Quest GIS

An ISO 9001:2015 and MSME certified organisation

Unlock the Power of QGIS with Quest GIS

QGIS: FUNDAMENTALS AND APPLICATIONS

07-March-2026 to 05-April-2026 1 Online via Zoom 1 Language: English

WHO IS THIS COURSE FOR?

| Beginners/Students	Academic researchers	Industry professionals
Build strong GIS fundamentals, get hands-on with QGIS, and create your first professional maps!	Integrate remote sensing, hydrological modelling, and multi-format data for powerful analysis.	Automate workflows, master spatial data processing, and unlock 3D visualizations for real-world impact.

WHAT YOU'LL LEARN-FROM BASIC TO BRILLIANCE

- GIS core concepts
- QGIS Mastery in GUI, Plugins and other interface tools
- Georeferencing and Digitization
- Mapping and Indices calculation using Remote sensing
- Hydrology and Ground water Studies
- Raster data analysis

- Vector Analysis
- Network Analysis
- Geoprocessing, Joins
- Symbology & Styling
- Map composition
- Bonus Tips!

LEARNING OUTCOMES

- Confidently use QGIS for complex spatial analysis and map-making.
- Digitize, analyze, and visualize vector and raster data across industries.
- Apply geospatial techniques to projects in geology, hydrology, environmental monitoring, and urban planning.
- Develop skills relevant to academic research and government/industrial applications.
- Receive a Certificate of Completion.
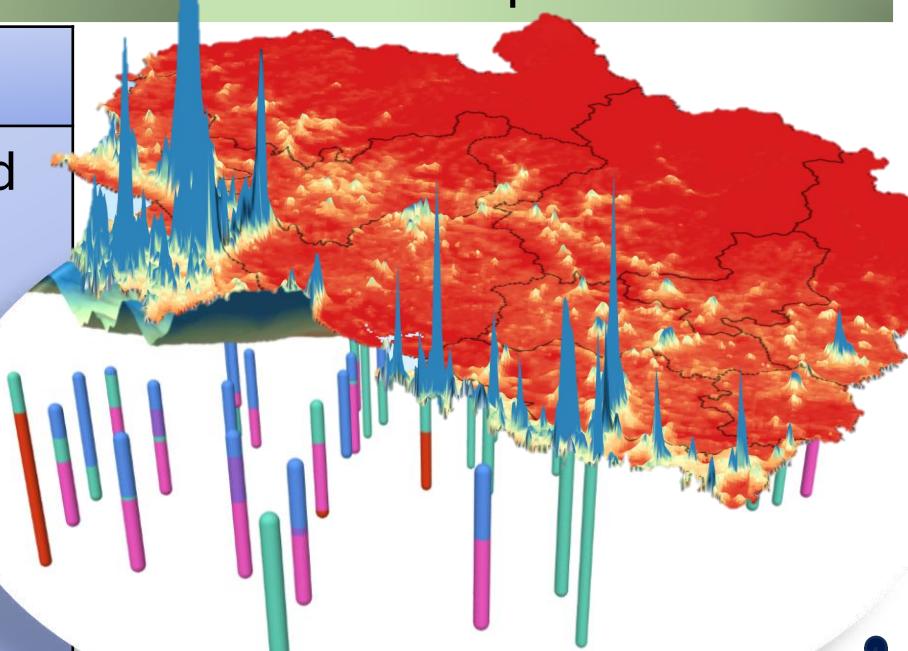
CERTIFIED

**Limited seats!
REGISTER BEFORE 06 March 2026**

WHY CHOOSE QUEST GIS?

- Lifetime access to participant WhatsApp community
- Free datasets + multiple assignments for practical skills
- Personalized guidance + 1:1 interaction with experts
- Flexible payment options for Indian nationals
- Class recordings available for easy review
- Prestigious certification upon completing course criteria

REGSITER NOW

Contact Us:

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+91 6397078447

1 month hands on virtual training on

QGIS: Fundamentals and Applications

by
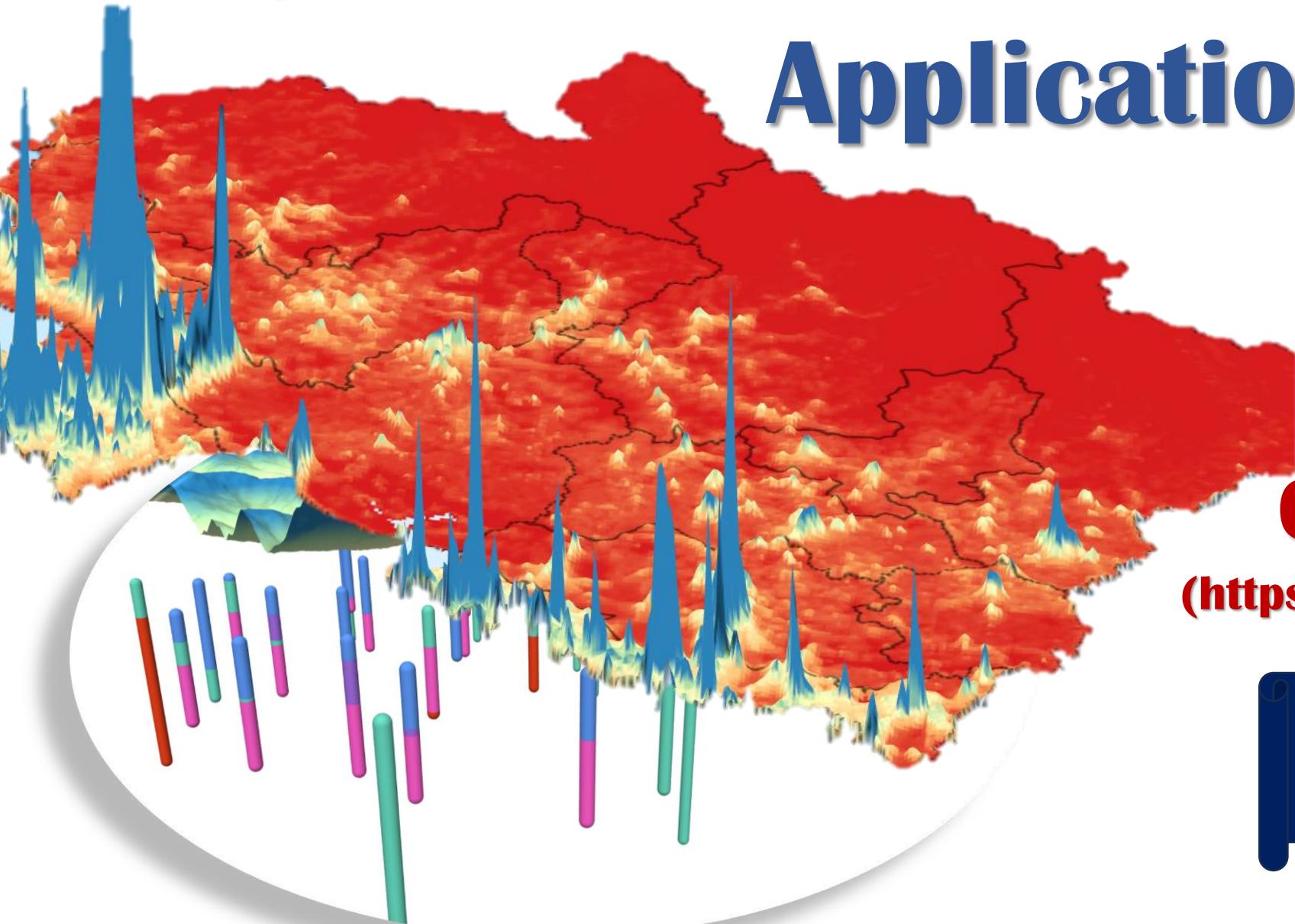
Quest GIS
(https://questgis.co.in/)

CERTIFIED

❖ Course duration: **07-March-2026 to 05-April-2026**

❖ Last date to register: **06-March-2025**

❖ Detailed Course content: **Go to next pages!**

❖ Course Language: **English**

❖ Class timings: **8:00 pm to 10:00 pm (IST)**

Time duration : 1 (+) hrs each day

Location: via Zoom (link will be provided to participants 24 hours before the course begins)
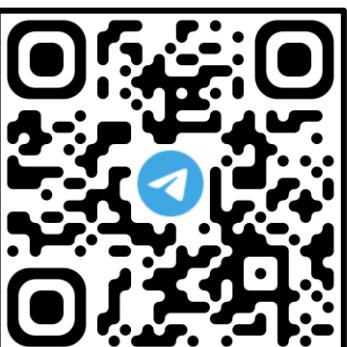
Interactive mapping and hands-on training through the following projects

❖Fundamental topics

S. No.	Content
1.	Master core GIS and remote sensing concepts including Coordinate reference systems, Datum transformations and Geoprocessing in your spatial workflows.
2.	Explore the QGIS user interface and customize toolbars and panels, install plugins for a streamlined GIS environment.
3.	Learn to utilize the graphic user interface tools to load data from host and server to create our first visualization.
4.	Generate visually stunning maps by applying advanced techniques such as data-driven symbology and labelling.
5.	Implement visualization elements like grids, north arrows, and legend to refine your map products

Expected outcome

Strong command in GIS using QGIS with hands-on UI optimization, map design and analysis.
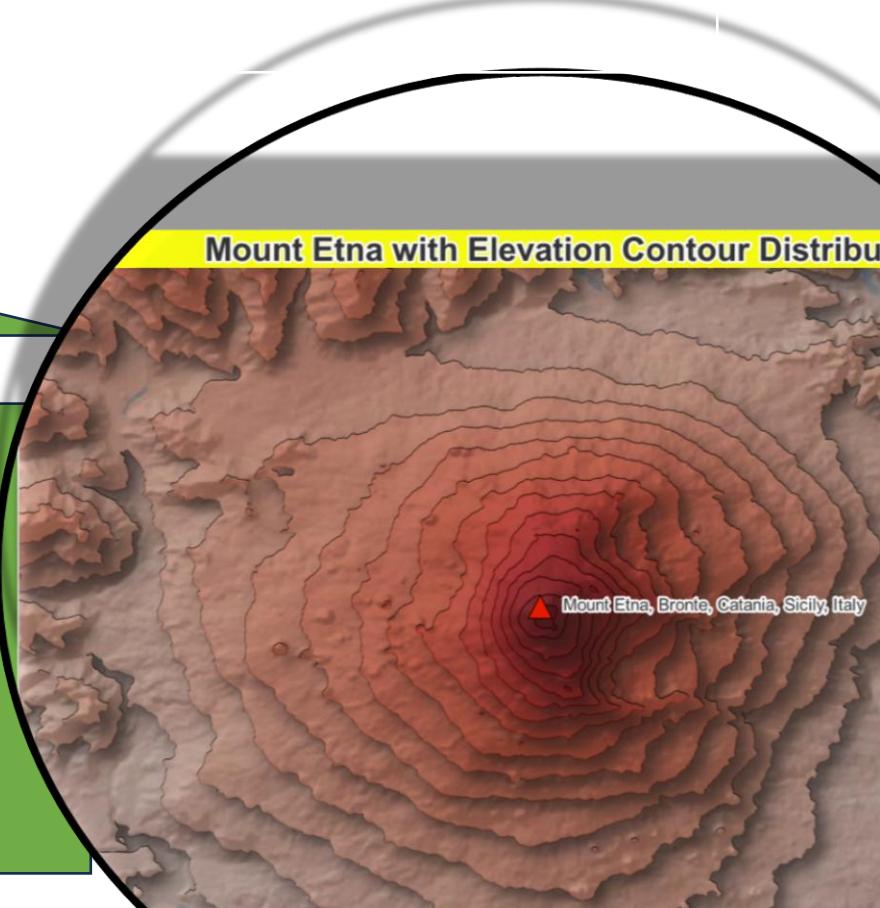
Mount Etna with Elevation Contour Distribu

Mount Etna, Bronte, Catania, Sicily, Italy

Interactive mapping and hands-on training through the following projects

❖Applied topics

S. No.	Content
6.	Master the georeferencing techniques with point to point and map canvas method.
7.	Digitize with precision to capture and covert spatial data through highly demanding industry skill.
8.	Extract dynamic surface patterns through Raster geospatial algorithms
9.	Raster data processing and analysis for hydrological analysis, flood susceptibility analysis and area-volume calculation
10.	Learn vector data analysis for identifying spatial relationships, trend patterns and network analysis.
11.	Integrate Raster, Vector and CSV formats for 3D visualization of well data and downhole lithology" in QGIS! (its significance in **mining, hydrogeology** and **oil and gas** industry)

Expected outcome

Strong command in QGIS with hands-on data processing, identifying patterns and analysis.
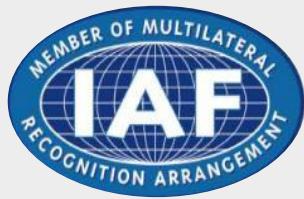
Salient features

- E-certificate (see last page for certification pre-requisites).

- Class recording will be provided.

- Free data and multiple assignments for hands-on practice.

- Step by step guidance during entire course.

- Get lifetime access to the WhatsApp group.

- One-to-one interaction with trainer and participants.

Who should attend?

Knowledge of GIS is a desirable skill in industries from agriculture to public health etc., So our target participants includes

- Students and beginners with little or no prior experience in GIS.

- Curios participants from every possible background.

✓ Geology	✓ Archaeology	✓ Hydrologists
✓ Geophysics	✓ Geoinformatics	✓ Oil and gas
✓ Earth science	✓ Geotechnical	✓ GIS professionals
✓ Mining	✓ Oceanographers	✓ Academic researchers
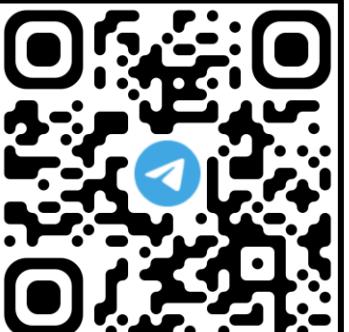
Contact us

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QUESTGIS

Fundamentals of GIS: Basic Spatial concepts like

i.   What is GIS?

ii.   Why and Where GIS?

iii. Why prefer QGIS (Open source vs Licensed GIS sources)?

iv.   QGIS software and installation

v.   Different data types i.e., raster and vector and their formats.

vi.   Geographic coordinate systems and Projected coordinate systems.

vii. The concept of datum.

viii. The concept and need of UTM Zone.

ix.   The understanding of EPSG code.

x.   The concept of Georeferencing and its importance in real life applications

xi.   The concept of ground control points, their importance and Transformation settings.

xii. The art and concept of Digitization and Topology.

xiii. The concept of mapping and map layers.

xiv. Map scale, map rotation etc.
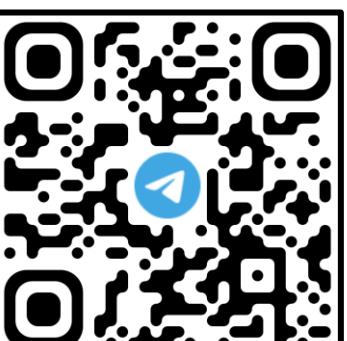
Module 1: QGIS interface and plugin installation

1a. Dedicated lecture on QGIS Graphic User Interface (GUI)

Learn the detail of each tool and their purpose by practising the tools present in

i.   Menu toolbar

ii.   Project toolbar/Side toolbar

iii. Layers panel

iv.   Browser Panel

v.   Locator toolbar

vi.   Status bar

vii. Map canvas and Map

viii. Navigation Toolbar
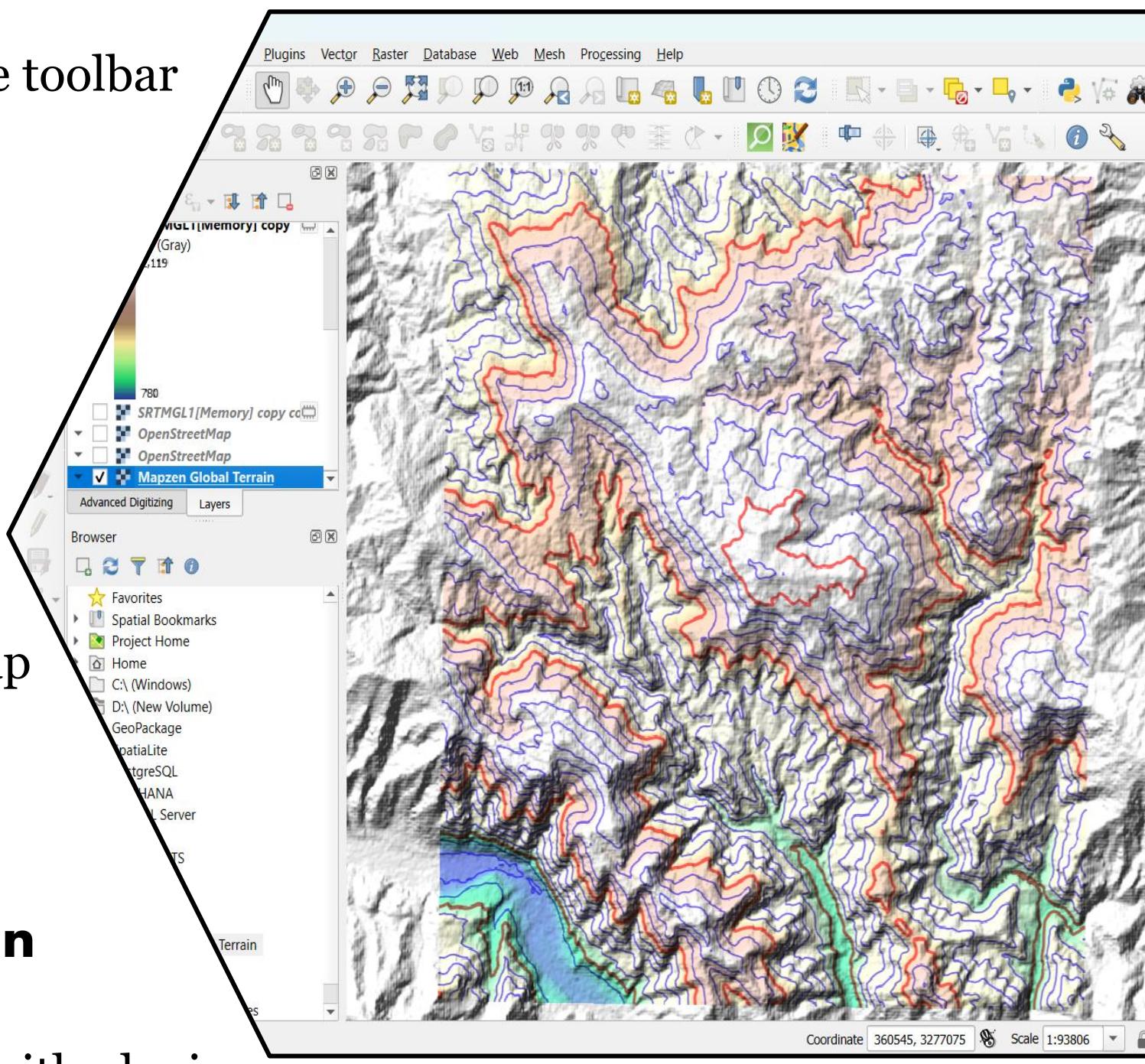
1b. Plugin Installation

Adding functionality with plugins
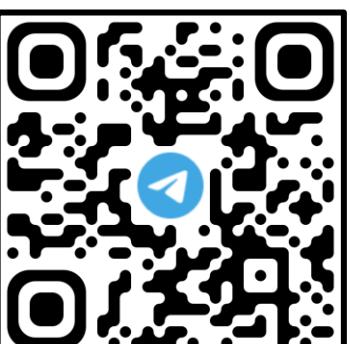
2a. Data type and format loading using different ways/methods in the QGIS workspace

Data types

i.   Raster loading

ii. Vector loading

iii. Spreadsheet or CSV loading

iv. GeoPackage Database

v. WMS/WMTS

vi. WFS and many more.

Data Formats

i.   GeoTiff

ii. Shapefiles layer

iii. GeoPackage layer

iv. Keyhole Markup Language (KML) etc.

Bonus tips on open sources for spatial data download!
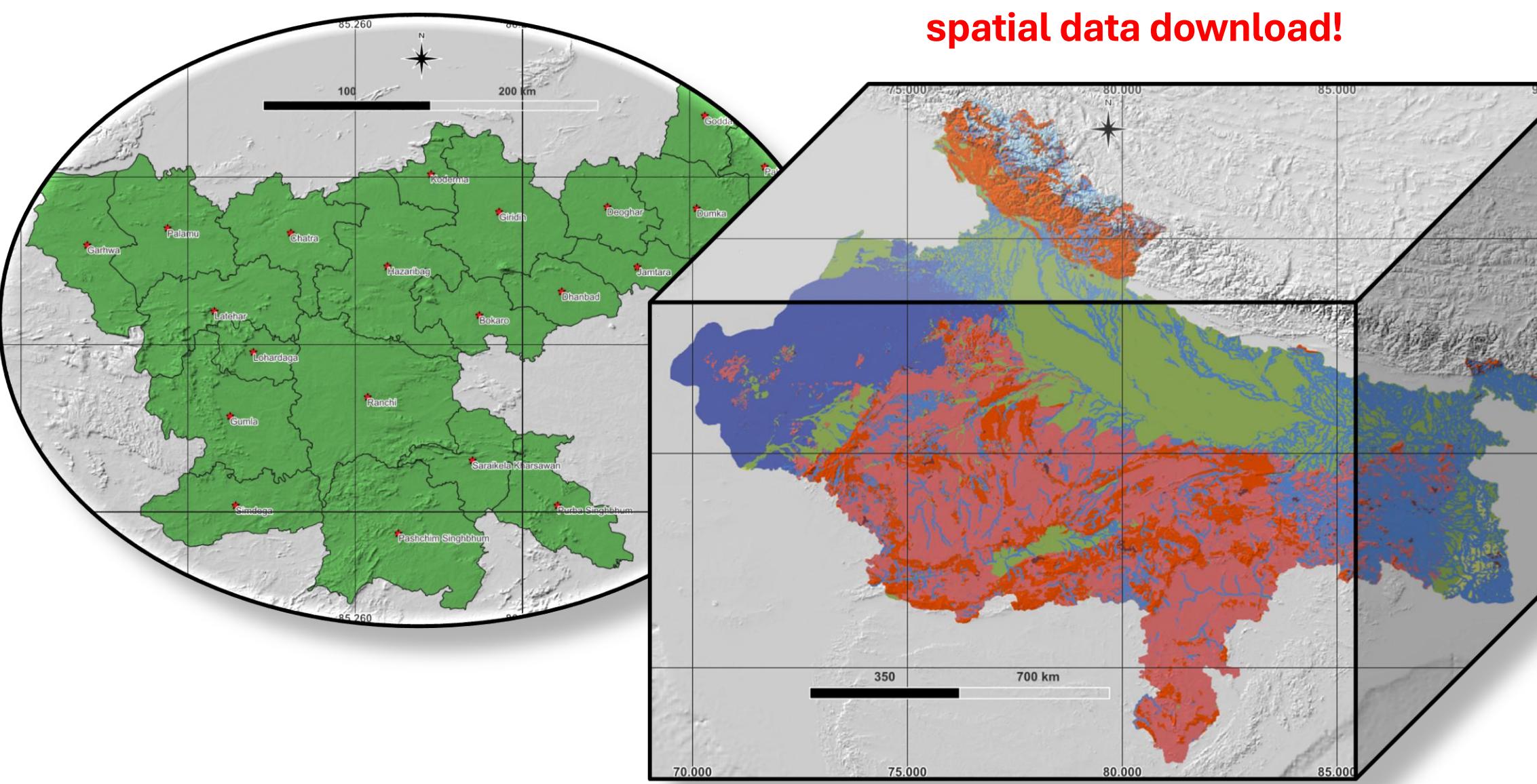
3. The process of 2d and 3d data visualization through changing the "Symbology and its structure".

i.   Simple Fill, Inverted fill, Categorised and Rule based (for each vector type, ex., Polygon, Polyline and Point features).

  a.   Add Symbol layers

  b.   Order Symbol levels

ii. Vector data classification

  a.   Understanding of Layer styling panel

  a.   Simple Labels

  b.   Style Classification mode
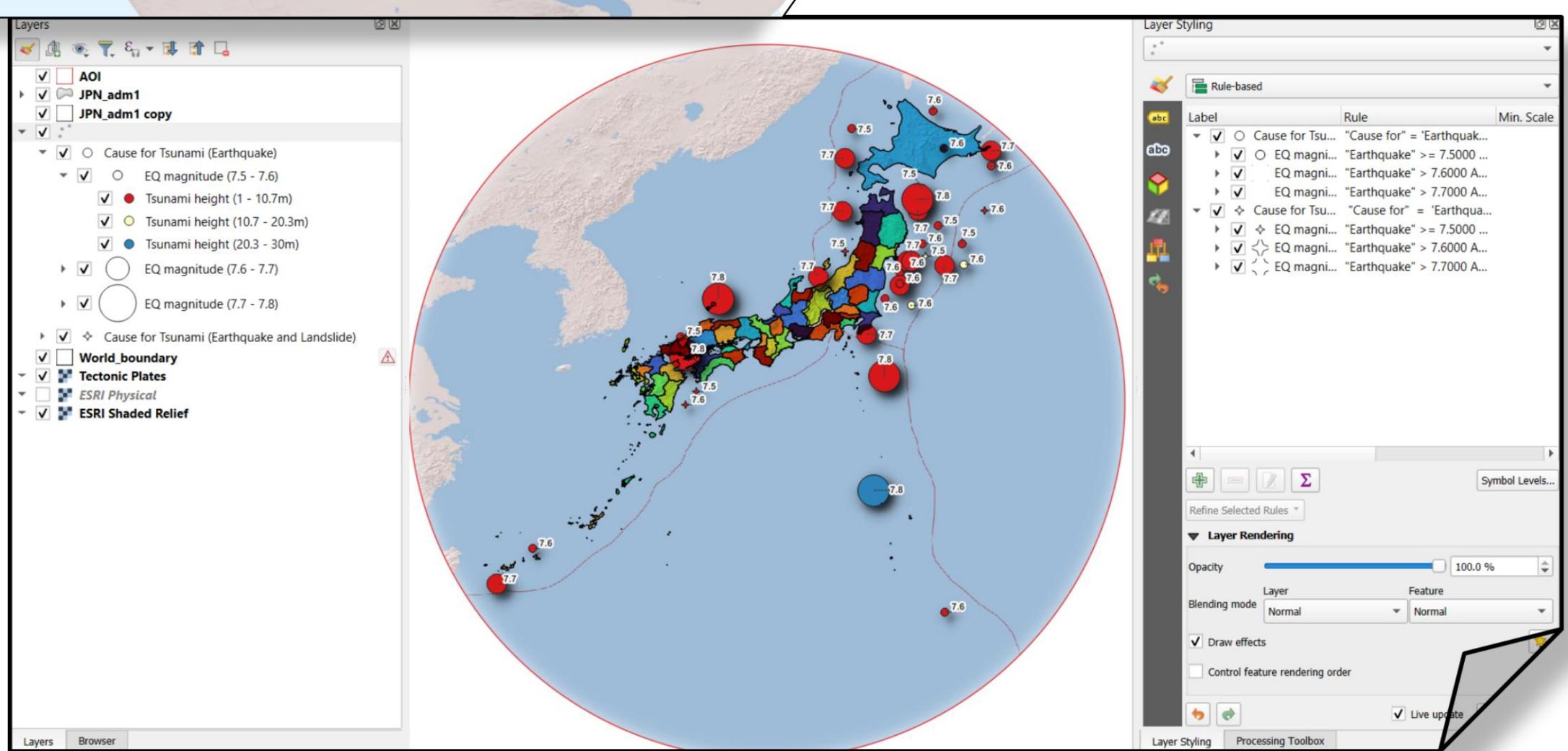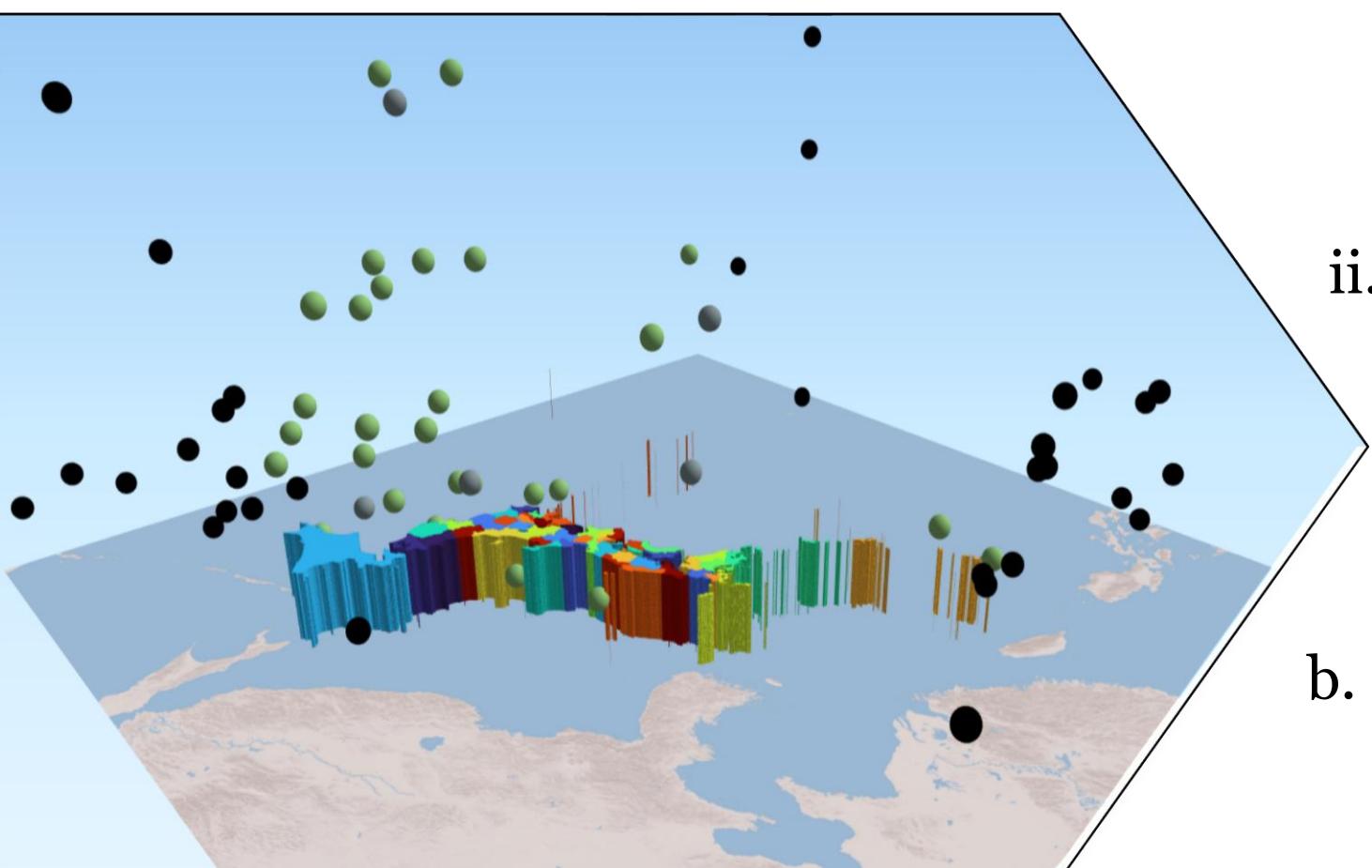
4. Interactive mapping and hands-on training through

Detailed map composing or layout generation using through editing process of

i.   Print layout

    a.   Map output elements b. Legend c. Grids d. North arrow e. Label

    f.   Scalebar

ii.   Export final map in a. JPEG b. PDF formats
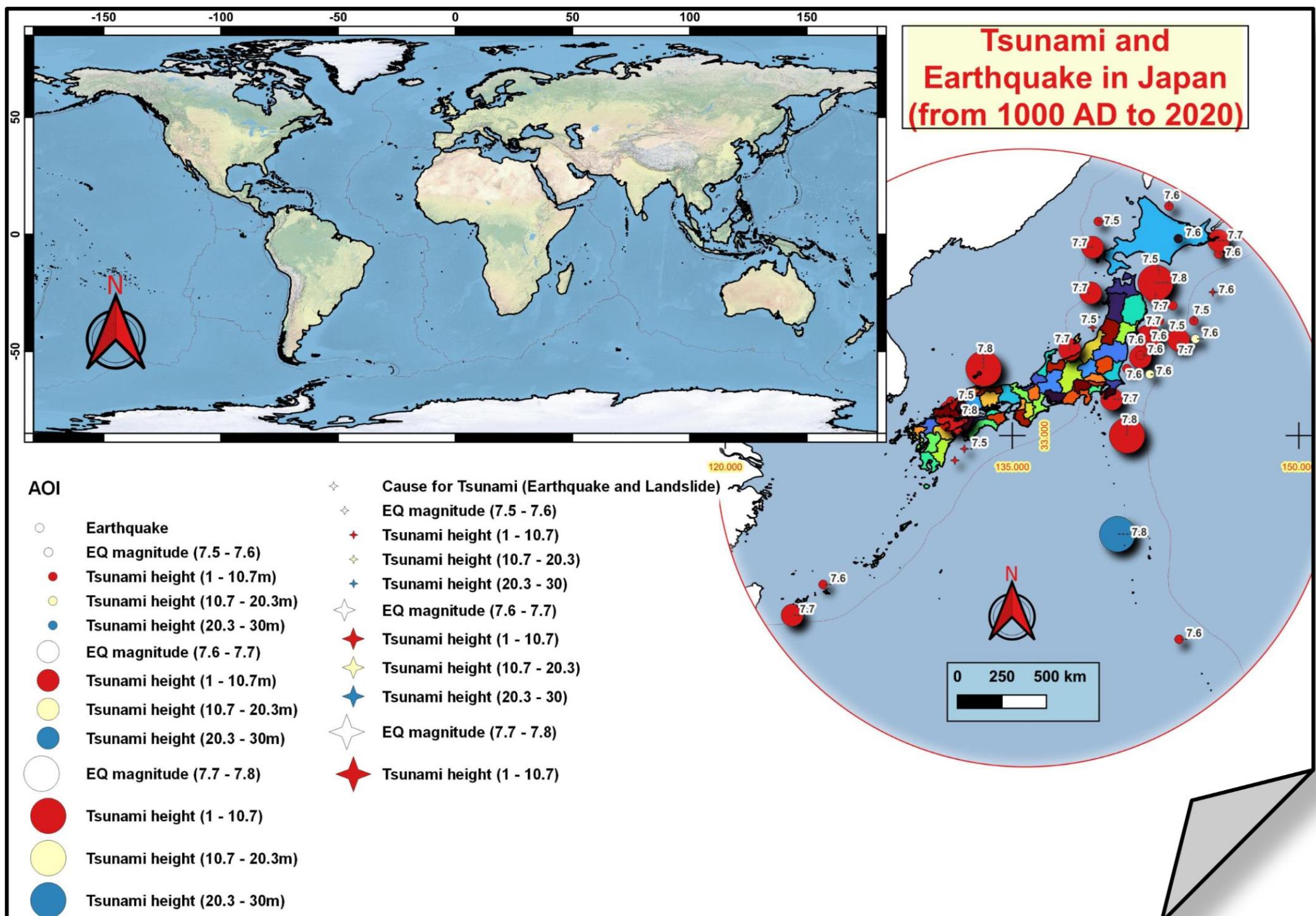
5. Practical and hands on training on various "Georeferencing techniques: From Lost to Located".

Scanned map/satellite imagery georeferencing using

a.   Point to Point

b.   Image to map

c.   **Raster data format conversion:** JPEG to GeoTIFF
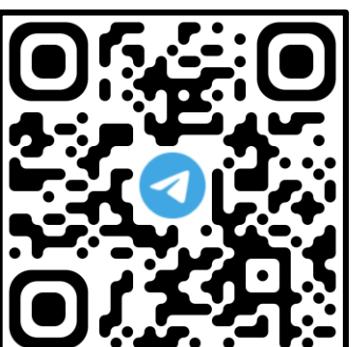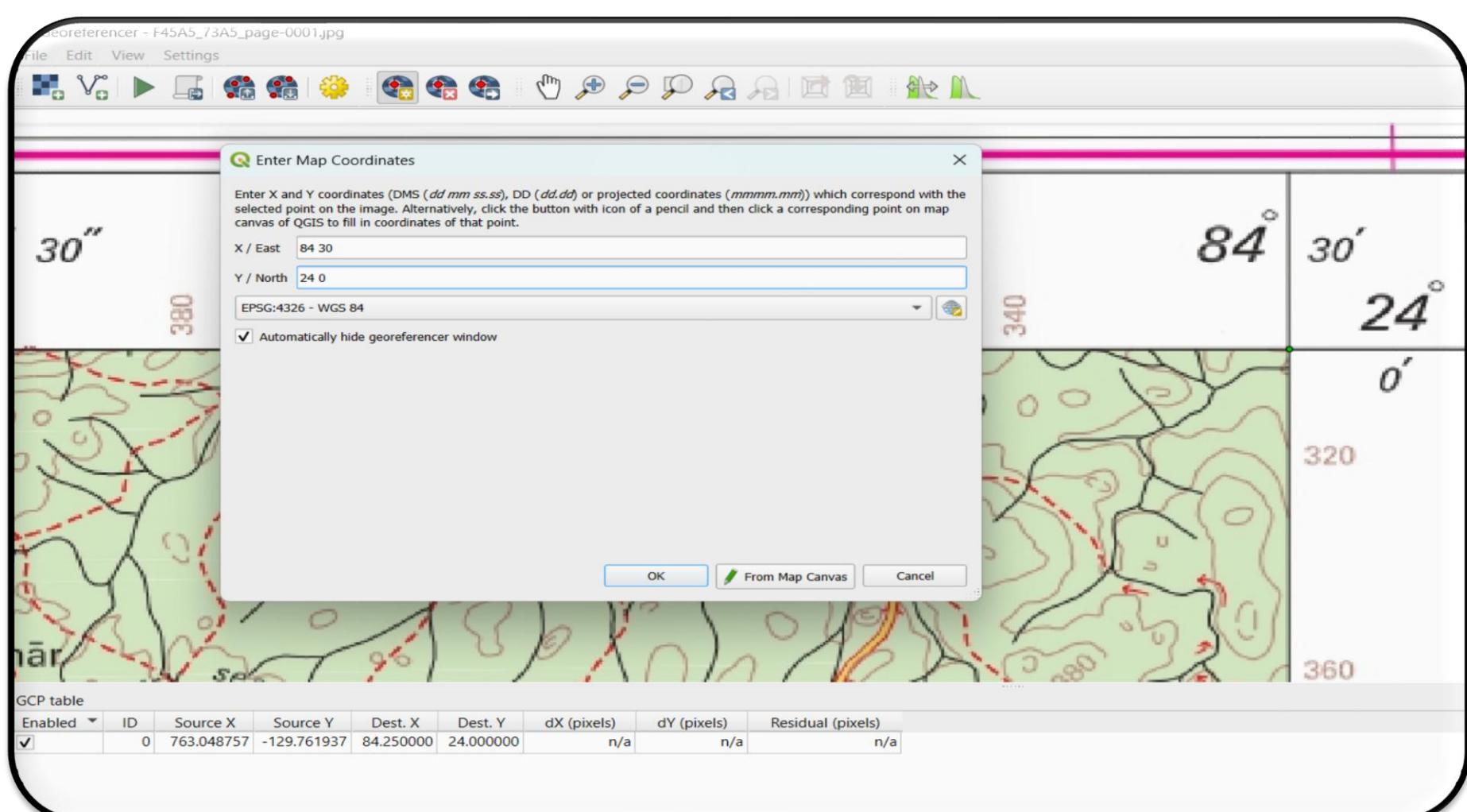
6a. **Generate vector data using real world features**

Vector data creation through Digitization. Master the most demanded skill in GIS industry with

i.   Basic Digitization

    a.   Theoretical understanding of polygon/multipolygon.

    b.   Creation, Editing/deletion of simple, and multipolygon features.

    c.   Theoretical understanding of Linestring/multiline features.

    d.   Creation, Editing/deletion of simple, and complex Linestring/ multiline features.

    e. Theoretical understanding of Point/multipoint features.

    f. Creation, Editing/deletion of simple, and complex points.

    g. Filter and Query.
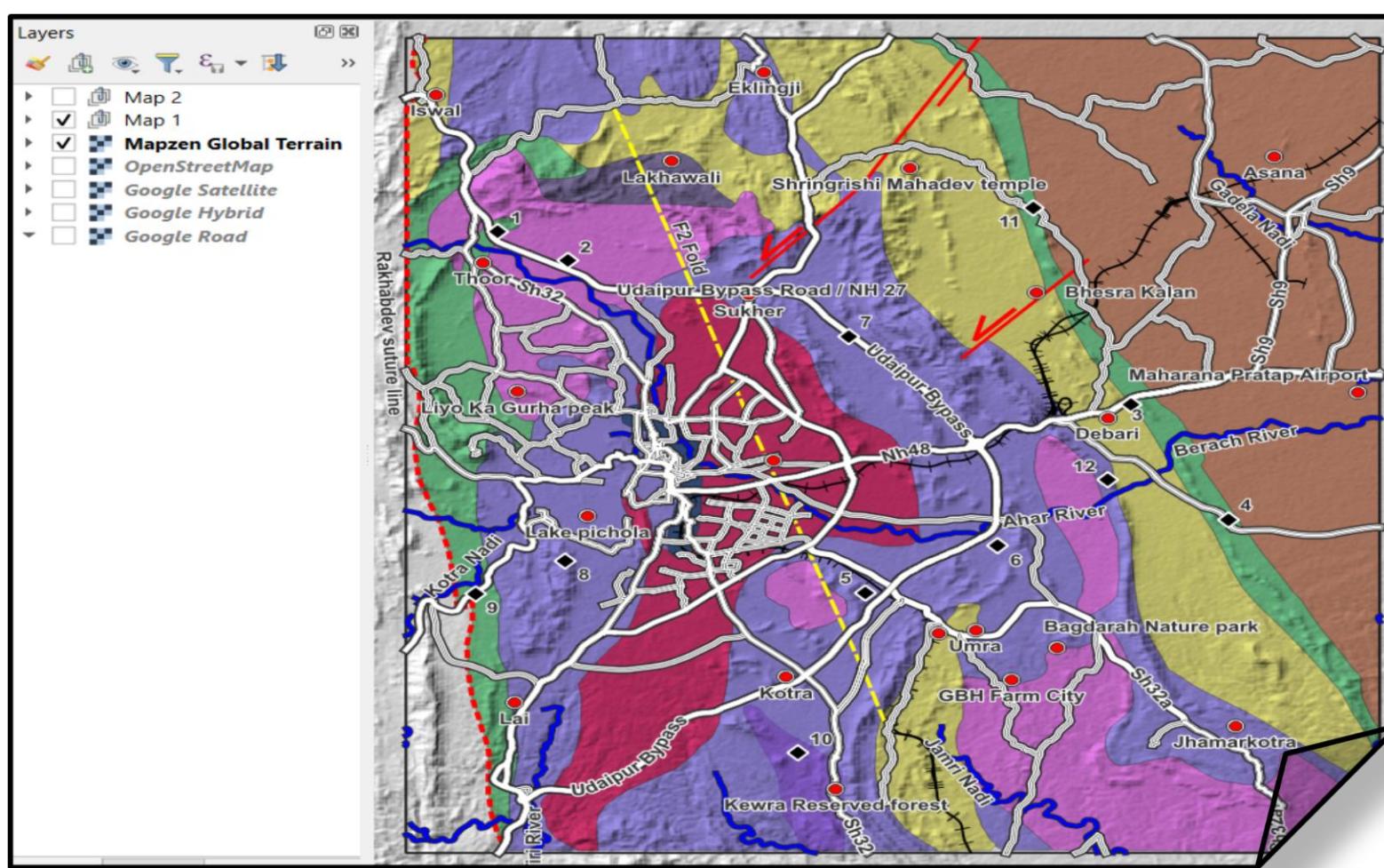
ii. Advanced digitization

a. Advanced digitization panel and toolbar

b. Creation of regular shaped polygons

c. Merge/Split/Rotate/Scale/Move/Simplify features

d. Creation, fill and deletion of ring structures

e. Creation of polygons at regular angles

iii. Concept and practical understanding of concepts like

a. Undershoot

b. Overshoot

c. Gaps

d. Overlaps

iv. Snapping Options and Project snapping settings

9. **Vector feature analysis**

i. Geoprocessing analysis

ii. Geometry analysis

iv. Data management
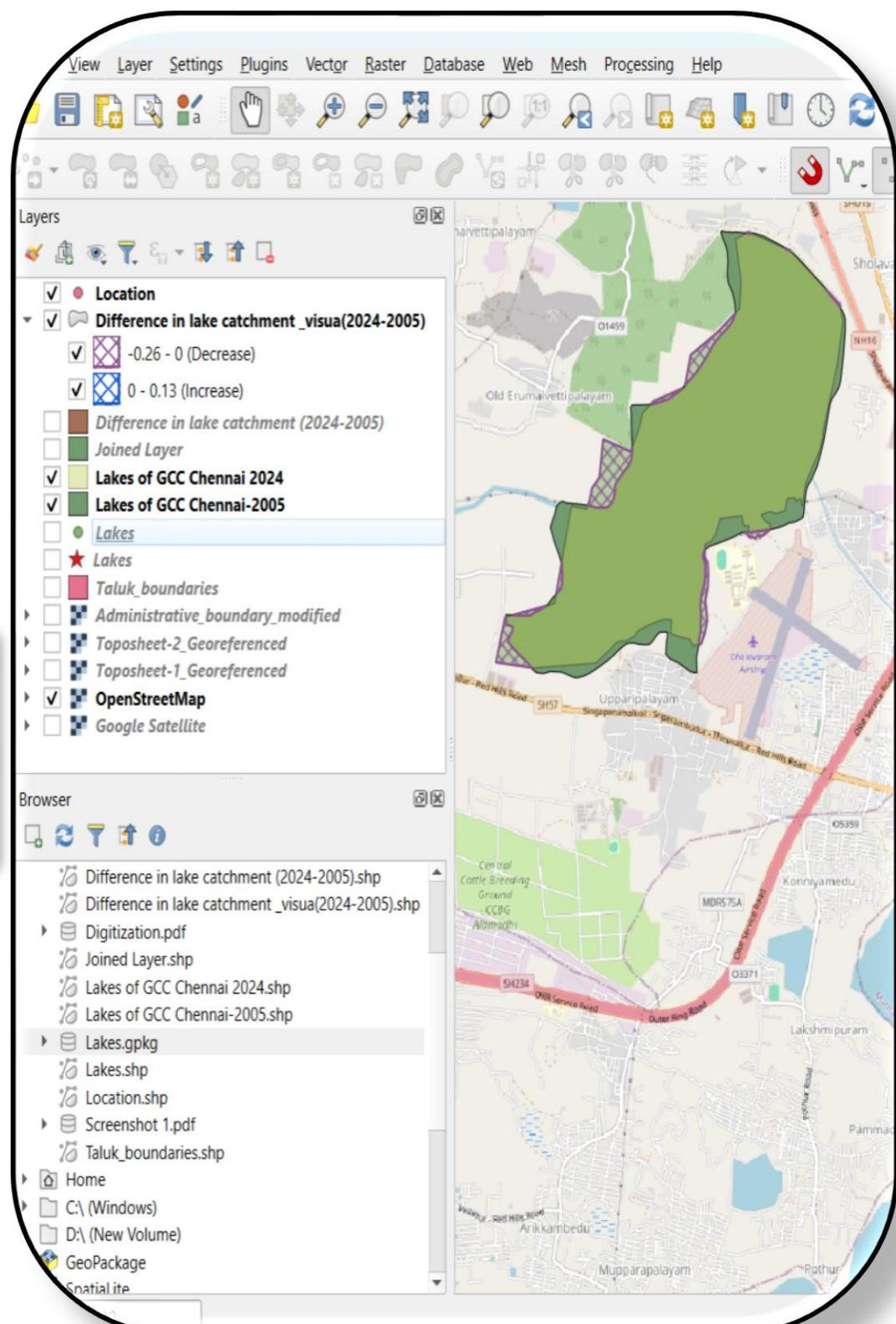
v. Analysis Tools
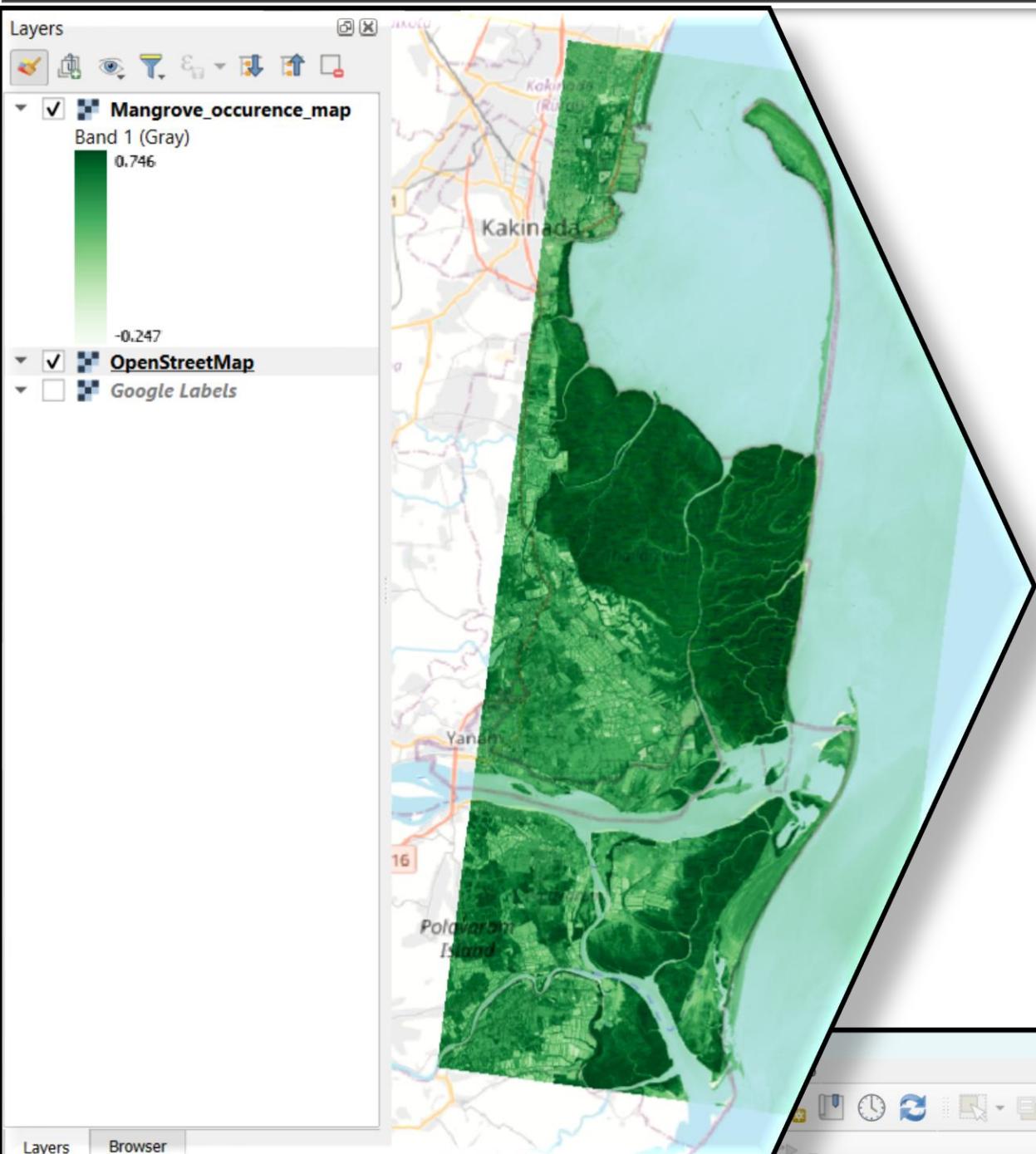
7. **LANDSAT image analysis**

i.   Image Processing

a.   Supervised and unsupervised Classification

a.   Clustering

b.   Image mosaic, masking and clipping

ii.   Delineation of training points for image classification
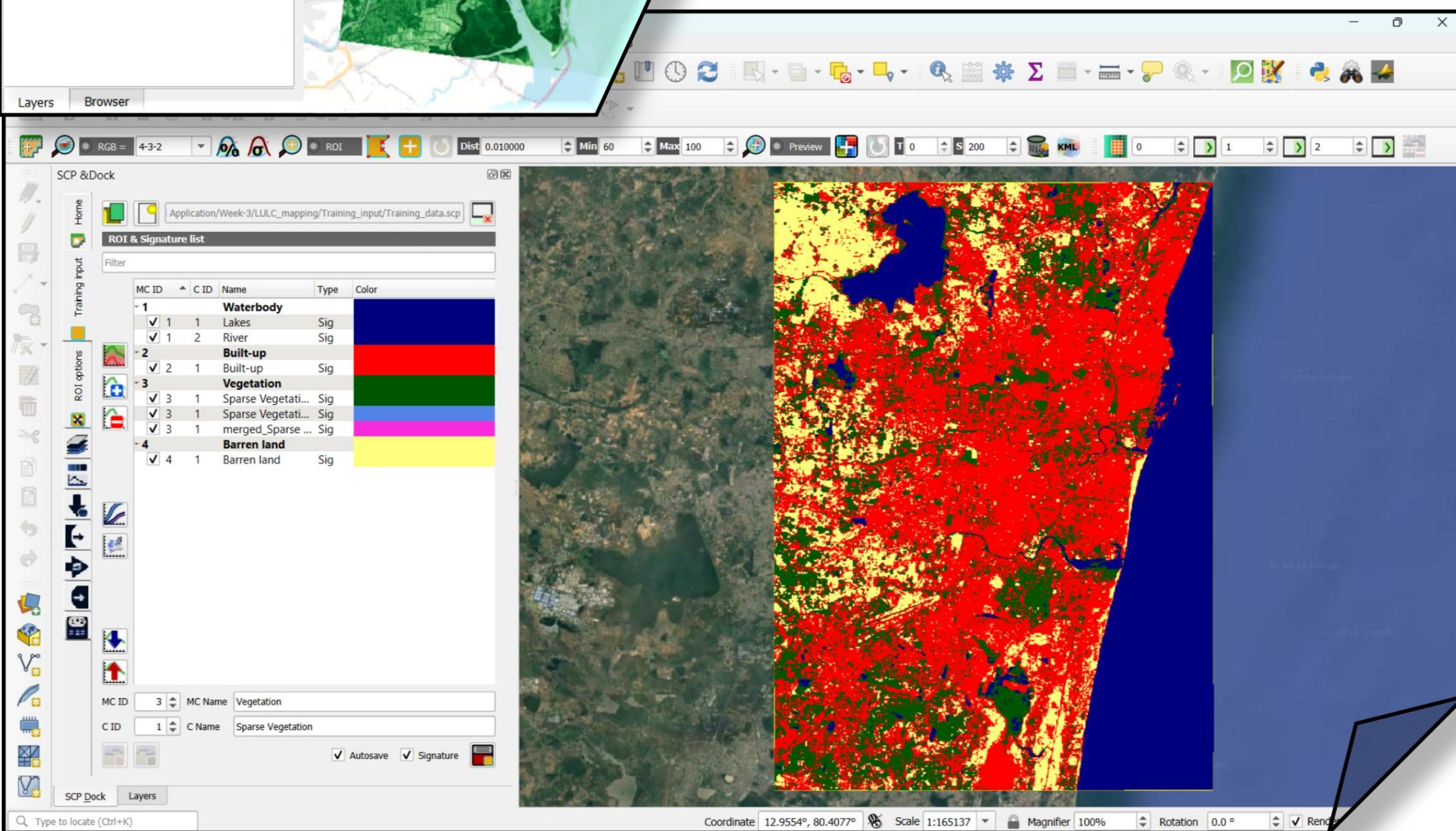
8a. Topographic analysis

a. Project Raster

b. Clip Raster

c. Raster calculator

d. Fill no data

e. Hillshade

f. Slope

g. Aspect

h. Contouring

i. Extraction

Mount Etna with Elevation Contour Distributio

Mount Etna, Bronte, Catania, Sicily, Italy
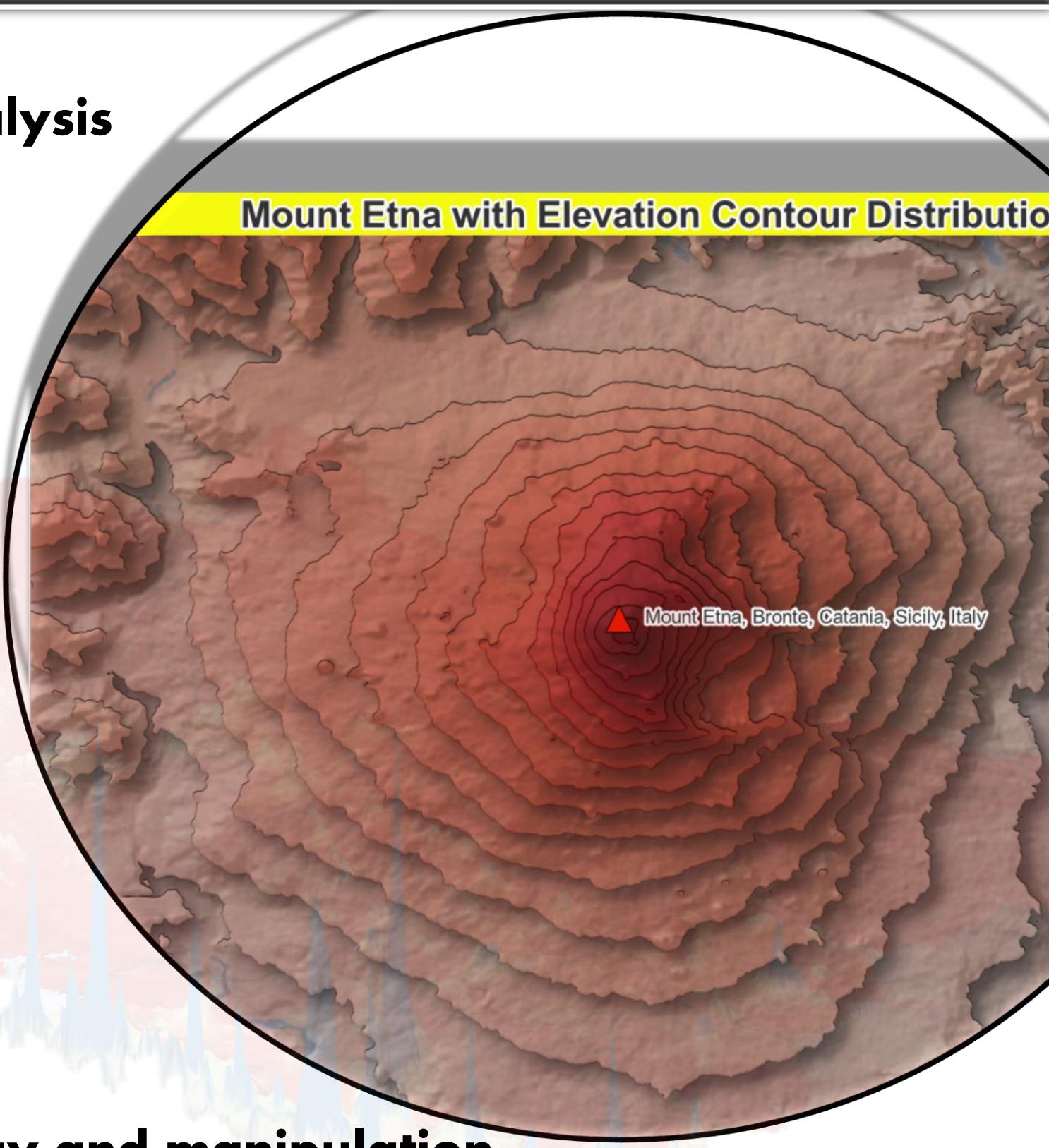
8b. Raster symbology and manipulation

a. Multiband colour

b. Palleted/unique values

c. Single band Gray

d. Single band Pseudocolor

e. Min/Max value settings

f. Interpolation

f. Mode

g. Layer Rendering

h. Resampling

i. Histogram computation

Module 9: Hydrological modelling

10a. Watershed delineation and water quality and flow assessment

a. DEM download

b. Reproject DEM/DSM

c. Fill sinks/Fill no data

d. Strahler order

e. Flow direction

f. Linear direction calculation

g. Channel network and Drainage basin

h. Interpolation of point data

i. Contour creation through raster data
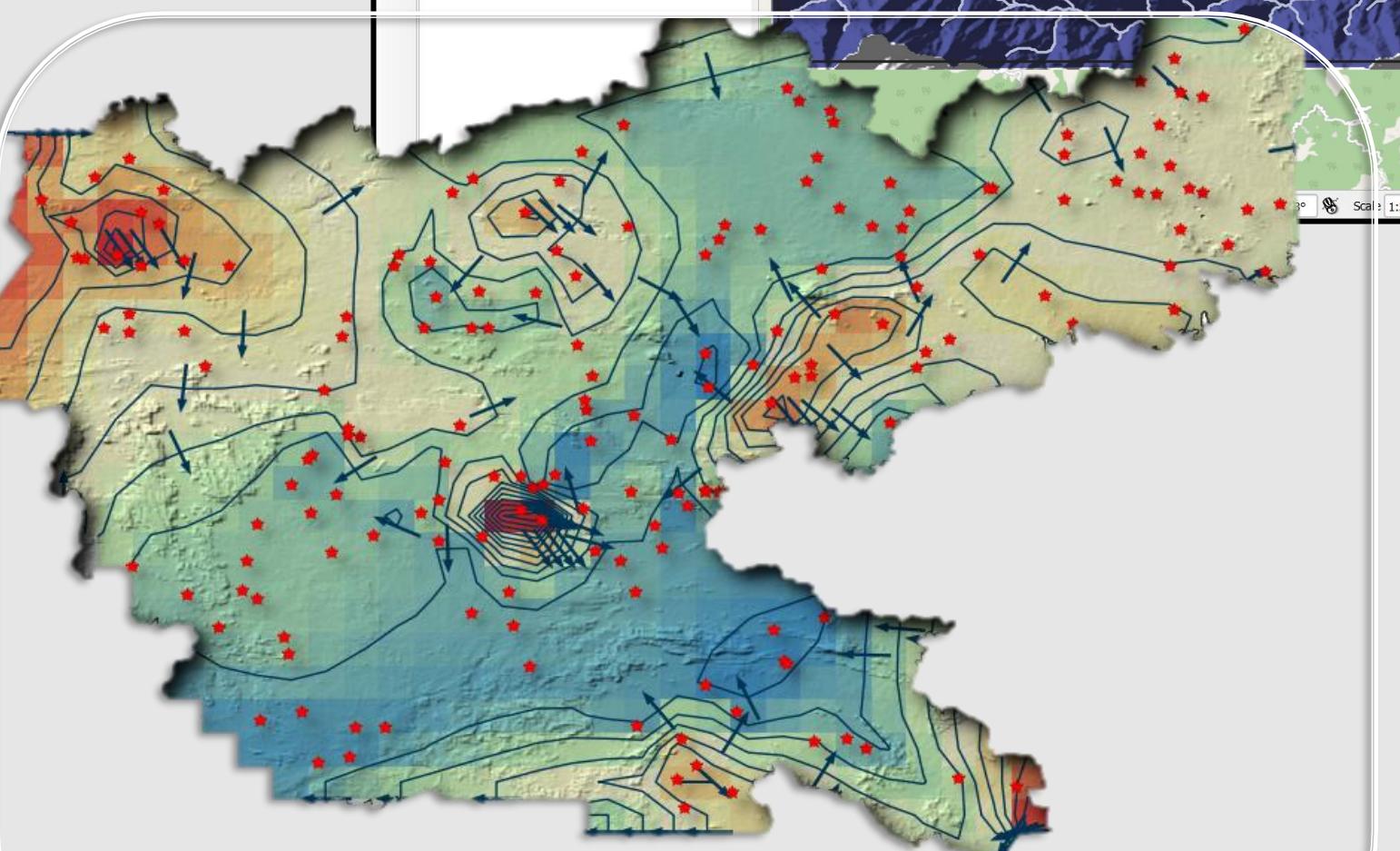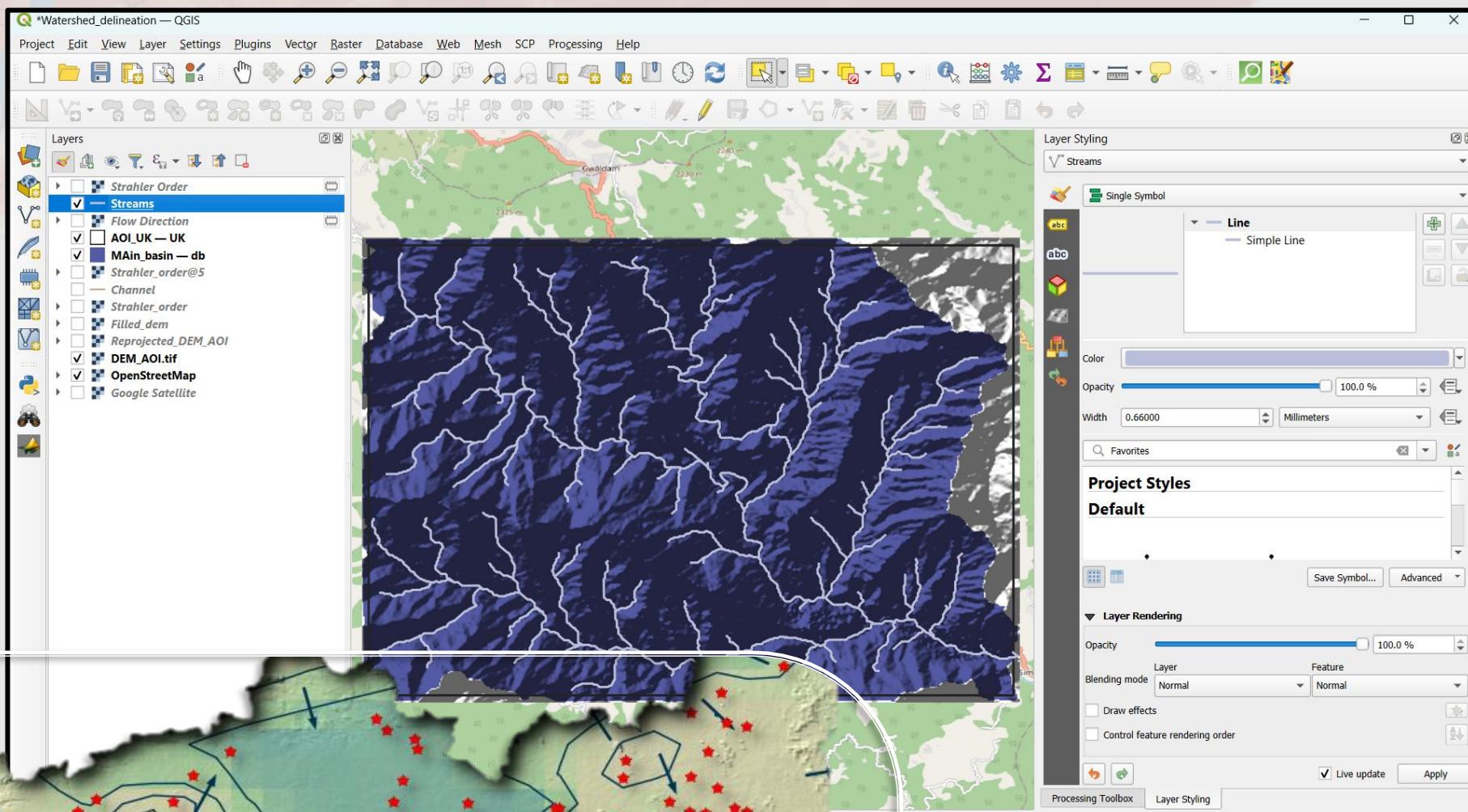
Module 9: Hydrological modelling

10b. **Morphometric analysis of stream channel and drainage basin, assessment and interpretation.**

- Steepness index
- Hypsometric analysis
- Bifurcation ratio
- Surface roughness
- Drainage density
- Relief etc.

7c. 3D visualization of well data and downhole lithology.
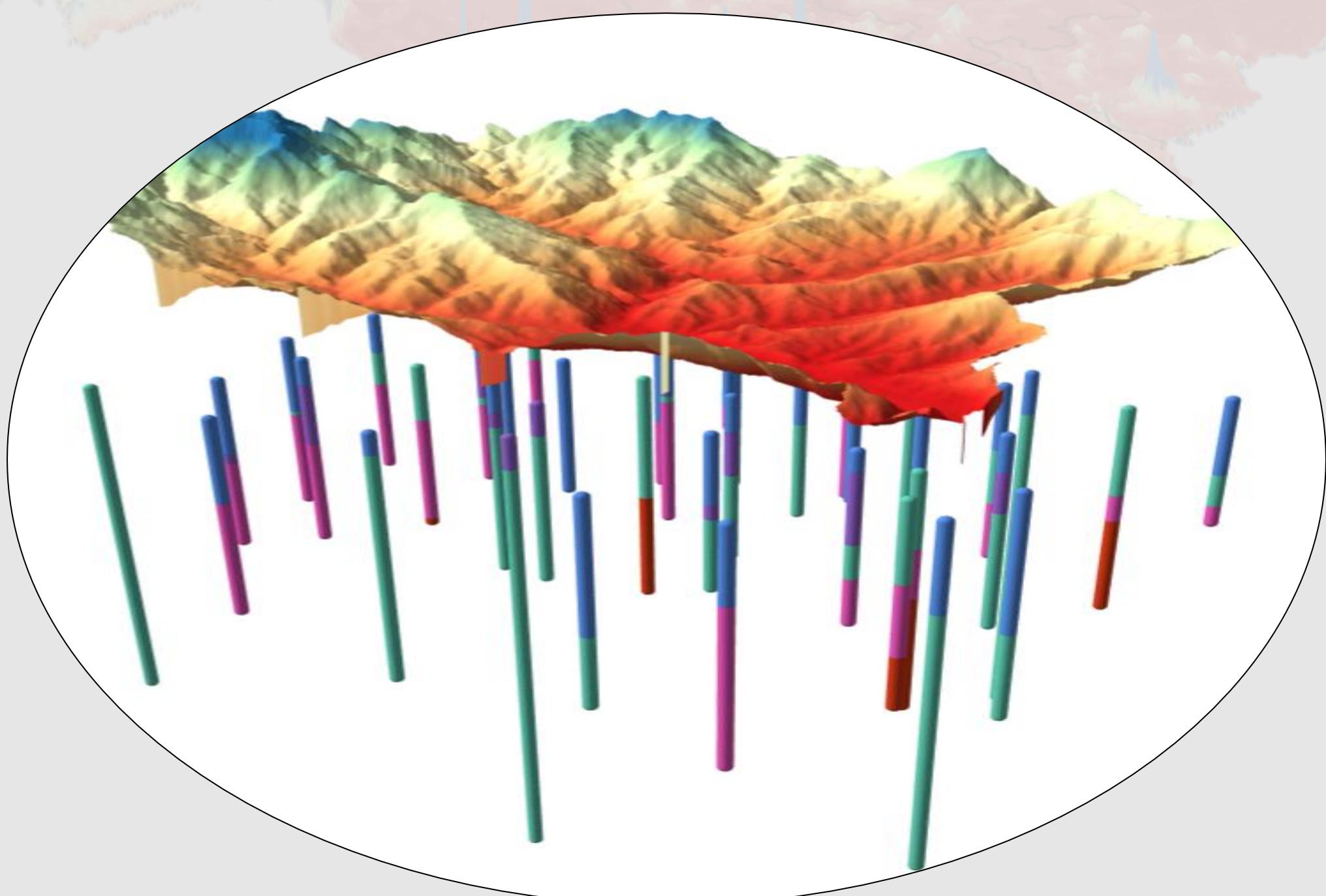
Course fees and structure

Select your Registration Category			
First time participants		*Students and Previous participants	
Full Payment	#Pay in instalments	Full Payment	#Pay in instalments
INR 3100 or USD 50	INR 1100/- each instalment (3 instalments allowed)	INR 2500/-	INR 900/- each instalment (3 instalments allowed)

(Amount)

#Instalment facility is applicable only to Indian nationals. Participants who are not Indian nationals will have to pay full fees while making payment.

*Students include Indian students those who **passed out their master's degree in 2025 and later (pursuing)**. Else book your seat as first time participants.

*Previous participants include those who have **participated (from different parts of the globe) in any of the past courses organized by Quest GIS (paid or non-paid)**. This does not include webinars.

To submit the course registration, kindly go to link (https://questgis.co.in/upcoming-courses/) provided in the description with this brochure.

Your seat is confirmed only when you register and share the payment proof.

Certificate of completion

Pre-requisites for certificate

1. Complete and correct submission of weekly assignments as instructed during course.

2. Complete and correct submission of one final assignment as instructed during course.

3. 70% score in a final quiz.

Please note: Certificate of completion will be issued to candidates, only one meets the above requirements. This will ensure the high quality of the course and can guarantee the knowledge gained by each participant.