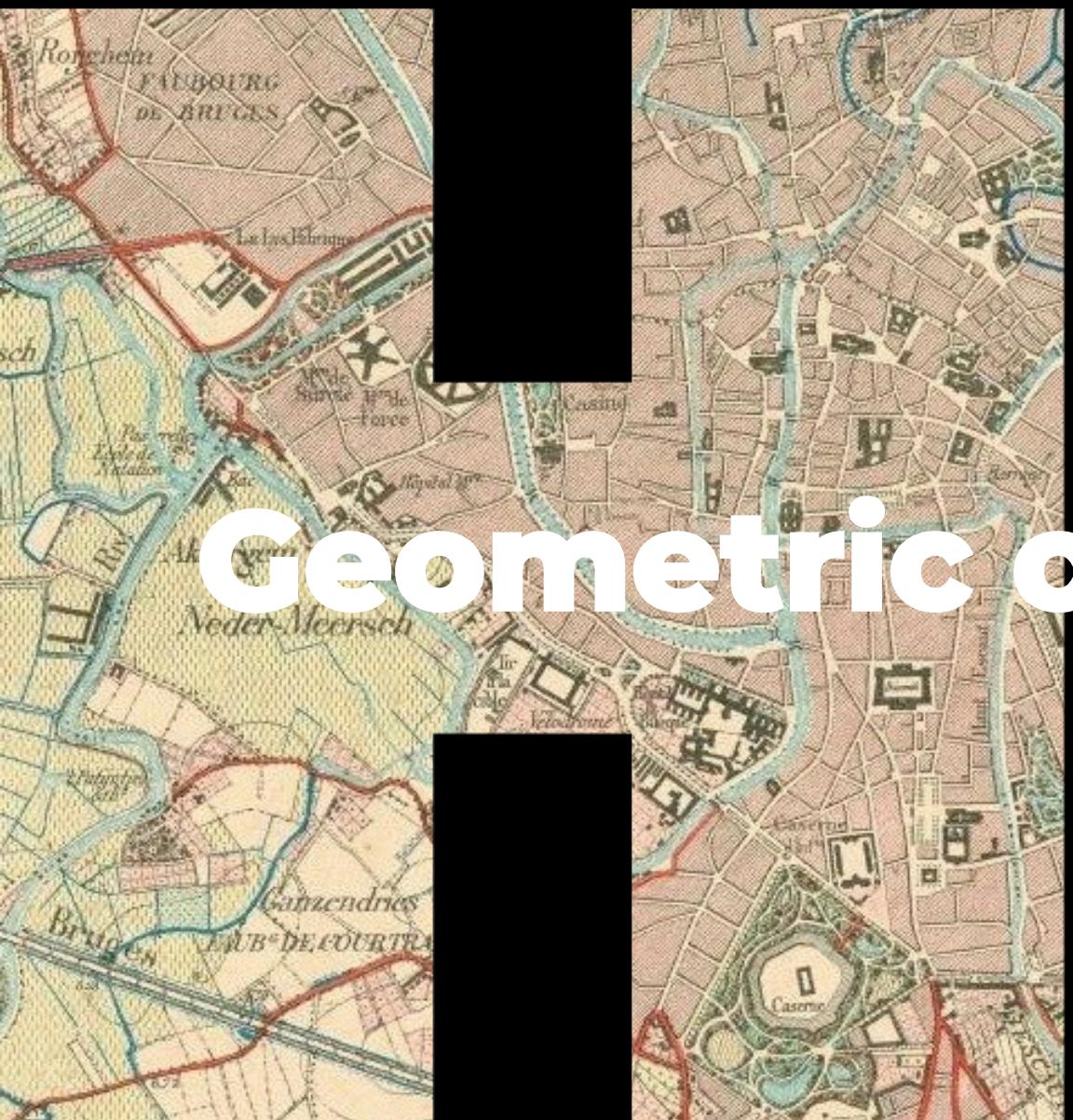


# Project GeoICT

2021-2022

**HO  
GENT**



# Geometric calculations

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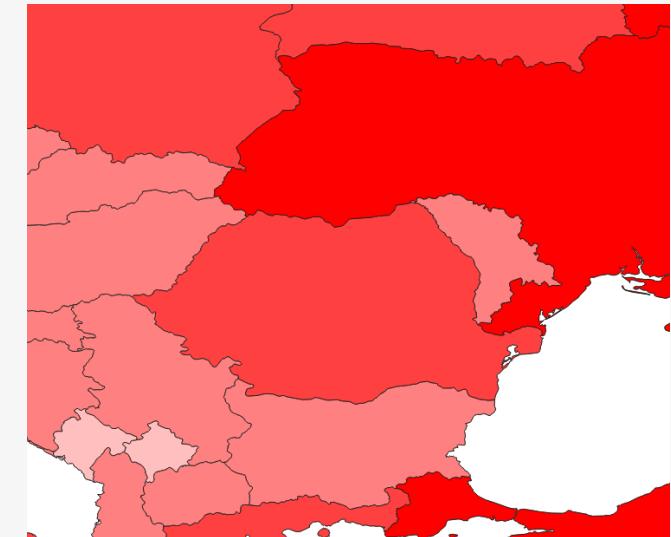
# **Background and practice**

## **Geometric calculations**

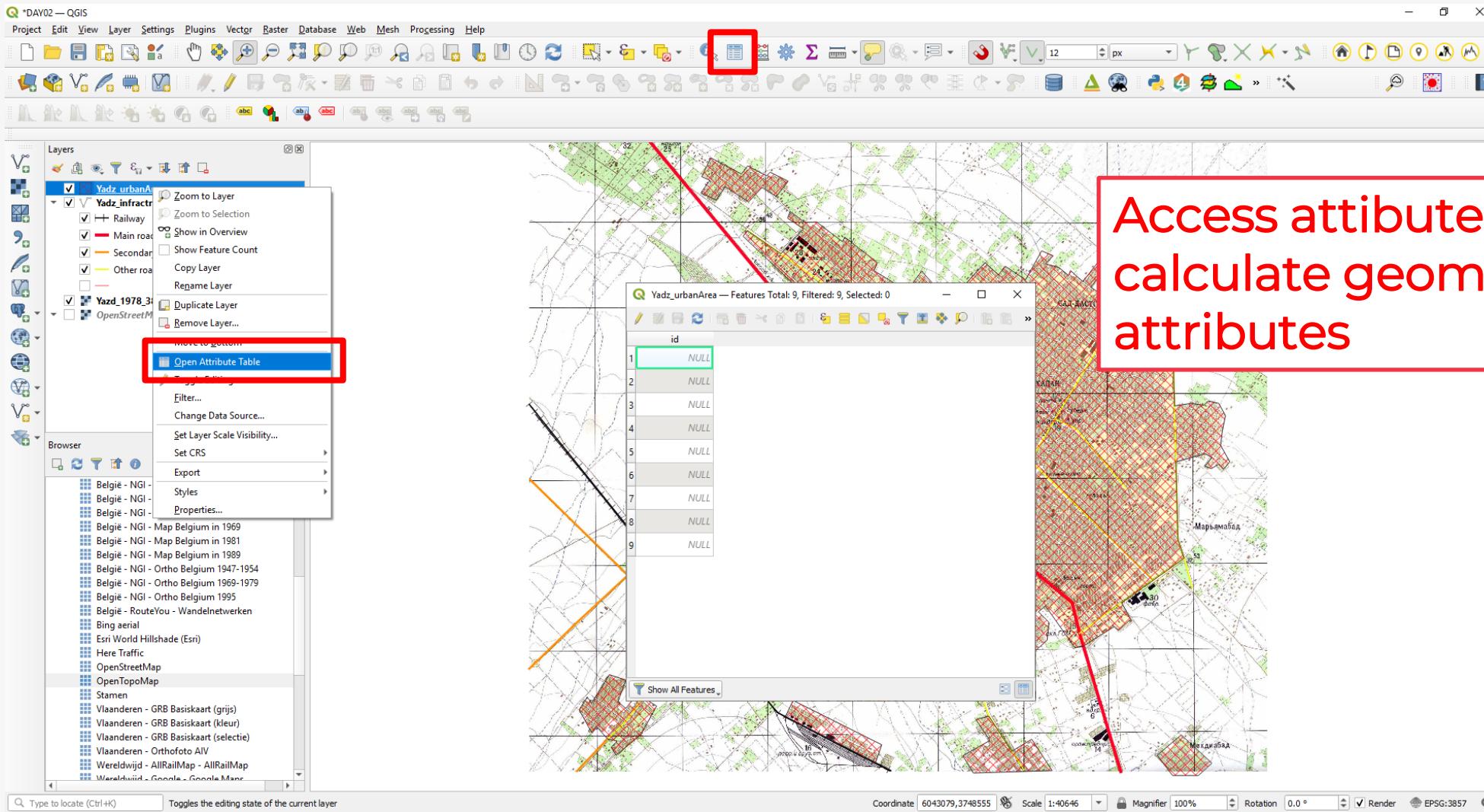
# Relevance

Derive intrinsic properties of features (point, line, polygon) and add them to the attribute table:

- (X,Y) coordinates of nodes;
- Length;
- Perimeter;
- Area;
- ...

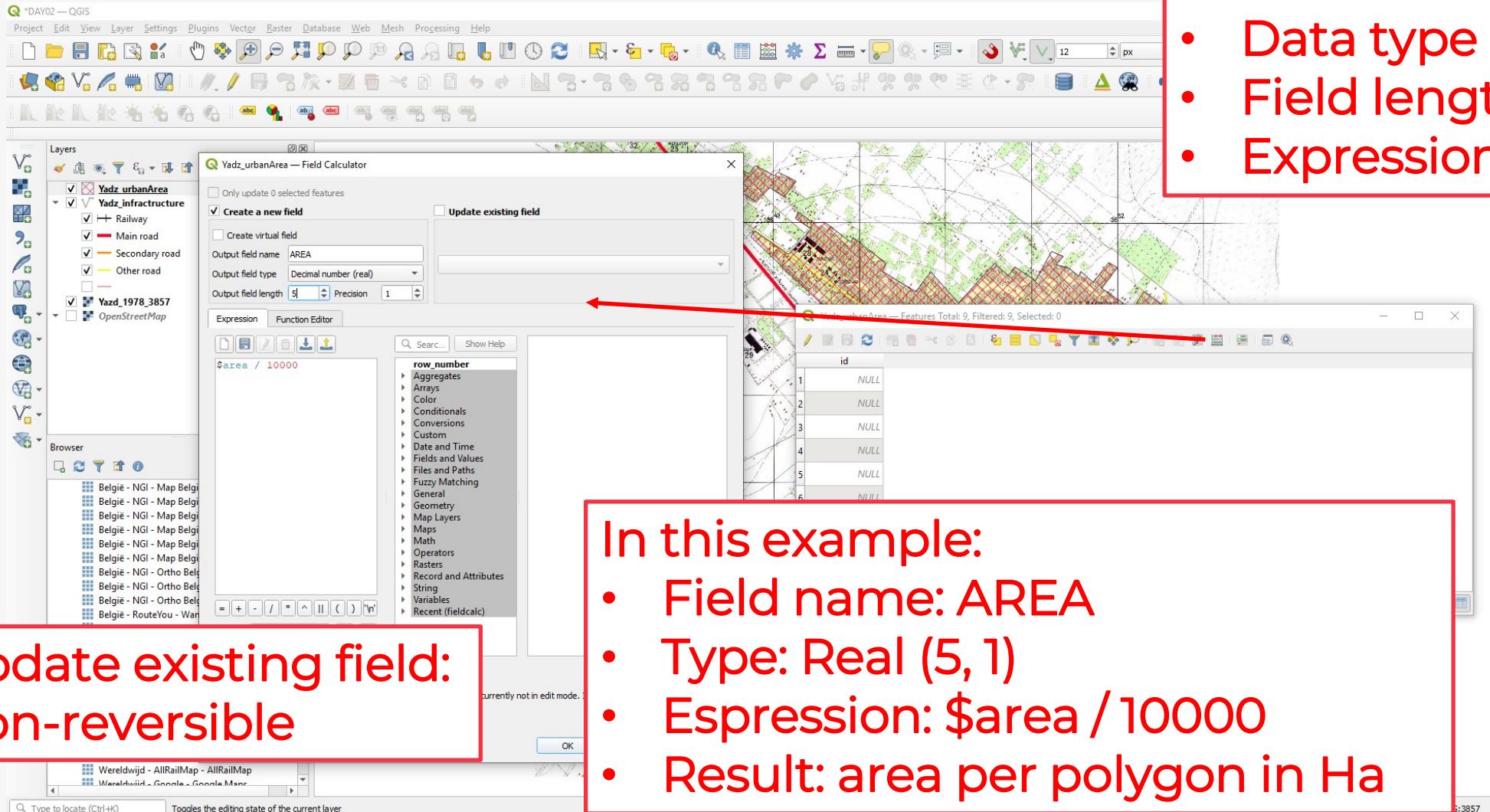


# Access attribute table



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# Calculate new field



Required parameters:

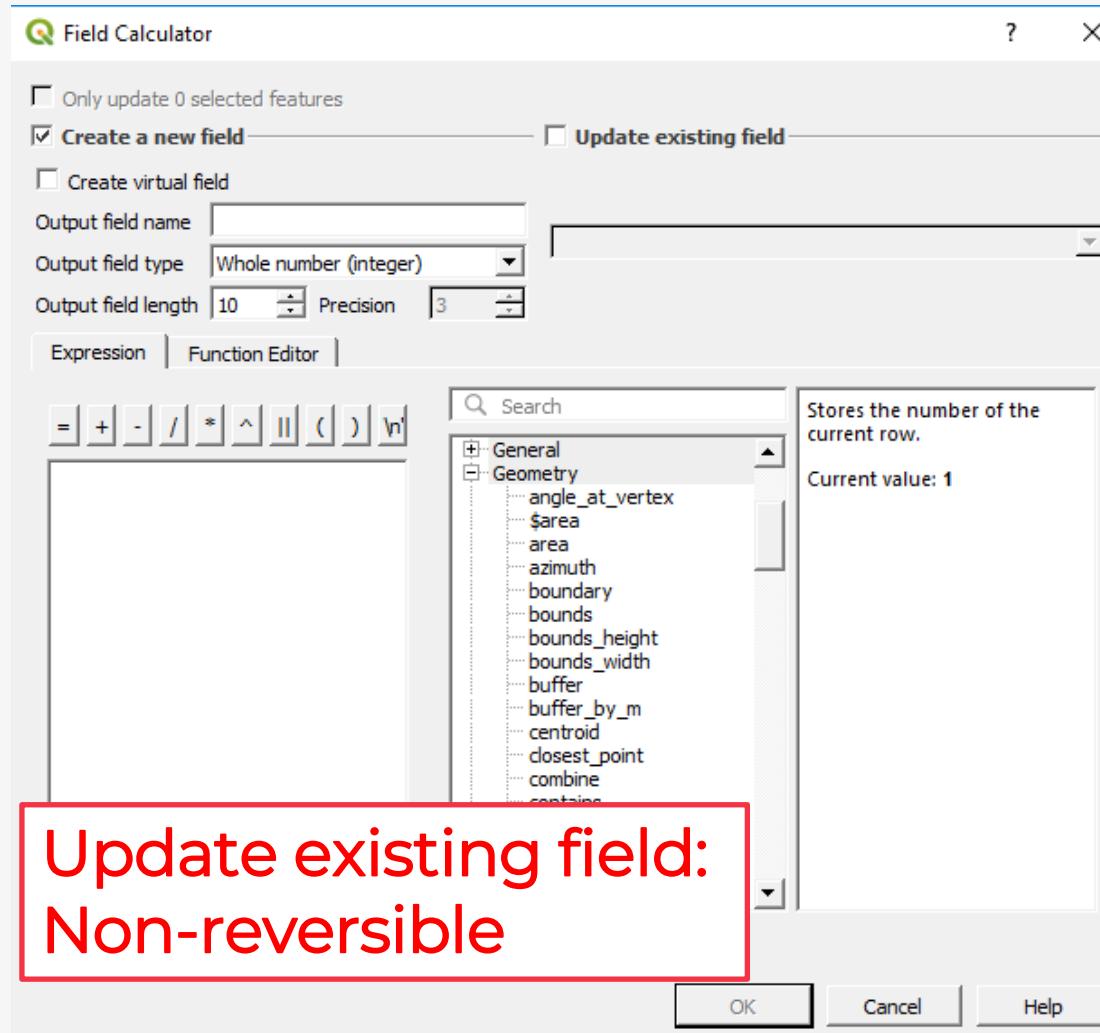
- Name
- Data type
- Field length
- Expression

In this example:

- Field name: AREA
- Type: Real (5, 1)
- Expression: \$area / 10000
- Result: area per polygon in Ha

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# Introduction to the field calculator



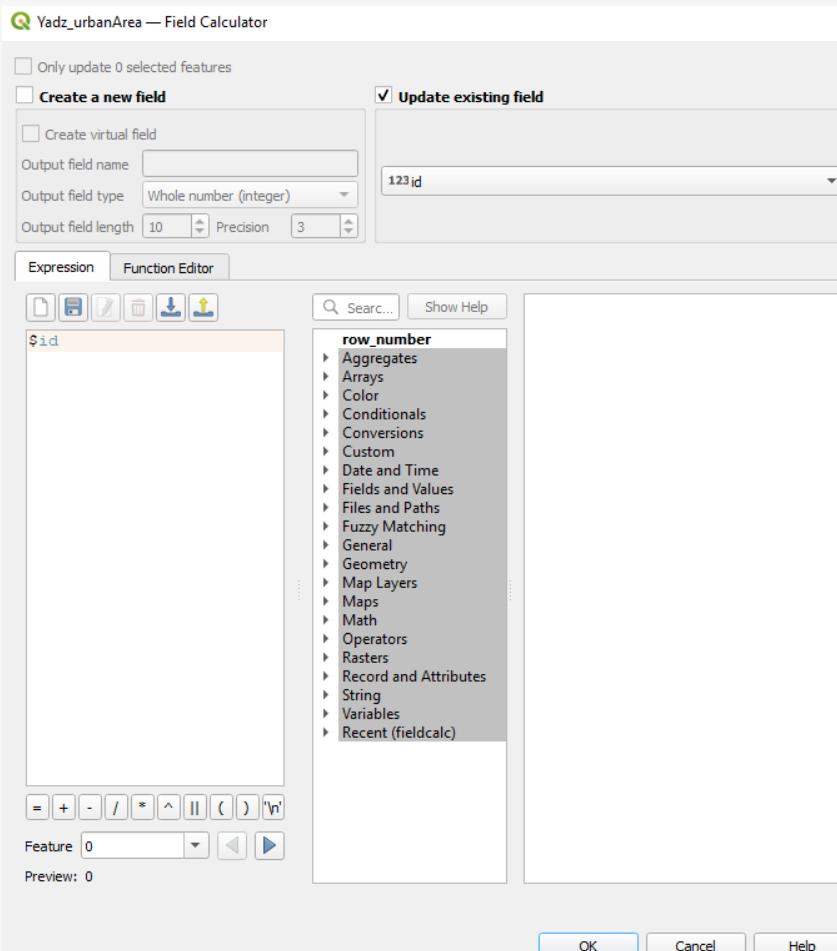
Update existing field:  
Non-reversible

Many other expressions  
possible, also for geometry

More in this topic in one of  
the following presentations

# Modify calculated values (assign id)

\$id



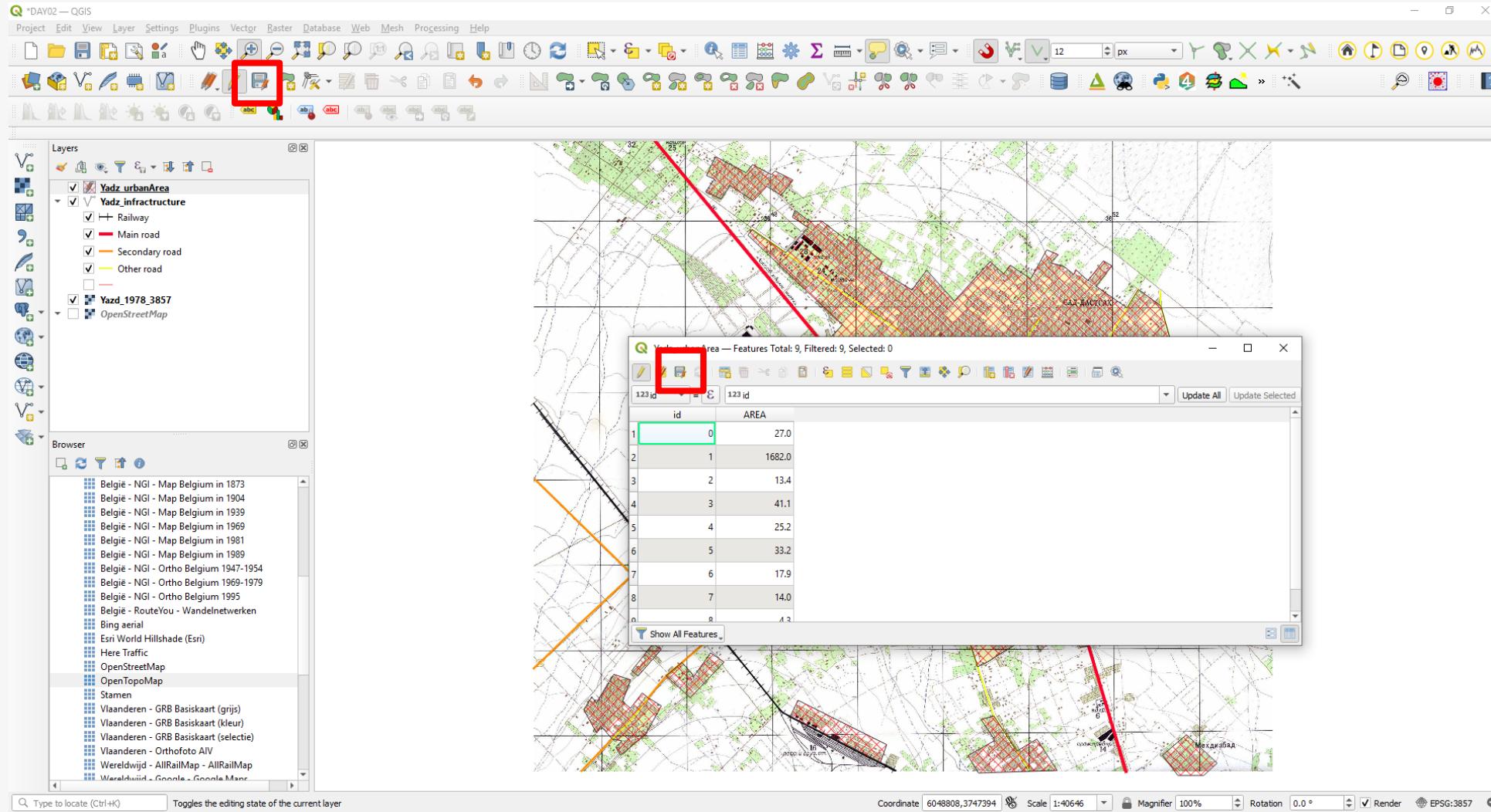
The screenshot shows the attribute table for the 'Yadz\_urbanArea' layer. The table has two columns: 'id' and 'AREA'. The 'id' column contains values from 1 to 9, and the 'AREA' column contains corresponding numerical values. A search bar at the top shows '123 id'. Buttons for 'Update All' and 'Update Selected' are visible at the top right. A 'Show All Features' button is at the bottom left.

	id	AREA
1	0	27.0
2	1	1682.0
3	2	13.4
4	3	41.1
5	4	25.2
6	5	33.2
7	6	17.9
8	7	14.0
9	8	1.3

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## Background and practice

# Save edits

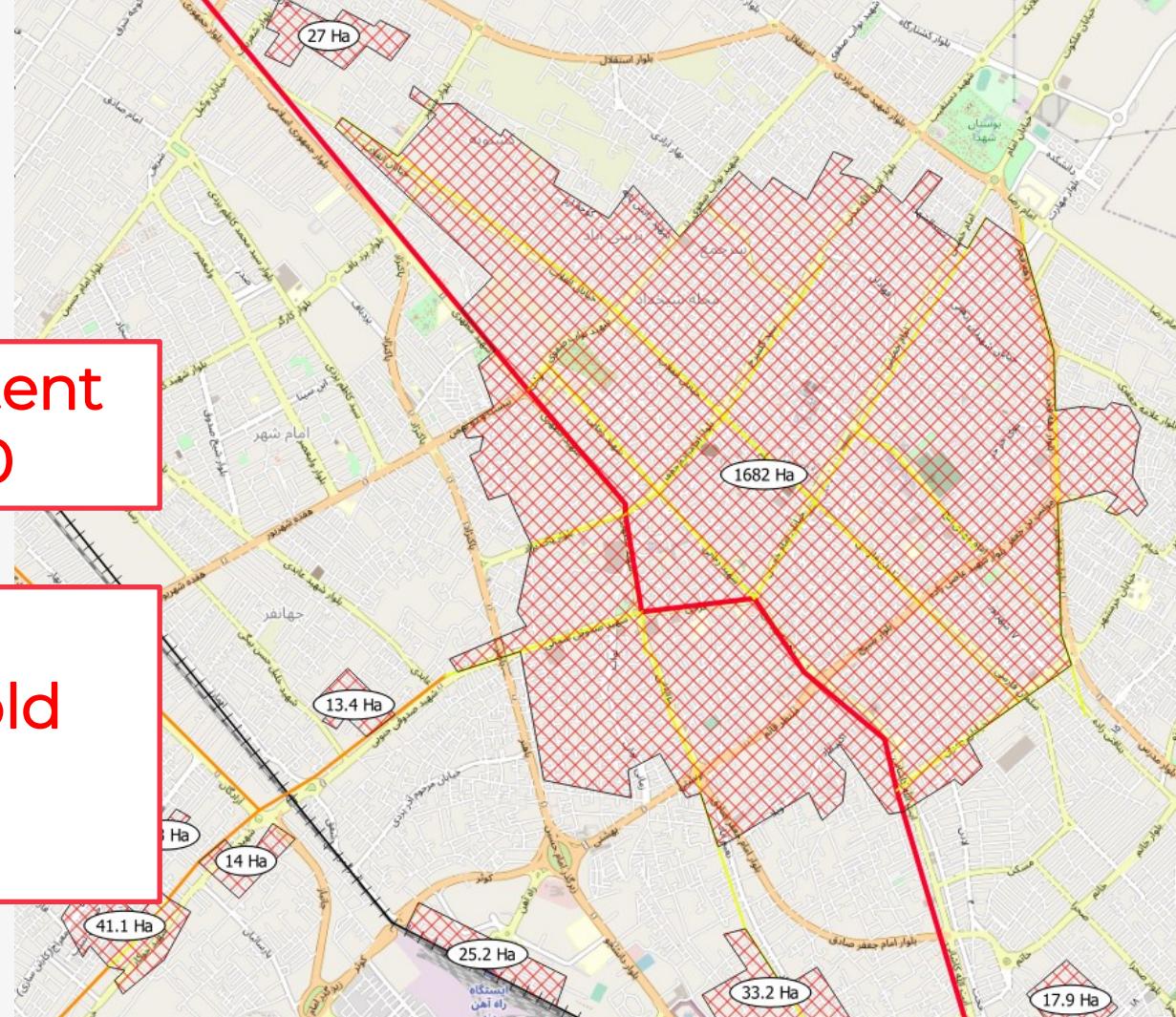


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# Result

Comparison of urban extent  
of Yadz for 1978 and 2020

Important to memorize:  
spatial databased can hold  
features with different  
attributes (= CAD!!!)





# Geometric calculations

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