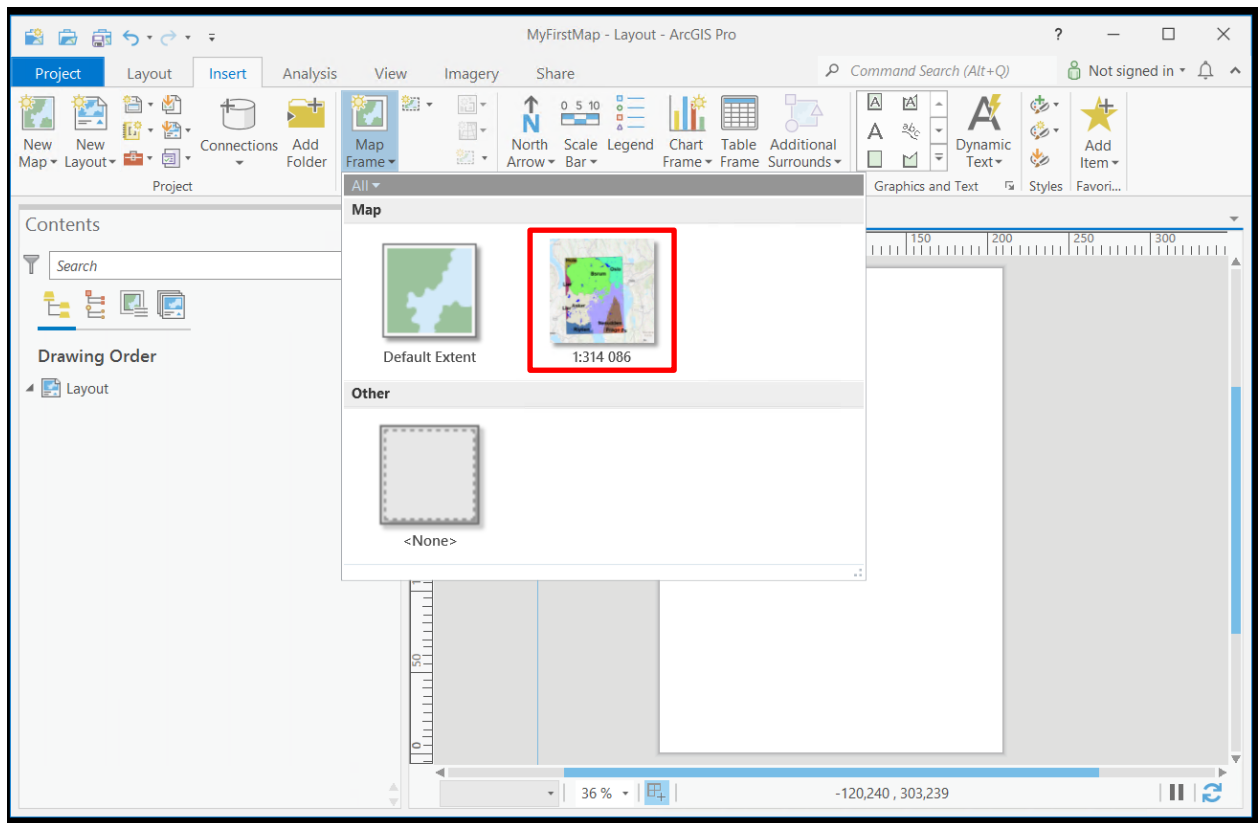


9. MAKE A NICE LAY-OUT

You are now working in "Data View". After a GIS-analysis we often want to create an overview map of the results, and this can be done in "Layout". You can add a new Layout as shown below. Choose e.g. Landscape or Portrait A4. Layout will open as a new view in the project.

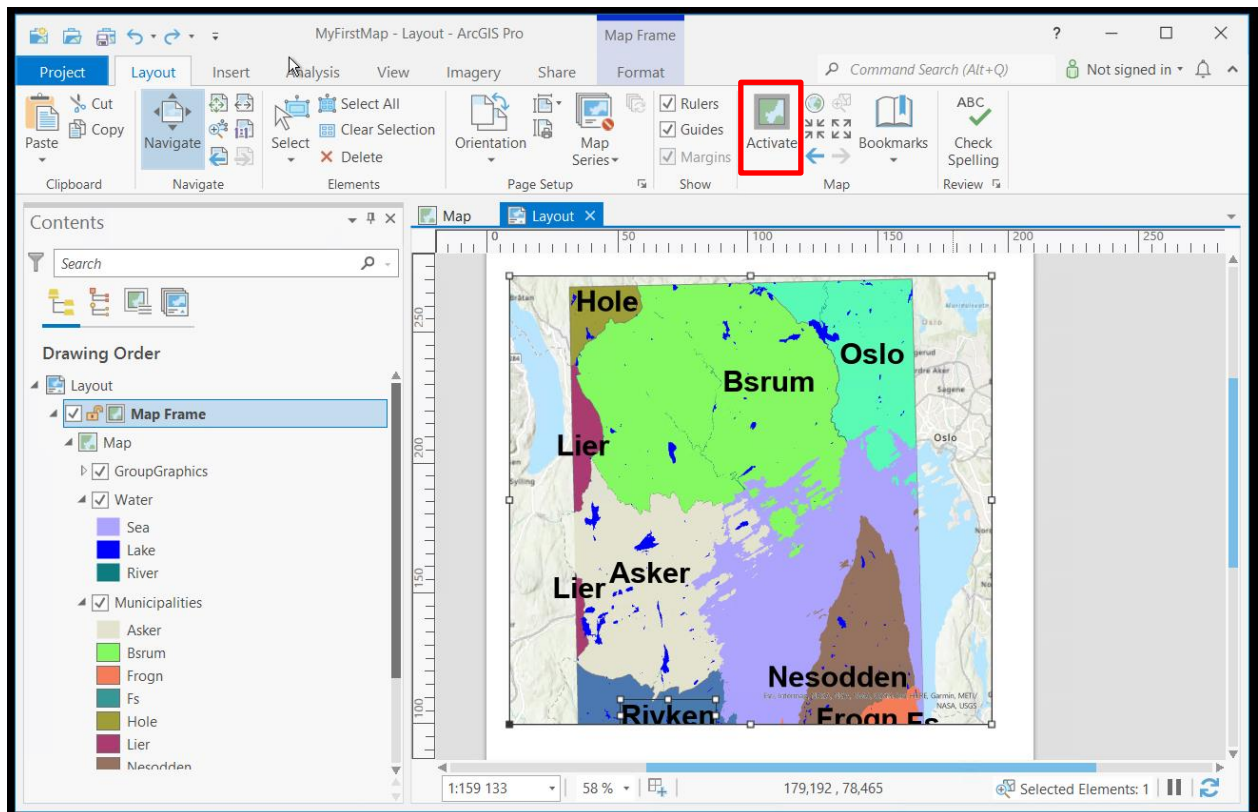


Add map to the layout as shown below.

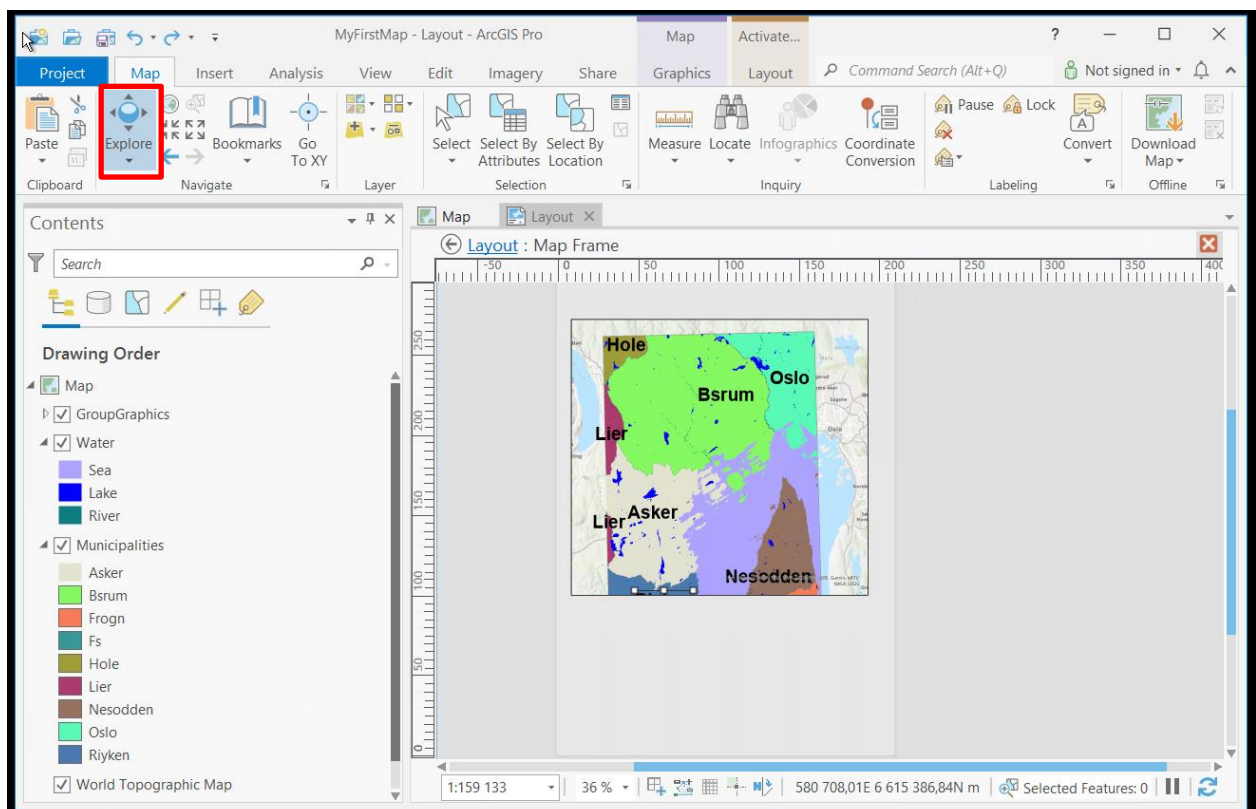


Now you need to draw a rectangle on the white space. Sometimes you will need space for a legend.

To zoom and pan within the map, click on “Activate”.



Click then on “Explore” in the “Map” tab.



Read more about how to navigate here: <https://pro.arcgis.com/en/pro-app/latest/help/mapping/navigation/navigation-in-arcgis-pro.htm>

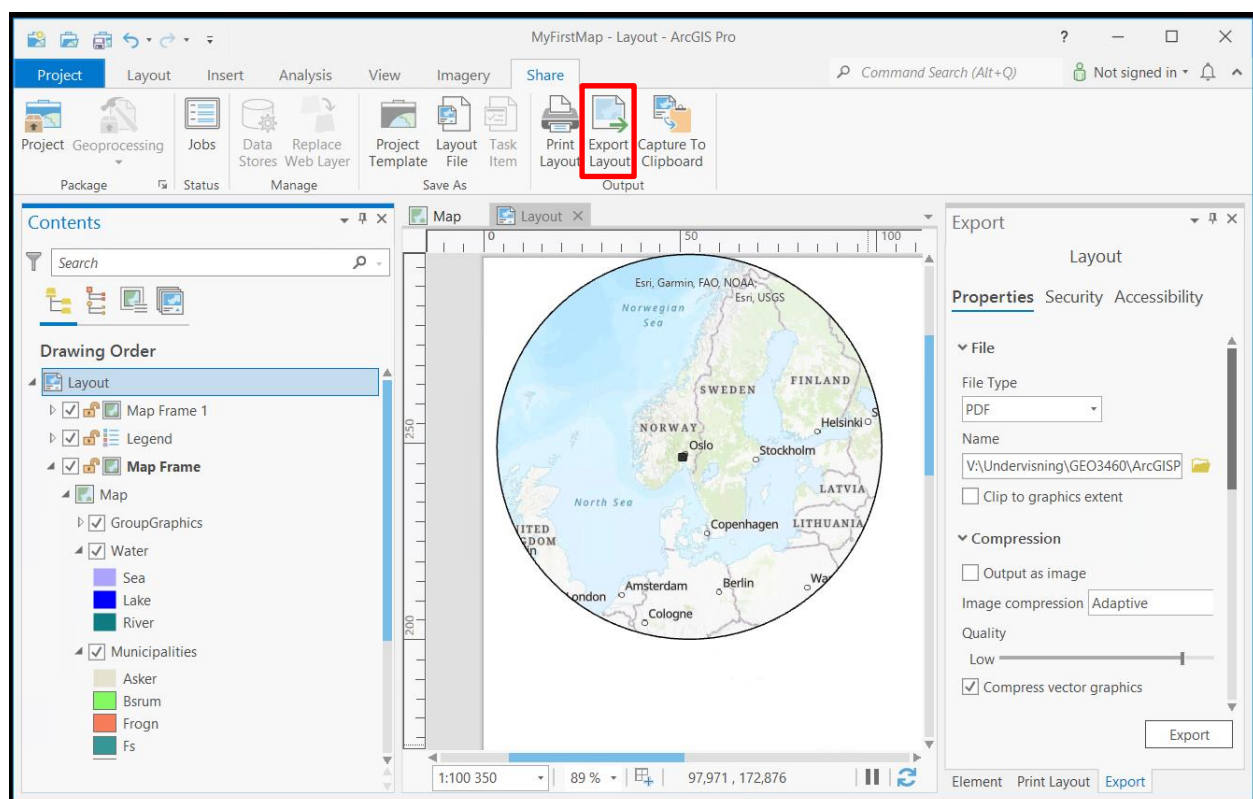
10. ADJUST THE MAP AND TEXT AS YOU WANT IT.

Deactivate Map. Under "Insert" you can add various map attributes like title, text, legend, north arrow and scale. Some of these elements should be drawn as a rectangle on the map in order to be placed in the selected part of the map, e.g. they will not be placed somewhere automatically unless you draw it as a rectangle. In Map Frames you can also add a grid to your map. You could also add a map of the entire region.

Recommended video: <https://pro.arcgis.com/en/pro-app/latest/get-started/add-maps-to-a-layout.htm>

11. SAVE THE MAP AS AN IMAGE FILE

To export the map click on "Layout" in the Contents. Then locate "Share" tab and choose "Export Layout". Save the map as e.g. a JPEG file and give it an appropriate file name. You can change the resolution and quality. Save the image in your working folder (*K:\Your working folder\GIS1*).



12. SAVE THE PROJECT AND CHECK YOUR MAP

File → Save. Double-check your map; does it contain all the necessary elements a map should have?

