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POLITECNICO DI MILANO



GeoNode - an Open Source Geospatial Content Management System

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Politecnico di Milano, Lecco Campus – June 29, 2018

Introduction to GeoNode

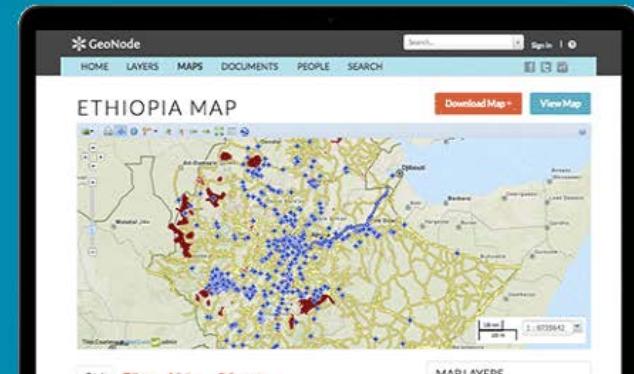
- GeoNode is a [web-based platform](#) for:
 - developing Geospatial Information Systems (GIS)
 - deploying Spatial Data Infrastructures (SDI)
- GeoNode is a [geospatial Content Management System \(CMS\)](#)
 - It is designed to facilitate the creation, update, sharing, and [collaborative](#) use of geospatial data on the web

Open Source Geospatial Content Management System

GeoNode is a web-based application and platform for developing geospatial information systems (GIS) and for deploying spatial data infrastructures (SDI). It is designed to be extended and modified, and can be integrated into existing platforms.

GeoNode summit 2018!

 OSGeo Project



Introduction to GeoNode

- it is open source, released under the GNU General Public License (GPL):
 - source code: <https://github.com/GeoNode/geonode>
 - license: <https://github.com/GeoNode/geonode/blob/master/license.txt>
- it is an official project of the Open Source Geospatial Foundation (OSGeo).
- current stable version is 2.7
- website: <http://geonode.org>
- demo available at <http://demo.geonode.org>



Introduction to GeoNode

- It provides advanced features for **users**, **developers** and **admins**



For Users

Browse and search for geospatial data and web services

Upload, manage, and share geospatial data

Create and share interactive maps

Collaborate and interact with other users

[Take the Tour](#)



For Developers

Developed with Django

Twitter Bootstrap and jQuery client implementation

Built on stable, mature open source geospatial projects

APIs for customization and connection

Seamless integration with third-party Django apps

[Take the Tour](#)



For Admins

Reliable, scalable platform for deploying spatial data infrastructure

Complete framework for OGC-compliant web services

Metadata management and aggregation platform

Comprehensive security framework

[Take the Tour](#)

Features for Developers

- **Open Source Geospatial:** 
 - it is based on **proven open source components**
 - it **contributes** to the underlying **open source projects** and software libraries
- **Django:** 
 - **friendly** and **extensible** environment for web developers
 - large ecosystem of pluggable **apps**
- **Bootstrap and jQuery:** 
 - easy customization of your own GeoNode implementation
- **Interoperability:** 
 - it interacts with other services and tools (other GeoNode deployments, OGC-compliant SDIs, social networking platforms, Content Management Systems)

Features for Admins

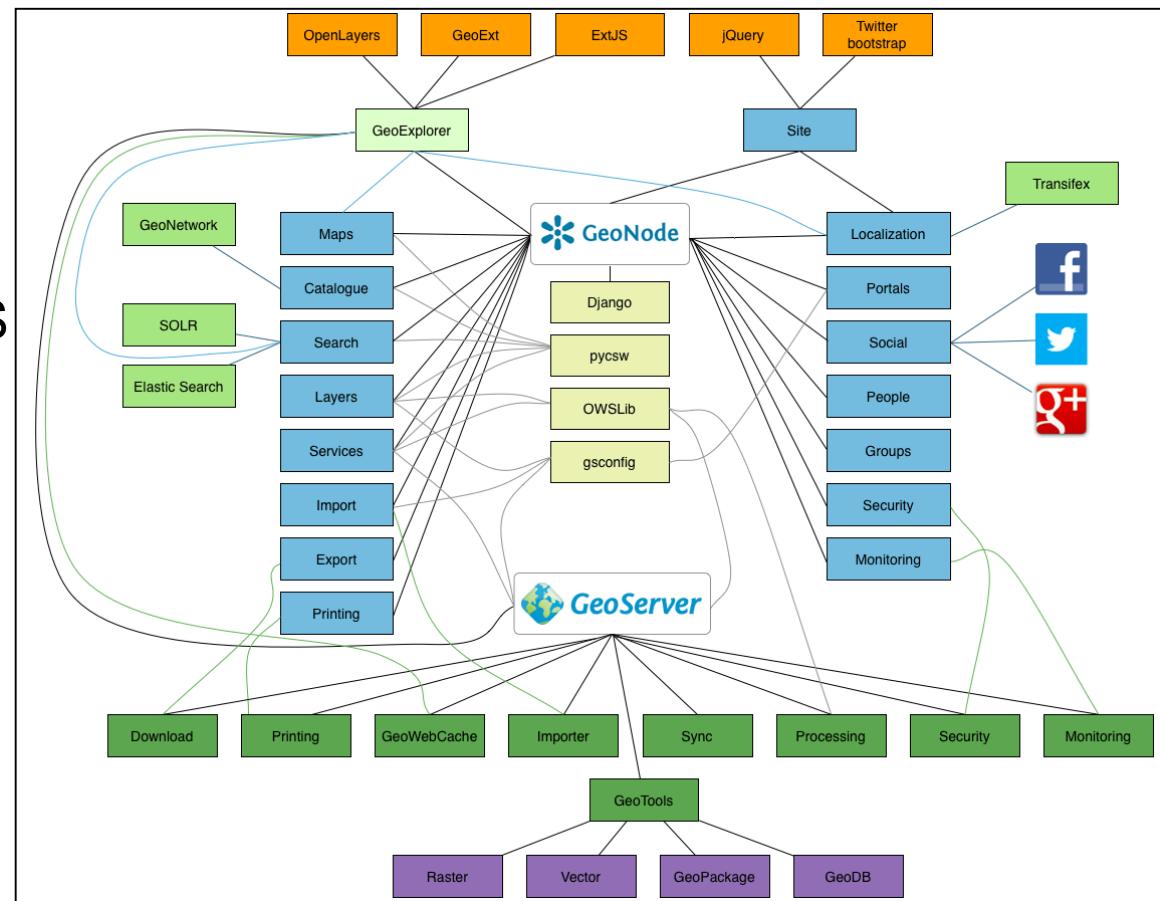
- **Spatial Data Infrastructure:** 
 - it is an OGC-compliant spatial data infrastructure
 - it supports standard metadata and OGC-compliant cataloguing systems
- **Security:** 
 - it builds on Django's authentication framework
 - it integrates with GeoServer's security subsystem
- **Scalability:** 
 - it can implement caching at several levels
- **Administration Console:** 
 - it enables performing administration operations and monitoring user-provided content

Features for Users

- **Spatial data discovery:** 
 - search, process, style, and share geospatial data and maps
 - share spatial datasets through a non-technical user interface
- **Import & manage:** 
 - upload geospatial data on the web via standard OGC protocols (supported formats: shapefile, GeoTIFF, KML, CSV and others)
 - manage metadata and associated documents
 - data is available for searching, styling and processing to generate maps
- **Interactive Mapping:** 
 - graphical style editor to compose maps graphically
 - create interactive, multi-layer, web-based mapping applications
 - share and embed maps in web pages

GeoNode Architecture

- GeoNode is based on other open source components, mainly:
 - Django
 - GeoServer
 - pyCSW
 - GeoExplorer
 - PostgreSQL/PostGIS



http://docs.geonode.org/en/master/tutorials/overview_and_ref/reference_doc/architecture.html

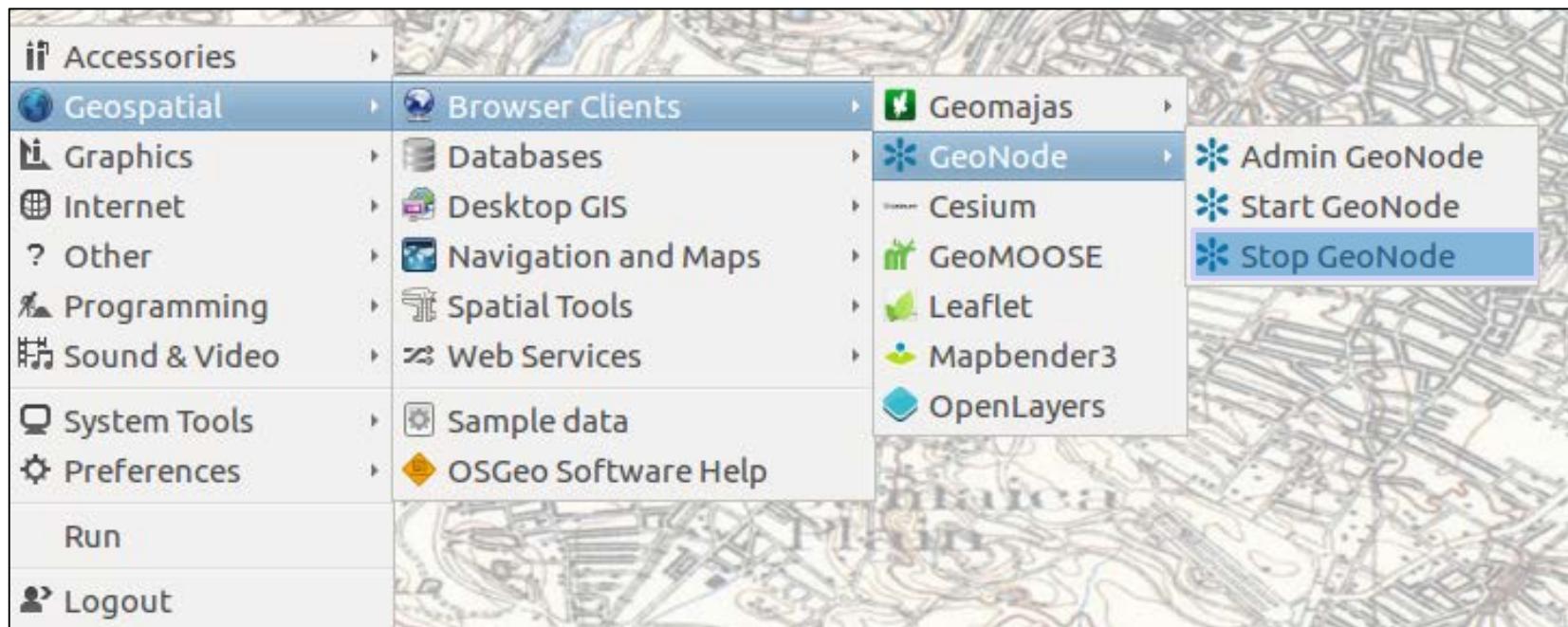
Get started with GeoNode

- **Start GeoNode:**
 - click the bottom left button, then select **Geospatial > Browser Clients > GeoNode > Start GeoNode**
 - alternatively, open the **folder Browser Clients** on the desktop and double click on **Start GeoNode**



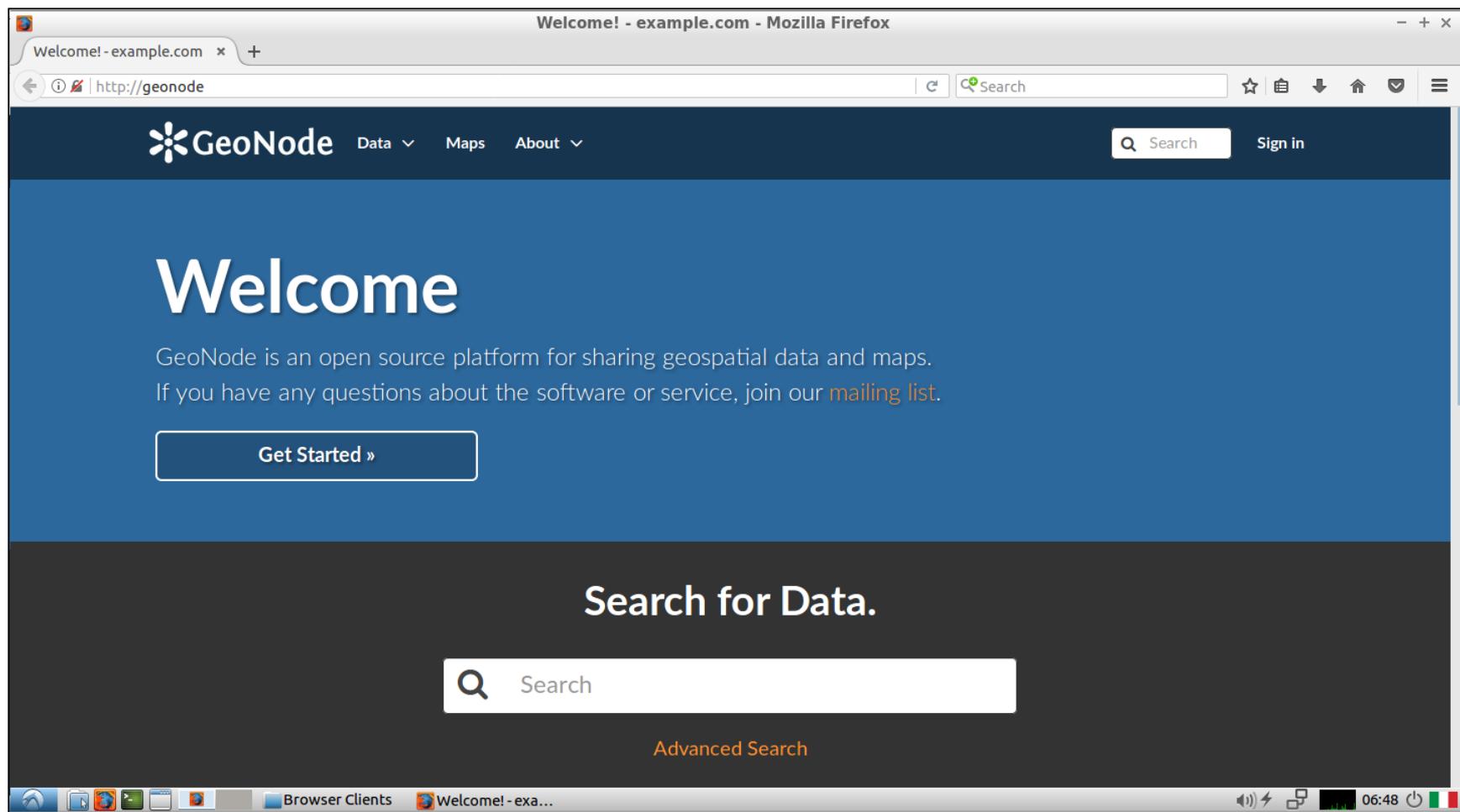
Get started with GeoNode

- **Stop GeoNode:**
 - click the bottom left button, then select **Geospatial > Browser Clients > GeoNode > Stop GeoNode**
 - alternatively, open the **folder Browser Clients** on the desktop and double click on **Stop GeoNode**



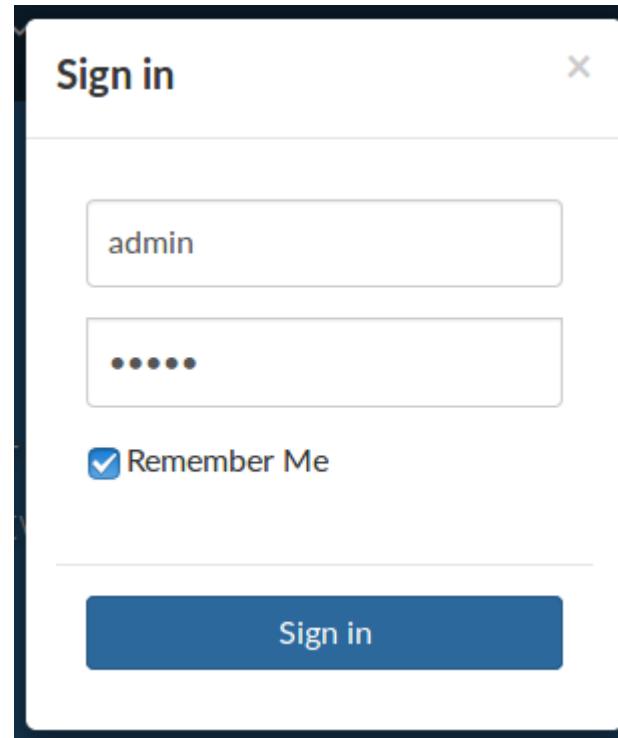
Get started with GeoNode

- The main interface of GeoNode will look like this:



Accounts and Users

- **Sign in to GeoNode:**
 - click the **Sign in** button on the top-right of the page
 - fill in the user credentials with **admin** for both username and password



Accounts and Users

- **Add/change personal information associated to your profile:**
 - click the [admin](#) button on the top-right of the page and select [Profile](#)
 - select [Edit profile](#) and add/change information as you wish



The screenshot shows a user profile page for "admin". The main content area displays the following profile information:

Email	ad@m.in
Position	Not provided.
Organization	Not provided.
Location	Not provided.
Voice	Not provided.
Fax	Not provided.
Description	Not provided.
Keywords	Not provided

On the right side, there is a sidebar with several buttons:

- Message User
- Edit profile** (this button is highlighted with a red box)
- Change password
- Upload new layers
- Create a new map
- My Activities
- Announcements
- Remote Services
- Invite User

Accounts and Users

- **Add new users to GeoNode:**
 - open the [About](#) menu and click [Add User](#)
 - on the Django administration interface, define the username and password of the new user and click [Save](#)
 - on the following window, you can add personal information for the new user
 - to check that the new user has been created, try to log in with its credentials

The screenshot shows the Django administration interface for adding a new user. On the left, there is a sidebar with a 'About' dropdown menu and links for 'People', 'Groups', 'Announcements', 'Add User', 'Invite User', and 'Create Group'. The main content area is titled 'Django administration' and shows 'Welcome, Marco. View site / Change password / Log out'. The current page is 'Home > People > Users > Add user'. The form is titled 'Add user' and contains instructions: 'First, enter a username and password. Then, you'll be able to edit more user options.' It has three fields: 'Username' (set to 'user'), 'Password' (a masked input), and 'Password confirmation' (another masked input). Below these fields is a note: 'Enter the same password as above, for verification.' At the bottom of the form are three buttons: 'Save and add another', 'Save and continue editing', and a blue 'Save' button.

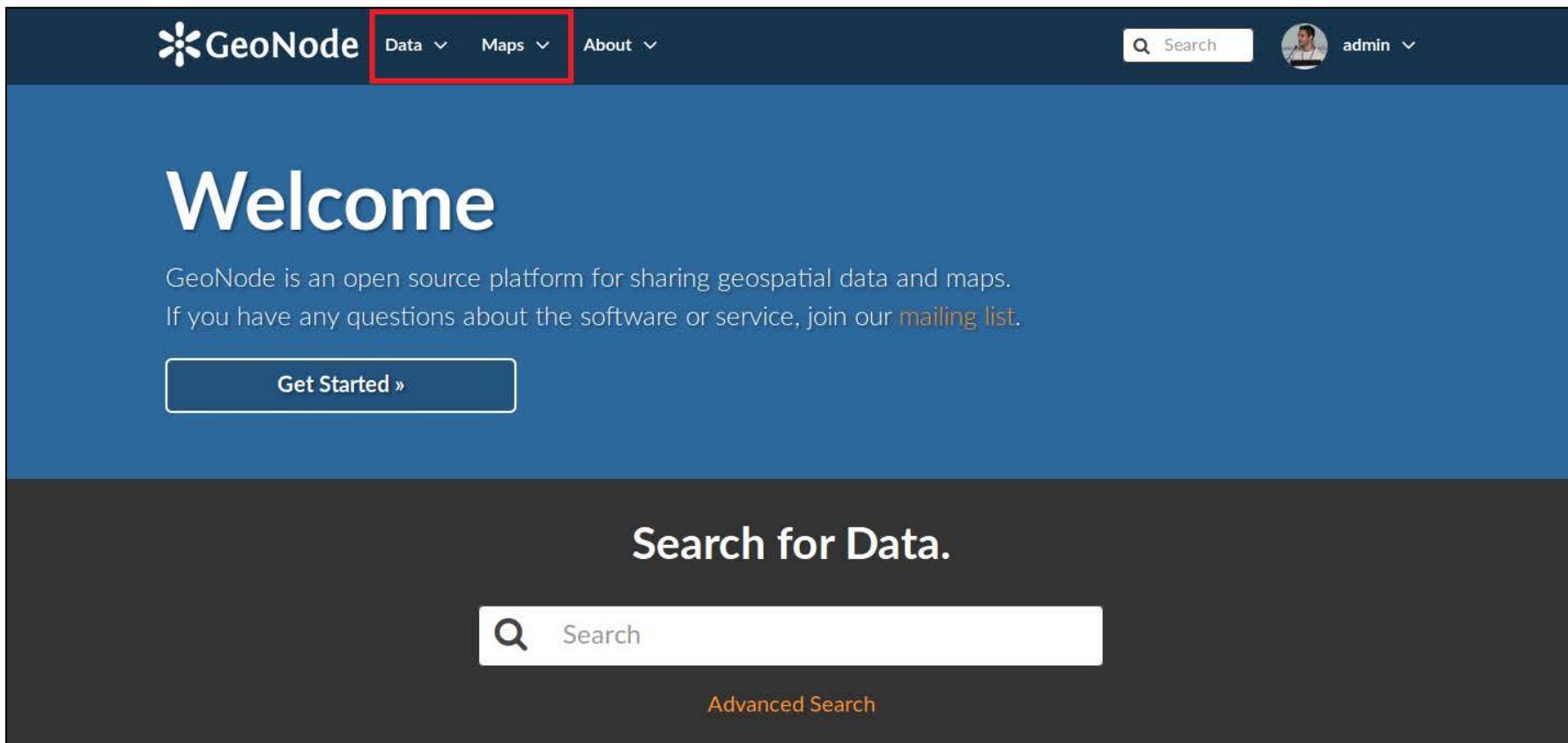
Accounts and Users

- **View the existing GeoNode users:**
 - open the [About](#) menu and click [People](#)
 - on the following window, you can view all the existing users
 - clicking on one user, you can:
 - access his personal information
 - access the list of resources (layers, maps and documents) owned by that user
 - send a message to that user and see his activities

The screenshot shows the 'Explore People' page from the GeoNode interface. On the left, there is a sidebar with a blue header containing the 'About' dropdown and several links: 'People', 'Groups', 'Announcements', 'Add User', 'Invite User', and 'Create Group'. The main content area has a title 'Explore People' and a search bar with a dropdown labeled 'SEARCH' and a 'Search by name' input field with a magnifying glass icon. Below the search bar, it says 'Total: 2'. There are two user entries listed. The first user is represented by a blue square icon with a white power button symbol, labeled 'user' and 'No Organization Info'. Below this icon are three small icons: a diamond (0), a location pin (0), and a document (0). The second user is Marco Minghini from Politecnico di Milano, shown with a profile picture of a man speaking at a podium. His name and affiliation are listed to the right of the icon. Below his entry are the same three small icons (diamond, location pin, document).

Data Types in GeoNode

- The toolbar at the top of the Welcome page shows quick links to the GeoNode **data** types:
 - layers, maps and documents



GeoNode Layers

- **Layers** are publishable resources representing raster/vector spatial data sources:
 - they can be associated with metadata, ratings and comments
- To access the available layers, open the **Data** menu and click **Layers**

The screenshot shows the 'Explore Layers' page of the GeoNode application. The left sidebar has a 'Data' dropdown menu with options: Layers (selected), Documents, Remote Services, Upload Layer, Upload Document, and Add Remote Service. The main area is titled 'Explore Layers' with a 'Total: 19' message. On the right is a 'Upload Layers' button. Below it is a 'Cart' section with instructions to add resources through 'Add to cart' buttons, and buttons for 'Set permissions' and 'Create a Map'. A 'Filters' section includes 'TEXT', 'KEYWORDS', 'TYPE' (selected), 'Raster' (5), 'Vector' (14), 'CATEGORIES', and 'OWNERS' buttons. Two layer entries are displayed: 'Tasmania water bodies' (represented by a blue polygonal shape) and 'Tasmania cities' (represented by a small white dot). Both entries show details: Tasmania water bodies was created by admin on 23 Jul 2017, has 0 views, 0 downloads, 0 stars, and a 'Create a Map' link. Tasmania cities was created by admin on 23 Jul 2017, has 0 views, 0 downloads, 0 stars, and a 'Create a Map' link.

GeoNode Maps

- Maps are **compositions of layers** (with their styles):
 - local layers & remote layers (from WMS servers or commercial providers)
- To access the available maps, open the **Maps** menu and click **Explore Maps**

The screenshot shows the GeoNode interface for exploring maps. On the left, there is a sidebar with a blue header containing the text "Maps" with a dropdown arrow, "Explore Maps", and "Create Map". The main area has a white background with a title "Explore Maps" at the top. To the right of the title is a blue button labeled "Create a New Map". Below the title, there is a section titled "Cart" with the text "Add resources through the 'Add to cart' buttons." and a "Set permissions" button. To the right of the cart section, it says "Total: 1". Below this, there is a list of maps. The first map is titled "my first GeoNode map" and has the subtitle "This is my first map built with GeoNode!". It includes a small profile picture of the user "admin", the date "7 Mar 2018", and statistics for views (0), downloads (0), and stars (0). There is also a link to "View Map". At the bottom of the list, there are navigation buttons for "page 1 of 1". On the far left of the main content area, there is a sidebar with filter options: "Filters" (with a dropdown arrow pointing to "TEXT", "KEYWORDS", "CATEGORIES", "OWNERS", and "DATE"), and "Clear".

GeoNode Documents

- Documents are other types of **non-spatial information** (e.g. tabular and text data)
 - GeoNode allows to publish documents and manage their metadata
- To access the available documents, open the Data menu and click **Documents**

The screenshot shows the GeoNode interface for managing maps. On the left, a sidebar has 'Maps' at the top, followed by 'Explore Maps' and 'Create Map'. The main area is titled 'Explore Maps' with a sub-header 'Cart' and a message 'Add resources through the "Add to cart" buttons.' Below this are buttons for 'Set permissions', 'Filters' (with a dropdown set to 'TEXT'), and 'Clear'. The filters also include 'KEYWORDS', 'CATEGORIES', 'OWNERS', and 'DATE'. To the right, there is a list of one item: 'my first GeoNode map'. The details for this item are: 'This is my first map built with GeoNode!', uploaded by 'admin' on '7 Mar 2018', with 0 views, 0 downloads, 0 stars, and a link to 'View Map'. At the bottom right, there are navigation buttons for 'page 1 of 1'.

Searching Tool

- GeoNode allows to build customized searches of available contents:
 - from the Welcome page, use the **Search** box to search for a specific text
 - selecting **Advanced Search**, you can search documents by **Text**, **Keywords**, **Type**, **Categories**, **Owners**, **Date**, **Regions** or **Extent**

The screenshot shows the GeoNode search interface. On the left, a dark sidebar displays a search bar with 'tasmania' and an 'Advanced Search' button. The main area is titled 'Search : tasmania' and shows a total of 4 results.

Cart: Add resources through the "Add to cart" buttons.

Filters: TEXT: tasmania; KEYWORDS: tasmania; TYPE: Raster (5), Map (1), Vector (14).

Tasmania water bodies: Tasmania water bodies. Cities in Tasmania (actually, just the capital). Admin, 23 Jul 2017, 0 views, 0 downloads, 0 stars. Create a Map.

Tasmania cities: Cities in Tasmania (actually, just the capital). Admin, 23 Jul 2017, 0 views, 0 downloads, 0 stars. Create a Map.

Upload Layer Tool

- To upload a new layer in GeoNode:
 - on the [Layers](#) page, click the [Upload Layers](#) button on the top right
 - alternatively, open the [Data](#) menu and click [Upload Layers](#)
 - on the following window, upload the 4 files of the shapefile *municipalities_2015_polygon* by either clicking the [Choose Files](#) button or dragging and dropping the four files in the [Drop files here](#) area, and clicking the [Upload files](#) button.

The screenshot shows the GeoNode interface. On the left, a sidebar menu includes 'Data', 'Layers' (selected), 'Documents', 'Remote Services', 'Upload Layer' (selected), 'Upload Document', and 'Add Remote Service'. The main content area has a title 'Upload Layer' with a subtitle 'Upload a new layer to your GeoNode instance'. Below this is a large dashed rectangular area labeled 'Drop files here' with a cloud icon containing an upward arrow. Below it, the text 'or select them one by one:' is followed by a 'Choose Files' button. A section titled 'Files to be uploaded' contains a dropdown menu 'Select the charset or leave default' set to 'UTF-8/Unicode'. At the bottom are 'Clear' and 'Upload files' buttons. A green success message box at the bottom right says 'Your layer was successfully uploaded' with three buttons: 'Layer Info' (green), 'Edit Metadata' (orange), and 'Manage Styles' (orange).

Upload Layer Tool

- Before uploading files, you can limit the access to the layer:
 - from the **Permission** section on the right of the page, you can restrict who can view, download, edit, and manage the layer

Permissions

Who can view it?

Anyone
The following users:
Choose users...
The following groups:
Choose groups...

Who can download it?

Anyone
The following users:
Choose users...
The following groups:

Who can change metadata for it?

The following users:
* admin
The following groups:

Who can edit data for this layer?

The following users:
* admin
The following groups:
Choose groups...

Who can edit styles for this layer?

The following users:
* admin
The following groups:

everyone will be able to view and download the layer

only you as admin will be able to edit the layer

Layer Information Tool

- Once the upload has completed, click on the layer name to access its geographic preview and other related information

municipalities_2015_polygon

The map displays the administrative divisions of Italy at the municipal level. The boundaries are represented by a dense network of gray polygons, each with a black outline. The map also shows major roads and rivers. Labels for various regions and cities are visible, such as Graubünden/Grigioni/Grischun, Trentino-Alto Adige/Südtirol, Veneto, Verona, Padova, Modena, Parma, Piacenza, Alessandria, Novara, Biella, Vercelli, Asti, and Vicenza. A scale bar at the bottom right shows 20 km and 10 mi.

Download Layer

Metadata Detail

Edit Layer

Download Metadata

Legend
Gray Polygon with Black Outline

Maps using this layer
This layer is not currently used in any maps.

Create a map using this layer
Click the button below to generate a new map based on this layer.

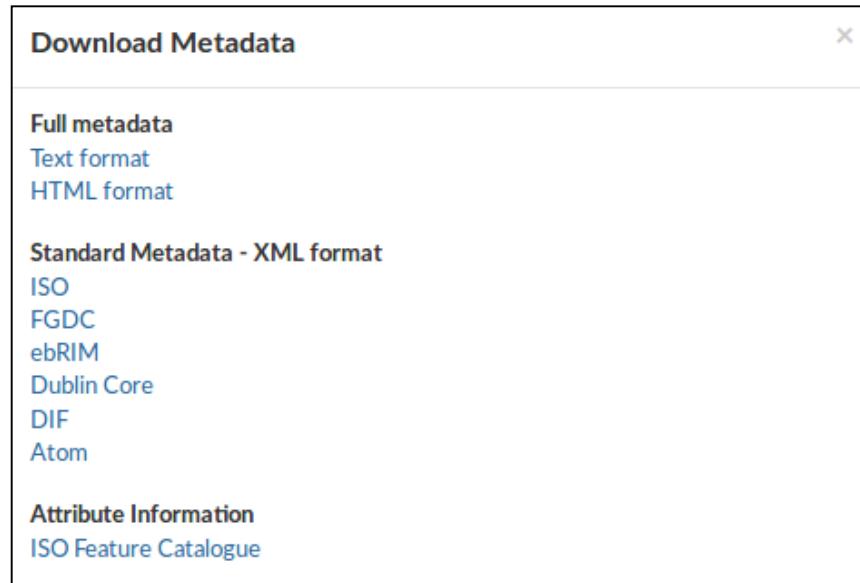
Create a Map

Styles
The following styles are associated with this layer. Choose a style to view it in the preview.

Info **Attributes** **Share** **Ratings** **Comments**

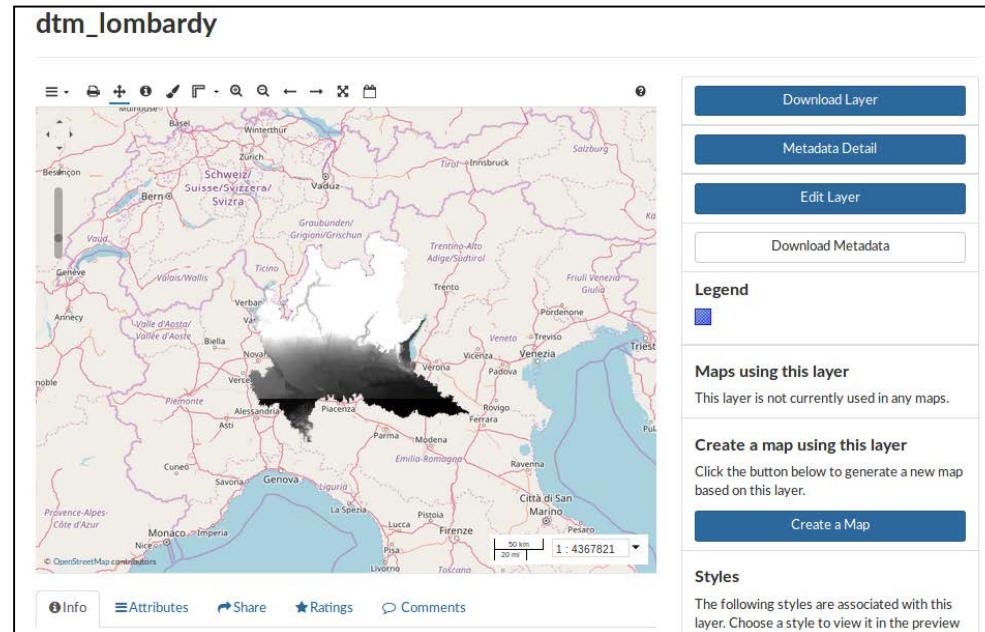
Layer Information Tool

- On the layer page:
 - click the **Download Layer** button to download the layer in one of the many available export formats
 - click the **Metadata Detail** button to visualize the metadata of the layer
 - click the **Edit Layer** button to edit the layer (metadata, style, thumbnail and the data itself)
 - click the **Download Metadata** button to download the metadata in one of the many formats/metadata standards available



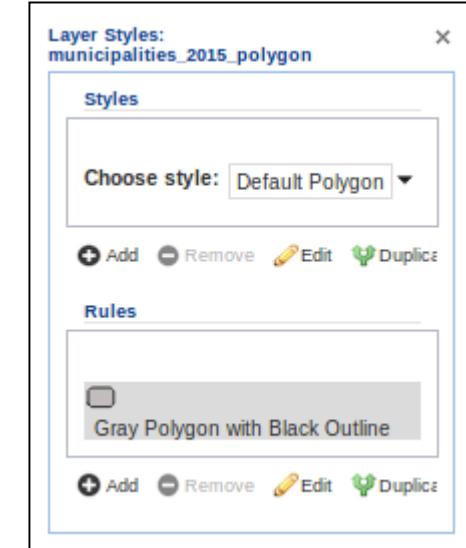
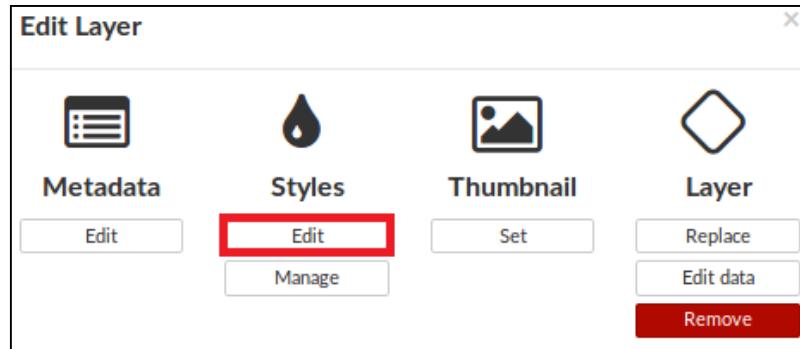
Upload Layer Tool

- Using the same procedure, create new layers from the following shapefiles:
 - main_roads
 - airports
- In the same way, create a new layer from the raster file *dtm_Lombardy.tif*



Edit layer style

- Editing a style can only be performed by users with the correct permissions:
 - from the page of a layer, click the **Edit Layer** button
 - click the **Edit** button under the **Styles** icon



- from the following interface, it is possible to change the style of the layer graphically, i.e. without the need of programming (no SLD styling required)

Edit layer style

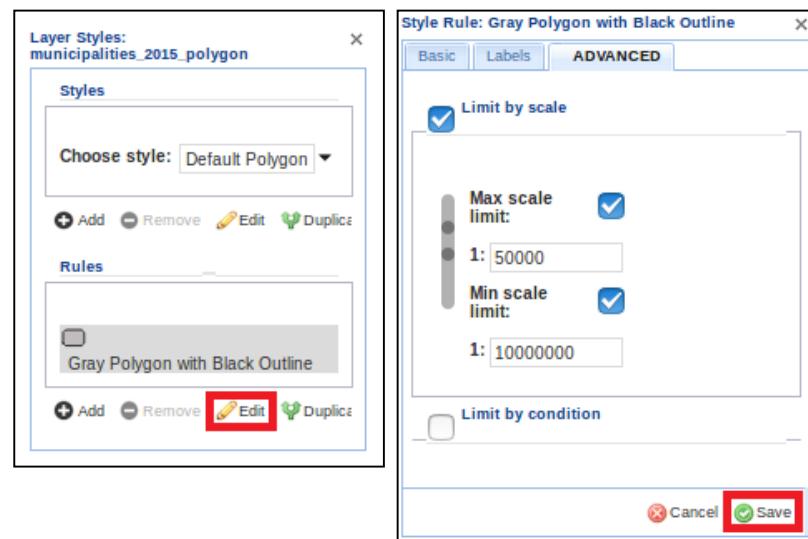
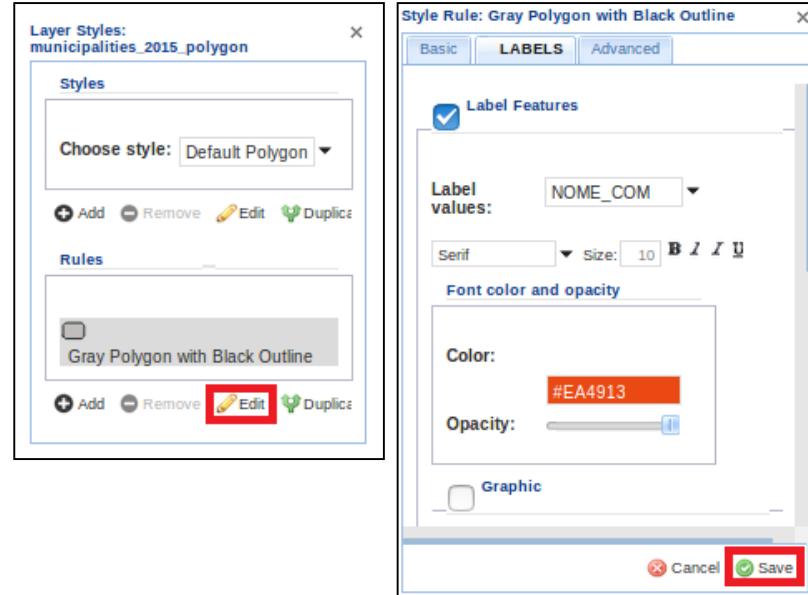
- The layer *municipalities_2015_polygon* has one style and one rule:
 - click the **Edit** button to change the name and abstract of the style; click **Save** when finished
 - select the style preview and click the **Edit** button; on the **Basic** tab, change the name, fill (color and opacity) and the stroke (color, width, opacity and type of line); click **Save** when finished

The image displays three windows from a GIS application showing the editing process of a layer's style:

- User Style: Default Polygon**: Shows the general settings for a style named "polygon". The "Name" field is "polygon" and the "Abstract" field is "yellow fill, red outline". A red box highlights the "Save" button at the bottom right.
- Layer Styles: municipalities_2015_polygon**: Shows the "Styles" panel where the "Choose style" dropdown is set to "Default Polygon". A red box highlights the "Edit" button for the first rule, "Gray Polygon with Black Outline".
- Style Rule: Gray Polygon with Black Outline**: A detailed view of the first rule. It shows the "Basic" tab selected. The "Name" is "Red polygon with yellow" and the "Symbol" is yellow. Under "Fill", the "Color" is "#EFE81F" and "Opacity" is set to 100%. Under "Stroke", the "Style" is "solid" and the "Color" is "#EF1F42". A red box highlights the "Edit" button at the bottom right.

Edit layer style

- The layer *municipalities_2015_polygon* has one style and one rule:
 - select the style preview and click the **Edit** button; on the **Labels** tab, check the option **Label Features**, choose the field used for labels and change the parameters (font, size, color, opacity, etc.); click **Save** when finished
 - select the style preview and click the **Edit** button; on the **Advanced** tab, check the option **Limit by scale** and choose the minimum and maximum scale for layer visibility; click **Save** when finished



Edit layer style

- The layer *municipalities_2015_polygon* will now look like this:

municipalities_2015_polygon

Download Layer

Metadata Detail

Edit Layer

Download Metadata

Legend

Gray Polygon with Black Outline

Maps using this layer

This layer is not currently used in any maps.

Create a map using this layer

Click the button below to generate a new map based on this layer.

Create a Map

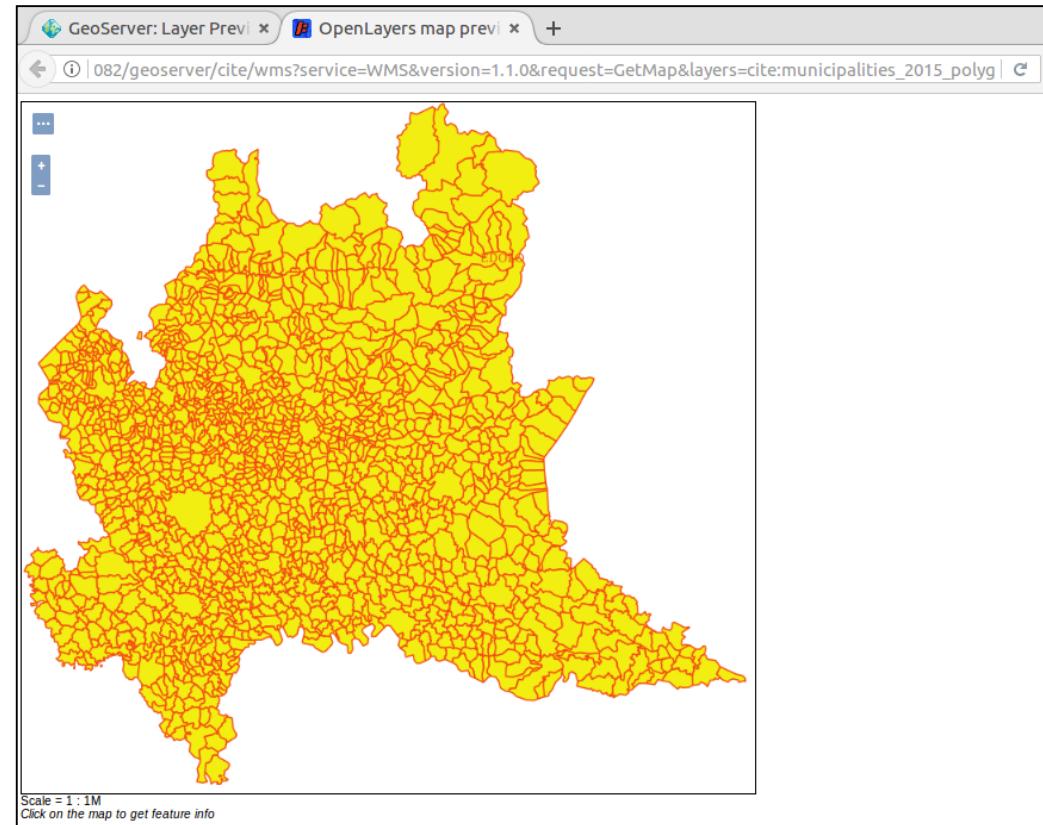
Styles

The following styles are associated with this layer. Choose a style to view it in the preview map.

Info Attributes Share Ratings Comments

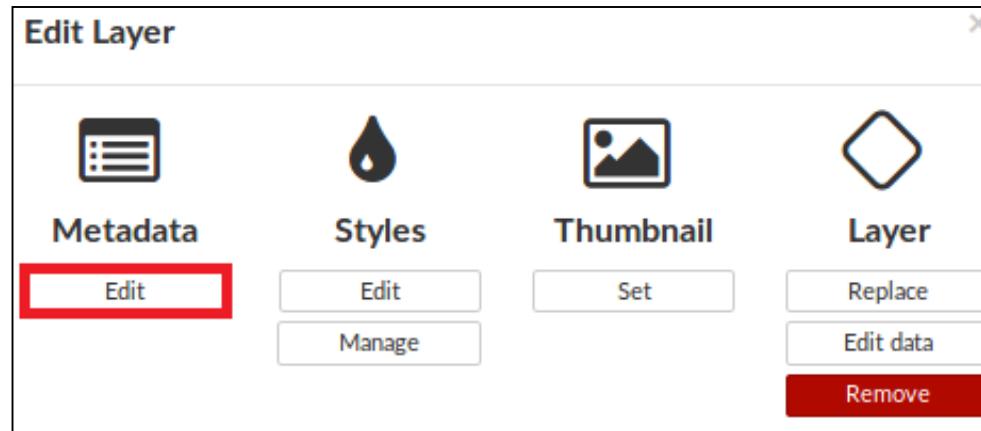
Edit layer style

- The layer *municipalities_2015_polygon* has been published by GeoServer (which works behind GeoNode):
 - the output of a WMS GetMap request is available in GeoServer from the usual [Layer Preview](#) page
 - if additional styles are associated to the layer from GeoServer, those styles will be available under the [Style](#) menu in GeoNode



Edit layer metadata

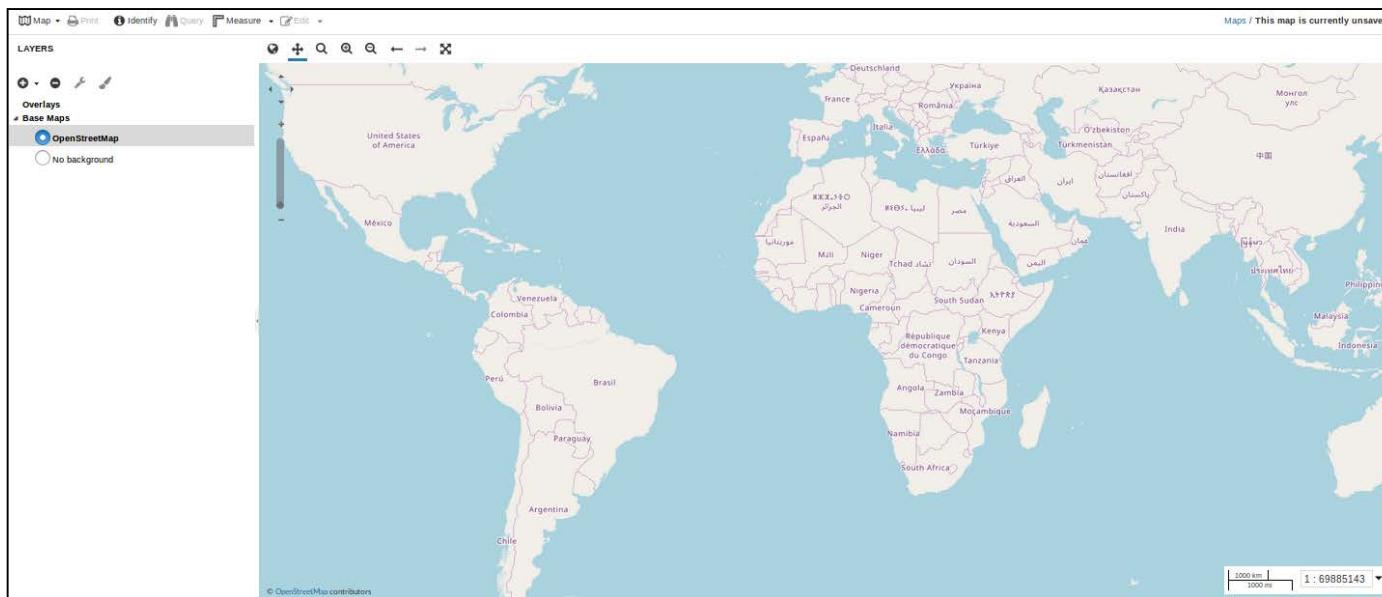
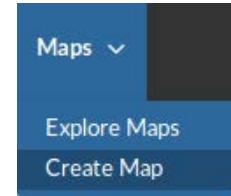
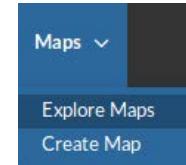
- Metadata can be also edited once the layer has been published:
 - from the page of a layer, click the **Edit Layer** button
 - click the **Edit** button under the **Metadata** icon



- from the following interface, it is possible to change the metadata of the layer

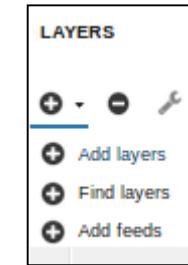
Explore and create maps

- To visualize the available maps:
 - from the **Maps** menu, select **Explore Maps**
- To create a new map:
 - click the **Create a New Map** button
 - alternatively, from the **Maps** menu select **Create Map**
 - a map composition interface will display



Add layers to a map

- To add layers to the map:
 - click the **Add layers** button and select **Add layers**
 - selecting **Local Geoserver** as the source of layers, you can see all the available layers, including those added before
 - select the layers by clicking the first entry and then press Ctrl while clicking the rest
 - click **Add layers** to add them all to the map



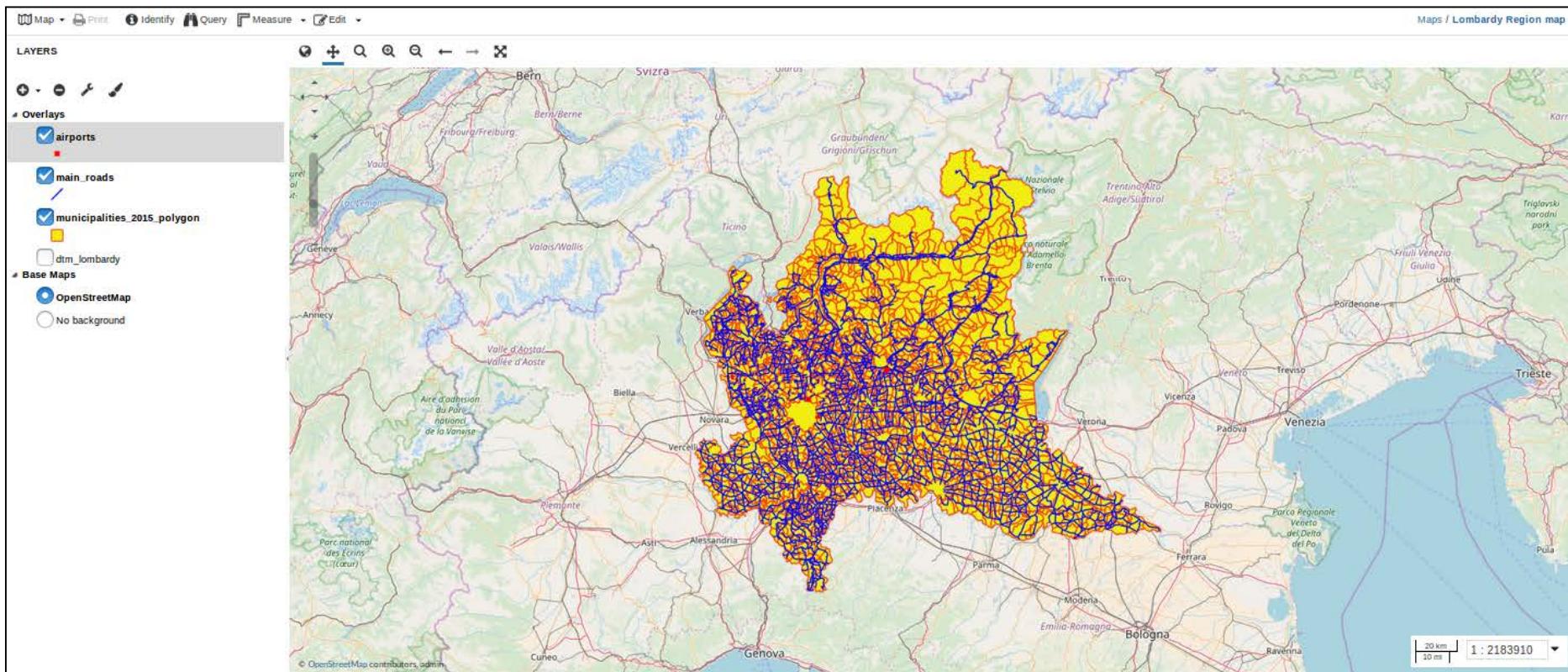
View available data from: Local Geoserver

Title	Id
+ TIGER New York	tiger-ny
+ Spearfish	spearfish
+ Tasmania	tasmania
+ A sample ArcGrid file	nurc:Arc_Sample
+ North America sample i...	nurc:Img_Sample
+ Pk50095	nurc:Pk50095
+ airports	cite:airports
+ Spearfish archeological...	sf:archsites
+ Spearfish bug locations	sf:bugsites
+ dtm_lombardy	cite:dtm_lombardy
+ World rectangle	tiger:giant_poly...
+ main_roads	cite:main_roads
+ mosaic	nurc:mosaic
+ municipalities_2015_pol...	cite:municipalitie...

Add layers Done

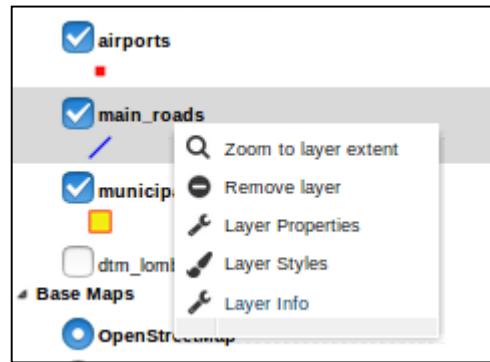
Add layers to a map

- The layers are added to the map, which is centered on their maximum extent:
 - on the layer tree, drag the layers to change their visualization order
 - check/uncheck the layers to turn them on/off



Edit layers from the map interface

- It is possible to edit layer properties from the map interface:
 - on the layer tree, right click on the layer name to access the list of available operations on that layer

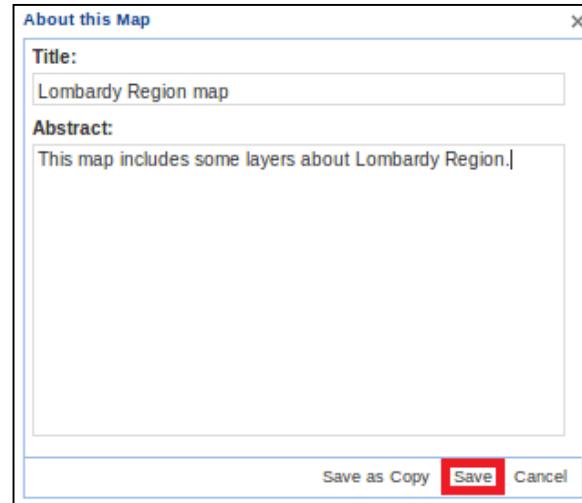
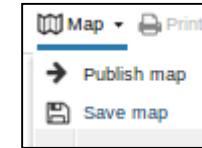


- the same operations are available from the toolbar located above the layer tree



Save maps

- To save the map in GeoNode:
 - click the **Map** button and select **Save map**
 - enter a title and abstract for the map and press **Save**



- the link on the top right of the page has changed to reflect the map's name; this link contains a permalink to the map, i.e. if you open this link, your map will appear exactly as it was saved

Maps / Lombardy Region map

Map information

- On the map page:
 - click the [Download Map](#) button to download the map layers or the map visualization according to the OGC Web Map Context (WMC) standard
 - click the [Metadata Detail](#) button to visualize the metadata of the map
 - click the [Edit Map](#) button to edit the map (metadata, style, thumbnail and the data itself) or to remove the map
 - click the [Change Permissions of this Map](#) button to restrict who can view, download, edit, and manage the map
 - click the [Create a New Map](#) button to create a new map starting from this map

The screenshot shows a user interface for managing a map. At the top are four blue buttons: 'Download Map', 'Metadata Detail', 'Edit Map', and 'View Map'. Below them is a section titled 'Map Layers' which lists the layers used: 'dtm_lombardy', 'municipalities_2015_polygon', 'main_roads', and 'airports'. There is also a section for 'Permissions' with a button to 'Change Permissions of this Map'. At the bottom is a section for 'Copy this map' with a button to 'Create a New Map'.

Download Map

Metadata Detail

Edit Map

View Map

Map Layers
This map uses the following layers:

dtm_lombardy
municipalities_2015_polygon
main_roads
airports

Permissions
Specify which users can view or modify this map

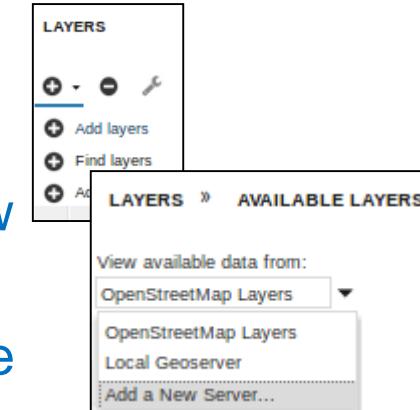
Change Permissions of this Map

Copy this map
Duplicate this map and modify it for your own purposes

Create a New Map

Add external WMS layers to the map

- To add external WMS layers to the map:
 - click the **Add layers** button and select **Add layers**
 - on the drop-down menu, select **Add a New Server**
 - as **Type of server**, select **Web Map Service (WMS)**
 - as **URL** of the WMS server, enter the following one (air quality zoning, from Piedmont Region, Italy):
http://geomap.reteunitaria.piemonte.it/ws/siradec/rp-01/siradecwms/wms_srrqa_zones_airquality?service=WMS&request=getCapabilities and click **Add Server**
 - select the layer with Id **ZONES_IPR** and click **Add layers**



AVAILABLE LAYERS » ADD NEW SERVER...

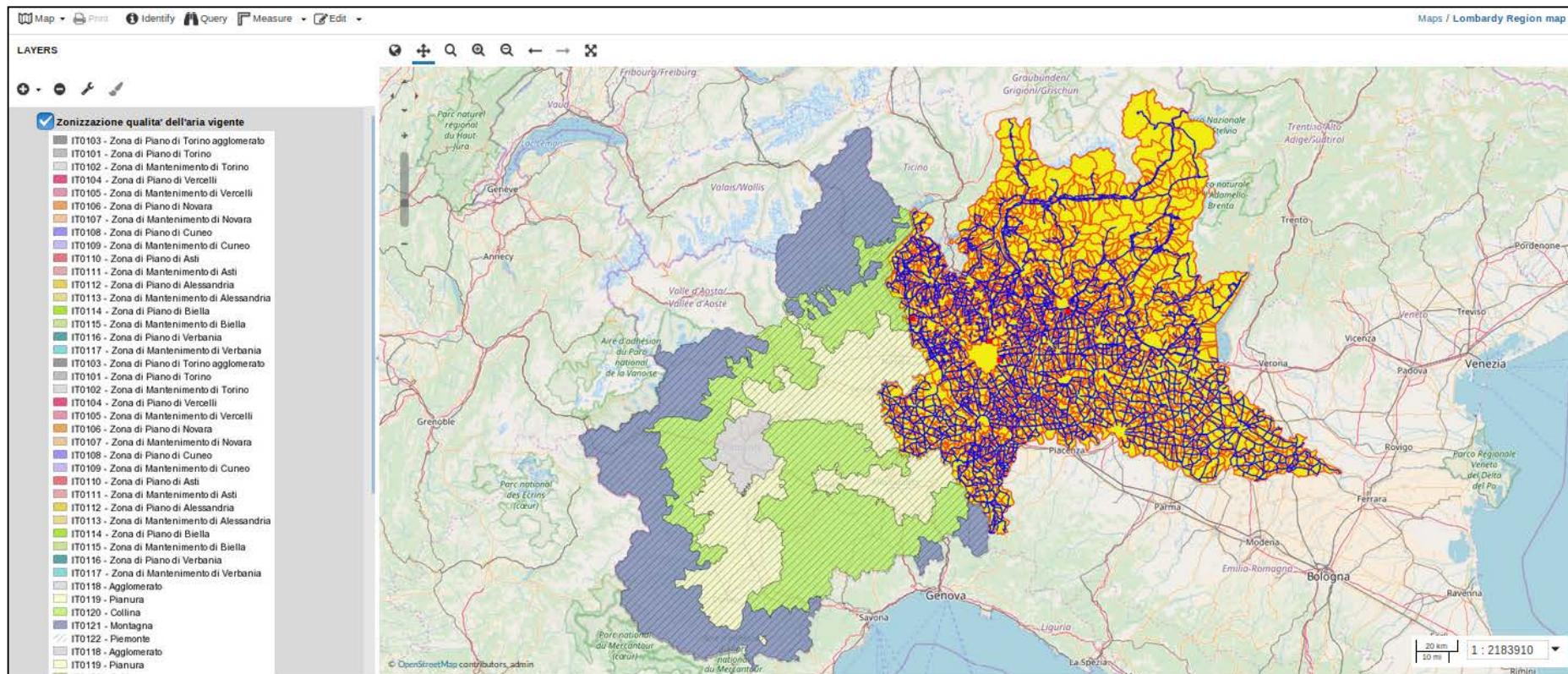
Type: Web Map Service (WMS)
 URL: /?service=WMS&request=getCapabilities

Title	Id
+ Zonizzazione qualita' dell'aria vigente	ZONES_IPR
+ Zonizzazione qualita' dell'aria vigente su ...	ZONES_IPR_C...
+ Zonizzazione qualita' dell'aria (DGR n. 1...	ZONES_QARIA...
+ Zonizzazione qualita' dell'aria su base co...	ZONES_QARIA...
+ Zonizzazione qualita' dell'aria	QualitaAria

Add layers Done

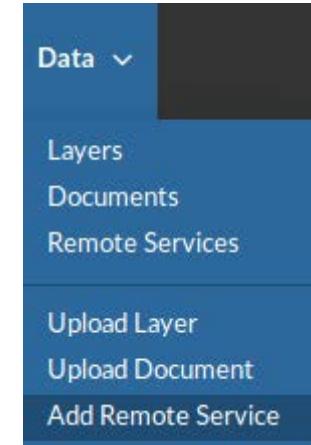
Add external WMS layers to the map

- The new WMS layer is added to the map:
 - save the map again to take into account the presence of the new layer



Add external WMS layers to GeoNode

- External services can be directly added in GeoNode so that they are available for inclusion in any map:
 - from the **Data** menu, select **Add Remote Service**
 - specify the **Service URL**, the **Service name** and the **Service Type** and press **Create**; all the available layers will be added
 - clicking on the service name, a new page will show the details of the layers



Register New Service

Service URL
http://geomap.reteunitaria.piemonte.it/ws/siradec/rp-01/siradecwms/wms_srrqa_zones_airquality?service=WMS&request=getCapabilities

Service name
RegionePiemonte

Service Type
Web Map Service

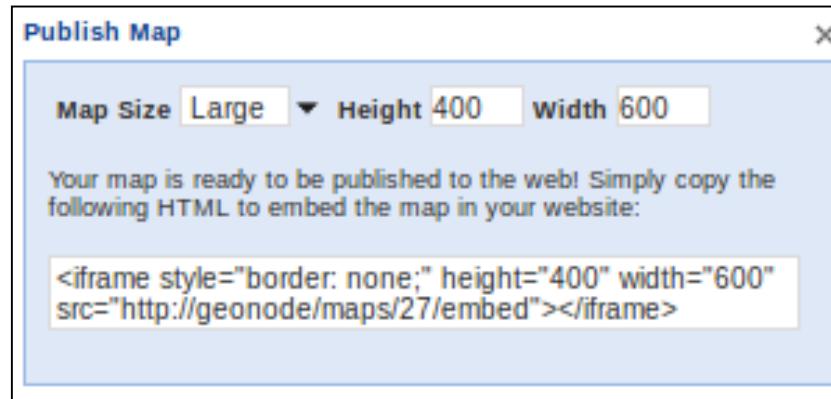
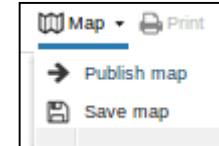
Create Zonizzazione qualita' dell'aria
The following layers will be imported

QualitaAria	Zonizzazione qualita' dell'aria
ZONES_IPR	Zonizzazione qualita' dell'aria vigente
ZONES_IPR_COMUNI	Zonizzazione qualita' dell'aria su base comunale
ZONES_QARIA_2004	Zonizzazione qualita' dell'aria (DGR n. 19-12878 del 28/06/2004)
ZONES_QARIA_COMUNI_2004	Zonizzazione qualita' dell'aria su base comunale (DGR n. 19-12878 del 28/06/2004)

- the list of available remote services is available from the menu **Data > Remote Services**

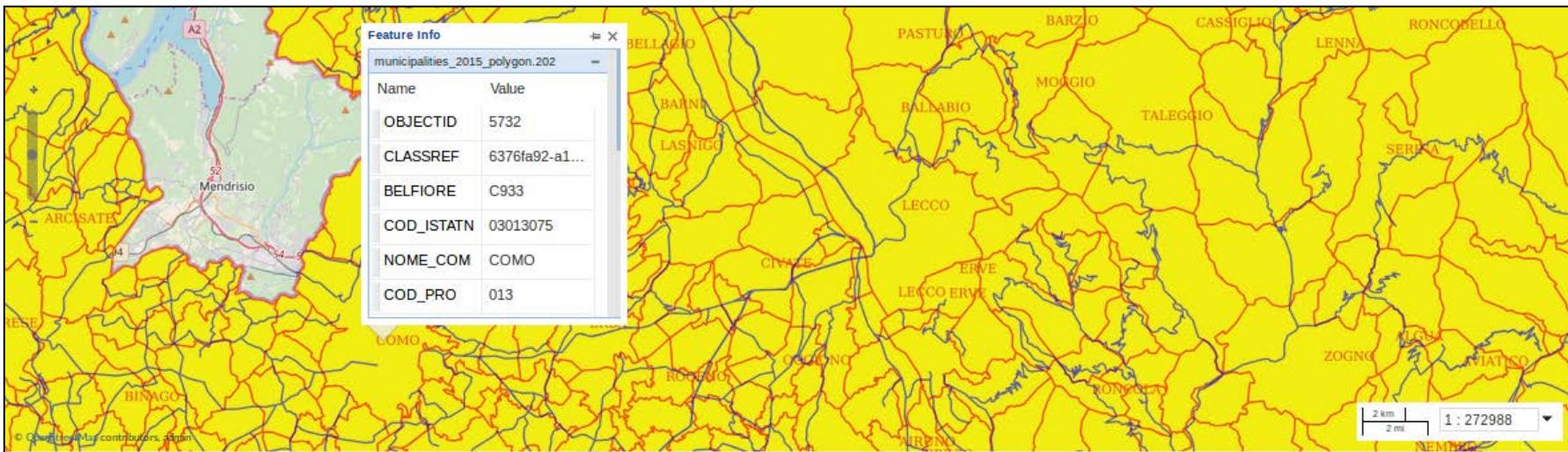
Share maps

- Maps created in GeoNode can be embedded in any webpage:
 - click the **Map** button and select **Publish map**
 - make any adjustments to the title and abstract created before, and click **Save**
 - a new dialog appears with instructions on how to embed this map in a webpage, including a code snippet; you can adjust the parameters as necessary



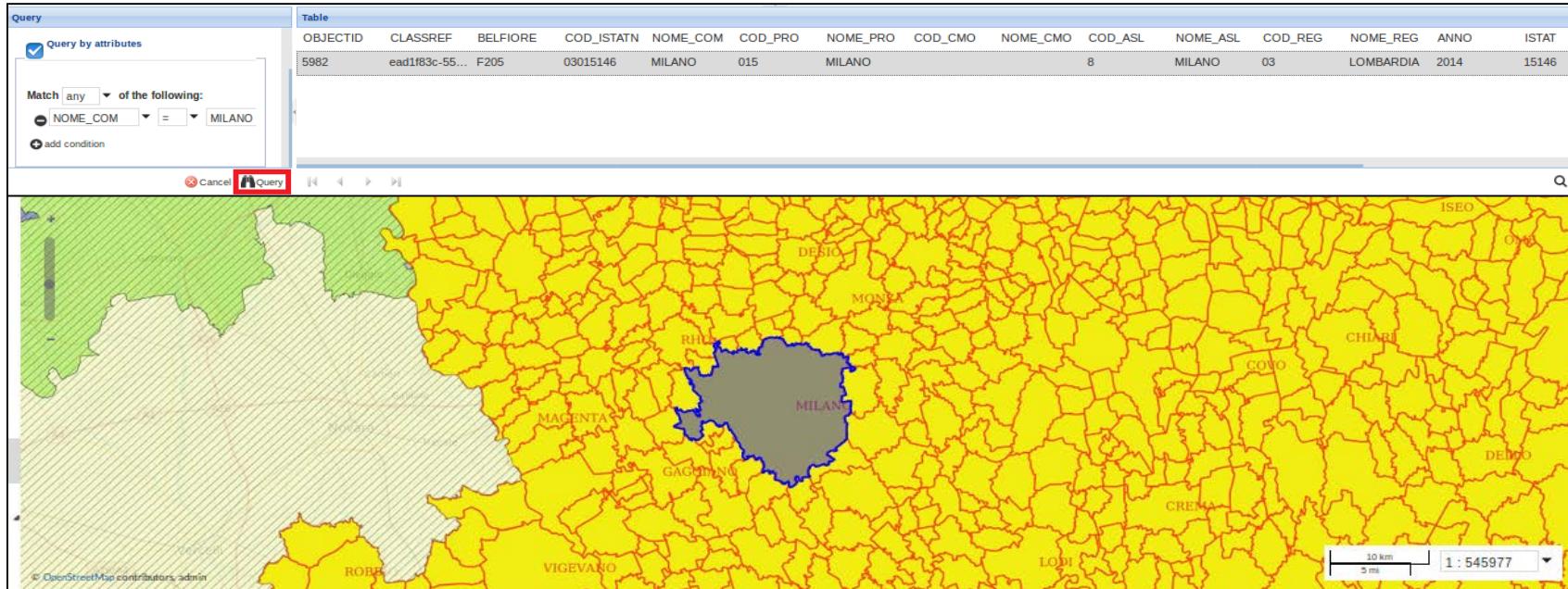
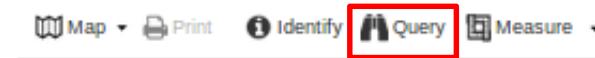
Map Toolbar

- The toolbar on the top left of the map interface provides additional functions:
 - select a layer on the layer tree
 - click the **Identify** button and select on the map a feature of the selected layer
 - you will access the content of the attribute table for that feature (or the pixel information, if the layer is a raster)



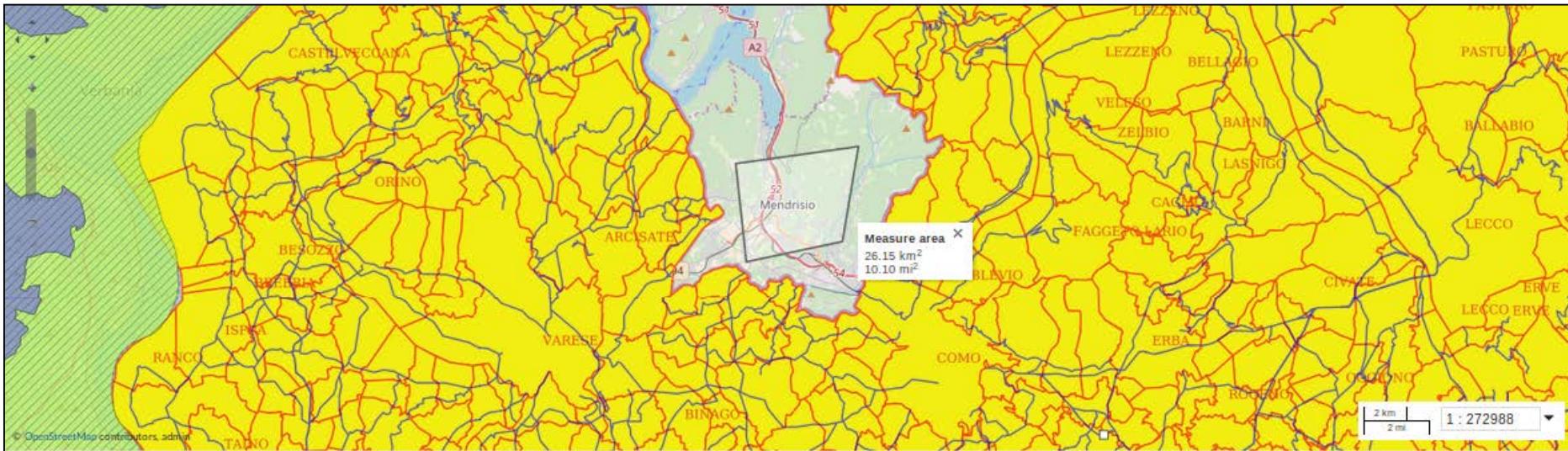
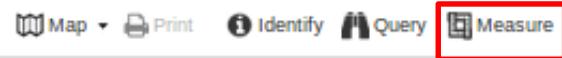
Map Toolbar

- The toolbar on the top left of the map interface provides additional functions:
 - select a layer on the layer tree
 - click the **Query** button and compose a query on the selected layer
 - the result of the query will be displayed on the attribute table and the map



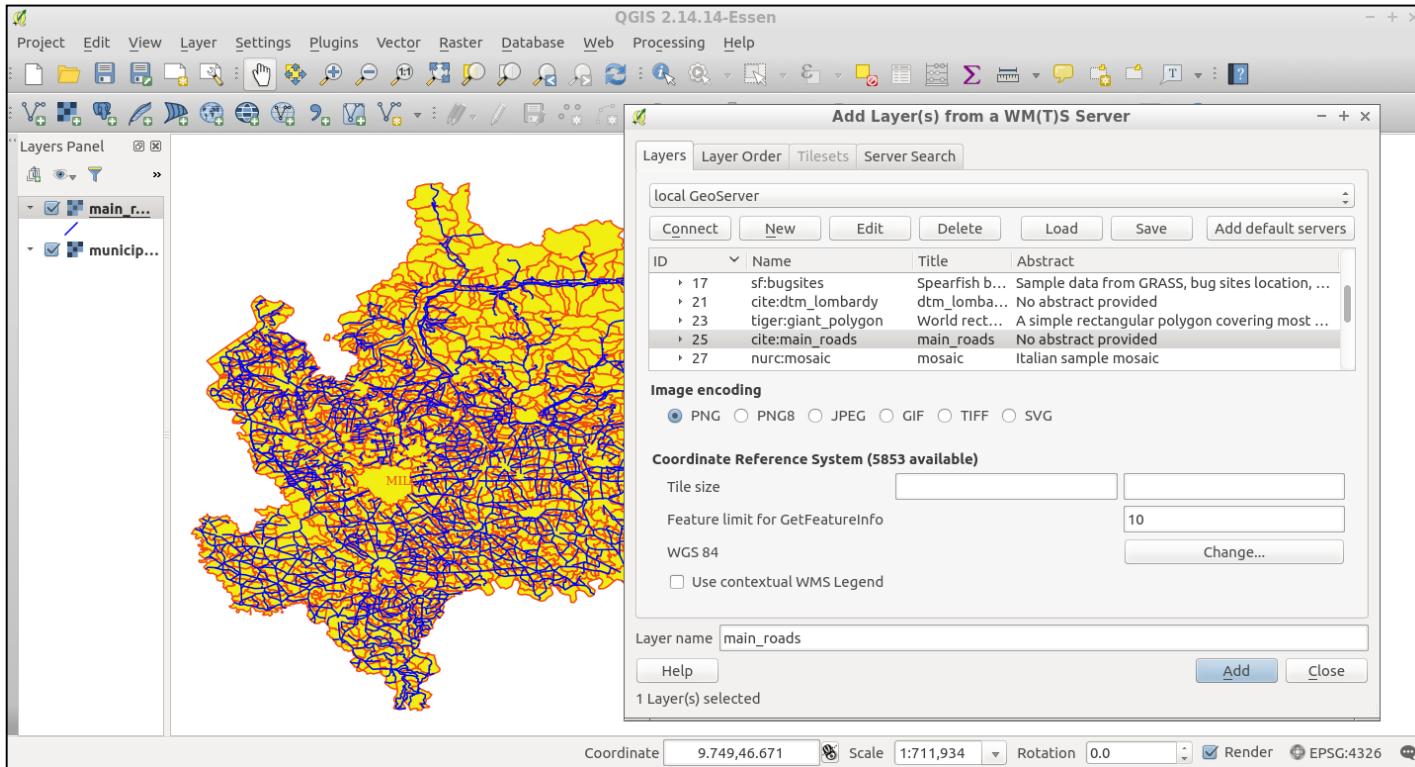
Map Toolbar

- The toolbar on the top left of the map interface provides additional functions:
 - select a layer on the layer tree
 - click the **Measure** button and Select **Length** or **Area** depending on the variable you want to measure
 - on the map, draw a polyline (for the length) and a polygon (for the area) and look at the result of the measure



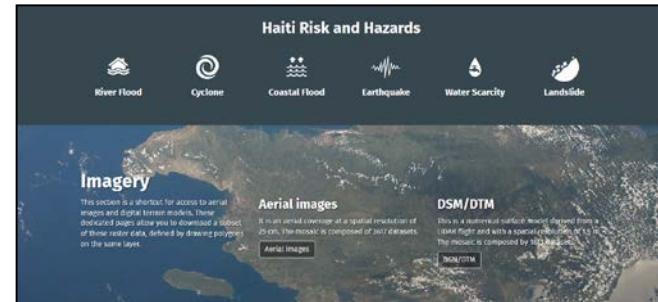
Use GeoNode with other applications

- Being based on OGC services (provided by GeoServer), GeoNode can be easily used with any other application based on the same services:
 - in QGIS, all layers uploaded in GeoNode are available as WMS/WFS/WCS:



Gallery

- GeoNode is used by many subjects and institutions for humanitarian, development, and environmental missions:
 - State GeoNode – U.S. Department of State: <http://geonode.state.gov>
 - United Nations World Food Programme: <https://geonode.wfp.org>
 - Syria Damage Assessment – EU JRC: <http://geonode.jrc.ec.europa.eu>
 - Caribbean Risk Atlas – University of the West Indies (UWI) & World Bank: <http://cariska.mona.uwi.edu>
 - HaitiData.org – The World Bank: <http://haitidata.org>



<http://geonode.org/gallery>

References & contacts

- GeoNode official website: <http://geonode.org>
- GeoNode users workshop: <http://docs.geonode.org/en/latest/tutorials/users>
- GeoNode OSGeo Live quickstart:
https://live.osgeo.org/en/quickstart/geonode_quickstart.html

Thank you!

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