



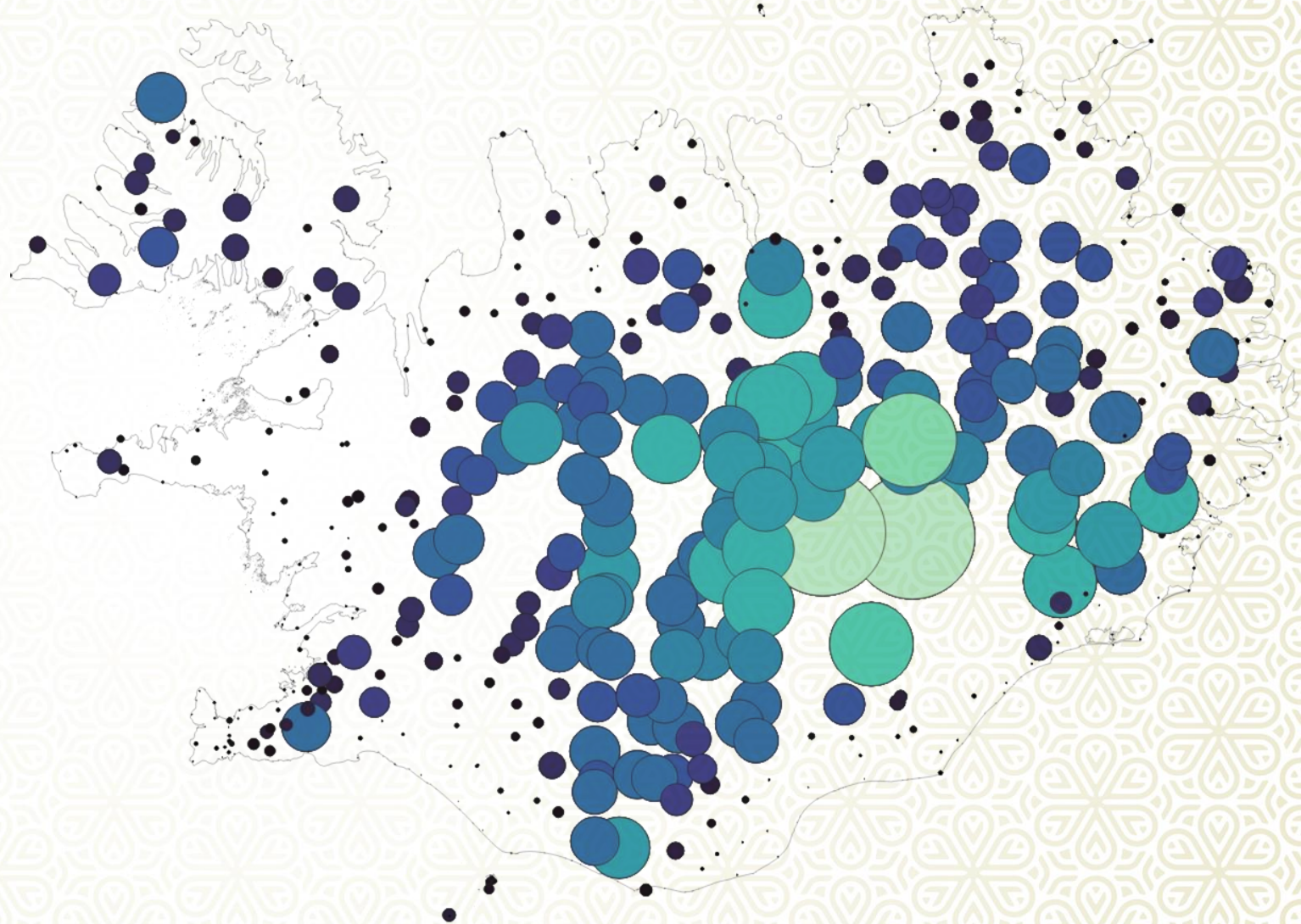
Náttúrufræðistofnun

QGIS Training NATT

Part 2: Data, Connections and Profiles.

28 April 2026

Krummasalir



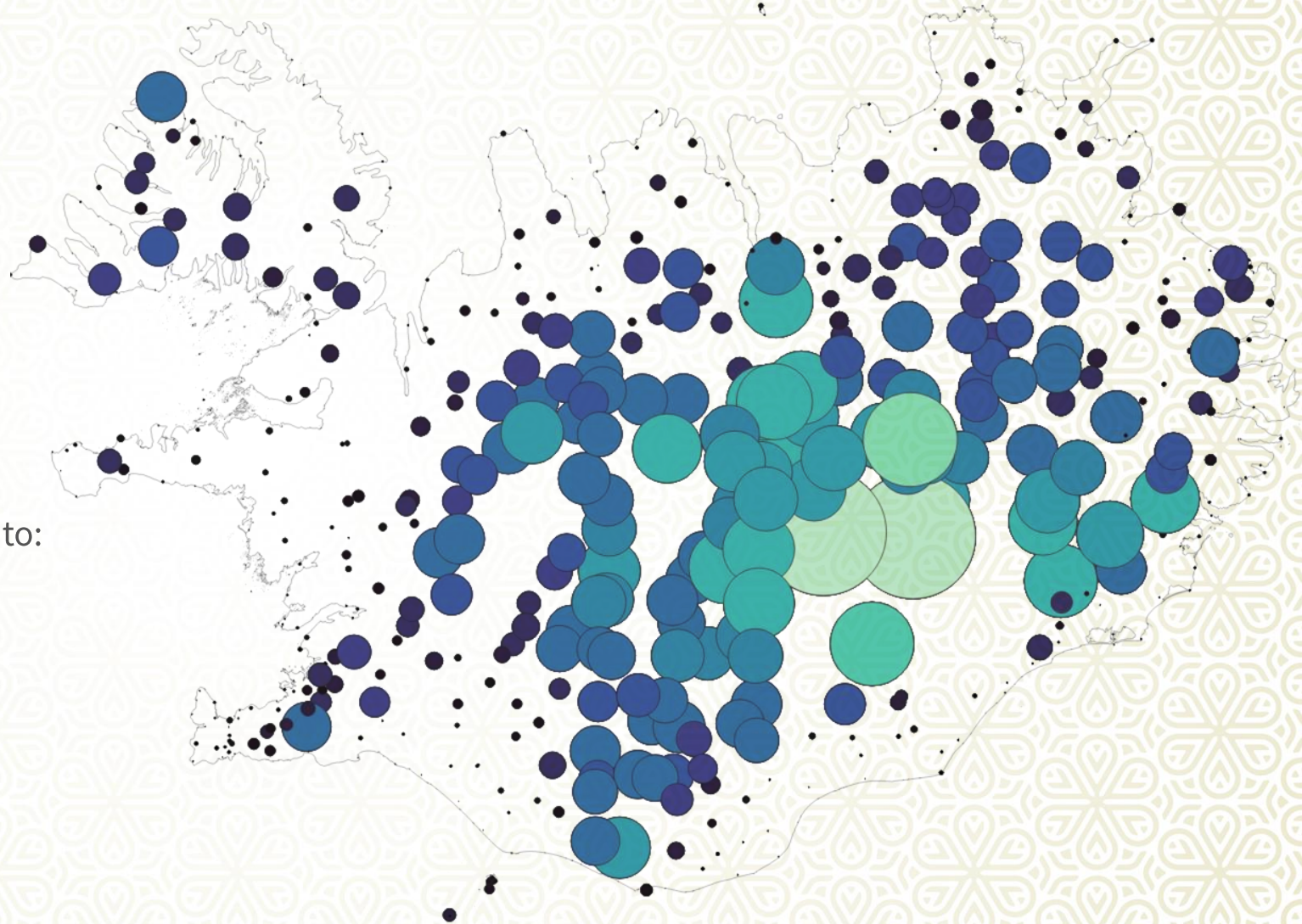


QGIS Training NATT

Part 2: Data Connections

At the end of the training, you should be able to:

- Differentiate web service types
- Connect to different web services
- Understand map vs. feature data
- Connect to a database
- Understand geocatalogs





Next Courses in Series

- *Part 1: QGIS basics -- this course*
- **Part 2: Data sources in Iceland, WMS/WFS, Postgres connection, how to find data -- this course**
- Part 3: QField and GPS surveying, height systems (May?)
- Part 4: Making sexy maps – Örnefni, styling, best practices with map making (June?)
- Part 5: Digging deeper into vectors (September?)
- Part 6: Working with raster data – DEMs and Satellite imagery (October?)



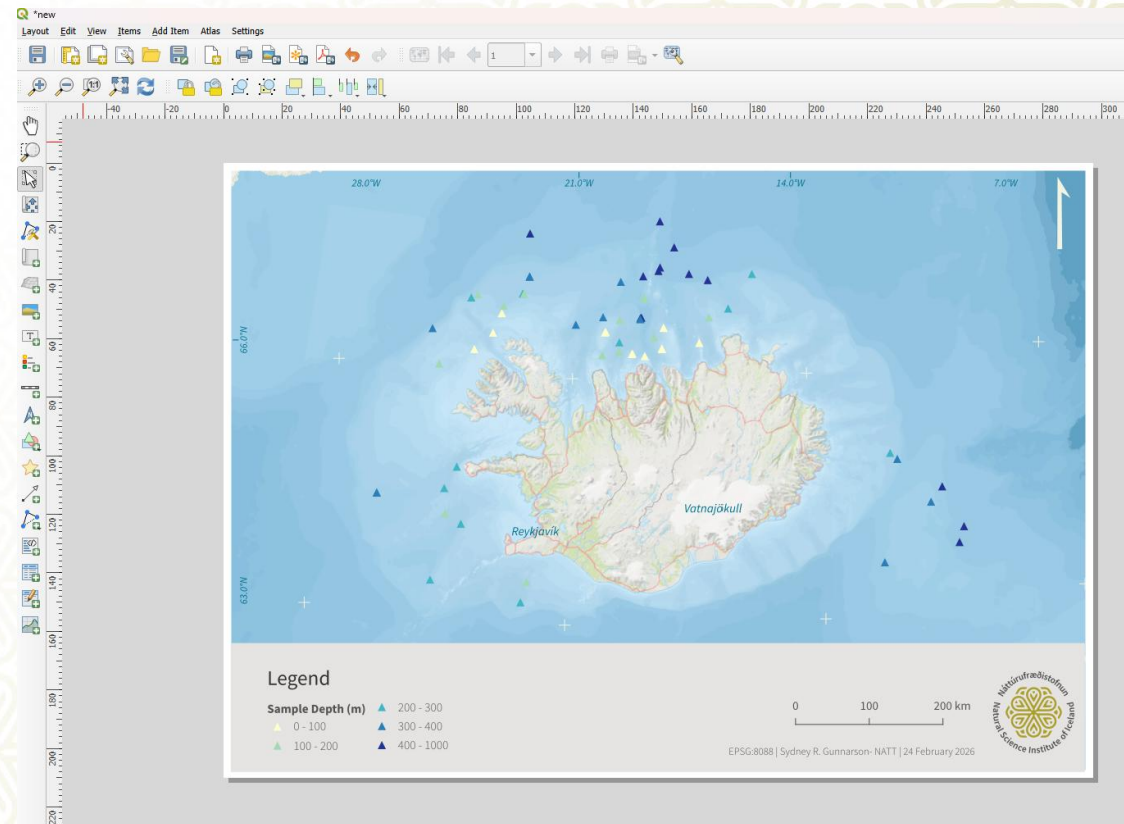
Recap

- We learned to navigate QGIS
- We learned different coordinate systems
- We loaded data from a CSV file
- We added a background image
- We produced a map

You can find this material here:

[03_NATT_QIGS_NAMSKEID](#)

Or on Teams:





Náttúrufræðistofnun

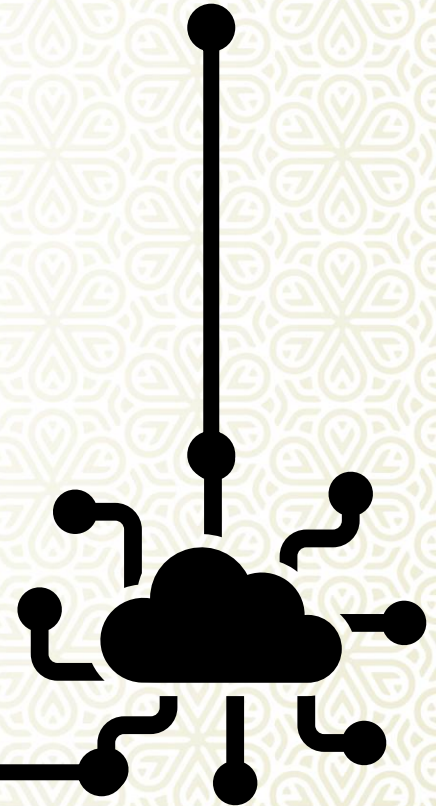
Sharing is caring

Problematic: We need data for decision making.
How do we share or get data from other organizations?

→ Broadcasting data

We get our CSV and Basemap from different sources now!
And others can use the same data too! Yay!
We need connections!

But how do we exchange data between different systems? → **OGC Standards**





OGC Web Services (OWS)



- WMS – Web **Map** Service
- WMTS – Web **Map Tile** Service
- WCS – Web **Coverage** Service
- WFS – Web **Feature** Service
- ... others like API Tiles – Vector Tiles

Non-OGC Services:

- REST API
- XYZ

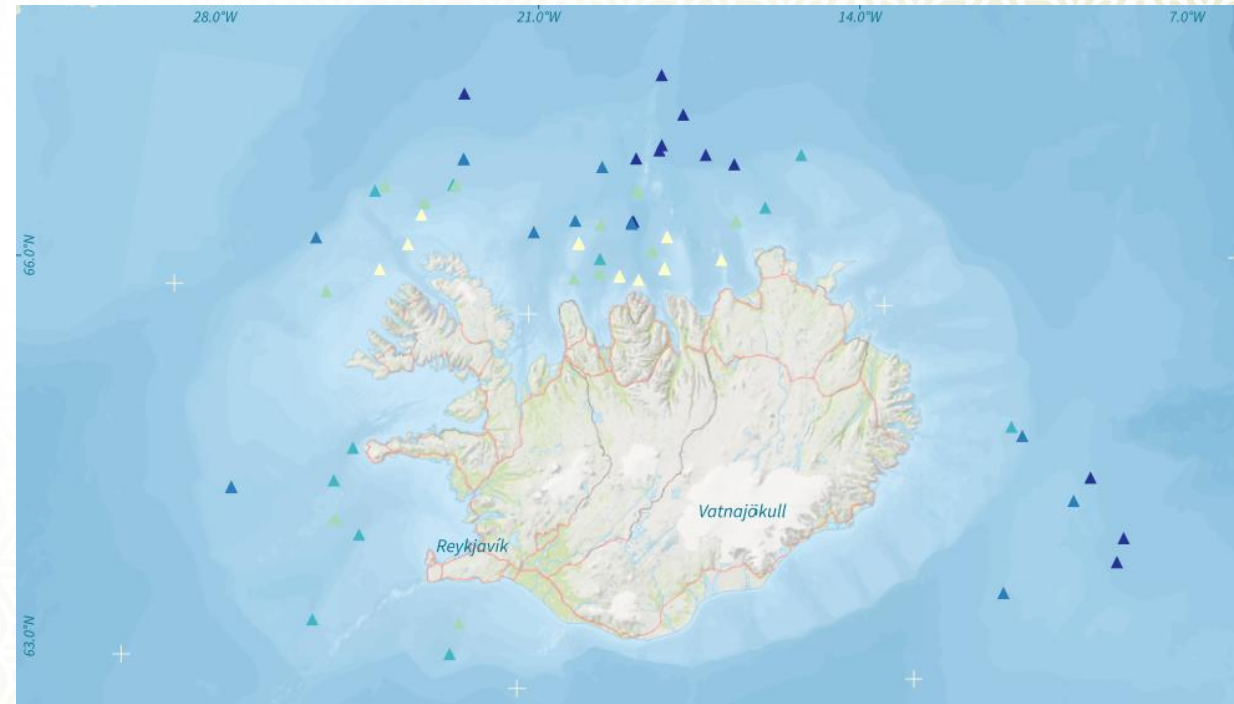


They define Geospatial Standards
in order to collaborate



WMS – Web Map Service

- Raster image
- Allows query of attributes
- Can get slow (heavy)





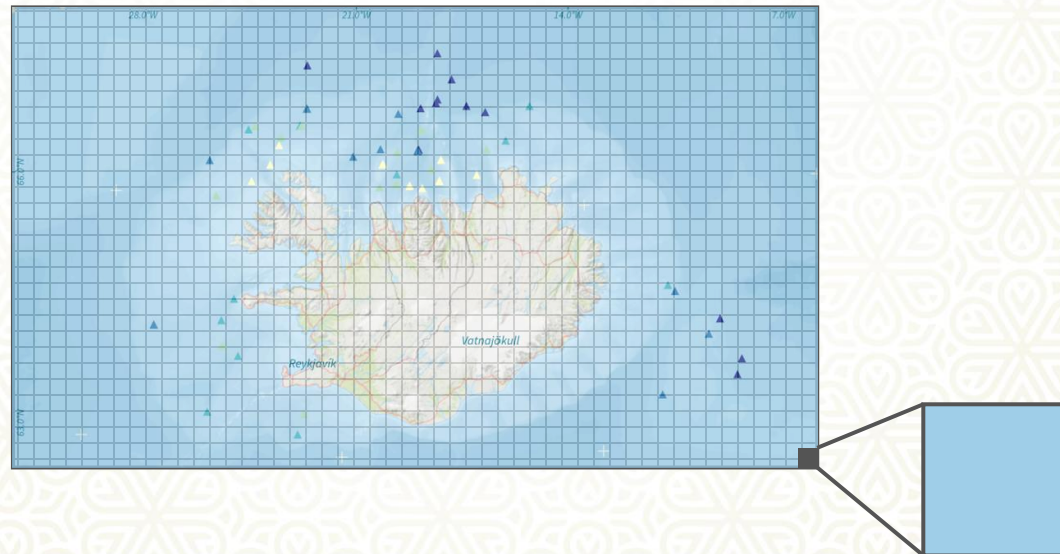
Náttúrufræðistofnun

WMTS – Web Map Tile Service

Lightweight and fast to load

Problems with tile overlapping data

No query of attribute inside the tile





XYZ tiles – Non OGC

Have their own tiling scheme and are normally served in a folder structure on the web.

Example of OpenStreetMap tiles:

<https://tile.openstreetmap.org/{z}/{x}/{y}.png>

{z} = is zoom level

{x} = tile position

{y} = tile position

<https://tile.openstreetmap.org/0/0/0.png>



Sometimes it can be -Y



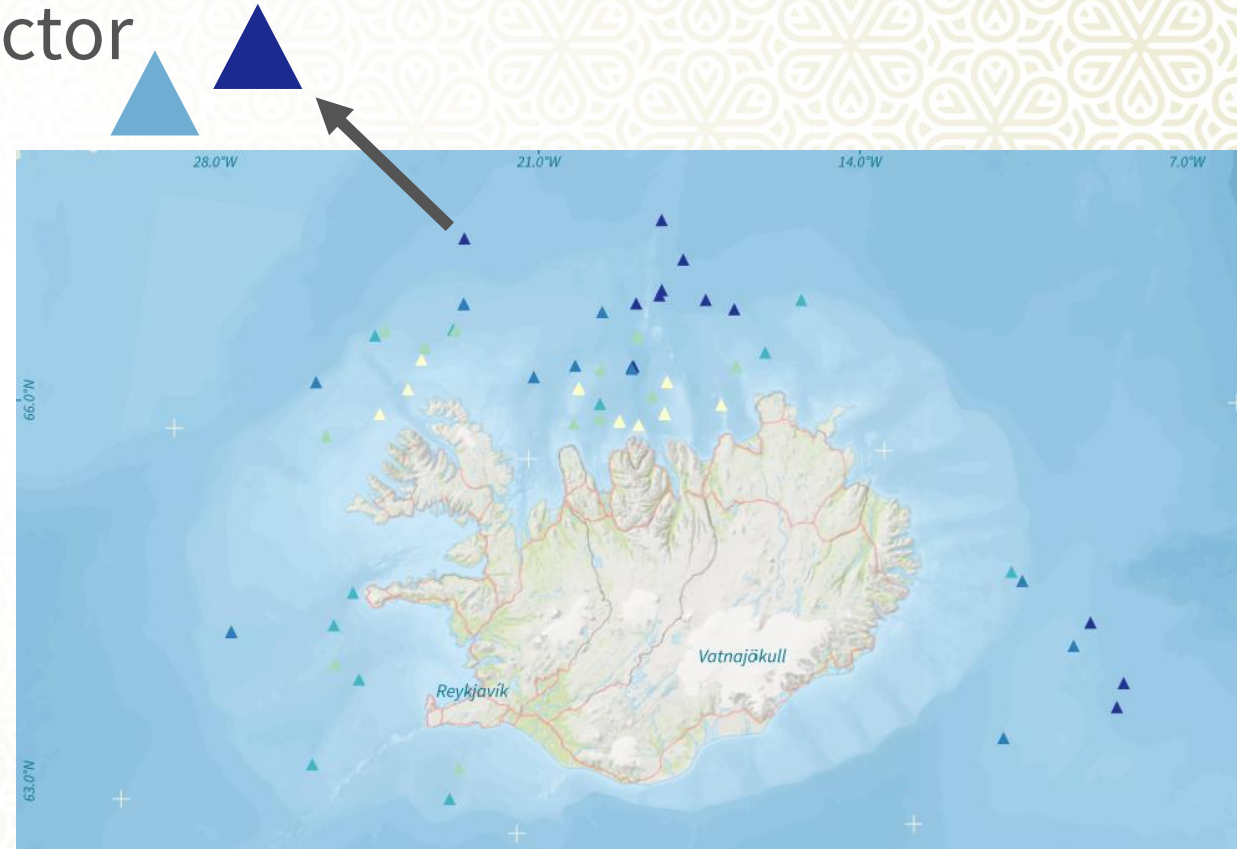


WFS – Web Feature Service

- Download and edit
 - Have attributes
 - Can get heavy fast
- Vistgerðakort 30 GB vectors

Possible solution: Vector Tile

Vector





What is PostgreSQL/PostGIS

PostgreSQL

- Open-source relational database system
- Stores and manages structured data

<https://www.postgresql.org/>



PostGIS

- Adds support for geographic data types
- Stores points, lines, and polygons, and allows spatial queries

<https://postgis.net/>

- Multiple-user access: read and edit data at the same time
- Data integrity where rules prevent inconsistent or corrupt records
- Spatial queries and way more

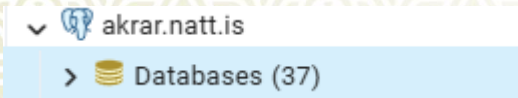


How we use PostgreSQL/PostGIS



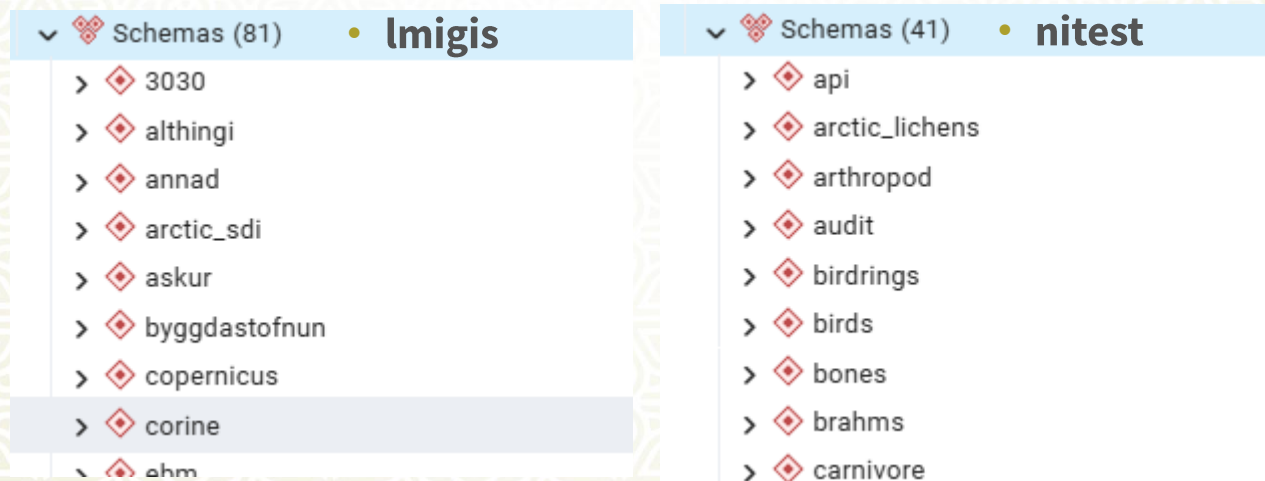
In-house setup

Database server



- Hostet on NATT infrastructure: **akrrar-natt**
- Accessible from within NATT network
- PostgreSQL with PostGIS extension

Databases



Schemas/access

- Data is organized into schemas → for example you will work in the qgis_namskeid schema
- Different level of access → read access only, write access, admin access.



Data about data → Metadata

To find datasets we need information about:

- Where is the data?
- How to get it?
- What it contains?
- Who produced it?
- When was the data produced?
- ...

This information is called Metadata

The screenshot shows a metadata page for a dataset titled "NI_D25v Selalátur við strendur Íslands 2. útgáfa" (NI_D25v Seal haul-outs around Iceland 2. edition). The page includes a search bar, navigation buttons, and a "Completed" status indicator. The main content area contains a description in Icelandic and English, a map of Iceland showing haul-out locations, and a list of related metadata items with links to open them.

NI_D25v Selalátur við strendur Íslands 2. útgáfa – 1:25.000

Gagnasafn (GDB) NI_D25v_selalaturVidStrendurIslands_2.utg.:

Útbreiðsla landsela (*Phoca vitulina*) og talingagögn 1980-2018. Útbreiðsla útsela (*Halichoerus grypus*) og talingagögn 1982-2017.
[Seal haul-outs around Iceland].

Fjögur flákalög sem sýna kortlagningu 430 landselslára á 93 talingasvæðum (ni_d25v_landseilir_1980_2018_selalatur_fl, ni_d25v_landseilir_1980_2018_talingarsvaeði_fl) og 86 útselslára á 19 talingasvæðum (ni_d25v_utseilir_1982_2017_selalatur_fl, ni_d25v_utseilir_1982_2017_talingarsvaeði_fl). Talingagögn segja til um fjölda sela á hverju talingasvæði. Selir eru taldir á nokkurra ára fresti og gefur ágæta mynd af breytingum í stofnstærð og umfangi selalára. Landseilir eru taldir síðsumars en útselir að hausti. Nánari skýringar á aðferðum við selatöningar og stofnmat er að finna í Fjölriti 56.

Látur eru strandsvæði sem selir leita á til að kæpa, sinna uppeldi kópa, hafa feldskipti og hvílast. Orðið selalátur vísar hér til smæstu samfelldu spildanna þar sem selir halda til. Talingasvæði er aftur á móti víðtækara safnheiti sem oftast nær yfir mörg smærri selalátur.

Nákvæmni kortlagningu selalára miðast við mælikvarða 1:25.000, en nákvæmni talingasvæða er um 1:250.000.

[General overview of the seal haul-out locations around Iceland for harbour seals (*Phoca vitulina*) and grey seals (*Halichoerus grypus*). The harbour seal population has been monitored with direct counts (aerial censuses) since 1980 and the grey seal population since 1982. Both feature classes 'latur' show the haul-outs (Icelandic: látur) for each species. The haul-outs are grouped into counting zones (Icelandic: talingarsvæði) and both feature classes 'talingarsvaeði' show the associated population counts.]

Completed

Niðurhal og tenglar

	Niðurhal gagna https://www.natt.is/is/midlun/opin-gogn/nidurhal-gagna	Opna tengil
	NÁTT kortasjá 'Selalátur við strendur Íslands' http://selalatur.ni.is/	Opna tengil
	Fjölrit Náttúrufræðistofnunar nr. 56 'Selalátur við strendur Íslands' http://utgata.ni.is/fjolrit/Fjolrit_56.pdf	Opna tengil

Engin einkunnagjöf ★

See all feedback | Bættu við þinni umsögn

Staðbundið umfang

Staðbundið umfang

Tímabundin stækkun

Útgáfudagur
2018-05-01

Dagsetning endurskoðunar
2020-07-01

Tímabil
Tue Jan 01 1980 00:00:00 GMT+0000 ▶ Mon Dec 31 2018 00:00:00 GMT+0000

Afhent af



Collection of Geospatial Data

A collection of metadata becomes a so-called Metadata Catalog

Lýsigagnagátt

→ <https://gatt.natt.is>

The screenshot shows the user interface of the metadata catalog. At the top, there is a search bar with the text "Leita ..." and a search icon. Below the search bar, there are several filter panels on the left side:

- Ekkert í körfunni**: A panel for the current search results.
- Sía**: A panel for search filters, including "Stækka" and "Minnka" buttons.
- TEGUND GAGNA**: A list of data types with checkboxes and counts: Dataset (440), Service (49), Service-OGC.WMS (22), Map (15), and Interactive map (15).
- VELJID**: A list of visibility options: Sýnilegt (284) and Hægt að hlaða niður (10).
- INSPIRE ÞEMU**: A list of INSPIRE themes with checkboxes and counts: Http://inspire.ec.europa.eu/theme/ad (4), Http://inspire.ec.europa.eu/theme/ai (15), Http://inspire.ec.europa.eu/theme/am (21), Http://inspire.ec.europa.eu/theme/au (12), and Http://inspire.ec.europa.eu/theme/bu (3).
- AFHENT AF**: A list of sources: Lýsigagnagátt (504).
- ÁR**: A list of years with checkboxes and counts: 2026 (3), 2025 (3), 2024 (11), 2023 (11), and 2022 (24).

The main content area displays search results in a grid. The first result is titled "Ymis gögn OR: or_gogn" and includes a compass rose icon and the name "María Thors". The second result is titled "Fiskmerkingar" and includes a map icon and the text "Fiskmerkingar hafa verið stundaðar í sjó, ám og vötnum um árabil. Upplýsingar sem fást með merktum fiski nýtast meðal annars við rannsóknir á útbreiðslu, fari og dánartíðni. Einnig eru fiskmerkingar notaðar við vöktun og til að fylgjast með með hópum eða stofnum fiska um lengri eða skemmi tíma." The third result is titled "Umdæmi héraðsdýralækna" and includes the MAST logo and the text "Landinu er skipt í fimm umdæmi. Í hverju umdæmi er umdæmisstofa MAST þar sem héraðsdýralæknir sinnir opinberu eftirliti með heilbrigði og velferð dýra og framlieðslu búfjárafurða á svæðinu. Í sínu umdæmi hafa héraðsdýralæknar eftirlit með sláturdýrum, sláturafurðum og afurðastöðvum, ásamt eftirliti". The fourth result is titled "Hættumat ofanflóða á Kjalarnesi" and includes a map icon and the text "Hættumat ofanflóða á Kjalarnesi Fyrir frekari upplýsingar um gögnin er bent á að hafa samband við Reykjavíkurborg. https://data-reykjavik.opendata.arcgis.com/datasets/haettuma-kjalarnesi/explore".



Náttúrufræðistofnun

Collection of Geospatial Data on a map

We have it also in our webmap

Lýsigagnagátt

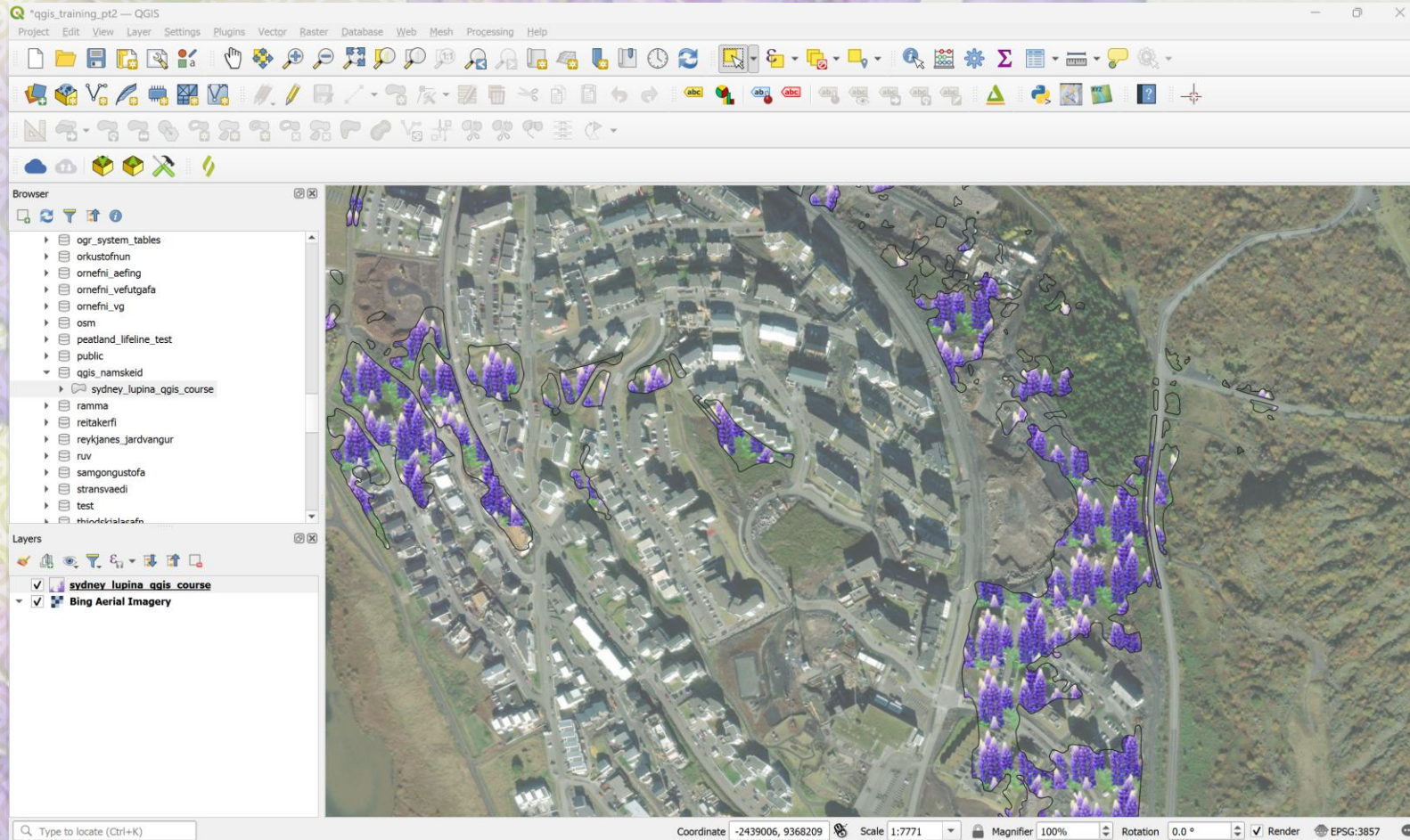
→ <https://kortagluggi.is>

→ <https://kort.gis.is/>

The screenshot displays the Kortagluggi webmap interface. The title bar shows "Kortagluggi" and a search bar with "Leita" and a magnifying glass icon. A red circle highlights an information icon (i) in the top right corner. The main content area is divided into two sections. The top section, titled "Gögn", contains a list of data layers with checkboxes and sliders. The layers are: "Valin gögn" (checked), "Talningasvæði landsela" (checked, with a slider), "Talningasvæði útsela" (checked, with a slider), and "Viðverustaðir landsela" (checked, with a slider). The bottom section, titled "SKIPULAG", contains a list of categories: "SAMFÉLAG", "ORKA", "UMHVERFI", "LAND", "HAF", "KORT", "LOFTMYNDIR", and "SÉRFRÆÐINGURINN". The map itself shows Iceland with various geospatial data overlays, including blue and yellow hatched areas and red dots. A scale bar at the bottom left indicates "100 km". The bottom right corner shows coordinates "N 65° 1' 43'' W 18° 51' 53''" and the ISN93: 506379, 503191.



WORKSHOP: OWS and Postgres (database) connections in QGIS Updating Alaska lúpína extent using satellite imagery



We will prepare a map using satellite imagery from XYZ tile map services and some data from the Náttúrufræðistofnun database to map out Lupine extent.

We will then use this map again in the next course (QField) where we will package it and prepare it for the field.

We will continue with the QField Lupina exercise in the next course.

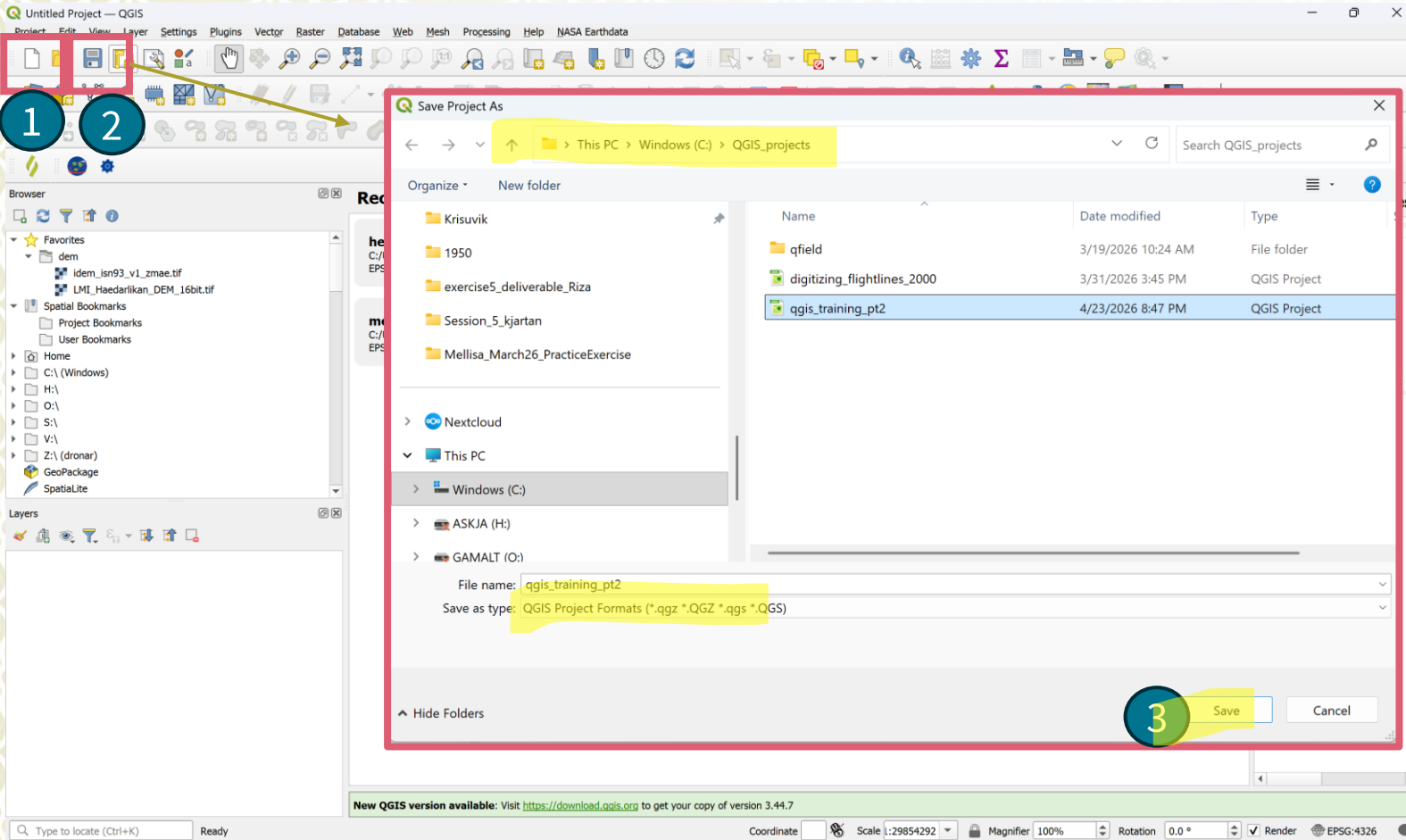
But for now, lets start with the exercise



WORKSHOP: OWS and Postgres (database) connections in QGIS

Start a new project

1. Start a new project by clicking the new project button
2. Save the project by clicking save project button
3. Save somewhere **locally**. Beware that on many computers, Desktop and Documents are on OneDrive! Create a project folder, and save this QGIS project in the same folder. Give a descriptive name.

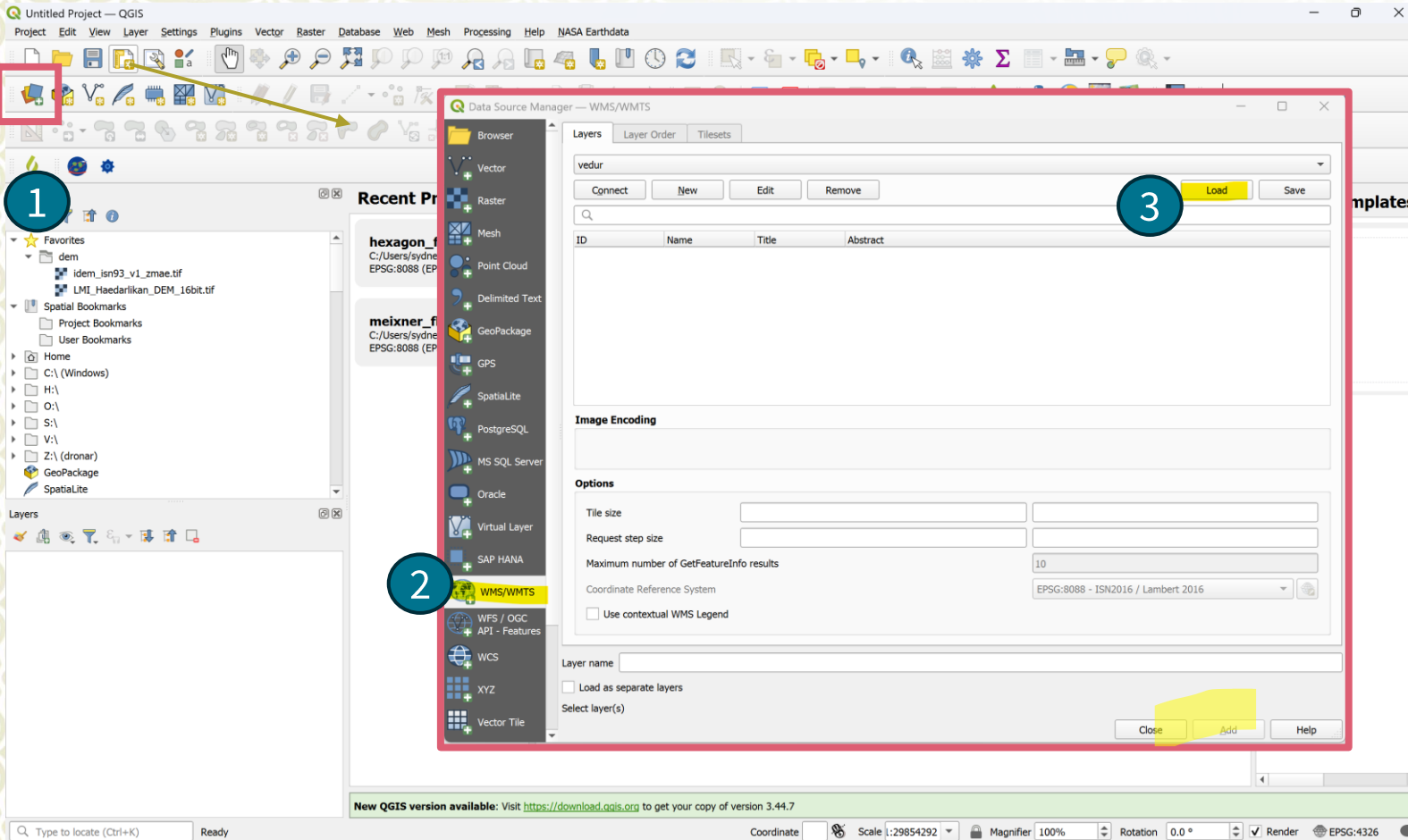


We will use this project in future lectures so keep it



WORKSHOP: OWS and Postgres (database) connections in QGIS

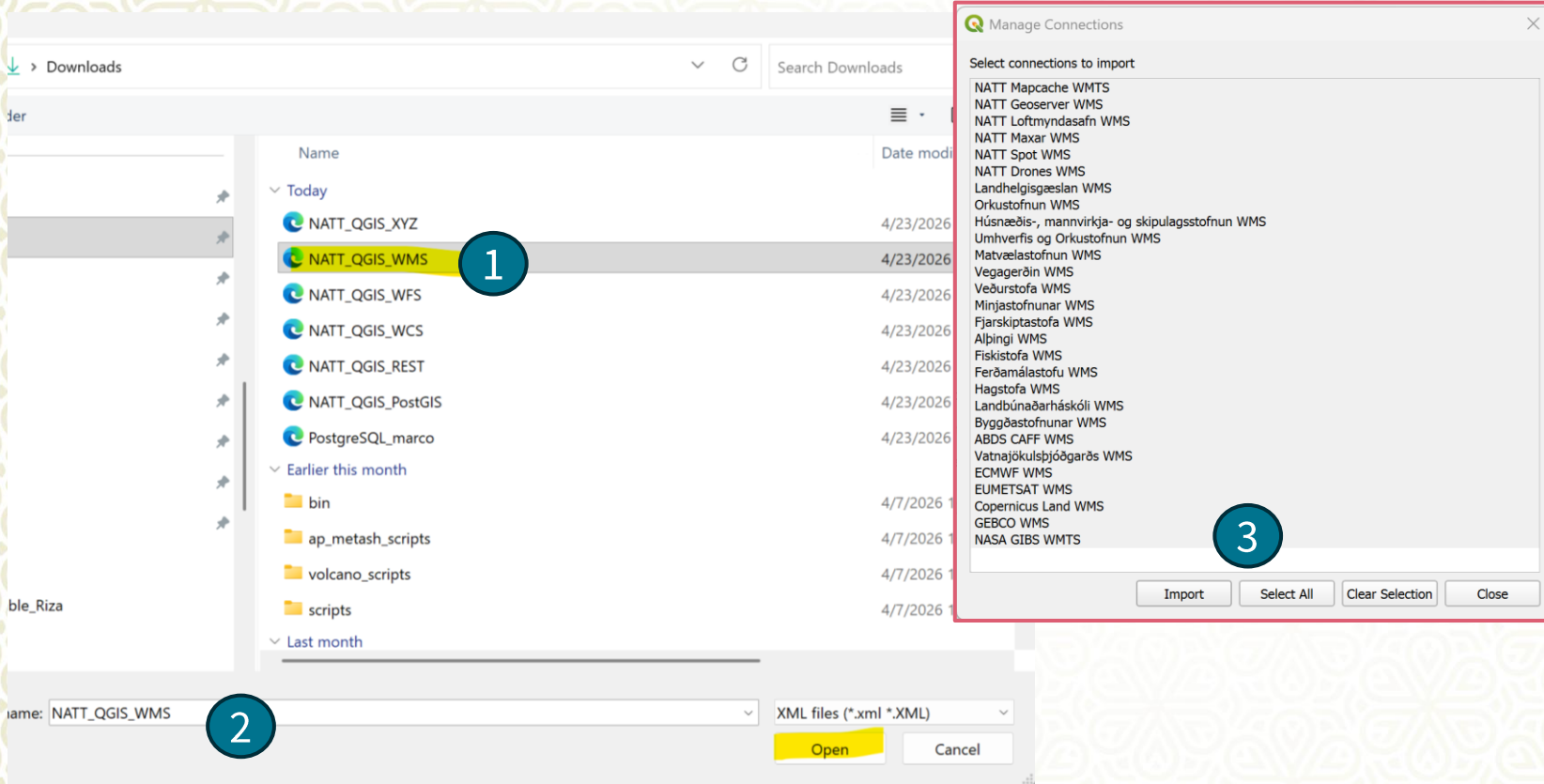
Import WMS services via .xml file



0. Download the ZIP file:
https://ftp.natt.is/public/michaela/QGIS_course/NATT_QGIS_Connections.zip and extract it.
1. Select the Data Source Manager button
2. Select WMS/WMTS as the source type
3. Click 'Load'...



WORKSHOP: OWS and Postgres (database) connections in QGIS

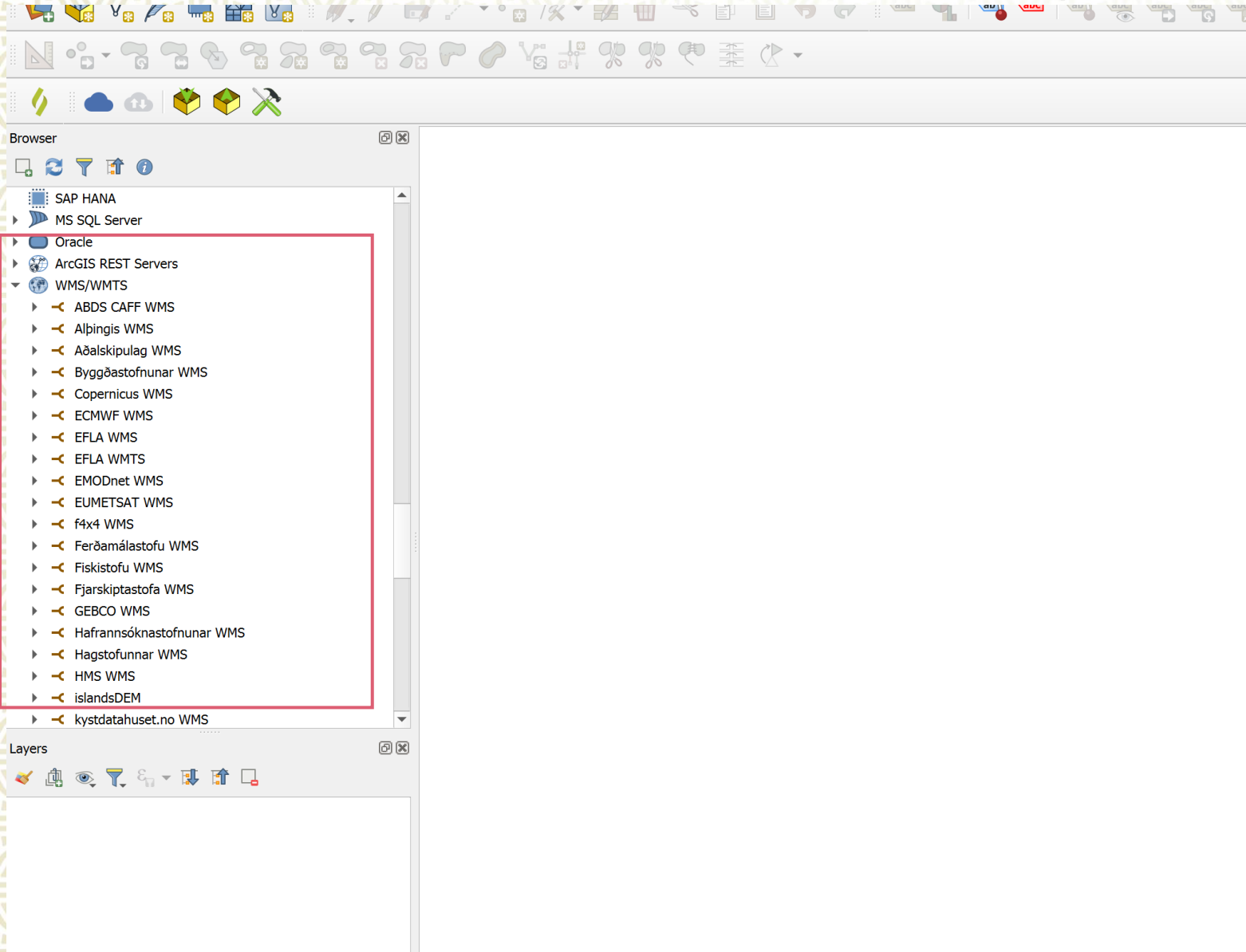


Import WMS services via .xml file

1. Navigate to where you saved your .xml files
2. Import the file called 'NATT_QGIS_WMS.xml'
3. A list of connections will pop up in a new window. You can either select specific ones you want or simply click 'Select All' and 'Import' to import all of them (recommended).



WORKSHOP: OWS and Postgres (database) connections in QGIS



Import WMS services via .xml file

1. Now in your QGIS window, if you navigate to 'WMS/WMTS' in the Browser, you will see all the connections you just imported. (You might have to expand it by clicking the little arrow)

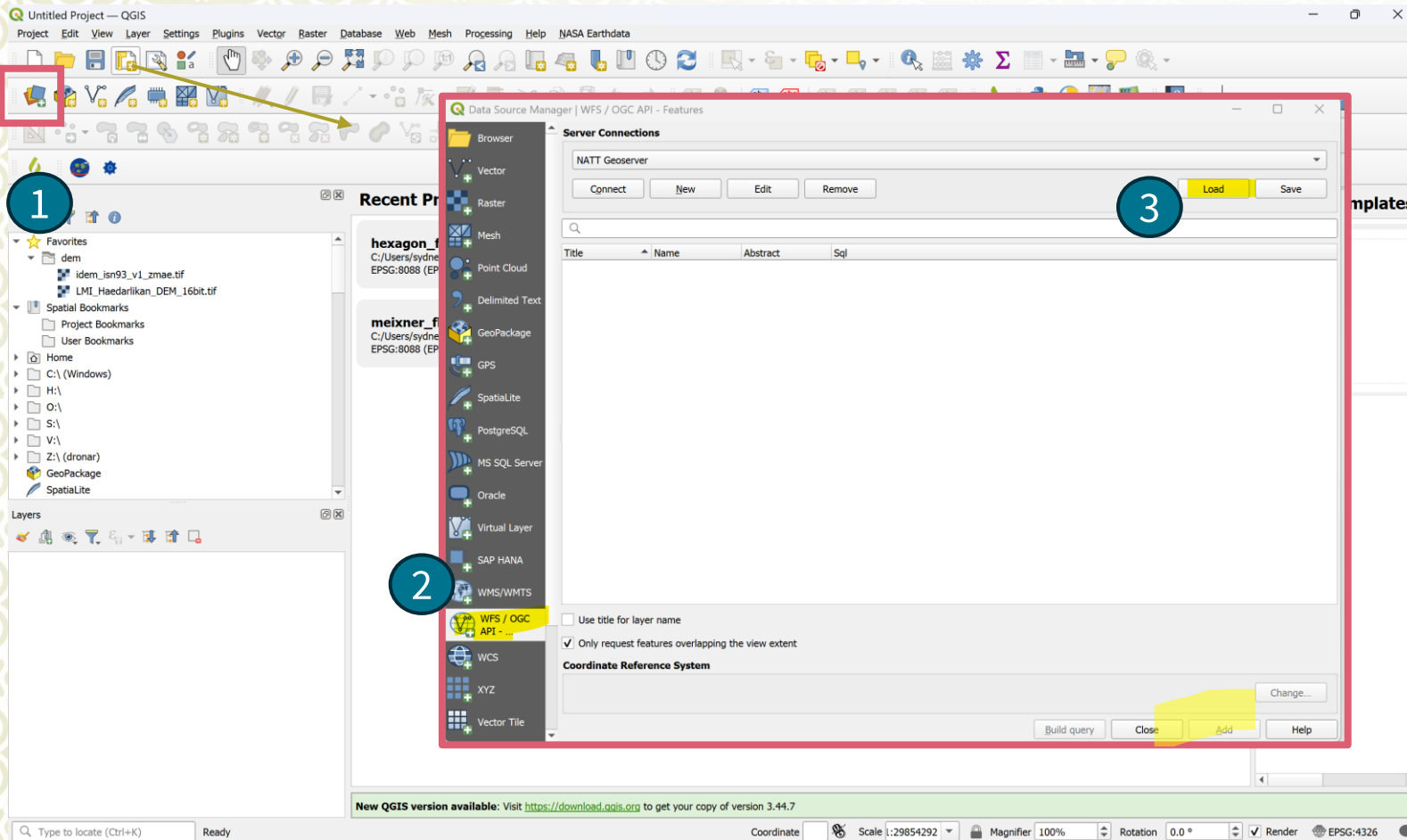




WORKSHOP: OWS and Postgres (database) connections in QGIS

Import WFS services via .xml file

1. Select the Data Source Manager button
2. Select WFS / OGC API as the source type
3. Click 'Load'...





WORKSHOP: OWS and Postgres (database) connections in QGIS

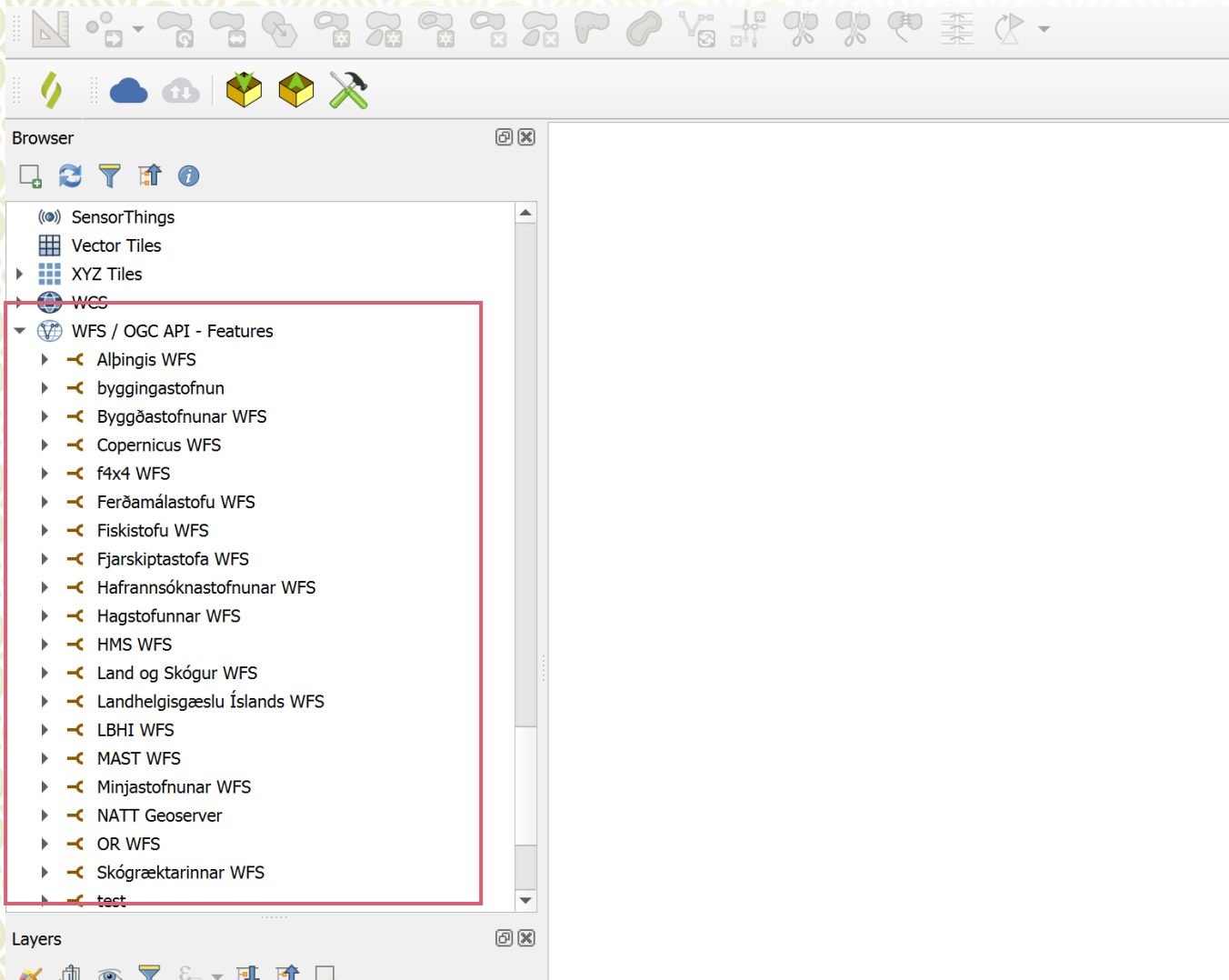
Import WFS services via .xml file

The screenshot shows the QGIS interface with a file explorer window open to the 'Downloads' folder. The file 'NATT_QGIS_WFS.xml' is selected, highlighted with a yellow background and a red circle labeled '1'. The file name field at the bottom shows 'file name: NATT_QGIS_WFS' with a red circle labeled '2'. A 'Manage Connections' dialog box is open, displaying a list of WFS services. The 'Import' button is highlighted with a red circle labeled '3'. The list of services includes: NATT Geoserver WFS, Landhelgisgæslan WFS, Orkustofnun WFS, Húsnæðis-, mannvirkja- og skipulagsstofnun WFS, Umhverfis og Orkustofnun WFS, Matvælastofnun WFS, Vegagerðin WFS, Veðurstofa WFS, Minjastofnunar WFS, Fjarskiptastofa WFS, Alþingi WFS, Fiskistofa WFS, Ferðamálastofu WFS, Hagstofa WFS, Landbúnaðarháskóli WFS, Byggðastofnunar WFS, ABDS CAFF WFS, and Vatnajökulsþjóðgarðs WFS. The dialog box has buttons for 'Import', 'Select All', 'Clear Selection', and 'Close'.

1. Navigate to where you saved your .xml files that were emailed to you before the course
2. Import the file called 'NATT_QGIS_WFS.xml'
3. A list of connections will pop up in a new window. You can either select specific ones you want, or simply click 'Select All' and 'Import' to import all of them (recommended).



WORKSHOP: OWS and Postgres (database) connections in QGIS



Import WFS services via .xml file

1. Now in your QGIS window, if you navigate to 'WFS / OGC API' in the Browser, you will see all the connections you just imported. (You might have to expand it by clicking the little arrow)

▶  **WFS / OGC API - Features**

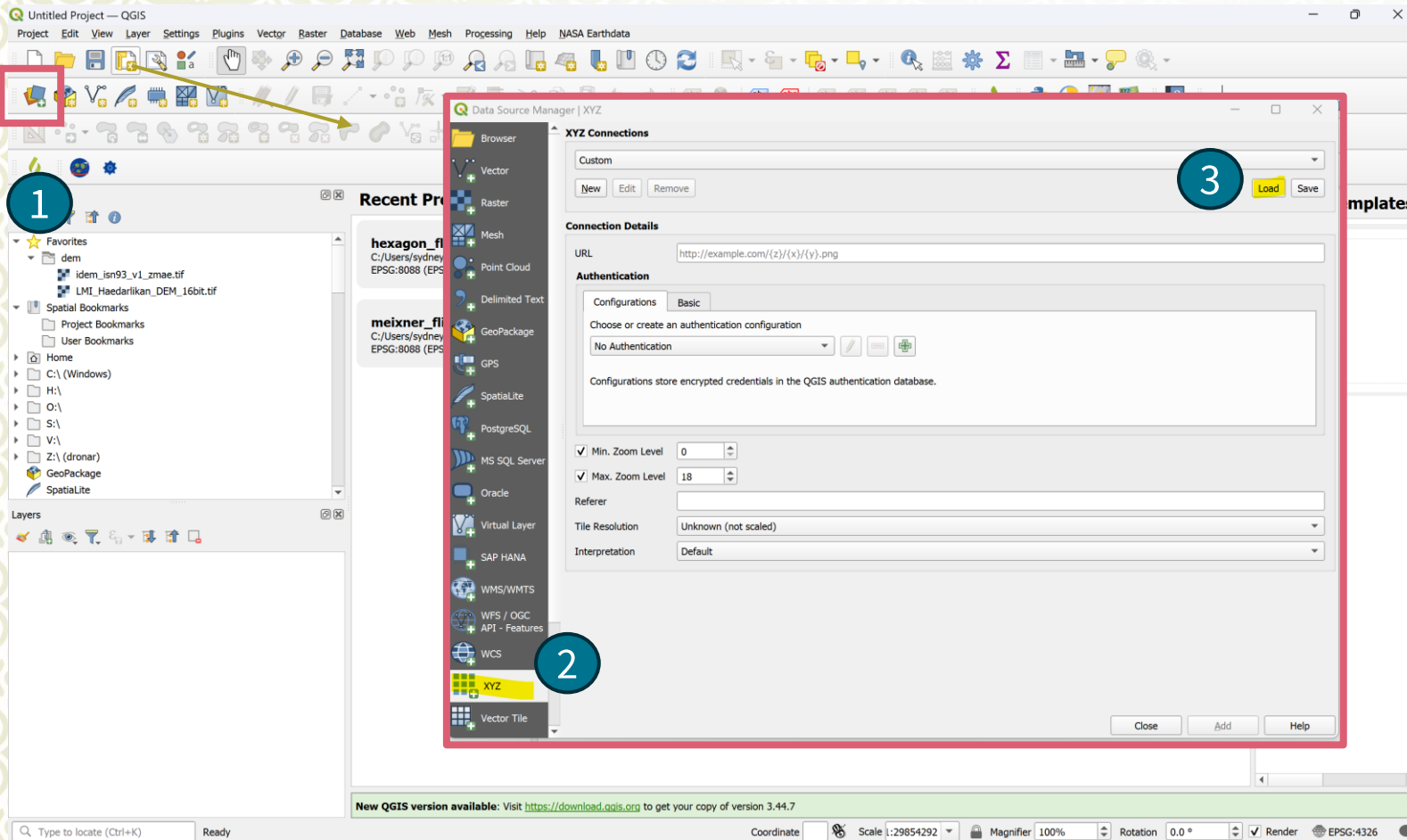
- ▼  **WFS / OGC API - Features**
 - ▶  **ABDS CAFF WFS**
 - ▶  **Alþingi WFS**
 - ▶  **Byggðastofnunar WFS**
 - ▶  **Ferðamálastofu WFS**
 - ▶  **Fiskistofa WFS**



WORKSHOP: OWS and Postgres (database) connections in QGIS

Import XYZ services via .xml file

1. Select the Data Source Manager button
2. Select XYZ as the source type
3. Click 'Load'...





WORKSHOP: OWS and Postgres (database) connections in QGIS

The screenshot shows the QGIS interface with a file explorer window open to the 'Downloads' folder. The file 'NATT_QGIS_XYZ' is selected, highlighted with a yellow background and a red circle containing the number '1'. Below the file explorer, the 'file name' field contains 'NATT_QGIS_XYZ' and the file type is set to 'XML files (*.xml *.XML)'. A red circle containing the number '2' is placed over the file name field. A 'Manage Connections' dialog box is overlaid on the right, showing a list of connections to import. The list includes 'Mapzen Global Terrain' and 'ESRI World Street Map'. A red circle containing the number '3' is placed over the 'Select All' button. At the bottom, a 'Loading Connections' dialog box is open, displaying a warning: 'Connection with name 'Mapzen Global Terrain' already exists. Overwrite?'. The 'Yes' button is highlighted with a blue background.

Import XYZ services via .xml file

1. Navigate to where you saved your .xml files that were emailed to you before the course
2. Import the file called 'NATT_QGIS_XYZ.xml'
3. A list of connections will pop up in a new window. You can either select specific ones you want, or simply click 'Select All' and 'Import' to import all of them (recommended).
4. If asked to overwrite select "Yes to All"



WORKSHOP: OWS and Postgres (database) connections in QGIS

Import XYZ services via .xml file

1. Now in your QGIS window, if you navigate to 'XYZ Tiles' in the Browser, you will see all the connections you just imported. (You might have to expand by clicking the triangle on the left)

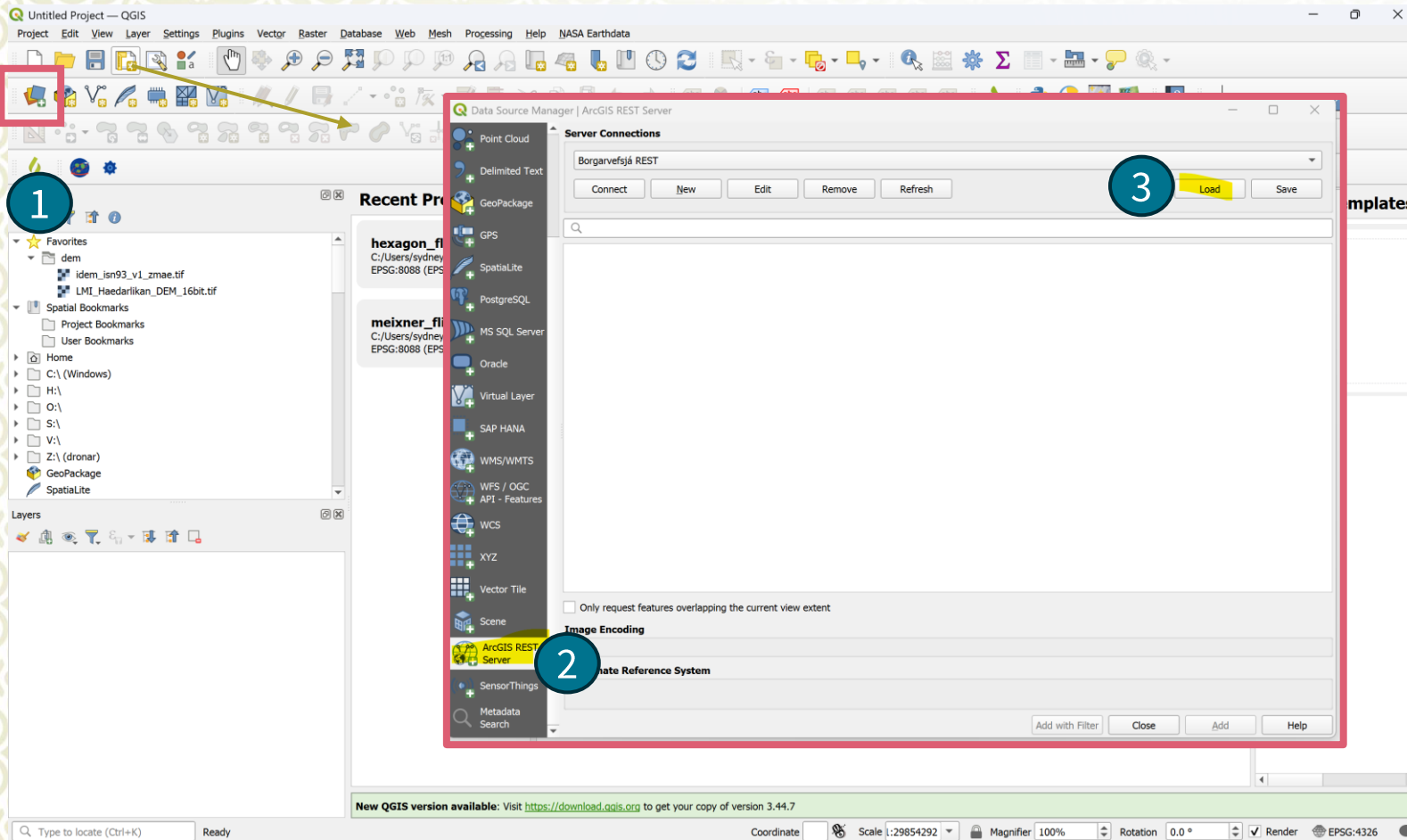




WORKSHOP: OWS and Postgres (database) connections in QGIS

Import REST services via .xml file

1. Select the Data Source Manager button
2. Select ArcGIS REST Server as the source type
3. Click 'Load'...



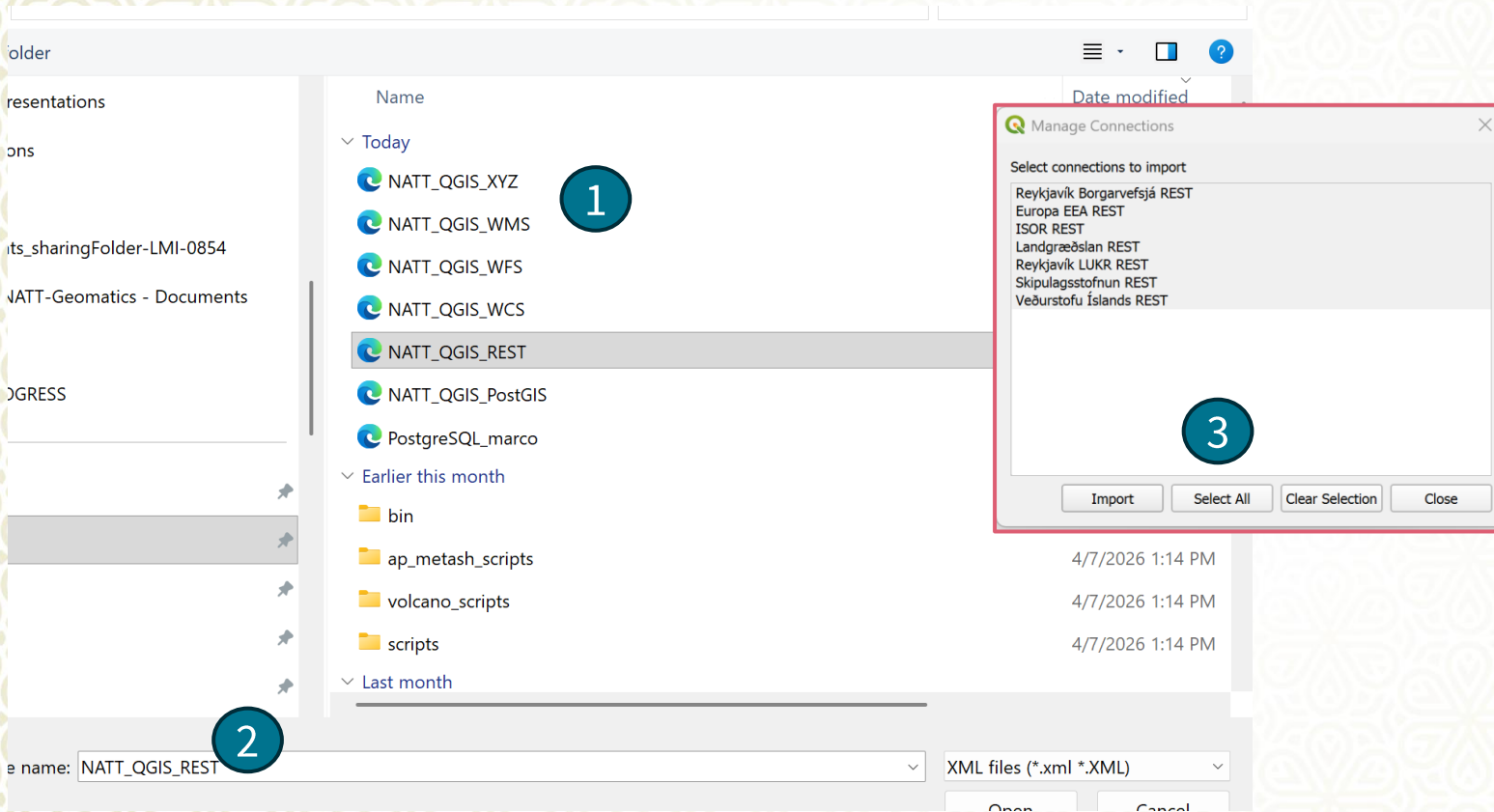
New QGIS version available: Visit <https://download.qgis.org> to get your copy of version 3.44.7



WORKSHOP: OWS and Postgres (database) connections in QGIS

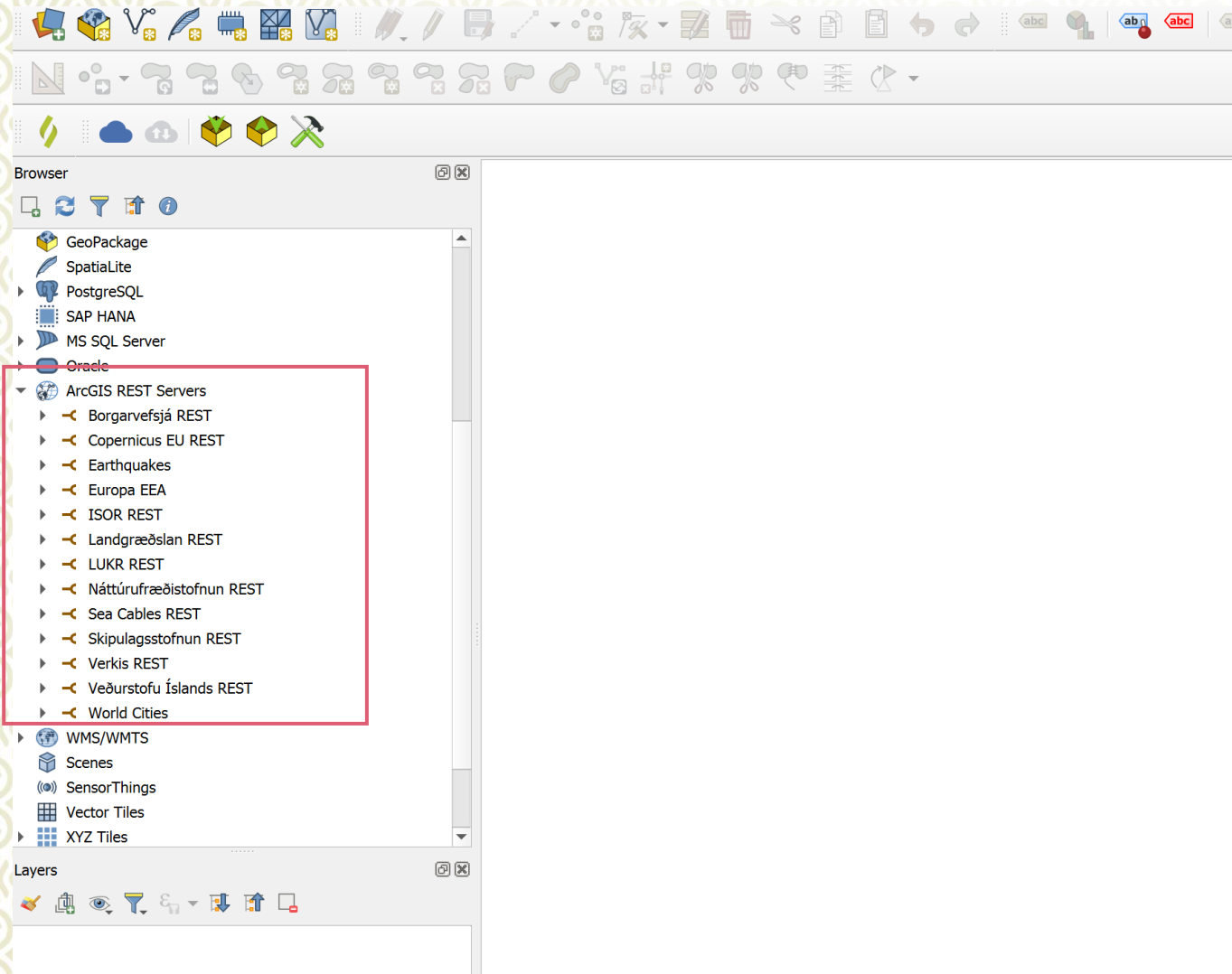
Import REST services via .xml file

1. Navigate to where you saved your .xml files that were emailed to you before the course
2. Import the file called 'NATT_QGIS_REST.xml'
3. A list of connections will pop up in a new window. You can either select specific ones you want, or simply click 'Select All' and 'Import' to import all of them (recommended).



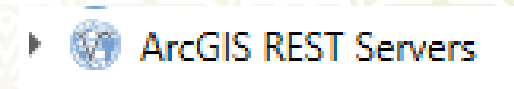


WORKSHOP: OWS and Postgres (database) connections in QGIS



Import REST services via .xml file

1. Now in your QGIS window, if you navigate to 'ArcGIS Rest Services' in the Browser, you will see all the connections you just imported. (You might have to expand by clicking the triangle on the left)

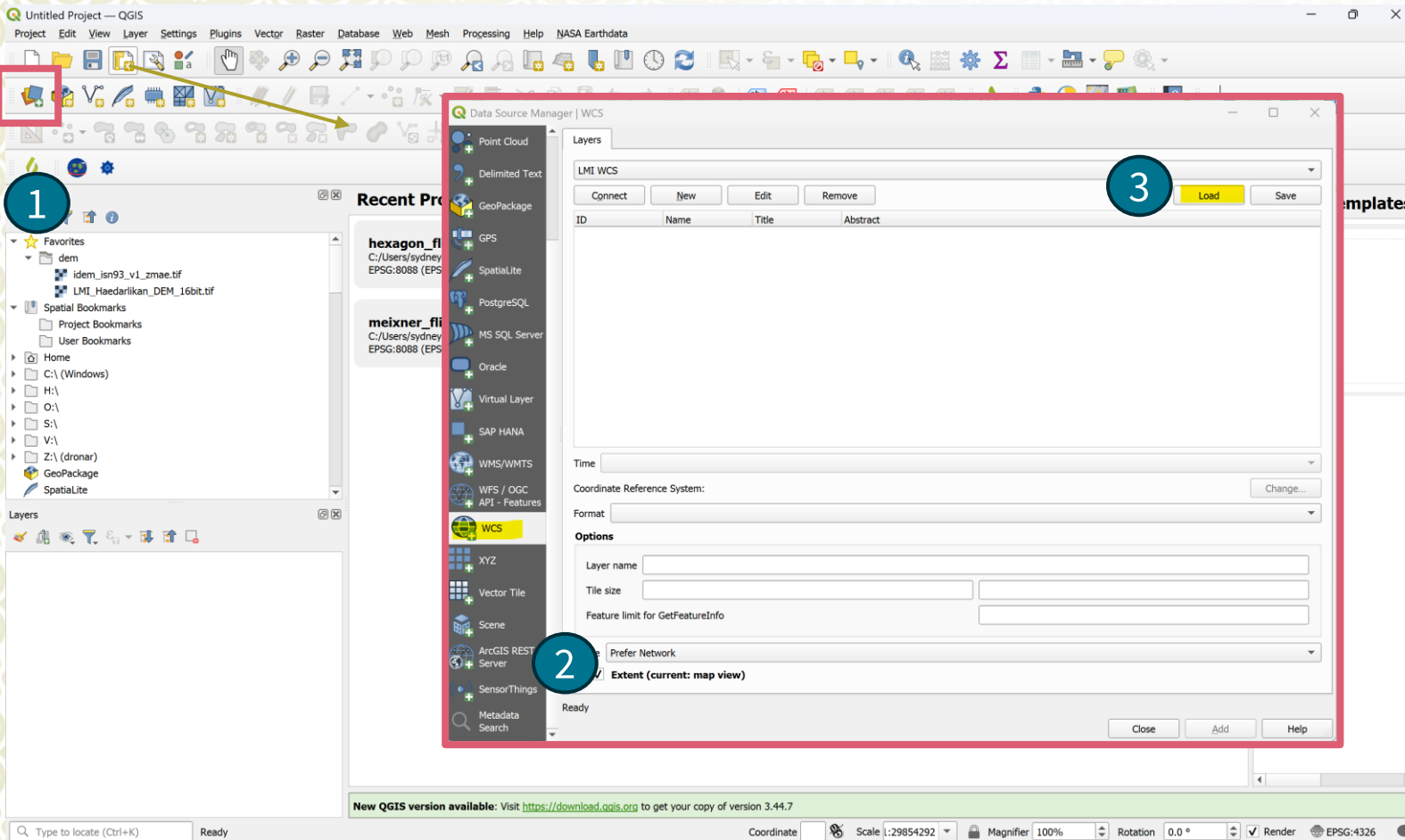




WORKSHOP: OWS and Postgres (database) connections in QGIS

Import WCS services via .xml file

1. Select the Data Source Manager button
2. Select WCS as the source type
3. Click 'Load'...



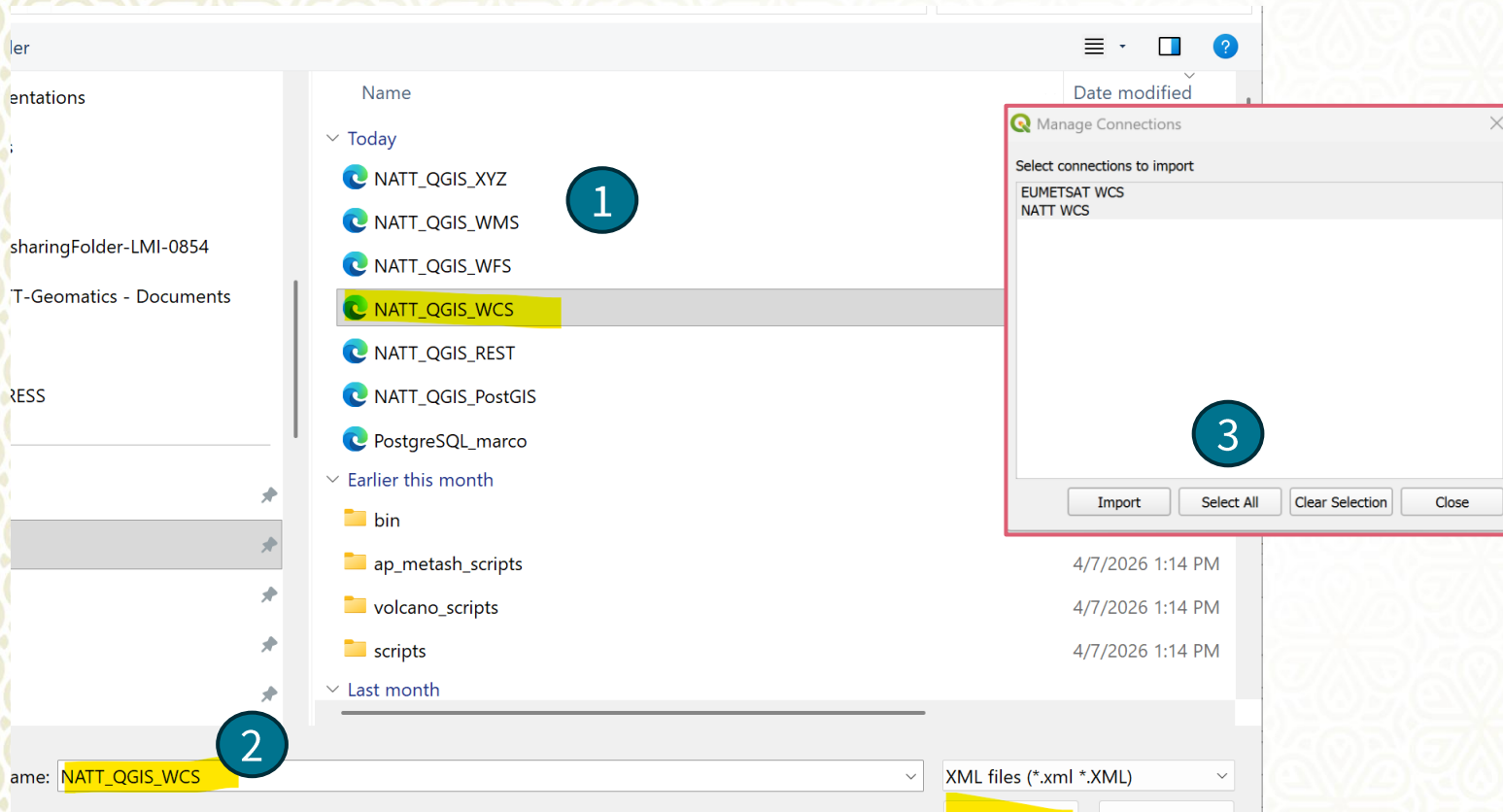
New QGIS version available: Visit <https://download.qgis.org> to get your copy of version 3.44.7



WORKSHOP: OWS and Postgres (database) connections in QGIS

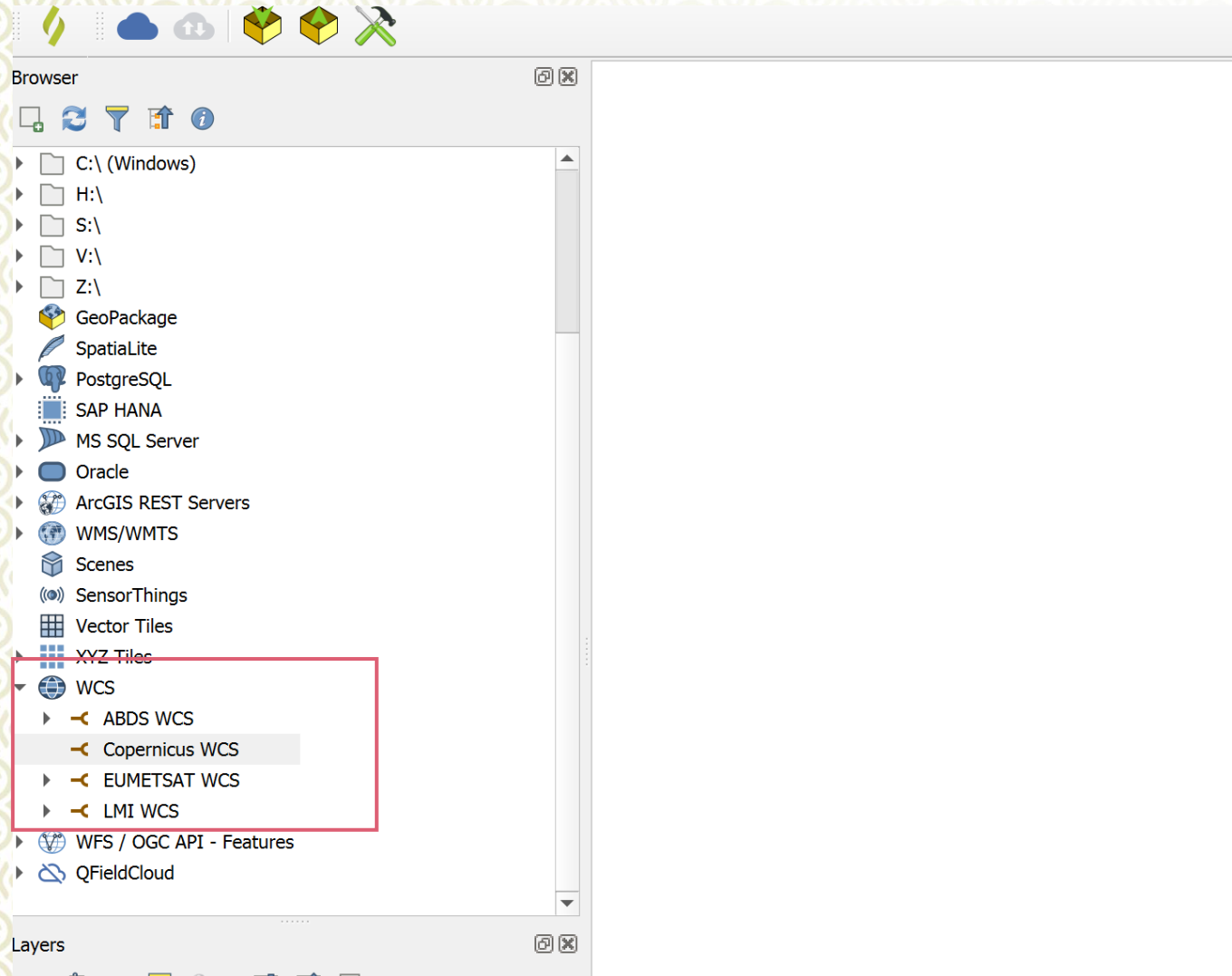
Import WCS services via .xml file

1. Navigate to where you saved your .xml files that were emailed to you before the course
2. Import the file called 'NATT_QGIS_WCS.xml'
3. A list of connections will pop up in a new window. You can either select specific ones you want, or simply click 'Select All' and 'Import' to import all of them (recommended).





WORKSHOP: OWS and Postgres (database) connections in QGIS



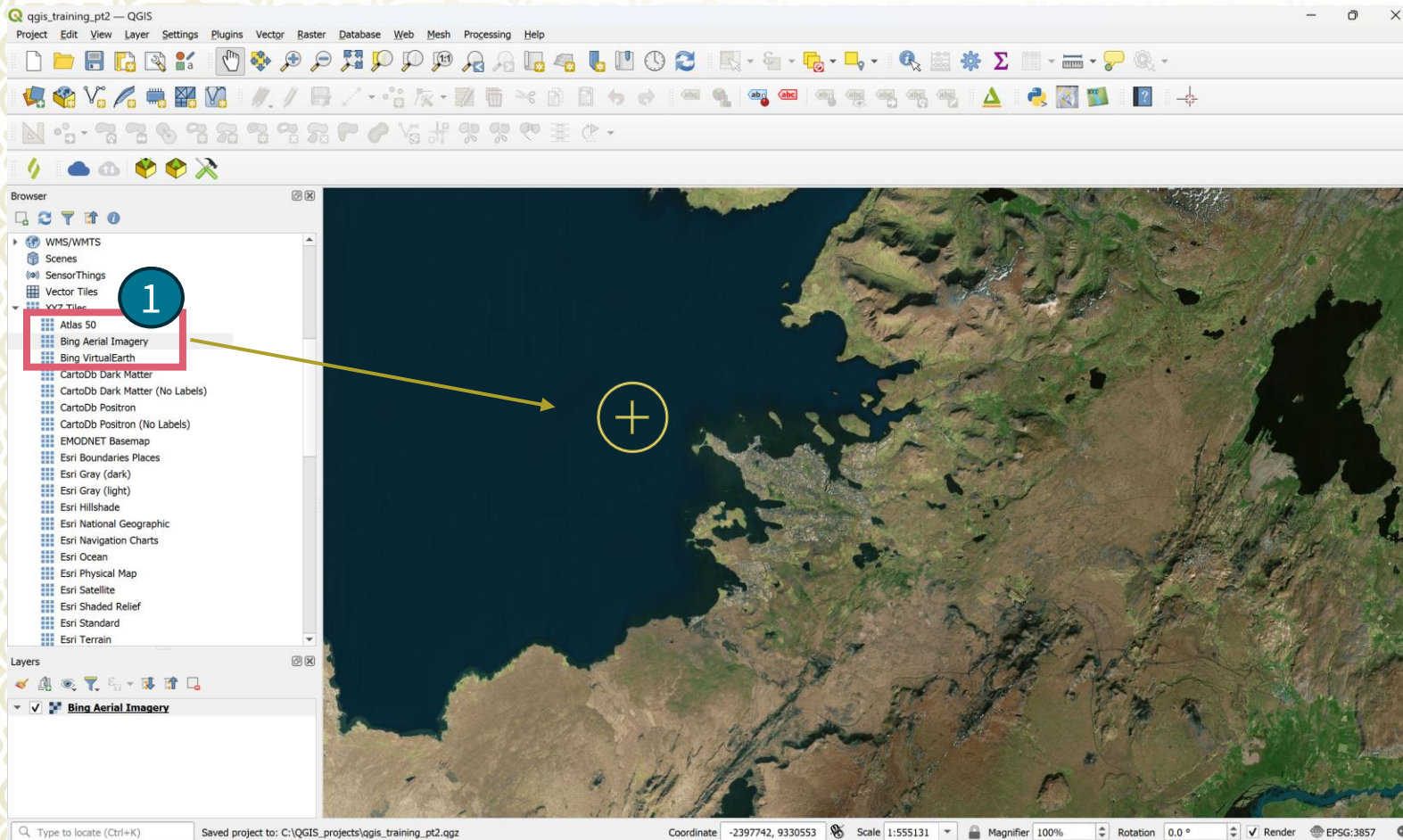
Import WCS services via .xml file

1. Now in your QGIS window, if you navigate to 'WCS' in the Browser, you will see all the connections you just imported.



WORKSHOP: OWS and Postgres (database) connections in QGIS

Add in a satellite imagery basemap



1. In the layer Browser, find XYZ tiles
2. Choose a basemap and import it by clicking and dragging it into the map canvas
3. You can zoom to your location on the map and see how the imagery looks.
4. Look through a few types of imagery and decide which one looks the best at your location.
5. Save the project when you decide



WORKSHOP: Basic Vector analysis and map creation

Grab lupine dataset from Nátt WFS

1. Click on the Data Source manager button

2. Go to WFS

3. From the dropdown menu, select 'Nátt Geoserver', and click 'Connect'

4. Search in the search bar for 'alaskalúpína'

5. Select 'Útbreiðsla alaskalúpínu'

6. Add the layer (don't change the coordinate reference system – since our map is in EPSG 3857 (satellite imagery) we will leave it this way)

Title	Name	Abstract	Sql
Útbreiðsla alaskalúpínu	ni:ni_g1v_lupina_3utg_fl	1:1.000 – 3. útg. – Endursk...	

Coordinate Reference System: EPSG:3857

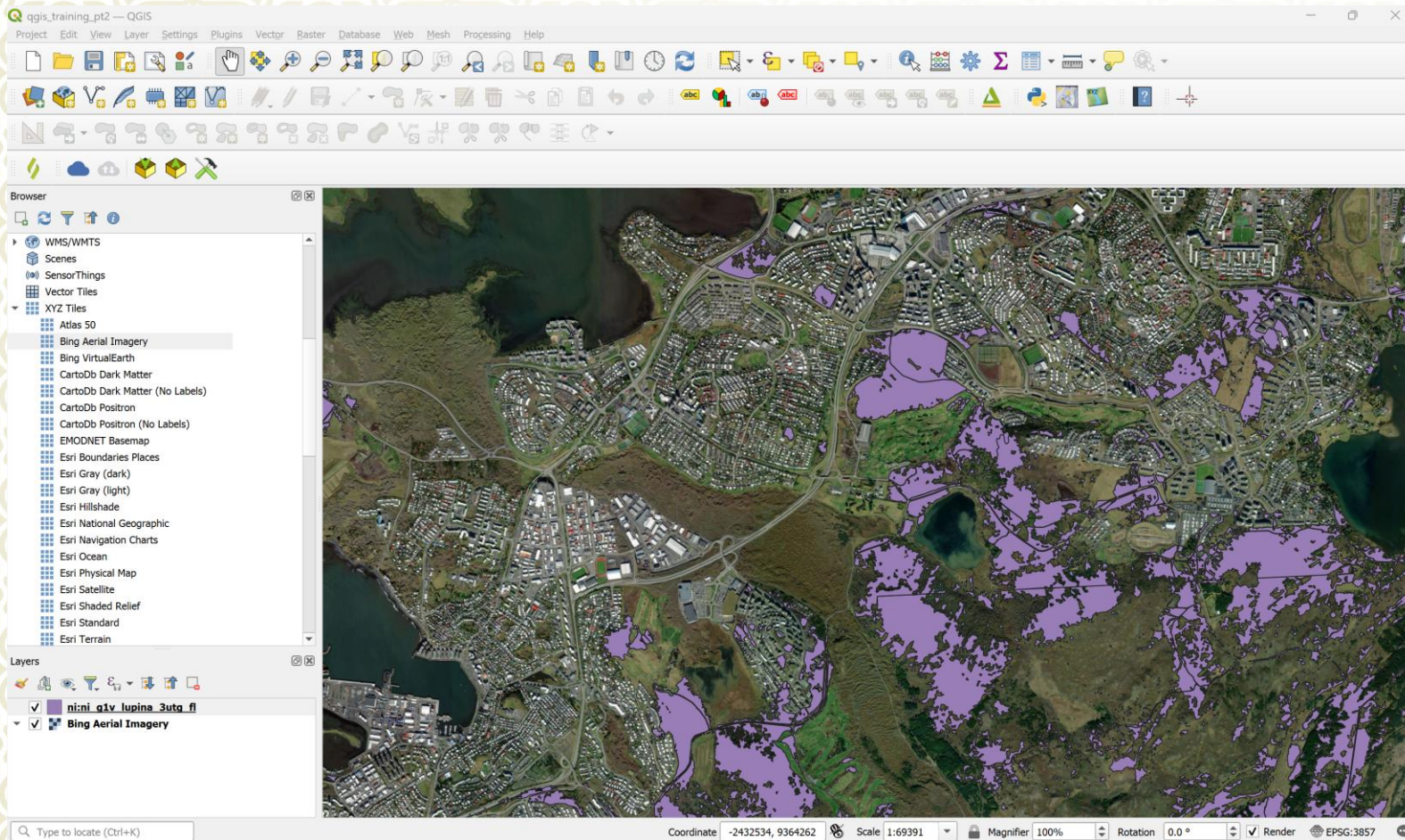
1. Click on the Data Source manager button
2. Go to WFS
3. From the dropdown menu, select 'Nátt Geoserver', and click 'Connect'
4. Search in the search bar for 'alaskalúpína'
5. Select 'Útbreiðsla alaskalúpínu'
6. Add the layer (don't change the coordinate reference system – since our map is in EPSG 3857 (satellite imagery) we will leave it this way)



WORKSHOP: OWS and Postgres (database) connections in QGIS

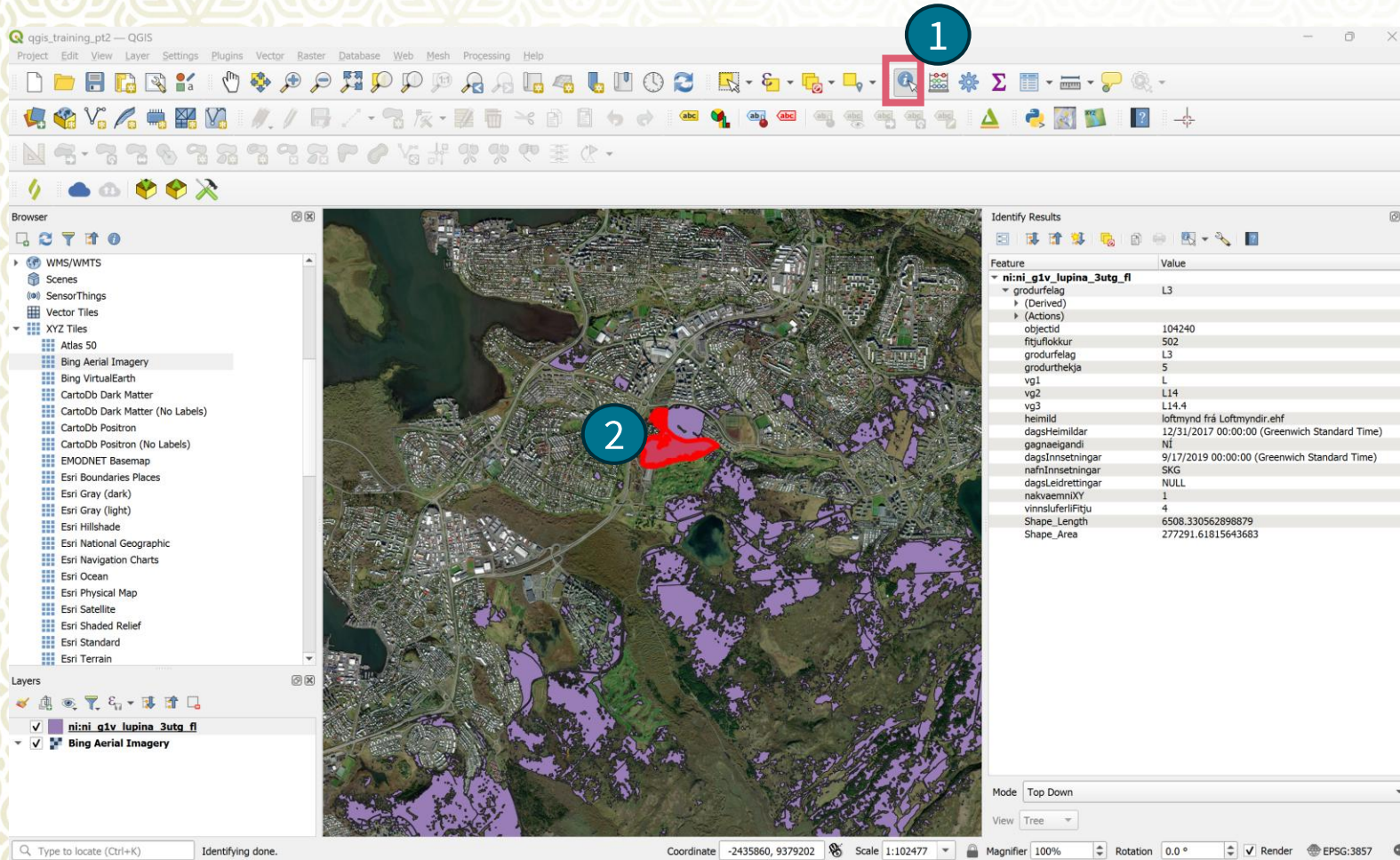
Query lupine WFS using identify tool

1. Your map now looks like this. It may take a while to load the lupine layer so be patient.
2. Since this layer is available from WFS, we cannot edit it. But, we can see information about each polygon





WORKSHOP: OWS and Postgres (database) connections in QGIS



Query lupine WFS using identify tool

1. Click on the identify tool from the toolbar
2. Click somewhere on the map where lupine exists
3. You will see a pop up window showing you all the attributes behind the vector – the source used to digitize it (in this case imagery from Loftmyndir ehf., from the year 2017).
4. This is a nice way to get information behind the layer, but it is slow to work with and we cannot edit it.



WORKSHOP: Basic Vector analysis and map creation

Grab lupine dataset from Nátt WMS

We will now load the same layer
As a WMS, to see how it is lighter
For viewing

1. Click on the Data Source manager button
2. Go to WFS
3. From the dropdown menu, select 'Nátt Geoserver WMS', and click 'Connect'
4. Search in the search bar for 'alaskalúpína'
5. Select 'Útbreiðsla alaskalúpínu' – BE PATIENT, this will take a while to load.
6. Add the layer (don't change the coordinate reference system – since our map is in EPSG 3857 (satellite imagery) we will leave it this way)

1. Click on the Data Source manager button

2. Go to WFS

3. From the dropdown menu, select 'Nátt Geoserver WMS', and click 'Connect'

4. Search in the search bar for 'alaska'

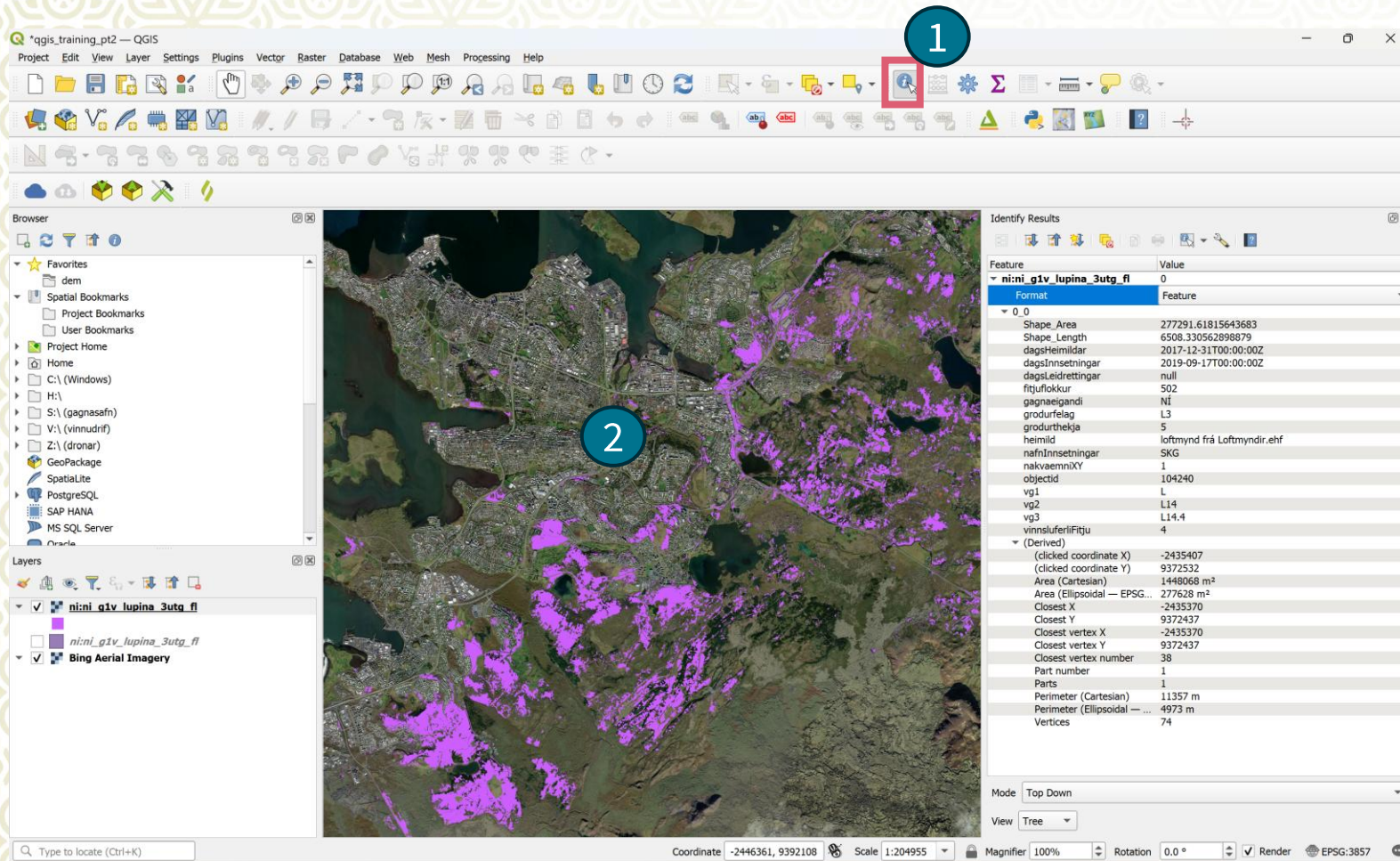
5. Select 'Útbreiðsla alaskalúpínu' – BE PATIENT, this will take a while to load.

6. Add the layer (don't change the coordinate reference system – since our map is in EPSG 3857 (satellite imagery) we will leave it this way)

ID	Name	Title	Abstract
0			Landfræðileg gögn Náttúrufræðistofnunar aðgengileg á stöðluðu WMS formi frá OGC
786	ni:ni_g1v_lupina...	Útbreiðsla alaskal...	1:1.000 – 3. útg. – Endurskoðað kortlagningu á útbreiðslu alaskalúpínu á landinu, flákalag. Alaskalúpína (L...
787	ni:ni_g1v_lupina...	ni:ni_g1v_lupina...	



WORKSHOP: OWS and Postgres (database) connections in QGIS



Query lupine WMS using identify tool

1. Click on the identify tool from the toolbar
2. Click somewhere on the map where lupine exists
3. You will see a pop up window, select 'feature' instead of HTML from the dropdown to get the full feature attributes as we had before with the WFS.

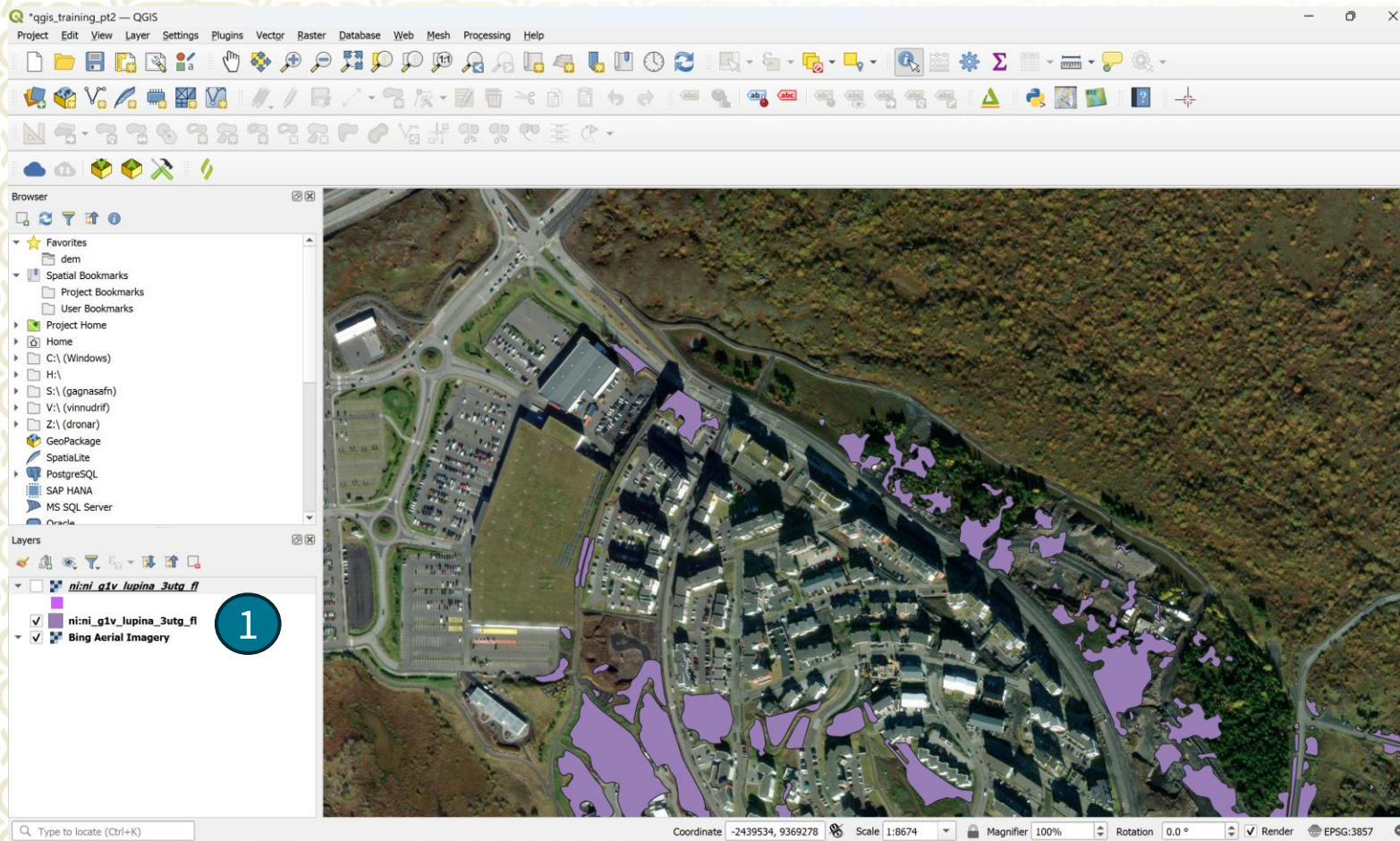
Since this is not actually a vector layer, we cannot change/edit the extent of the lupine. We will have to therefore use the WFS layer to create a new vector layer, upload to the database, then edit directly on the database.



WORKSHOP: OWS and Postgres (database) connections in QGIS

Create a copy of lupine from WFS

1. Zoom into your area of interest (in this example, Urridaholt). Uncheck the WMS layer, and check the WFS layer again (vector layer that we imported first). Now you should only be able to see the WFS layer.

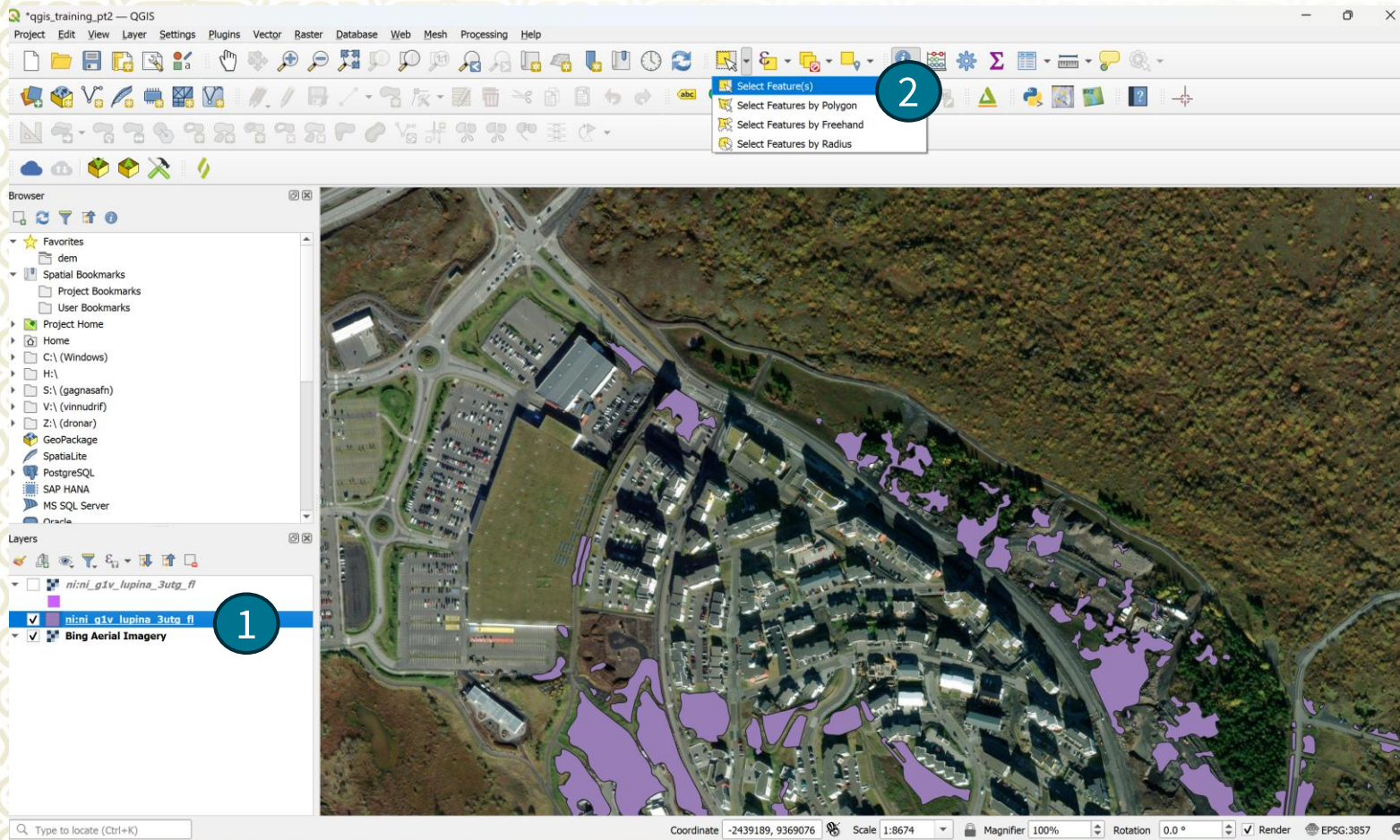




WORKSHOP: OWS and Postgres (database) connections in QGIS

Create a copy of lupine from WFS

1. Left click once on the WFS layer to select it in the Layers tab.
2. In the top toolbar, find 'Select Features'. We are going to select only the features nearby the area of interest to make sure we don't create a file that is too heavy.

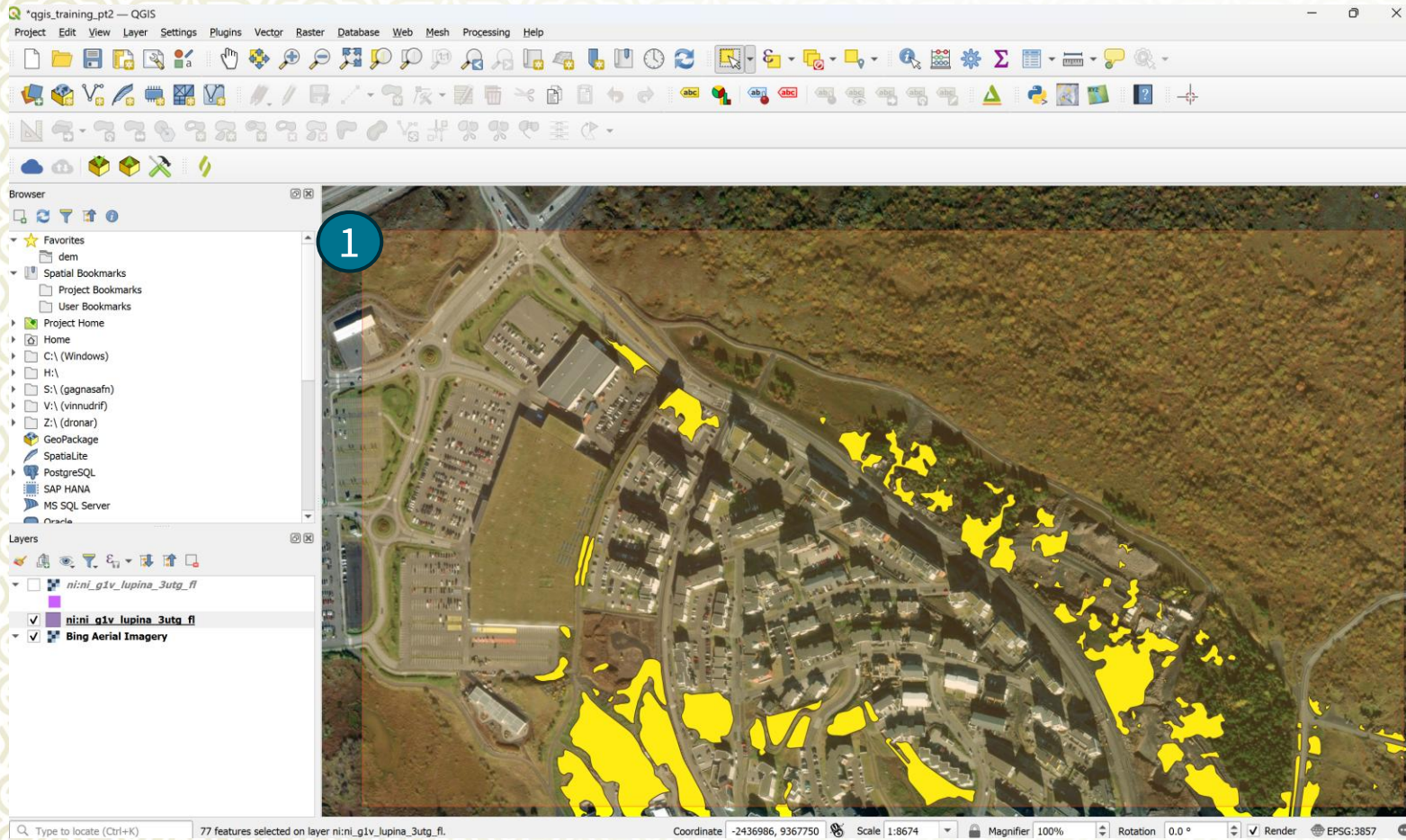




WORKSHOP: OWS and Postgres (database) connections in QGIS

Create a copy of lupine from WFS

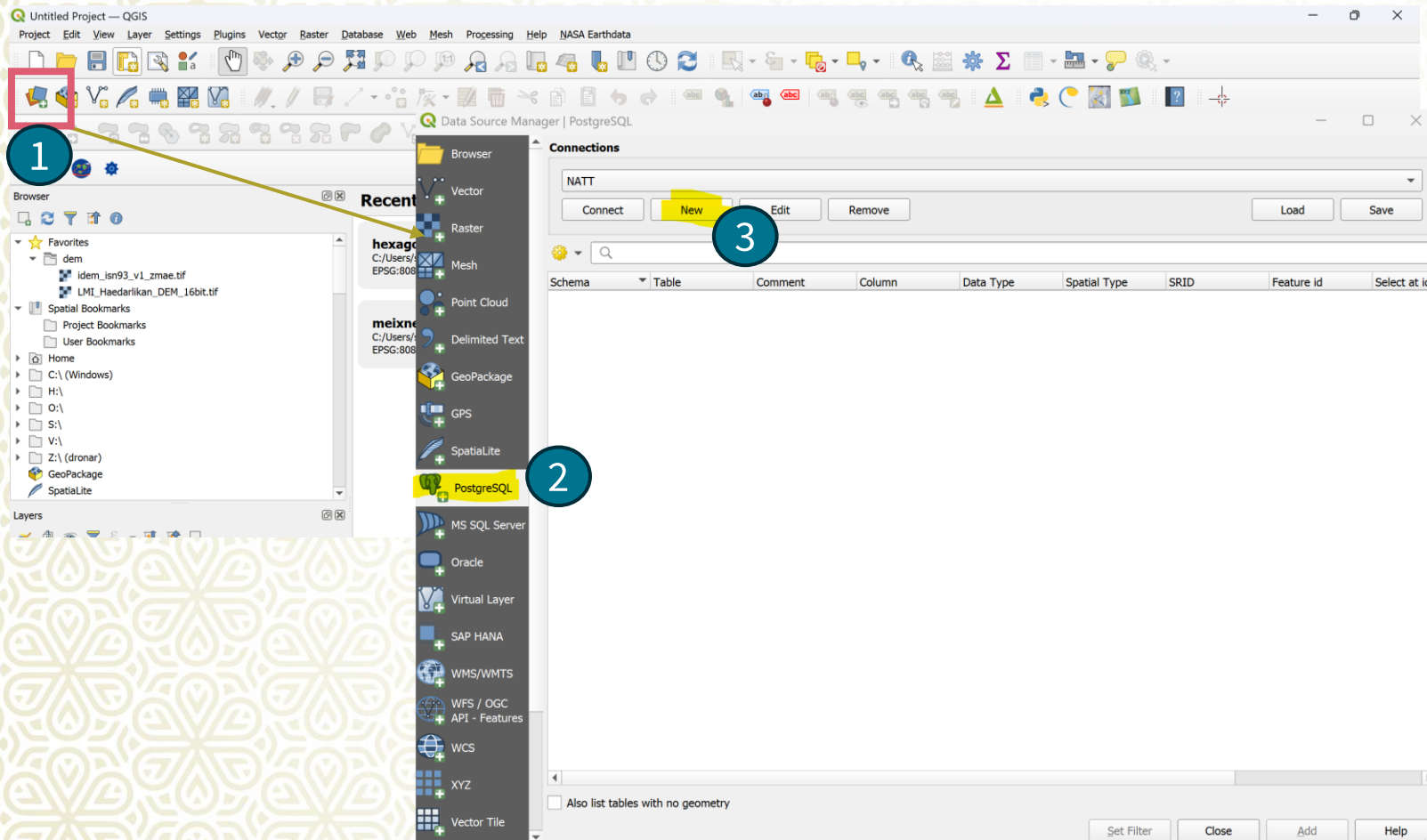
1. Click and drag a rectangle on the map canvas over the area you are interested in to select it. The vector polygons in the area should now appear yellow (meaning they are selected)





WORKSHOP: OWS and Postgres (database) connections in QGIS

Connect to the database



1. Make sure you are connected to the VPN. Click on 'Add layers' button
2. Select 'PostgreSQL' for the source
3. And click 'New' to create a new connection to the database



WORKSHOP: OWS and Postgres (database) connections in QGIS

Connect to the database

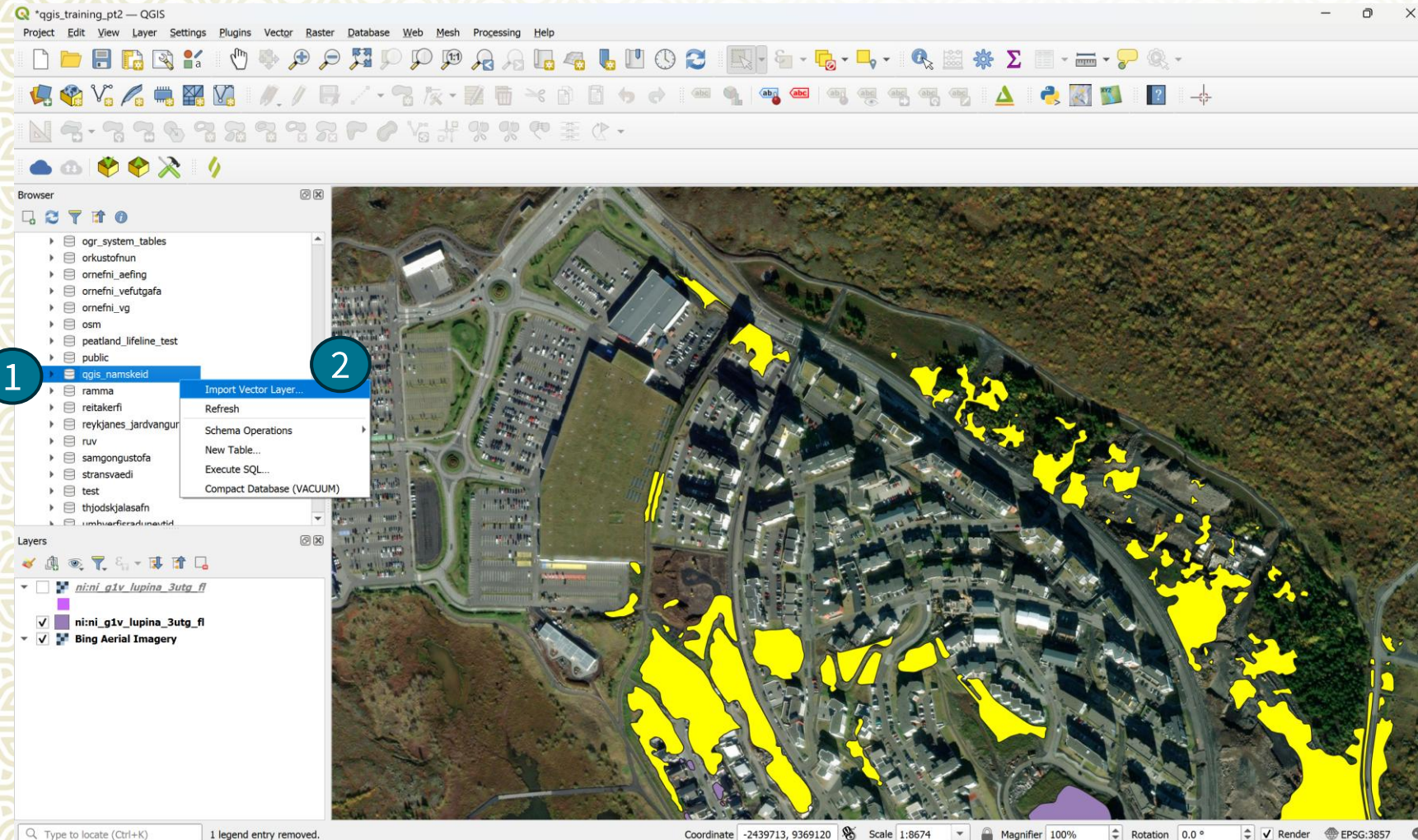
1. Set up your connection like this,
2. Under Authentication, select 'basic'. Put in your username and password that was emailed to you for this course
 1. If your name is not listed, you need to contact Valdimar Hjaltason
3. Test your connection.
4. If it works then click 'Convert to configuration' to store
5. Click ok.



WORKSHOP: OWS and Postgres (database) connections in QGIS

Create a copy of lupine from WFS

1. Under the PostgreSQL section in the browser, find the schema 'qgis_namskeid'.
2. Right click on the qgis_namskeid schema and select 'Import Vector Layer...'





WORKSHOP: OWS and Postgres (database) connections in QGIS

Import your Lupine file to the database
Note: this will only work if you have a newer QGIS version. If you have an older version, follow the alternative instructions on the next slides

1. Choose the lupine WFS layer from the dropdown menu
2. !!! Important: Select the checkbox that says 'Selected Features Only'
3. Be sure to save it in 'qgis_namskeid' schema
4. Name the table 'your_name_lupina_qgis_course'
5. Don't change the other settings and click 'OK'

Import Vector Layer

Input

Source layer: ni:ni_g1v_lupina_3utg_fl **1**

Selected features only **2**

Output

Schema: qgis_namskeid **3**

Table name: sydney_lupina_qgis_course **4**

Replace destination table (if exists)

Options

Primary key: id

Geometry column: geom

Output CRS: EPSG:3857 - WGS 84 / Pseudo-Mercator

Comment:

Attributes

	Source Expression	Name	Type	Length	Precision	Col
0	123>ctid	objectid	123 Whole Number (integer - 64bit)	0	0	
1	123>kkur	fitjuflokkur	123 Whole Number (integer - 32bit)	0	0	
2	abc>elag	grodurfelag	abc Text, limited variable length (varchar)	0	0	
3	123>ekja	grodurthekja	123 Whole Number (integer - 32bit)	0	0	

Filter by Extent (current: none)

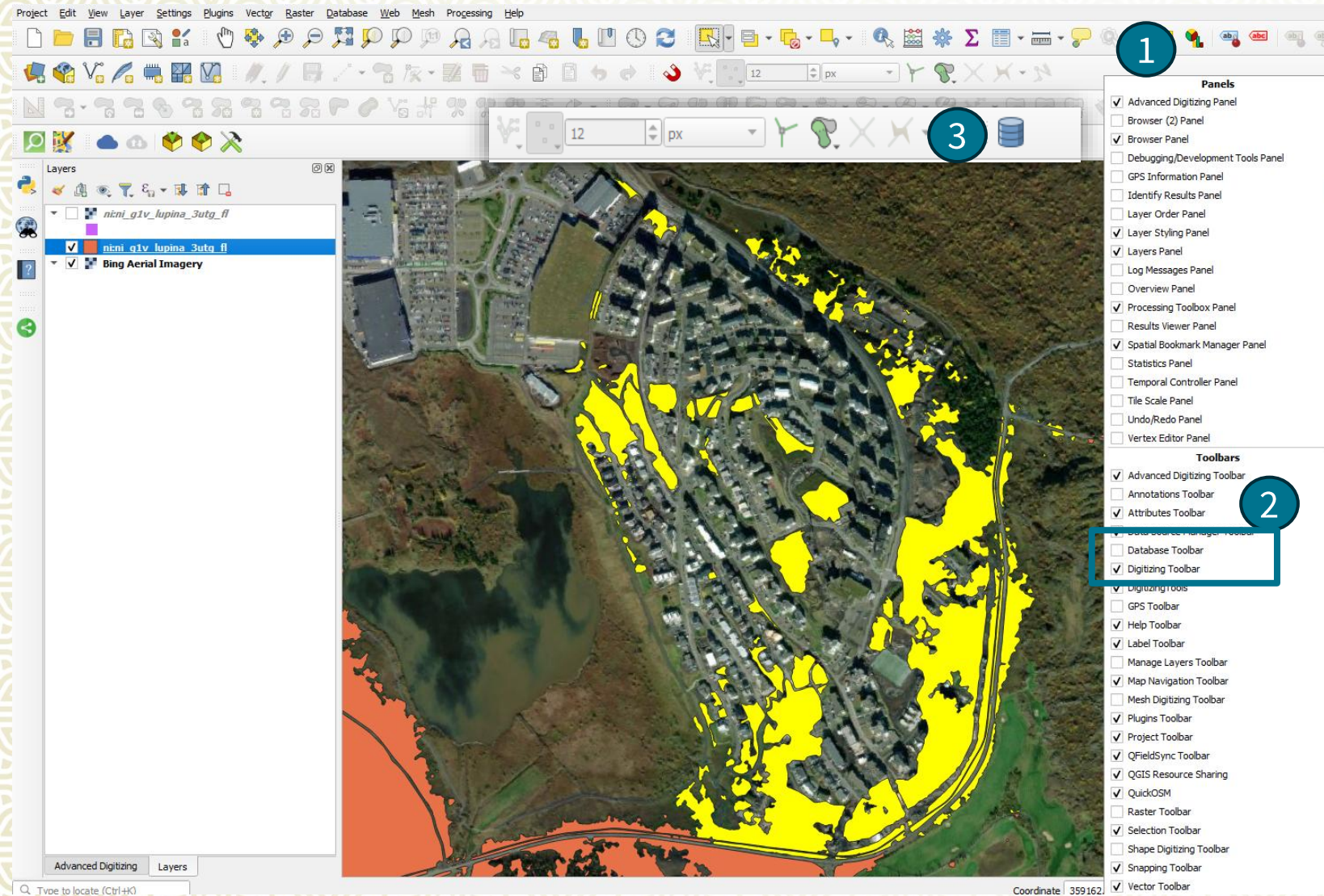
Filtering

Feature filter: **5**

OK Cancel




WORKSHOP: OWS and Postgres (database) connections in QGIS



Create a copy of lupine from WFS
ALTERNATIVE WAY

**If you have an older version of
QGIS**

1. Right-click anywhere on an empty area of the toolbar to open the context menu
2. Click Database Toolbar to enable it, which adds the Database Manager icon  to the toolbar
3. Open the Database Manager



WORKSHOP: OWS and Postgres (database) connections in QGIS

Create a copy of lupine from WFS
ALTERNATIVE WAY
If you have an older version of QGIS

1. Under the PostGIS section in the left side, find the schema 'qgis_namskeid'.
2. Select the qgis_namskeid schema
3. Click on 'Import Layer/File' on the toolbar menu





WORKSHOP: OWS and Postgres (database) connections in QGIS

Import vector layer

Input: ni:ni_g1v_lupina_3utg_fl

Import only selected features

Output table

Schema: qgis_namskeid

Table: misa_lupina_qgis_course

Options

Primary key: id

Geometry column: geom

Source SRID: EPSG:3057 - ISN93 / Lambert 1993

Target SRID: EPSG:3057 - ISN93 / Lambert 1993

Encoding: Automatic

Replace destination table (if exists)

Do not promote to multi-part

Convert field names to lowercase

Create spatial index

Comment: test version|

OK Cancel

Import your Lupine file to the database
If you have an older version of QGIS

Make sure:

1. the lupine WFS layer is selected as the input
2. !!! Important: Select the checkbox that says 'Import only selected features'.
3. to save it in 'qgis_namskeid' schema
4. Name the table 'your_name_lupina_qgis_course'
5. Don't change the other settings and click 'OK'



The screenshot shows the QGIS interface with the following components:

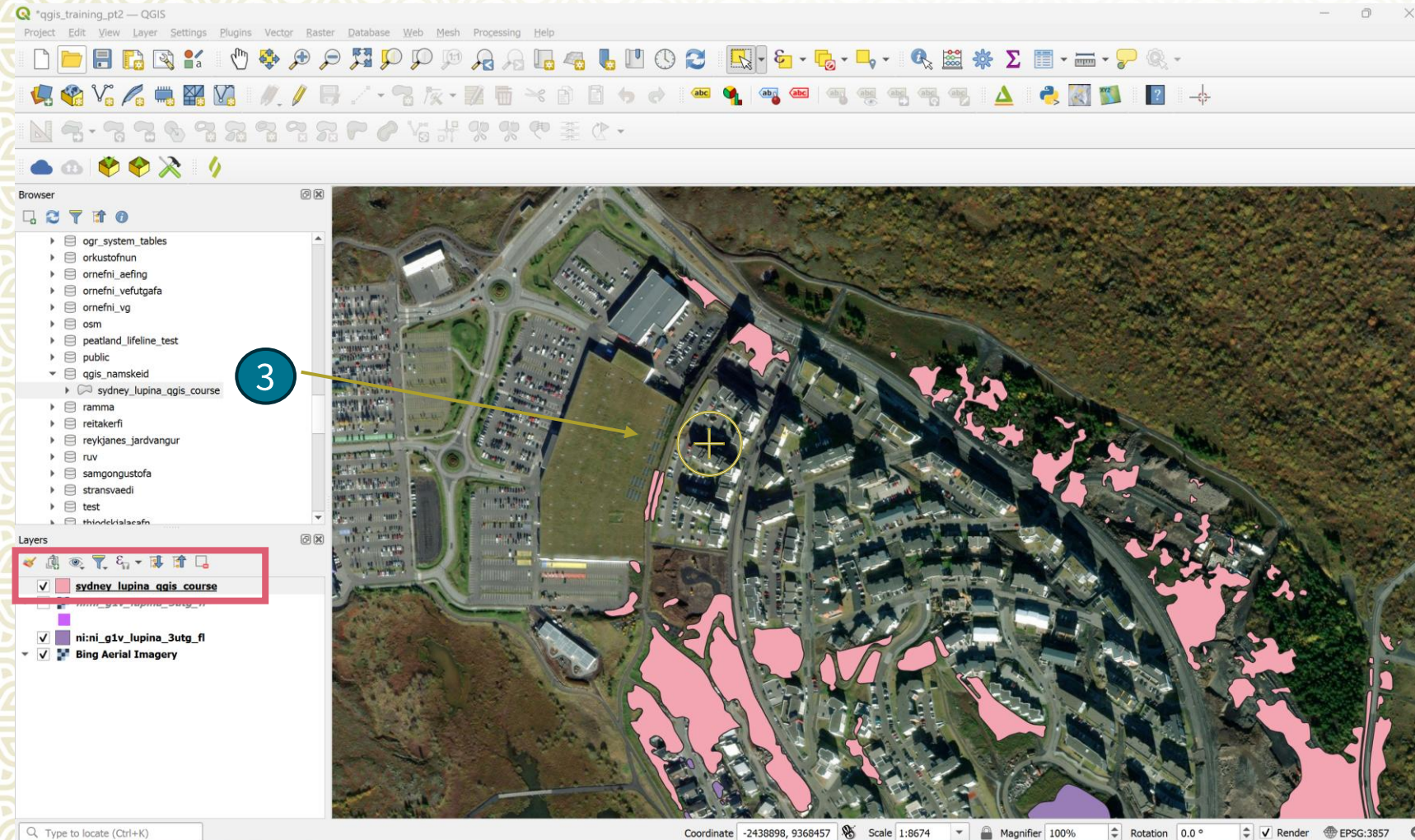
- Layers Panel:** Lists layers including 'misa_lupina_qgis_course', 'nikni_g1v_lupina_3utg_fl', 'nikni_g1v_lupina_3utg_fl', and 'Bing Aerial Imagery'. A blue box highlights the 'misa_lupina_qgis_course' layer, with an arrow pointing to the 'Information' tab in the Layer Properties dialog.
- Layer Properties Dialog - Information Tab:** Displays metadata for the 'misa_lupina_qgis_course' layer.
 - General:** Name: misa_lupina_qgis_course; Source: dbname='lmigis' host='akrar-test.natt.local port=5432 user='michaela' key='id' srid=3057 type=MultiPolygon checkPrimaryKeyUnicity='1' table='qgis_namskeid'.misa_lupina_qgis_course' (geom); Provider: postgres.
 - Information from provider:** Storage: PostgreSQL database with PostGIS extension; Comment: test version 1. Selected area around NATT; Encoding: (blank); Geometry: Polygon (MultiPolygon); Extent: 357956.1368999999831431,398887.40460000000089407 : 358929.20909999999782071,400183.9311999999918044; Feature count: 156.
 - Coordinate Reference System (CRS):** Name: EPSG:3057 - ISN93 / Lambert 1993; Units: meters; Type: Projected; Method: Lambert Conformal Conic; Celestial Body: Earth; Reference: Static (relies on a datum which is plate-fixed).
 - Identification:** Identifier: (blank); Parent Identifier: (blank); Title: (blank); Type: dataset; Language: (blank); Abstract: test version 1. Selected area around NATT; Categories: (blank); Keywords: (blank).
- Browser Panel:** Shows a tree view of the database structure. The 'qgis_namskeid' folder is expanded, and the 'misa_lupina_qgis_course' and 'sydney_lupina_qgis_course' layers are highlighted with a blue oval.



WORKSHOP: OWS and Postgres (database) connections in QGIS

Work with your lupine file from the database

1. Right click on the schema qgis_namskeid and press refresh if needed.
2. Your newly created lupina file should appear under the 'qgis_namskeid' schema.
3. Click and drag it on to the map to add it
4. You are now able to directly edit your lupina layer, all changes are saved to the database. Anyone with access to this schema can see your changes.
5. If you want to you can remove the old WMS and WFS lupina layers (right click, 'Remove Layer...') to make the project cleaner.
6. Save your project.

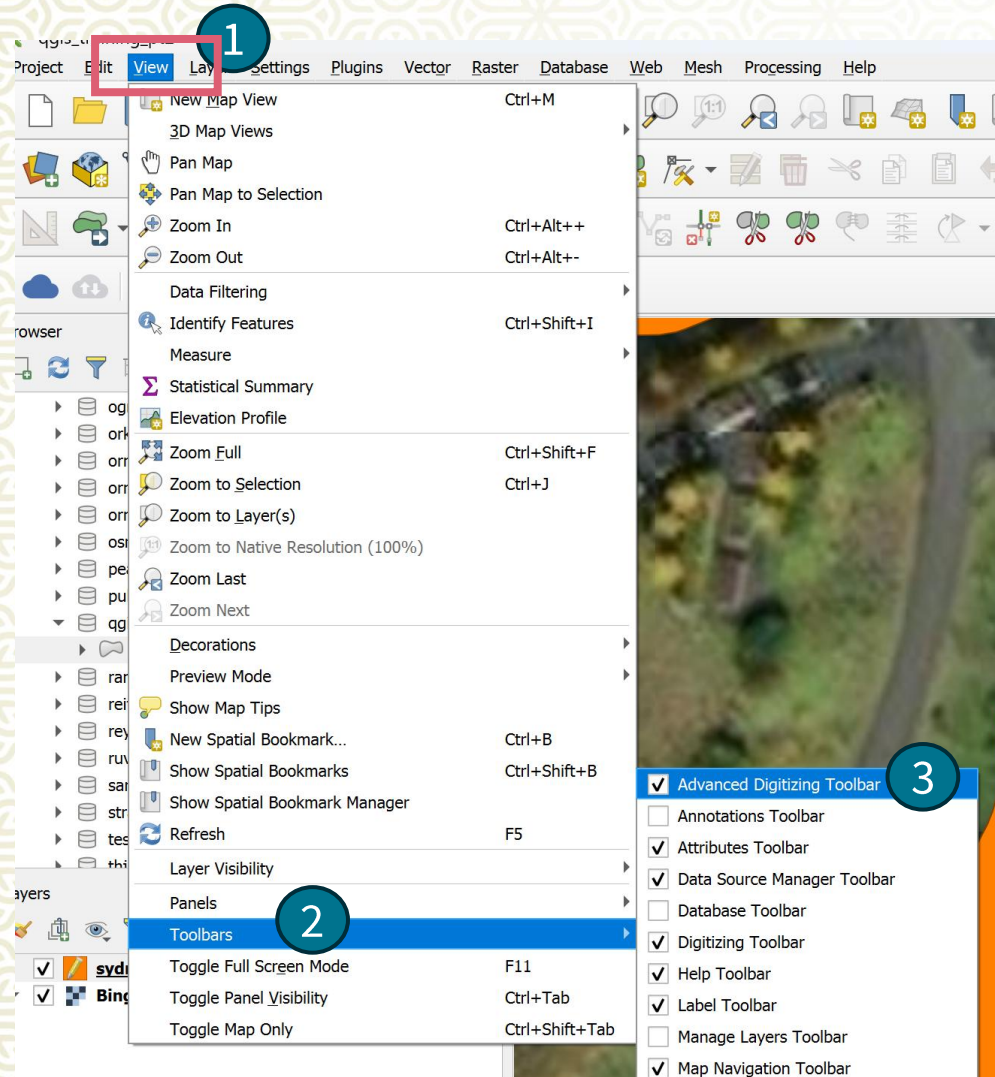




WORKSHOP: OWS and Postgres (database) connections in QGIS

Edit/update your lupine file using satellite imagery as a reference

1. Enable the advanced digitizing toolbar. Go to 'View'..
2. 'Toolbars'
3. Check the button that says 'Advanced Digitizing Toolbar'

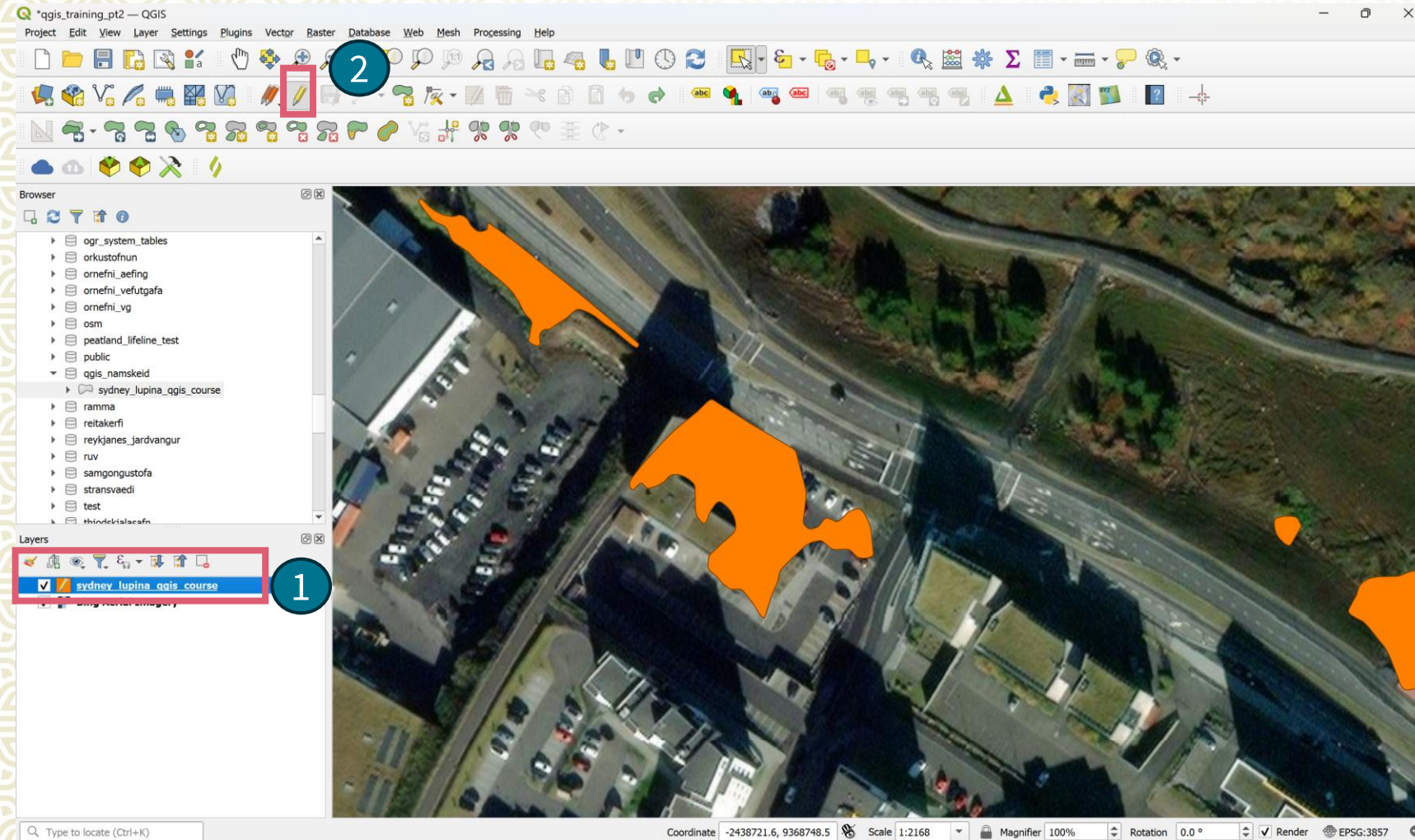




WORKSHOP: OWS and Postgres (database) connections in QGIS

Edit/update your lupine file using satellite imagery as a reference

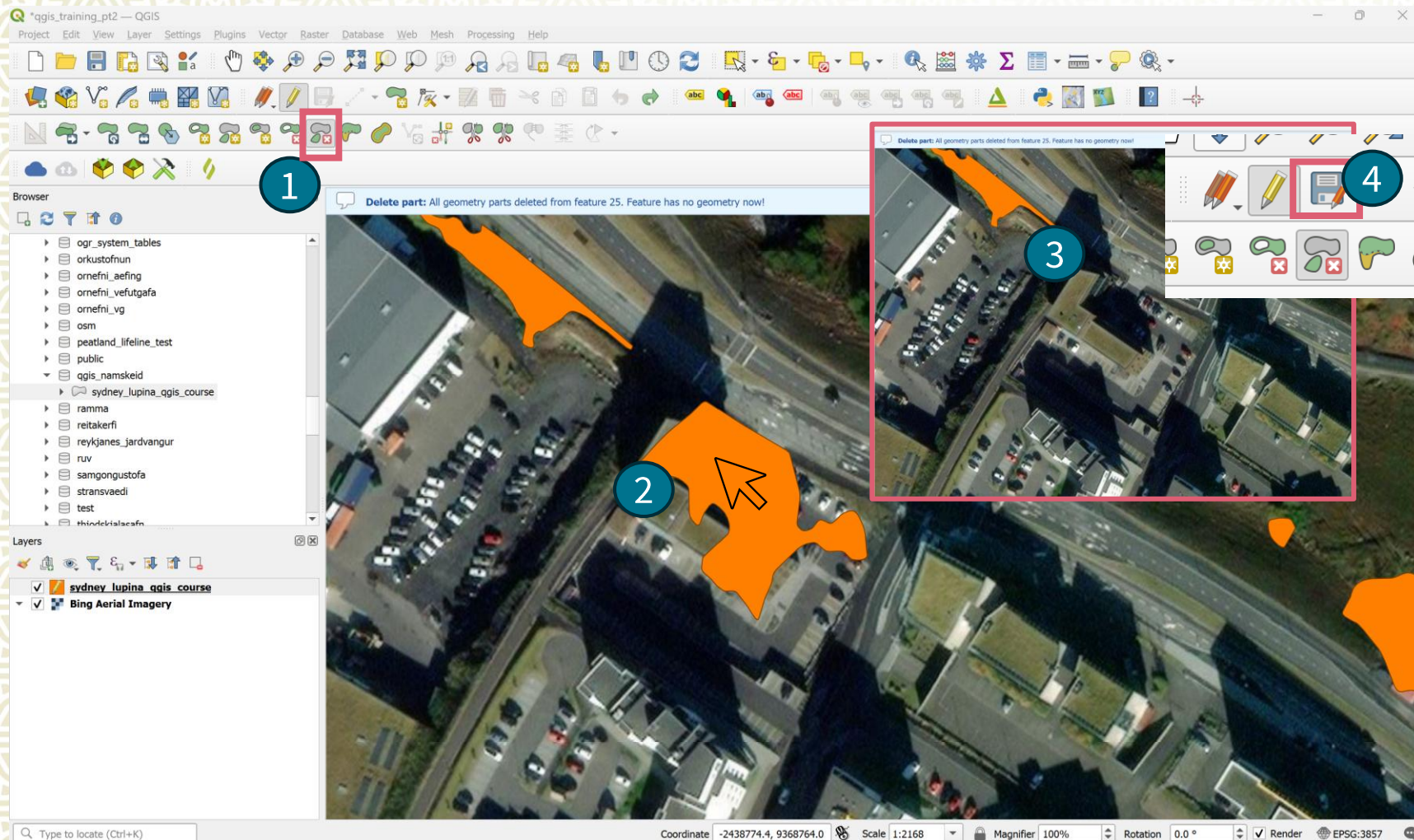
1. Single click on your lupine file in the layers window to select it
2. Click on the pencil icon at the top of the toolbar to enable editing on the layer.
3. With editor, you can reshape, delete, or add layers to your lupine file.





WORKSHOP: OWS and Postgres (database) connections in QGIS

Edit/update your lupine file using satellite imagery as a reference



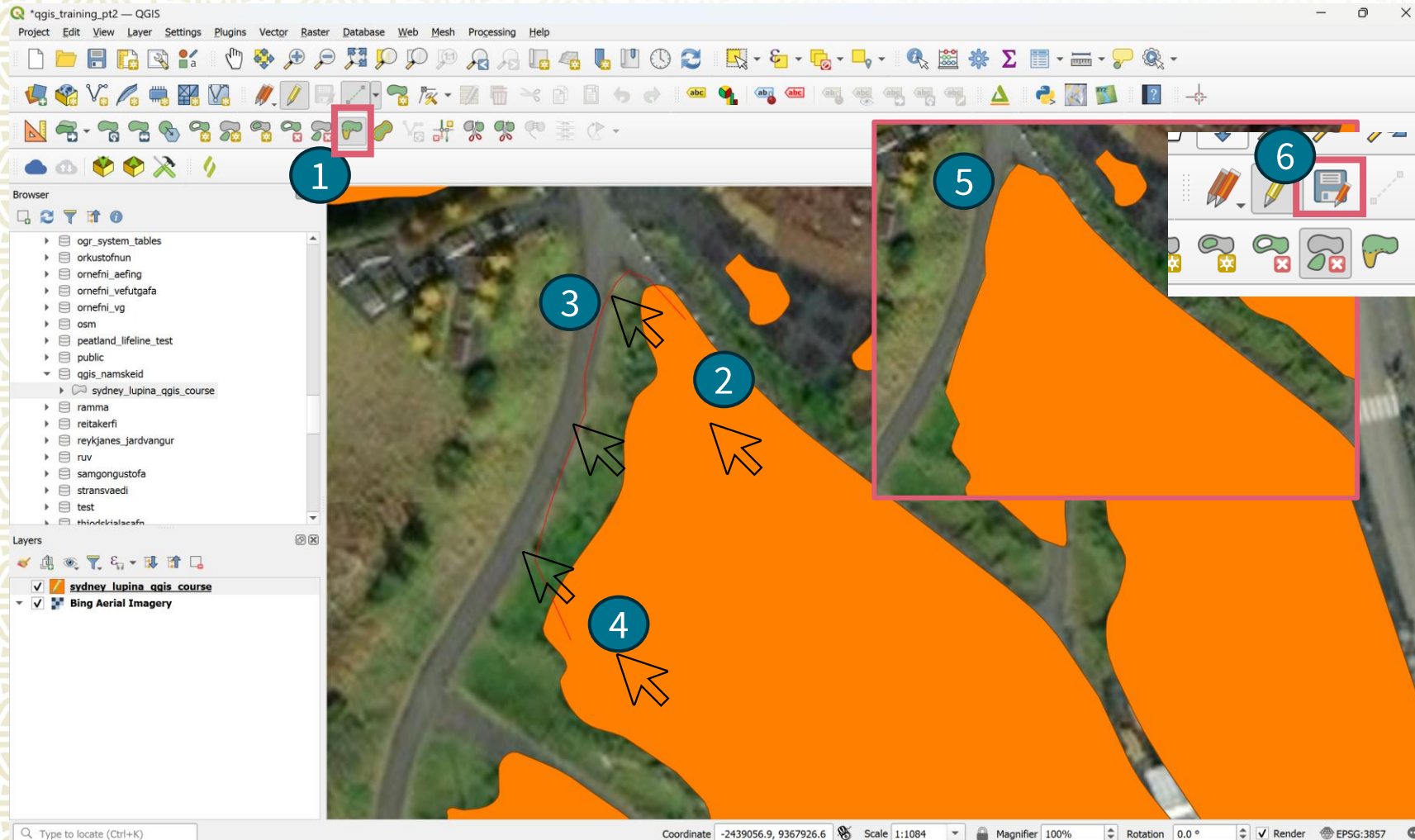
In this example, there is a building in the area that is marked Lupine. We will delete this polygon by:

1. clicking 'Delete Feature' and then
2. clicking on the polygon we want to delete
3. It is deleted
4. save edits by clicking the save icon at the top toolbar.



WORKSHOP: OWS and Postgres (database) connections in QGIS

Edit/update your lupine file using satellite imagery as a reference



In this example, it maybe looks like the lupine coverage expanded. we want to expand the area of the polygon to cover lupine.

1. Click on 'Reshape features'
2. Left click somewhere inside the polygon you want to expand/reshape
3. Continue clicking to create an area where you'd like to expand the polygon
4. Your last click should be inside the polygon again. Then Right click to finish the edits.
5. Now your feature should be reshaped to include the new area
6. Save edits

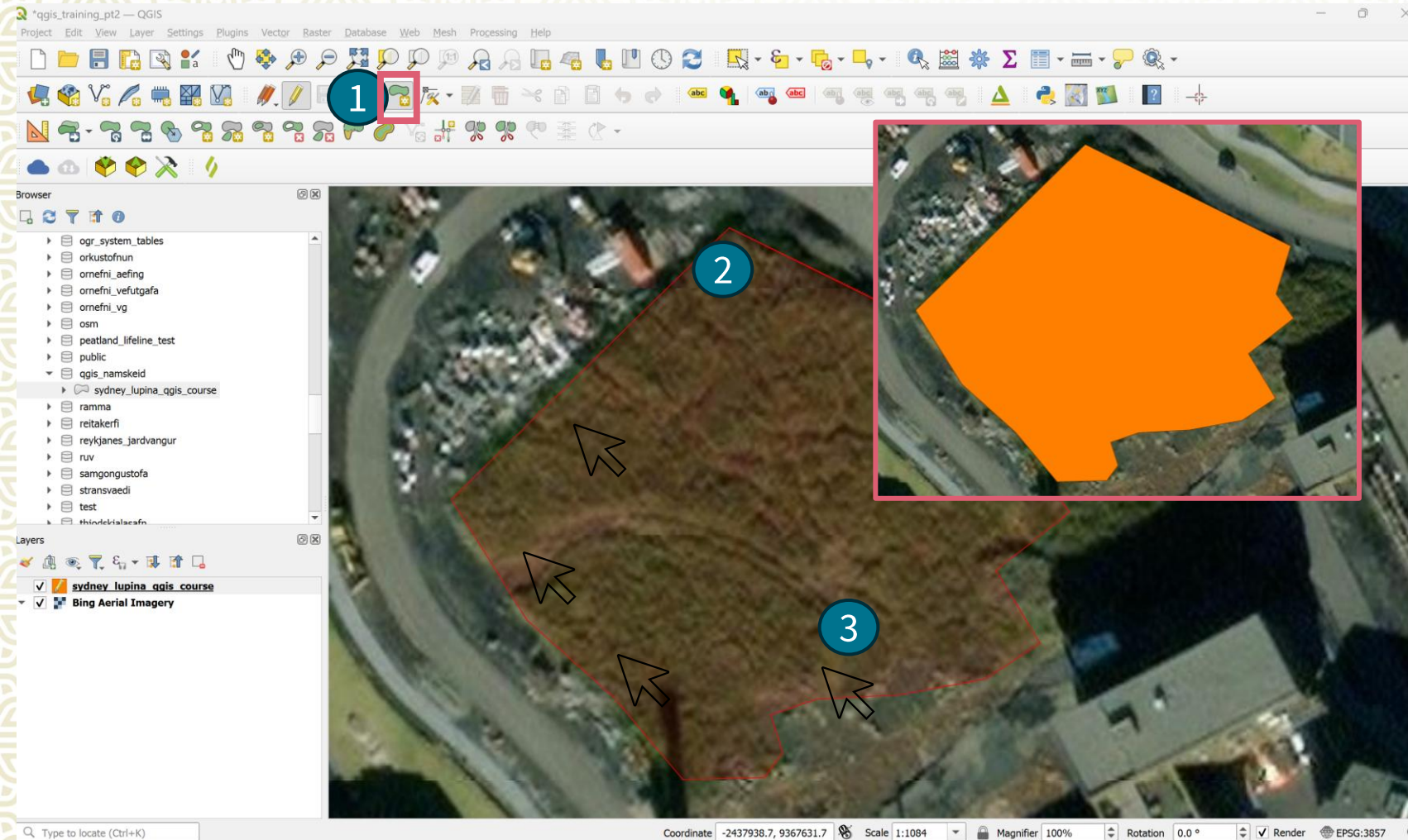


WORKSHOP: OWS and Postgres (database) connections in QGIS

Edit/update your lupine file using satellite imagery as a reference

In this example, we will add a new polygon where the lupine was missing

1. Click on 'Add new feature'
 2. Left around an area to define a new polygon
 3. Right click to complete the polygon
- ... Continued on next slide



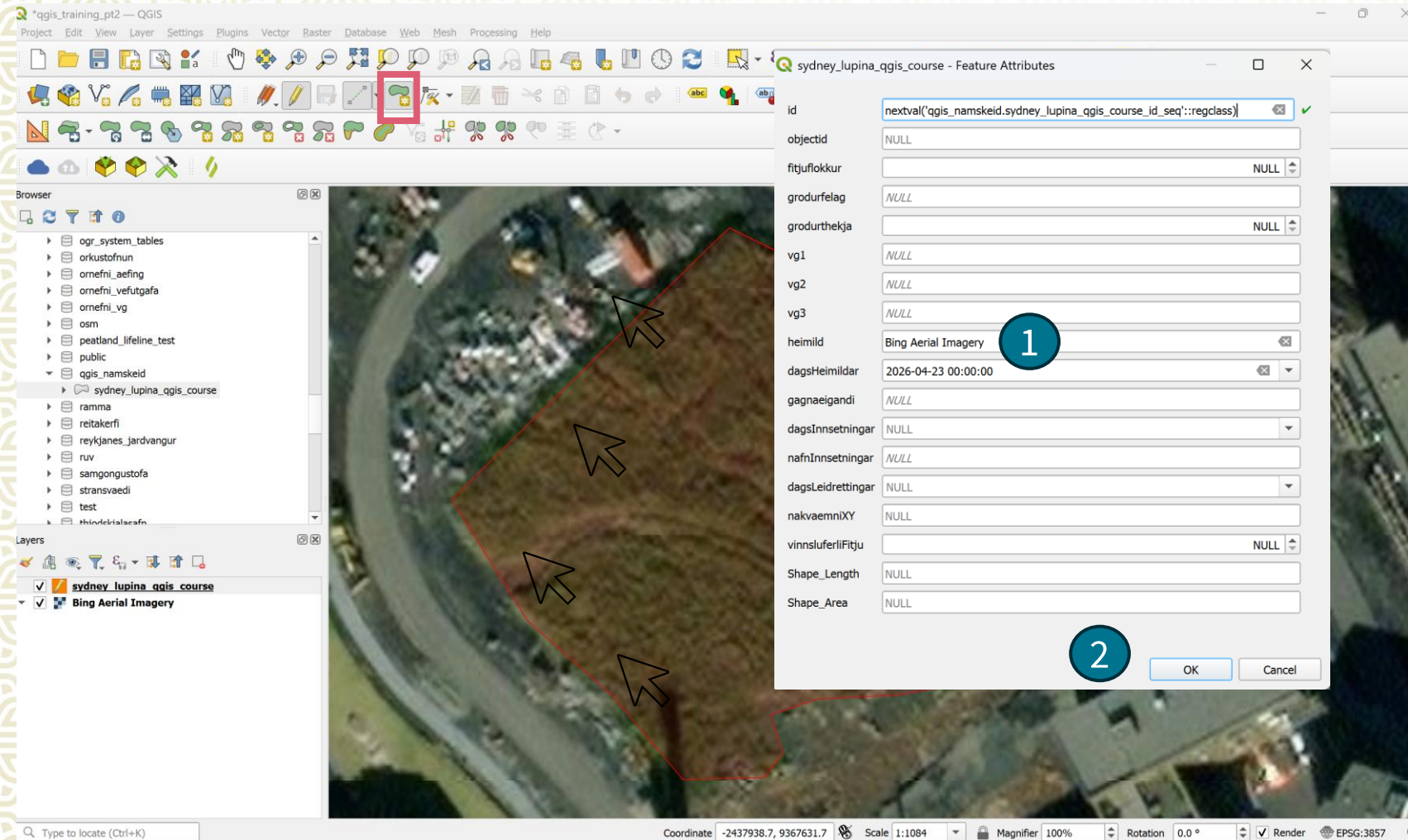


WORKSHOP: OWS and Postgres (database) connections in QGIS

Edit/update your lupine file using satellite imagery as a reference

In this example, we will add a new polygon where the lupine was missing

1. Fill in the 'heimild' and 'dagsHeimildar' attributes for the feature.
2. Click 'OK'.
3. Your feature will now be added:





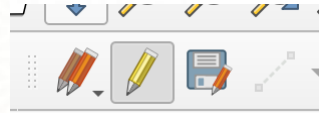
WORKSHOP: OWS and Postgres (database) connections in QGIS

Edit/update your lupine file using satellite imagery as a reference

Finish editing your polygon(s) for your area of interest.

Save your layer edits and save your project often.

Click the pencil icon to stop editing when you are finished:



This is NOT affecting the original lupina layer from the Nátt database (this is just a test schema in our database)

Save this QGIS project somewhere safe, we will use it for the next course for QField