

TRAINING GIS

GIS BASICS

Kevin Vermeulen
17 November 2025

PURPOSE OF THIS TRAINING

This training is offered through the Places and Flows research line, where geographic data analysis plays a central role in researching mobility, urban development, and spatial patterns. The skills you acquire are not only valuable for teaching, but also directly applicable to our own research projects

GIS LAB

- Tangible landscape
- Emotion Mapping
- GIS-Analyses

Ondrej Mitas, Paul van de Coevering, Jeroen Klijs, Maciej Czerniak and Sait Durgun

Received topics from your side

- What is a useful background in QGIS for creating maps? → PLUGINS
- What settings should I use to export a map to PDF? → PLOT LAYOUT
- How can I add information that is not in the basic data? → JOINING DATA

Today's program:

- GIS IN A GENERAL SENSE
- BASIC ELEMENTS (data type, crs, data operations)
- PRACTISING IN QGIS (basic plugins, plot-layout, properties, attributetabel, processing toolbox, join, symbology)

WHAT IS GIS?

A geographic information system (GIS) is **a system that creates, manages, analyzes, and maps all types of data**. GIS connects data to a map and integrates location data (**where things are**) with all descriptive information (**how things are there**).

GIS helps users understand patterns, relationships, and geographical context. (ESRI, 2022)

HOW DOES GIS WORK?

Maps x Data x Analysis

MAPS

Maps are the geographic container for the data layers and analytics you want to work with.

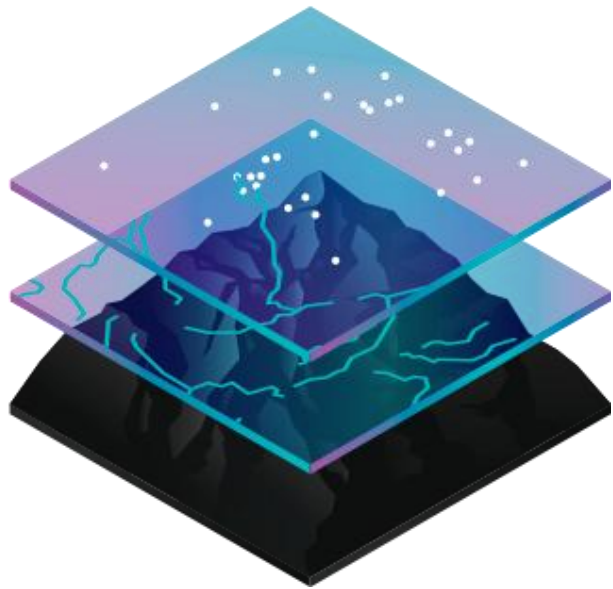
DATA

GIS integrates many different types of data layers using spatial location. Most data has a geographical component. GIS data includes images, features, and basemaps that are linked to spreadsheets and tables.

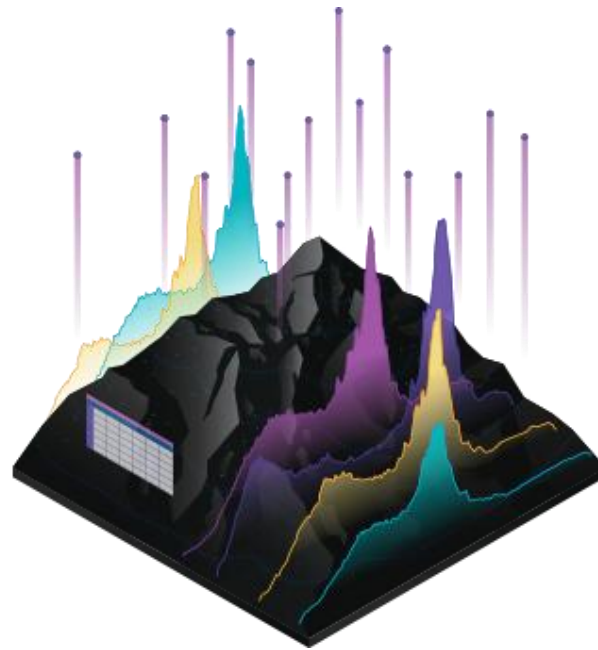
ANALYSIS

Spatial analysis allows you to evaluate, estimate and predict, interpret and understand, and much more in a correct and proficient manner, reinforcing your insight and decision-making from a new perspective.

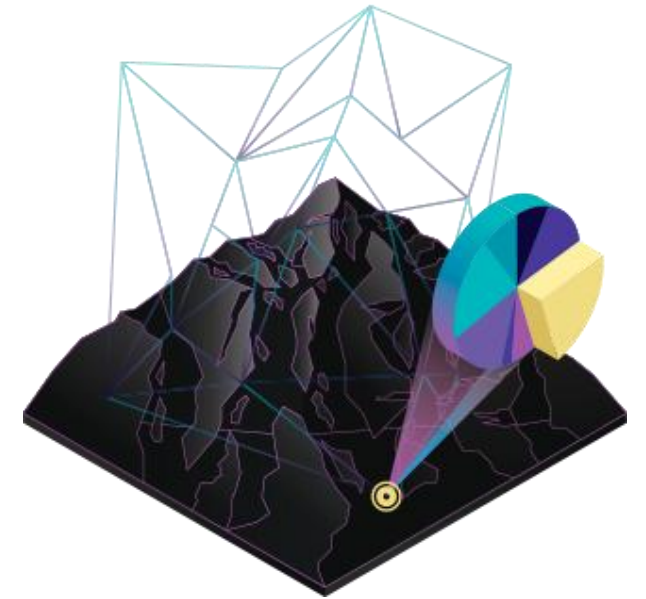
MAPS



DATA



ANALYSIS



Source: <https://www.esri.com/en-us/what-is-gis/overview>

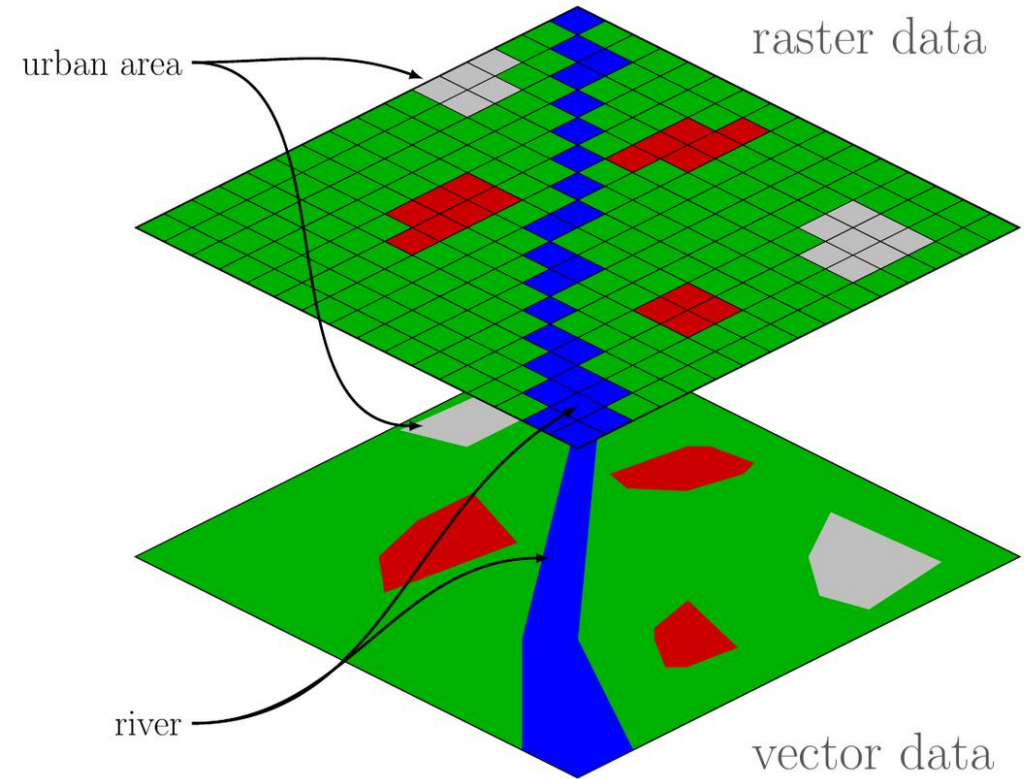
Storing data: 2 ways

Vector formats:

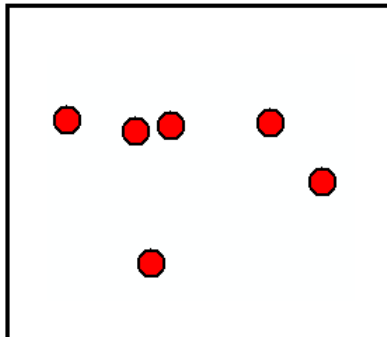
Accurate representation of reality

Raster formats:

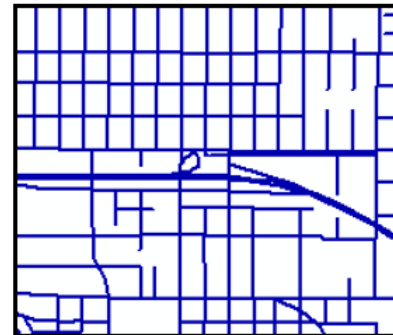
Square cells represent reality



POINTS, LINES, AND POLYGONS IN VECTORS



points
(shops)



lines
(streets)

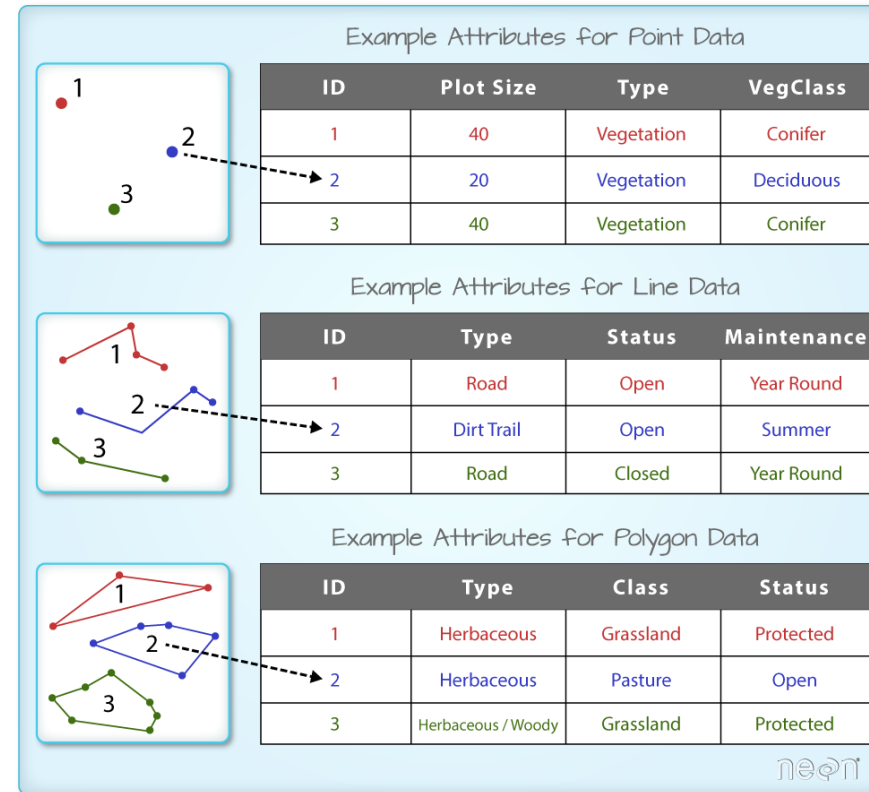


polygons
(land use)

STORAGE OF DATA IN THE ATTRIBUTE TABLE

Neighborhoods

	BU_CODE	NE_NAME	WK_CODE	GM_CODE	MU_NAME	IND_WBI
1	BU07581000	Teteringen	WK075810	GM0758	Breda	
2	BU07580909	Buitengebied Pri...	WK075809	GM0758	Breda	
3	BU07581009	Buitengebied Te...	WK075810	GM0758	Breda	
4	BU07581008	Vuchtpolder	WK075810	GM0758	Breda	
5	BU07580800	Ulvenhout	WK075808	GM0758	Breda	
6	BU07580709	Buitengebied Ba...	WK075807	GM0758	Breda	
7	BU07580900	Prinsenbeek	WK075809	GM0758	Breda	
8	BU07580809	Buitengebied Ul...	WK075808	GM0758	Breda	
9	BU07580609	Hagebeemd	WK075806	GM0758	Breda	
10	BU07580607	Emer	WK075806	GM0758	Breda	
11	BU07580701	Nieuw Wolfslaar	WK075807	GM0758	Breda	
12	BU07580700	Bavel	WK075807	GM0758	Breda	
13	BU07580604	Heksenwiel	WK075806	GM0758	Breda	
14	BU07580603	Muizenberg	WK075806	GM0758	Breda	
15	BU07580606	Kroeten	WK075806	GM0758	Breda	
16	BU07580605	Overkroeten	WK075806	GM0758	Breda	



EXAMPLE OF AN ATTRIBUTE

Number of inhabitants, number of man, number of woman, etc.

	NE_NAME	NUMB_INH	NUMB_MAN	NUMB_WOMAN	P_00_14_YR	P_15_24_YR	P_25_44_YR	P_45_64_YR	P_65_AO_YR
1	Valkenberg	1960	960	1000	5	26	32	19	18
2	Chassé	3225	1635	1590	8	15	31	23	23
3	Fellenoord	1590	785	800	10	21	38	21	10
4	Schorsmolen	3400	1755	1645	3	24	42	16	14
5	Station	2300	1200	1100	8	21	49	16	6
6	City	2480	1320	1160	3	33	39	17	9
7	Belcrum	3990	1980	2005	20	13	34	23	10
8	Doornbos-Linie	4365	2255	2105	14	17	35	22	13
9	Biesdonk	5075	2405	2665	17	13	26	24	19
10	Geeren-Zuid	3750	1790	1960	18	13	29	22	18
11	Wisselaar	4210	2050	2160	17	13	25	26	18
12	Krogten	185	100	85	9	15	20	40	16
13	Geeren-Noord	2740	1350	1390	18	11	27	25	19
14	Waterdonken	1225	600	625	31	5	47	14	3
15	Brabantpark	10095	4750	5345	13	19	29	22	17

WHERE CAN YOU FIND THIS KIND OF DATA?



**Open
Street
Map**



Klimaateffectatlas



Planbureau voor de Leefomgeving

WHAT KIND OF FILE FORMAT SHOULD YOU PAY ATTENTION TO?

WMS:

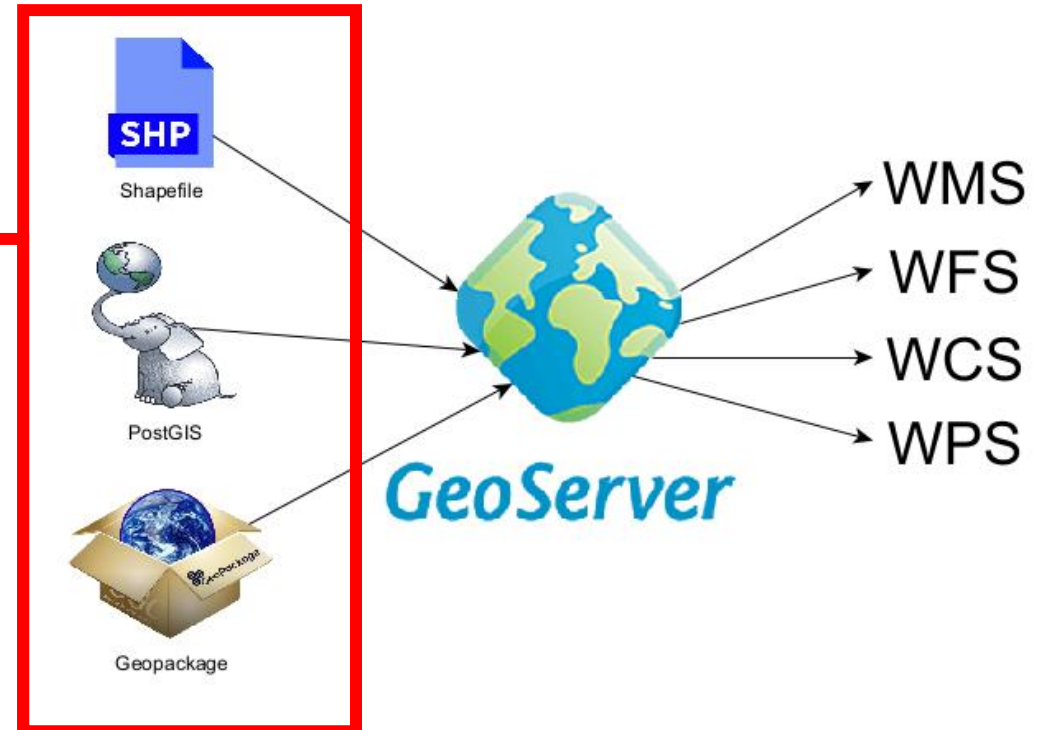
The WMS (Web Mapping Service) is an image to look at.

WFS:

The WFS (Web Feature Service) is to download the data or parts of it, after which further processing can be done on it.

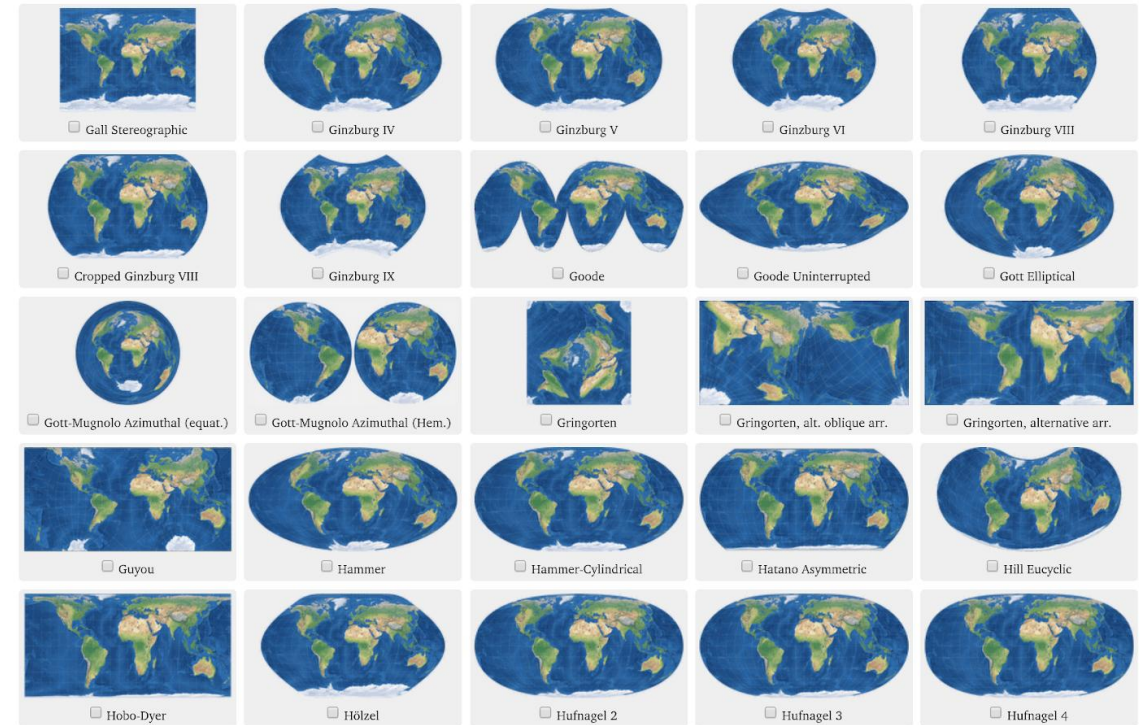
GeoJSON:

GeoJSON is a JSON-based format designed to represent the geographical features with their non-spatial features.

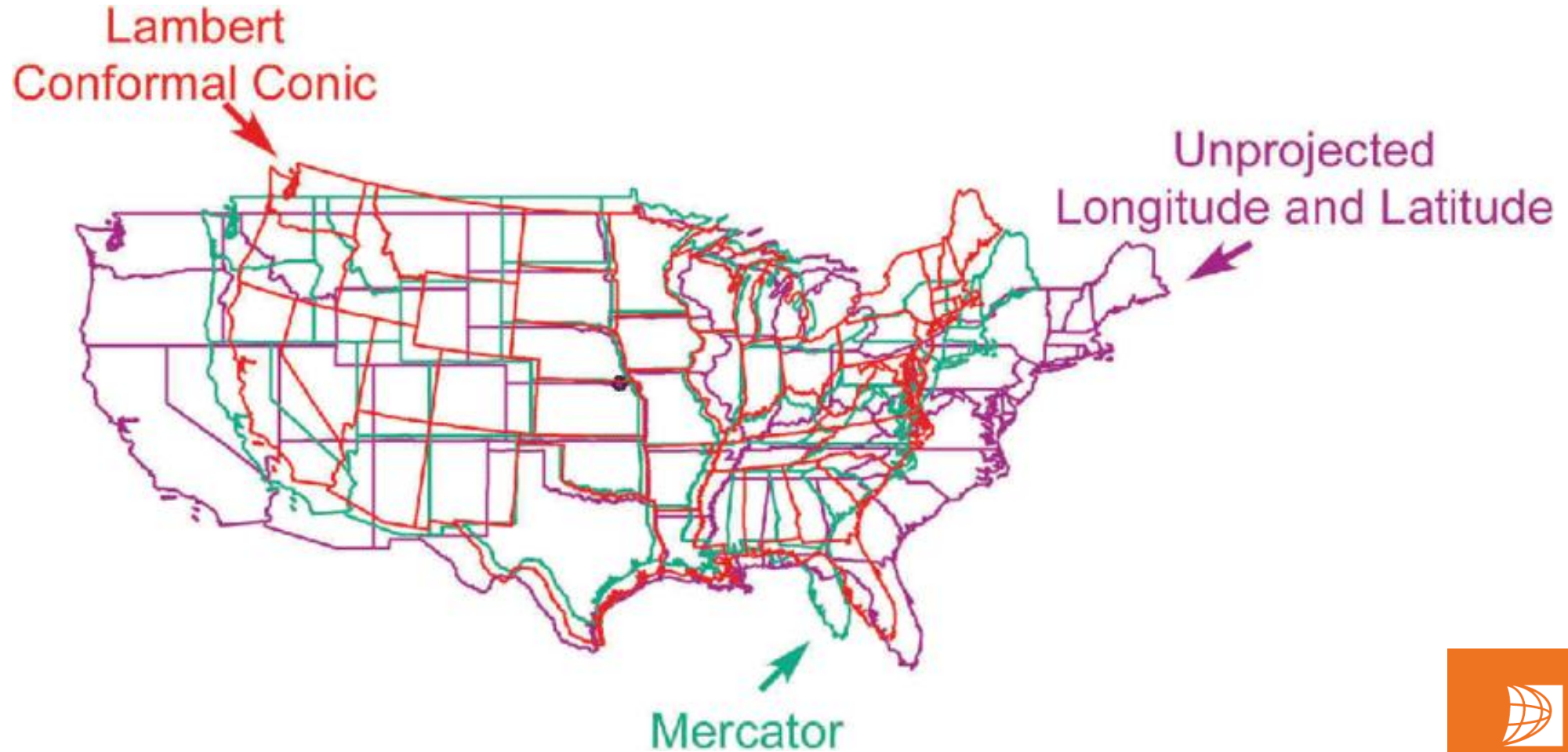


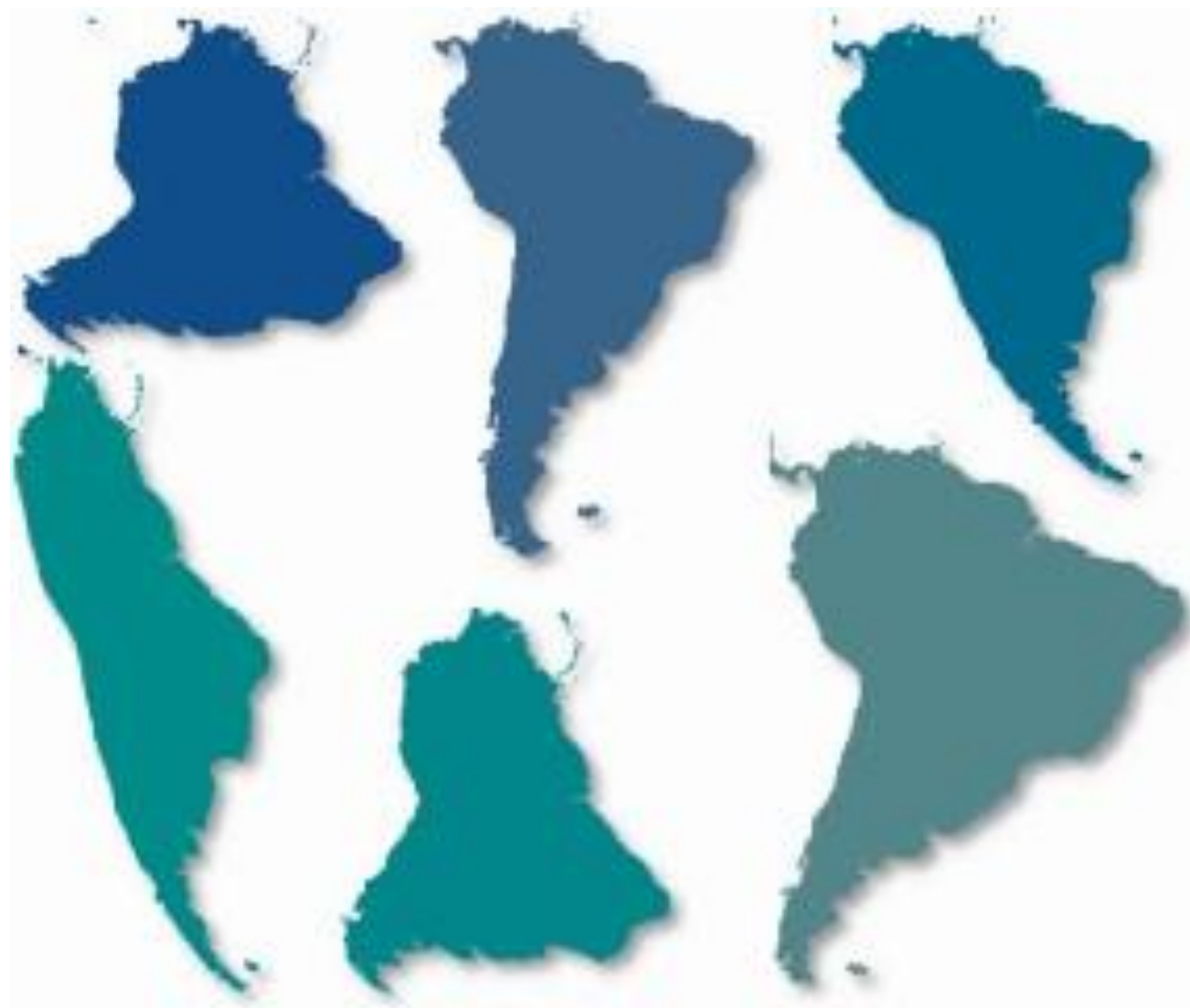
COORDINATE REFERENCE SYSTEM (CRS)

PROJECTIONS THAT
HELP TO **VISUALIZE**
AND DESCRIBE
REALITY.

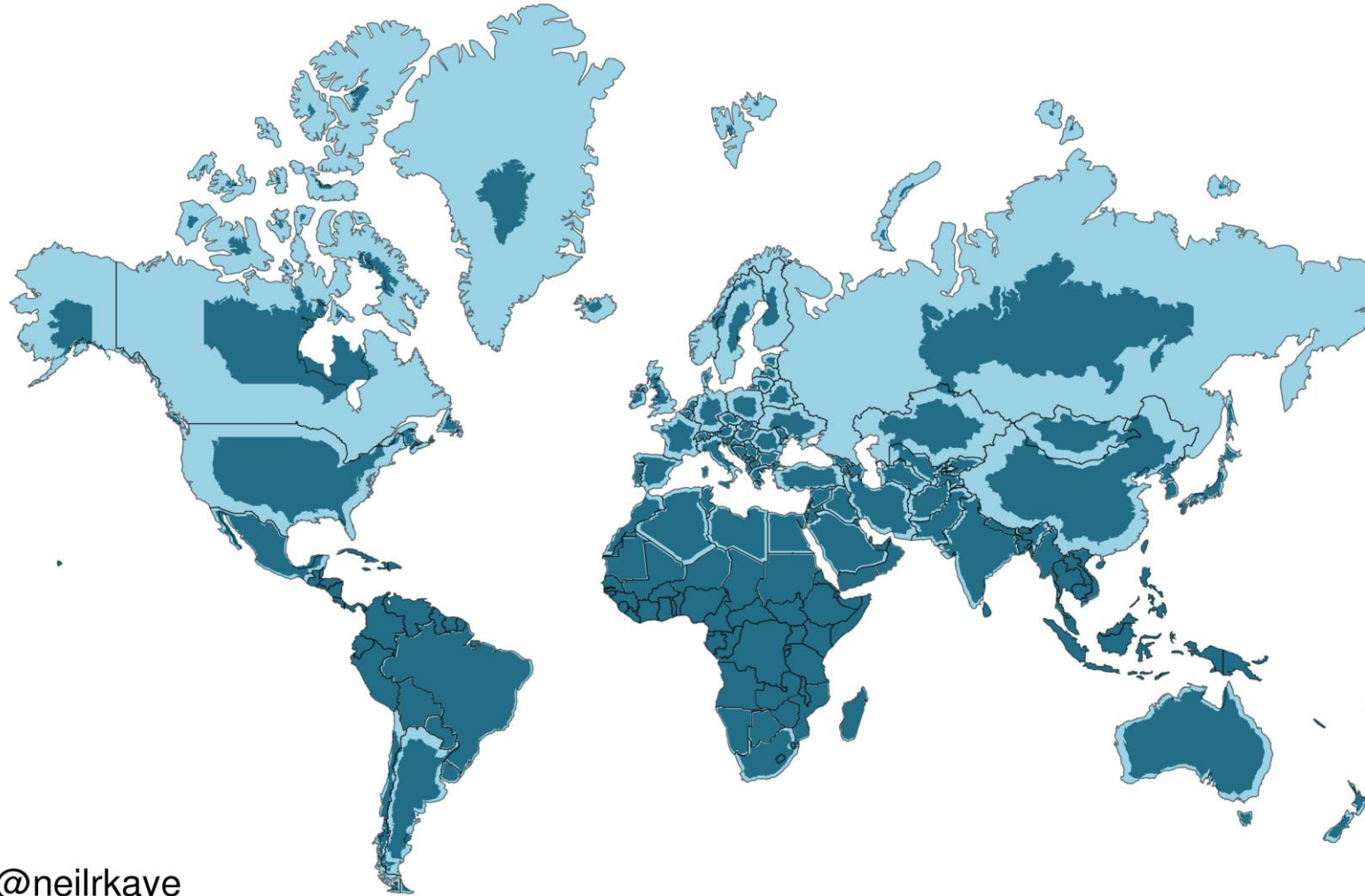


“Practice safe geography: always use a projection”



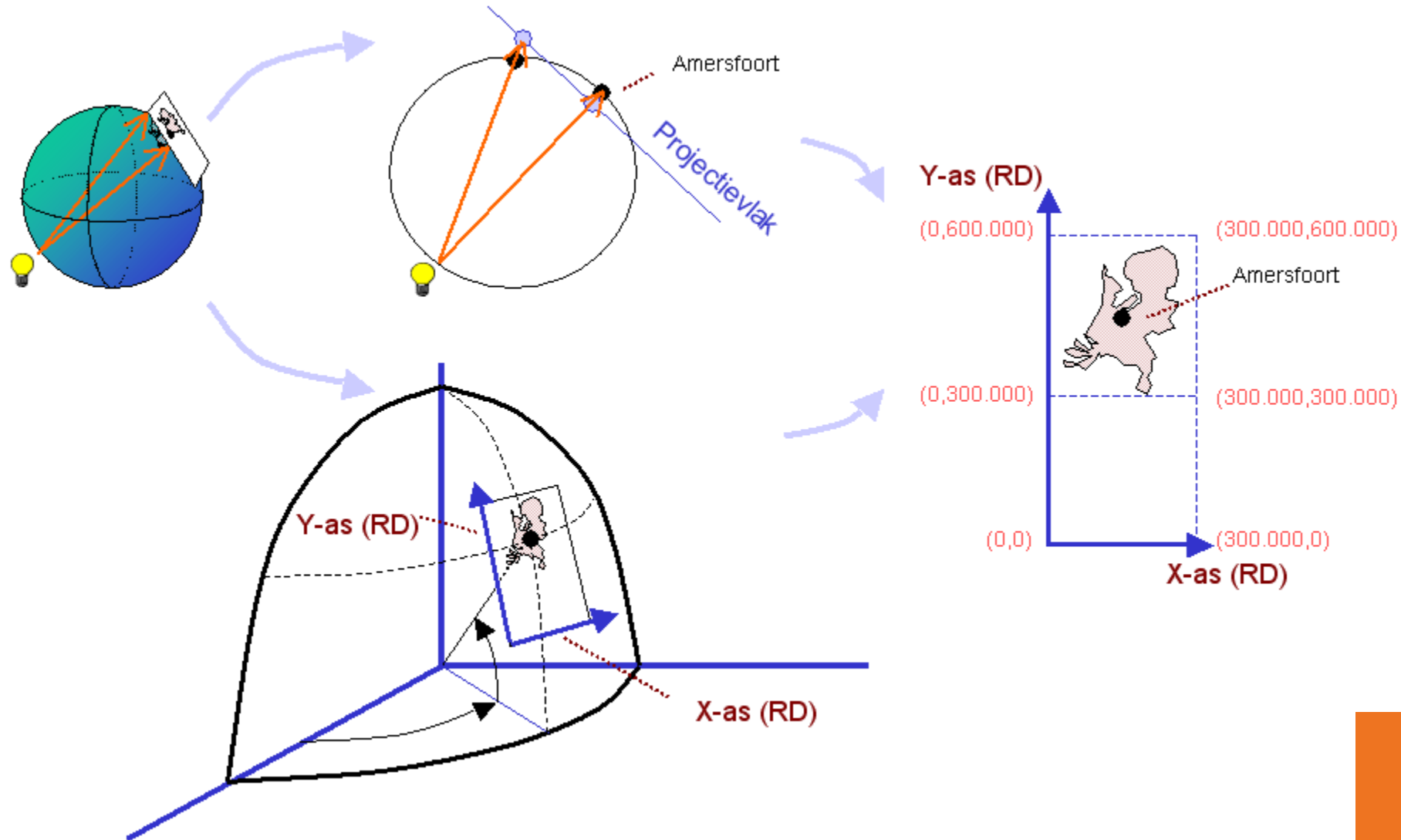


World Mercator projection with true country size added



@neilrkaye

NIEUW NEDERLANDS COÖRDINATENSTELSEL: AMERSFOORT RD NIEUW - EPSG 28992



JOINING DATA

StatLine

Regionale kerncijfers Nederland

Gewijzigd op: 31 oktober 2025

Welkom in de nieuwe versie van StatLine

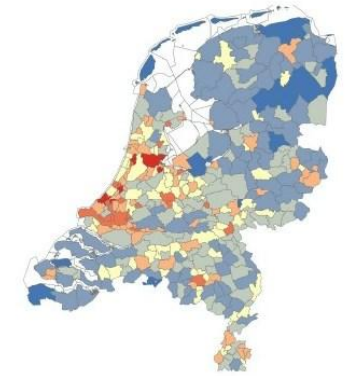
U bent direct naar de juiste tabel in het nieuwe StatLine gebied en ziet een standaard presentatie.

- De lay-out aanpassen kan door te slepen, bijvoorbeeld van de header (in de kop) naar een rij.
- De selectie aanpassen kan door andere items te kiezen; klik op het filter-icoon naast een onderwerp of indeling.
- Het vastleggen van een link is veranderd. Door het delen-icoon aan te klikken, wordt een speciale link aangemaakt die de huidige selectie uit de tabel vastlegt.

Onderwerp		Bevolking		Leefstijl		Bouwen en wonen		Milieu en bodemgebruik	
Regio's	Periodes	aantal	%	Demografische druk	Gemiddelde WOZ-waarde van woningen	Bodemgebruik	Openbare	Omgevingsdichtheid	
					1 000 euro	km²	oppervlakte	per km²	
Nederland	2023	17 811 291	76,5	76,5	368	41 543,57		2 055	
	2024	17 942 942	76,6	77,9	379	41 543,57		2 070	
Zuid-Nederland (SD)	2023	18 044 637	79,7	79,8	398	41 543,57		2 082	
	2024	17 744 994	77,5	77,9	355	41 543,57		1 522	
Overijssel (OV)	2023	1 189 535	75,7	75,7	343	4 420,74		1 304	
	2024	1 189 535	75,7	75,7	343	4 420,74		1 304	

```

Sales_Data.csv - Edited
2024-12-12;Central;Douglas;John;Television;67;$1 198,00;$80 266,00
2024-12-29;East;Douglas;Karen;Video Games;74;$58,50;$4 329,00
2024-01-15;Central;Timothy;David;Home Theater;46;$500,00;$23 000,00
2024-02-01;Central;Douglas;John;Home Theater;87;$500,00;$43 500,00
2024-02-18;East;Martha;Alexander;Home Theater;4;$500,00;$2 000,00
2024-03-07;West;Timothy;Stephen;Home Theater;7;$500,00;$3 500,00
2024-03-24;Central;Hermann;Luis;Video Games;50;$58,50;$2 925,00
2024-04-10;Central;Martha;Steven;Television;66;$1 198,00;$79 068,00
2024-04-27;East;Martha;Diana;Cell Phone;96;$225,00;$21 600,00
2024-05-14;Central;Timothy;David;Television;53;$1 198,00;$63 494,00
2024-05-31;Central;Timothy;David;Home Theater;80;$500,00;$40 000,00
2024-06-17;Central;Hermann;Shelli;Desk;5;$125,00;$625,00
2024-07-04;East;Martha;Alexander;Video Games;62;$58,50;$3 627,00
2024-07-21;Central;Hermann;Sigal;Video Games;55;$58,50;$3 217,50
2024-08-07;Central;Hermann;Shelli;Video Games;42;$58,50;$2 457,00
2024-08-24;West;Timothy;Stephen;Desk;3;$125,00;$375,00
2024-09-10;Central;Timothy;David;Television;7;$1 198,00;$8 386,00
2024-09-27;West;Timothy;Stephen;Cell Phone;76;$225,00;$17 100,00
2024-10-14;West;Douglas;Michael;Home Theater;57;$500,00;$28 500,00
2024-10-31;Central;Martha;Steven;Television;14;$1 198,00;$16 772,00
2024-11-17;Central;Hermann;Luis;Home Theater;11;$500,00;$5 500,00
2024-12-04;Central;Hermann;Luis;Home Theater;94;$500,00;$47 000,00
2024-12-21;Central;Martha;Steven;Home Theater;28;$500,00;$14 000,00
    
```



JOINING DATA

1. Go to the layer **Properties** ► ► **Joins** tab
2. Click the **Add new join** button. The **Add vector join** dialog appears.
3. Select the **Join layer** you want to connect with the target vector layer
4. Specify the **Join field** (from the **join layer**) and the **Target field** (from the **target layer**). These are the fields that are used to find matching feature in both layers hence they should have values in common.
5. Press **OK** and a summary of selected parameters is added to the **Join** panel.

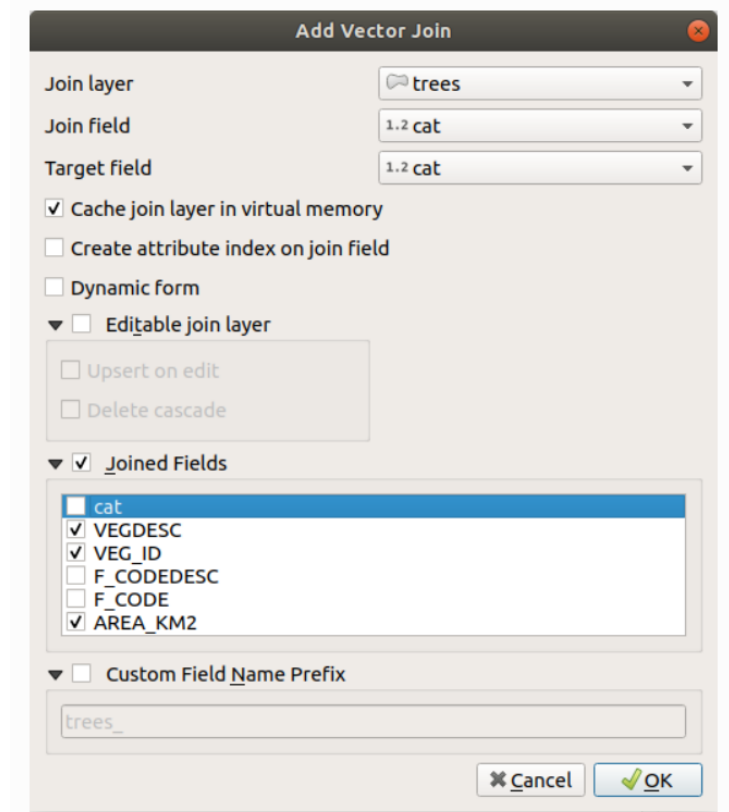
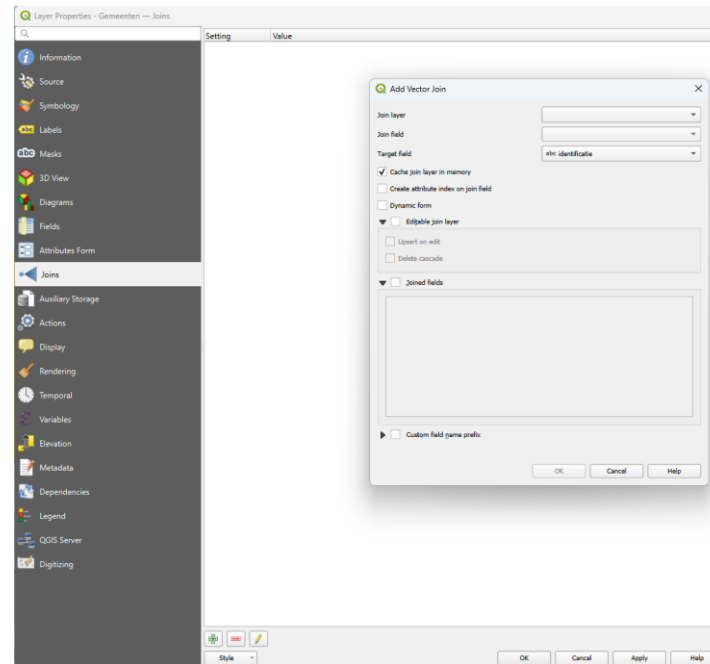
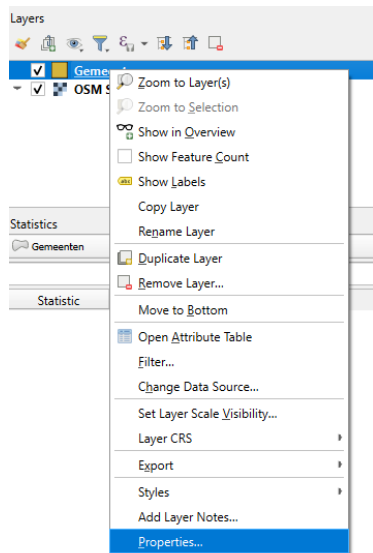
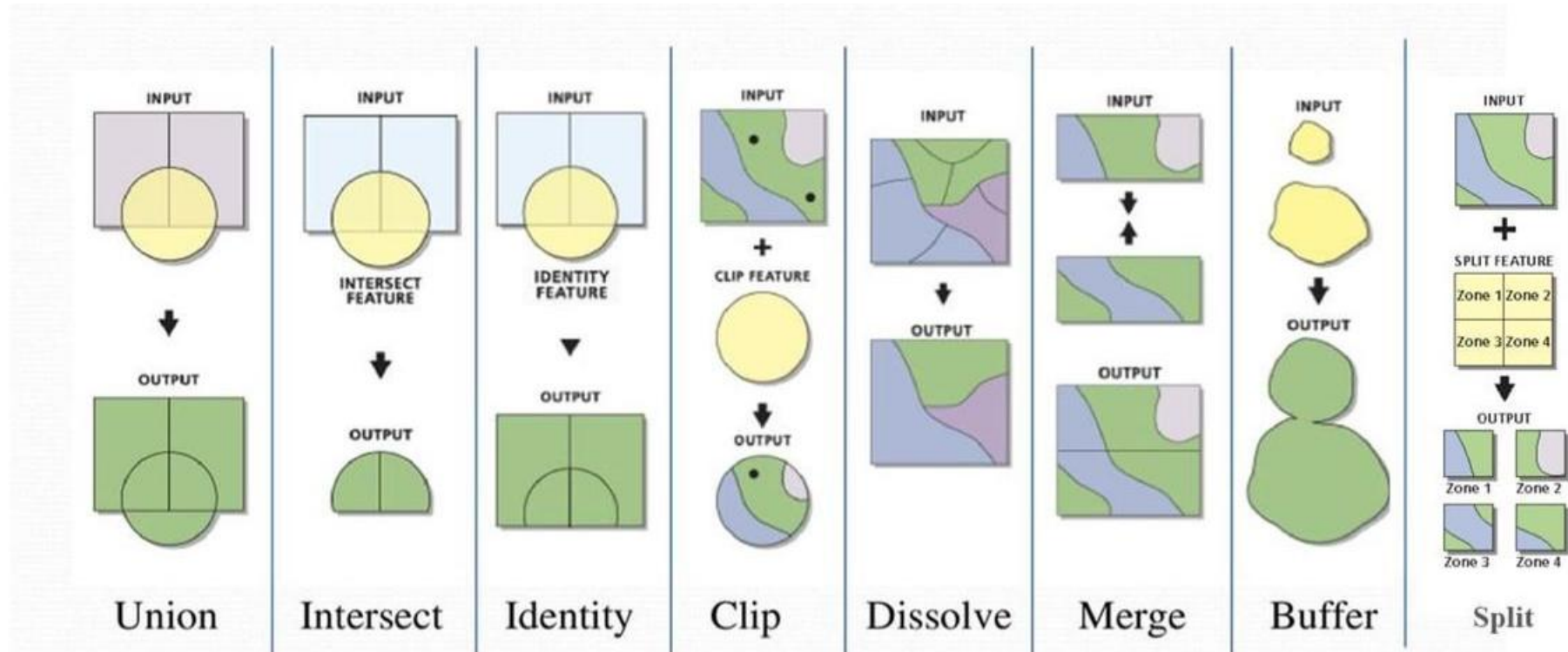


Fig. 12.105 Join an attribute table to an existing vector layer

IMPORTANT CONSIDERATIONS JOINING DATA

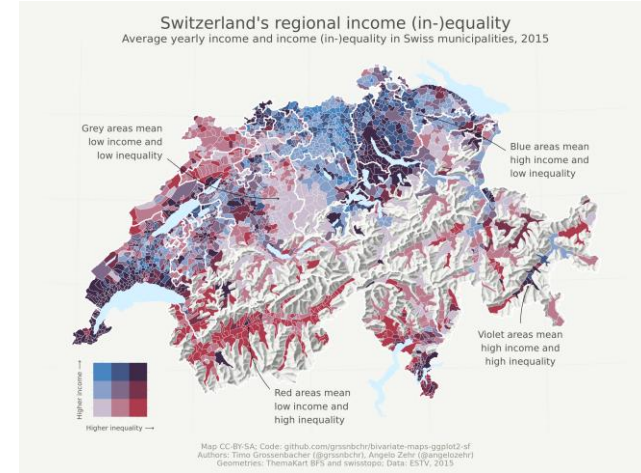
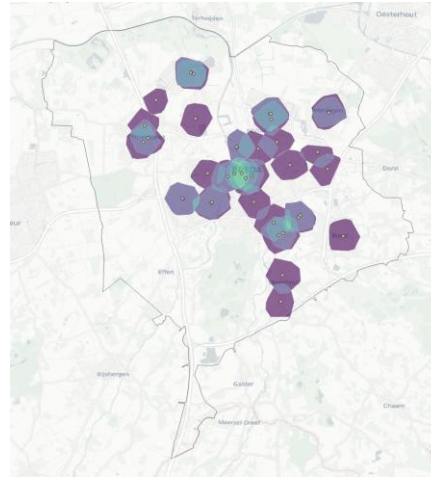
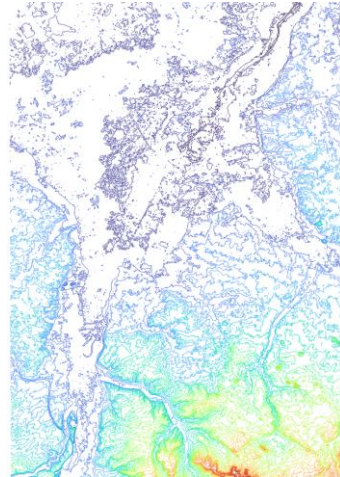
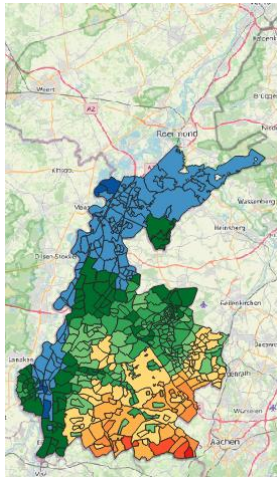
- **Check matching values** - Ensure values to be joined match exactly in both datasets (e.g., "Amsterdam" in both, not "Amsterdam" vs "A'dam")
- **Watch for spaces in cells** - Remove leading/trailing spaces in CSV files, these are often invisible but disrupt the join
- **Case sensitivity** - Check that values are consistent in capitalization ("Nederland" vs "nederland" won't match)
- **Data type consistency** - Ensure join fields have the same data type. For example:
 - Postal code "1234AB" (text) vs 1234 (numeric)
 - Municipality code "GM0263" (text) vs 263 (numeric)
 - Province code "PV25" (text) vs 25 (numeric)
 - CBS code "GM0263" (text) vs "0263" (text) Pay special attention to codes starting with zeros!
- **Empty values and NULL** - Check how empty cells are handled; NULL is not the same as an empty string ""
- **Special characters** - Watch for accents, umlauts and other diacritical marks (é, è, ñ) that may be encoded differently
- **Encoding issues** - Preferably use UTF-8 encoding for both files to prevent character problems
- **Duplicates in join field** - Check for duplicate values in the join field, this can produce unexpected results
- **Preview join results** - Always verify how many records successfully joined and investigate non-matched records

GEOPROCESSING



[28.2.7. Vector geoprocessing — QGIS Documentation documentatie](#)

A FEW EXAMPLES OF WHAT THE STUDENTS LEARN



Analyse elevation map

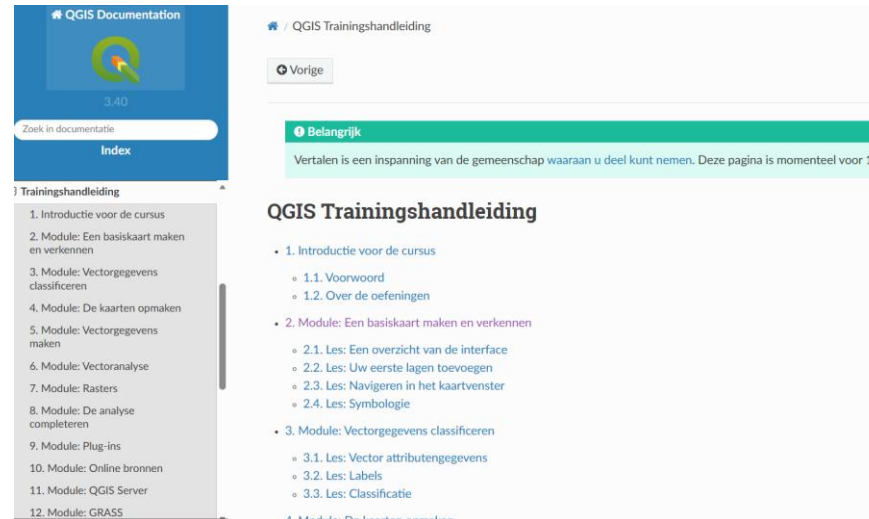
Service area

Bivariate map

Plugins

- **OpenTopography DEM Downloader → Digital Elevation Model**
- **PDOK SERVICES PLUGIN → Largest data collection repository in the netherlands**
- **QUICKOSM → Open Source data collection Open Street Map**
- **QUICKMAPSERVICES - Basic background maps**

BACKGROUND INFORMATION



https://docs.qgis.org/3.40/nl/docs/training_manual/index.html



Learn GIS - QGIS Full Course for Beginners (New for 2025)

434K views · 1 year ago

Matt Forrest

Get a FREE QGIS CERTIFICATION for watching this video here!

CC

25 chapters Intro | Welcome to QGIS | Installing QGIS | Finding GIS data | Adding vector layers | Adding a...

[Learn GIS - QGIS Full Course for Beginners \(New for 2025\)](https://www.youtube.com/watch?v=...)

WATCHING TUTORIALS

LEARNING BY DOING



QGIS Quick Manual

Basic GIS Training

This manual summarizes everything we practiced during the training:

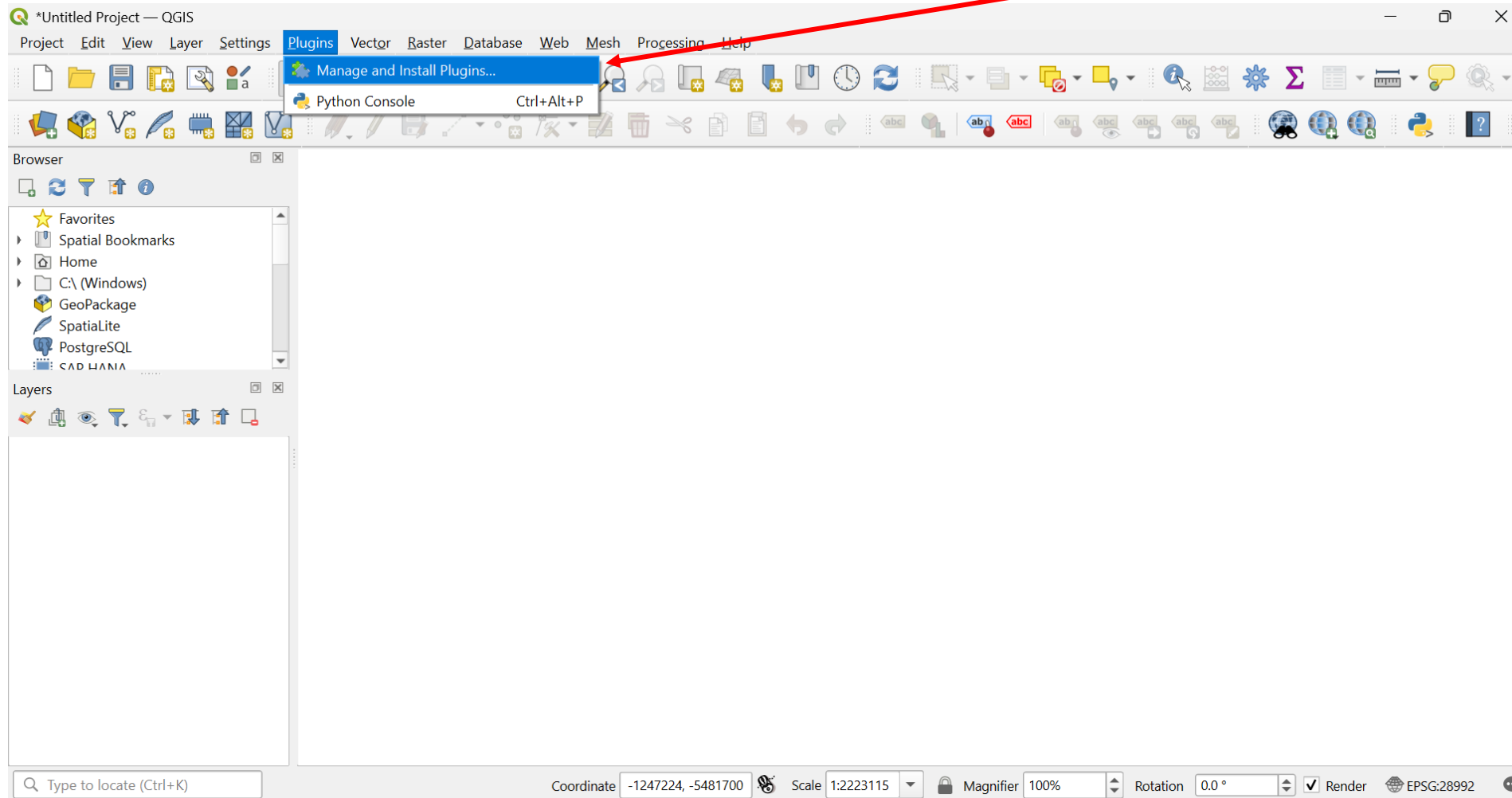
- Adding PDOK Services
- Using QuickMapServices
- Selecting the correct CRS for the Netherlands
- Adding municipality (gemeente) boundaries
- Creating a map of Amsterdam with layout elements (legend, scale bar, north arrow)
- Exporting to PDF

QGIS Quick Manual

Basic GIS Training

1. Add PDOK Services Plugin

In QGIS top menu → Plugins → Manage and Install Plugins

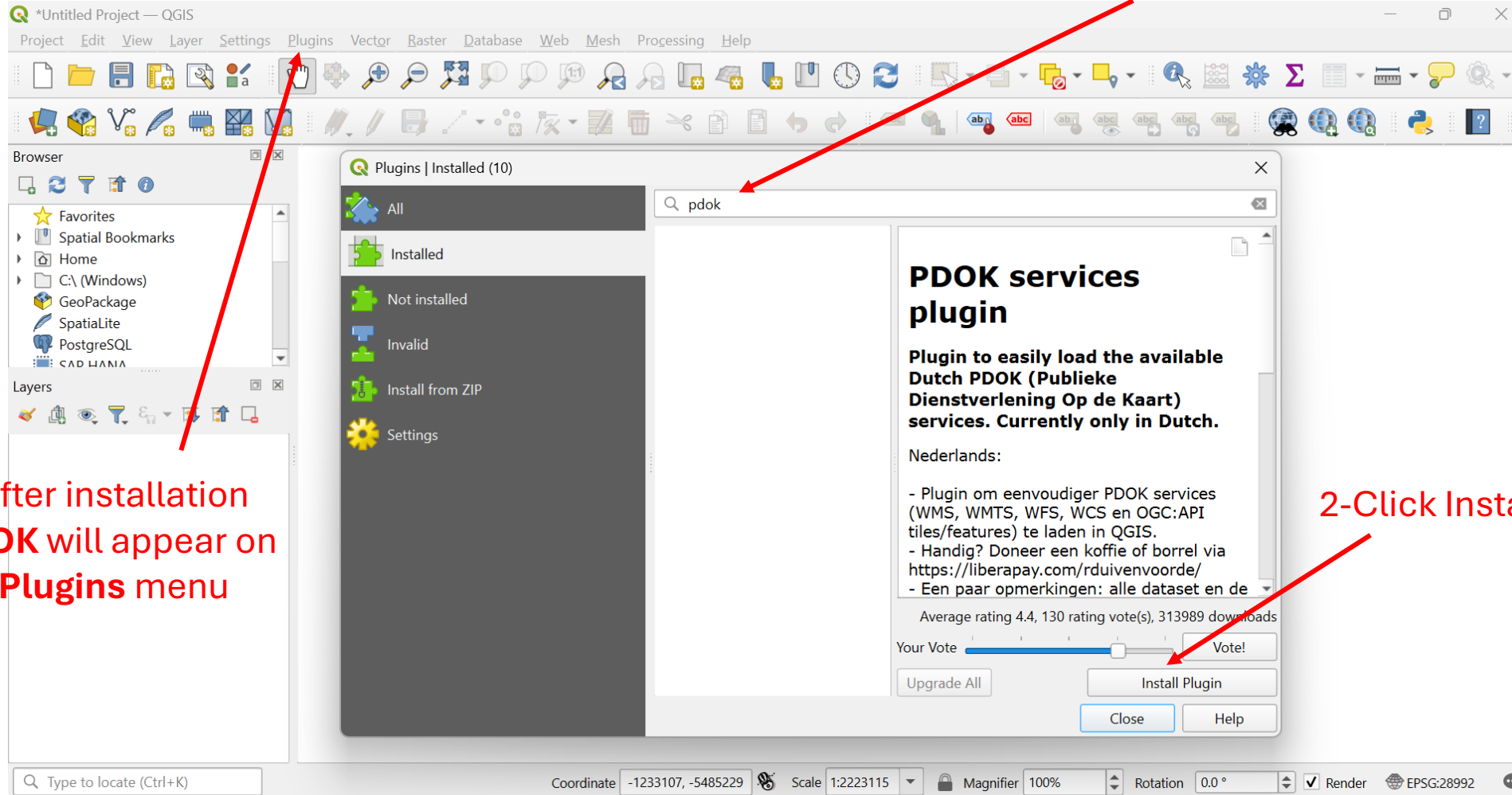


QGIS Quick Manual

Basic GIS Training

1. Add PDOK Services Plugin

1-Search for PDOK Services Plugin



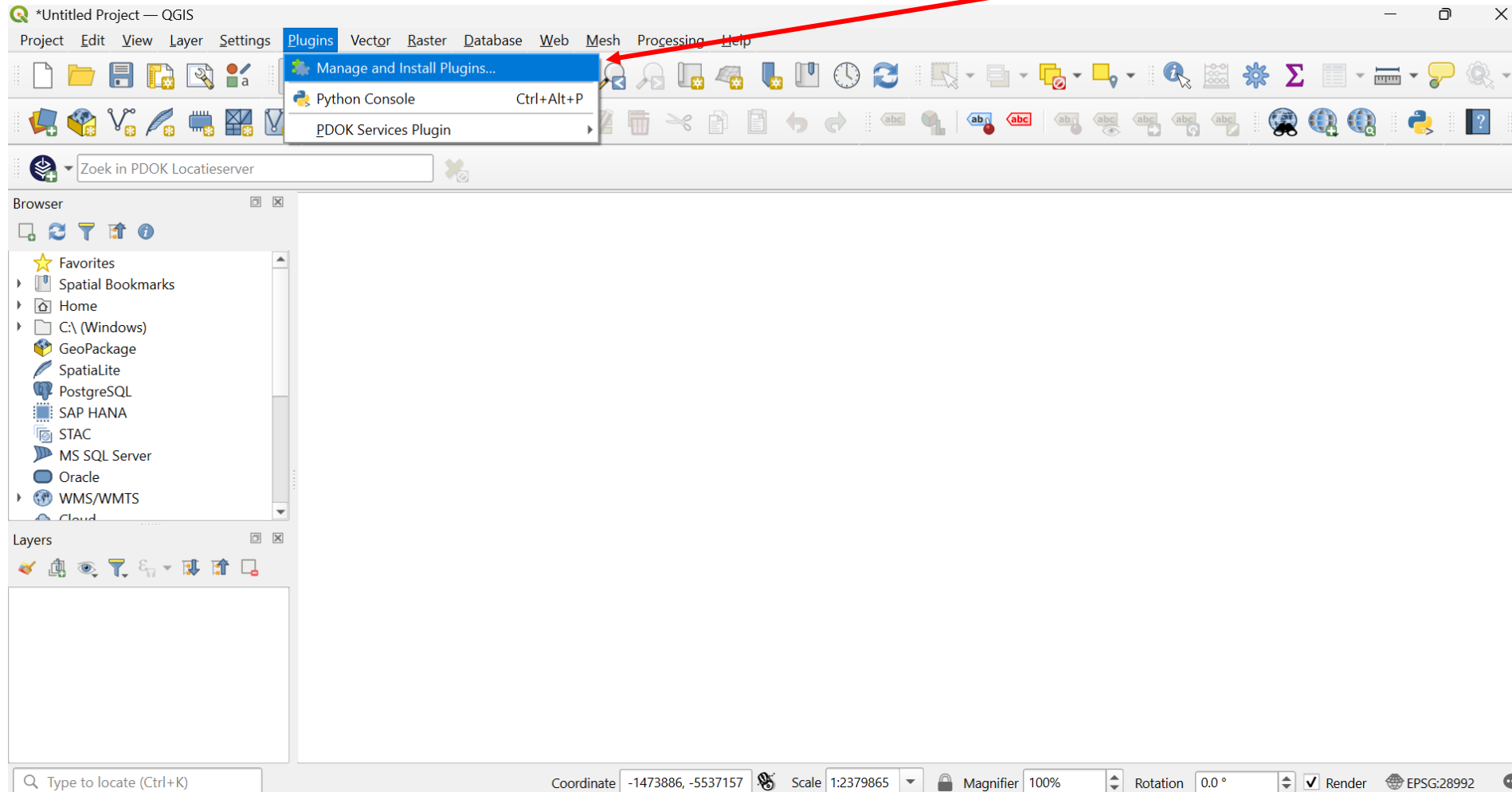
3- After installation
PDOK will appear on
the **Plugins** menu

2-Click Install Plugin

QGIS Quick Manual

Basic GIS Training

2. Add Base Maps Using QuickMapServices Plugins → Manage and Install Plugins

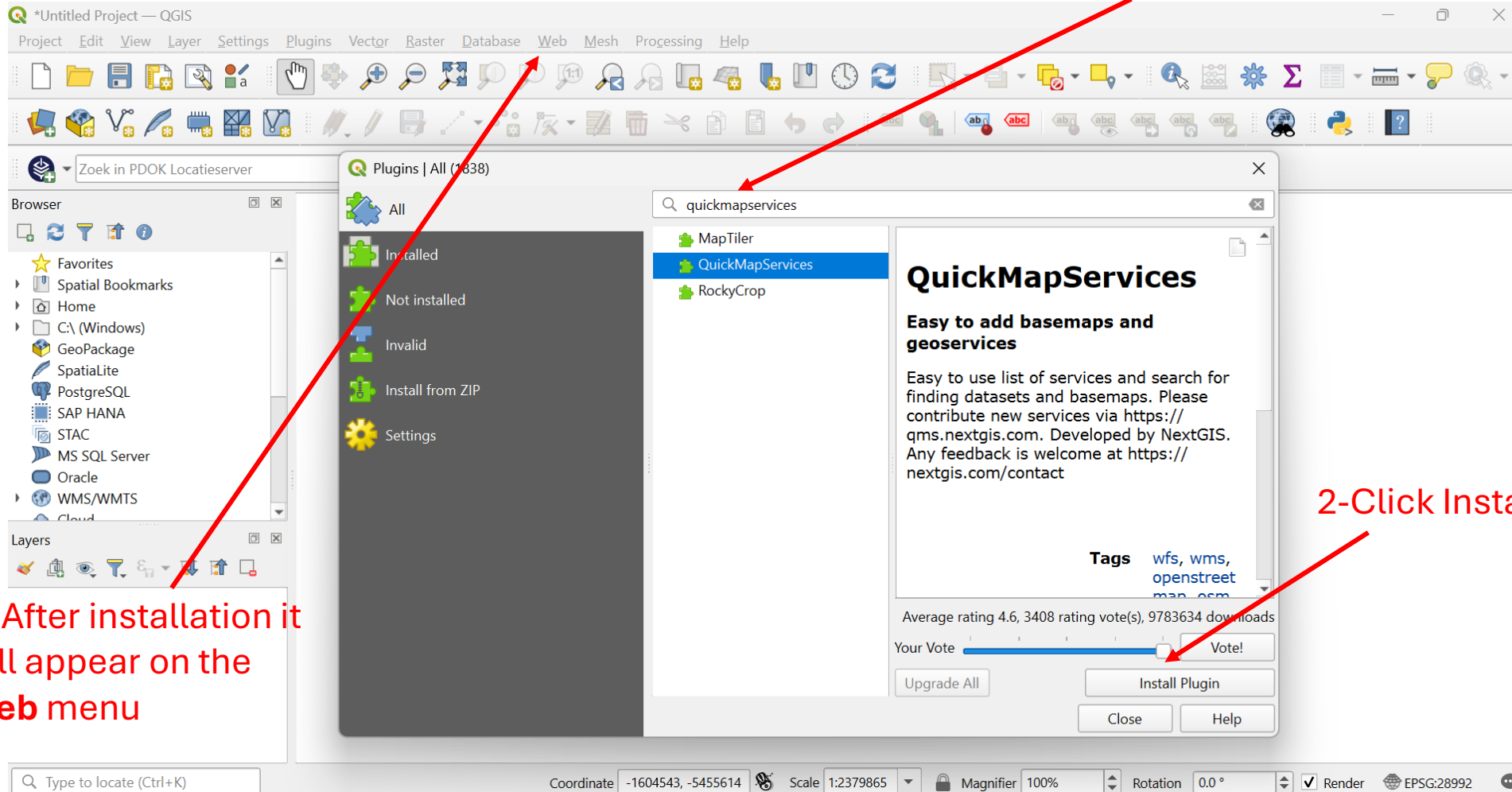


QGIS Quick Manual

Basic GIS Training

2. Add Base Maps Using QuickMapServices

1-Search for QuickMapServices



2-Click Install Plugin

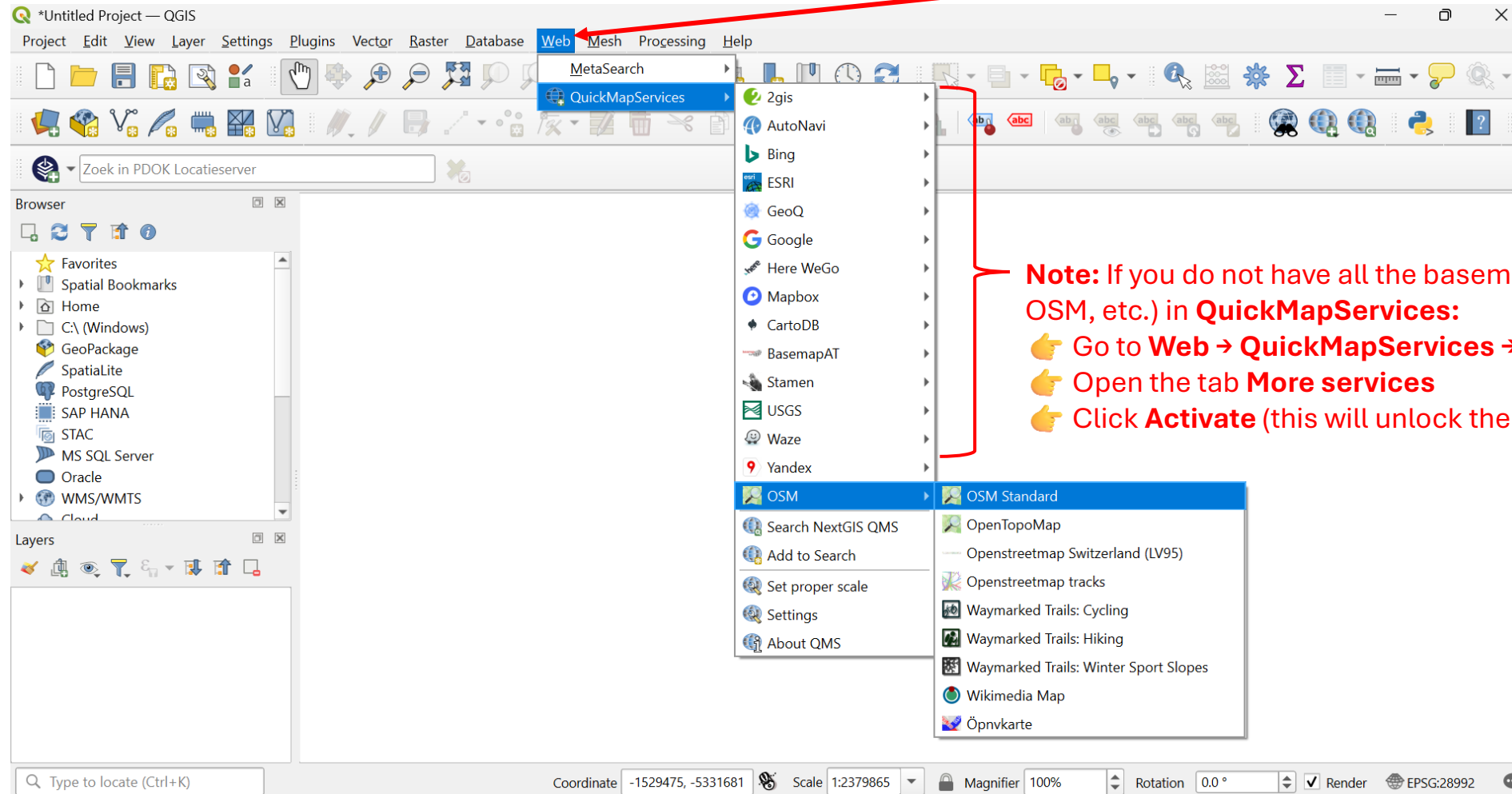
3- After installation it will appear on the **Web** menu

QGIS Quick Manual

Basic GIS Training

3. Add Base Maps Using QuickMapServices

Then go to Web → QuickMapServices and pick a basemap:→ OSM Standard etc.



QGIS Quick Manual

Basic GIS Training

3. Set the Correct CRS for the Netherlands

The screenshot shows the QGIS interface with the 'Project Properties' dialog box open to the 'CRS' tab. The 'Project Coordinate Reference System (CRS)' section is active. A search filter '28992' is entered in the search box. The 'Recently Used Coordinate Reference Systems' table shows 'EPSG:28992 - Amersfoort / RD New' selected. The 'Predefined Coordinate Reference Systems' table shows 'Amersfoort / RD New' with authority ID 'EPSG:28992'. The 'Amersfoort / RD New' properties are displayed, including units in meters and the WKT string. The 'Apply' button is highlighted. The status bar at the bottom shows the current CRS as 'EPSG:3857'.

1- Click current CRS

2- Search for → Amersfoort / RD New — EPSG: 28992

3- Select

4- Click Apply

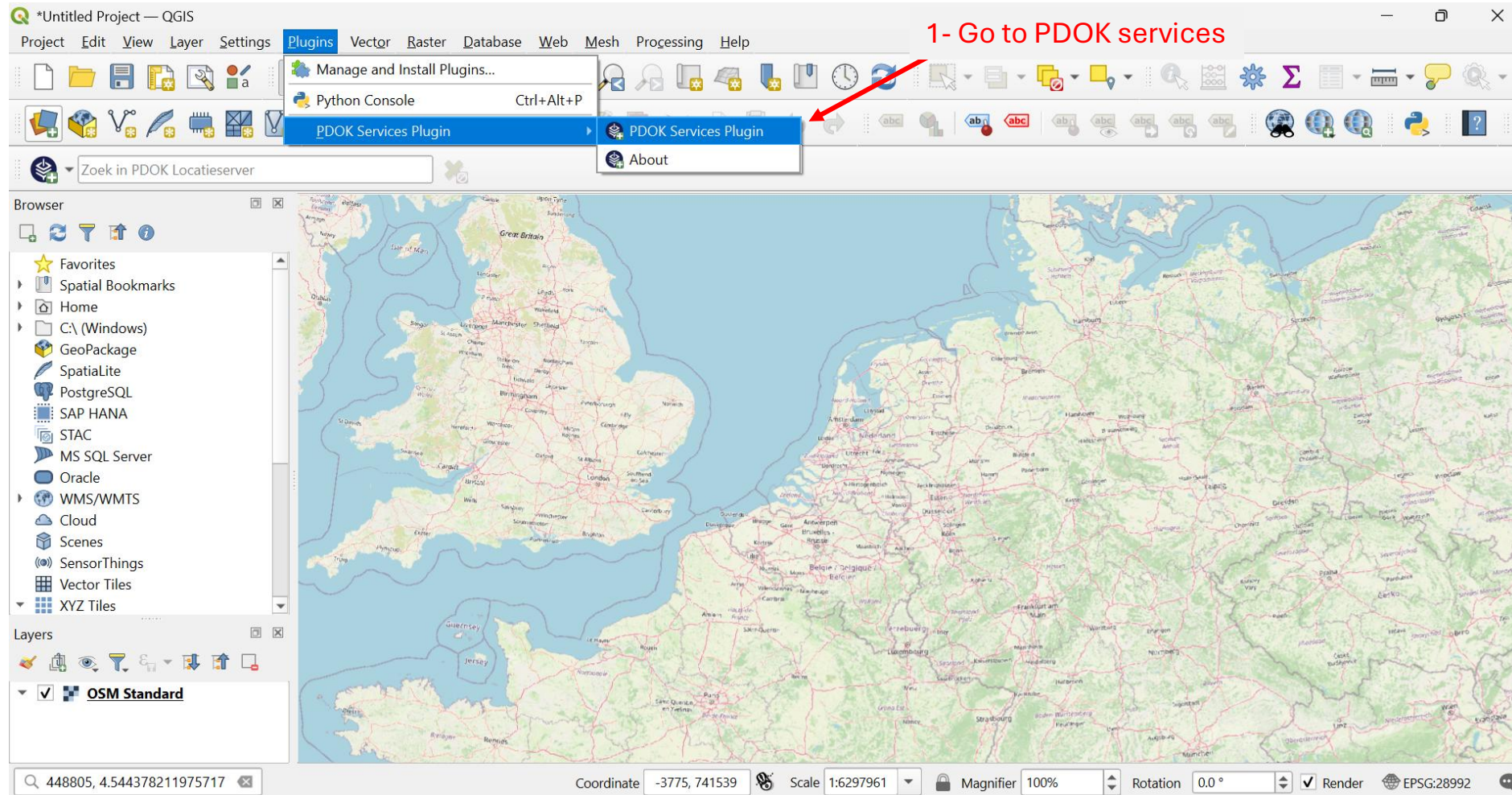
5- Click OK

1- Click current CRS

QGIS Quick Manual

Basic GIS Training

4. Add the municipality boundaries layer



QGIS Quick Manual

Basic GIS Training

4. Add the municipality boundaries layer

2- Search for → gemeente

3- Select

4- Click Standaard

PDOK Services Plugin

PDOK Services | PDOK Locatieserver | OpenGeoGroep en PDOK | Instellingen

Zoeken: gemeente

	Laagnaam	Type	Service
5	Bestuurlijke Gebieden - Tiles	OGC API - Tiles	Bestuurlijke Gebieden
4	Gemeenten	WFS	Bestuurlijke Gebieden
15	Provincies	WFS	Bestuurlijke Gebieden
16	Landsgrens	WFS	Bestuurlijke Gebieden
69	Administratieve boundary	WMS	Administratieve Eenheden

Featuretype (WFS) - Gemeenten

Name
bestuurlijkegebieden:Gemeentegebied

Abstract
Bestuurlijke Gebieden bestaan uit de gemeente-, provincie- en landgebieden. Deze worden sinds 2012 vervaardigd op basis van de kadastrale registratie (BRK).

Dataset Metadata
[208bc283-7c66-4ce7-8ad3-1cf3e8933fb5](#)

Laag toevoegen | **Standaard** | Boven | Onder

Close

Coordinate: 952702, 579904 | Scale: 1:6297961 | Magnifier: 100% | Rotation: 0.0° | Render | EPSG:28992

QGIS Quick Manual

Basic GIS Training

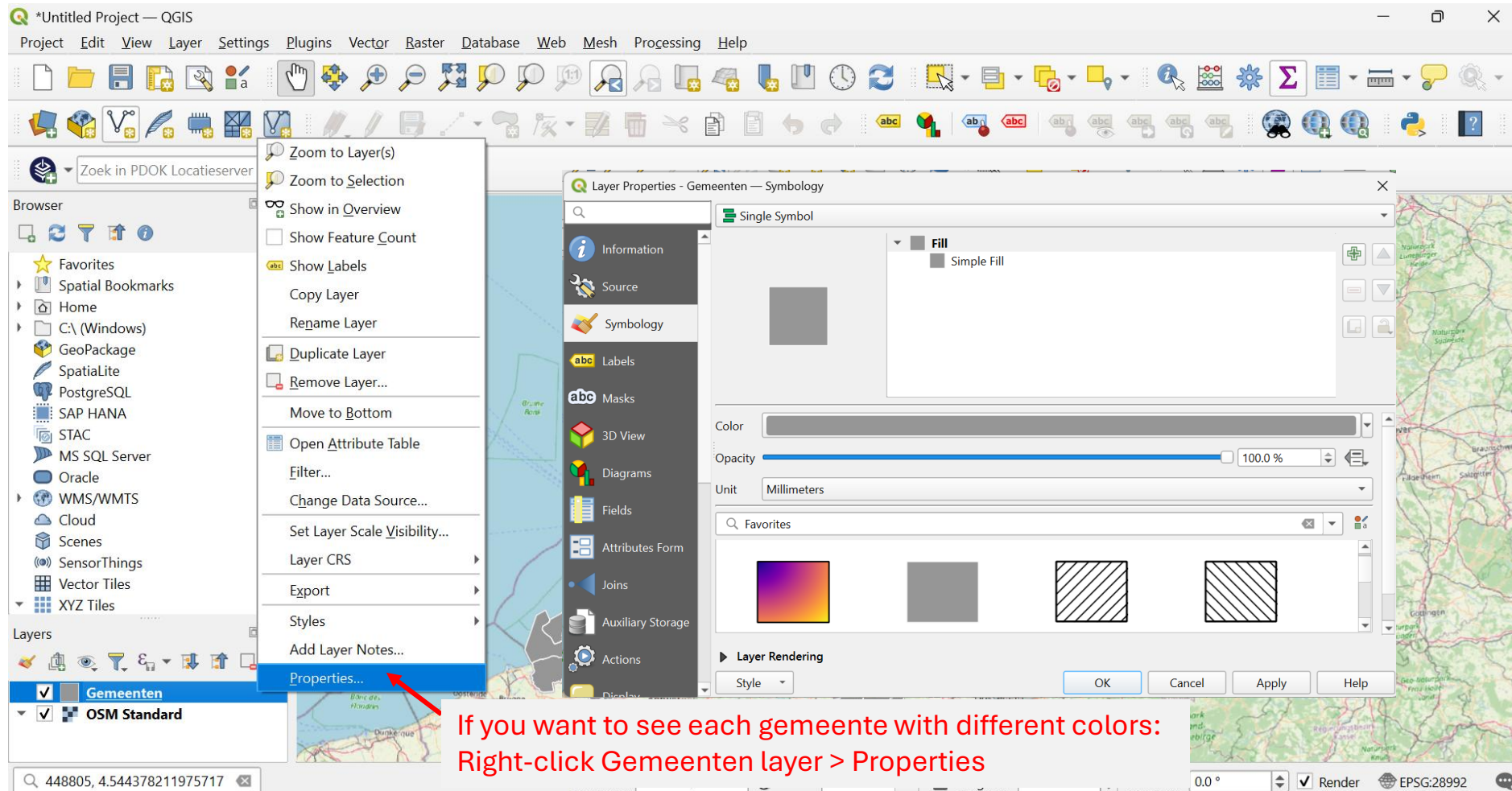
4. Add the municipality boundaries layer

The screenshot displays the QGIS desktop application. The main map area shows a satellite-style map of a coastal region with a dark grey overlay representing municipality boundaries. The 'Layers' panel on the left is open, showing a list of layers. The 'Gemeenten' layer is checked and highlighted with a red arrow. Below the arrow, a red text box contains the text 'Now we have Gemeente Layer'. The 'OSM Standard' layer is also checked. The top menu bar includes 'Project', 'Edit', 'View', 'Layer', 'Settings', 'Plugins', 'Vector', 'Raster', 'Database', 'Web', 'Mesh', 'Processing', and 'Help'. The bottom status bar shows the coordinate '-237895, 348283', a scale of '1:3148981', and other settings like 'Magnifier 100%' and 'Rotation 0.0°'.

QGIS Quick Manual

Basic GIS Training

4. Add the municipality boundaries layer



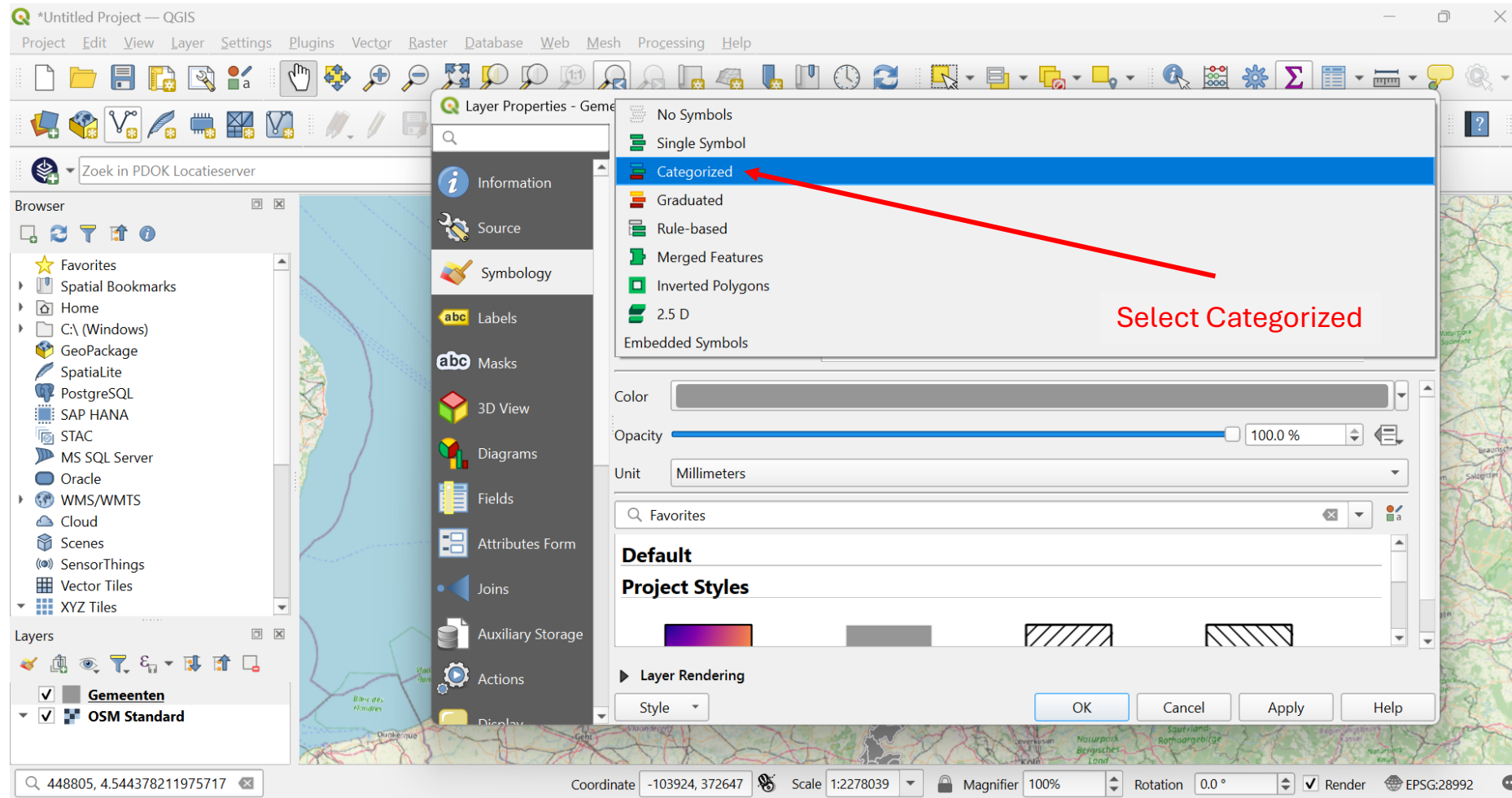
The screenshot shows the QGIS interface with the 'Gemeenten' layer selected in the Layers panel. A right-click context menu is open over the 'Gemeenten' layer, and the 'Properties...' option is highlighted with a red arrow. The 'Layer Properties - Gemeenten - Symbology' dialog is also open, showing the 'Single Symbol' tab with a 'Simple Fill' symbol. The 'Color' field is set to a grey color, and the 'Opacity' is set to 100.0%. The 'Unit' is set to 'Millimeters'. The 'Layer Rendering' section shows a 'Style' dropdown menu.

If you want to see each gemeente with different colors:
Right-click Gemeenten layer > Properties

QGIS Quick Manual

Basic GIS Training

4. Add the municipality boundaries layer



QGIS Quick Manual

Basic GIS Training

4. Add the municipality boundaries layer

The screenshot shows the QGIS interface with the 'Layer Properties - Gemeenten' dialog box open. The dialog is set to 'Categorized' symbology. A list of values is displayed, with 'abc naam' selected. The 'Classify' button is highlighted, and the 'Apply' button is also highlighted. The 'OK' button is also highlighted. Red arrows point to these elements with labels: '1-Click drop down menu' (pointing to the dropdown arrow), '2-Select naam' (pointing to 'abc naam'), '3-Click Classify' (pointing to the 'Classify' button), '4-Apply' (pointing to the 'Apply' button), and '5-OK' (pointing to the 'OK' button).

1-Click drop down menu

2-Select naam

3-Click Classify

4-Apply

5-OK

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4. Add the municipality boundaries layer

a-) "Cut out" Amsterdam → make a new layer

2- Select the gemeente you want

1- Right-click the **Gemeente** layer → **Open Attribute Table**

	identificatie	naam	code	igtInProvincieCode	gtInProvincieNaam	fuuid
7	GM0361	Alkmaar	0361	27	Noord-Holland	gemeentegebie...
8	GM0141	Almelo	0141	23	Overijssel	gemeentegebie...
9	GM0034	Almere	0034	24	Flevoland	gemeentegebie...
10	GM0484	Alphen aan den...	0484	28	Zuid-Holland	gemeentegebie...
11	GM1723	Alphen-Chaam	1723	30	Noord-Brabant	gemeentegebie...
12	GM1959	Altena	1959	30	Noord-Brabant	gemeentegebie...
13	GM0060	Ameland	0060	21	Fryslân	gemeentegebie...
14	GM0307	Amersfoort	0307	26	Utrecht	gemeentegebie...
15	GM0362	Amstelveen	0362	27	Noord-Holland	gemeentegebie...
16	GM0363	Amsterdam	0363	27	Noord-Holland	gemeentegebie...
17	GM0200	Apeldoorn	0200	25	Gelderland	gemeentegebie...
18	GM0202	Arnhem	0202	25	Gelderland	gemeentegebie...
19	GM0106	Assen	0106	22	Drenthe	gemeentegebie...
20	GM0743	Asten	0743	30	Noord-Brabant	gemeentegebie...

3- Click X

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4. Add the municipality boundaries layer

a-) "Cut out" Amsterdam → make a new layer

2-Write the name

The screenshot shows the QGIS interface with a map of the Netherlands. The 'Gemeente' layer is selected in the Layers panel. A right-click context menu is open over the 'Gemeente' layer, with the 'Export' option selected. The 'Export' submenu is also open, showing 'Save Selected Features As...' as the chosen option. The 'Save Vector Layer as...' dialog box is open, showing the following settings:

- Format: ESRI Shapefile
- File name: Amsterdam
- Layer name: (empty)
- CRS: EPSG:28992 - Amersfoort / RD New
- Encoding: UTF-8
- Save only selected features
- Persist layer metadata
- Geometry type: Automatic
- Force multi-type
- Include z-dimension
- Extent (current: none)
- Add saved file to map

The 'OK' button is highlighted. Red arrows point to the 'File name' field, the 'Browse' button (three dots), and the 'OK' button.

2-Browse the file location

4-OK

1-Right-click the **Gemeente** layer → **Export**

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4. Add the municipality boundaries layer

a-)“Cut out” Amsterdam → make a new layer

The screenshot shows the QGIS interface with the following elements:

- Project Name:** *Untitled Project — QGIS
- Menu Bar:** Project, Edit, View, Layer, Settings, Plugins, Vector, Raster, Database, Web, Mesh, Processing, Help
- Browser Panel:** Shows various data sources like Spatial Bookmarks, Home, C:\ (Windows), GeoPackage, Spatialite, PostgreSQL, SAP HANA, STAC, MS SQL Server, Oracle, WMS/WMTS, Cloud, Scenes, SensorThings, Vector Tiles, and XYZ Tiles.
- Layers Panel:** Shows a list of layers: Amsterdam (checked), Gemeenten (unchecked), and OSM Standard (checked). A red arrow points to the 'Gemeenten' checkbox.
- Context Menu:** Opened over the 'Amsterdam' layer, showing options like Zoom to Layer(s), Zoom to Selection, Show in Overview, Show Feature Count, Show Labels, Copy Layer, Rename Layer, Duplicate Layer, Remove Layer..., Move to Bottom, Open Attribute Table, Toggle Editing, Filter..., Change Data Source..., Set Layer Scale Visibility..., Layer CRS, Export, Styles, Add Layer Notes..., and Properties... (highlighted).
- Map View:** Displays a map of the Netherlands with Amsterdam highlighted in pink.
- Status Bar:** Shows coordinates (448805, 4.544378211975717), magnifier (100%), rotation (0.0°), render status, and EPSG:28992.

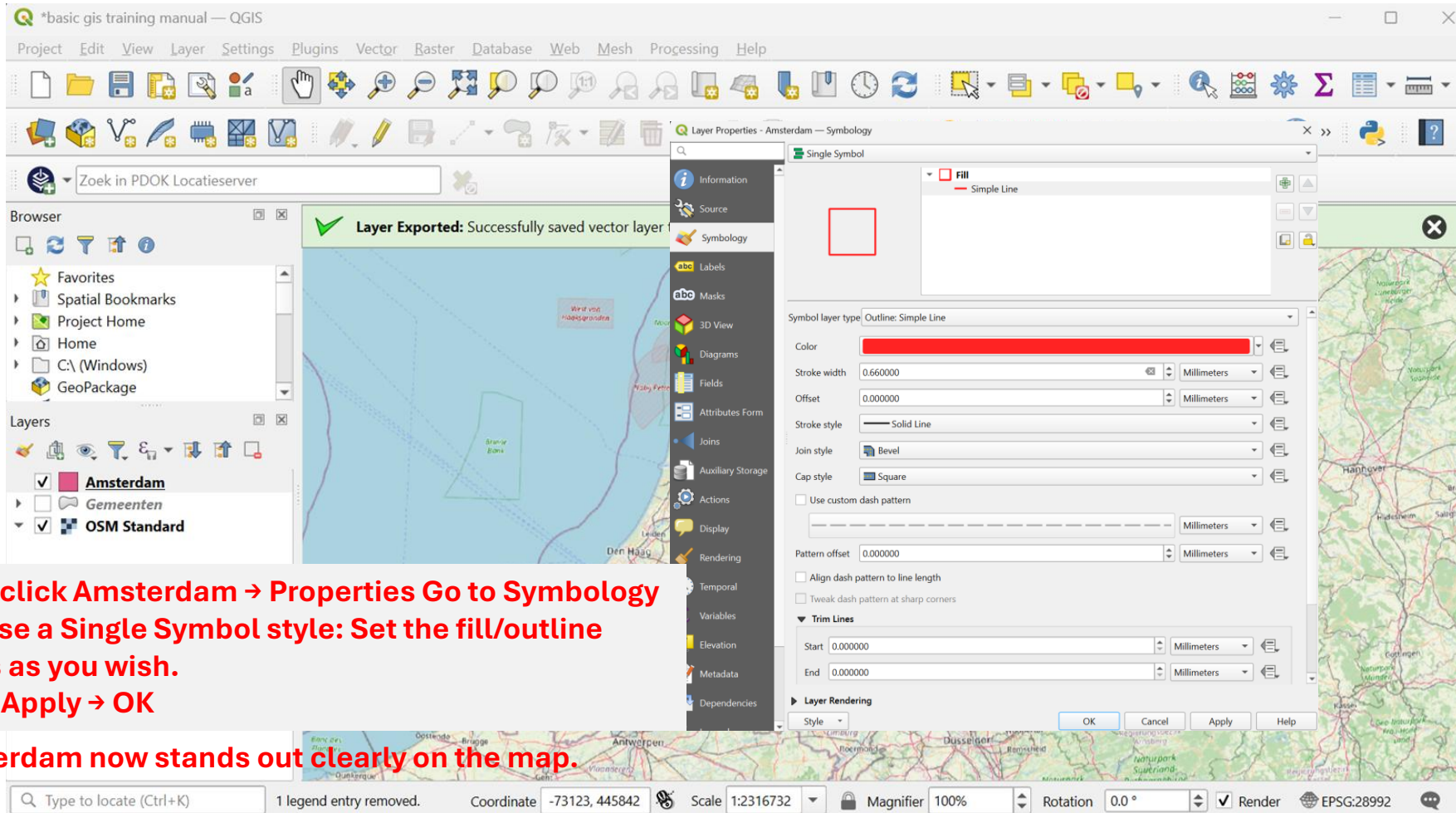
**1- Uncheck the checkbox of Gemeenten (hide it)
(Keep Amsterdam and OSM Standard checked)**

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4. Add the municipality boundaries layer

b-) Give Amsterdam a clear style (optional but nice for the PDF)



The screenshot shows the QGIS interface with the Layer Properties dialog for the 'Amsterdam' layer. The 'Symbology' tab is selected, and the 'Single Symbol' style is chosen. The 'Fill' is set to red, and the 'Outline' is set to a red line with a width of 0.660000 millimeters. The map shows Amsterdam highlighted in red, standing out clearly from the other features.

1-Right-click Amsterdam → Properties Go to Symbology
2- Choose a Single Symbol style: Set the fill/outline settings as you wish.
3- Click Apply → OK

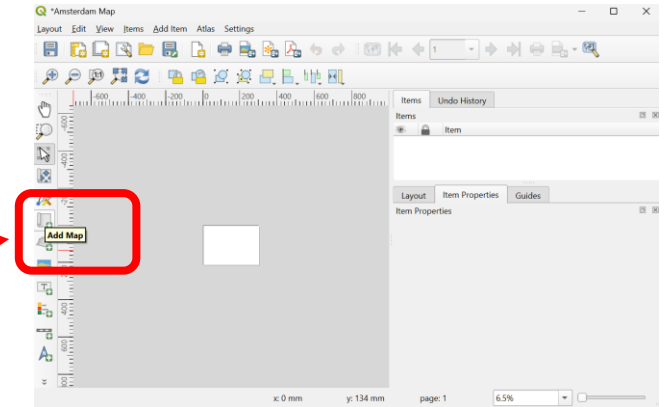
Amsterdam now stands out clearly on the map.

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5. Create a map layout

1. Top menu → **Project** → **New Print Layout...**
2. Give it a name, e.g. **Amsterdam_Map**, click **OK**
3. In the layout window toolbar, click **Add Map**



4. Drag a rectangle on the page where you want the map → the Amsterdam map appears inside

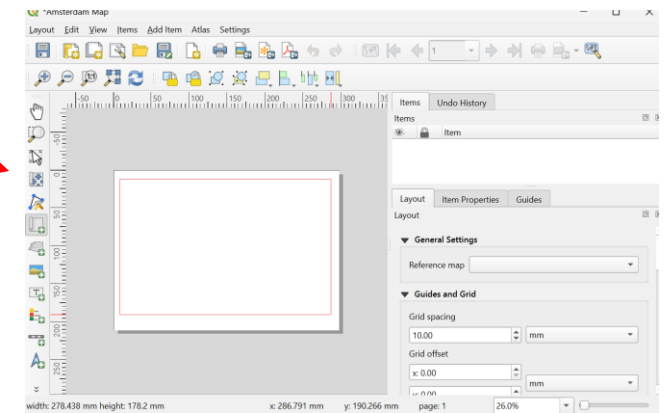
Note: Whatever you see in the main QGIS window is what will appear inside the rectangle you draw in the Print Layout.

So if the map looks zoomed out, too close, or shows extra layers you don't want:

> **first adjust the map view in the main QGIS window**
(zoom, move, turn layers on/off, change styling)

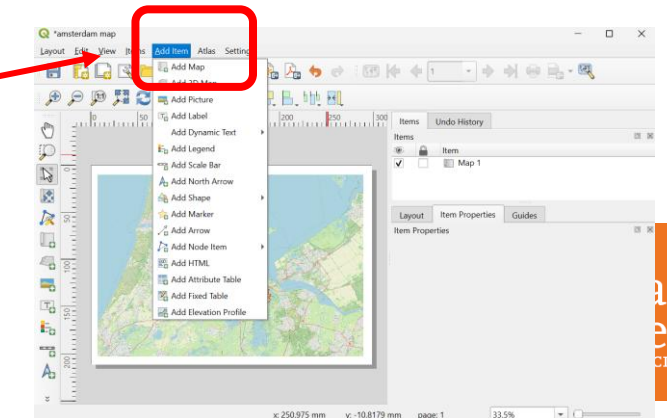
Then:

> **go to Print Layout and draw the rectangle again**
to capture the updated view.



Optional:

- You can add map elements to improve your layout:
Title, scale bar, north arrow, legend etc. add as many as you like.
All are available from **Add Item** in the Print Layout toolbar.



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6. Export the map as PDF

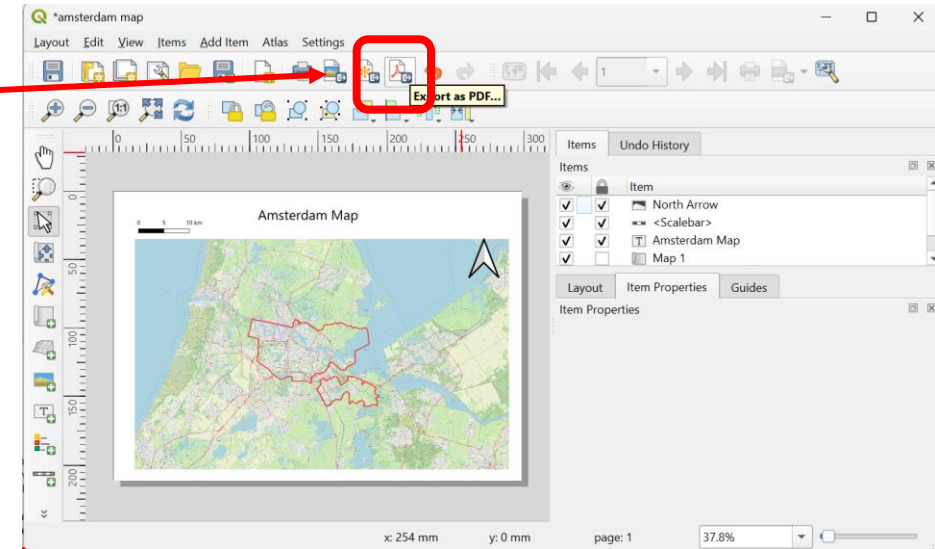
1- In the layout window top menu → **Layout** → **Export as PDF...**

2- Choose a folder and file name, e.g. Amsterdam_Map.pdf

Click **Save**

Done!

You now have a **PDF map of Amsterdam** clipped from the Gemeenten layer.



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That's it for the first **Basic GIS Training!**

The best way to learn GIS is to **play around, explore, and experiment** so don't hesitate to try new tools, different datasets, and different visual styles.

If you have questions, want to discuss ideas, or want help with your own project,
our door is always open.

You are always welcome in the **Places & Flows Lab** 🧡

Let's keep learning, creating, and mapping together!