

Practice on 3. Vector Analysis

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NOAA / Climate Prediction Center - International Desks

Fiji Pacific Climate Early Warning Workshop

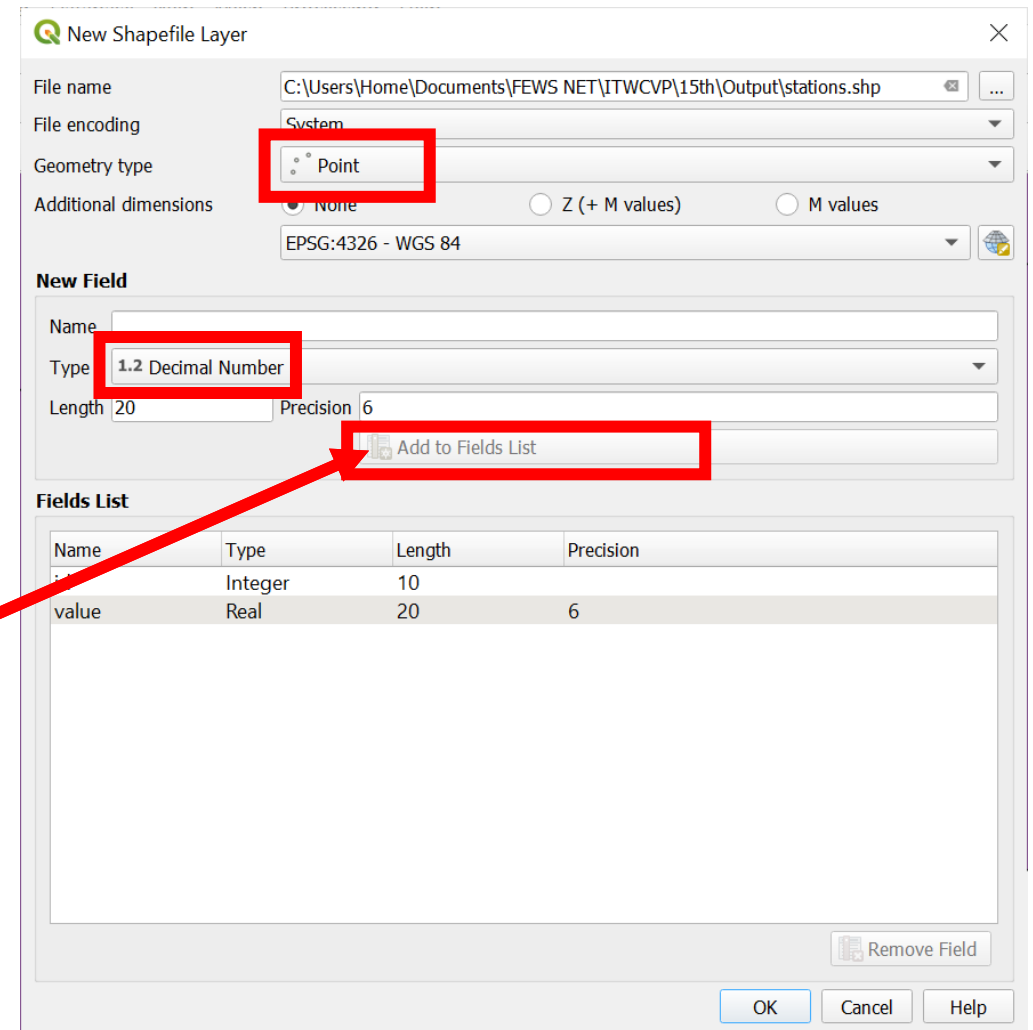
Fiji, 15 – 24 July 2023

Exercise 5: Creating a New Vector Data

- From last exercise, click  to deselect selected features

- Click  to create a new shapefile layer. Save as **stations** to output folder, select Point in Geometry type

- In Name under New Field, type **value**, select Decimal number as Type and click Add to Fields List, and click OK



New Shapefile Layer

File name: C:\Users\Home\Documents\FEWS NET\ITWCVP\15th\Output\stations.shp

File encoding: System

Geometry type: Point

Additional dimensions: None

Coordinate system: EPSG:4326 - WGS 84

New Field

Name:

Type: 1.2 Decimal Number

Length: 20 Precision: 6

Add to Fields List

Fields List

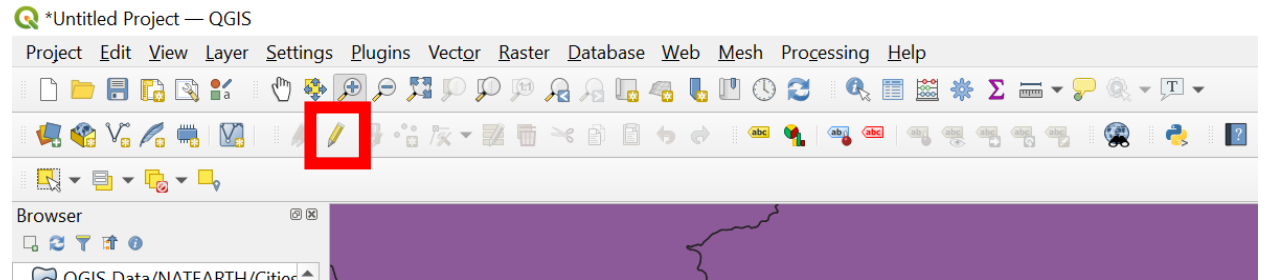
Name	Type	Length	Precision
value	Real	20	6

Remove Field

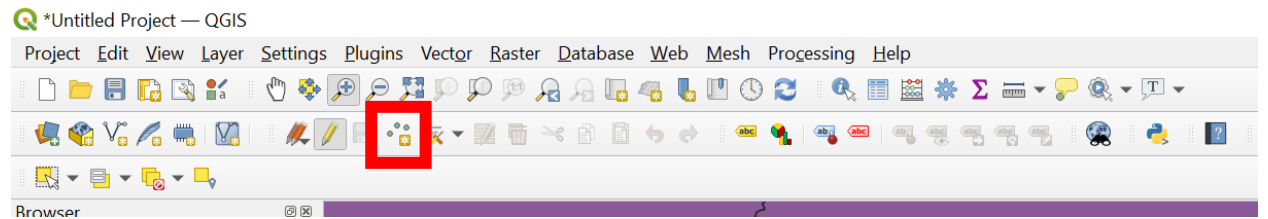
OK Cancel Help

Exercise 5: Creating Points

- Edit the newly created stations data by clicking Toggle Editing toolbar



- Click Add Point Feature, click on map, where you want to draw the point, type value, and click OK. Add all remaining points.



Point	Value
1	0.9
2	1.5
3	0.5
4	1.5
5	1.1

stations - Feature Attributes

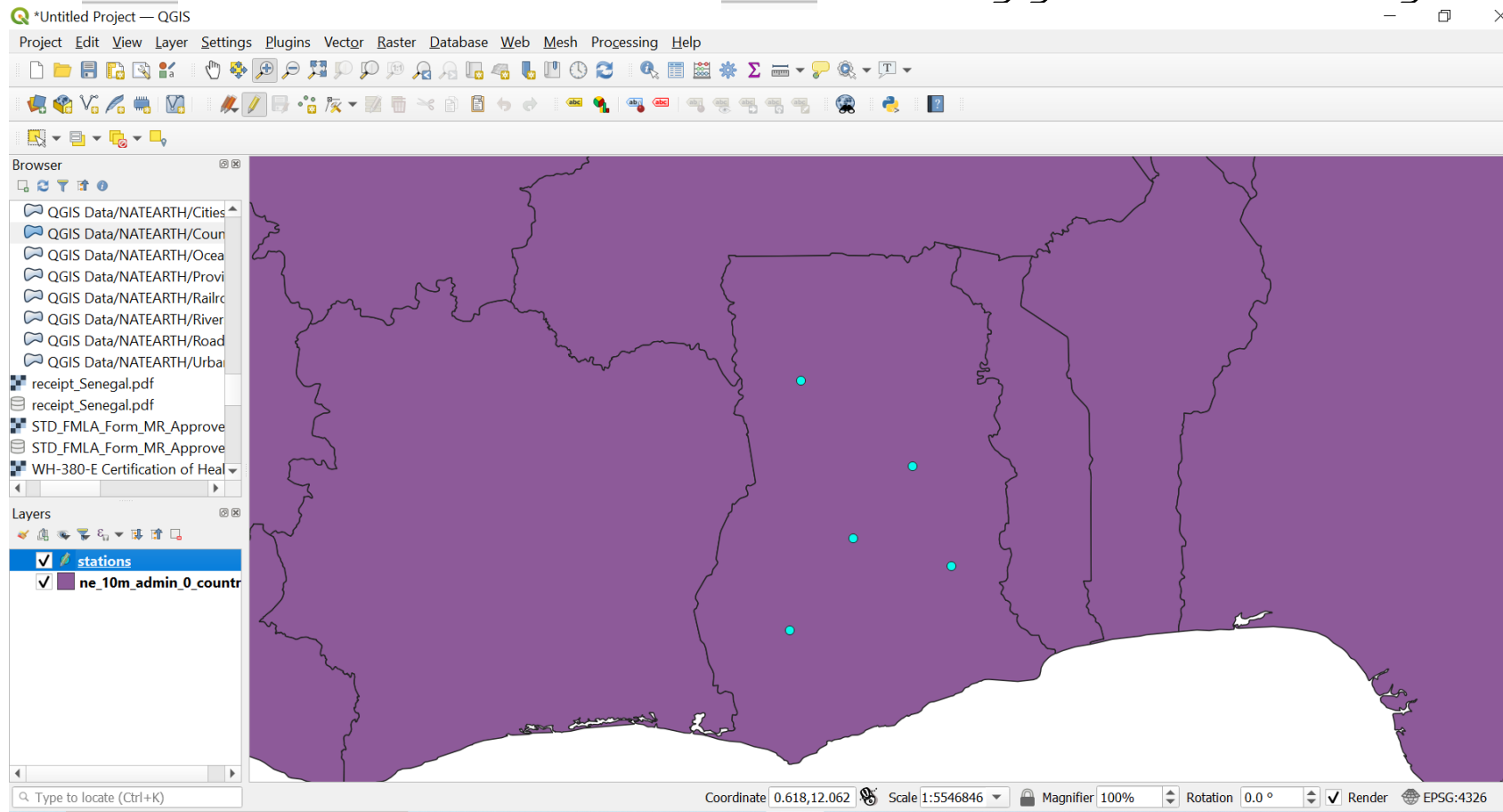
id

value

OK Cancel

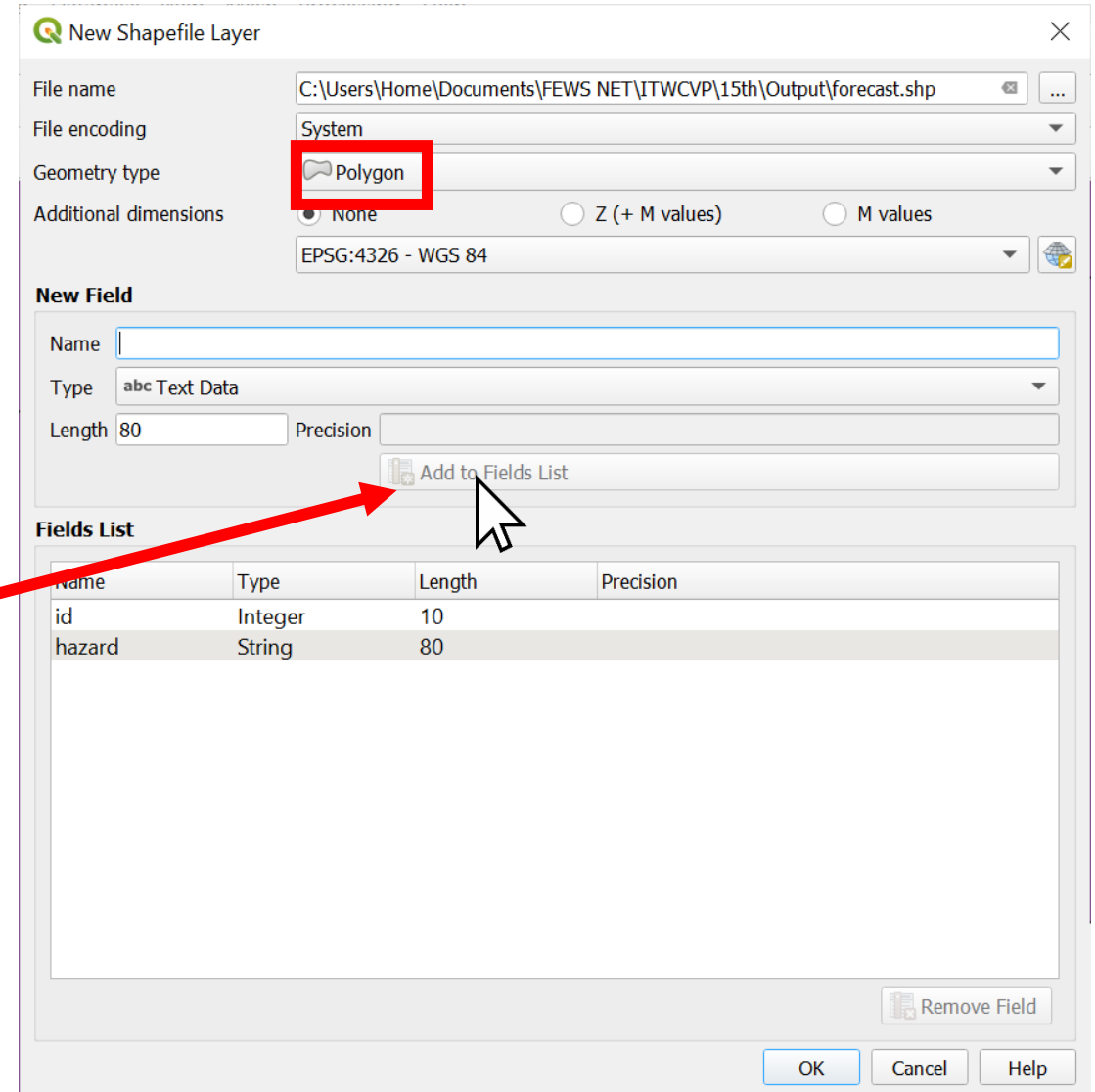
Exercise 5: Creating Points (Cont'd.)

- Click on  to save edits. Click  to Toggle Editing off


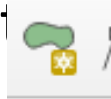



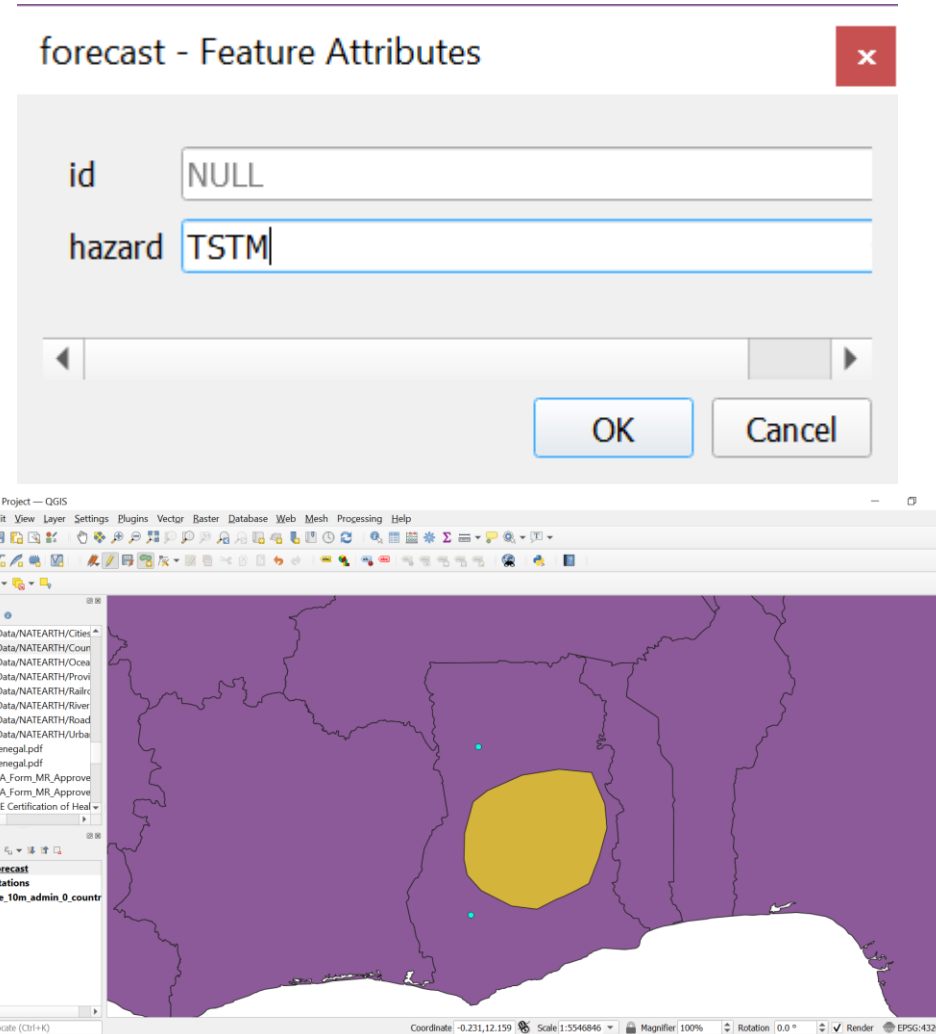
Exercise 5: Creating a Polygon

- Create a new shapefile layer, named **forecast**
- Select Polygon as Geometry Type
- Type **hazard** as a New Field, leave Type as Text Data, then click Add to Fields List and click OK



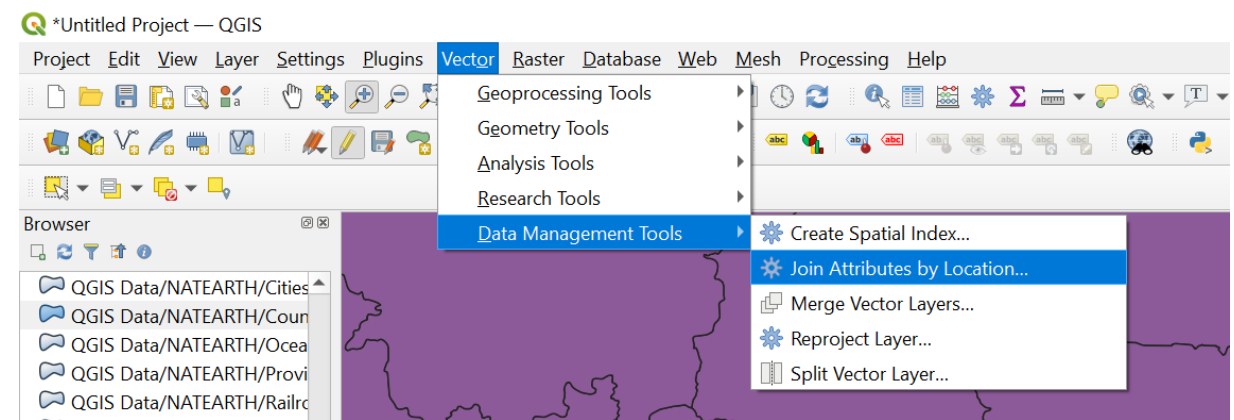
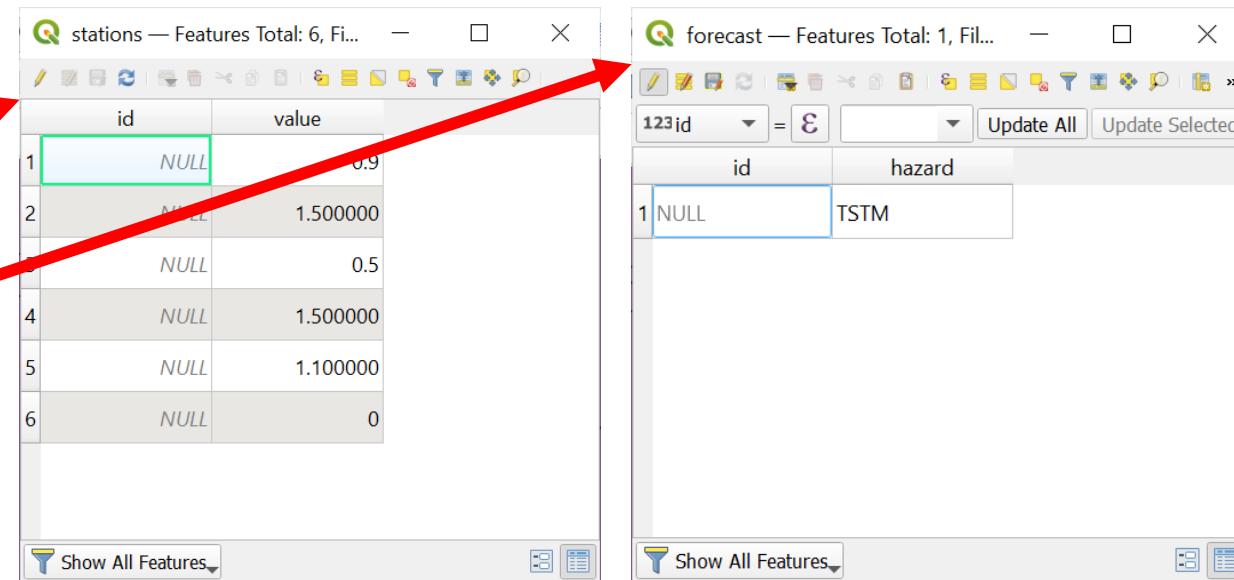
Exercise 5: Creating a Polygon (Cont'd.)

- Click  to Toggle Editing on the forecast data. Click on  add polygon
- Draw a polygon by connecting nodes, right click over the first node to close polygon
- Type TSTM to represent thunderstorm. Click back  and save edits to forecast

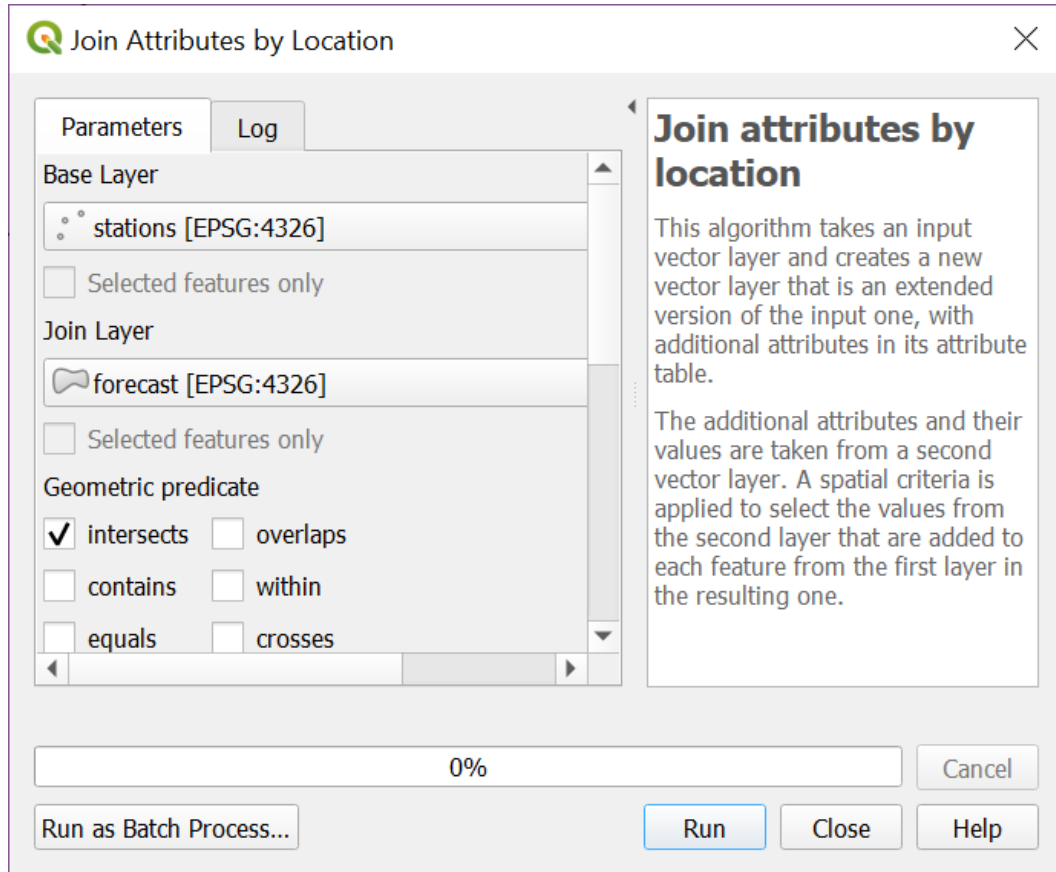


Exercise 6: Spatial Join

- Re-order data so that `stations` is on top of the `forecast` layer
- Open the Attribute Tables for `stations` and `forecast` by clicking on each data then F6
- Perform a spatial join between `stations` and `forecast`. Go to `Vector > Data Management Tools > Join Attributes by Location`



Exercise 6: Spatial Join (Cont'd.)



- Use stations as the Base Layer and forecast as the Join Layer
- Make sure Geometry Predicate is set to intersects
- Click Run

Exercise 6: Spatial Join (Cont'd.)

- Verify that the Attribute Table of the newly displayed Joined Layer shows
- Note that only the points inside the polygon have TSTM attribute

Joined layer — Features Total: 6, Filtered: 6, Select...

	id	value	id_2	hazard
1	NULL	1.500000	NULL	TSTM
2	NULL	0.5	NULL	TSTM
3	NULL	1.500000	NULL	TSTM
4	NULL	0.9	NULL	NULL
5	NULL	1.100000	NULL	NULL
6	NULL	0	NULL	NULL

Show All Features