



BLUE LAND

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Participatory model for the sustainable management of marine and coastal resources and for cross border habitats, biodiversity and ecosystem services safeguard

GEOPORTAL USER MANUAL

Version 1.0

Authors: Valentina Grande, Federica Foglini (CNR-ISMAR)

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1. Introduction

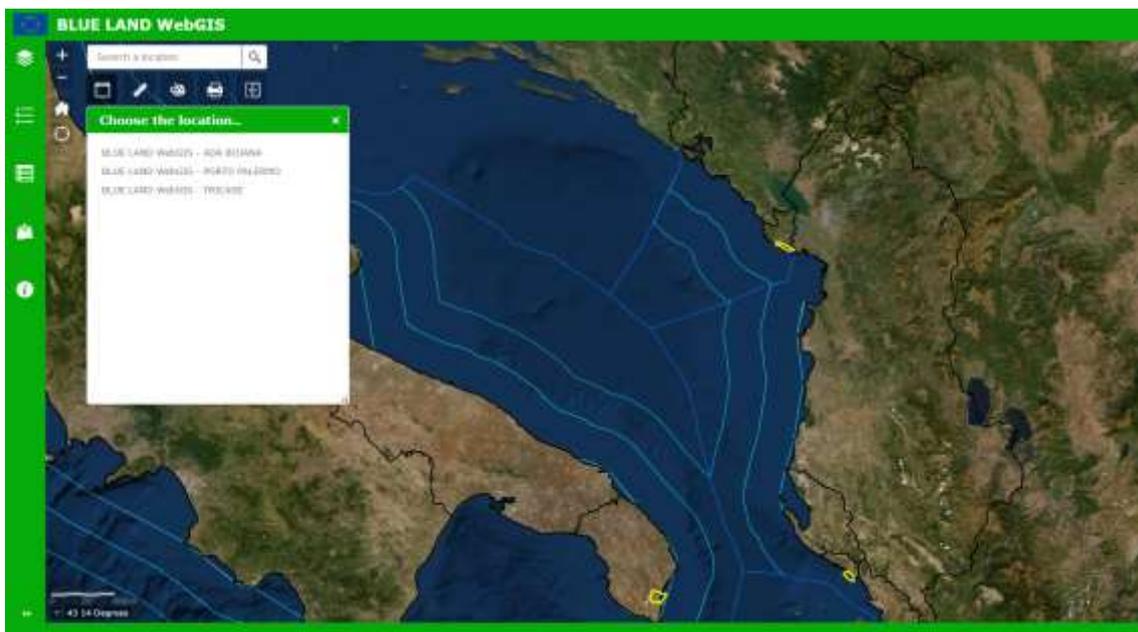
The Blue Land Geoportal is web-based portal for interactive visualization of the spatial data collected in the Aare Project and organized in a common spatial infrastructure. The portal combines Geographic Information Science (GIS) principles and tools to harmonize a relatively large and multi-dimensional datasets, including several themes: Administrative units, Monitoring facilities and observations, Habitats and biotopes, Biodiversity, Protection and conservation, Spatial management and planning, Facilities utilities and public services, Resource exploitation, Natural system modification, Geographical features (Hydrography, Hydrology, Geology, Geomorphology, Geophysics, Elevation, Environmental variables), Socieconomics. The tool combines intelligent web maps with graphs, charts, tables, and text to unlock, making accessible and re-usable the data relevant for the governance of marine and coastal resources and fostering the involvement of local communities in biodiversity protection.

The geoportal hosts large scale data (South Adriatic Sea) and fine scale data for the three localities, which are the pilot areas of the project:

- Tricase (Italy)
- Porto Palermo (Albania)
- Ada Bojana (Montenegro)

The Blue Land Geoportal is free accessible at the link:

<http://gismarblack.bo.ismar.cnr.it:8080/mokaApp/apps/blueland/index.html>



At the first opening (it may take some time..), the user has access to the large scale data and to three group of functions:

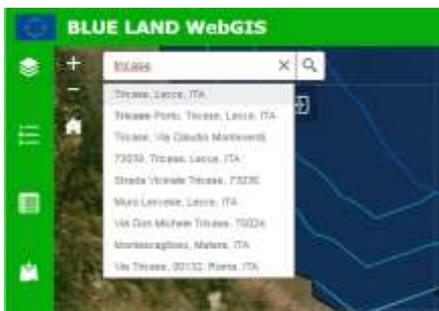
- Off panel functions
- Place holders functions
- Toolbar functions

The following paragraphs show all functions available on the Blue Land Geoportal.

2. Off-panel functions

2.1. Search

This function allows user to search a toponym, he chooses the location of interest between the items proposed by the list and the map will move on it.



2.2. Zoom in/Zoom out

These functions allow the user to change the scale in or out.

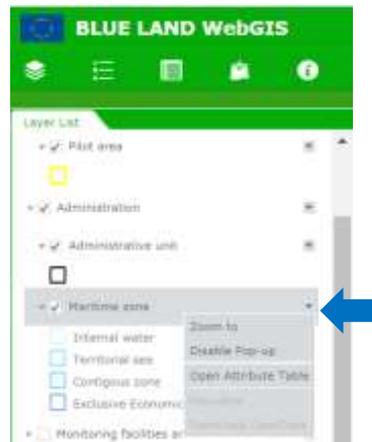
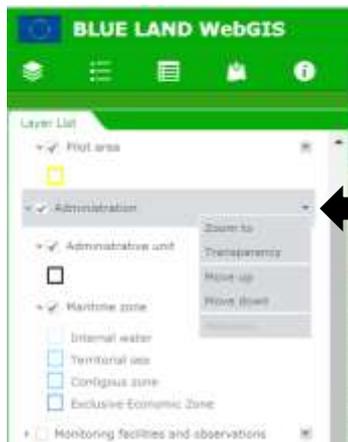
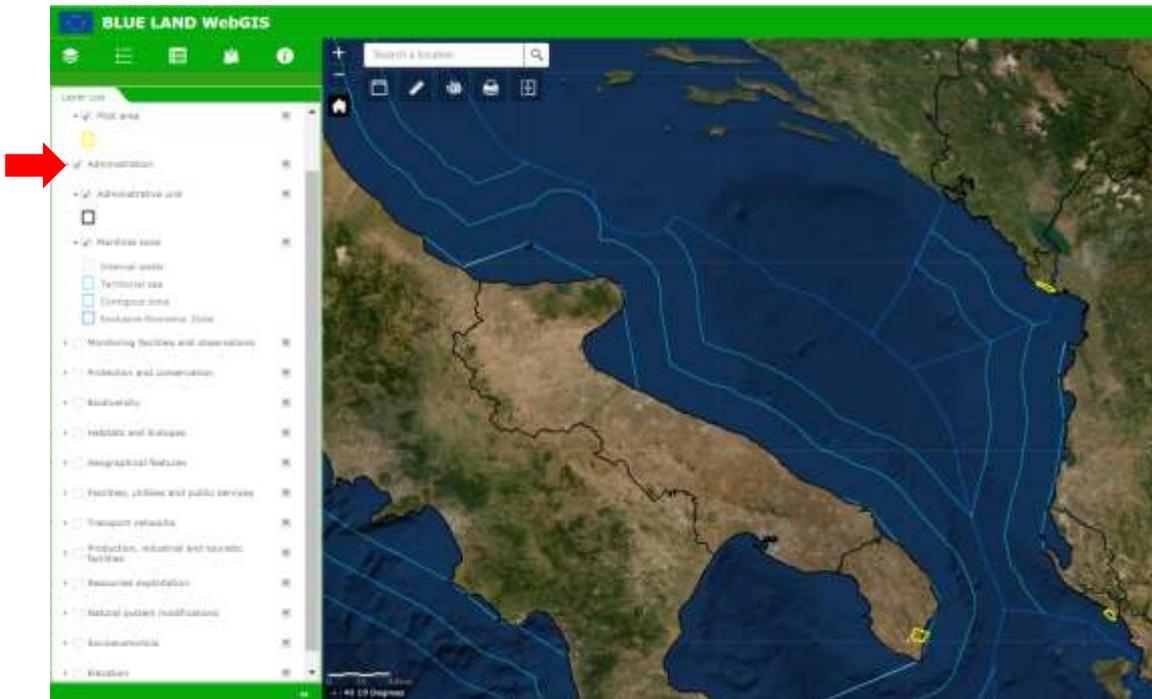
2.3. Home

This function allows the user to return on the overview (default extent).

2.4. Coordinates and scale bar

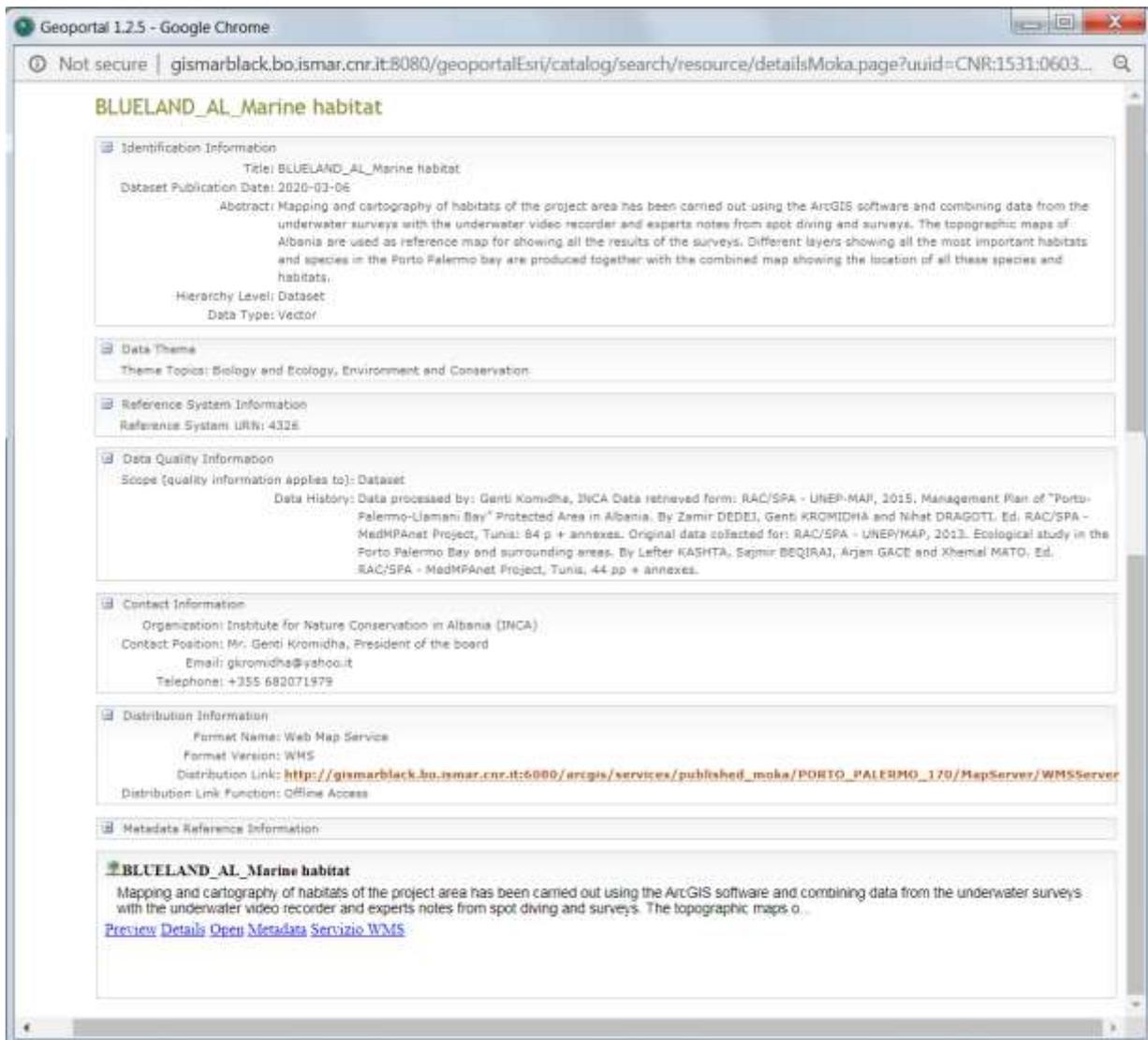
In the lower left corner, the scale bar provides a dynamic visual indication of the size of features and distance between features on the map. The coordinates indicates the position (latitude, longitude) of the cursor in decimal degrees.





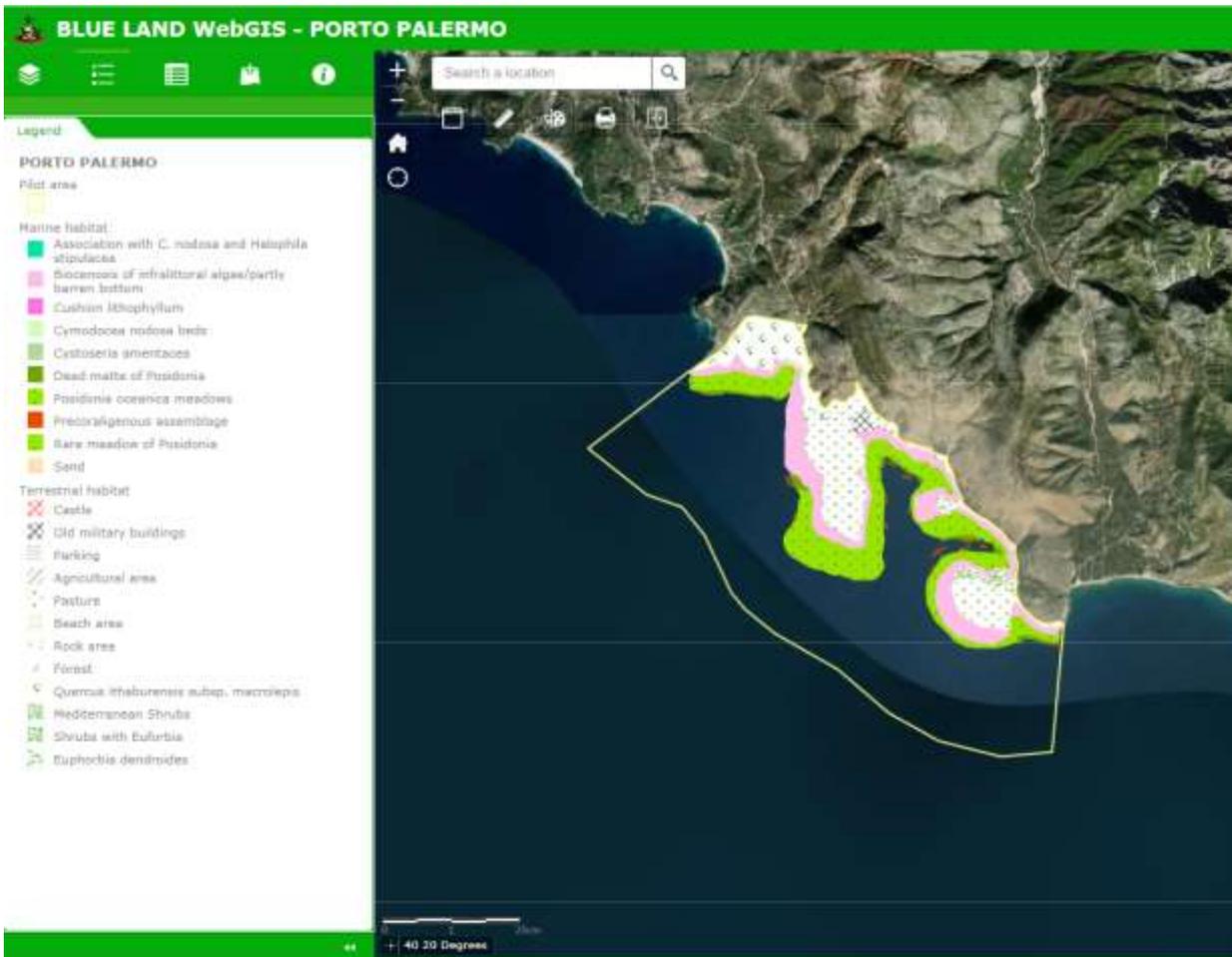
By clicking on the drop down menu of a thematic group layer (black arrow), the user zooms to the features inside the group layer, sets a transparency or moves up and down in the TOC the entire group. By clicking on the drop down menu of a single layer (blue arrow), user can zooms to the scale of the data layer, disable pop-up, open the attribute table or open the metadata of the layer.

A metadata form will appear describing the data in the layers in term of author, abstract, data history, source, etc.. See the following image.



3.2. Legend list

The function shows the symbology of all active layers.



3.3. Attribute table



With this function, the user opens the attribute table of the layer showing the textual information related to the features.

ID	NAME	SYMBOL	DESCRIPTION	LOCATION	DATE	METHOD	STATUS	COORDINATE
AL_00101	Association with <i>C. nodosa</i> and <i>Halophila stipitata</i>	Blue	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	5 - Porto Cervo
AL_00102	Bioerosion of epifaunal algae/pierfy barren bottom	Green	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00103	Cushion lithophilum	Yellow	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00104	Cymodocea nodosa beds	Light Blue	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00105	Cystoseira serratoceros	Dark Blue	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00106	Dead mat of <i>Posidonia</i>	Light Green	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00107	<i>Posidonia oceanica</i> meadows	Dark Green	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00108	Predatorigenous assemblage	Light Yellow	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00109	Rare meadow of <i>Posidonia</i>	Light Blue	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo
AL_00110	Sand	White	Association of epifaunal Mediterranean rocky Mediterranean rock	Porto Palermo	5/5/2014	Photographic map and groundtruthing	Blue Land project	4 - Porto Cervo

In the table of attribute operating with fields and their content, the user can:

- order the feature by a field by clicking on the arrow in the red circle;

DOMAIN	HABITATID	HABITATSHEME	HABITATCODE	HABITATTYPE	LOCATION
Marine	AL_mh157	EUNIS	A5.6x	A5.6x: Infralittoral biogenic habitats in the Mediterranean - corraligenous bioconcretions	Porto Palermo
Marine	AL_mh158	EUNIS	A5.6x	A5.6x: Infralittoral biogenic habitats in the Mediterranean - corraligenous bioconcretions	Porto Palermo
Marine	AL_mh159	EUNIS	A5.6x	A5.6x: Infralittoral biogenic habitats in the Mediterranean - corraligenous bioconcretions	Porto Palermo
Marine	AL_mh160	EUNIS	A5.6x	A5.6x: Infralittoral biogenic habitats in the Mediterranean - corraligenous bioconcretions	Porto Palermo

175 features 0 selected

- select one or more rows and zoom in;

DOMAIN	HABITATID	HABITATSHEME	HABITATCODE	HABITATTYPE	LOCATION	UPDATES	METHOD	SCALE	ABSTRACT	COORDINATE
Marine	AL_mh219	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Small habitat of Posidonia	A. Marine Coastal
Marine	AL_mh218	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Small habitat of Posidonia	A. Marine Coastal
Marine	AL_mh217	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Medium coarse meadows	A. Marine Coastal
Marine	AL_mh214	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Small habitat of Posidonia	A. Marine Coastal
Marine	AL_mh213	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Medium coarse meadows	A. Marine Coastal
Marine	AL_mh212	EUNIS	AL.23	AL.23: Sargassum beds	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Small	A. Marine Coastal

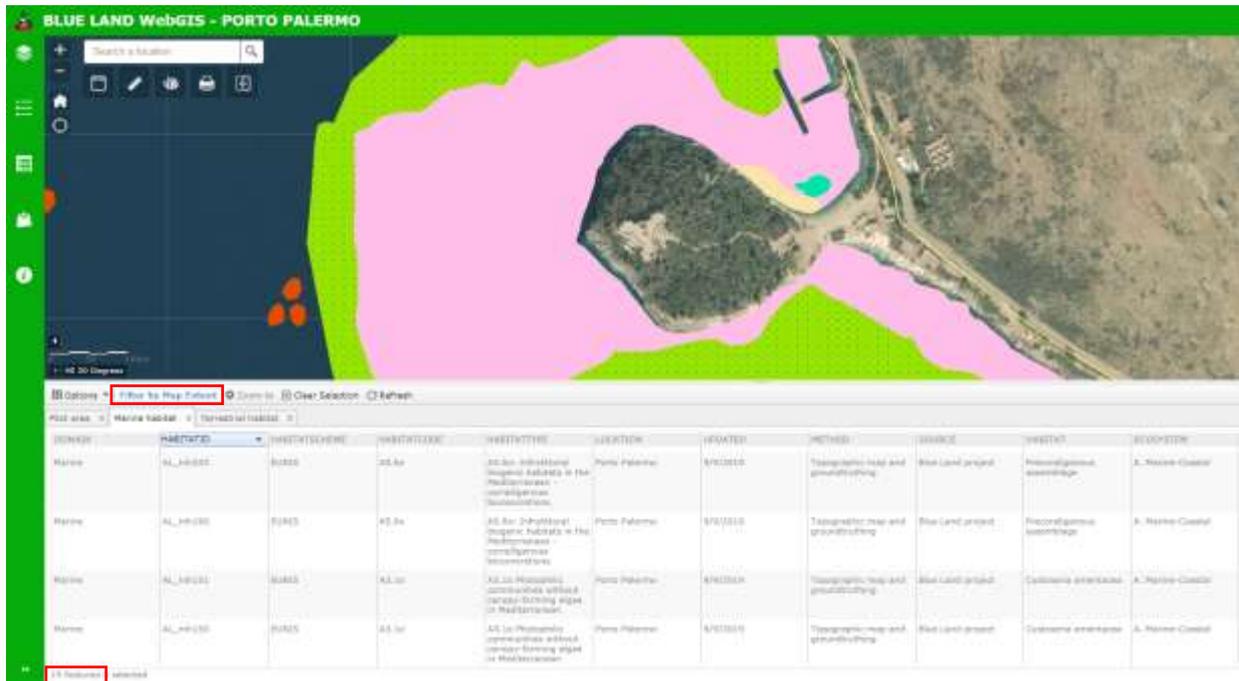
175 features 1 selected

- clear the selection;

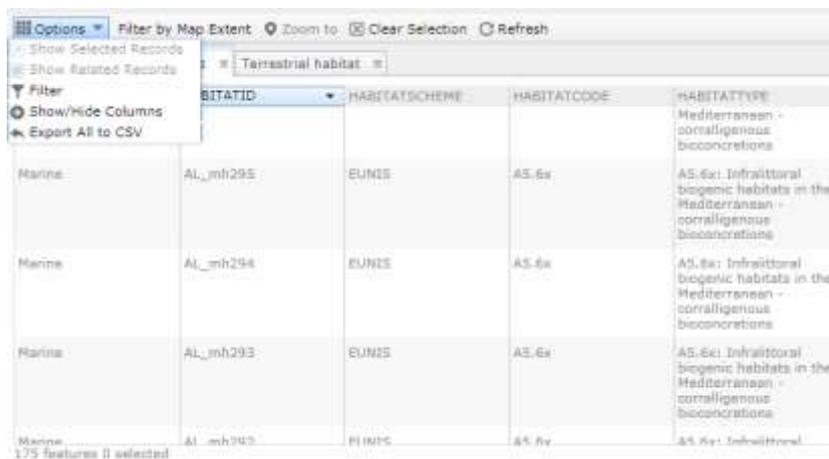
DOMAIN	HABITATID	HABITATSHEME	HABITATCODE	HABITATTYPE	LOCATION	UPDATES	METHOD	SCALE	ABSTRACT	COORDINATE
Marine	AL_mh219	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Small habitat of Posidonia	A. Marine Coastal
Marine	AL_mh218	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Small habitat of Posidonia	A. Marine Coastal
Marine	AL_mh217	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Medium coarse meadows	A. Marine Coastal
Marine	AL_mh214	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Small habitat of Posidonia	A. Marine Coastal
Marine	AL_mh213	EUNIS	AL.23	AL.23: Posidonia beds in the Mediterranean infralittoral zone	Porto Palermo	1/0/2018	Topographic map and groundtruthing	Blue Land project	Medium coarse meadows	A. Marine Coastal

175 features 1 selected

- filter by map extent, the user places the map on the area of interest and the function select all features in the table that are visualized in the current extent;

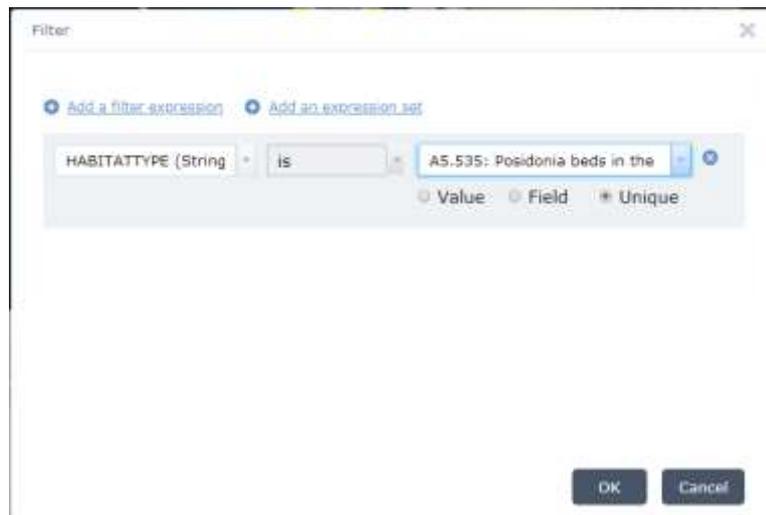


- access the “Options menu”:



With the “Options menu”, the user can:

- choose to show only the selected records;
- choose the column to show/hide;
- Export the table as .csv file;
- Filter the content of the table by “Filter Expression”:

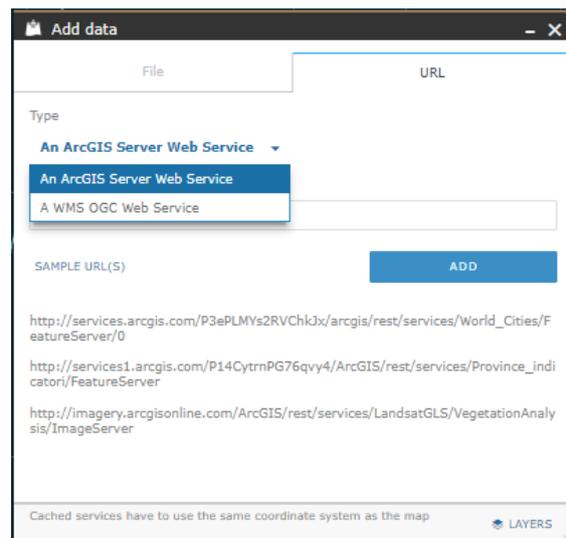
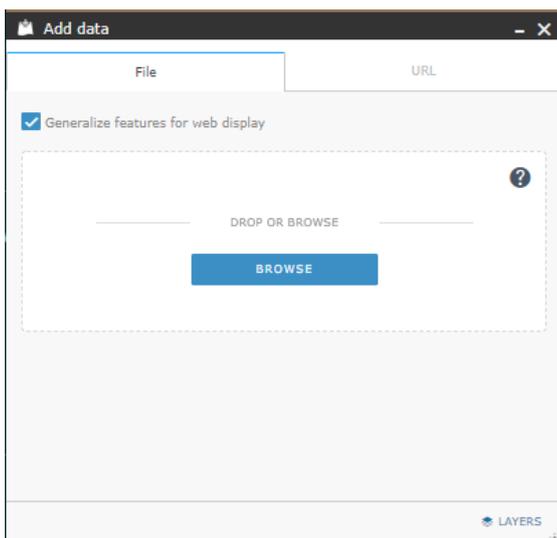


In this example, the user want to select the *Posidonia* bed habitat. First, the user choose the field (column) to query “HabitatType”, then the operator “is” and at least the value of interest “A5.535: *Posidonia* beds in the...”. Choosing the option “Unique” all the possible items will automatically appear in a drop down menu, this is the easier way to build a query.

3.4. Add data

With this function, the user can add data to the map in two ways:

- Add a file (left image)
- Add a service (right image)

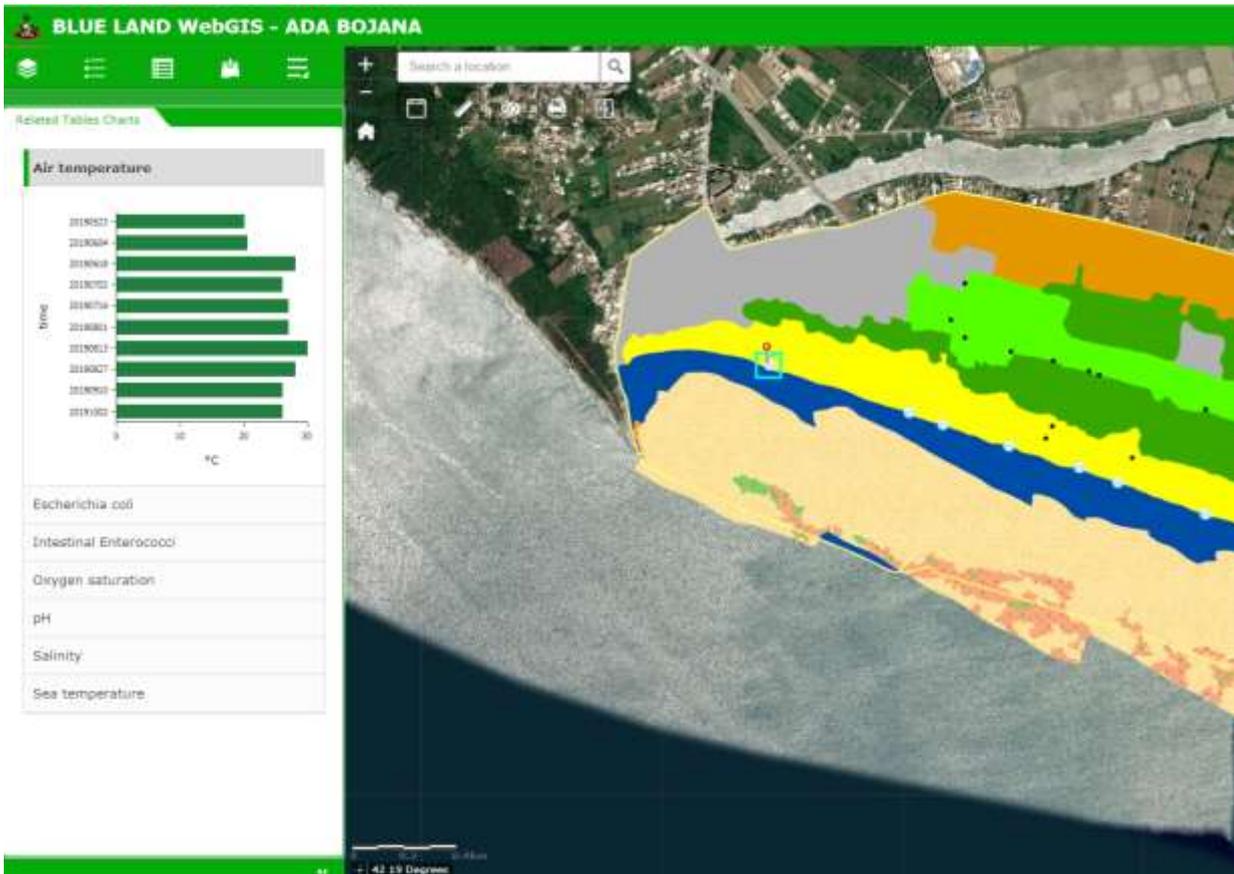


In the first case (left image), the shapefile had to be prepared as a .zip file and it can contain a maximum of 1000 features. In the second case (right image), the user copies the URL of the Web Map Service choosing the type of service and click “Add”.



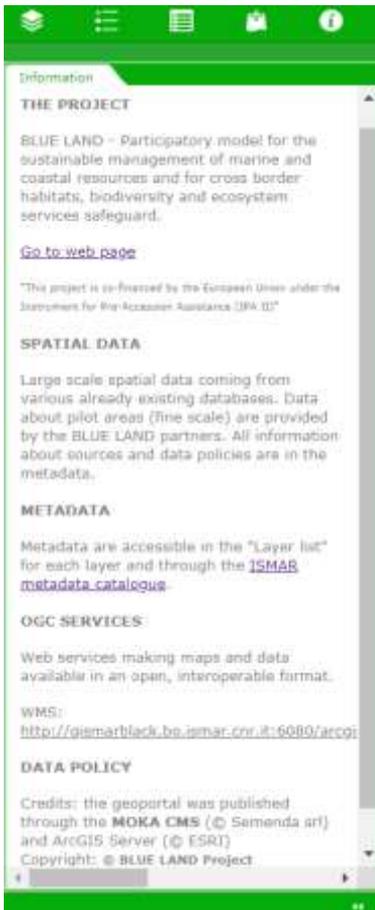
3.5. Related table chart

This function allows the user to build graphs. He clicks on the feature and the tool provides the graphs of the variables stored in the tables related to the selected feature. In this example, the user chose the function and clicked on a water quality station with the aim to know the time series of the variables measured in this point. The result is shown in the left windows.



3.6. Information

In this section, the user find some information about: the project, the spatial data, the metadata, the OGC services and the data policy.



4. Toolbar functions

4.1. Linked application



This function allows the user to move between applications, he can choose the large scale application “Blue Land WebGIS” or one fine scale application (pilot areas):

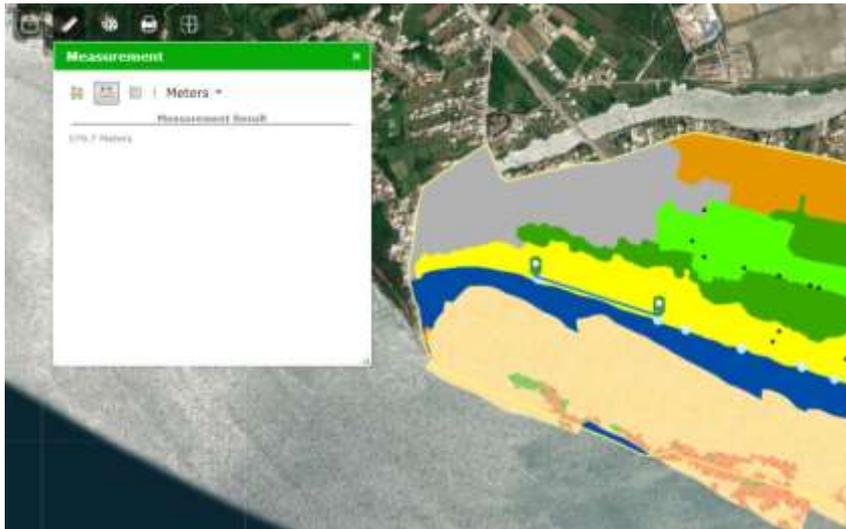




4.2. Measure



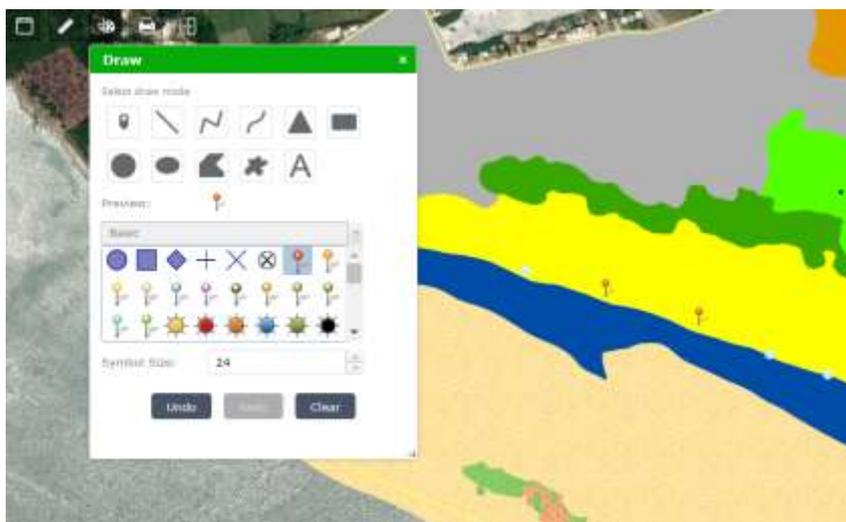
The function allows the user to make measure on the map: area, distance or position. Double click in the start point and single click in the end point of the measure. In the following example, the user measures the distance in meters between two water quality stations in the Ada Bojana pilot area WebGIS.



4.3. Draw



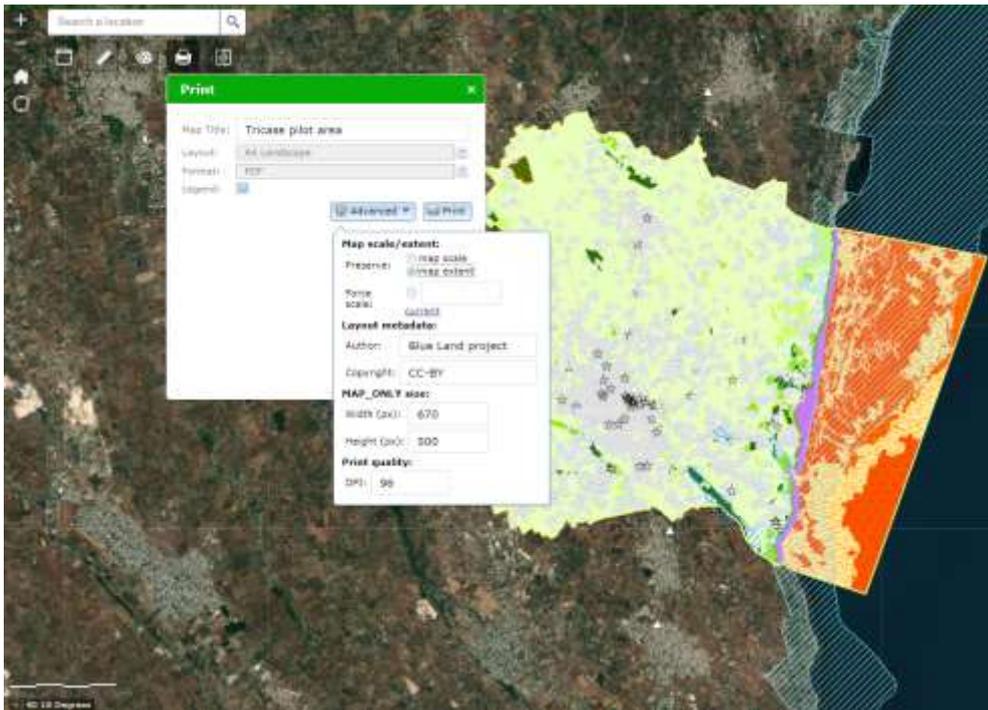
The function allows the user to draw on the map: point, line, polygon, text, symbols, etc. Choose the object (e.g. point), then the symbol and click on the map. In this example, the user plans two new potential water quality stations adding two points.



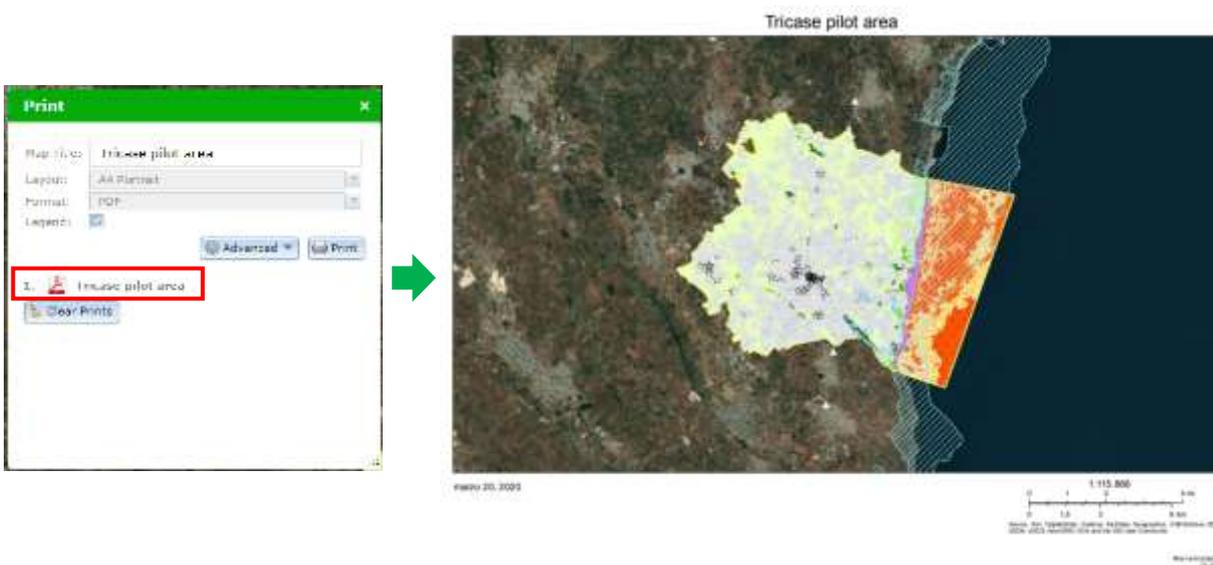
4.4. Print



With this function, the user can print a map. The map can be customized: map title, layout, format, legend (yes or not, only for .pdf format), scale, author, copyright, size and quality. The print can be an image (e.g. JPG, PNG, GIF) or a pdf file.



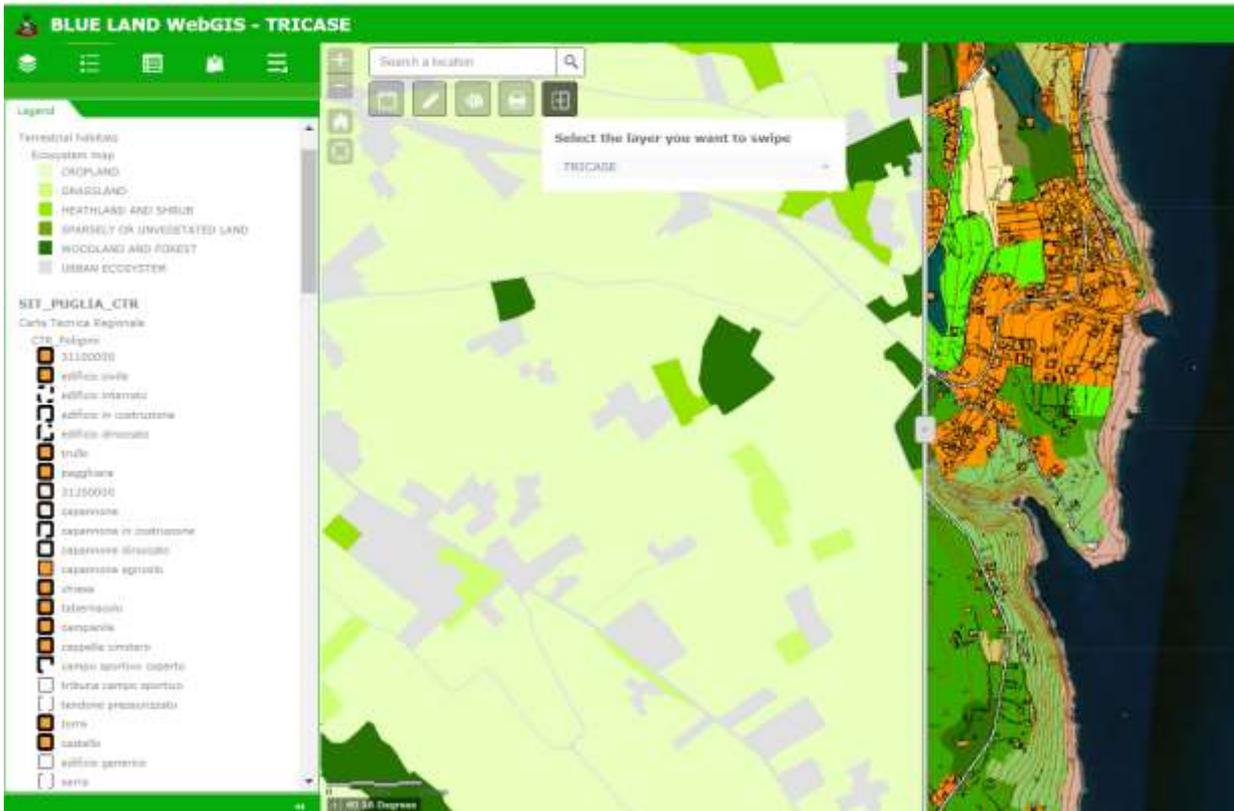
Click on the link (red square) and open the map:



4.5. Swipe



The function allows to swipe on a group of layers. The user chooses the group to drag and then he moves the arrow on the left/right to see the underlying layer. In this example, the user swipes the group layer “Tricase” with the “Ecosystem map” open on the layers “Carta Tecnica Regionale” and “Corine Land Cover 2011”, with the aim to compare the two coverages.



Appendix – Additional information

- **Add data**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-add-data.htm>

- **Attribute table**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-attribute-table.htm>

- **Draw**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-coordinates.htm>

- **Filter**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-filter.htm>

- **Home**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-home-button.htm>

- **Layer list**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-layer-list.htm>

- **Legend**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-legend.htm>

- **Measure**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-measurement.htm>

- **Print**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-print.htm>

- **Related table chart**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-related-table-charts.htm>

- **Search**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-search.htm>

- **Swipe**

<https://doc.arcgis.com/en/web-appbuilder/create-apps/widget-swipe.htm>