

# #ODS16

2/3/4 Settembre 2016

Messina, Sicilia

OPEN DATA, COMPETENZE DIGITALI  
TRASPARENZA, PARTECIPAZIONE

<http://ods16.opendatasicilia.it>

03-09-2016



È un'iniziativa  
di OpenData Sicilia  
[www.opendatasicilia.it](http://www.opendatasicilia.it)

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# QGIS: dai dati alle mappe



#opendatasicilia



Andrea  
Borruso



Totò  
Fiandaca

#pigrecoinfinito



**Relatori:**

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# Cos'è QGIS?



**QGIS è un GIS Desktop open-source per la gestione, visualizzazione, modifica, analisi di dati geografici.**

**QGIS è multi-piattaforma;**

**QGIS è rilasciato con licenza GNU GPL;**

**QGIS nasce nel 2002 (Gary Sherman).**



# QGIS - splash screen

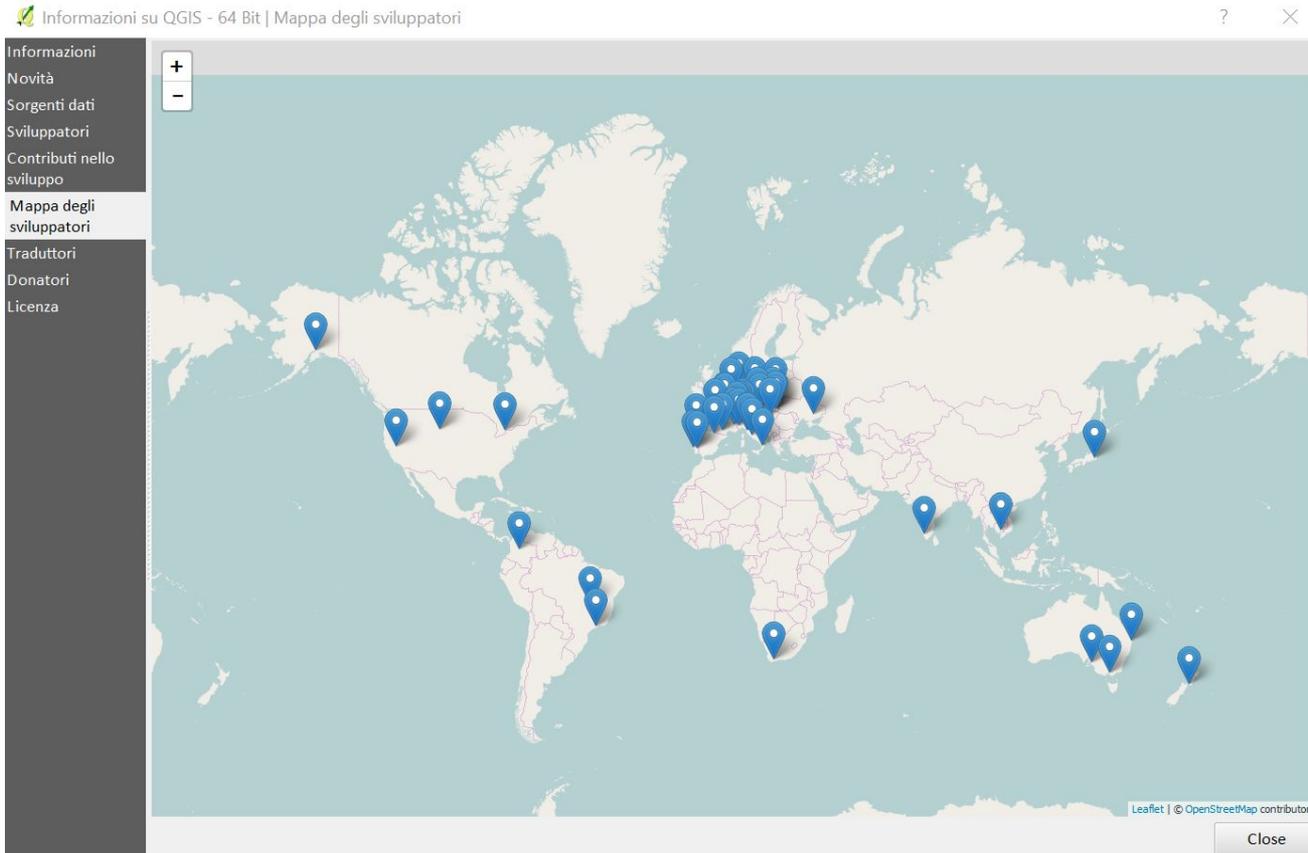


**Versioni pari**

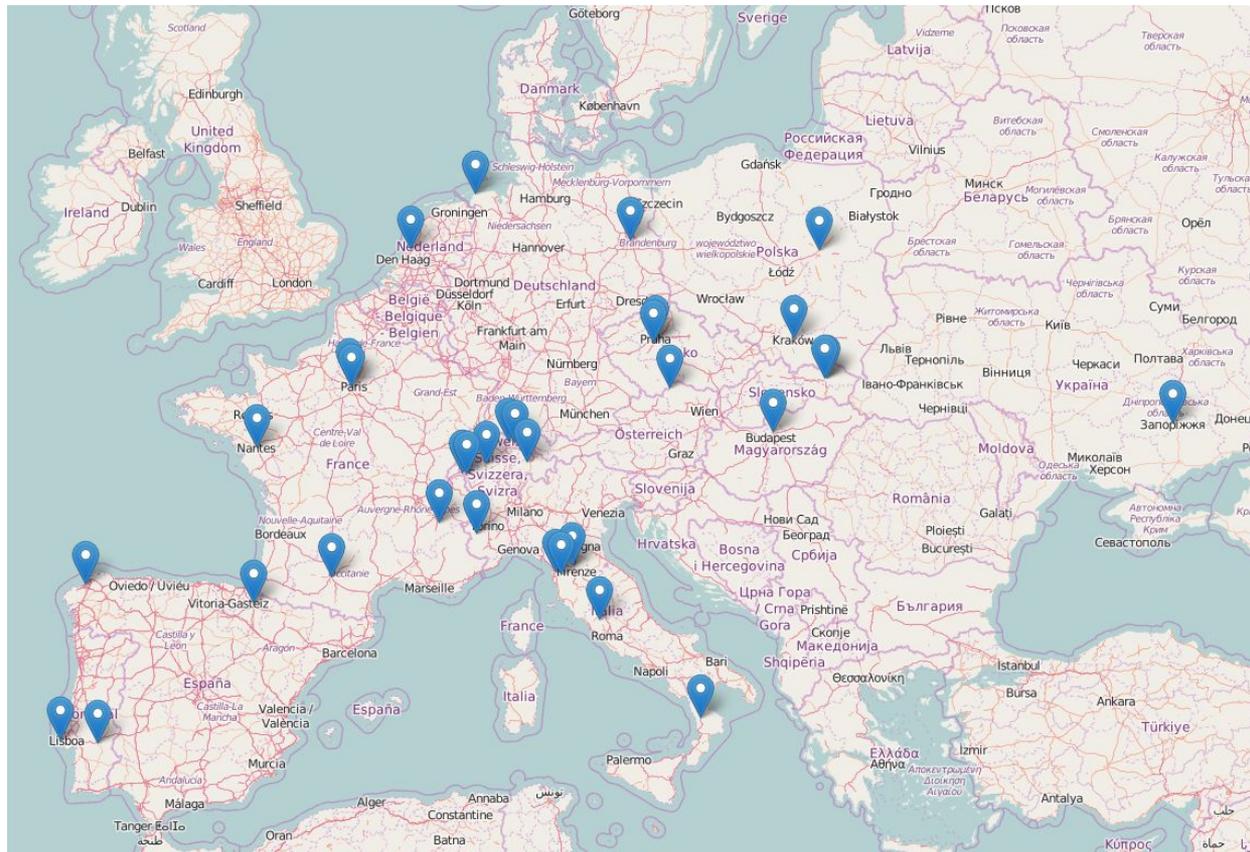
**2016 - versioni dispari - sviluppo**



# QGIS dev - mappa sviluppatori - Mondo



# QGIS dev - mappa sviluppatori - Europa





# SORPASSO



**qgis**  
Termine di ricerca

**arcgis**  
Termine di ricerca

+ Aggiungi confronto

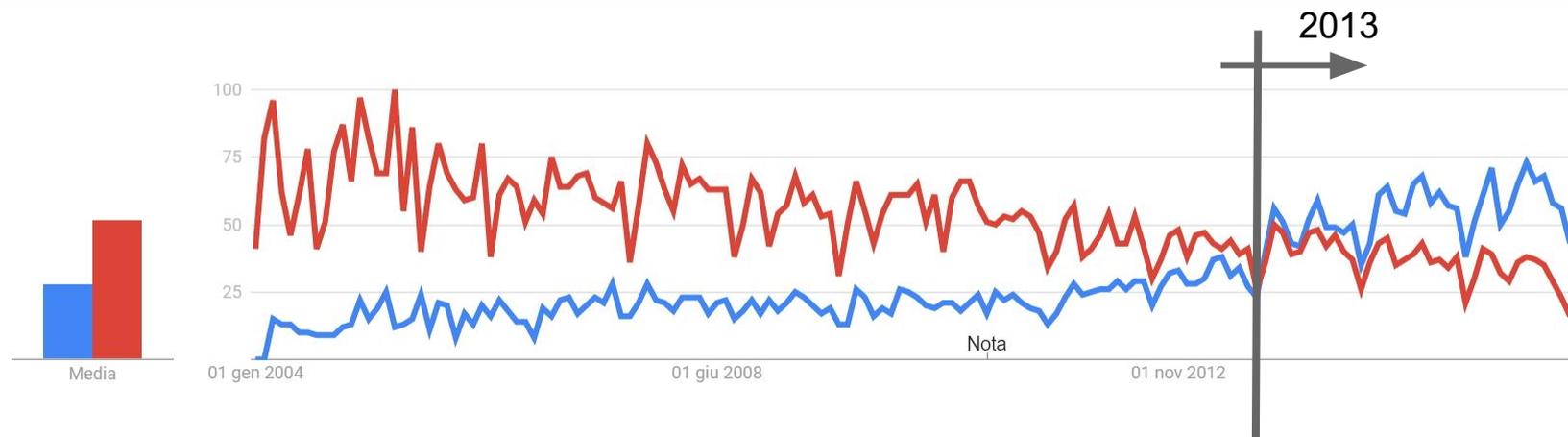
Italia

2004 - Presente

Tutte le categorie

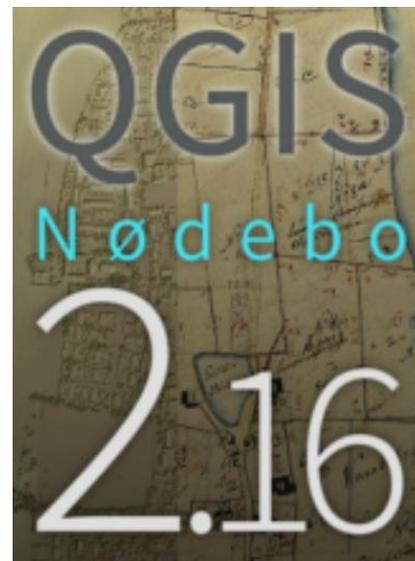
Ricerca Google

Interesse nel tempo



# COSA FAREMO:

- workshop: esercitazione;
- dati ISTAT;
- altri dati dal WEB;
- come importarli in QGIS;
- differenze tra SRS, OTF;
- come fare un *filtro*;
- come fare una *join* in QGIS;
- tematizzare, etichettare;
- plugin qgis2web;
- come creare una stampa;
- heat map terremoto centro Italia



## scaricare dati **OPEN** dal sito **ISTAT** (limiti adm);

| Anno     | Versione generalizzata<br>(meno dettagliata) |              | Versione non generalizzata<br>(più dettagliata) |              |
|----------|--|--------------|---|--------------|
|          | ED50 UTM32N                                  | WGS84 UTM32N | ED50 UTM32N                                     | WGS84 UTM32N |
| 2015     | zip  | zip          | zip   | zip          |
| 2014     | zip  | zip          | zip   | zip          |
| 2013     | zip  | zip          | zip   | zip          |
| 2012     | zip  | zip          | zip   | zip          |
| 2011 (*) | zip  | zip          | zip   | zip          |
| 2010     | zip  | zip          | zip   | zip          |
| 2008     | zip  | zip          | zip   | zip          |
| 2001 (*) | zip  | zip          | zip   | zip          |
| 1991 (*) | zip  | zip          | zip   | zip          |

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<https://goo.gl/Nze93X>

# cartelle dataset ISTAT

AreaSpeciali2015\_WGS84

CMProv2015\_WGS84

Com2015\_WGS84

Reg2015\_WGS84

Reg2015\_WGS84.dbf

Reg2015\_WGS84.prj

Reg2015\_WGS84.shp

Reg2015\_WGS84.shx

Reg2015\_WGS84 :: Features total: 20, filtered: 20, selected: 0

|    | COD_REG | REGIONE               |
|----|---------|-----------------------|
| 1  | 1       | Piemonte              |
| 2  | 2       | Valle D'Aosta         |
| 3  | 3       | Lombardia             |
| 4  | 4       | Trentino-Alto Adige   |
| 5  | 5       | Veneto                |
| 6  | 6       | Friuli Venezia Giulia |
| 7  | 7       | Liguria               |
| 8  | 8       | Emilia-Romagna        |
| 9  | 9       | Toscana               |
| 10 | 10      | Umbria                |
| 11 | 11      | Marche                |

# cartelle dataset ISTAT

AreaSpeciali2015\_WGS84

CMProv2015\_WGS84

Com2015\_WGS84

Reg2015\_WGS84



CMProv2015\_WGS84 :: Features total: 110, filtered: 110, selected: 0

|    | COD_REG | COD_CM | COD_PRO | DEN_CMPRO   | PROVINCIA   | SIGLA | FLAG_CMPRO | Shape_Leng   | Shape_Area  |
|----|---------|--------|---------|-------------|-------------|-------|------------|--------------|-------------|
| 1  | 1       | 0      | 2       | Vercelli    | Vercelli    | VC    | 2          | 458757.84... | 20816323... |
| 2  | 1       | 0      | 3       | Novara      | Novara      | NO    | 2          | 276724.33... | 13402695... |
| 3  | 1       | 0      | 4       | Cuneo       | Cuneo       | CN    | 2          | 542068.16... | 68949340... |
| 4  | 1       | 0      | 5       | Asti        | Asti        | AT    | 2          | 356523.76... | 15101933... |
| 5  | 1       | 0      | 6       | Alessandria | Alessandria | AL    | 2          | 545446.86... | 35588387... |
| 6  | 2       | 0      | 7       | Aosta       | Aosta       | AO    | 2          | 325838.76... | 32609021... |
| 7  | 7       | 0      | 8       | Imperia     | Imperia     | IM    | 2          | 221993.15... | 11547785... |
| 8  | 7       | 0      | 9       | Savona      | Savona      | SV    | 2          | 303898.07... | 15462896... |
| 9  | 7       | 0      | 11      | La Spezia   | La Spezia   | SP    | 2          | 289353.57... | 88137490... |
| 10 | 3       | 0      | 12      | Varese      | Varese      | VA    | 2          | 277186.67... | 11982604... |
| 11 | 3       | 0      | 13      | Como        | Como        | CO    | 2          | 296560.26... | 12790371... |
| 12 | 3       | 0      | 14      | Sondrio     | Sondrio     | SO    | 2          | 488652.83... | 31957288... |
| 13 | 3       | 0      | 16      | Bergamo     | Bergamo     | BG    | 2          | 334771.14... | 27459372... |

# individuare i comuni capoluogo di provincia;

www.comuni-italiani.it/province.html

Traduttore CNI Mobile Catasto Social QGIS User Map OSGeo\_QGIS\_ITA Gfoss QGIS App On Line Cloud

Comuni-Italiani.it

Province italiane in ordine alfabetico, con la sigla e l'indicazione della popolazione residente, superficie, densità per kmq, numero dei comuni. I siti ufficiali e informazioni utili

Consiglia 857 G+ 49

Cerca nel sito

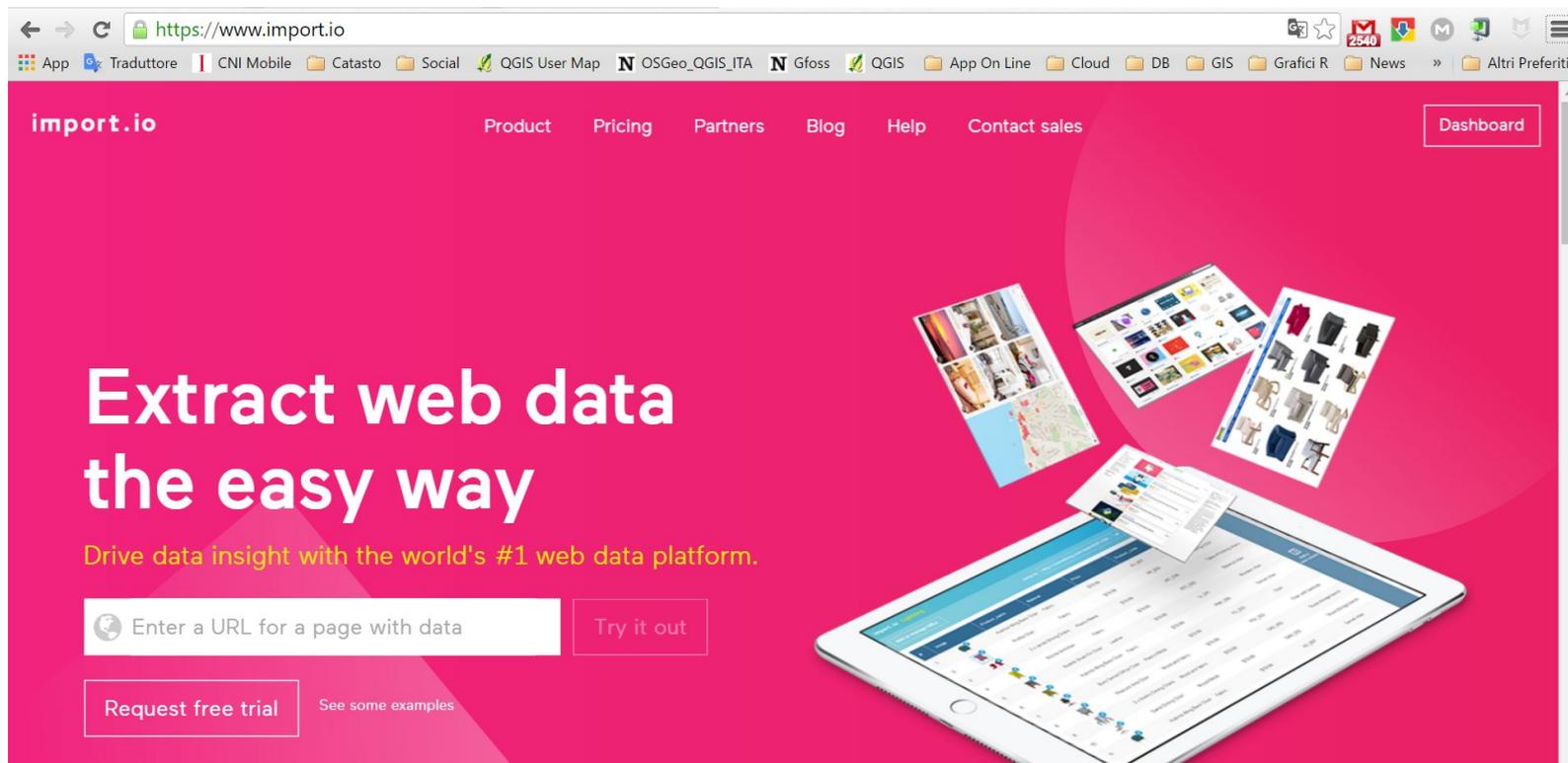


**I nove errori negli investimenti da evitare nel 2016**  
Il tuo portafoglio ha un valore di almeno

## Province Italiane

| Pos | Provincia                             | Residenti | %Italia | Superficie (kmq) | Densità per kmq | Num. Comuni | Sigla |
|-----|---------------------------------------|-----------|---------|------------------|-----------------|-------------|-------|
| 1   | <a href="#">Agrigento</a>             | 447.738   | 0,7%    | 3.042            | 147,2           | 43          | AG    |
| 2   | <a href="#">Alessandria</a>           | 431.885   | 0,7%    | 3.562            | 121,2           | 190         | AL    |
| 3   | <a href="#">Ancona</a>                | 477.892   | 0,8%    | 1.940            | 246,3           | 47          | AN    |
| 4   | <a href="#">Aosta</a>                 | 128.298   | 0,2%    | 3.263            | 39,3            | 74          | AO    |
| 5   | <a href="#">Arezzo</a>                | 346.442   | 0,6%    | 3.235            | 107,1           | 37          | AR    |
| 6   | <a href="#">Ascoli Piceno</a>         | 211.266   | 0,3%    | 1.228            | 172,0           | 33          | AP    |
| 7   | <a href="#">Asti</a>                  | 219.292   | 0,4%    | 1.511            | 145,2           | 118         | AT    |
| 8   | <a href="#">Avellino</a>              | 427.936   | 0,7%    | 2.792            | 153,3           | 118         | AV    |
| 9   | <a href="#">Bari</a>                  | 1.266.379 | 2,1%    | 3.825            | 331,0           | 41          | BA    |
| 10  | <a href="#">Barletta-Andria-Trani</a> | 394.387   | 0,6%    | 1.539            | 256,3           | 10          | BT    |
| 11  | <a href="#">Belluno</a>               | 207.894   | 0,3%    | 3.678            | 56,5            | 64          | BL    |
| 12  | <a href="#">Benevento</a>             | 282.321   | 0,5%    | 2.071            | 136,3           | 78          | BN    |

# realizzare un file CSV (import.io)



import.io

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Dashboard

## Extract web data the easy way

Drive data insight with the world's #1 web data platform.

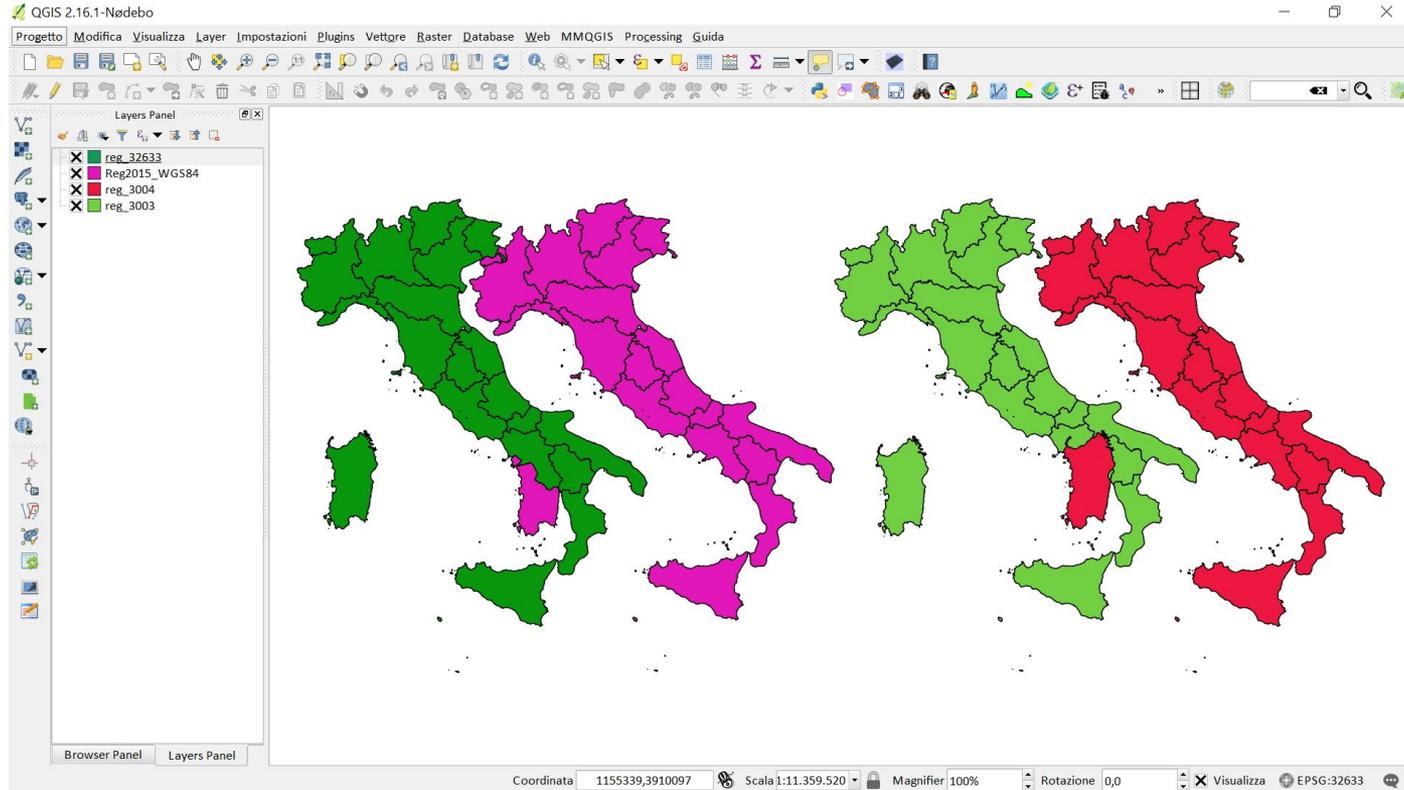
Enter a URL for a page with data

Try it out

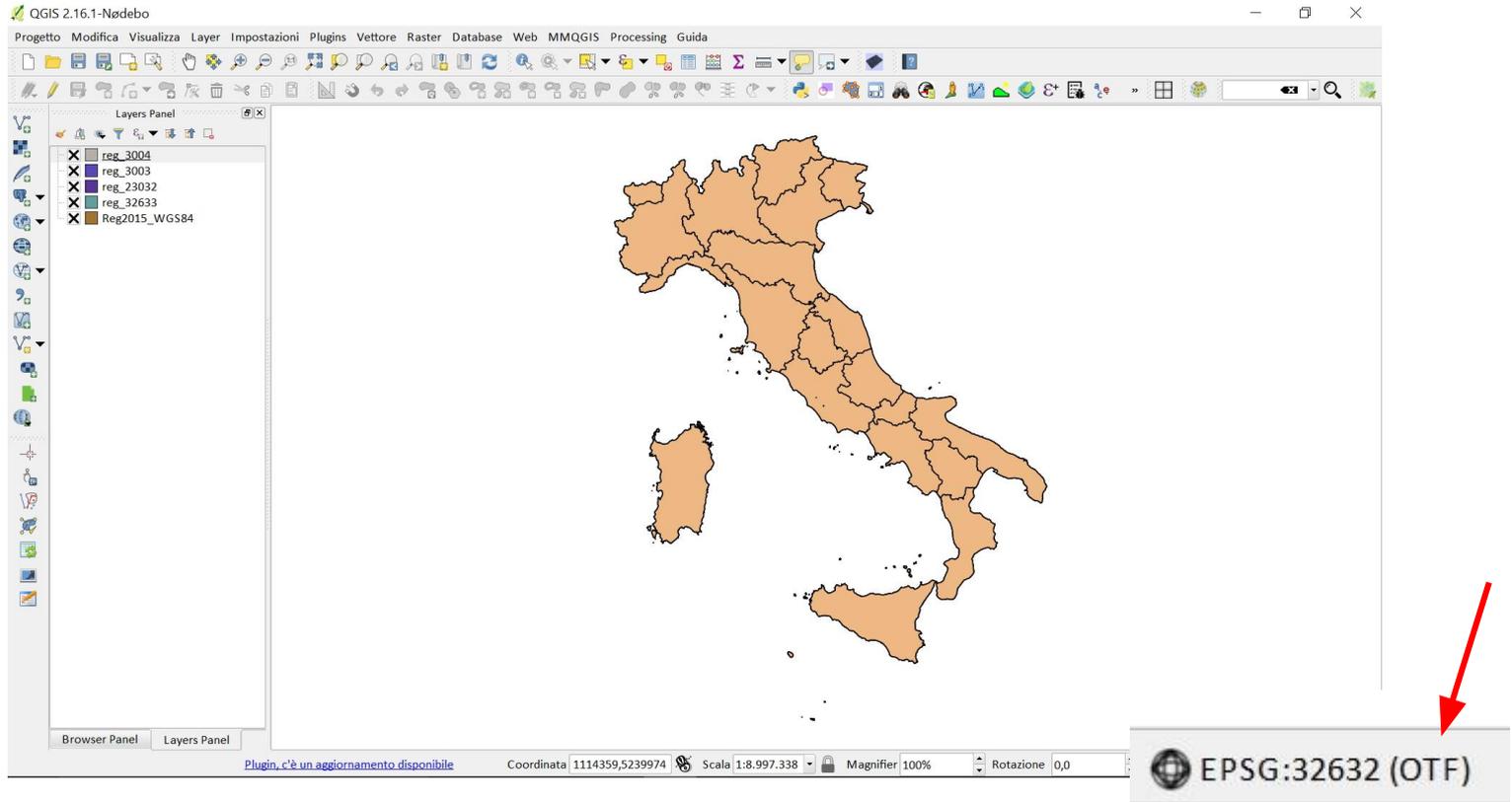
Request free trial

See some examples

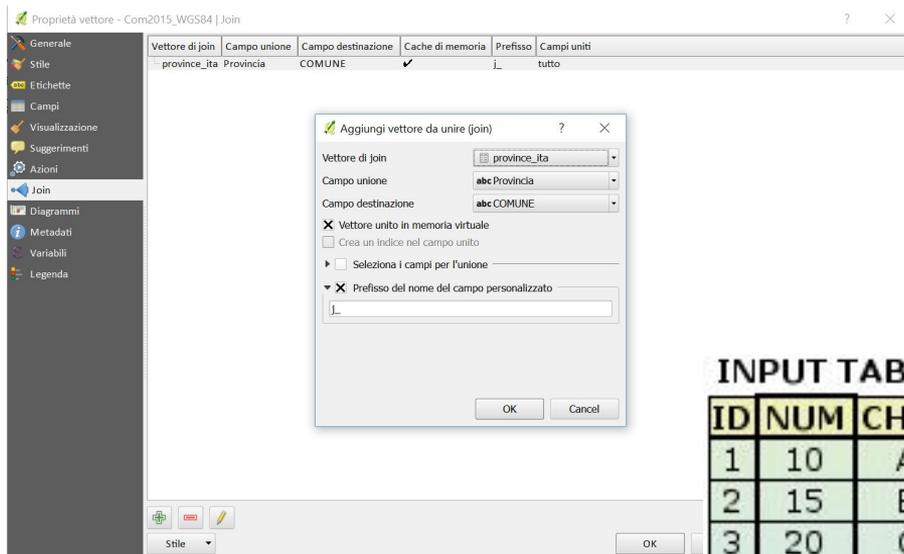
# Importanza del SR & OTE



# Importanza del SR & OTF



# realizzare una JOIN in QGIS;



INPUT TABLE

| ID | NUM | CHAR |
|----|-----|------|
| 1  | 10  | A    |
| 2  | 15  | B    |
| 3  | 20  | C    |
| 4  | 25  | D    |
| 5  | 30  | E    |
| 6  | 35  | F    |

JOIN TABLE

| ID | NUM | COLOR  |
|----|-----|--------|
| 1  | 5   | blue   |
| 2  | 10  | green  |
| 3  | 15  | yellow |
| 4  | 20  | red    |
| 5  | 30  | black  |
| 6  | 35  | grey   |

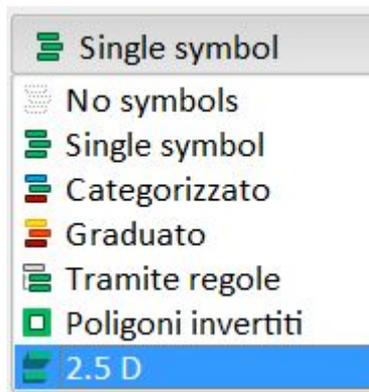
OUTPUT TABLE

| ID | NUM | CHAR | COLOR  |
|----|-----|------|--------|
| 1  | 10  | A    | green  |
| 2  | 15  | B    | yellow |
| 3  | 20  | C    | red    |
| 4  | 25  | D    |        |
| 5  | 30  | E    | black  |
| 6  | 35  | F    | grey   |

Related Fields

# Tematizzare

(la nuova Dock style di QGIS);



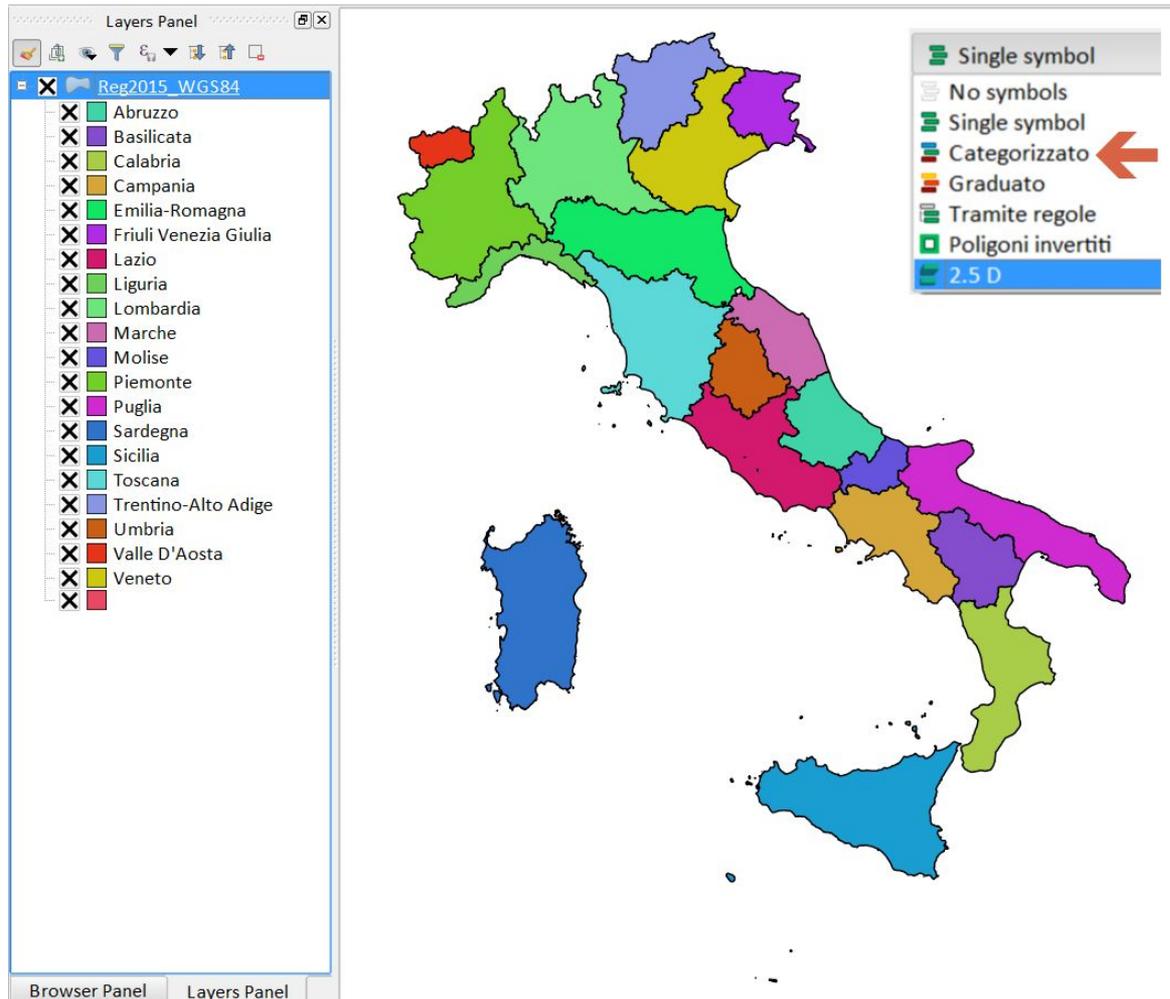
The screenshot shows the QGIS Layer Styling dock for a layer named 'Reg2015\_WGS84'. The layer is currently styled with a 'Graduato' (Graduated) style. The 'Colonna' (Column) is set to '\$area' and the 'Simbolo' (Symbol) is a green square. The 'Formato legenda' (Legend format) is '%1 - %2' and the 'Metodo' (Method) is 'Color'. The 'Scala di colori' (Color scale) is set to 'source'. The 'Classi' (Classes) tab is active, showing a table with 5 classes. The 'Modo' (Mode) is 'Intervallo uguale' (Equal interval) and the 'Classi' (Classes) are set to 5. The 'Visualizzazione del layer' (Layer visualization) section shows 'Trasparenza del layer' (Layer transparency) set to 0, 'Modalità fusione layer' (Layer fusion mode) set to 'Normale', and 'Modalità fusione elementi' (Element fusion mode) set to 'Normale'. The 'Live update' checkbox is checked and the 'Apply' button is visible.

| Simbolo | Valori                          | Legenda                   |
|---------|---------------------------------|---------------------------|
| X [ ]   | 3260854219.91 - 7775086624.26   | 3260854220 - 7775086624   |
| X [ ]   | 7775086624.26 - 12289319028.60  | 7775086624 - 12289319029  |
| X [ ]   | 12289319028.60 - 16803551432.95 | 12289319029 - 16803551433 |
| X [ ]   | 16803551432.95 - 21317783837.29 | 16803551433 - 21317783837 |
| X [ ]   | 21317783837.29 - 25832016241.64 | 21317783837 - 25832016242 |

# Single symbol



# Categorizzato



# Graduato

Modo Intervallo uguale

Classi

Col

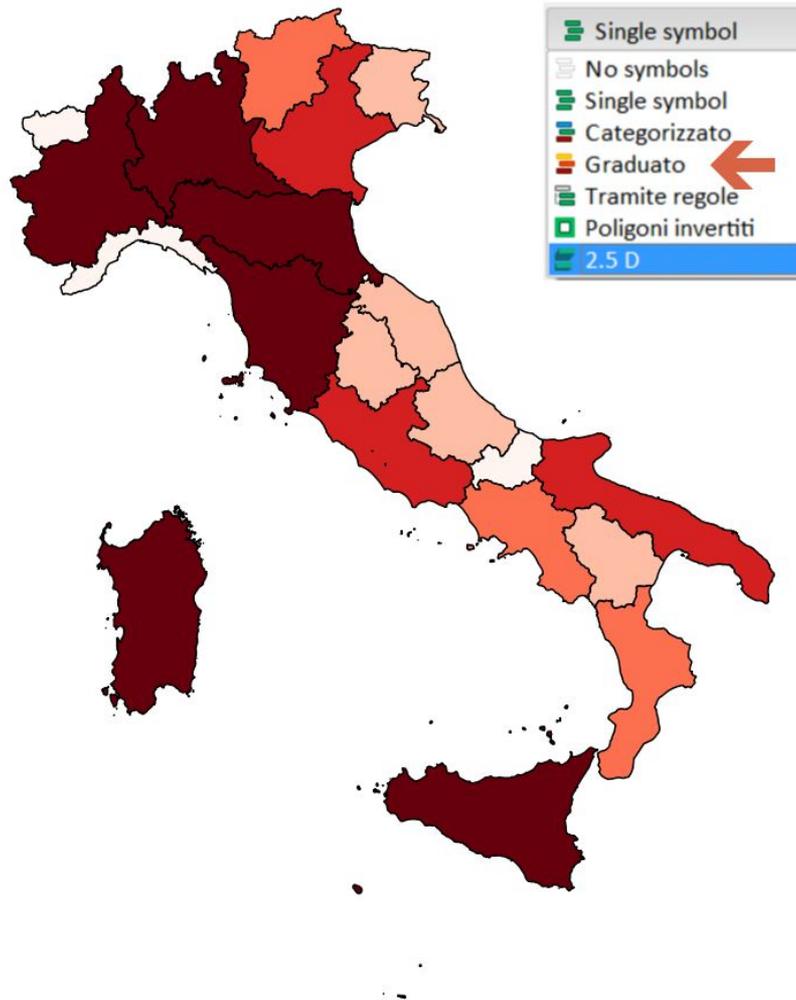
- Intervallo uguale
- Quantile (conteggio uguale)
- Natural Breaks (Jenks)
- Deviazione standard
- Pretty Breaks

Layers Panel

Reg2015\_WGS84

- 3261 - 7775 kmq
- 7775 - 12289 kmq
- 12289 - 16804 kmq
- 16804 - 21318 kmq
- 21318 - 25832 kmq

Browser Panel Layers Panel

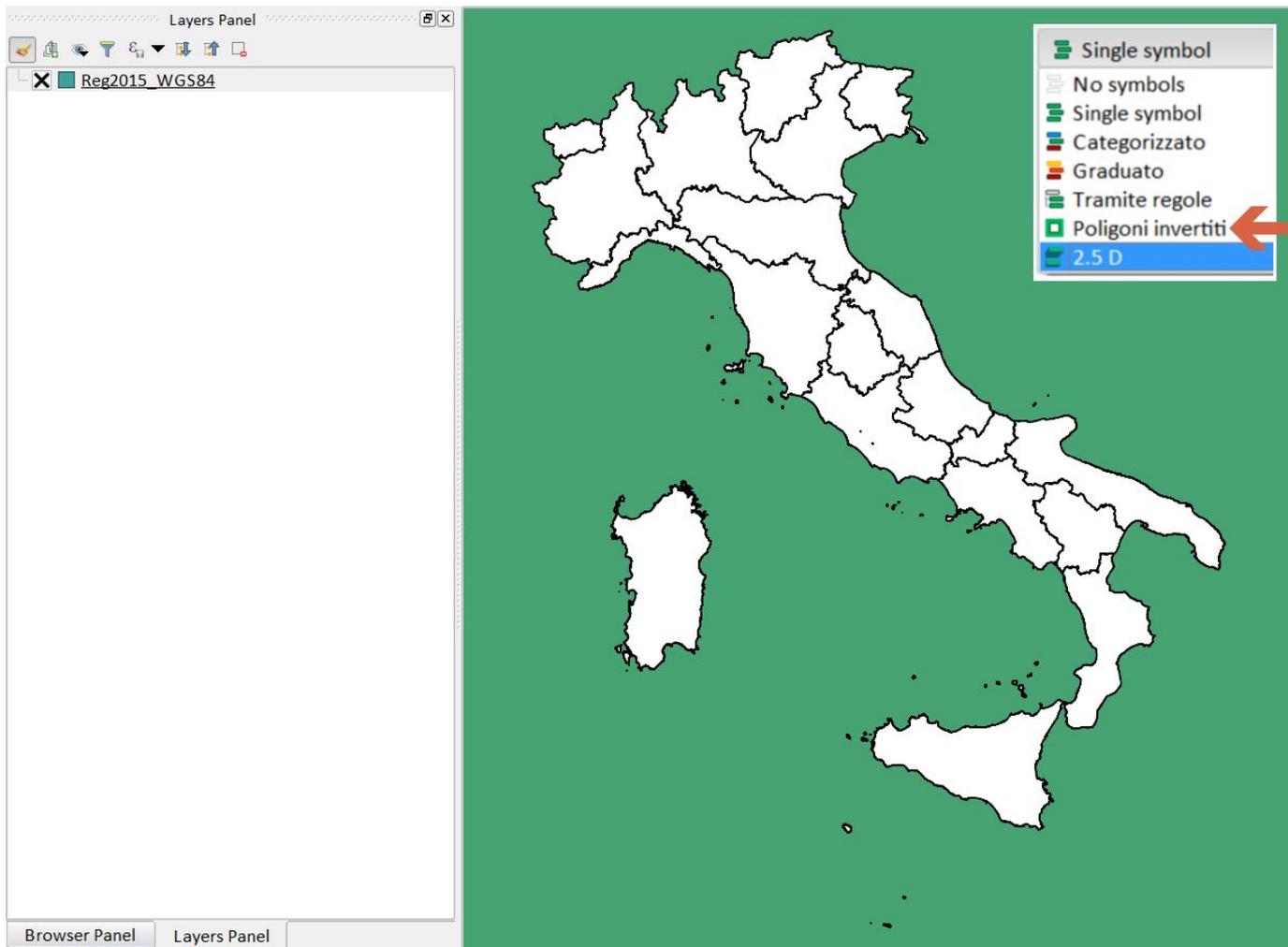


# Tramite regola

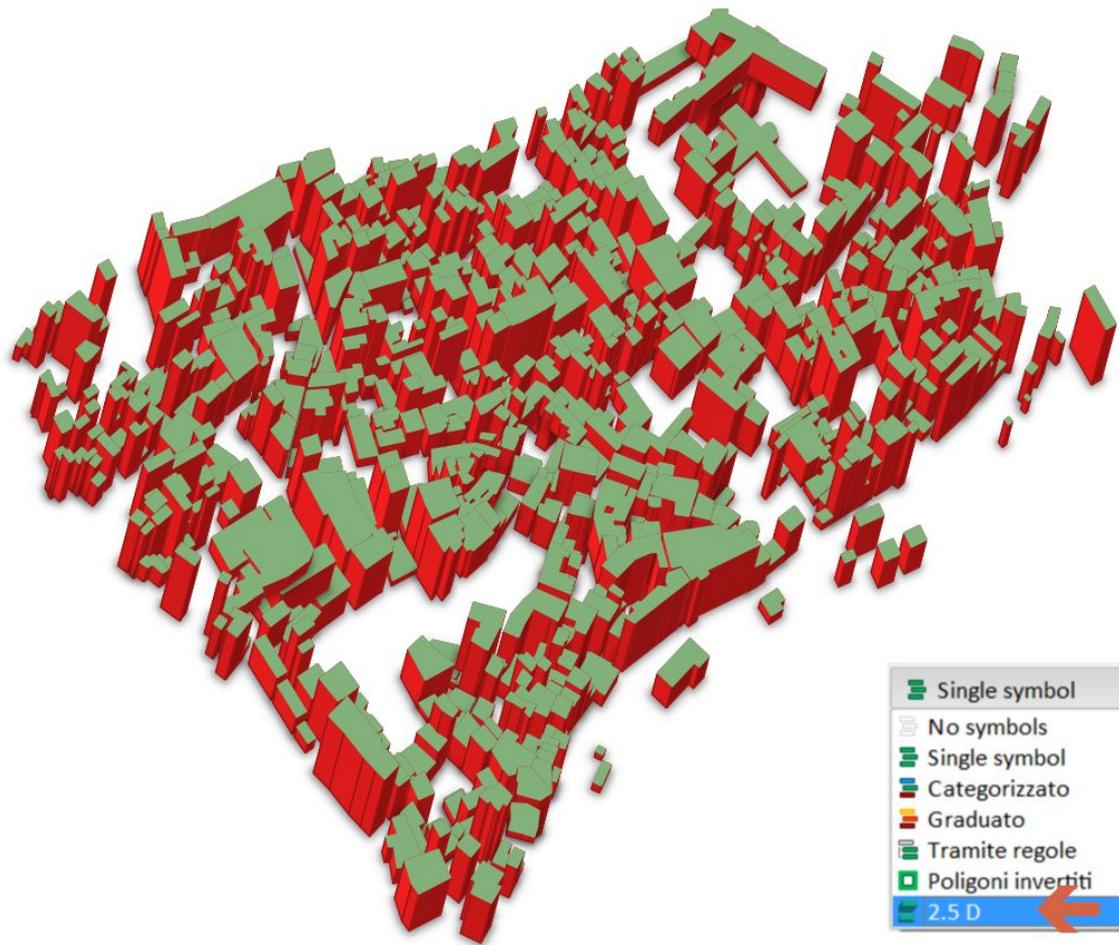
The screenshot displays a GIS application interface. On the left, the 'Layers Panel' shows a layer named 'Reg2015\_WGS84' with two entries: a white square for '3260854220 - 7775086624' and a dark blue square for '21317783837 - 25832016242'. The main map area shows a map of Italy with the corresponding regions colored dark blue. On the right, a legend lists various symbols, with 'Tramite regole' highlighted in blue and a red arrow pointing to it. Below the map, a detailed view of the 'Reg2015\_WGS84' layer is shown, with the 'Tramite regole' symbol selected. The 'Etichetta' (Label) column is empty, and the 'Regola' (Rule) column contains two entries:

| Etichetta | Regola   |
|-----------|--|
|           | <input checked="" type="checkbox"/> <input type="checkbox"/> 3260854219.9110 - 777508662... ( \$area ) >= 3260854219.910999 AND ( \$area ) <= 7775086624.255939  |
|           | <input checked="" type="checkbox"/> <input type="checkbox"/> 21317783837.2908 - 25832016... ( \$area ) > 21317783837.290756 AND ( \$area ) <= 25832016241.635696 |

# Poligoni invertiti



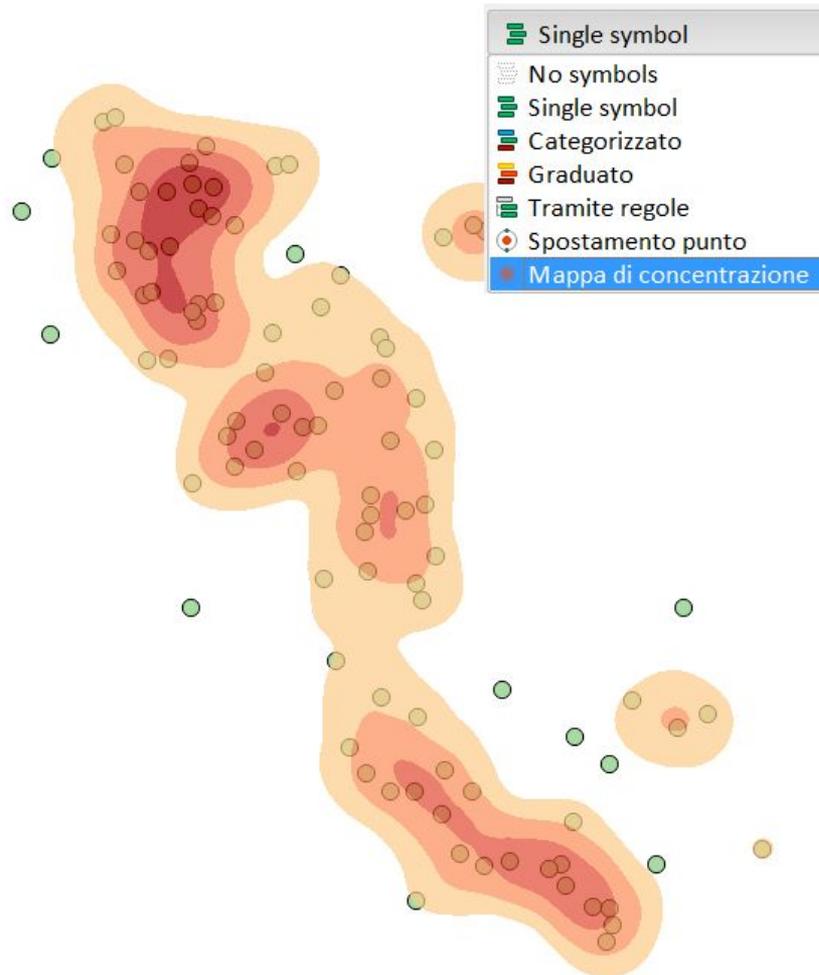
# 2.5 D



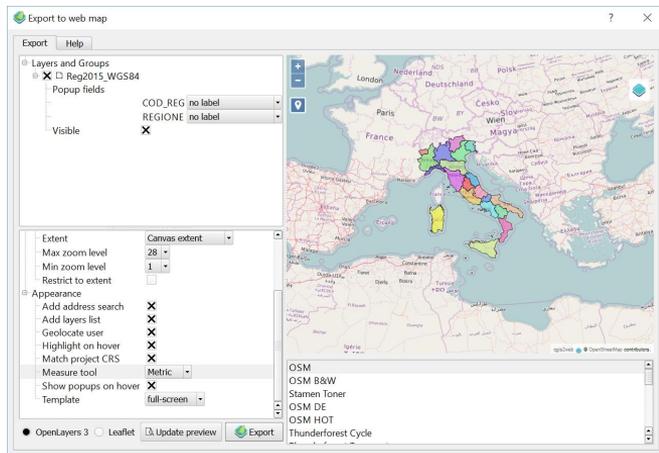
- Single symbol
- No symbols
- Single symbol
- Categorizzato
- Graduato
- Tramite regole
- Poligoni invertiti
- 2.5 D**

# Mappa di concentrazione (heat map)

Solo per layer puntuali



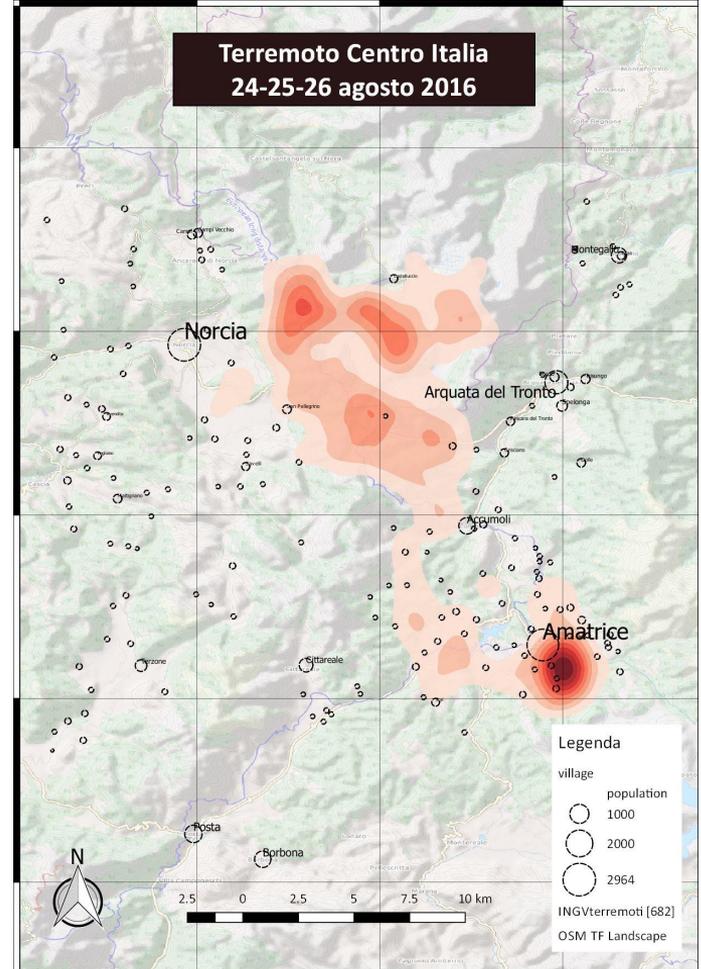
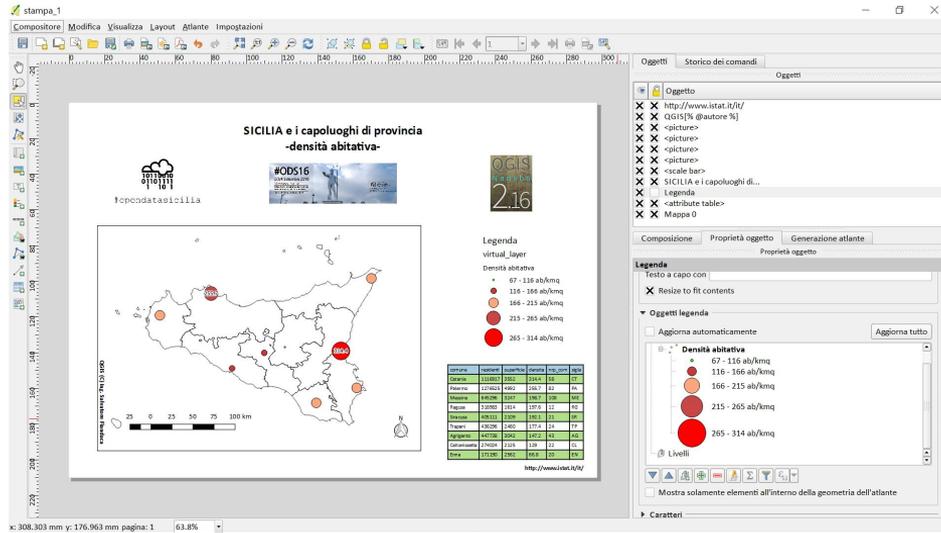
# plugin qgis2web



ata/Local/Temp/qgis2web/qgis2web\_2016\_08\_29-19\_15\_55/index.html



# creare una stampa;



**Iniziamo la dimostrazione...**



# **Gruppo degli utenti italiani di QGIS**

**<http://qgis.it/>**



**Grazie per l'attenzione**