Spatial spm Manager Desktop

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Spatial Manager Desktop

The Spatial Manager Desktop documentation brings everything together in one place: a simple introduction to get you started, a practical user guide to help you learn the tools at your own pace, and useful support resources.

Version **10.4.1**

Generated on **2026-04-16**

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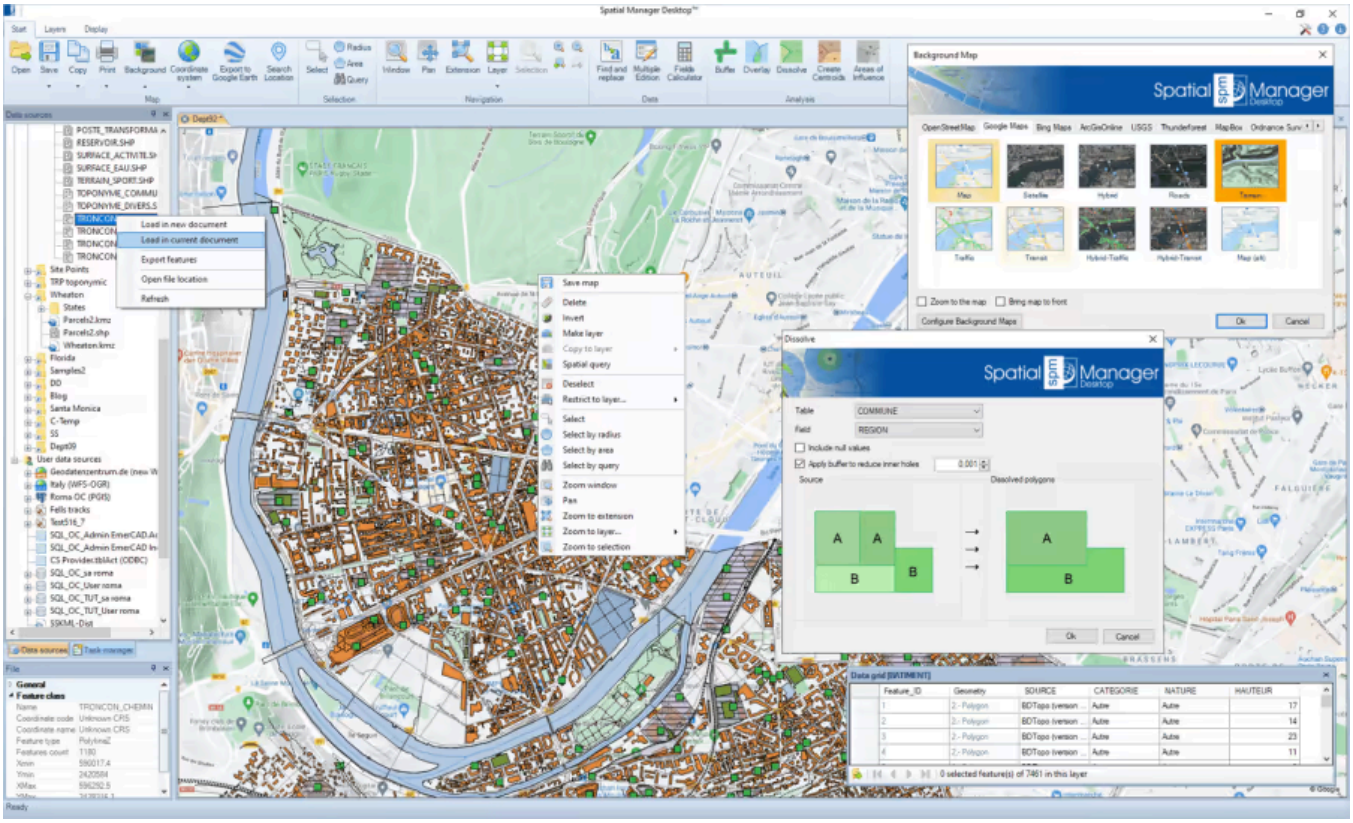
Introduction

Spatial Manager Desktop™ is a Windows desktop application designed to manage spatial data in a simple, fast, and inexpensive way. Developed by a group of professionals working in the areas of GIS, planning, infrastructure, and civil engineering, it provides the user with powerful tools to address the most common tasks of management and operation in the world of spatial information.



Spatial Manager Desktop™

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Installation

First of all, download Spatial Manager Desktop™.

Installation steps

Then you need to install Spatial Manager Desktop™ by executing the setup program. The name of the file to run will be different for each release of the application. It will appear as follows: *SpatialManagerDesktop-X.exe*, where "X" is the release number of the application.

- 32-bit and 64-bit versions: There are 32-bit and 64-bit versions of Spatial Manager Desktop™, but you do not need to worry about what platform is selected because the setup program automatically chooses the right version depending on the Windows platform on your computer.
  - Under some circumstances, it may be of interest to run the 32-bit version even when working in 64-bit Windows, since the application may be faster if the amount of data to be managed is not very large. If you want to install the 32-bit version (in addition to the 64-bit version) on a computer that has a 64-bit version of Windows, you must add the parameter "install32bits=1" (lowercase and no spaces between characters) when running the setup program. Watch this short video to learn how:

VIDEO AVAILABLE

Watch video on YouTube

- "Quiet" setup: You can install the application in "quiet" mode using the "/quiet" parameter, which will adopt the default values (installation path, etc.) and it will not be necessary to follow the installation process step by step. For example, from the Windows command line you can execute: [Path]/SpatialManagerDesktop-X.exe /quiet.
  - "[Path]" is any local or networked path where the installation EXE file can be found.
  - "X" is the release number of the application.
  - Note also that this command can be executed from a batch file (*.bat), which will facilitate the deployment of network or remote installations.

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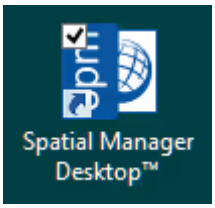
How to Start

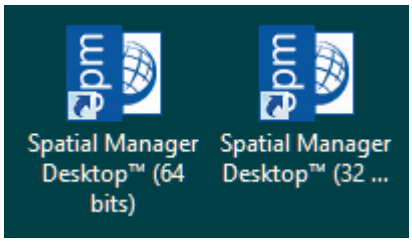
First steps

If you do not yet have Spatial Manager Desktop™ installed on your computer, you can purchase the application or download Spatial Manager Desktop™ as your trial copy. Check the minimum requirements for the application, select the appropriate version for your operating system (32 or 64 bit), and install it following the instructions in the installation program.

Once installed, you will see the Spatial Manager Desktop™ icon placed on the Windows Desktop (two icons if you have installed the 64-bit and the 32-bit versions), which will let you start the application.



Spatial Manager Desktop Icon



Spatial Manager Desktop 64 and 32 bits

VIDEO AVAILABLE

Watch video on YouTube

- Launch Spatial Manager Desktop™.
- In the "Data sources" panel, expand the "Sample data" shortcut to access the sample dataset .
- Right-click over any file to load the spatial information into a new map.
- Check the loaded features and play with the map.
  - *Note for the Trial version users: Take a look at the application Limitations in this Version .*
- Load more spatial files into the same map or into new maps.
- Try to load other kinds of spatial files such as Google Earth KML, GPS/GPX, SQLite, or XYZ point files.
  - *Note about Coordinate Reference Systems (CRS): If you want to merge into the same map spatial data that has been saved using different CRSs, you need to transform the coordinates of the inc*

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Interface

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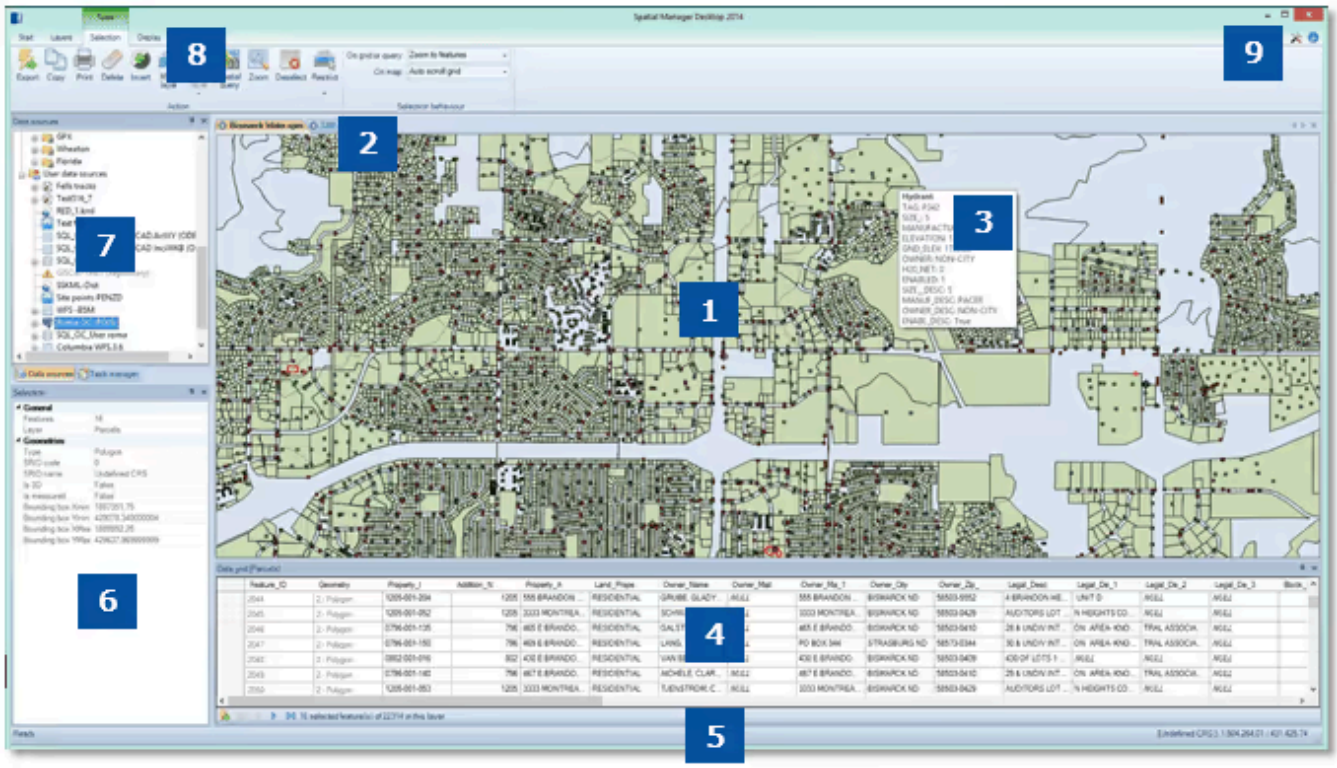
Layout



Spatial Manager Desktop™ Layout

1. Maps workspaces.
2. Workspaces tabs. Workspace navigation tools on the right side.
3. Data tooltip of the feature under the cursor.
4. Data grid panel. Navigation, information, and other tools on the bottom.
5. Status and information line.
6. Properties panel. Content varies depending on the active focus (map, source, task — "Professional" edition only —, etc.).
7. Data sources and task manager ("Professional" edition only) panels (grouped in this picture).
8. Ribbon. Permanent and contextual tabs.
9. Other tools (options and preferences, release information, etc.).

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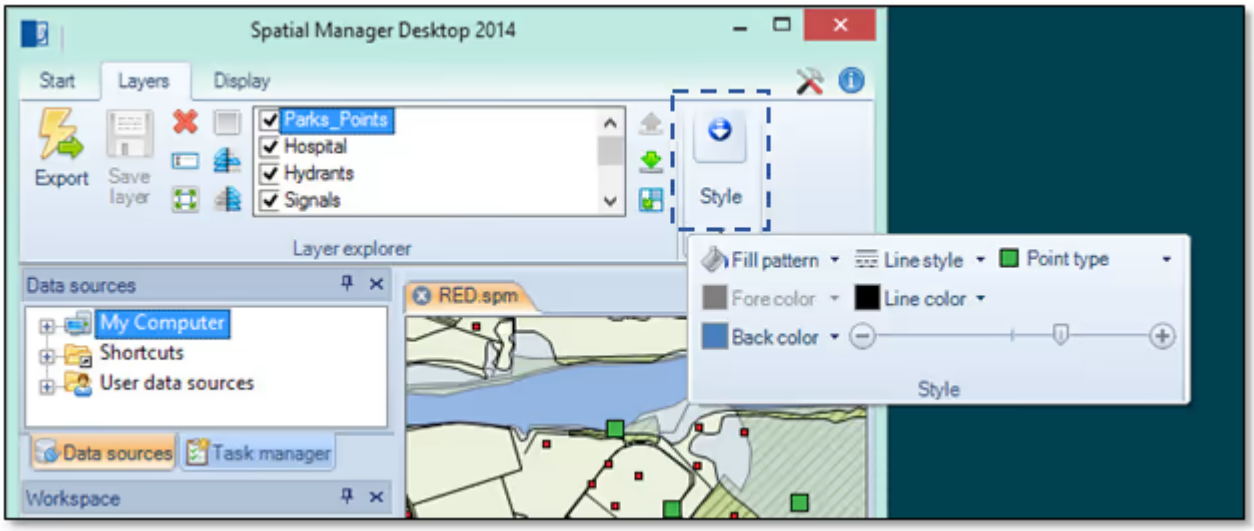
Ribbon

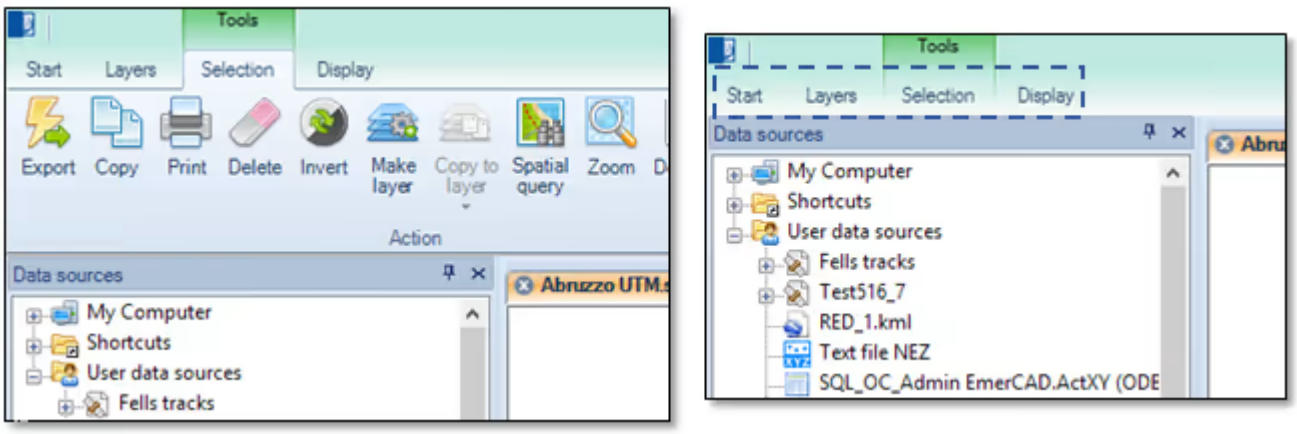
The functions available through the Ribbon are separated into tabs containing functional groups. These tabs can be static (“Start”, “Layers”, etc.) or contextual, which are only available under some conditions; for example, the “Selection\Tools” tab, when there are selected items.

Different groups in a tab can be found under its normal display (expanded, all icons and functions of the group are visible on the screen) or compressed (a single symbol appears to dropdown the group), depending on the size of the application window and the space available for the components of the ribbon. The expansion or compression of the groups is fully automatic when the application window is resized.



Spatial Manager Desktop™ Ribbon Groups display

The ribbon can be set as self-retractable by double-clicking over any of the tab titles, to expand the space of the application window dedicated to workspaces or the application panels. In this mode, selecting the title of a tab will expand it to show all functions in the tab and will automatically retract it when you select a function. To expand them back again, just double-click over these same tab titles.



Spatial Manager Desktop™ self-retractable Ribbon

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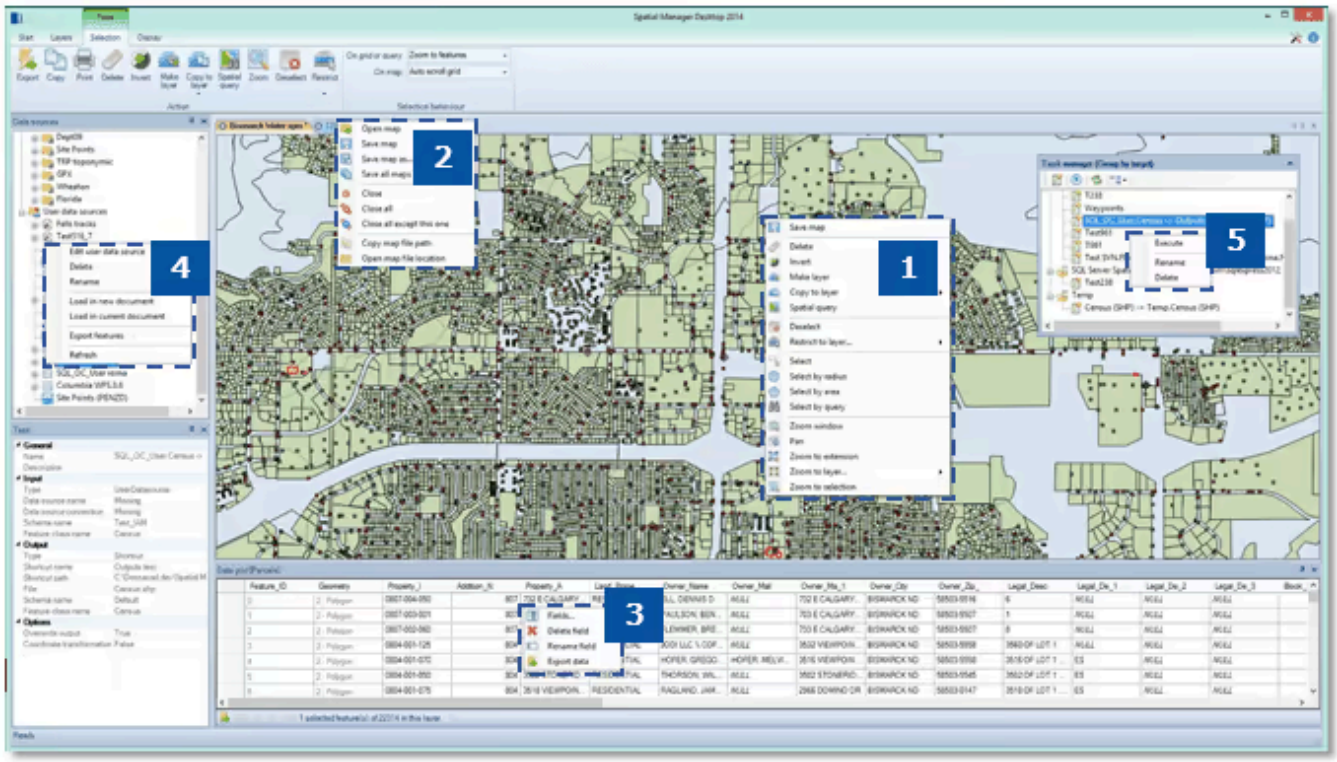
Menus

Contextual menus (mouse right-click)



Spatial Manager Desktop™ Contextual menus

1. Workspace.
2. Workspaces tabs.
3. Data grid panel.
4. Data sources panel. Content varies depending on the selected data source.
5. Task manager panel (“Professional” edition only).

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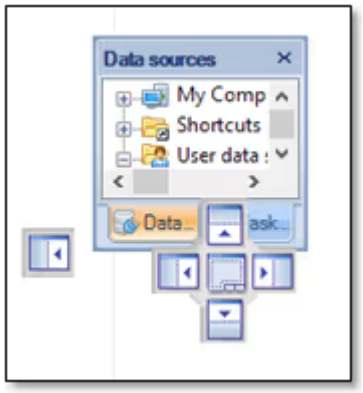
Panels

The different panels of the application (Data grid, Properties, Data sources, and Task manager — “Professional” edition only) can be arranged, docked, undocked, grouped, self-collapsed, etc., and resized, depending on the preferences and needs of each user or each job, by dragging their title bar, using the absolute or relative position arrows, double-clicking on their title bar, etc.



Spatial Manager Desktop™ Panels

These panels can also be closed. To reopen a closed panel, use the “Display” tab on the ribbon.

To quickly restore the default panel layout of the application, use the “Restore position” function from the “Display” tab on the ribbon (the application must be restarted).

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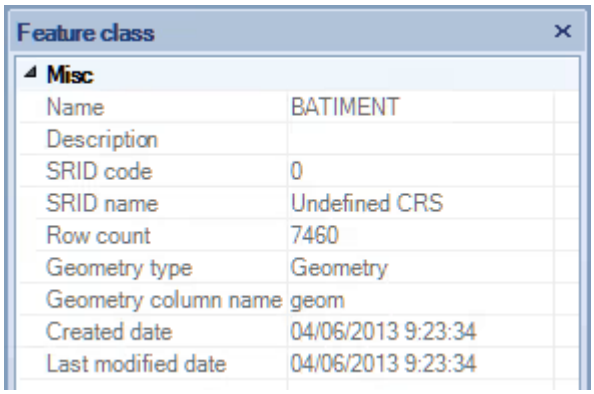
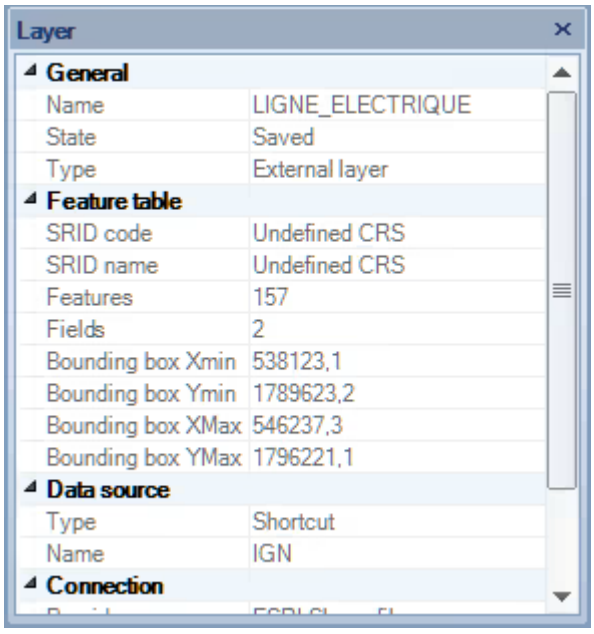
Properties

Properties panel

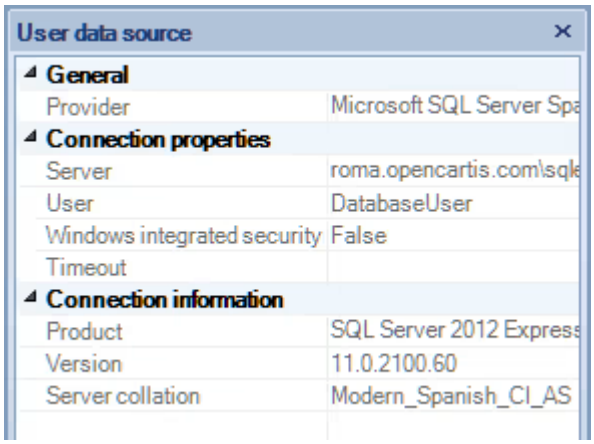
When the Properties panel is open, you will see all information about items such as Data Sources, Data Tables, Layers, Maps, etc., depending on the current focus of the application. The next images show you some samples of the Properties panel in Spatial Manager Desktop™.



Spatial Manager Desktop™ Features class Properties



Spatial Manager Desktop™ Layer Properties



Spatial Manager Desktop™ User Data Source Properties

In the Properties panel, by placing the cursor over any data, if CTRL + C (standard combination for "Copy") is pressed, the corresponding data goes to the Windows clipboard and can be exploited within the same application or any other, using "Paste" or by pressing CTRL + V.

If any data is not fully visible due to the width of the Properties panel, a tooltip will display by keeping the cursor over this data.

You can edit here the field values of the Feature Classes, as well as you can do in the "Data grid" panel.

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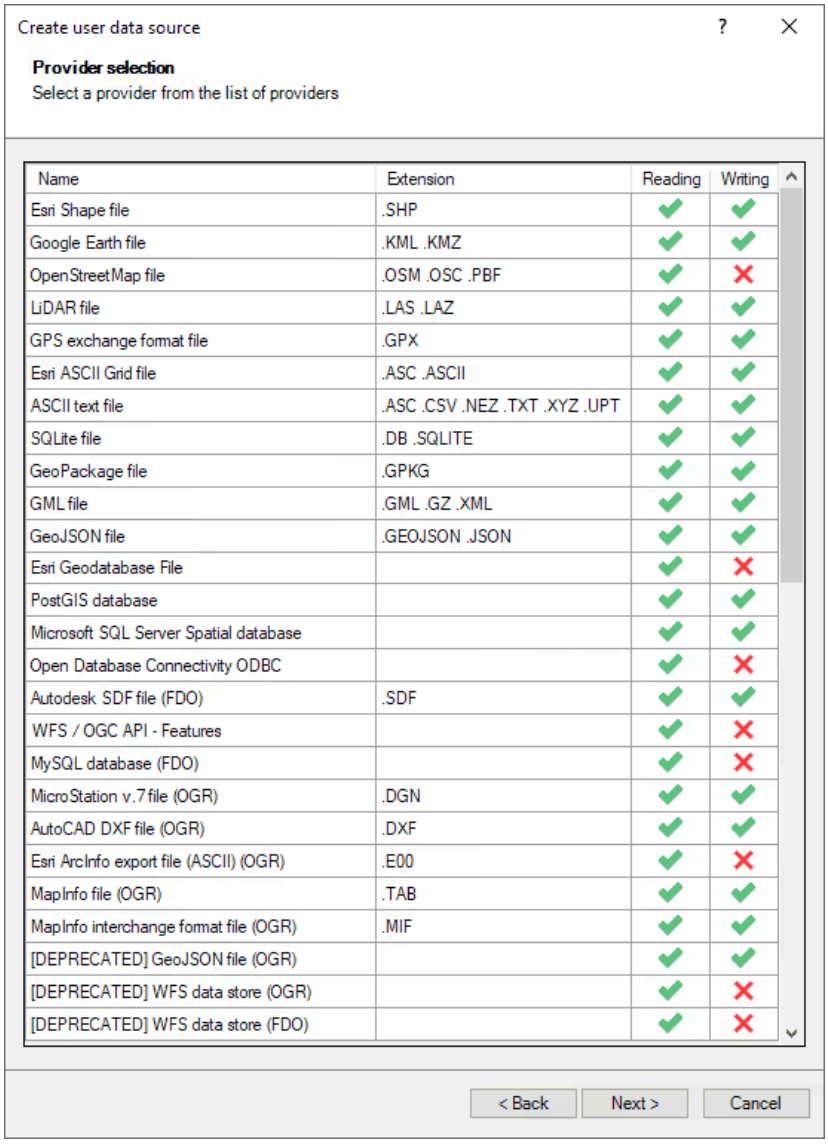
Wizards

The wizards are the interface layout chosen for the main Spatial Manager Desktop™ functions (“Create User Data Source” and “Export/Import/Create task”). Using them you can go forward and backward through the options or parameters needed to complete a function or process.

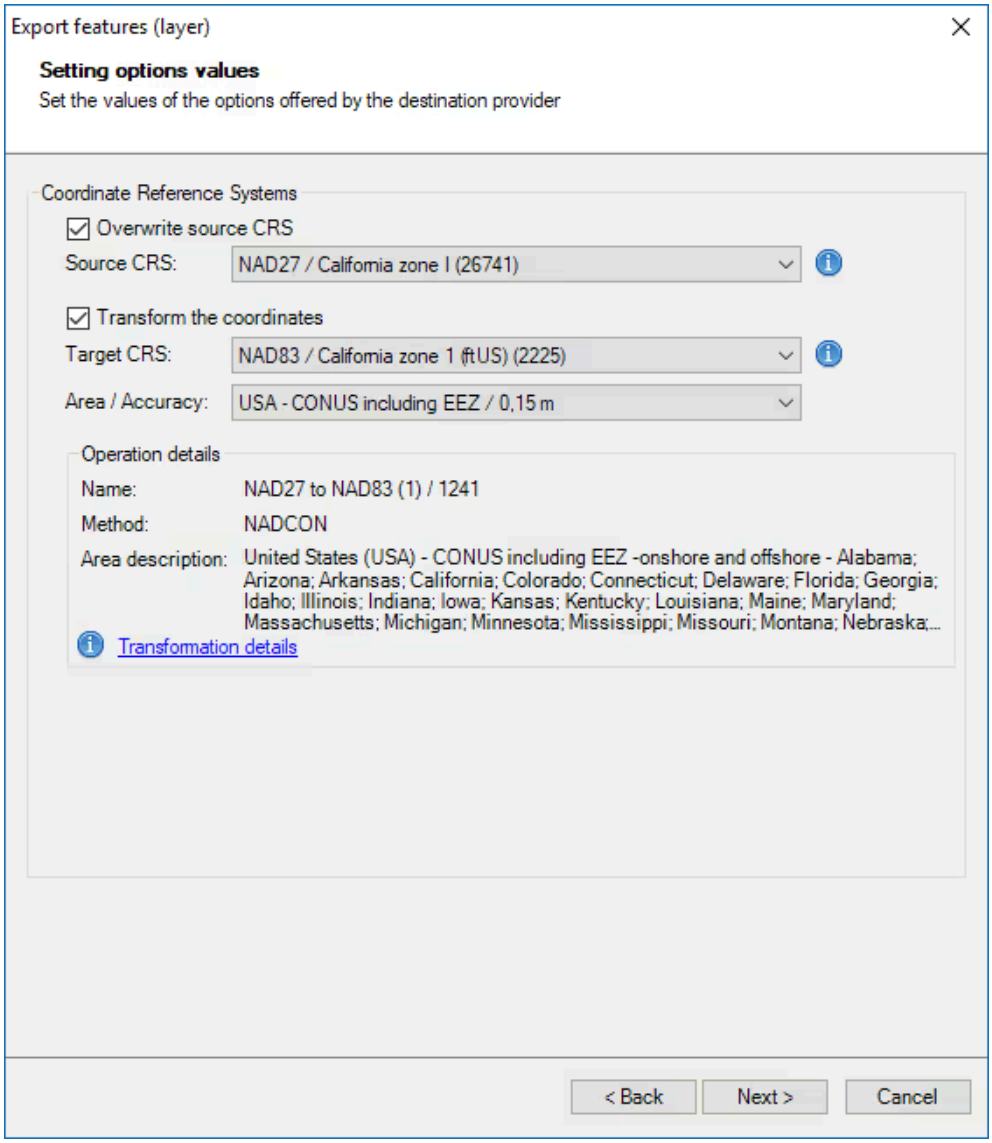
Selecting a data provider in the “Create User Data Source” Wizard

Available on editions Standard Professional



Spatial Manager Desktop™ 'Create User Data Source' Wizard

Setting up some options (coordinate transformation parameters) in the "Export features (table)" Wizard



Spatial Manager Desktop™ 'Export features (table)' Wizard

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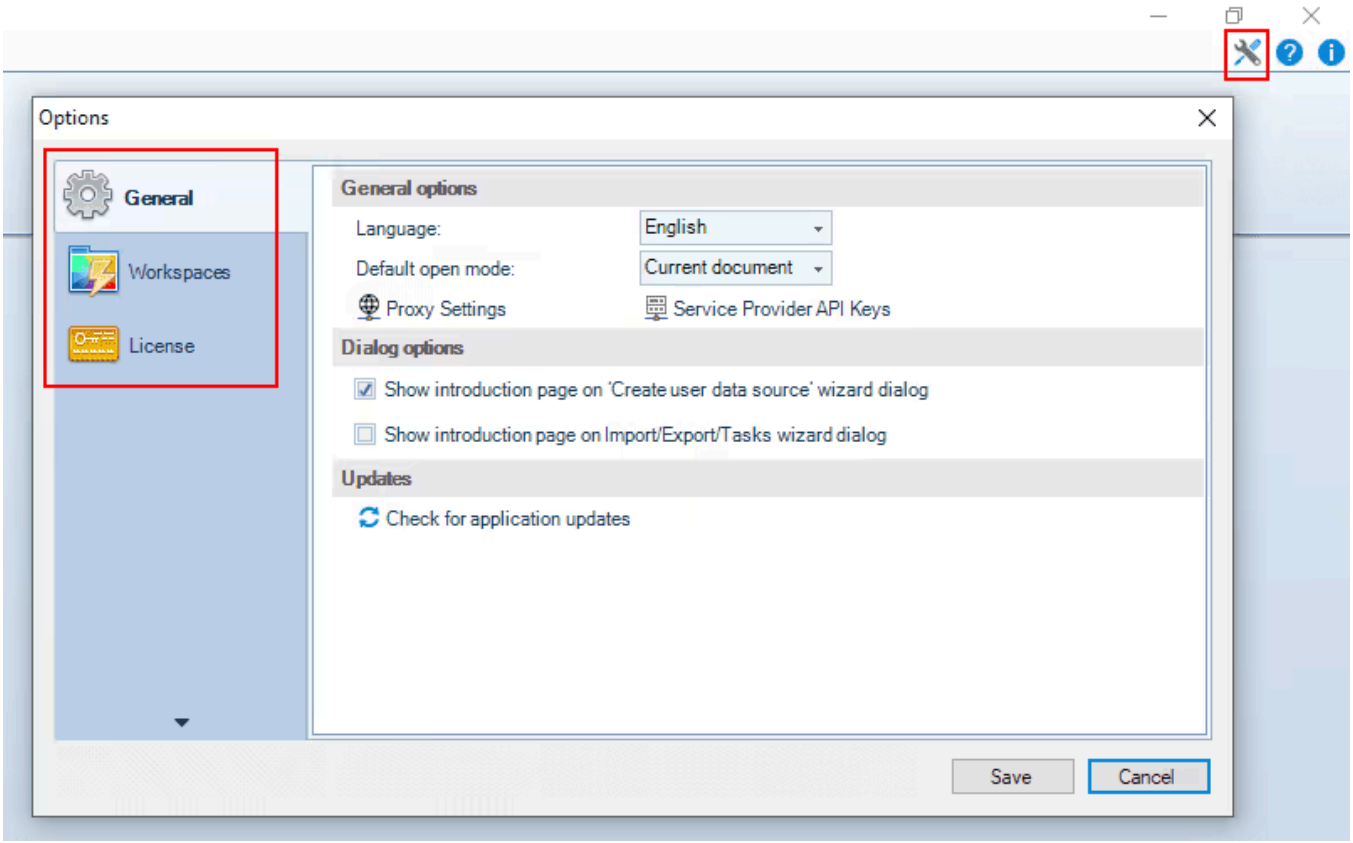
Options

You can change the options and the user preferences of Spatial Manager Desktop™ through the "Options" window. This window includes three tabs ("General", "Workspaces", and "License") to access the options or preferences of the application and also setup shortcuts.



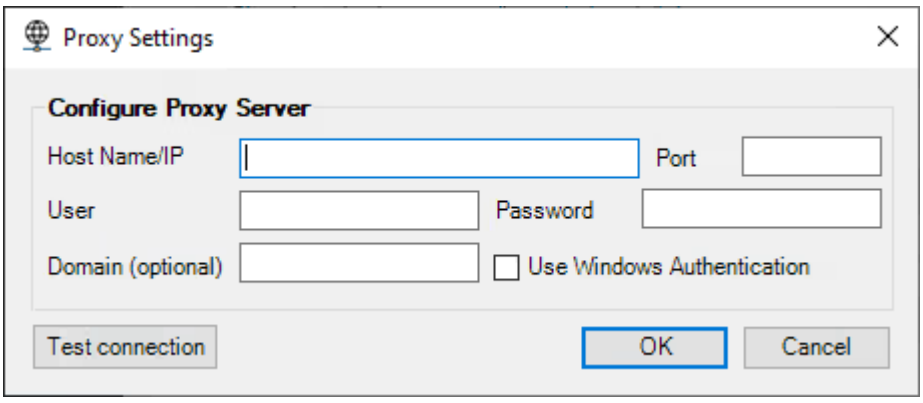
Spatial Manager Desktop™ Options ('General' tab)

- **General**
  - General options
    - Language: You can select the interface language for the application (read the Note below) between the available languages.
      - English.
      - French - Français.
      - German - Deutsch.
      - Portuguese - Português.
      - Spanish - Español.
    - Note: The setup application, as well as technical documents (this documentation, blog posts, etc.), are only available in English. Marketing documents (website, etc.) may not be available in all of the above languages.

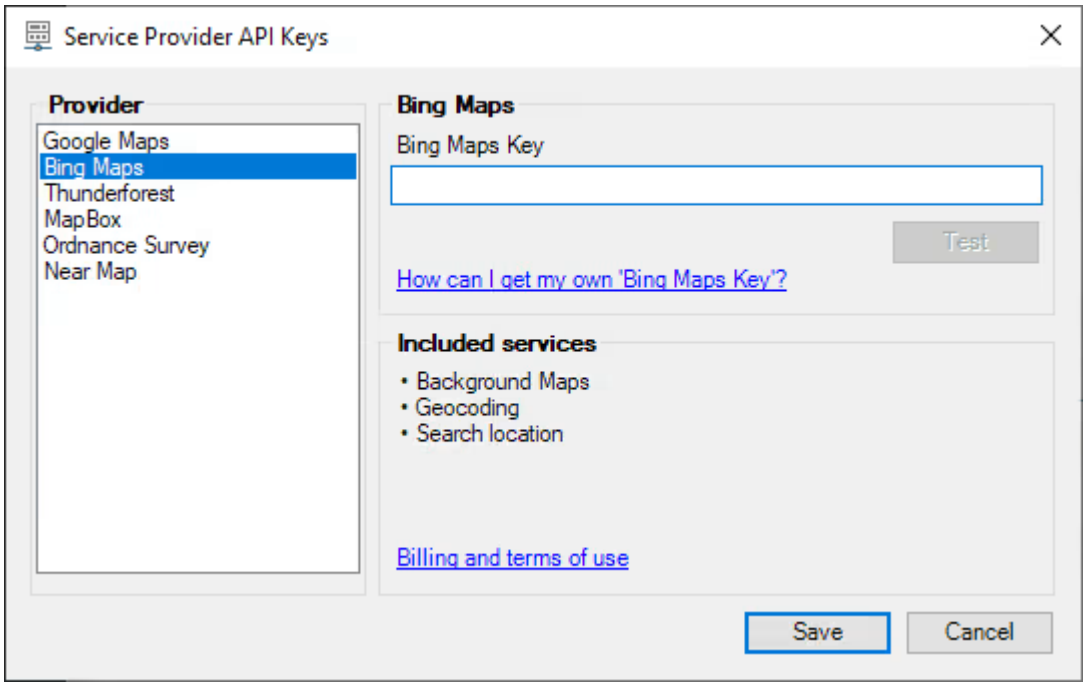
        - Default open mode: You can select if an upcoming table from a data source will be opened in the current document or in a new document when double-clicking on the table in the Data Sources panel.
        - Proxy Settings: read below .
        - Service Provider API Keys: Some Service Providers (Bing, Google, etc.) may require a user account for some or all of their services Geocoding , Background Maps , Search Locations , etc. Many of the provider accounts are completely free of charge or include a sufficient number of queries for most users at no charge. Anyway, if a certain provider requires an API Key for a certain service, in this options window you can review how to get the API Key, enter it, check its validity, and examine which services of each provider may require an API Key.
    - Dialog options
        - Show introduction page on 'Create user data source' wizard dialog ("Standard" and "Professional" editions only).
        - Show introduction page on Import/Export/Tasks wizard dialog.
    - Updates
        - Check for application updates: Although by default the application will check for updates automatically, you can click here to check for new application updates whenever you want.
- **Workspaces**
    - Rendering options, see Maps , layers , and views .
    - Selection behavior, see selecting and filtering .
- **License**, see Licenses .

Proxy Settings

If you are accessing the Internet through a Proxy server, you can configure the Proxy access parameters here. There are several processes in the application in which it is necessary to access the Internet from the application itself (Background Maps, license activation, etc.). If you find problems accessing the Internet in any of these processes, ask your network administrator if it is being accessed through a proxy server and what the connection parameters are.



Proxy Settings window



Service Provider API Keys window

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Sample files

You can find a small set of sample files, which you can use for your own tests, located inside the folder "Common\Samples" (a subfolder of your application main installation folder).

- Expand the "Sample data" shortcut to access the sample files (grouped by format).
- Right-click over any file to import the spatial information into the current map or into a new map.
- Use the default parameters in all wizard steps.
- Check the imported objects.
- Import more files into the same map or into new maps while choosing different import options.
- Try to import other kinds of spatial files such as Google Earth KML, GPS/GPX, SQLite, or XYZ point files.

The Sample data folder (and subfolders) is a read-only folder, so select another folder when trying to write data through export processes, etc.

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Main features

General

- Quickly stylize and manage maps.
- Drag and drop spatial data to the maps.
- Dynamic background image maps from Google Maps, Azure Maps, Bing, OpenStreetMap, Mapbox, Ordnance Survey, NearMap, etc.
- Configurable user maps. XYZ / TMS, WMTS, and WMS compatible. WMS multi-layer maps.
- Export/Import user background maps.
- Smart systems for map opening.
- Select and filter spatial features.
- Alphanumeric queries.
- Transformation of coordinates.
- Export information to use in office or CAD apps.
- Printing of maps or selected features.
- Properties panel viewer.
- Query your spatial data (“Standard” and “Professional” editions only).
- Export the current status of the map to Google Earth (one click) (“Standard” and “Professional” editions only).
- Search the location of geographic objects (“Professional” edition only).
- Geo-coding postal addresses (Direct and Reverse) (“Professional” edition only).

Layer management

- Make new layers from selections or queries.
- Project layers in maps.
- Separate layers into new layers.
- External and internal layers.
- Disconnect layers from external sources.
- Copy features to layers.

Data sources

- Manage your own shortcuts.
- Access to spatial data files (SHP, GPX, KML/KMZ, OSM, PBF, LAS/LAZ, GPKG, CSV, TXT, ASC, XYZ, MIF/MID, TAB, E00, SQLite, SDF, GML, XML, etc.).

- Manage your user data sources (“Standard” and “Professional” editions only).
- Access to spatial database servers (SQL Server, PostGIS, etc.) (“Standard” and “Professional” editions only).
- Access to other connections (WFS, ODBC points or WKB – Excel, Access, dBase, etc. –, etc.) (“Standard” and “Professional” editions only).
- See current available Data Providers .

Edition

- Find and replace data (“Standard” and “Professional” editions only).
- Edit alphanumeric data (“Standard” and “Professional” editions only).
- Multiple data edition (“Standard” and “Professional” editions only).
- Fields data calculator (“Professional” edition only).
- Remove unwanted features (“Standard” and “Professional” editions only).
- Save modified layers or new layers (“Standard” and “Professional” editions only).
- Process GIS analytical operations (“Professional” edition only).
  - Buffers.
  - Overlays.
  - Dissolve.
  - Create centroids.
  - Areas of influence (Voronoi diagrams).

Task & Processes

- Import and export processes.
- Automate processes using tasks (“Professional” edition only).
- Run tasks in the OS command window (“Professional” edition only).

To get an overview of the application, please watch this video.:

> **VIDEO AVAILABLE**
>
> Watch video on YouTube

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Just a few sample scenarios:

- Why is Spatial Manager software so practical? (Part 1).
- Why is Spatial Manager software so practical? (Part 2).
- Why is Spatial Manager software so practical? (Part 3).

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Uninstall

Uninstall ‘Spatial Manager Desktop™’ in Windows XP

- Close all CAD windows.
- Go to the **Control panel**.
- Click **Add or Remove Programs**.
- Double-click **Spatial Manager Desktop™**.
- Click **Remove**.
- Click **Uninstall** in the application dialog.

Uninstall ‘Spatial Manager Desktop™’ in Windows Vista / Windows 7 / Windows 8 / Windows 10 (first versions)

- Close all CAD windows.
- Go to the **Control panel**.
- Click **Programs and Features**.
- Double-click **Spatial Manager Desktop™**.
- Click **Uninstall** in the application dialog.

Uninstall ‘Spatial Manager Desktop™’ in Windows 10 (latest versions) and Windows 11

- Close all CAD windows.
- Go to the **Settings**.
- Click **Apps**.
- Click **Apps & features**.
- Click **Spatial Manager Desktop™**.
- Click **Uninstall**.
- Click **Uninstall** in the confirmation dialog.
- Click **Uninstall** in the application dialog.

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Guide

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Import Export

Read and write spatial data using a wide range of file formats and spatial servers.

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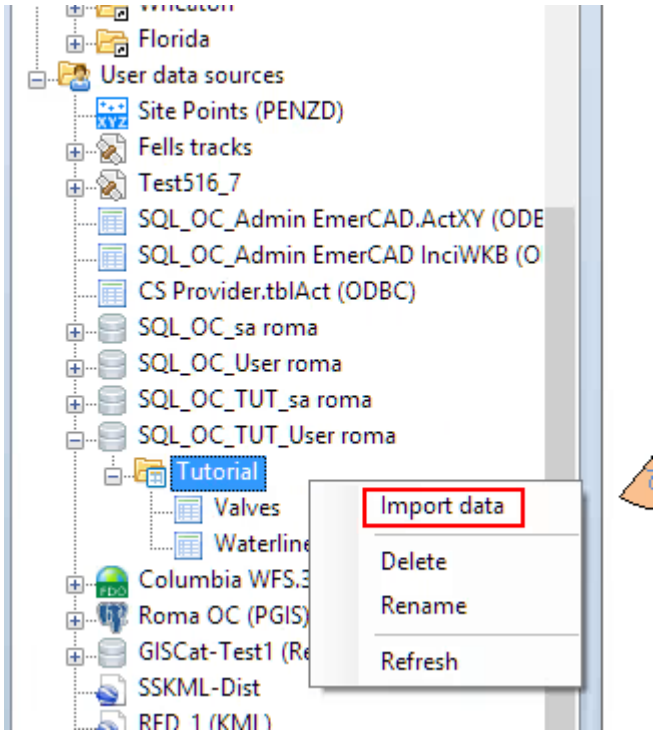
Import

Read and write spatial data using a wide range of file formats and spatial servers.

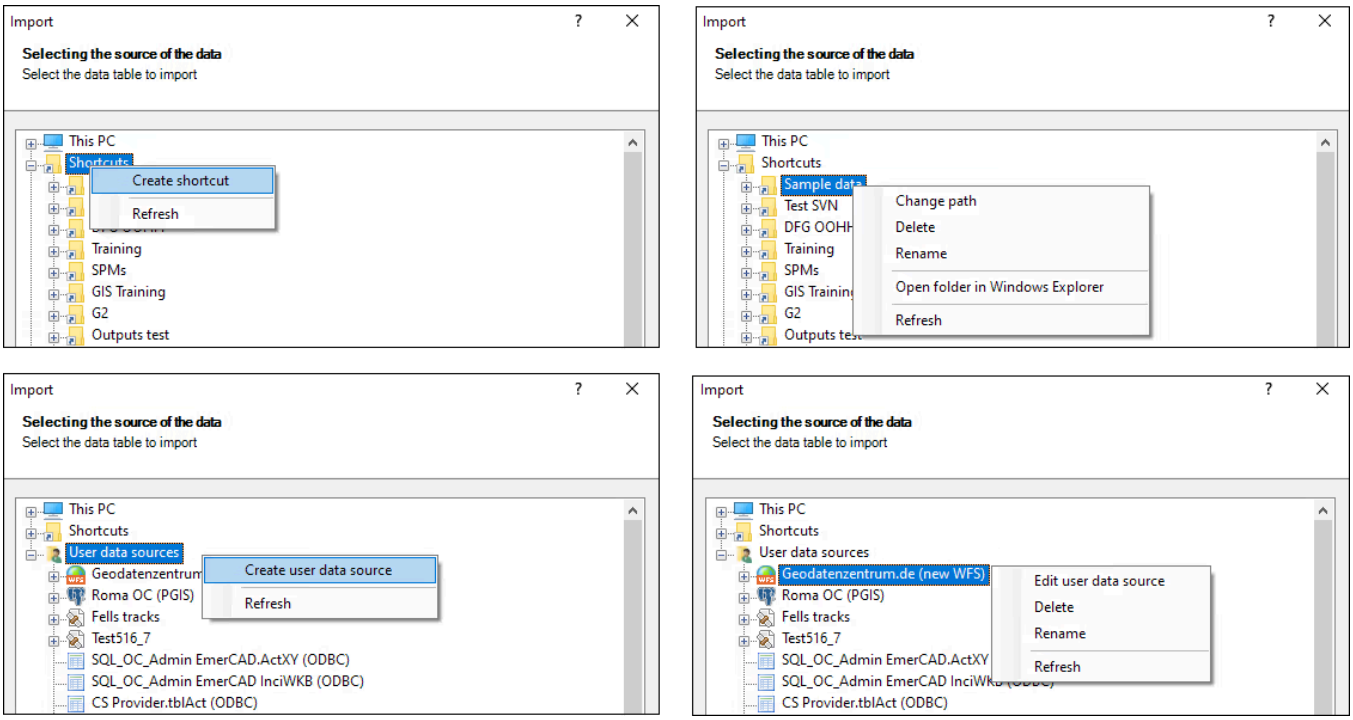
Import Features

You can import Features in Spatial Manager Desktop™ by right-clicking on a container (usually a Schema) of Tables in the "Data sources" panel. The import process is similar to any export process but, in this case, the target for the process is known and you have to first choose the source data to import.



Importing to a selected data container

Note: Although the Data sources panel is the primary tool to manage resources and accesses, create/edit Shortcuts and User Data Sources (UDS) , and other related functions, the context menus (right-click) in this Import window will also allow you to execute many of these functions "on the fly", without having to return to the "Data sources" panel.



Contextual options in the Import window

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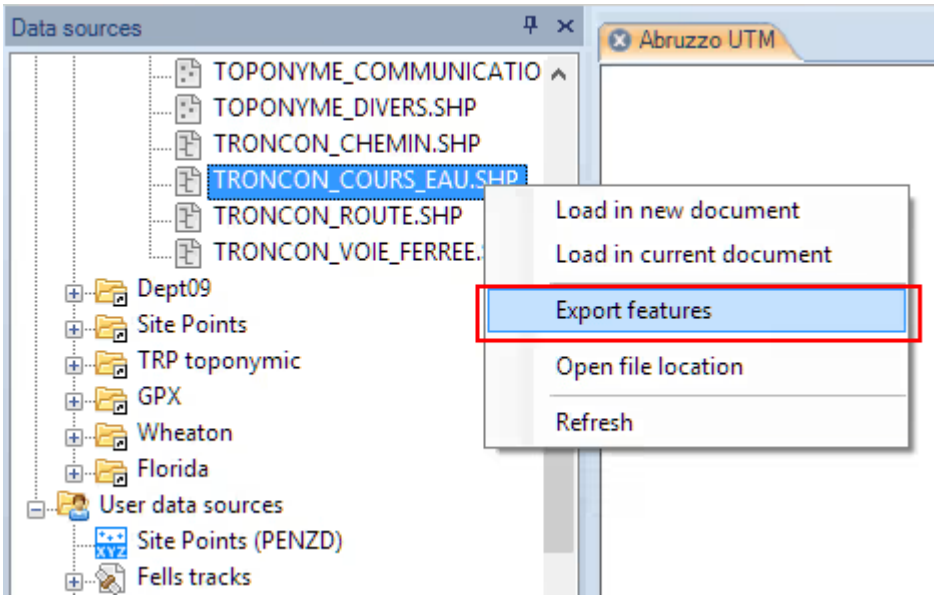
Export

Read and write spatial data using a wide range of file formats and spatial servers.

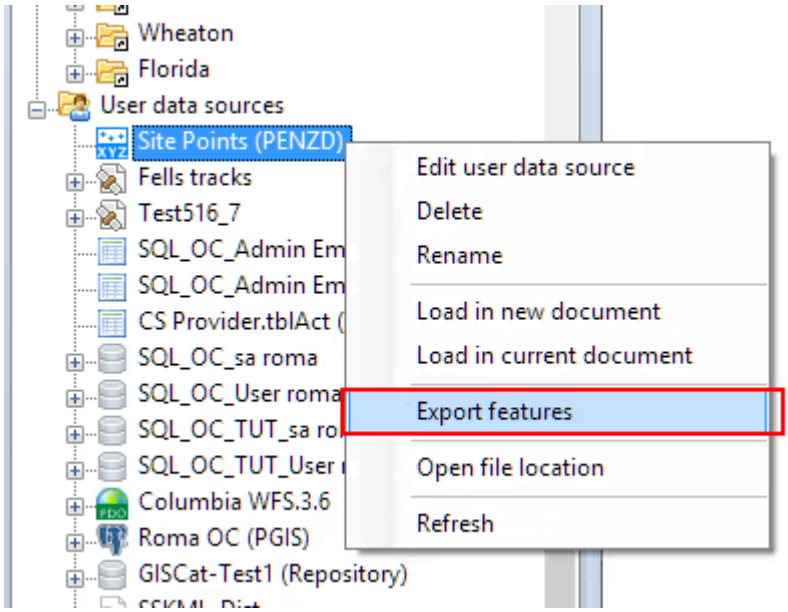
Export Features

There are several ways to export Features and their associated data in Spatial Manager Desktop™.

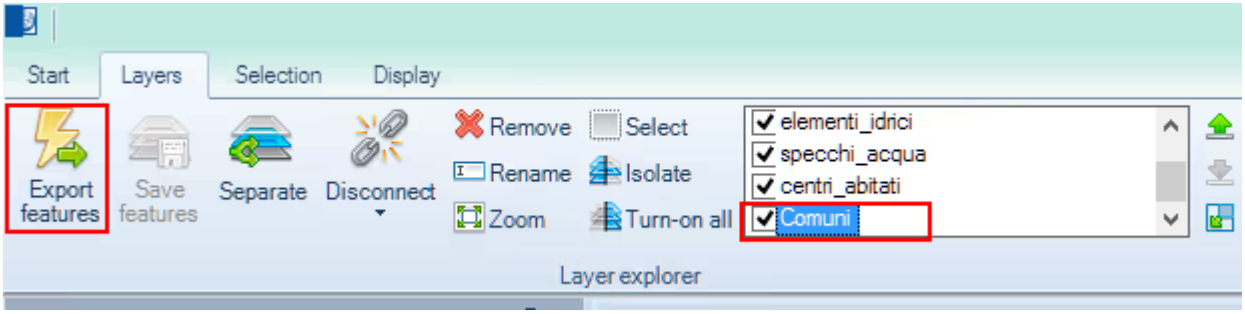
- Export a whole Table: by right-clicking on the Table itself in the "Data sources" panel (drive/folder, Shortcut or UDS - "Standard" and "Professional" editions only).
- Export a Layer in a Map: by selecting the Layer and using the function "Export features" in the "Layers" ribbon.
- Export a Selection of Features in a Map: by selecting the Features in the Map and using the function "Export" in the "Selection\Tools" ribbon.



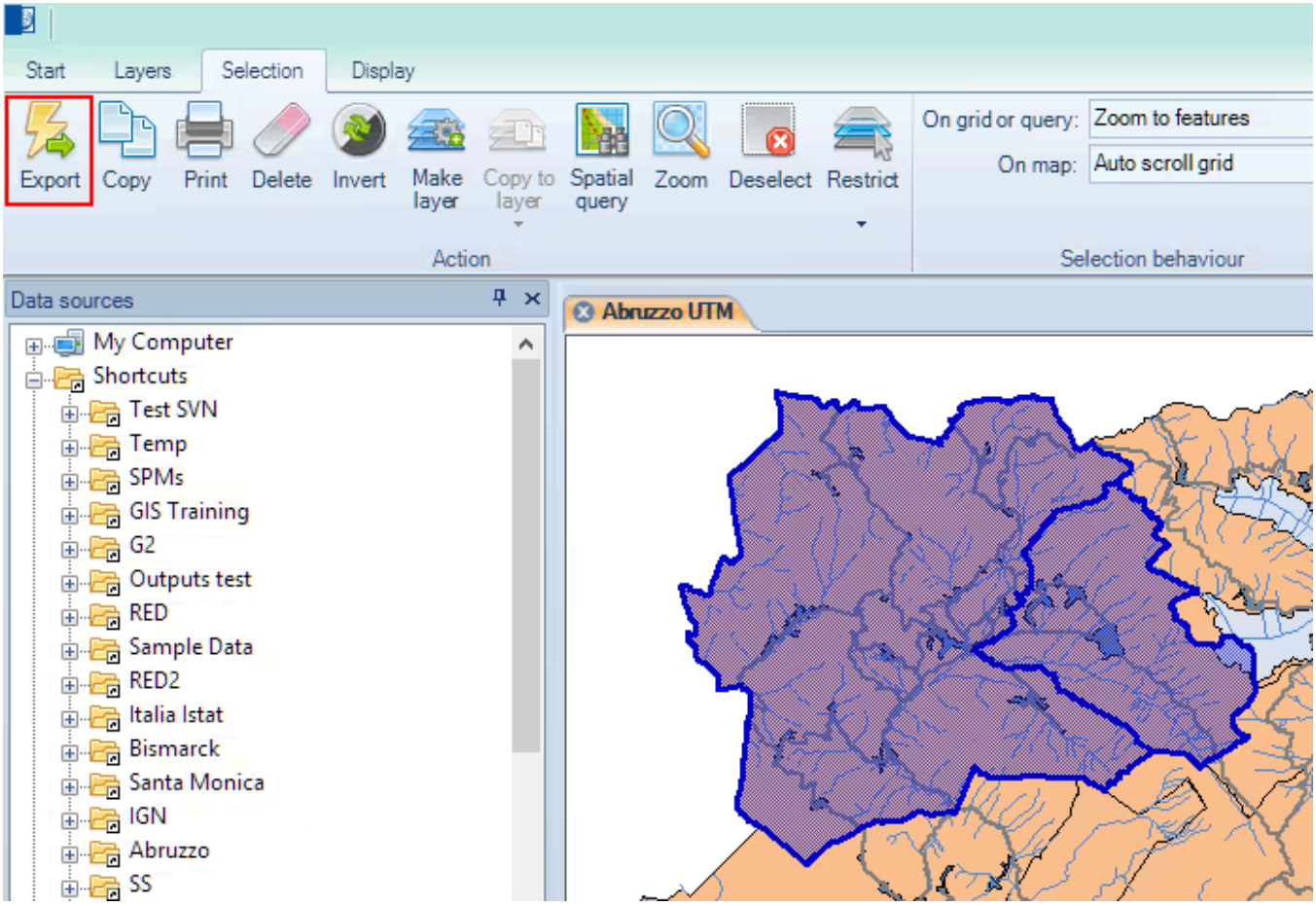
Exporting Features from a File (whole Table)



Exporting Features from a UDS (whole Table)



Exporting Features from Layer (whole Layer)



Exporting the Selected Features

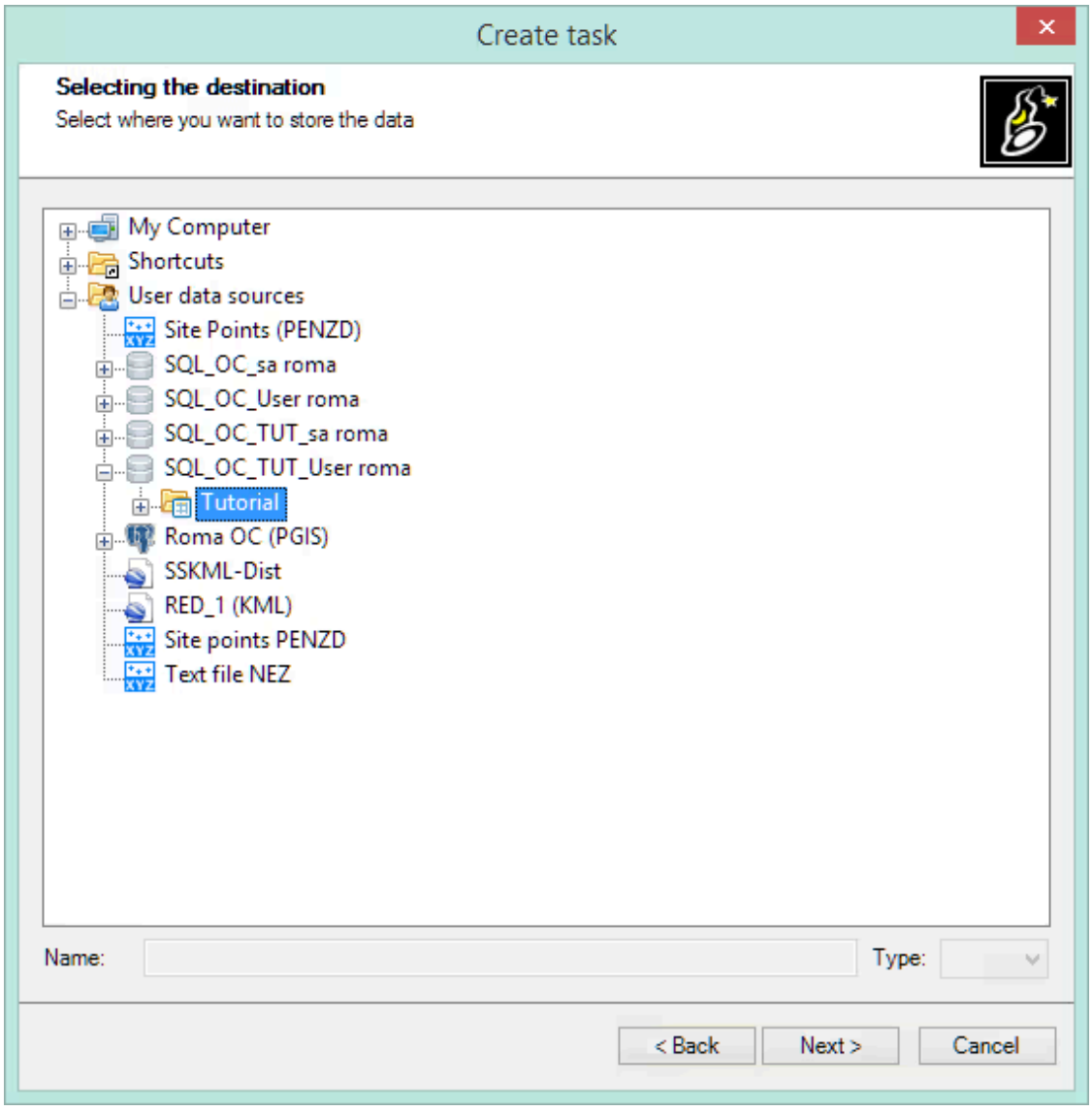
Note: Be aware that, in order to avoid forgetting features, if polygonal features are exported to a polyline-type target, the polygon contours will be exported as polylines.

In all cases the "Export" wizard will be launched to guide you through the steps necessary to export a set of Features.

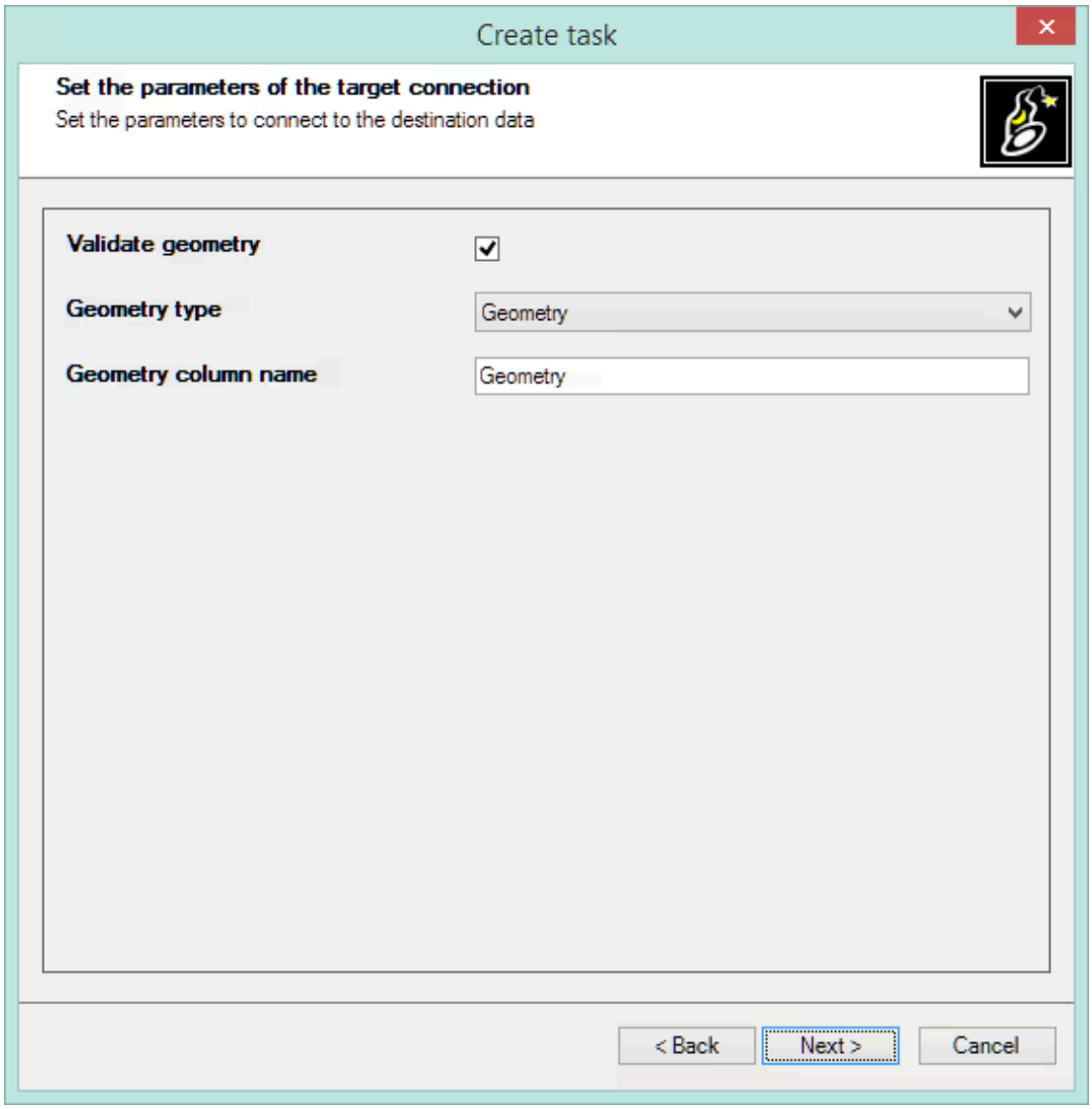
- Set up the parameters of the source connection (if any), which will depend on the data Provider of the source connection.
- Choose the target for the exporting process (this step will also define the target data Provider). You have to choose:
  - A folder, or a Shortcut to a folder. In this case, you must also choose the type of target file by expanding the dropdown list of valid extensions to export.
  - A container for Tables (usually a Schema).
  - A file to replace (directly or through a UDS - "Standard" and "Professional" editions only).
  - A Table to replace (inside a container of Tables; usually a Schema).
- Set up the parameters of the target connection (if any), which will depend on the data Provider of the target connection.
- Choose the options offered by the target connection data Provider, such as Overwrite the target or Transform the coordinates.

- Choose if you want to Run now and/or to Save a Task (except when exporting a Layer or when exporting a Feature Selection) ("Professional" edition only).

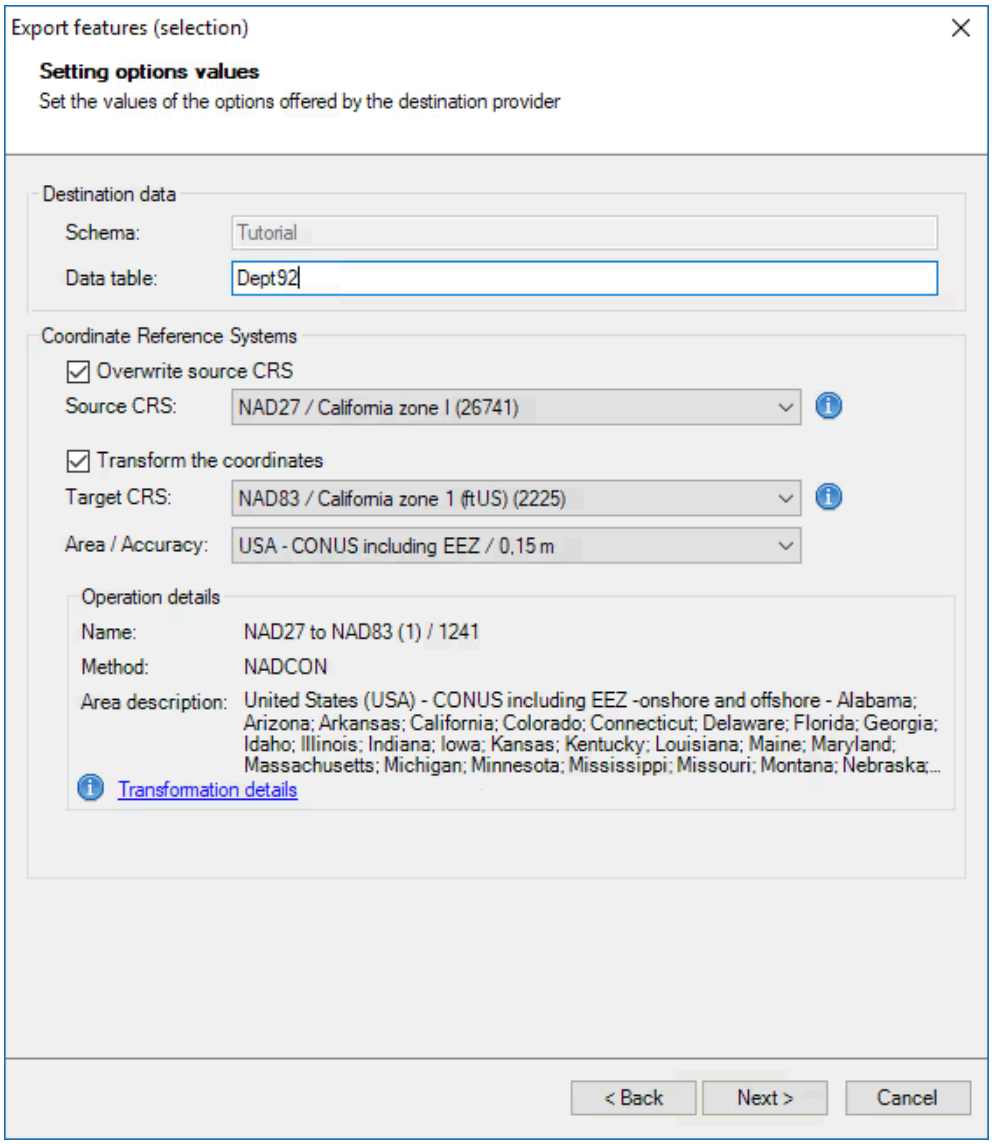
Note 1: Upon completion of any export process to a file you can directly open the file location. Furthermore, if you are exporting to a KML or KMZ file and Google Earth is installed in your computer, you can open it using a button in the Export report window. Note 2 ("Standard" and "Professional" editions only): if the source or the target connection comes from a UDS, some parameters may be "caught" from the UDS itself (depends on the data Provider of the UDS) and you will not need to reenter them.



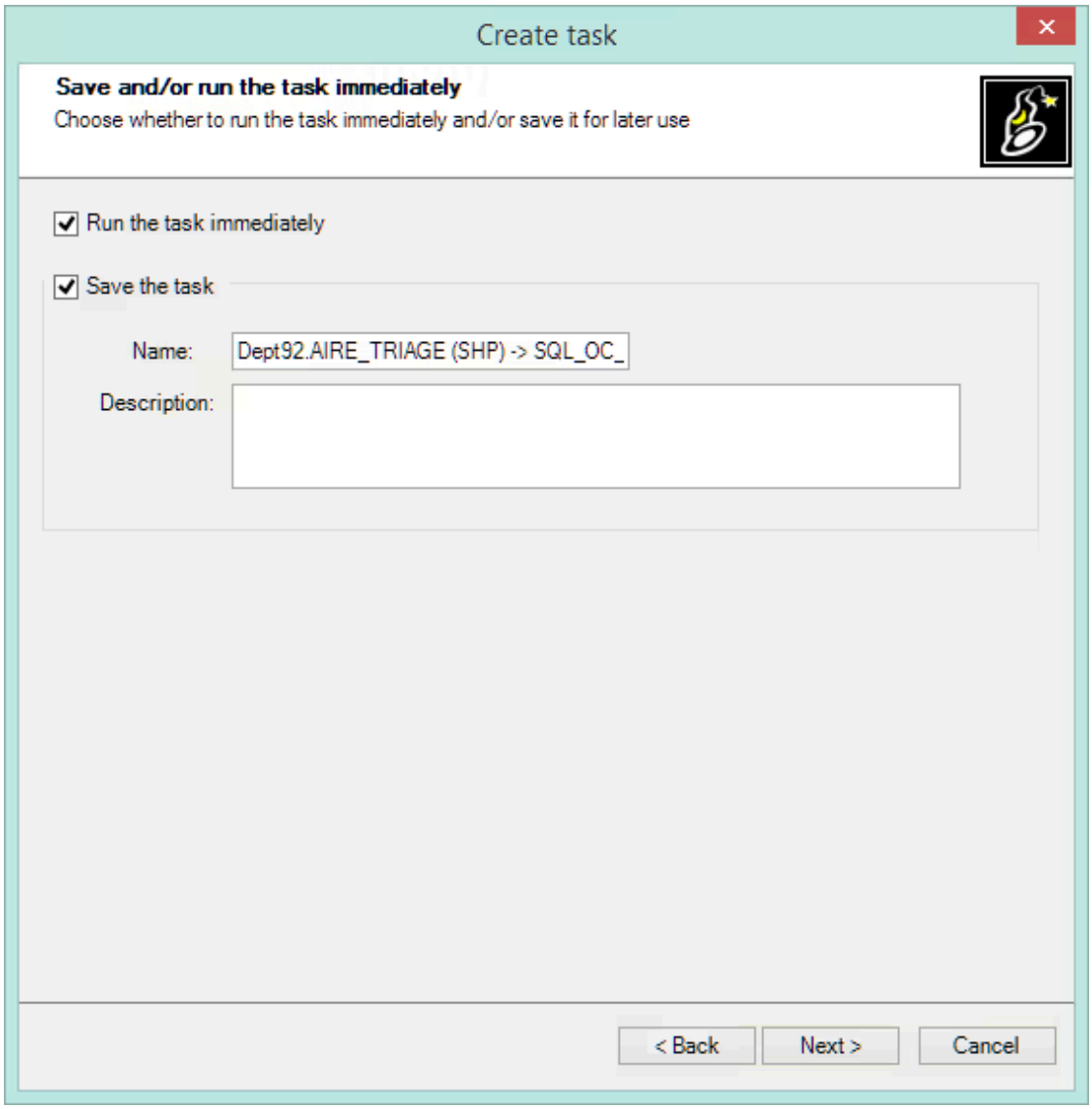
Exporting Wizard - Destination



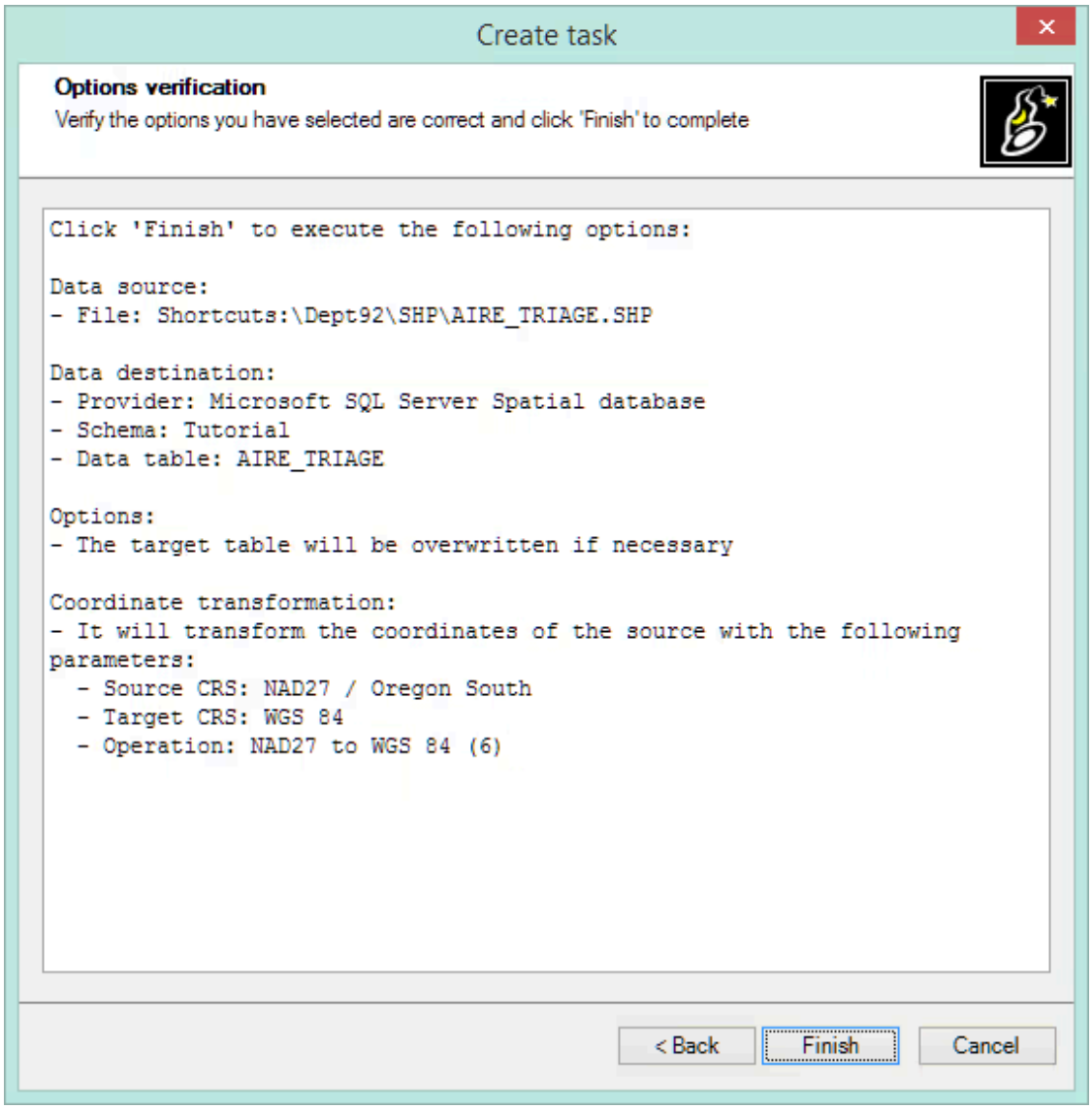
Exporting Wizard - Target parameters



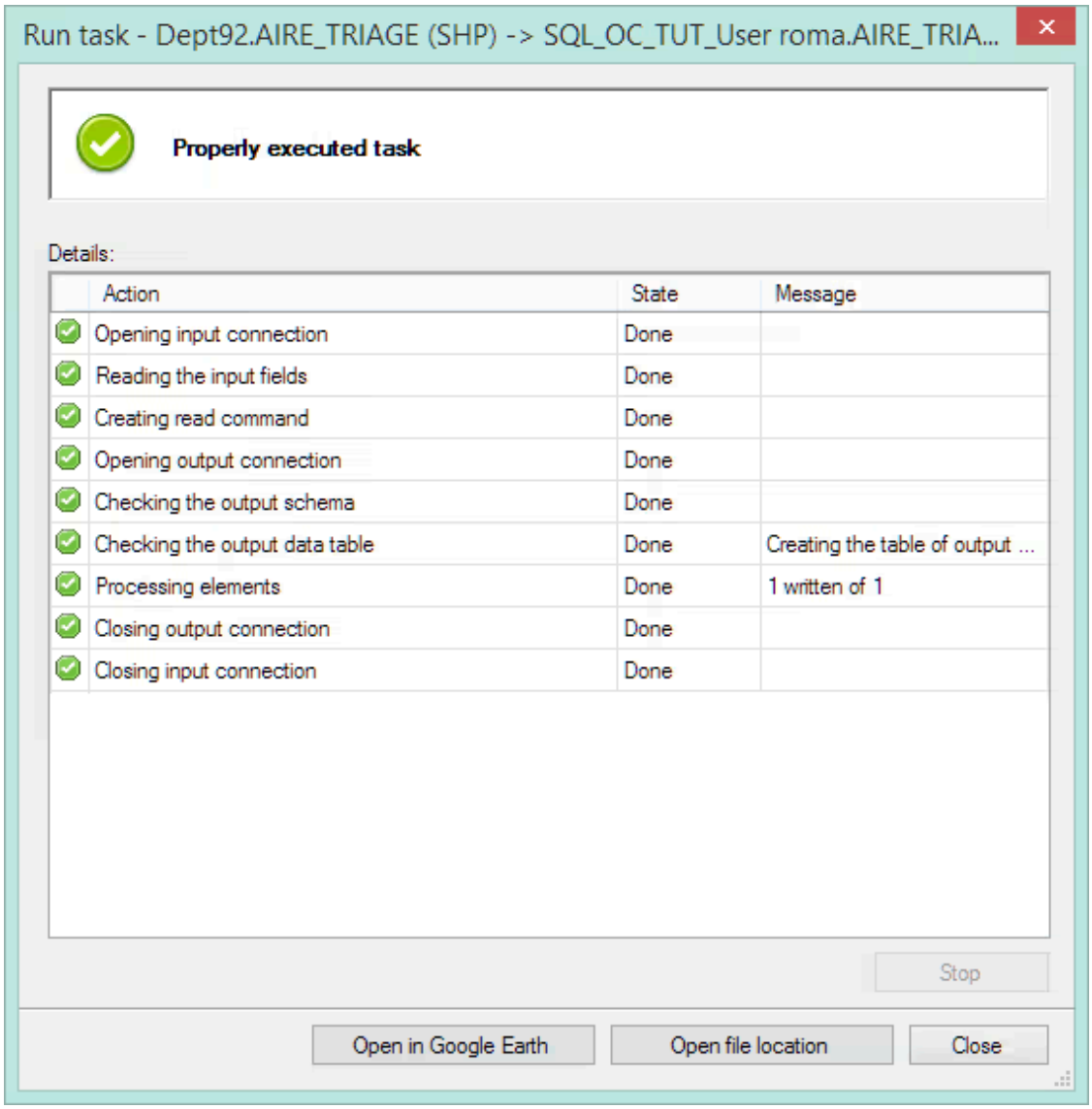
Exporting Wizard - Transformation of Coordinates



Exporting Wizard - Task Name (when saved)

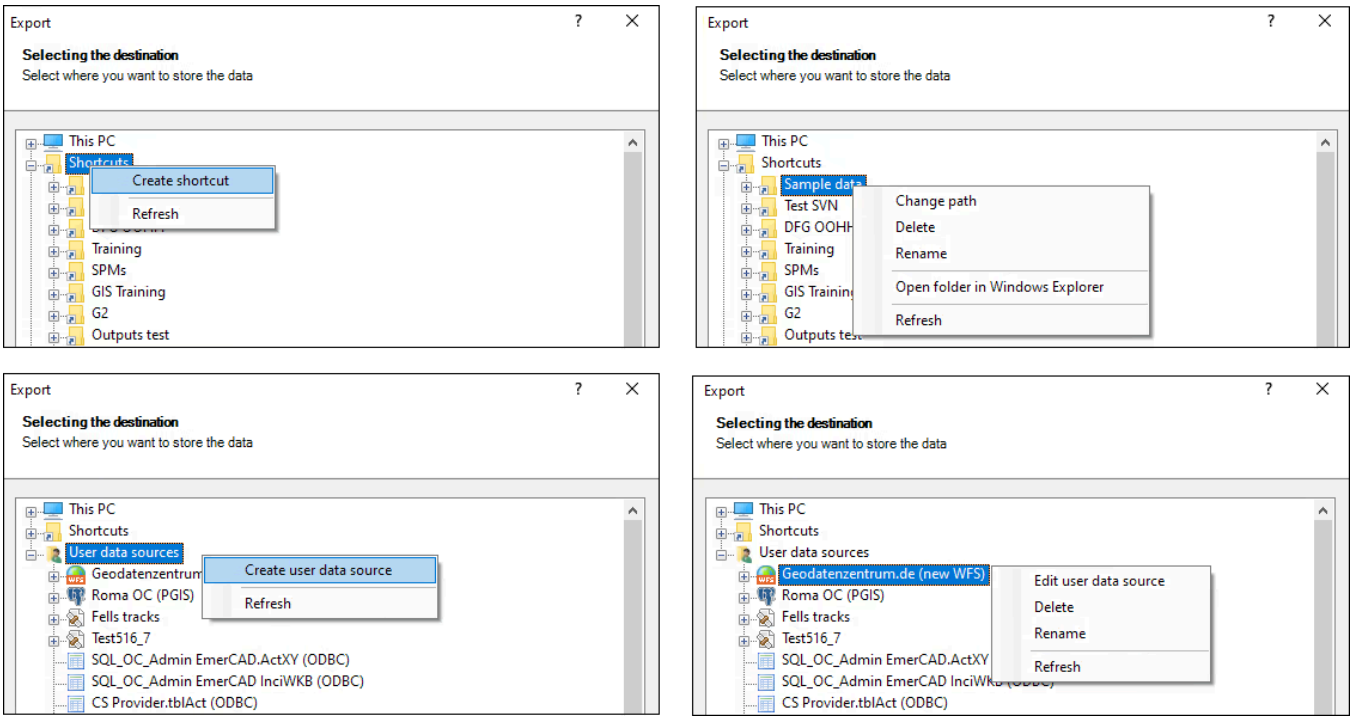


Exporting Wizard - Summary



Exporting Wizard - Execution grid

Note: Although the Data sources panel is the primary tool to manage resources and accesses, create/edit Shortcuts and User Data Sources (UDS) , and other related functions, the context menus (right-click) in this Export window will also allow you to execute many of these functions "on the fly", without having to return to the "Data sources" panel.



Contextual options in the Export window

DOCUMENTATION

To Google Earth

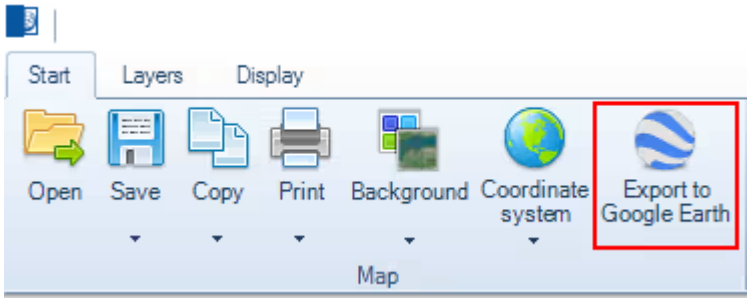
Available on editions

Standard Professional

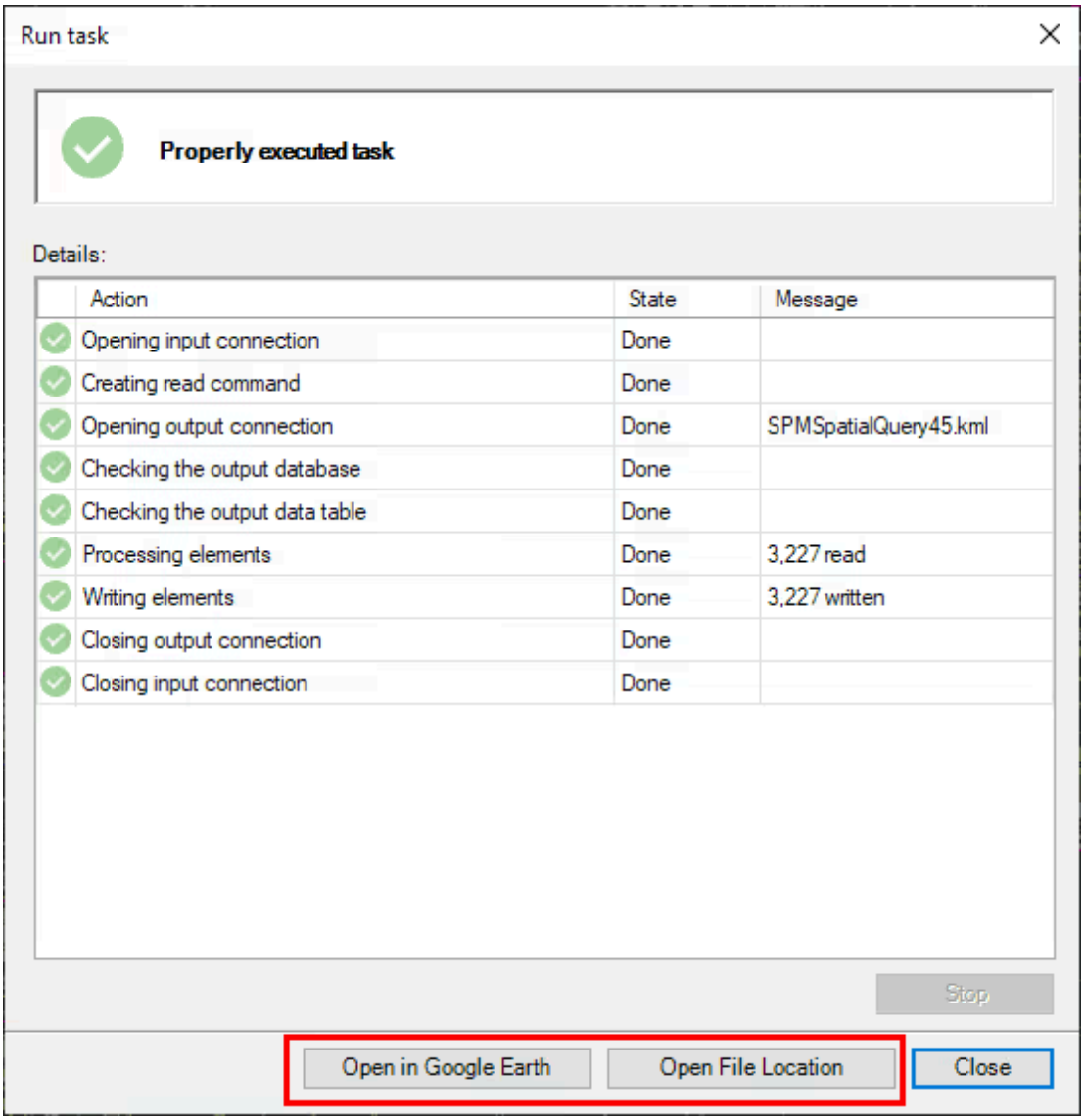
Export all or part of the elements in the visible Layers of the map and their data to a KML or KMZ file.

Export the current Map status (Publish) to Google Earth

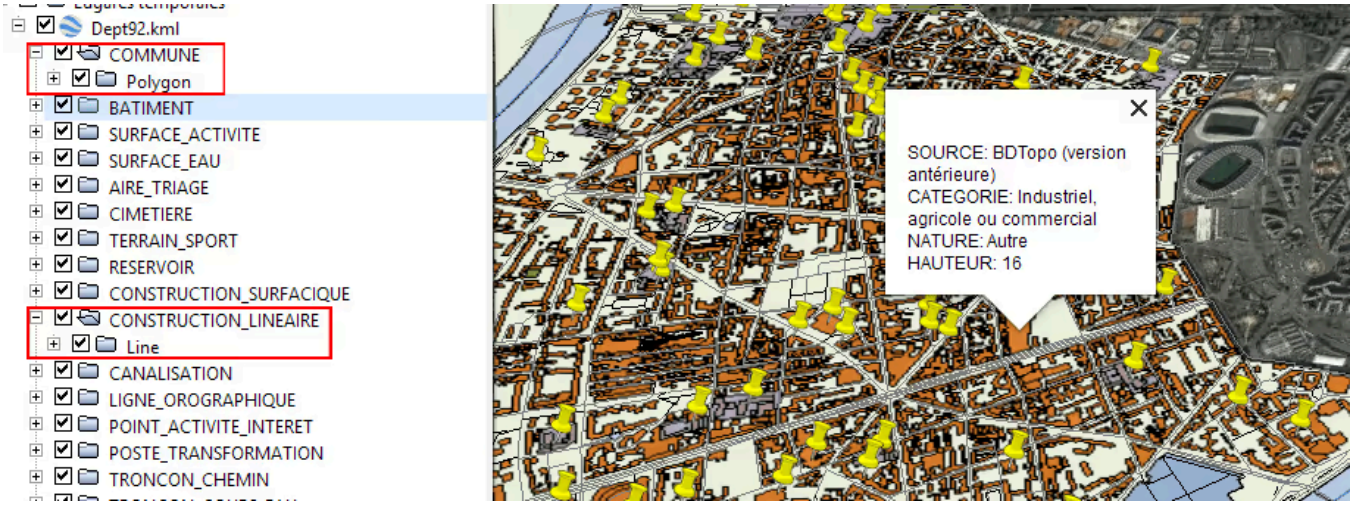
Spatial Manager Desktop™ includes a one-click export to KML/KMZ.



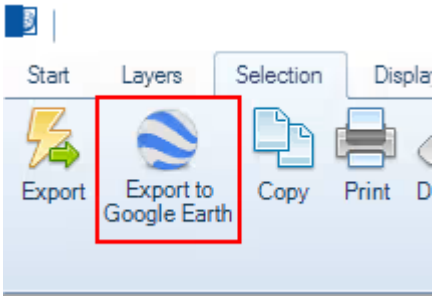
Export to Google Earth (KML/KMZ) button



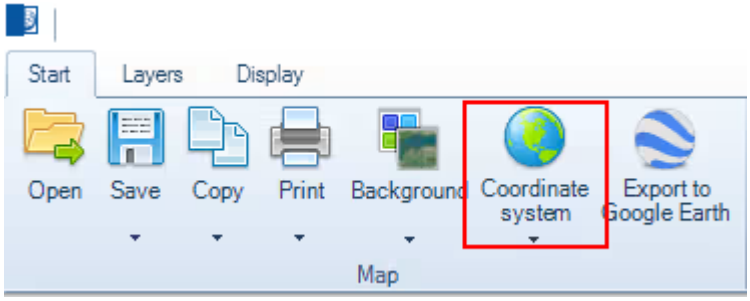
Open file in Google Earth (if installed) or open file location



The file in Google Earth



Export a selection of features to Google Earth (KML/KMZ) button



Assign a CRS to the Map button

DOCUMENTATION

Tasks

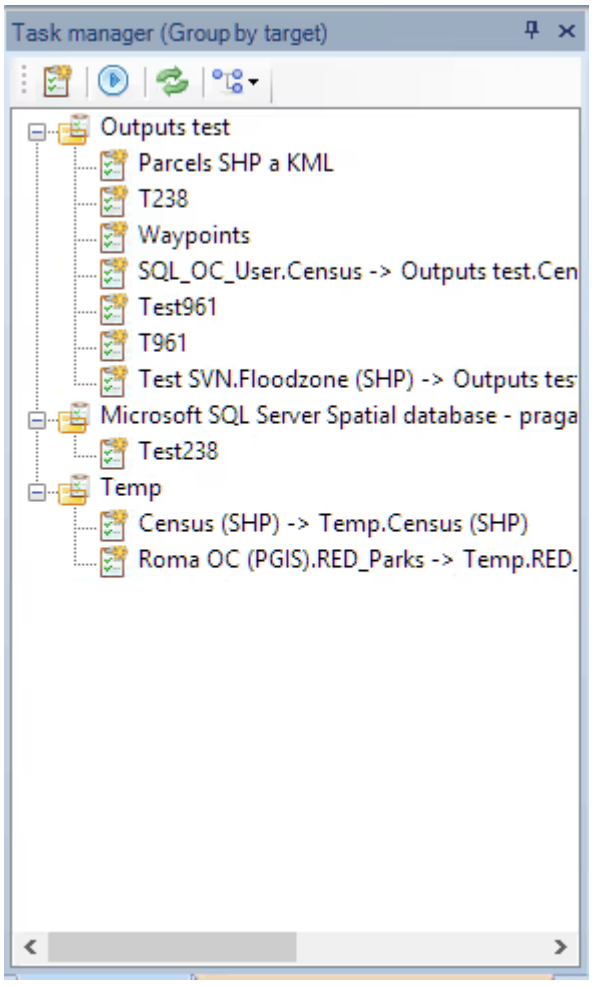
Available on edition

Professional

Spatial Manager Desktop™ includes the ability to save Tasks that make it easy to run repetitive import and export processes.

What are the Tasks

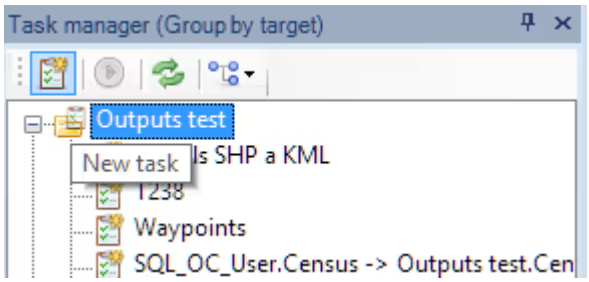
The Tasks in Spatial Manager Desktop™ are the way you can save any import/export process and its parameters, allowing you to run repetitive processes whenever needed.



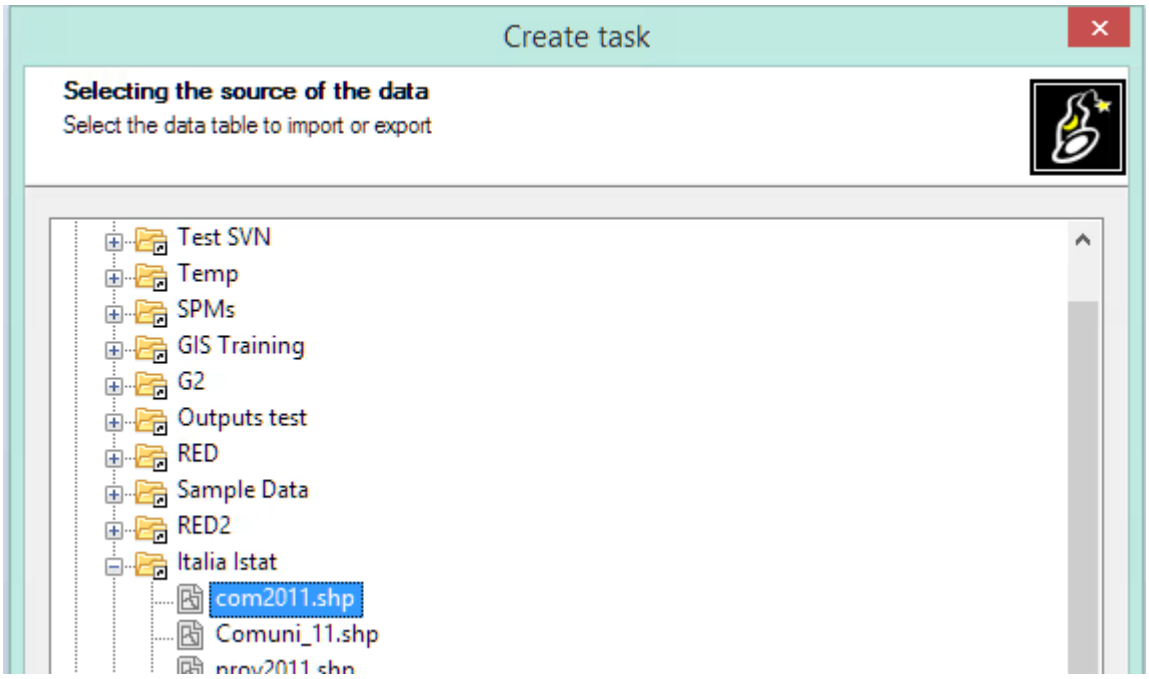
'Task Manager' panel

Create a new Task

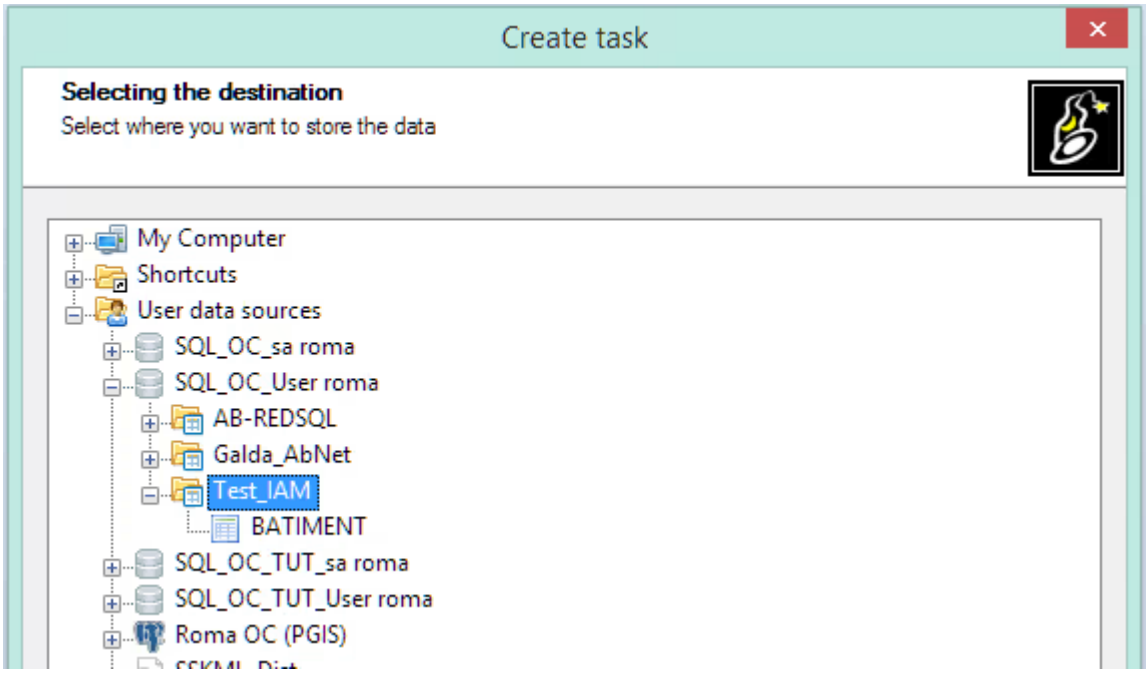
You can create new Tasks using the “New task” button in the “Task manager” panel.



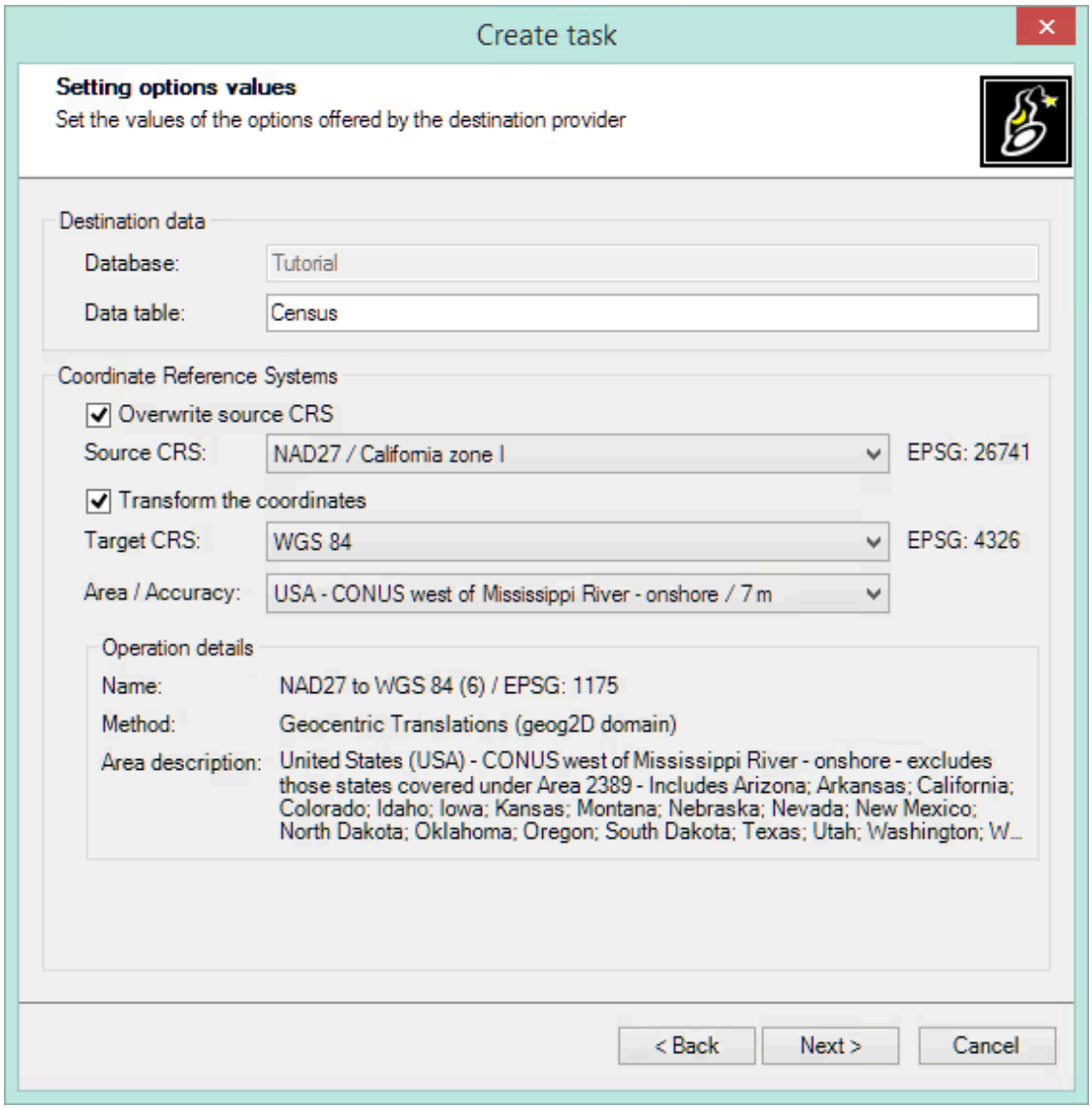
Creating a Task



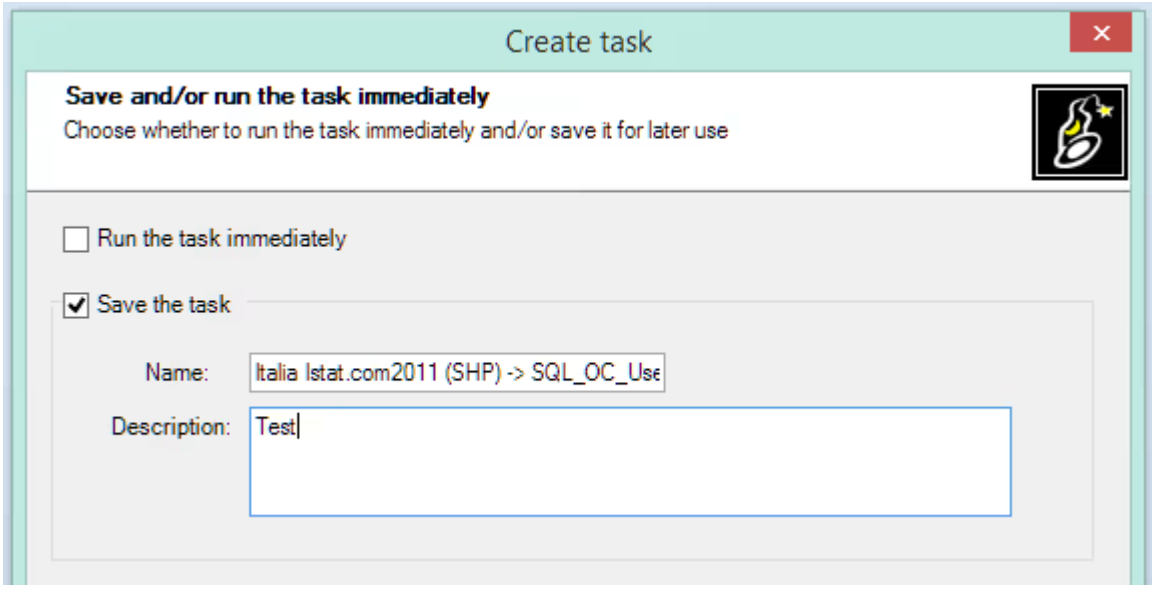
Creating a Task - Source



Creating a Task - Destination



Creating a Task - Transformation of Coordinates

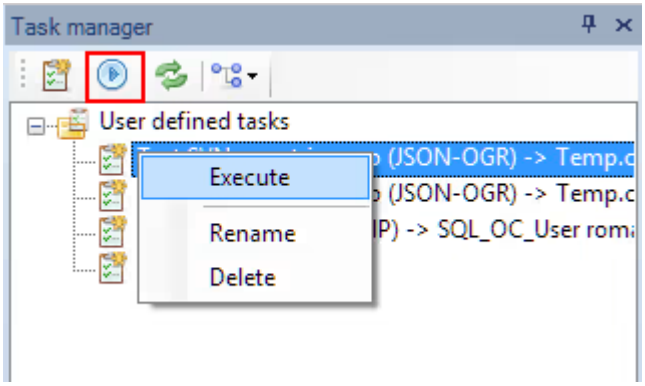


Creating a Task - Name

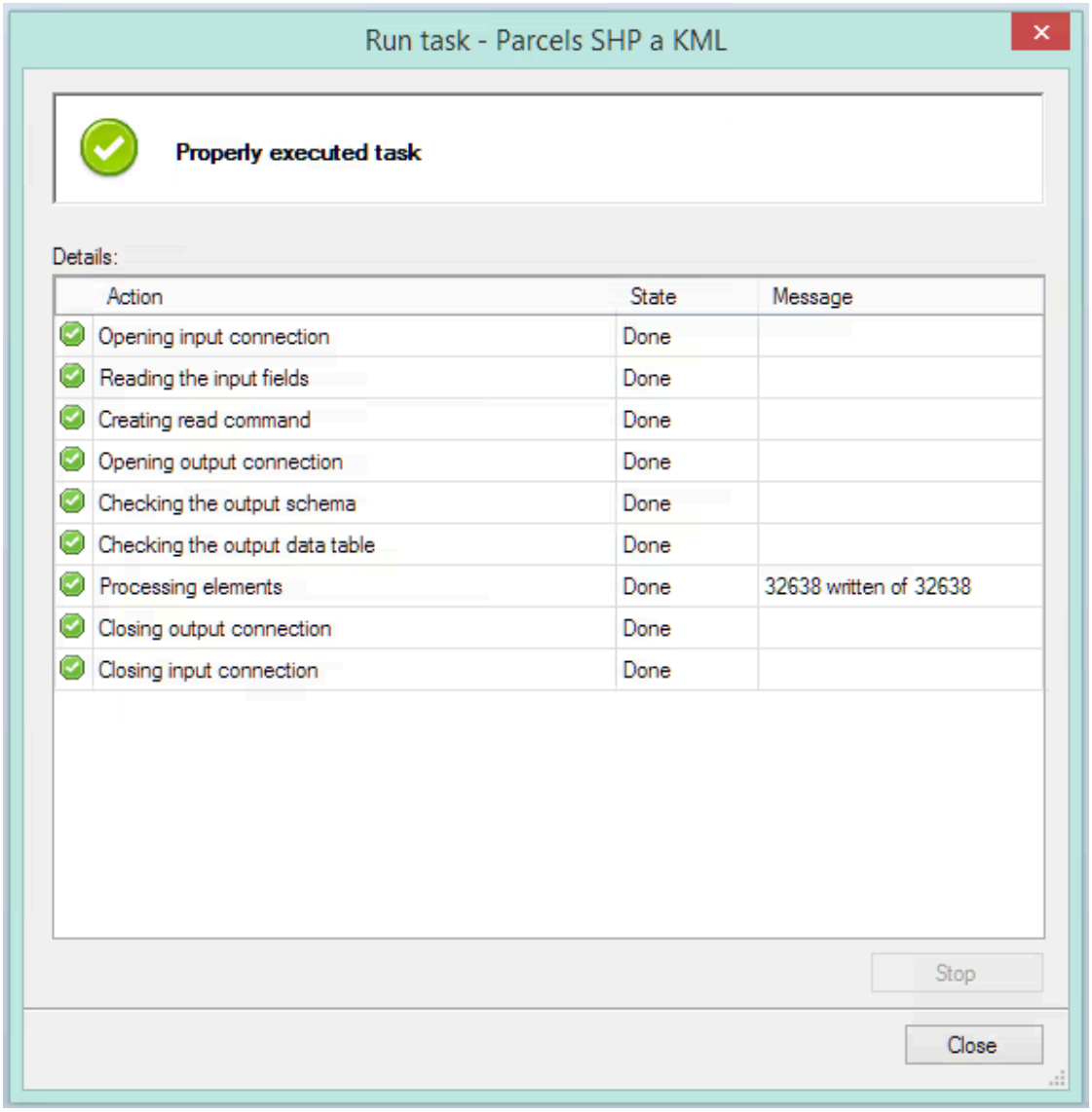
Execute one or more Tasks

Two ways:

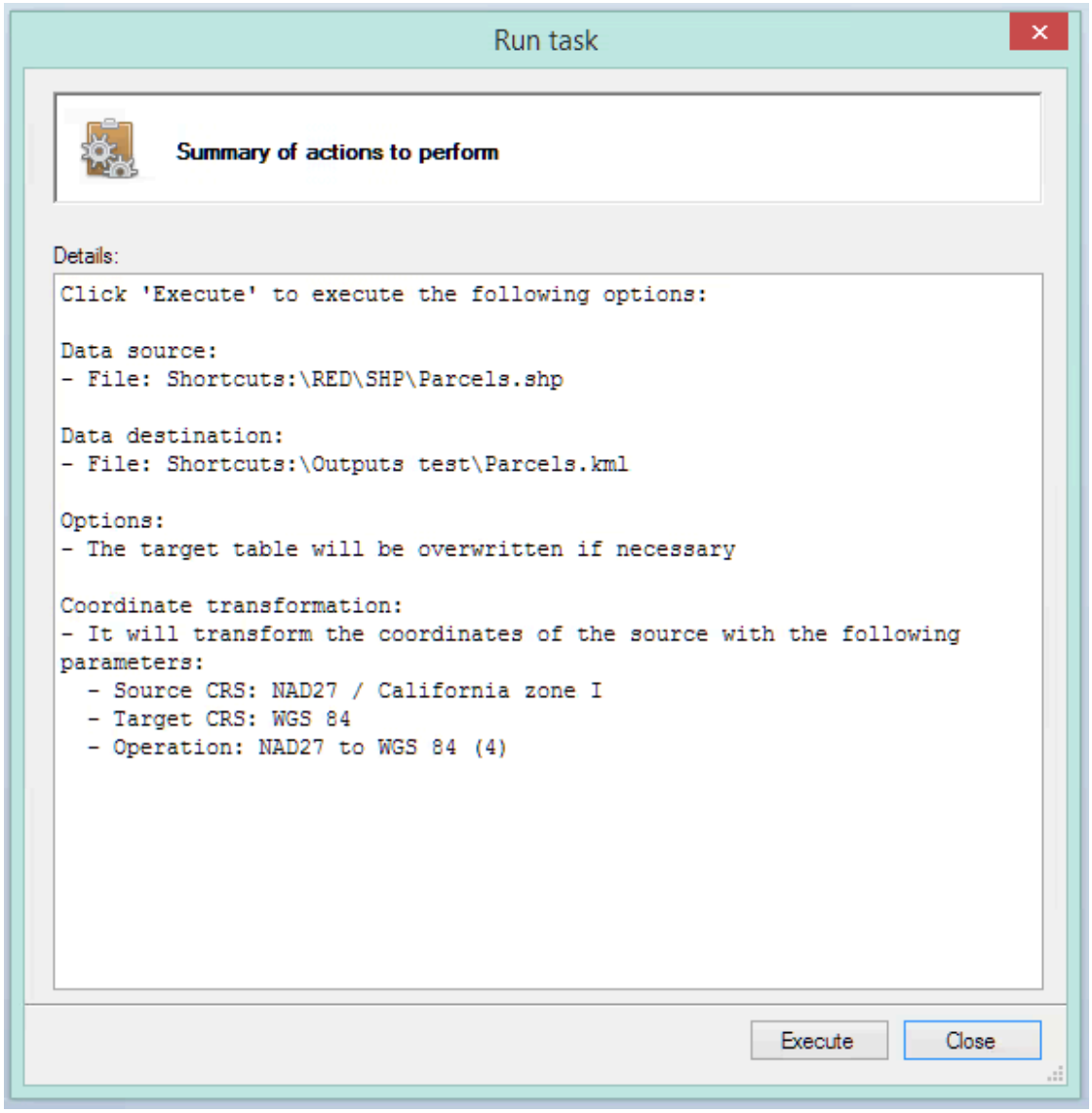
- From the application UI.
- From the operating system command window using `SpmCmd`.



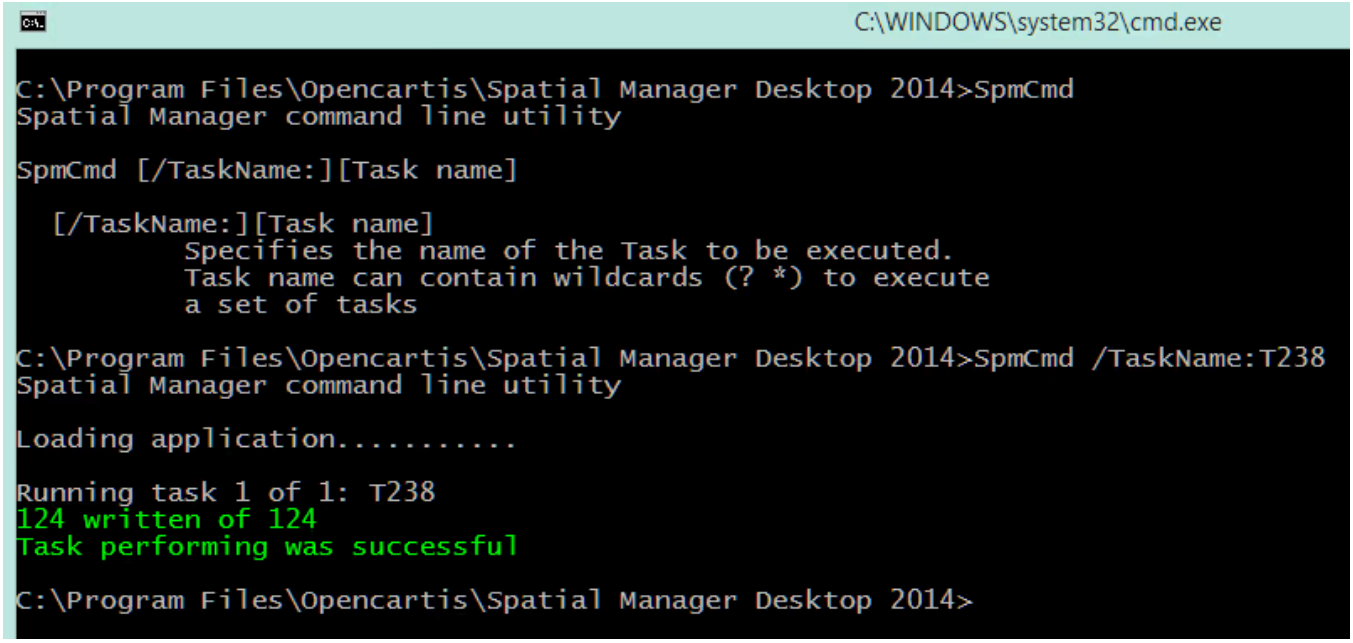
Executing a Task



Execution grid



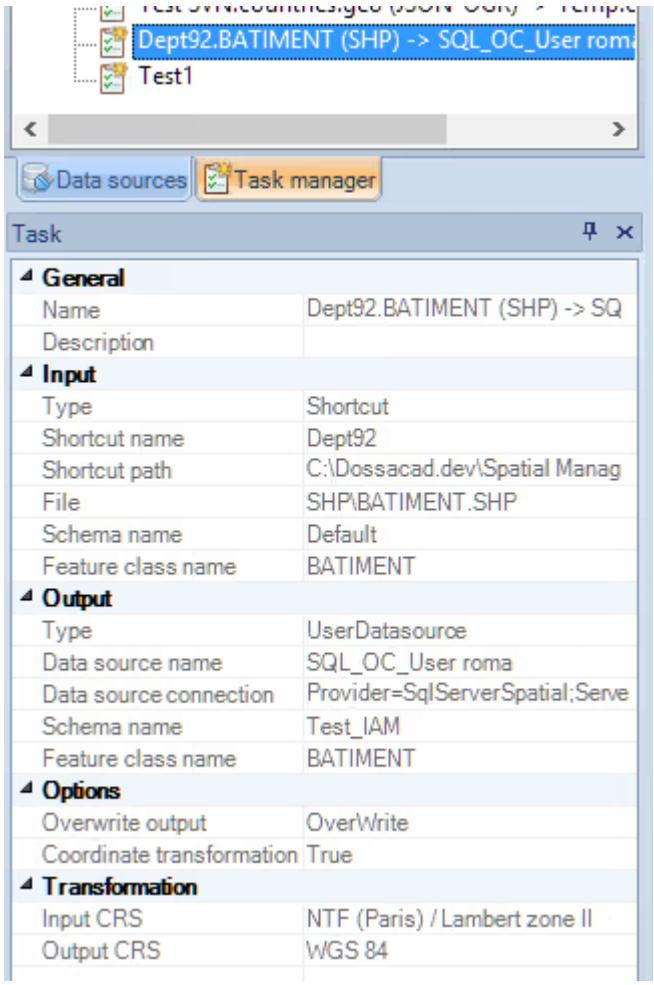
Summary window



Executing Tasks through the operating system command window

Review the Properties of a Task

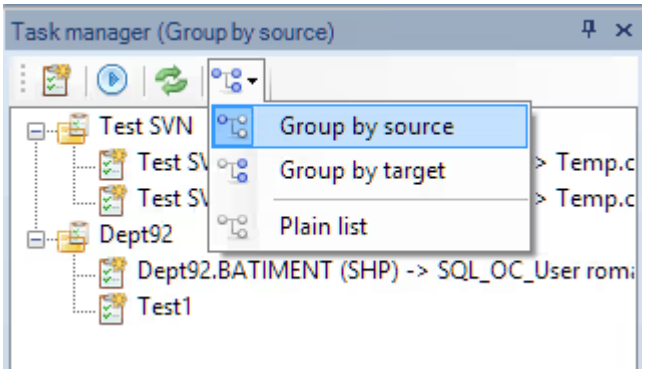
In the “Properties” panel.



Task Properties

Sort the Tasks

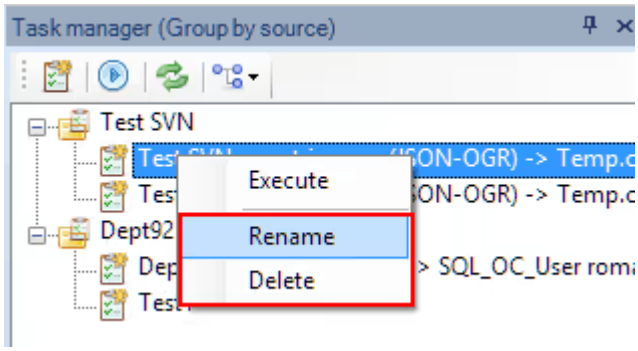
- Group by source.
- Group by target.
- Plain list.



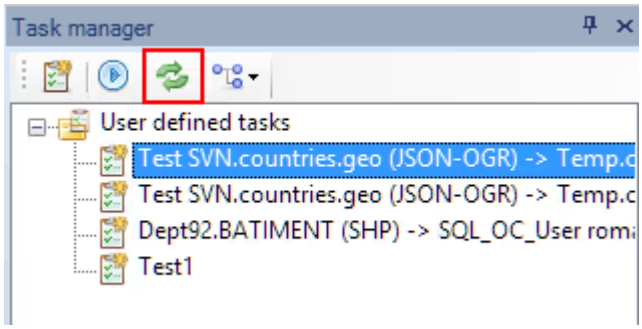
Sorting Tasks

Additional functions for Tasks

- Delete.
- Rename.
- Refresh.



Additional Tasks functions



Refreshing the 'Task Manager' list

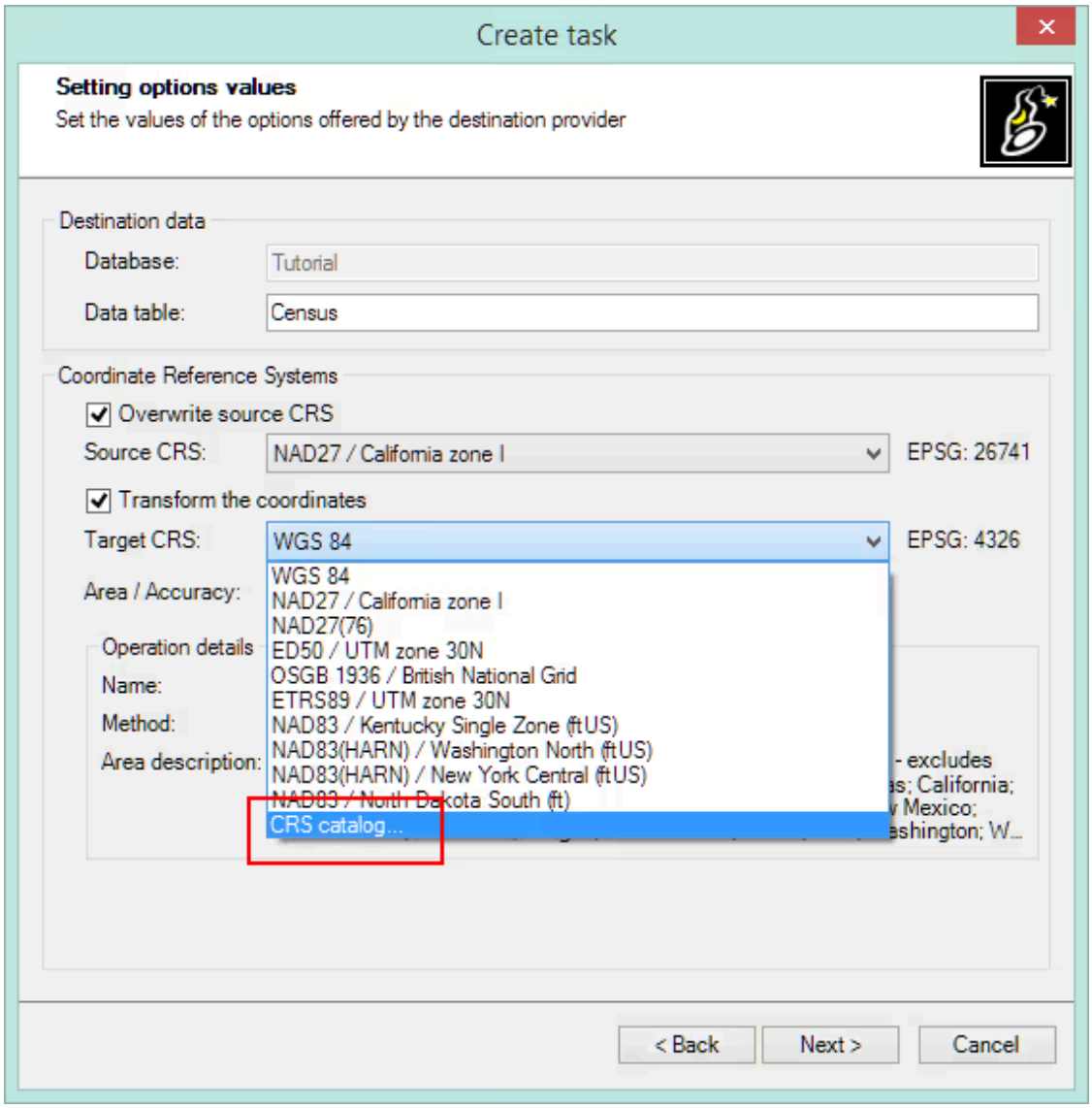
DOCUMENTATION

Coordinate system

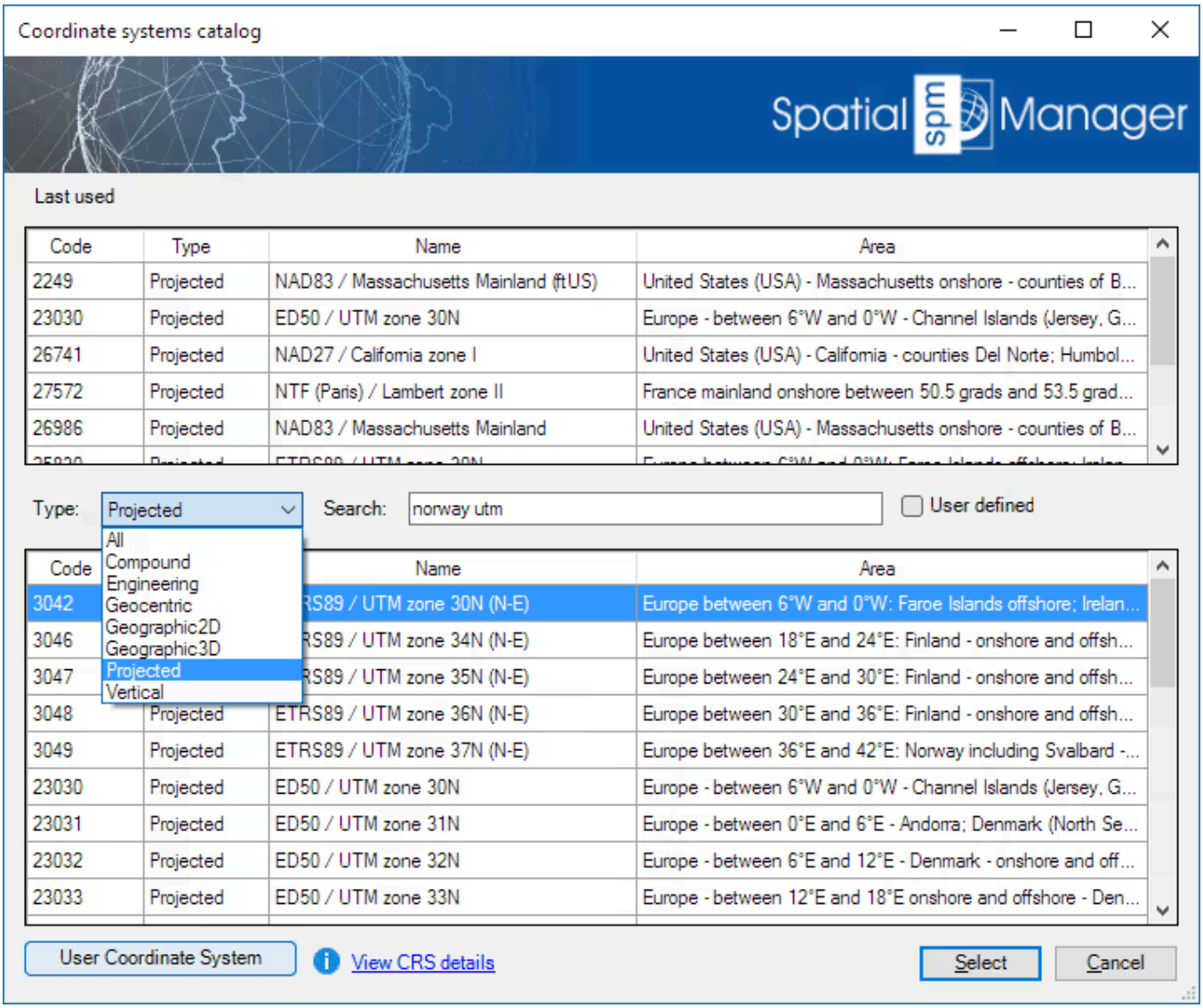
Calculate geometric transformations of the features in the import and export processes.

Define a Transformation of coordinates

When importing/exporting, choose CRS for source and target using the CRS catalog.



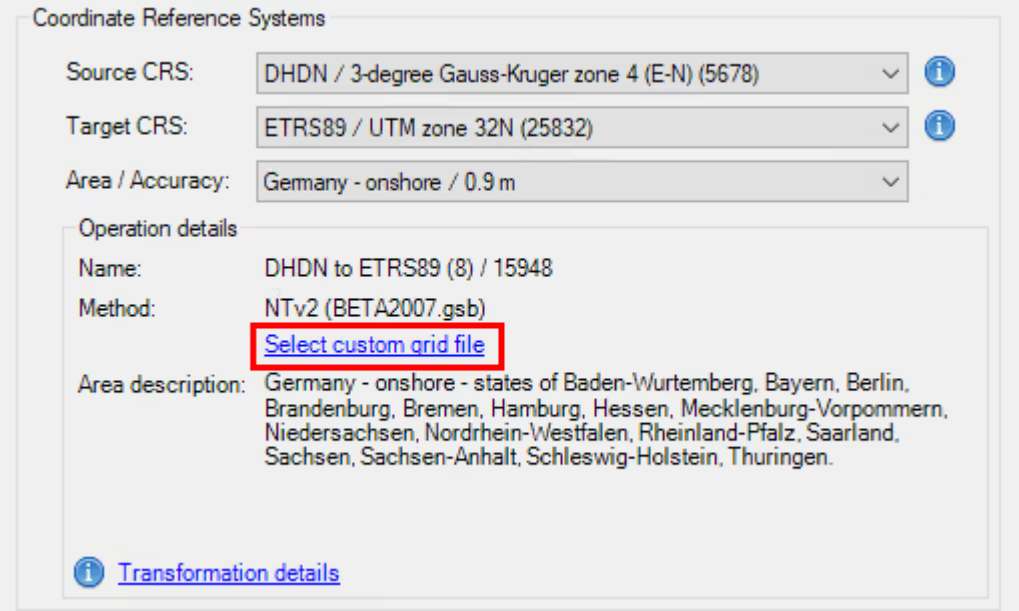
Parameters to Transform the Coordinates



CRS Catalog of the application

Grid Files

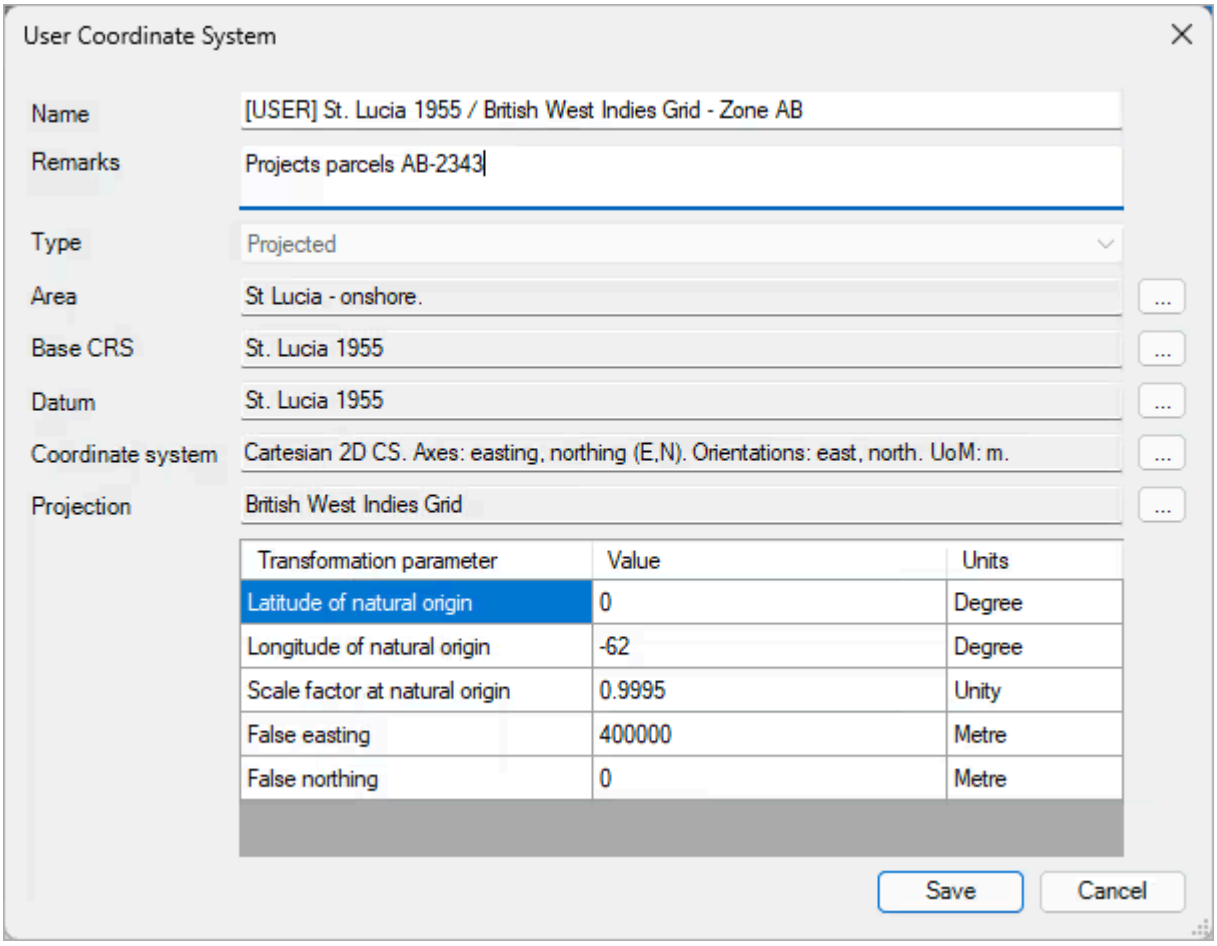
- Some transformations require NTv2 Grid files.
- User can select alternative grid files.



Selecting alternative Grid files

User Coordinate Systems

- You can create custom CRS based on existing ones.



User Coordinate System setup

DOCUMENTATION

Maps

Arrange your maps in Layers that can be fully managed by the application.

DOCUMENTATION

Open

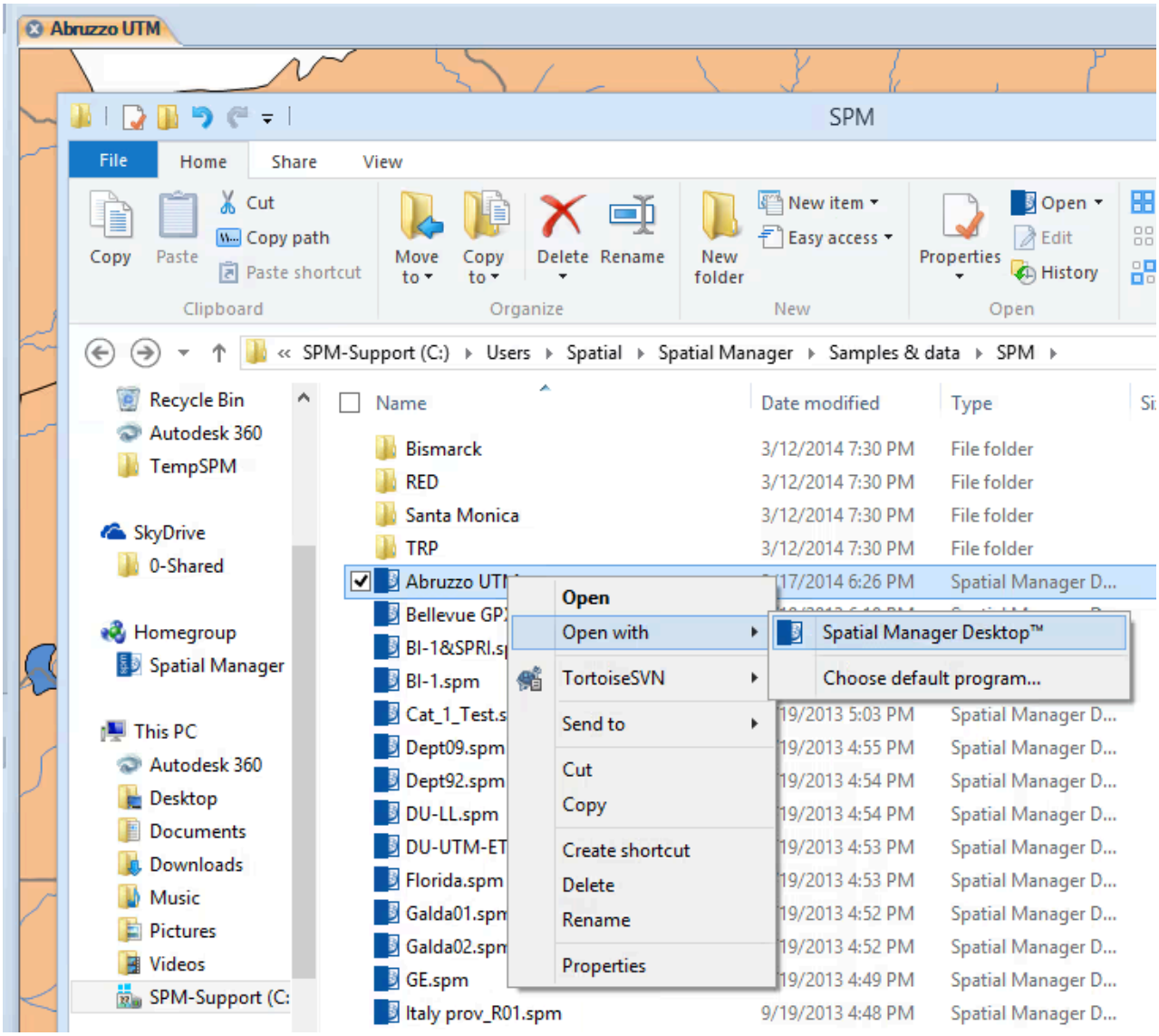
Arrange your maps in Layers that can be fully managed by the application.

Open a Map

You can open a Map in Spatial Manager Desktop™ by using the function “Open” in the “Start” ribbon and selecting the file *.spm to open, by double-clicking on an *.spm file in Windows Explorer, or by right-clicking on an *.spm file and selecting “Open” in Windows Explorer.

Spatial Manager Desktop™ uses *.spm as the Map file extension, and the internal structure of these files is based on SQLite database files.

Open an existing Map (*.spm)



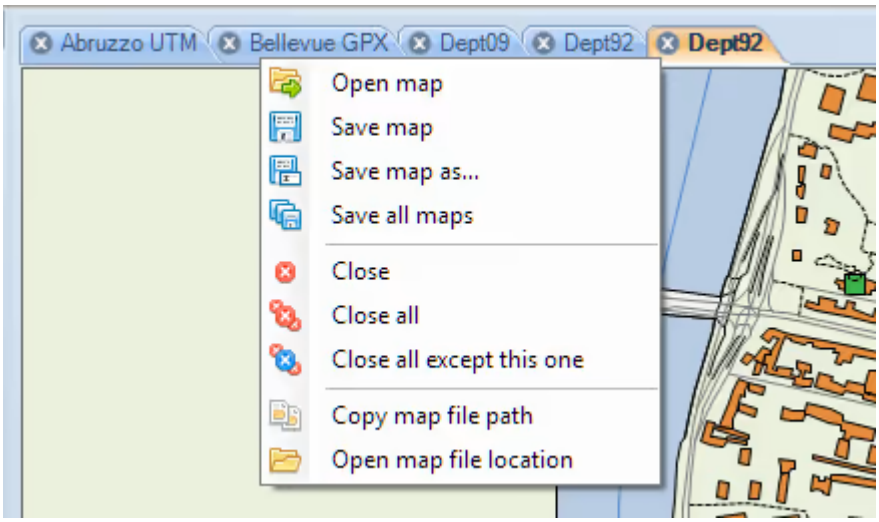
Open a Map from Windows Explorer

Handle one Map or multiple Maps

You can keep open as many Maps as you want in Spatial Manager Desktop™ (only limited by the amount of your system memory), each one located inside its own Workspace. Using the tabs in the Workspaces, you can:

- Sort the Workspaces: by dragging and dropping the tab of a Map to the desired location.
- Use the Workspaces contextual menu (mouse right-click on the tab) to:
  - Open another Map (Open map). It will be opened in a new Workspace.
  - Save the Map under your right-clicked tab (Save map).
  - Save the Map under your right-clicked tab using a different name and/or at another location (Save map as).
  - Save all open Maps (Save all maps).

- Close the Map under your right-clicked tab (Close). You will get a warning if this Map has changed.
- Close all open Maps (Close all). You will get a warning for every modified Map to close.
- Close all open Maps except the one under your right-clicked tab (Close all except this one). You will get a warning for every modified Map to close.
- Copy the file path of the Map under your right-clicked tab to the Windows clipboard (Copy map file path). This function will be disabled if the Map is a new Map and has not been saved yet.
- Open the folder containing the file of the Map under your right-clicked tab (Open map file location). This function will be disabled if the Map is a new Map and has not been saved yet.



Functions in the Workspace tab contextual menu

DOCUMENTATION

Layers

Arrange your maps in Layers that can be fully managed by the application.

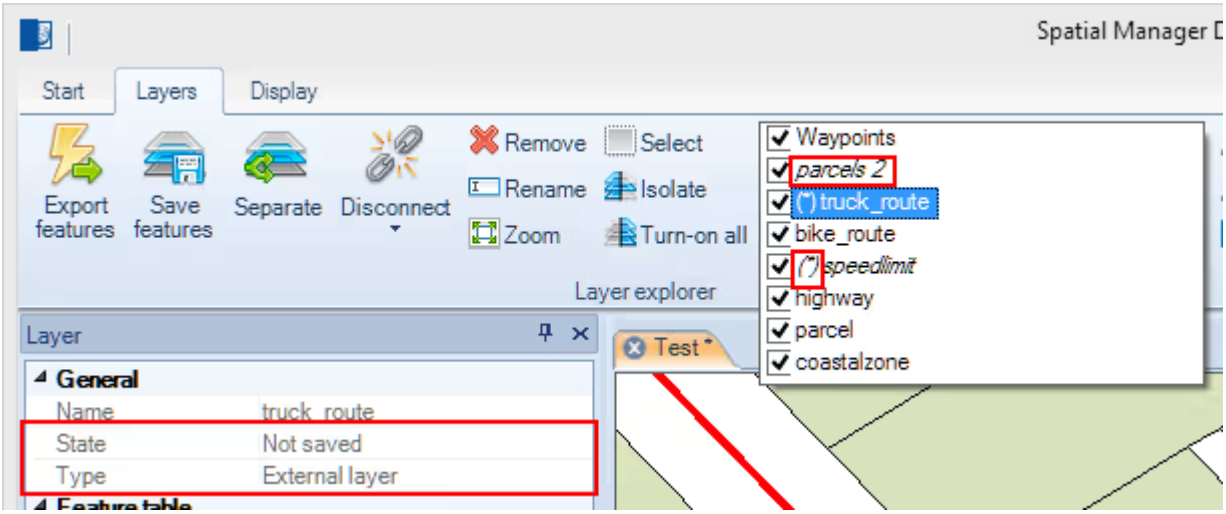
Types and status for the Layers in a Map

In a Map of Spatial Manager Desktop™ you can find these types of Layer (you can view this property in the "Properties" panel when you select a Layer).

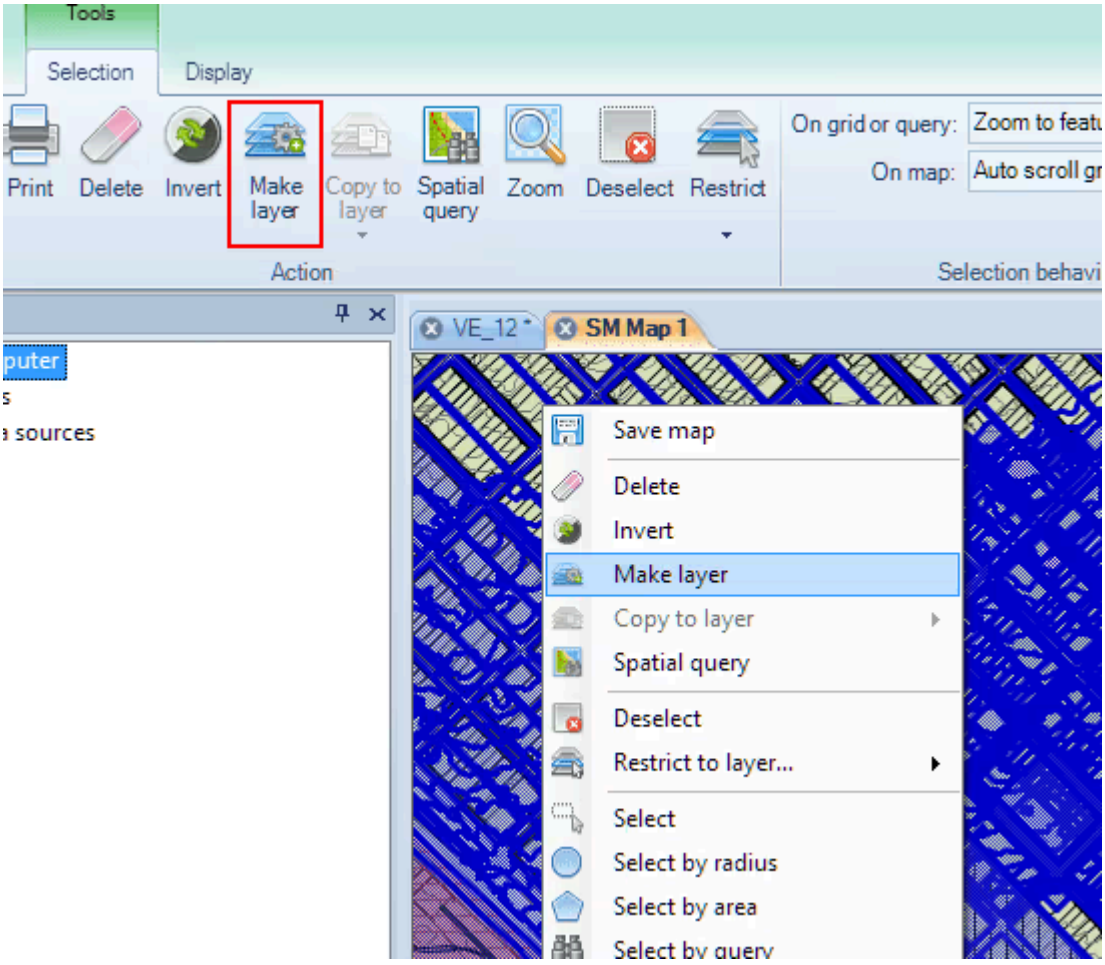
- "External Layer": when it is a Layer loaded from an external source (a table from a file, data server, data store, etc.).
- "Embedded in the Map": when the Layer content is located inside the Map (SPM) file. You may note that this type of Layer is in italics in the list of the ribbon "Layers".
  - "New": when it is a Layer created in the Map, always by copying Features selected from other Layers, and the Map has not been saved after it is created. It is a special case of "Embedded in the Map" Layers.
    ''Note: Creating a new Layer is a valid operation even when the selected Features belong to more than one Layer, but be careful because the Data grid of the new Layer will include the fields of all the Layers in the selection.''

And you can find these statuses for a Layer:

- Considering its ''saving status'' (you can view this property in the "Properties" panel when you select a Layer):
  - "Saved": when the Layer content is currently saved.
    - For "External Layers", this means that the Layer content is the same as the content in the external data source.
    - For "Embedded in the Map" Layers, this means that the Layer content is the same as the content in the Map (SPM) file.
  - "Not saved": when the Layer content is not currently saved. You may note that the Layer name is preceded by an asterisk in the list of the ribbon "Layers" for this type of Layer.
    - For "External Layers", this means that the Layer content has been modified and it is not the same as the content in the external data source.
    - For "Embedded in the Map" Layers, this means that the Layer content has been modified and it is not the same as the content in the Map (SPM) file.
- Considering its ''editing status'':
  - "Non editable": when the Layer is an "External Layer" and has been loaded from a read-only data source. When you select a "Non editable" Layer, you will see all the values grayed in the Data grid because these values cannot be modified.
  - "Editable": all the other Layers (all "Embedded in the Map" Layers and all "External" Layers loaded from a read-and-write data source).



Layer Types and Status (properties and simbology)

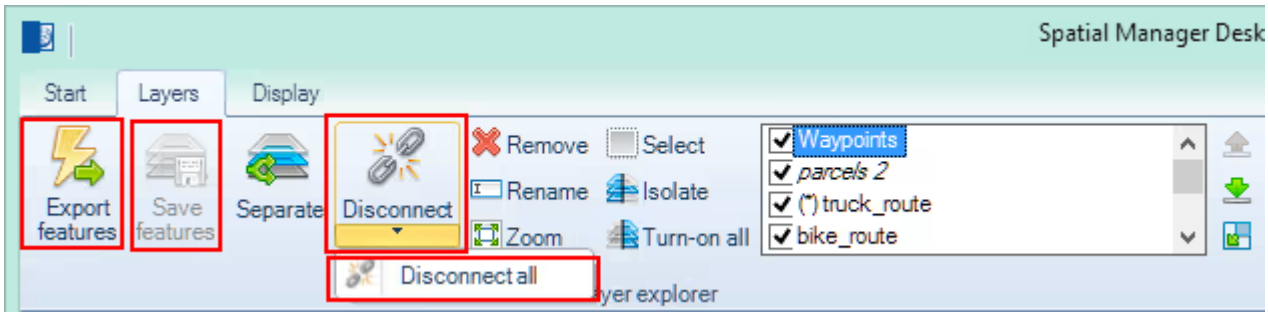


'Make new layer' function

Change the type or the status of a Layer

There are several ways to change the type or the status of a Layer in Spatial Manager Desktop™.

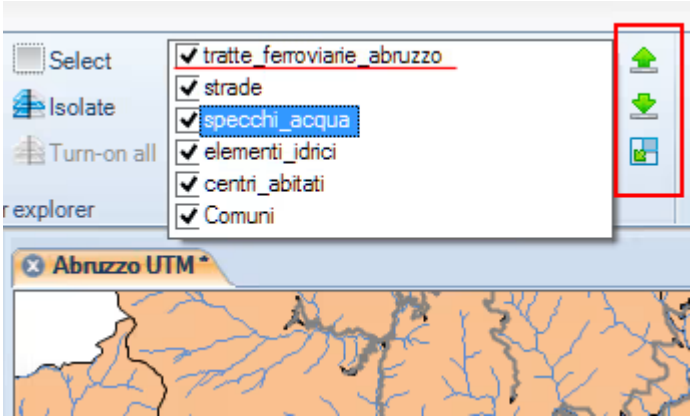
- To convert an “External Layer” to an “Embedded in the Map” Layer: you have to use the “Disconnect” function to disconnect one Layer or the “Disconnect all” function to disconnect all the Layers in a Map. You cannot undo these operations, so you should avoid saving the original Map. It is recommended to save the modified Map using another name or in another location.
- To convert an “Embedded in the Map” Layer to an “External Layer”: there is no direct way to do it, but you can “Export” the Features of the Layer to an external table (choosing the best data Provider for you), load this table in the Map, and then remove the original Layer.
- To “Save” a “Not saved” Layer:
  - For “External Layers”: you have to “Save features”, by using this function or by “Saving” the Map.
  - For “Embedded in the Map” Layers: you have to “Save” the Map.
- To convert a “Non editable” Layer to an “Editable” Layer: there is no direct way to do it, but you can “Disconnect” a “Non editable” Layer from its read-only source, or you can select all Features in the Layer and “Make” a new Layer including a copy of the selected objects.



Functions which can modify the type or the status of Layers

Sort the relative position of the Layers in a Map

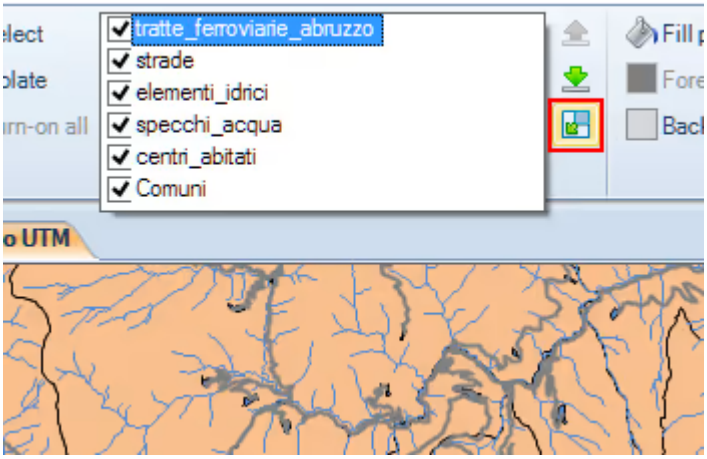
You can sort the position of the Layers in a Map in Spatial Manager Desktop™ simply by selecting the Layer to move and dragging and dropping it on the Layer list of the ribbon “Layers”. You can also select the Layer to move and use the up and down arrows at the right of the Layer list. The content of the upper Layers will be drawn above the content of the lower Layers in the Maps.



Sort layers in a Map

Expand the list of Layers in a Map

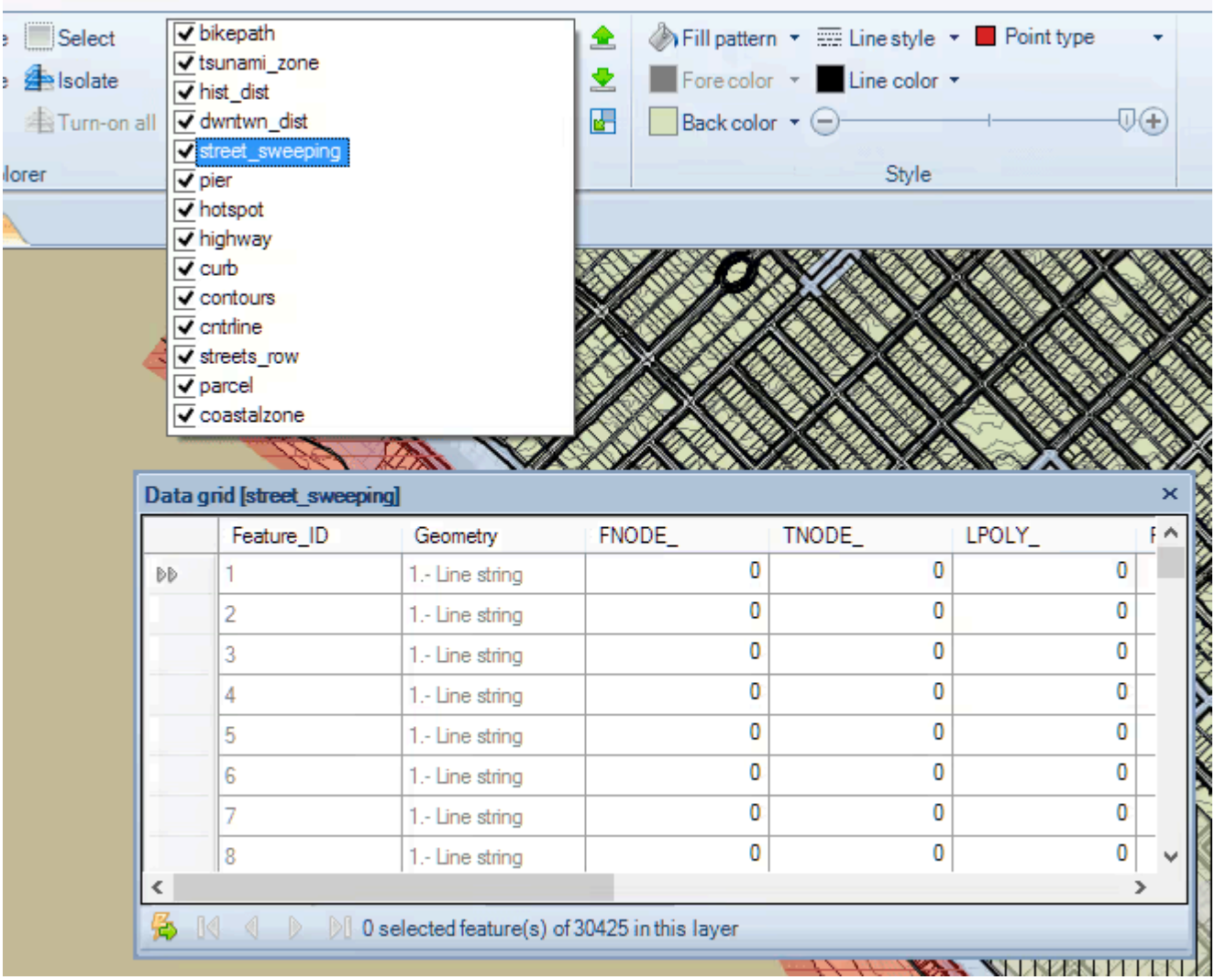
If you need to expand the list of Layers in a Map in Spatial Manager Desktop™, click on the “Drop down layer list” button next to the Layer list. You can also select or sort Layers in the expanded list.



Expand the list of layers in a Map

Select a Layer in a Map

You will select a Layer in a Map in Spatial Manager Desktop™ by clicking on its name in the list of Layers in the “Layers” ribbon. There will be only one selected Layer in the Map at the same time, and the Data grid will show the data of the Features in this Layer. Most functions in the ribbon “Layers” apply only to the selected Layer.

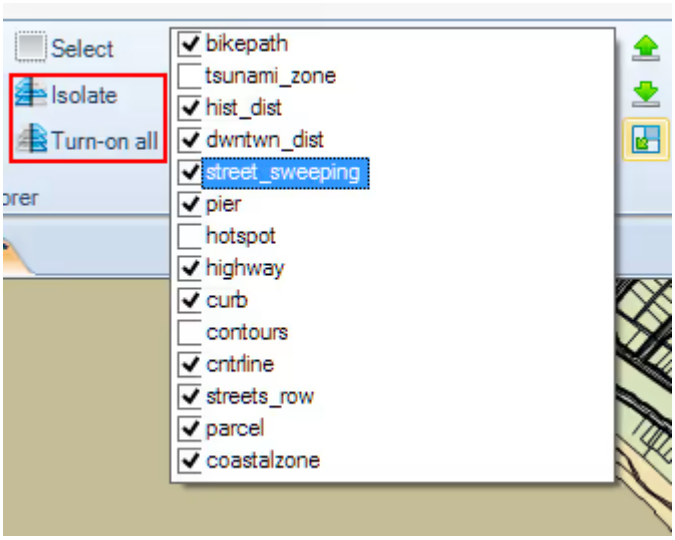


Select a layer in a Map

Turn on or off a Layer in a Map

You can turn on or off a Layer in Spatial Manager Desktop™ by clicking on the little box next to the Layer name in the list of Layers in the “Layers” ribbon. You can also use the function “Isolate” in this ribbon to turn off all Layers except the selected Layer, or the function “Turn on all” to turn on all Layers in the Map.

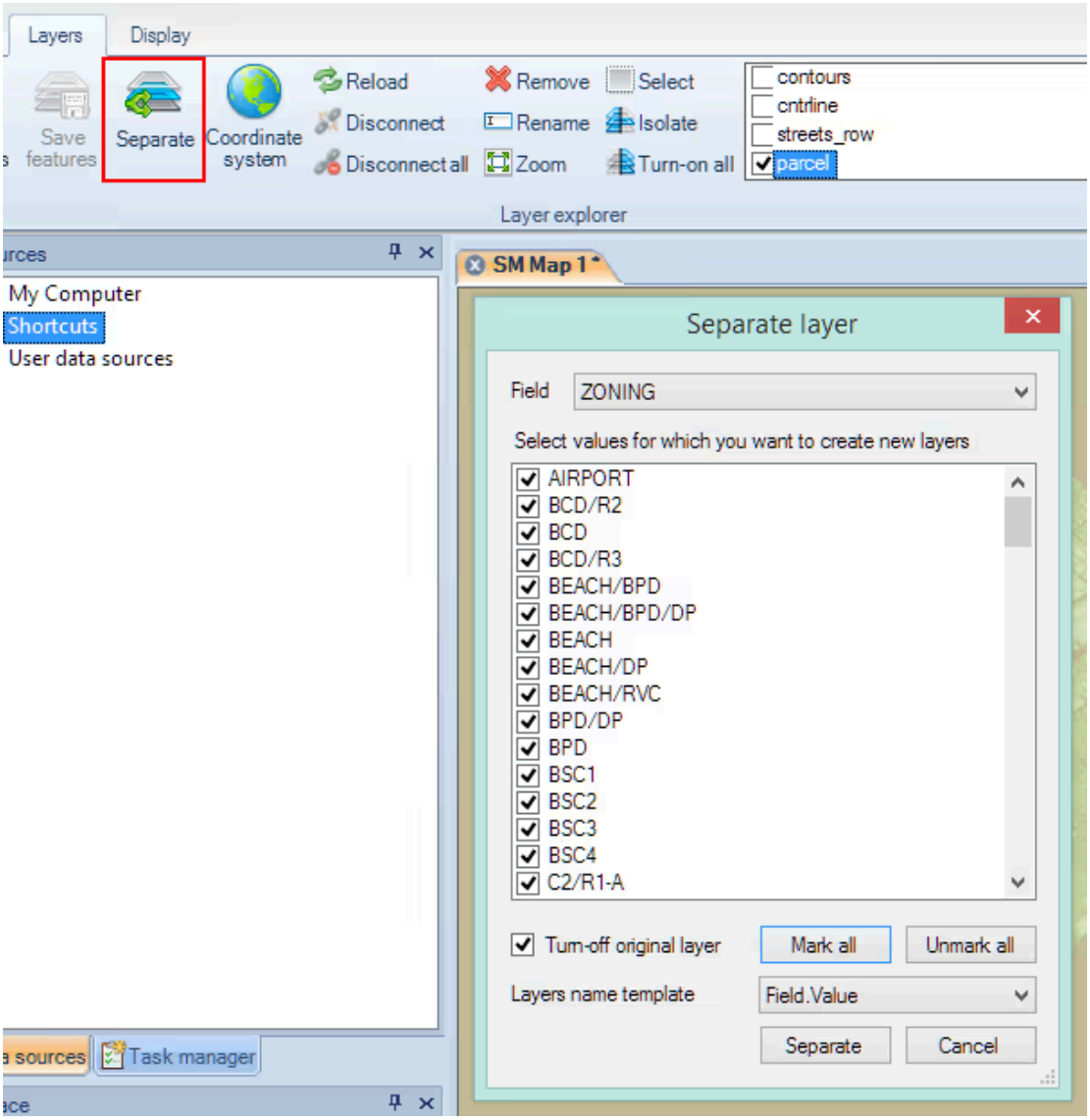
There must always be one selected Layer, and the selected Layer cannot be turned off. If you turn off the current selected Layer, the first Layer turned on in the Layer list (if any) will now be the selected Layer.



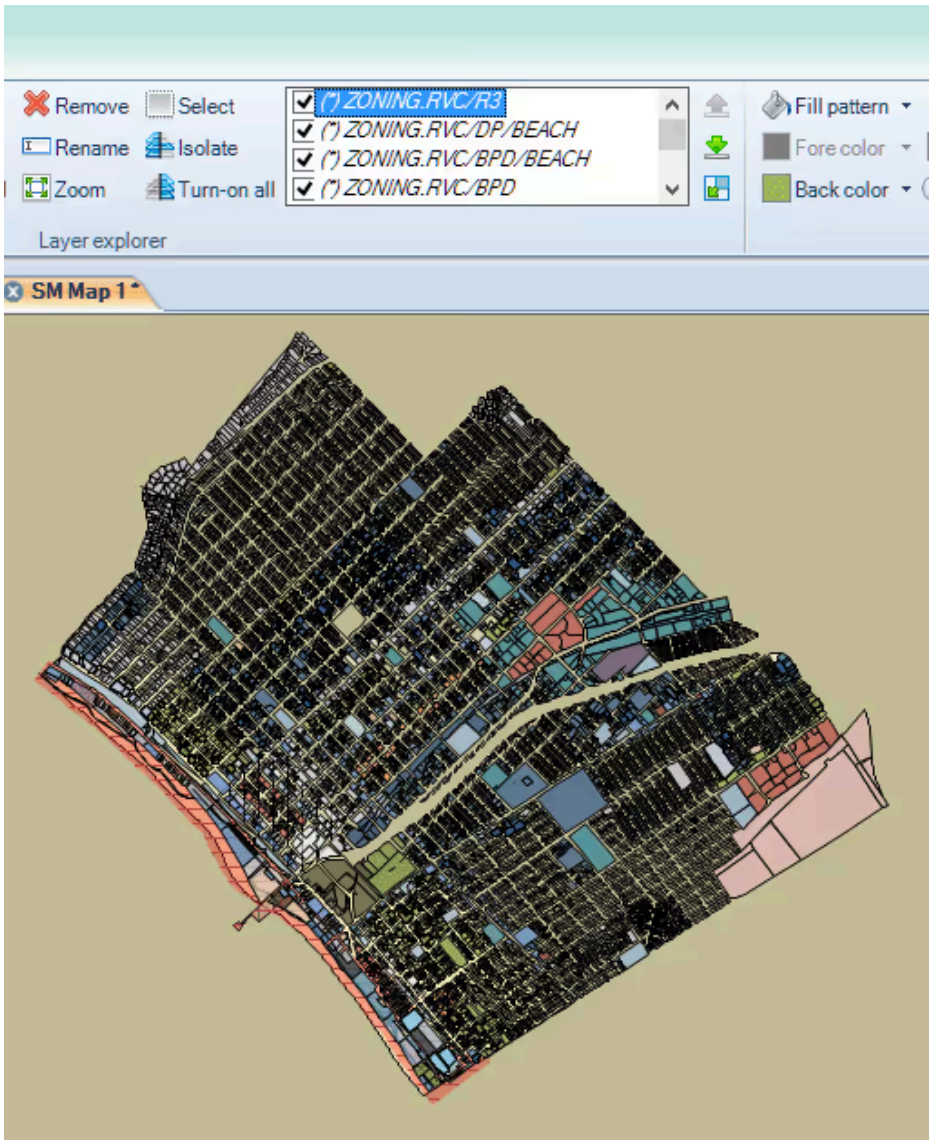
Turn on or off a layer in a Map

Separate a Layer into other Layers for thematic or data discrimination analysis

You can create new Layers from another Layer according to the values of a field in Spatial Manager Desktop™. To do it, select the Layer to separate and use the “Separate” function in the “Layers” ribbon. You can select a field of the selected Layer to separate, choose the values in this field to create new Layers, and the template of the new Layers’ names. You will get a warning about the amount of new Layers to create before continuing with this process. Also, you can turn off the Layer to separate it in the same process.



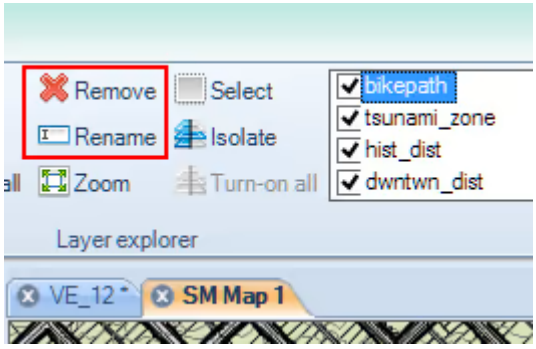
'Separate layer' function



Separating layer sample

Rename or remove a Layer of a Map

You can rename or remove a Layer of a Map in Spatial Manager Desktop™ by selecting the Layer to rename or remove from the Layer list and by using any of these functions in the “Layers” ribbon.

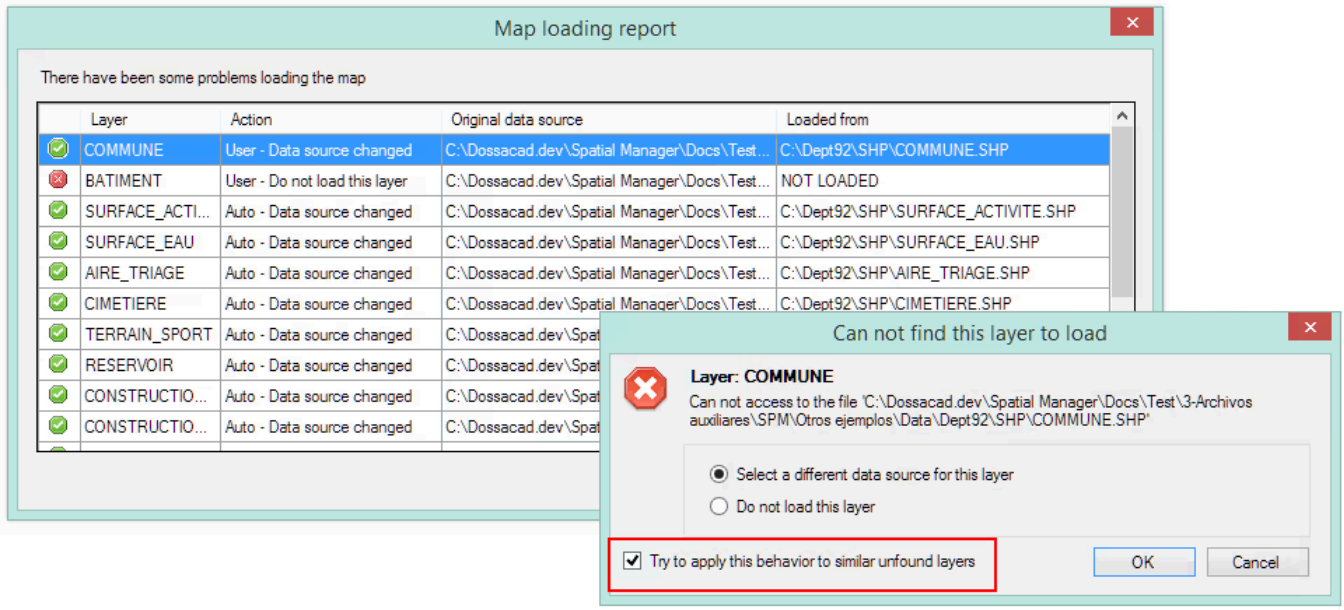


Layer additional functions

Change the location or rename the data sources of external Layers in a Map

You can change the location or rename the data sources of external Layers in a Map in Spatial Manager Desktop™, as the application includes smart technology which makes it easy to find the changed sources of external Layers when loading the Map. This is how this technology works:

- You can always select a new location for a data source not found (moved or renamed) when loading a Map.
- You can set the application to perform an automatic search for similar data sources not found (moved or renamed) when loading a Map and try to find them, based on the following principles:
  - Files: when the original path for two files is the same and the new data source is:
    - A file in a folder: the application replaces the path of the file with that of the new file.
    - A file in a Shortcut: the application looks for the file in the selected folder within the new Shortcut.
  - Shortcuts: when the original Shortcut for two files is the same and the new data source is:
    - A file in a folder: for the following cases, the relative path within the original Shortcut is taken into account to search for the file in the folders.
    - A file in a Shortcut: the original Shortcut is replaced by the new Shortcut.
  - User Data Sources (UDS) (“Standard” and “Professional” editions only): it is only solved if another UDS is selected.
- The application informs you by showing a table including the locations of the found or not found data sources when the loading of the Map is finished. In addition, you can see in this table if the changes of the locations have been performed by the user or automatically by the application.
- Finally, the application asks the user to save the Map when the loading of the Map is finished, including the new data sources’ locations.



'Smart loading' layers functionality

DOCUMENTATION

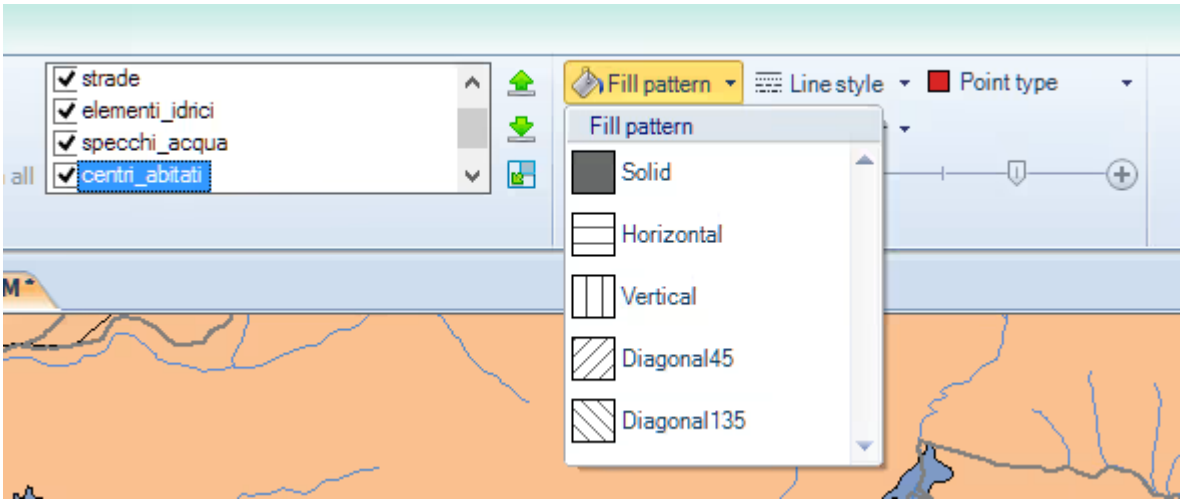
Styles

Arrange your maps in Layers that can be fully managed by the application.

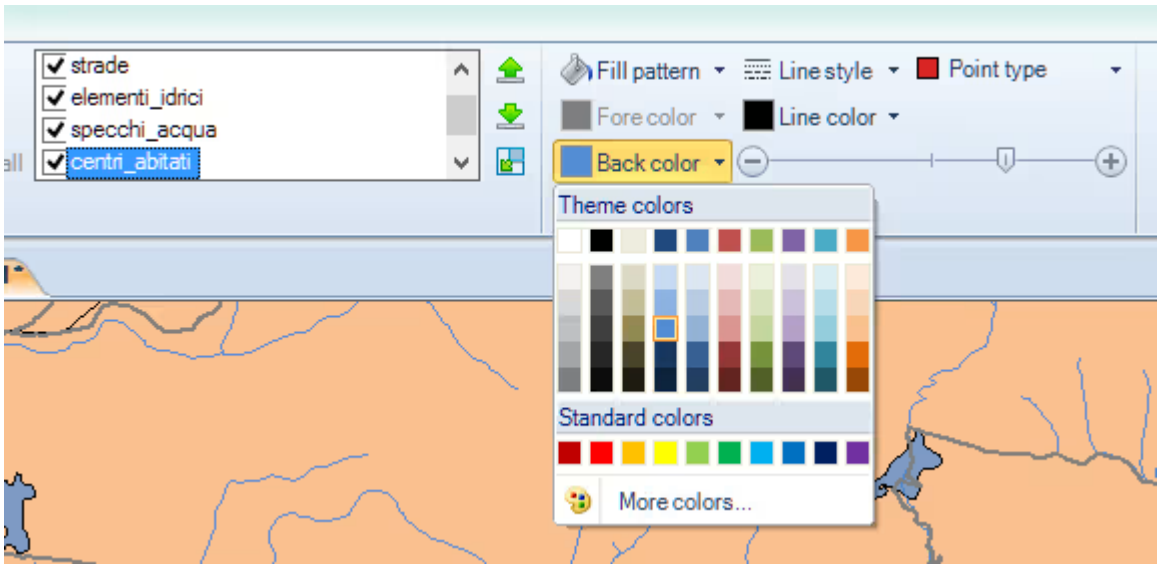
Stylize a Map

You can stylize the Layers in a Map and the Map background in Spatial Manager Desktop™. These parameters will be saved when you save the Map.

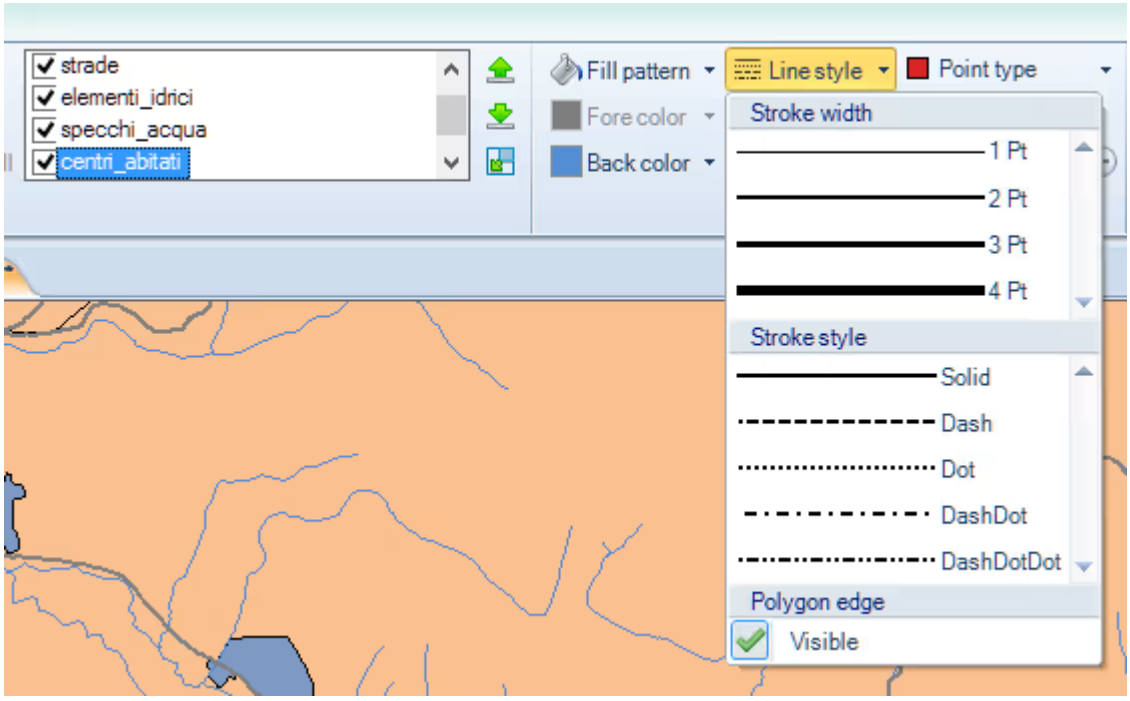
- To stylize a Layer in the Map, go to the "Layers" ribbon, select a Layer, and apply styles as follows:
  - Set up the **fill style** parameters for polygonal-type Features (if any in the Layer):
    - Select the fill pattern.
    - Select the foreground color (except if you have chosen the "Solid" pattern).
    - Select the background color.
    - Select the opacity/transparency for the background.
    - Select the line style for the edge (stroke width and stroke style), and select whether or not you want to draw the edge.
  - Set up the **line style** parameters for linear-type Features (if any in the Layer):
    - Select the line style (stroke width and stroke style).
  - Set up the **point style** for point-type Features (if any in the Layer):
    - Select the point type from the predefined point types list or by selecting an image from disk and defining its insertion base. This image will remain in the point type list, along with the current instance of the application, to select it whenever you want.



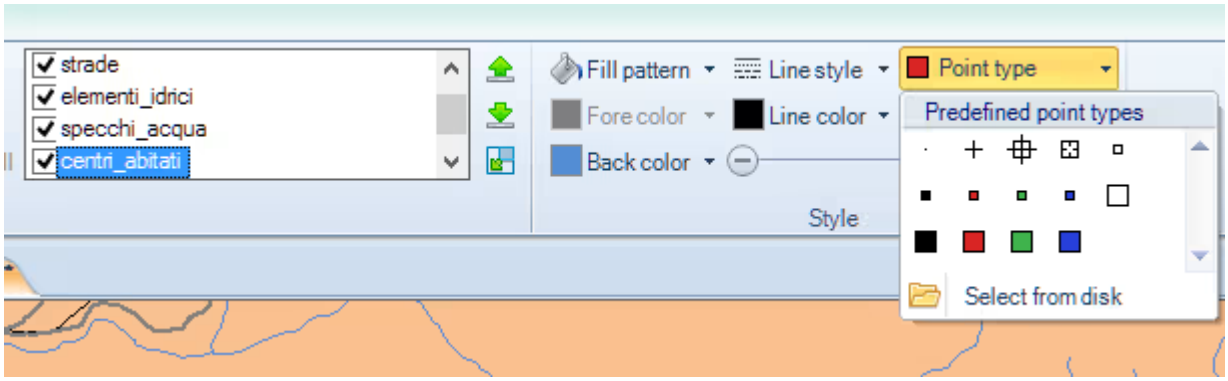
Layer fill pattern options



Layer back color options

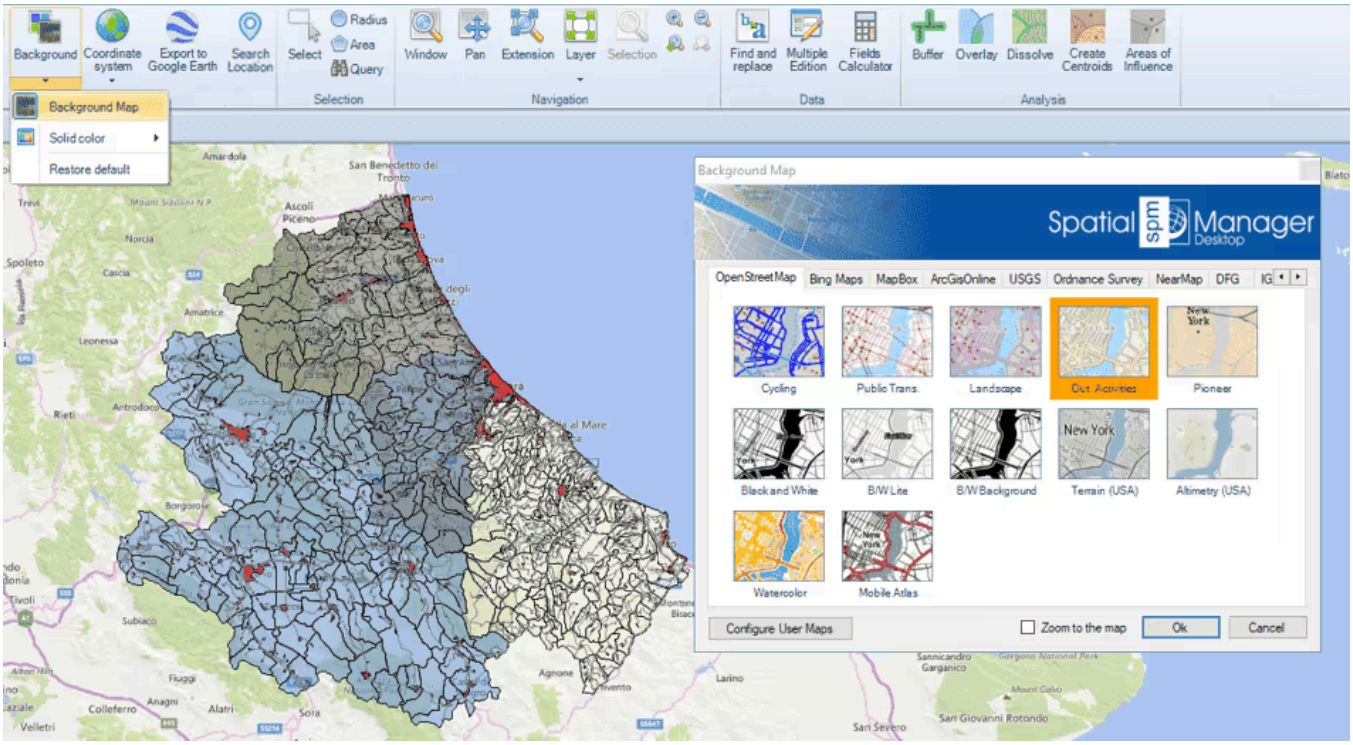


Layer line style options



Layer point type options

- To change the **Map background**, go to the "Start" ribbon. You can choose:
  - A preset or user-defined base map from some base map providers (requires an Internet connection).
    Note: To use a base map as Map background, the Map must have defined a Coordinate System.
  - A solid color.
  - Restore the default solid color set in the application configuration.



Select a Map background

The option "Zoom to the map" automatically changes the Map view to the 'Background Map' extent defined in the server.

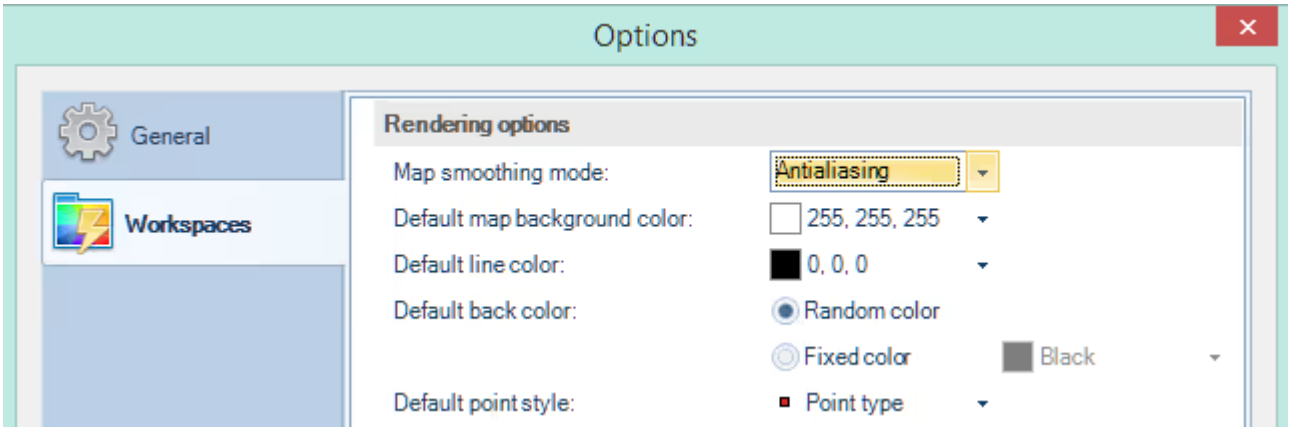
To learn more about 'Background Maps' and how to configure User maps, take a look at the Background Maps .

Set up any default style value for new Maps or new Layers

In the "Options\Workspaces" window of Spatial Manager Desktop™, you can set up some default style values for new Maps or new Layers:

- Default Map background solid color.
- Layer style defaults:
  - Default line color.
  - Default fill background color. For this parameter, you can choose a "Fixed color" or the "Random color" option, which lets the application apply random background colors for polygons in new Layers.

- Default point style, which you can choose from the predefined point types list. Furthermore, you can choose the “Antialiasing” option to display the Maps on the screen using a smoothing mode.



Default styles options

DOCUMENTATION

View

Arrange your maps in Layers that can be fully managed by the application.

Change the view of a Map in a Workspace

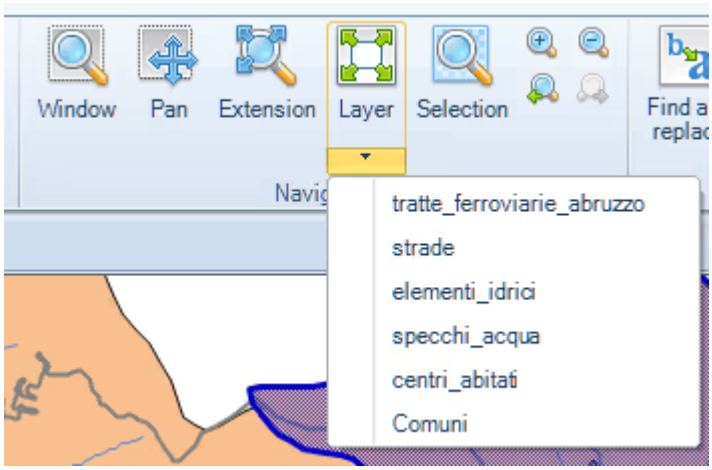
You can change the view of a Map in Spatial Manager Desktop™ by choosing different ways to make zooms and pans inside the Workspace:

- Zoom in or zoom out:
  - Turn the mouse wheel over the place that you want in the Map. One direction of rotation will zoom in, and the opposite will zoom out.
  - Click on the "Zoom in" or the "Zoom out" functions in the ribbon ("Start\Navigation") and select the place in the Map to do it.
- Zoom in by rectangular window:
  - Click on this function in the ribbon ("Start\Navigation") and define the window to zoom in.
  - Click on this function in the contextual menu (right-click) of the Workspace and define the window to zoom in.
- Zoom to the Map extension:
  - Click on this function in the ribbon ("Start\Navigation").
  - Click on this function in the contextual menu (right-click) of the Workspace.
  - Click twice on the mouse wheel when the cursor is over the Map.
- Zoom to a Layer:
  - Click on this function in the ribbon ("Start\Navigation") and select the Layer that you want to zoom.
  - Click on this function in the contextual menu (right-click) of the Workspace and select the Layer that you want to zoom.
  - Click on this function in the ribbon ("Layers\Layer explorer") to zoom to the selected Layer.
- Zoom to the Features selection (if any):
  - Click on this function in the ribbon ("Selection-Tools\Action") to zoom to the current Features selection.
  - Click on this function in the contextual menu (right-click) of the Workspace to zoom to the current Features selection.
    - Clicking on the function "Zoom to selection" in the Data grid right-click menu will also zoom to the current Features selection.
      - The function "Zoom to feature" will zoom to the Feature below the cursor in the Data grid at the right-click time, regardless of which features are selected.
- Center the Features selection (if any):

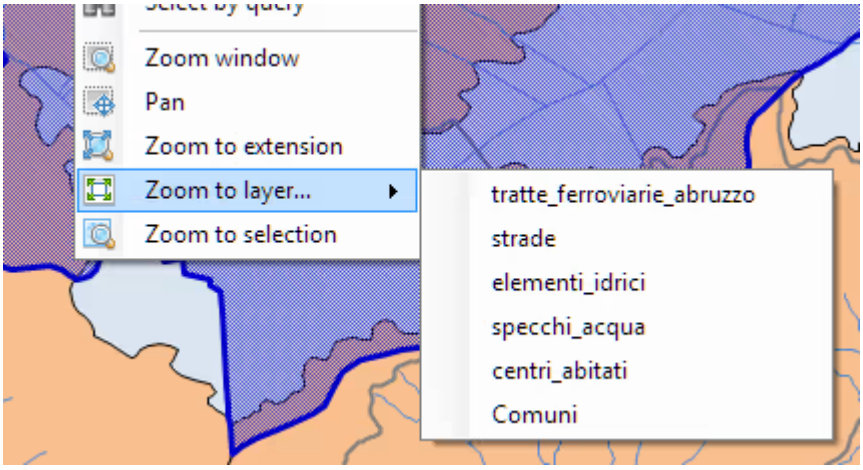
- Click on the function “Center selection” in the Data grid right-click menu to center the view on the current Features selection.
  - The function “Center to feature” will center the view on the Feature below the cursor in the Data grid at the right-click time, regardless of which features are selected.

- Pan:
  - Click on this function in the ribbon (“Start\Navigation”) and drag the cursor through the Workspace.
  - Click on this function in the contextual menu (right-click) of the Workspace and drag the cursor through the Workspace.
  - Press the mouse wheel and drag the cursor through the Workspace.
- Go to the “Previous view” (if any) or the “Next view” (if any): click on these functions in the ribbon (“Start\Navigation”).

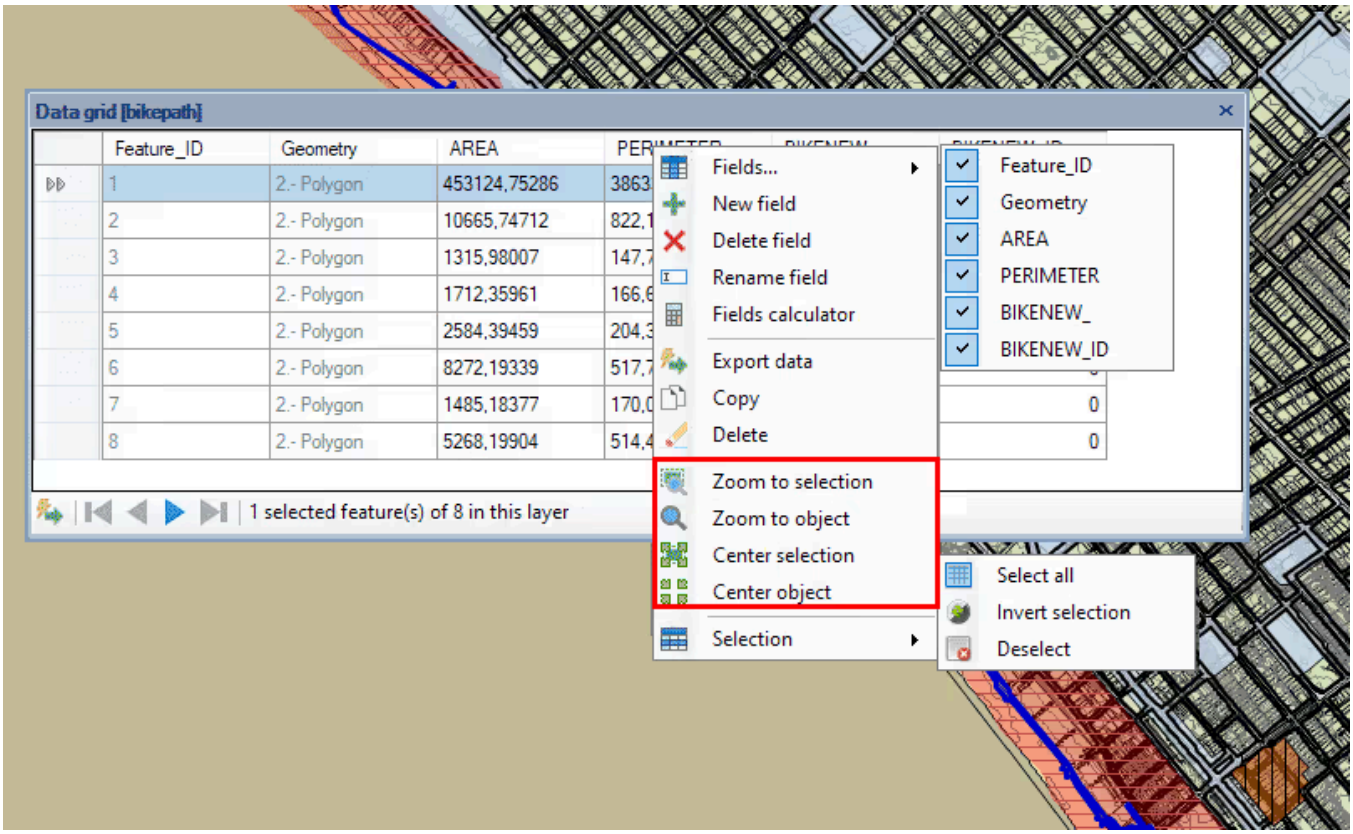
Some other functions, such as selecting Features in the Data grid or by queries, can make changes in the view of the Map depending on the application configuration.



View functions in the ribbon



View functions in the contextual menu of the Workspace



View functions in the contextual menu of the Data grid

DOCUMENTATION

Coordinate system

Calculate geometric transformations of the features in the import and export processes.

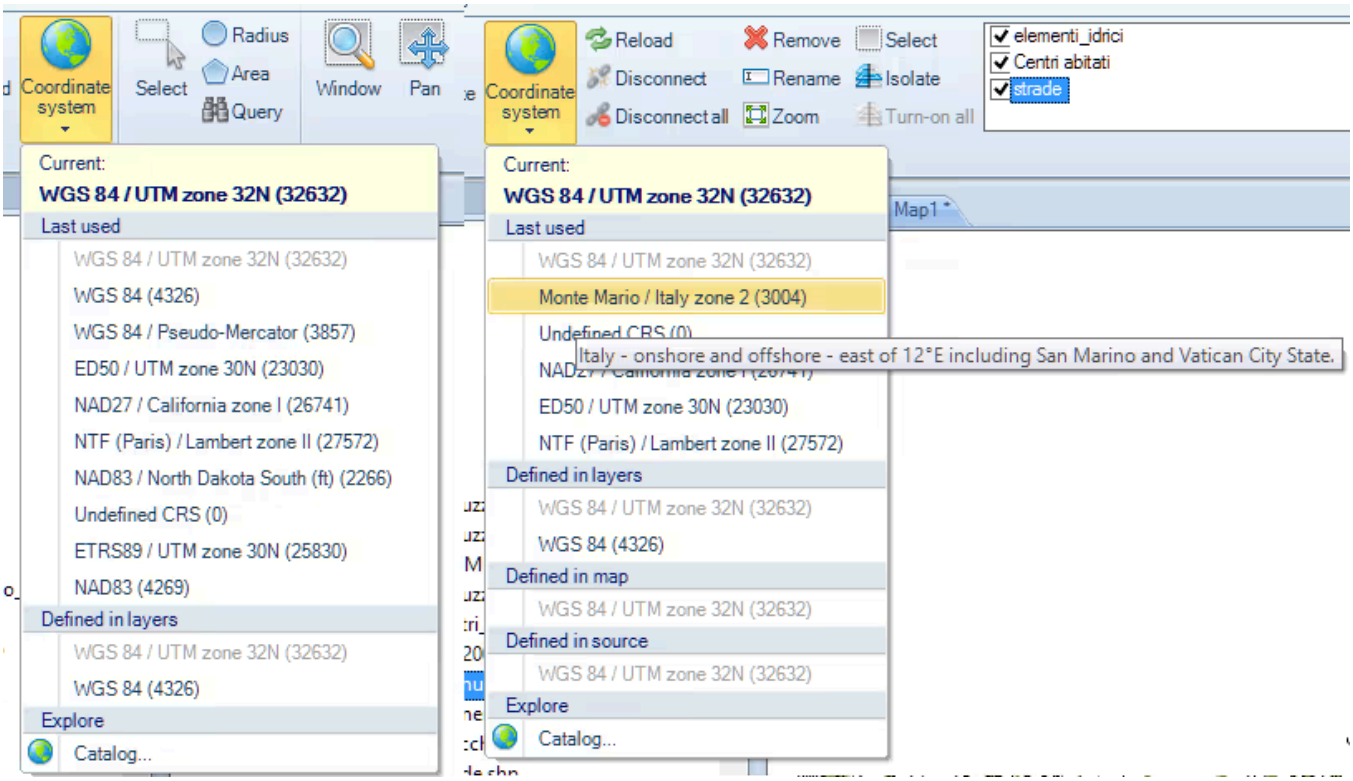
Choose the Coordinate System for a Map or a Layer

You can choose the Coordinate System (CRS) for a Map in Spatial Manager Desktop™ using the "Coordinate system" function in the "Start" ribbon, and for a Layer you will use the "Coordinate system" function in the "Layers" ribbon. Both functions expand menus to select the CRS as follows:

- Map
  - Information only: the current CRS defined for the Map. If the Map has not defined a CRS, you will see it as "Undefined". If the current CRS shown is not "Undefined", be careful when modifying it because there must be some reason for this value.
  - The "Favorite" (last used) Map CRS list (if any).
  - The list of the CRSs defined for all the Layers in the Map (if any).
  - Access to the CRS Catalog of the application.
    Note: To unassign (undefine) the Coordinate System of the Map, choose "Undefined CRS" (EPSG 0).
- Layer
  - Information only: the current CRS defined for the selected Layer. If the selected Layer has not defined a CRS, you will see it as "Undefined". If the current CRS shown is not "Undefined", be careful when modifying it because there must be some reason for this value.
  - The "Favorite" (last used) Layer CRS list (if any).
  - The list of the CRSs defined for all the Layers in the Map (if any).
  - The CRS defined for the Map (if the Map has a CRS defined).
  - Only for External Layers: the CRS defined for the data source of the Layer (if any).
  - Access to the CRS Catalog of the application.
    Note: To unassign (undefine) the Coordinate System of a Layer, choose "Undefined CRS" (EPSG 0).

For each CRS in these menus you will see:

- The name of the CRS.
- The EPSG number for the CRS (in brackets).
- A tooltip showing the complete description of the CRS.
  Note: If the name and the EPSG number of a CRS are greyed in the lists, this means that it is the same CRS as that already selected for the Map or the Layer.



Select a CRS for a Map or a layer

- Notes:
  - To learn more about the use of the CRS Catalog, you can read this paragraph here: Transformation of coordinates .
  - When a Map has no CRS defined, it will take the CRS from the first Layer which has a CRS defined, so:
    - If you are loading new Layers in a Map, the first Layer with a defined CRS will define the CRS for the Map.
    - If you have a Map without a CRS defined and the Layers neither have their CRSs defined, when you choose a CRS for a Layer, this CRS will also apply to the Map.
  - Projection on the fly behavior:
    - As Spatial Manager Desktop™ projects on the fly the Features in the Layers according to their CRSs and the CRS of the Map, when you modify these parameters, you will see graphical changes in the Workspace. Be careful when choosing CRSs for the Map and for the Layers because you can apparently “lose” Features of some Layers in the Workspace if you make wrong or inappropriate selections for these parameters.
    - The Features in Layers without a CRS defined will not be projected on the fly.
    - If the Map has no CRS defined, no Features will be projected on the fly. Although usually you should not want to do it, you can disable the “projection on the fly” behavior by selecting the CRS “Undefined CRS” (EPSG 0) for the Map. You can select the “Undefined CRS” (EPSG 0) each time you want to unassign (undefine) the Coordinate System of a Map or a Layer.
  - The base Map backgrounds are only available with projected Coordinate Reference Systems.
  - Coordinate Systems and Transformation details .

- Coordinate Systems objects available in the current version .

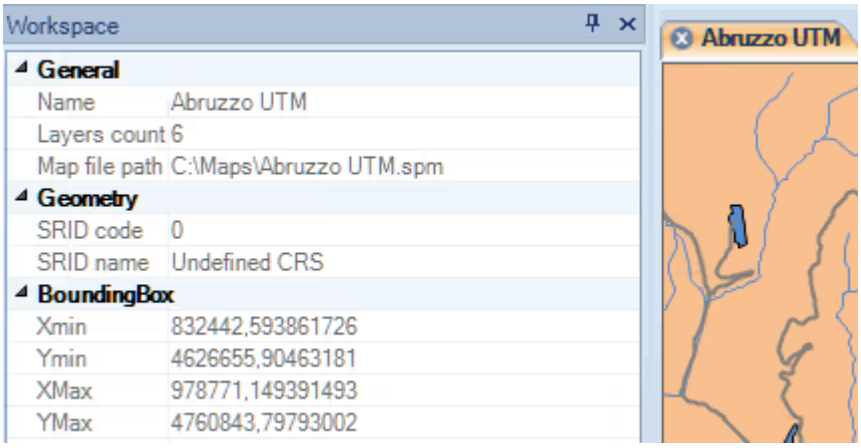
DOCUMENTATION

Properties

Arrange your maps in Layers that can be fully managed by the application.

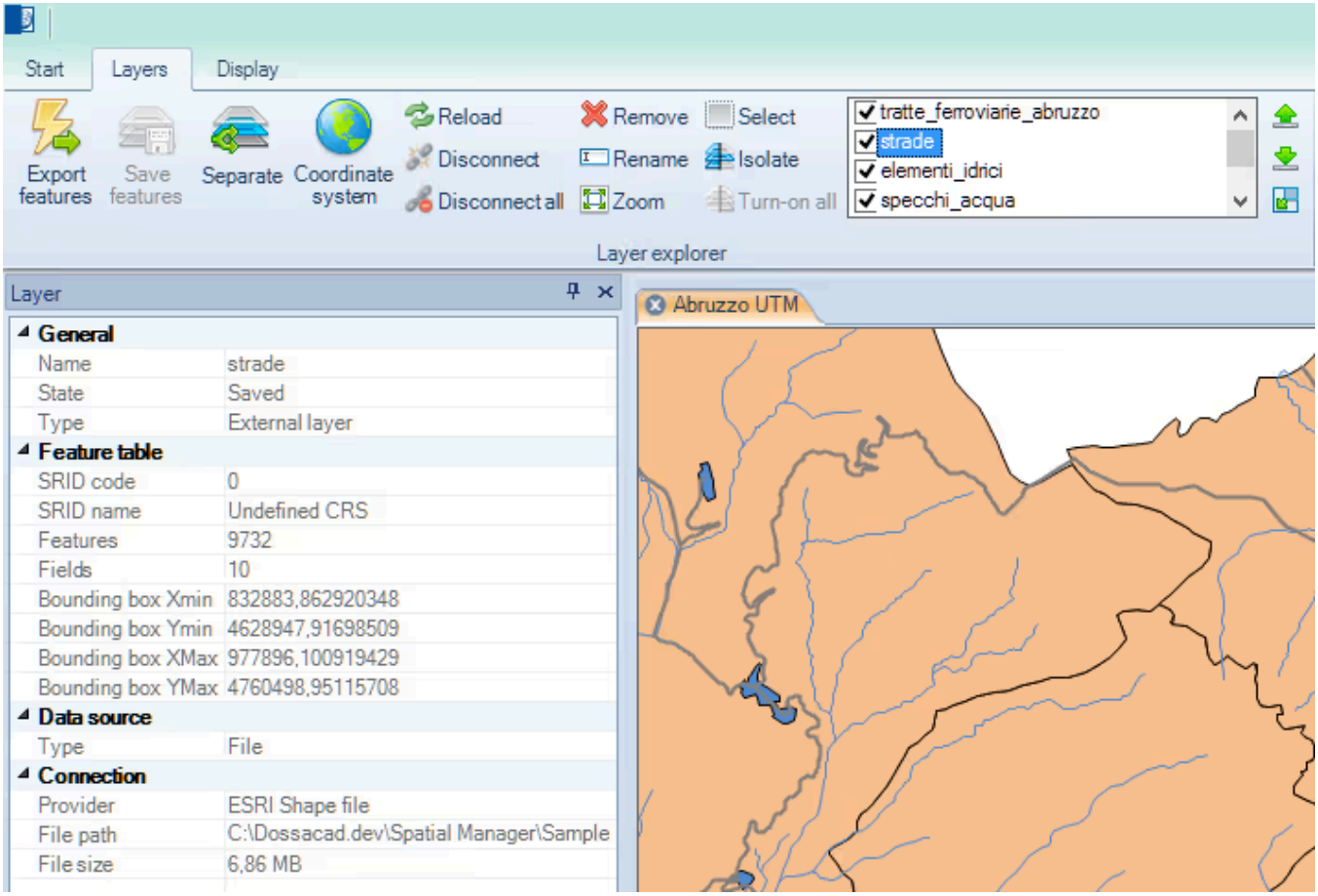
Review the Properties of a Map or a Layer

You can see the Properties of a Map in Spatial Manager Desktop™ in the “Properties” panel when you set the application focus in the corresponding Workspace by clicking on the Workspace tab.



Properties of a Map in the 'Properties' panel

And you can see the Properties of a Layer in the “Properties” panel when you select a Layer in the “Layers” ribbon.



Properties of a layer in the 'Properties' panel

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Background Maps

Choose from among a lot of dynamic Backgrounds Maps from providers such as Google Maps, OpenStreetMap, Bing, MapBox, Ordnance Survey, etc., or configure your own maps from TMS, WMS or WMTS servers.

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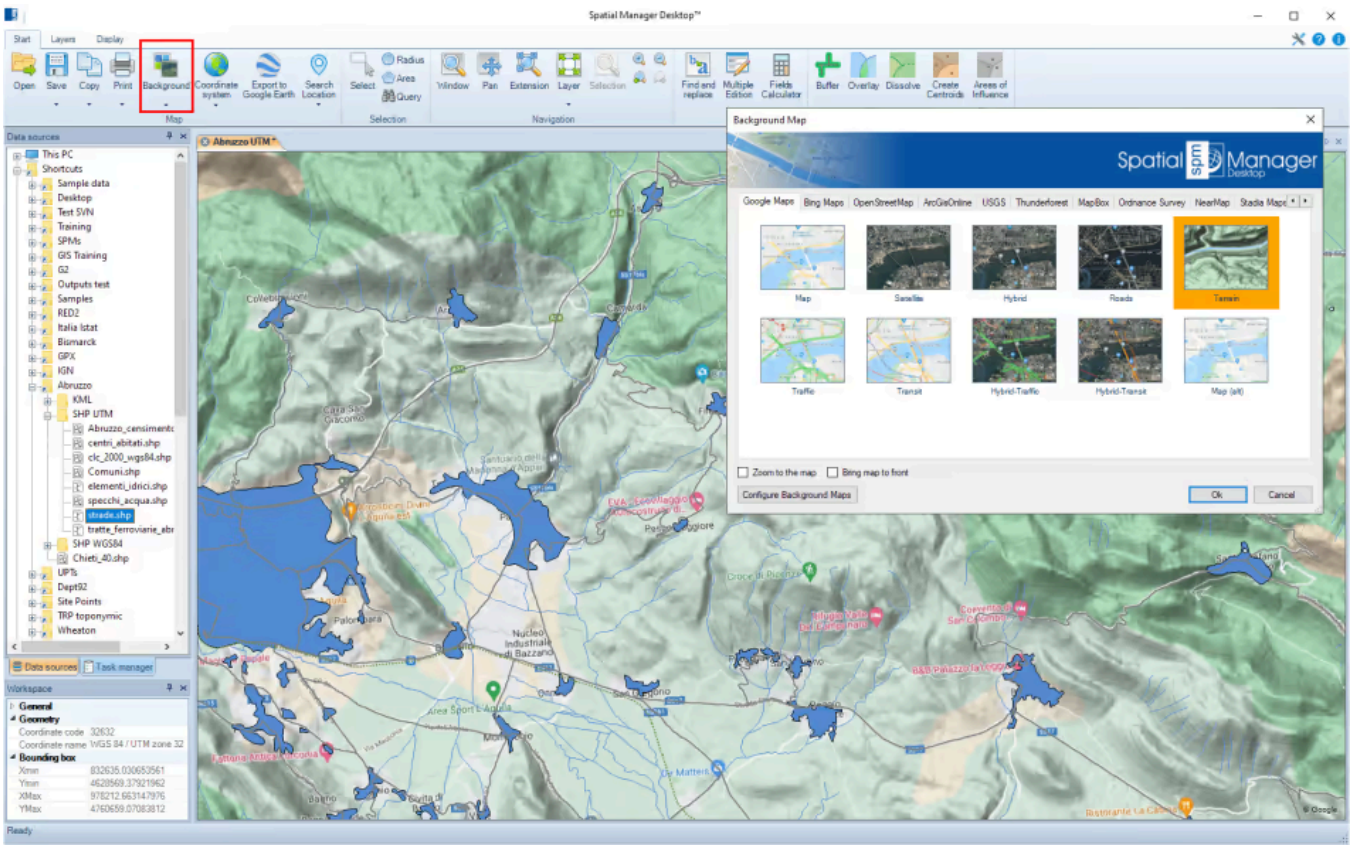
Show/Hide

Choose from among a lot of dynamic Backgrounds Maps from providers such as Google Maps, OpenStreetMap, Bing, MapBox, Ordnance Survey, etc., or configure your own maps from TMS, WMS or WMTS servers.

Display a Background Map

You can select an image map model to show as 'Background Map' in the map through the "Start" ribbon of Spatial Manager Desktop. This will open the "Background Map" window, allowing you to select a model from the Maps list. You can find the list arranged using different Groups (Tabs) for the different preset Providers (OpenStreetMap, Mapbox, etc.) and the User groups (see Configure User 'Background Maps'). The image of the dynamic 'Background Map' is automatically adapted to the current map view, and it will be automatically fitted when the map view changes (zoom, pan, etc.).

To change the image model map for the 'Background Map', you can run this function again. The "Background Map" window will display emphasized the current image map model, which you can keep by clicking the "OK" button. Click another model if you want to change to this model.



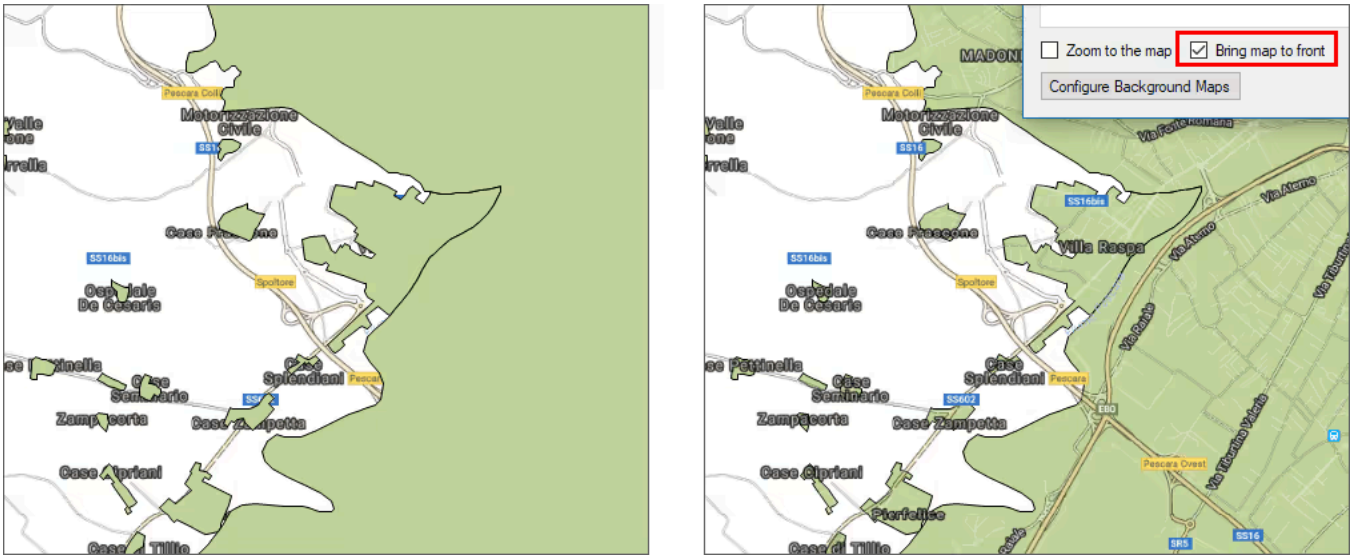
Select a Map background

Workspace view behavior when selecting a 'Background Map' and the "Zoom to the map" option:

- "Zoom to the map" selected.
  - If the map extension intersects the 'Background Map' extent, then the view fits to the map extension.
  - Otherwise the view fits to the 'Background Map' extent.
- "Zoom to the map" not selected.
  - The view does not change. If the current view does not intersect the 'Background Map' extent, a warning alerts you that the selected 'Background Map' is located outside the current view and that you will not see it in the view.
- In any other case not covered above.
  - The view does not change.

Note: The 'Background Map' extent is the bounding box defined in the corresponding Map Server and sometimes may be greater than the 'Background Map' geographic extent.

"Bring map to front" option: When checked, the map will be overlapped to all the elements in the workspace.



Map in the background vs. foreground

Notes:

- *Bringing the 'Background Map' to front makes sense, and it is a very practical option, when it has any transparent area (learn more about Transparent 'Background Maps' support).*
- *If you add elements to your map after bringing the 'Background Map' to front, those will overlap the 'Background Map'. If you want to put the 'Background Map' back in the foreground, simply select it again and keep checked the option "Bring map to front".*
- *Warning: Bringing the 'Background Map' to front can cause the rest of the elements to be hidden (except in transparent areas of the 'Background Map', if any).*

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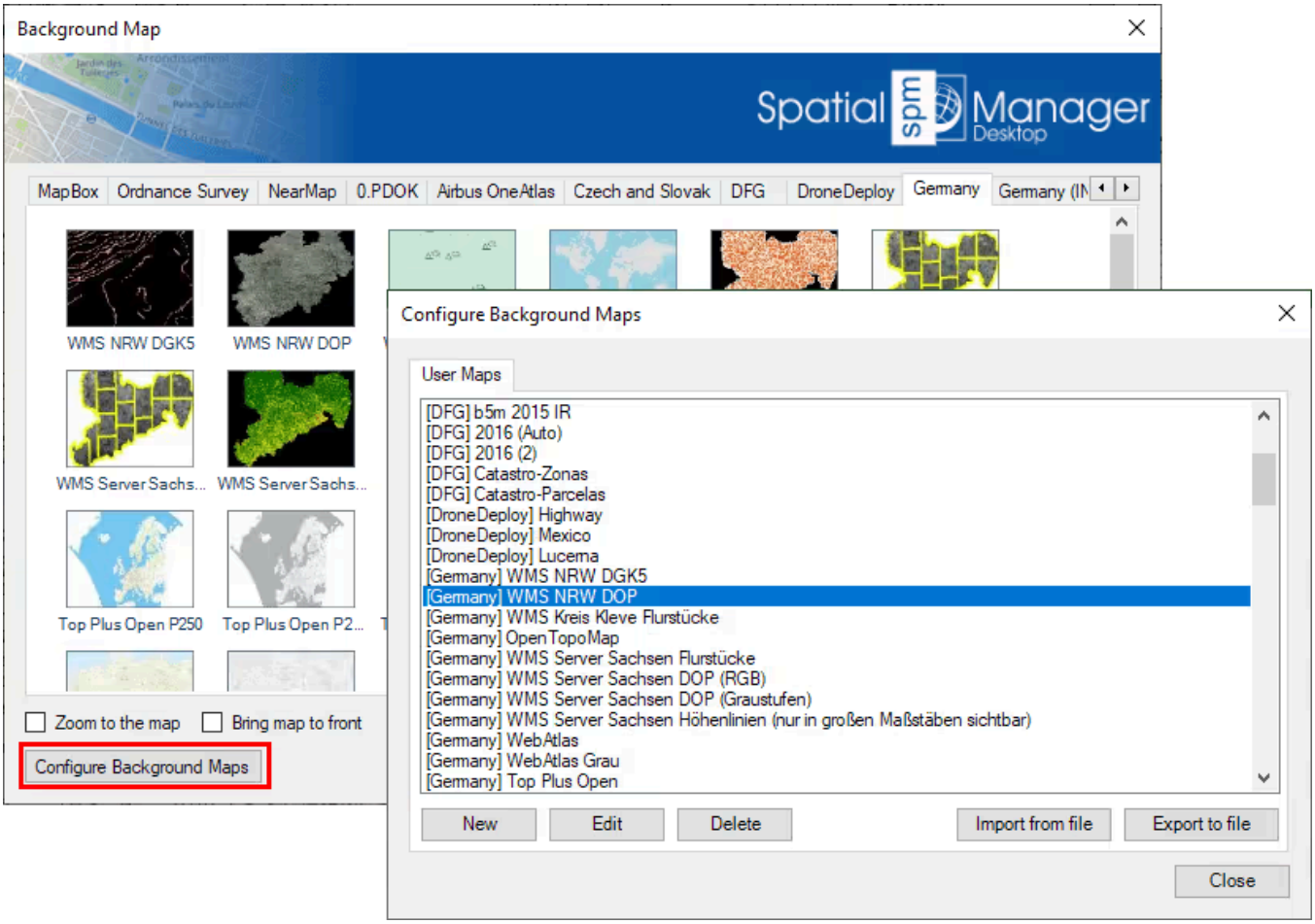
Custom maps

Connect to your preferred local map provider and work with the most common geospatial data sources, including WMS/OGC API Maps, WMTS/OGC API Tiles, XYZ/TMS services, and Cloud Optimized GeoTIFFs (COG).

Configure custom Web Map Services

Spatial Manager Desktop™ includes the option to define "User Background Maps" in order to enable access to more Mapping Services (XYZ / TMS, WMTS or WMS).

Enter the parameters needed to define a new "User Background Map" through the "Configure Background Maps" button in the 'Background Maps' selection window. As you will see, you can also Edit or Delete any existing "User Background Map" through the same option.



'Configure Background Maps' button in the 'Background Maps' selection window

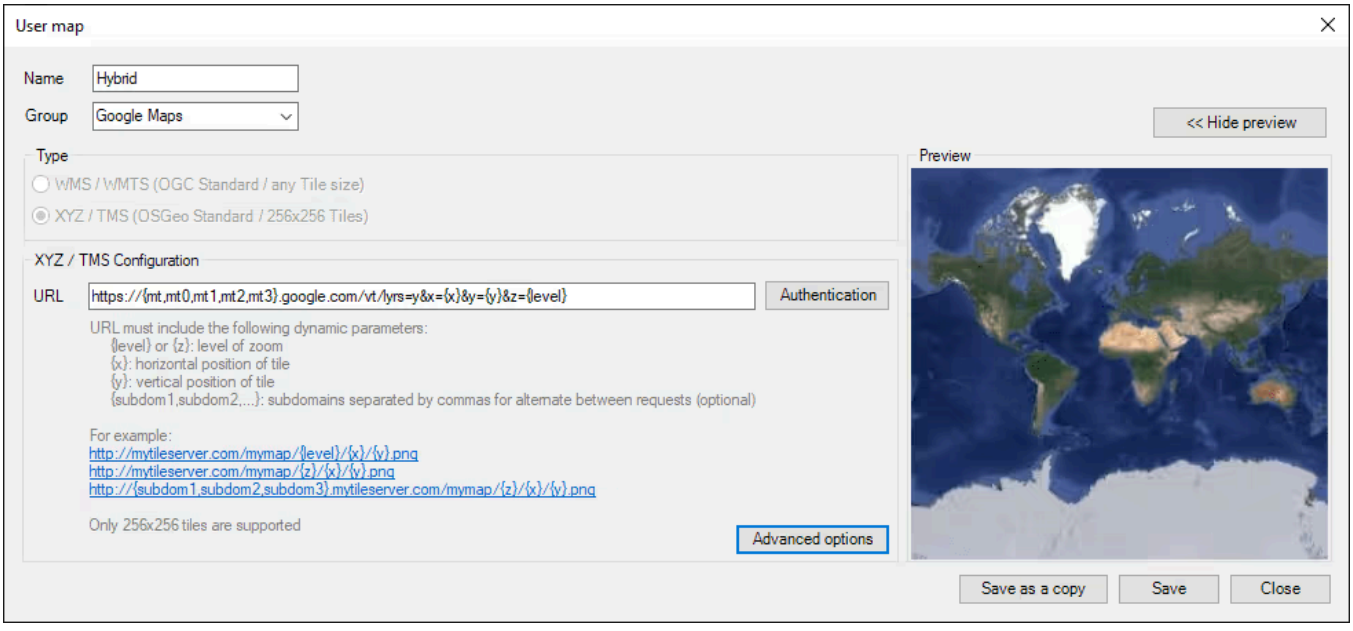
Through the "Configure Background Maps" window you can also Export/Import "User Background Maps" to/from a 'Background Map Definition' file (*.bmd). This kind of file includes the definition of one or more 'Background Maps' as well as the Group(s) where they are or will be placed. You can export as

many Maps as you want to a single file and, if you are importing already existing Maps, you can choose to either ignore the import of these Maps or rename them using automatic consecutive numbering.

Note: This functionality will allow you to share the Background Maps between computers or users and helps organize user Background Map definitions. In addition, you will be able to import Maps from services such as DroneDeploy and others.

XYZ / TMS Type Maps (OSGeo Standard / 256x256 tiles)

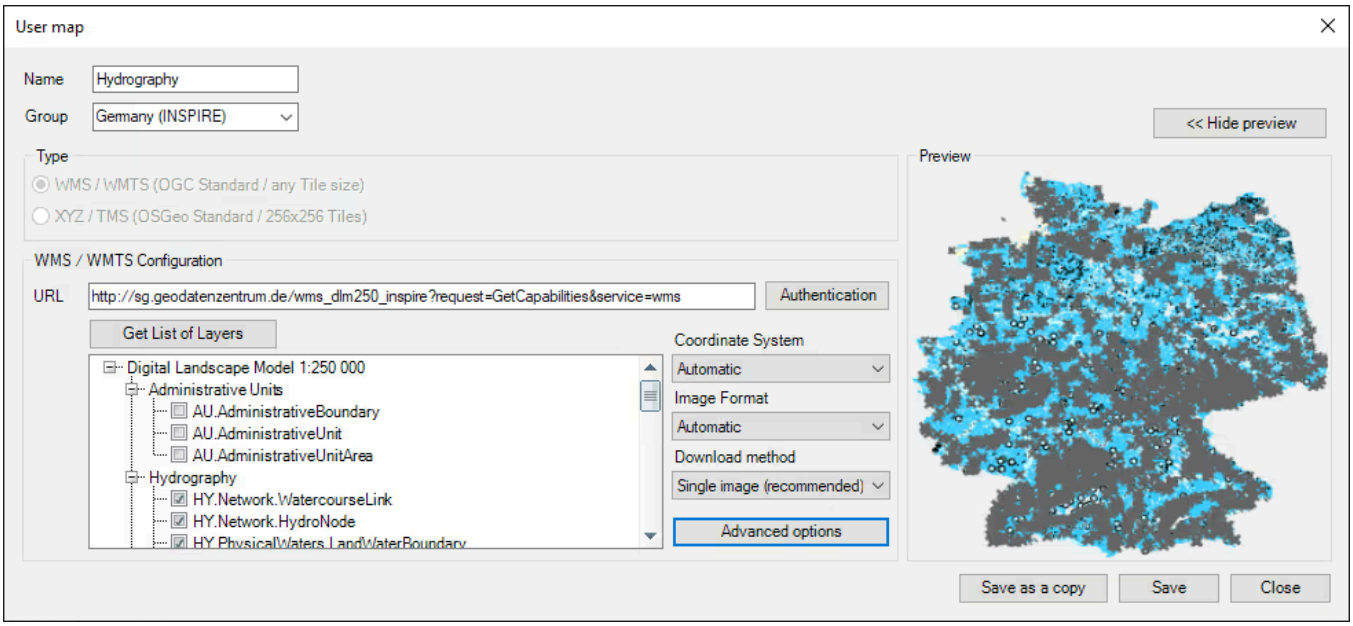
- The Name of the Map.
  - Each Map will have its own unique Identifier, so you can apply the same Name to different Maps in different Groups.
- The Group (Tab) where you want to place the Map. If it comes to a new Group, it will be automatically created. You can drop down the list of Groups to place the Map into an existing Group.
- The Type of the Map (XYZ / TMS in this case).
- The URL to access a specific valid Map in a valid Map Server. The URL must include the dynamic parameters specified in the application window.
  - Authentication: To enter the login data to access the service, if needed (Available security protocols SSL3, TLS, TLS1.2).
  - Advanced options:
    - Coordinate System (CRS). Be careful when changing this setting because most XYZ/TMS servers use the default value “WGS84 Pseudo-Mercator (EPSG 3857)”, so change it only if you are sure another CRS is required.
    - Tiles origin (Top-left or Bottom-left).
  - Note: You can also define XYZ/TMS User Background Maps on a local path.



Configuring XYZ / TMS User Background Maps

WMS or WMTS Type Maps (OGC Standard / any tile size)

- The Name of the Map.
  - The application will propose a name for the Map based on the selected Layer(s) in the server (see below), but you can modify it if you want to.
  - Each Map will have its own unique Identifier, so you can apply the same Name to different Maps in different Groups.
- The Group (Tab) where you want to place the Map. If it comes to a new Group, it will be automatically created. You can drop down the list of Groups to place the Map into an existing Group.
- The Type of the Map (WMS/WMTS in this case).
- The URL to access a valid Map Server.
  - Authentication: To enter the login data to access the service, if needed (Available security protocols SSL3, TLS, TLS1.2).
  - The Layer(s) that you want to include in the 'Background Map'. Click the "Get List of Layers" button and select the Layer(s) from the tree showing the complete Layers structure available in the Map Server.
    - The Coordinate System (CRS) for the selected Layer(s). Choose an available CRS or "Automatic" from the "Coordinate System" dropdown.
      - The "Automatic" option automatically configures the most suitable 'Background Map' CRS.
    - The Image Format for the selected Layer(s). Choose an available Format or "Automatic" from the "Image Format" dropdown.
      - The default "Automatic" option automatically sets the most suitable image format by following the next process:
        - PNG.
        - If PNG is not available, then any PNG variant (PNG8, etc.).
        - If the previous option is not available either, then JPG.
        - If JPG is not available, then the first format available in the server list.
    - The Download method from the server: "Single image (recommended)" or "Image tiles grid" (WMS only).
    - Advanced options:
      - WMS/WMTS options:
        - Ignore axis orientation, needed for some map servers.
        - Invert axis orientation, same as previous.
      - The Map Background Color (solid or transparent) (only for WMS servers that support it).
        - Transparent maps: See the next section.



Configuring WMTS or WMS User Background Maps

Notes about the WMS/WMTS 'Background Maps' performance:

- When configuring the "Download method" for a WMS 'Background Map', choose the default option "Single image (recommended)" whenever possible.
  - The image quality is optimum.
  - This choice will ensure that texts or other elements are not repeated multiple times when they appear in more than one image tile.
  - The alternative "Image tiles grid" should be used only when the "Single image" option becomes too slow.
- Select any compressed image format (PNG, JPG, etc.) if available.
  - The images will be smaller, resulting in shorter download times.
  - In most cases, the default "Automatic" option (see above) is the best one.

When configuring a User Map, clicking the "Show Preview" button will display an image of the Map extension to help verify if all settings are correct. The "Preview" image will be automatically updated when you modify any configuration parameter.

Click the "Save" button to save the Map and exit, or click the button "Save as a copy" to save the Map and stay on this window. This option allows you to quickly create various Maps using similar configurations without having to go out and come back again and again. For example, in the case of WMS/WMTS Maps, it is very useful for easily creating different Maps that include different Layer(s) of the same source.

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Transparent maps

Transparent maps allow you to blend multiple map layers to create visually enhanced and richer backgrounds. By supporting transparency in Background Maps, Spatial Manager Desktop™ enables combination of different map styles.

‘Background Maps’ and Transparent maps

Spatial Manager Desktop™ supports ‘Background Maps’ that include transparency information. When you select any transparent ‘Background Map’ to show it, the transparent areas of the map will show the last Background solid color used. In addition, if the option “Bring map to front” is checked when selecting the ‘Background Map’, you will see the opaque areas of the ‘Background Map’ over the rest of the elements in your map (see the option “Bring map to front” in Background Maps).

Transparent 'Background Maps'

Note: Transforming coordinates of the resulting images of a map (if needed) is a little slower when a transparent ‘Background Map’ is shown in the workspace.

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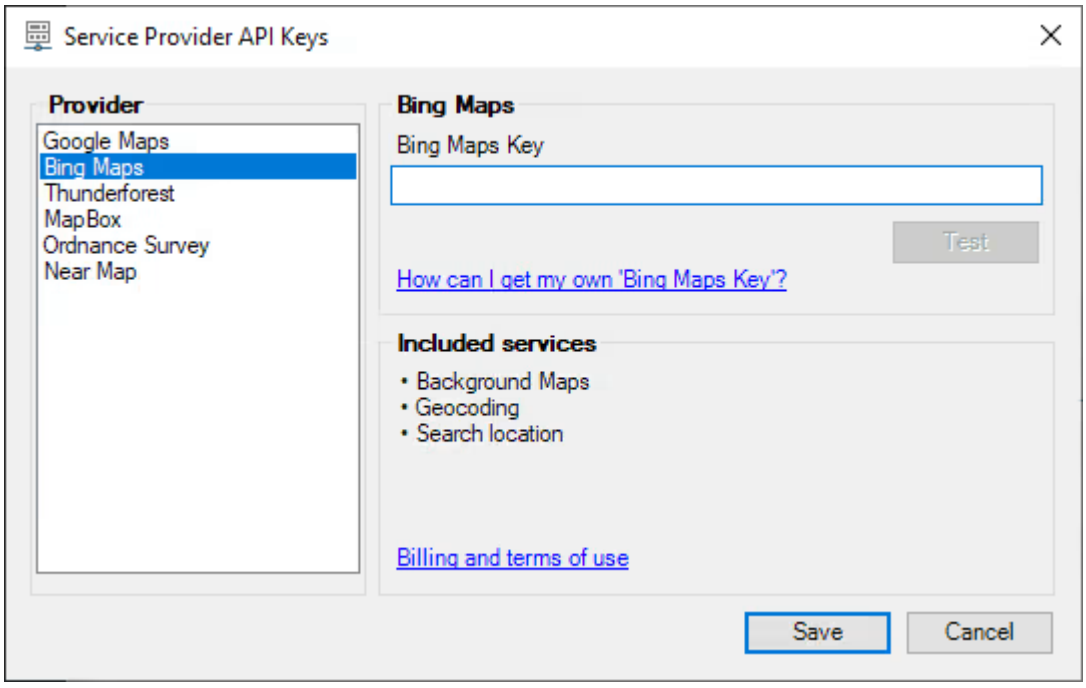
Terms of use

Some Background Map providers require specific usage terms or API keys. Spatial Manager Desktop™ lets you configure these credentials easily, enabling access to restricted maps.

Special condition to use the 'Background Maps'

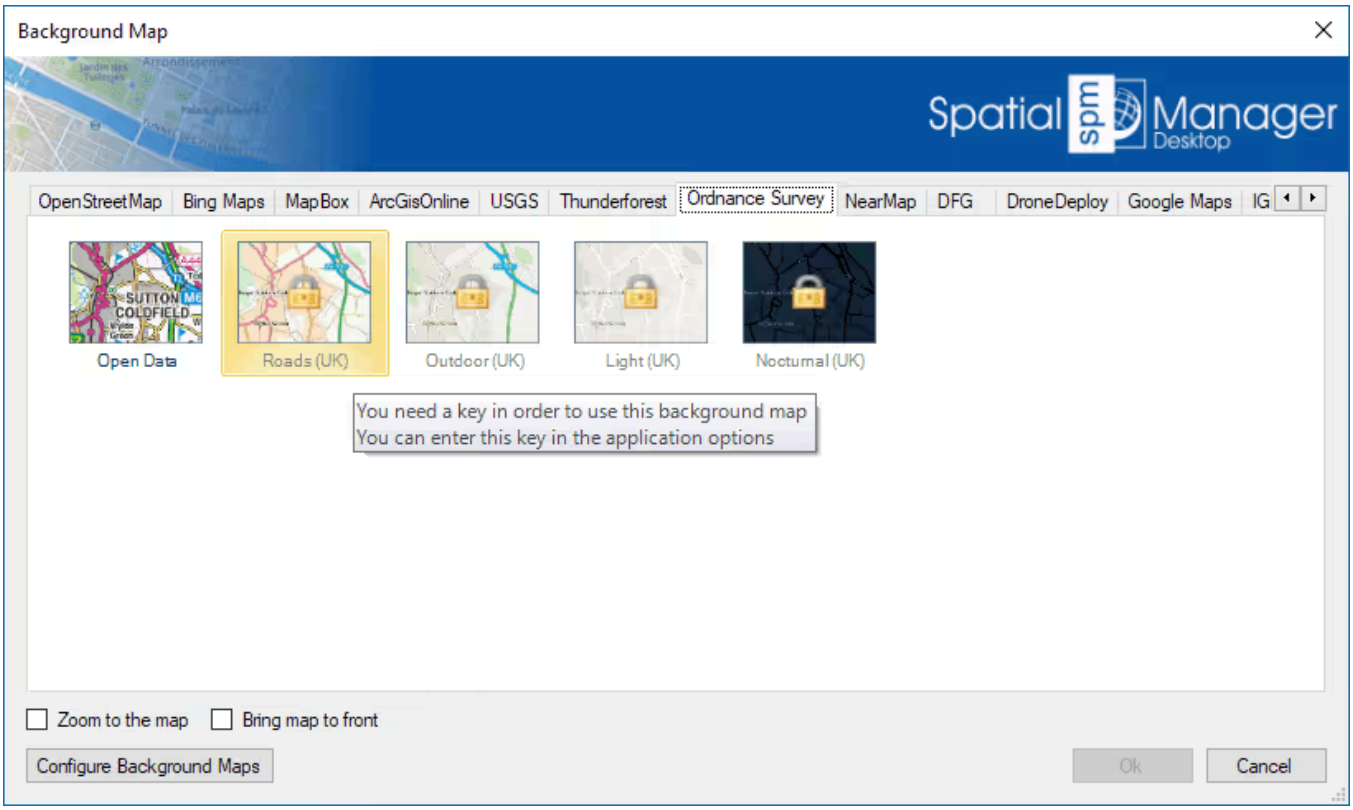
Certain image maps providers included in Spatial Manager Desktop™ may require special terms of use for the users of their maps. You can configure any special setting needed to load the maps of such providers through the Service Provider API Keys in the application Options. You can also configure and save these settings the first time you try to use a 'Background Map' that needs a special configuration.



Service Provider API Keys window

You can change these settings as often as desired. You can even insert blank values to reset the values of these settings.

Sometimes, the image maps provider lets you access some free maps, but you need to get a key or code to use the others. In this case, you will see "blocked" the maps which need you to modify the configuration according to the instructions above.



'Background Maps' blocked

Important note: *Please, read also the specific license conditions in the paragraph relating to the 'Background Maps' of the application End User License Agreement (EULA).*

DOCUMENTATION

Selection

DOCUMENTATION

Features

Available on editions

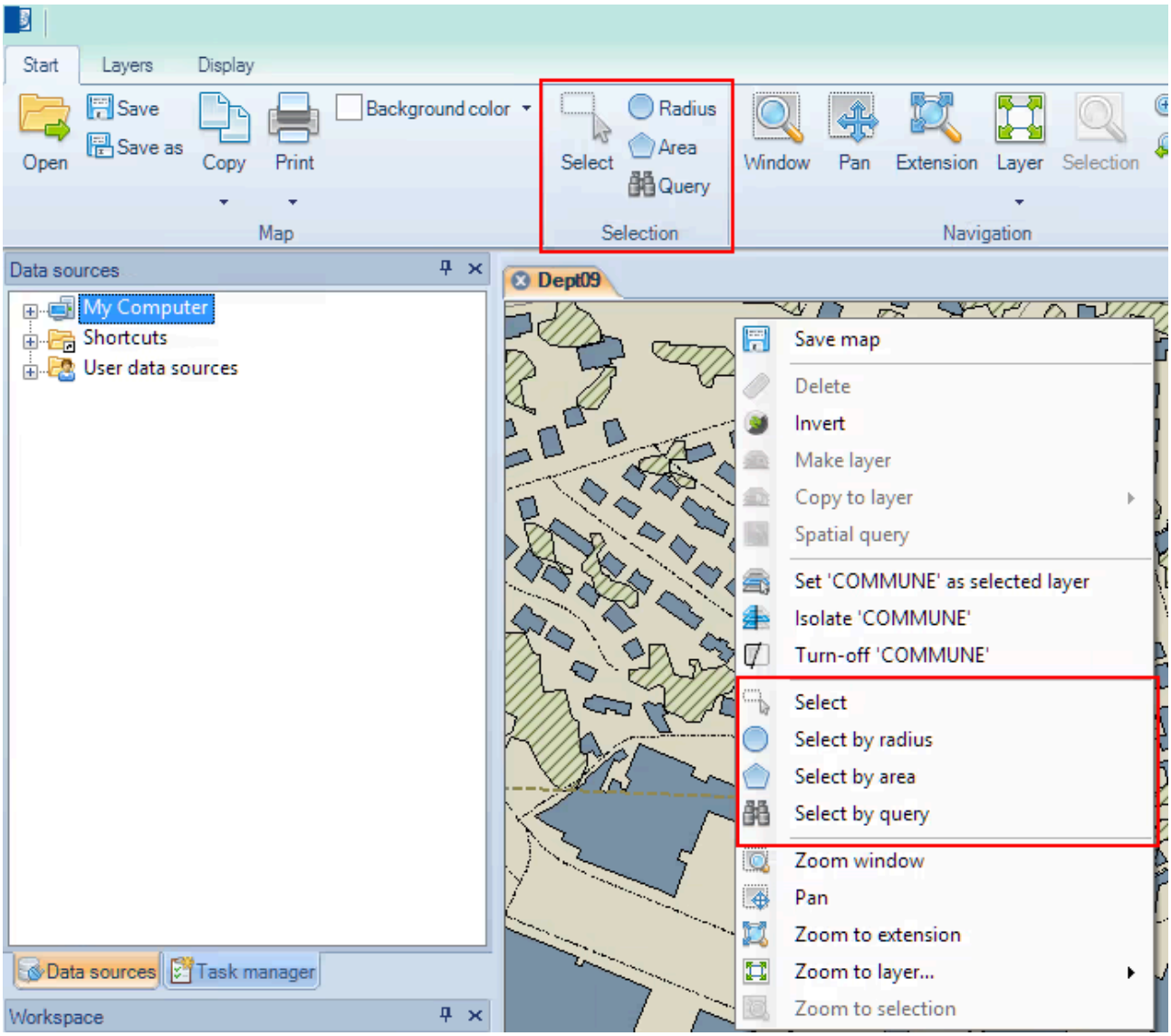
Standard Professional

Manage the alphanumeric data attached to the elements, design and edit the structure which will be used to store the data.

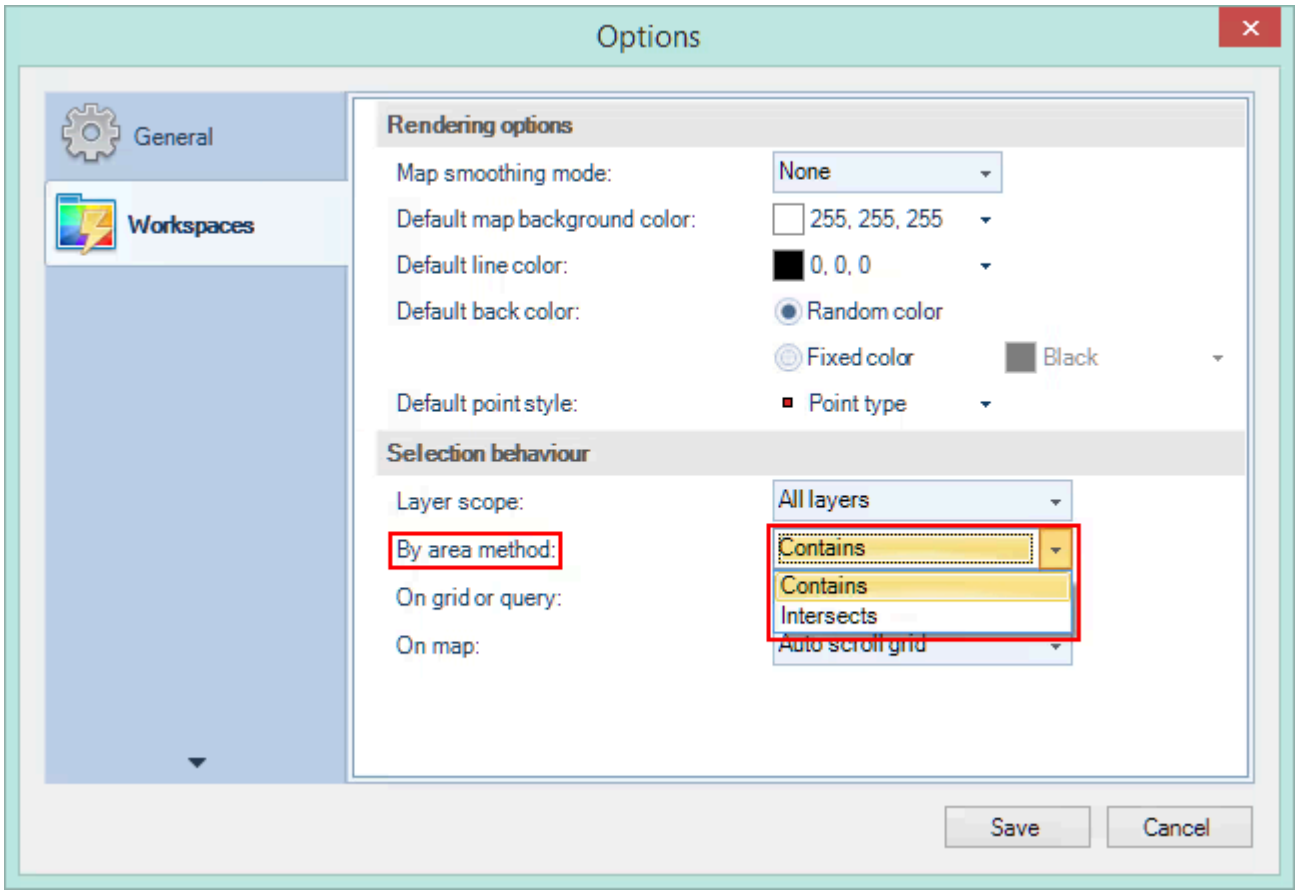
Select Features of a Map

There are multiple methods to select Features in Spatial Manager Desktop™.

- Graphical selections in the Map.
- Single selection: by clicking on a Feature in the Map.
- Rectangular selection:
  - By dragging the cursor left to right over the Map to define a rectangle (blue) and selecting all Features completely included in this rectangle.
  - By dragging the cursor right to left over the Map to define a rectangle (green) and selecting all Features completely or partially included in this rectangle.
- Radius selection:
  - By dragging the cursor left to right over the Map to define a circle (blue) and selecting all Features completely included in this circle.
  - By dragging the cursor right to left over the Map to define a circle (green) and selecting all Features completely or partially included in this circle.
- Polygonal area selection: by defining a polygonal area in the Map. To finish this area definition, you must double-click over the last vertex of the polygon. In “Options\Workspaces” you can configure if you want to select all Features completely included (Contains) in this area, or select all Features completely or partially included (Intersects) in this area.

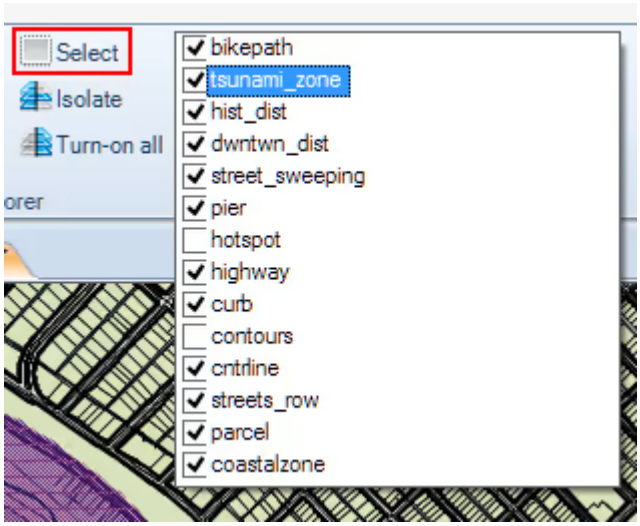


Select Tools

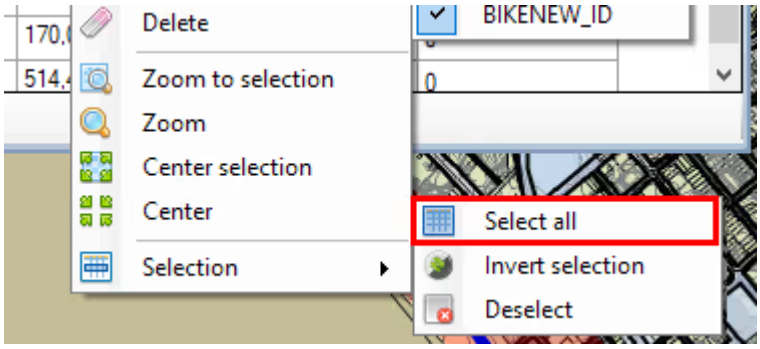


'Select by area' method in 'Options'

- Select a whole Layer:
- You can select all the Features in the selected Layer by using the "Select" function in the "Layers" ribbon. You can also perform this operation from the Data Grid right-click menu.

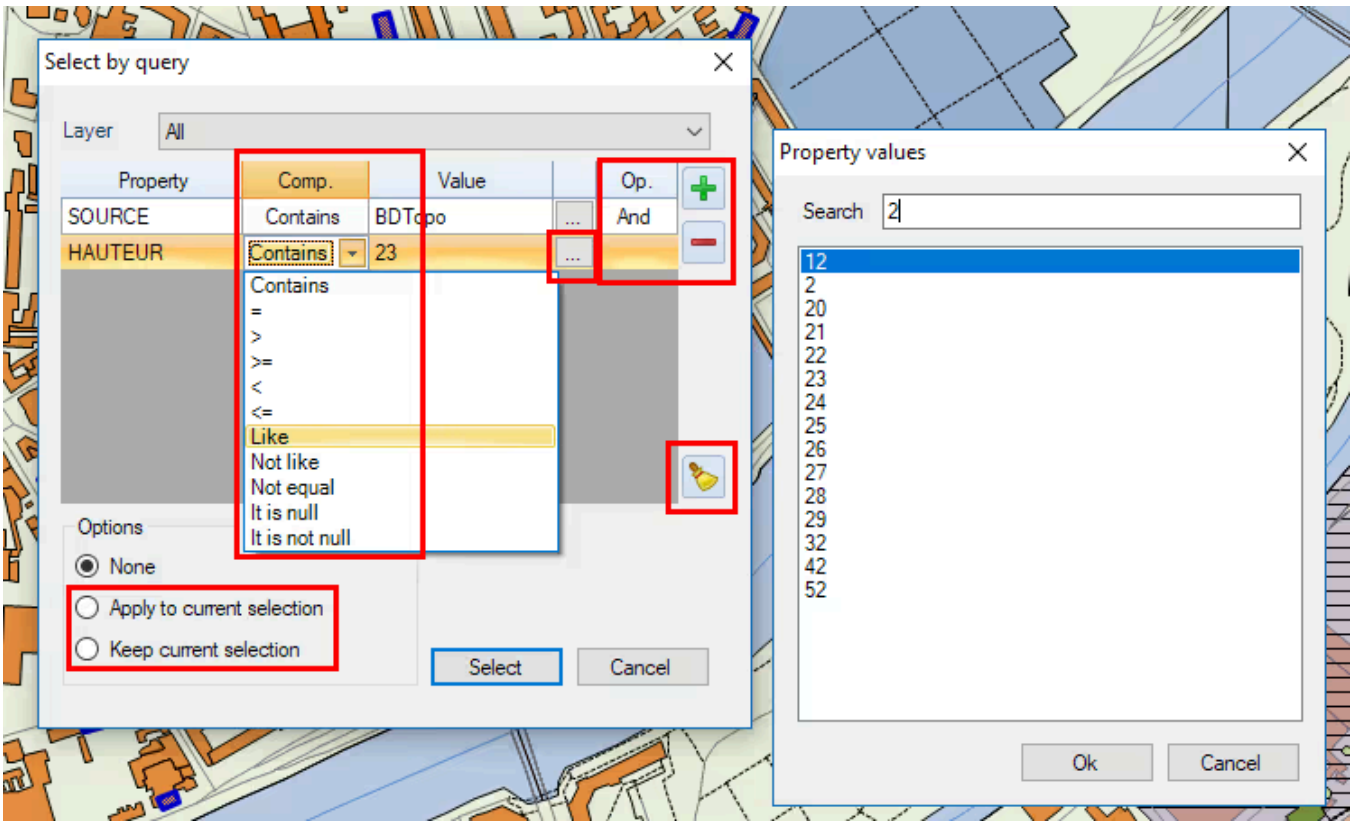


Select all Features in a Layer



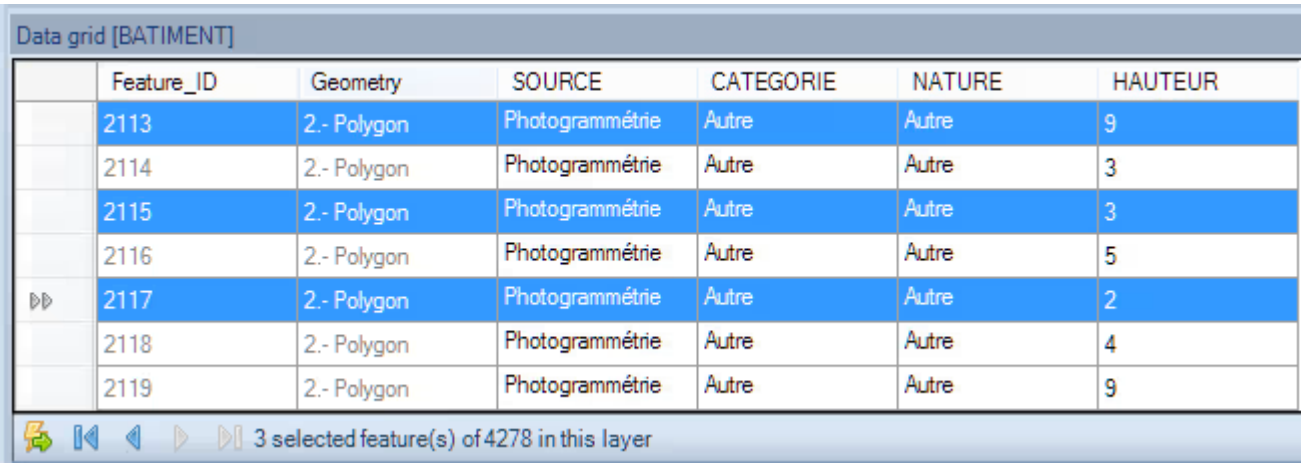
Select all Features in a Layer from the Data grid

- Selection queries:
- You can select Features in a Layer (or in all Layers) by querying their data. You can define simple or complex queries by choosing the "or"/"and" operators, and you can apply the query to all the Features in the Layer (or in all Layers) or to the current selection only. As you will see below, the option "Keep current selection" allows you to add the Features resulting from the query to the current selection. You cannot choose the option "Apply to current selection" if you choose "Keep current selection" and vice versa.
  - You can choose and search among the available values for a Field.
  - The function keeps the list of query conditions used the last time it was executed.
  - If there are no results during a query, the function window is shown again, keeping the list of query conditions.
  - You can use the Clean button (the "broom") to remove all query conditions from the list.



Selecting by queries

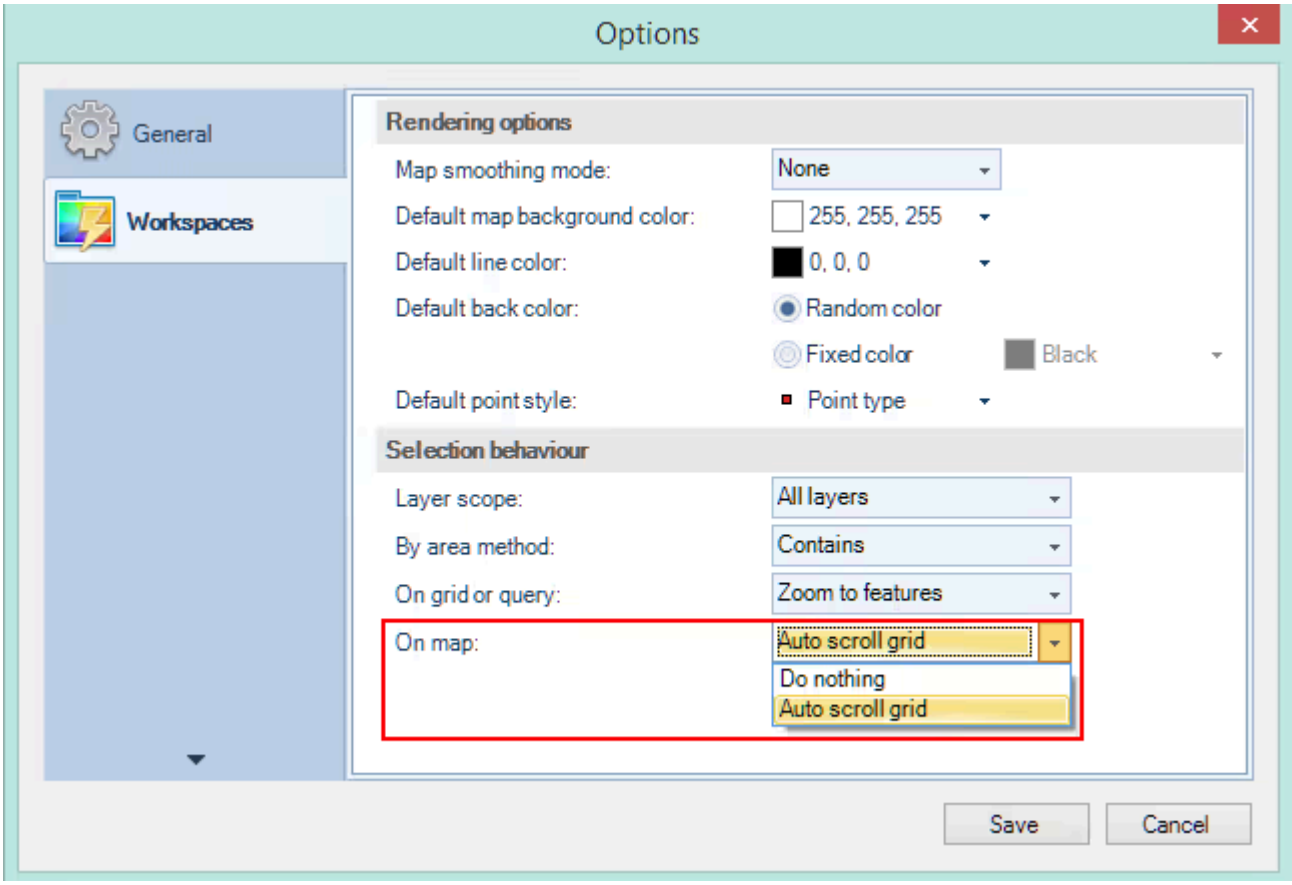
- Data grid selection:
- You can select a row in the Data grid by clicking on this row. If you want to add rows to the selection, you can use the CTRL or SHIFT keys.



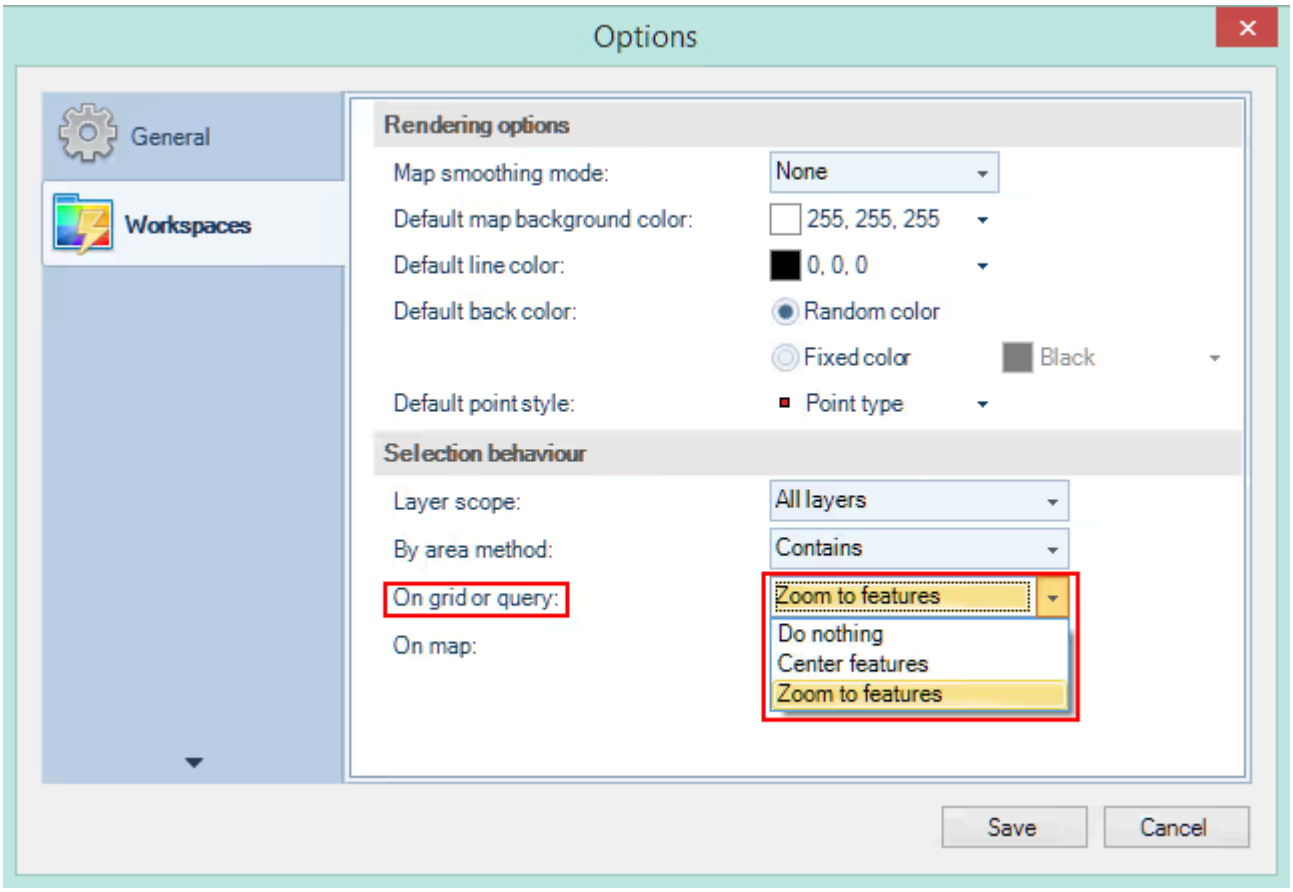
Select Features in the 'Data grid'

Notes:

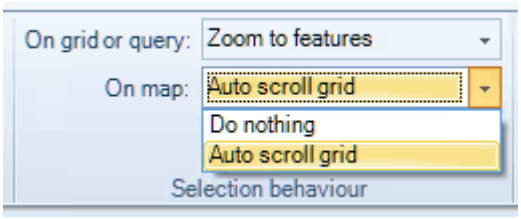
- *When you apply any graphical selection method, you can control the Data grid behaviour in "Options\Workspaces" and in the "Selection\Tools" ribbon.*
- *When you apply query or Data grid selection methods, you can control the Map view behaviour also in "Options\Workspaces" and in the "Selection\Tools" ribbon.*



'Auto-scroll the grid' option



'Auto-zoom the Map' option



Previous options in the ribbon

DOCUMENTATION

Spatial queries

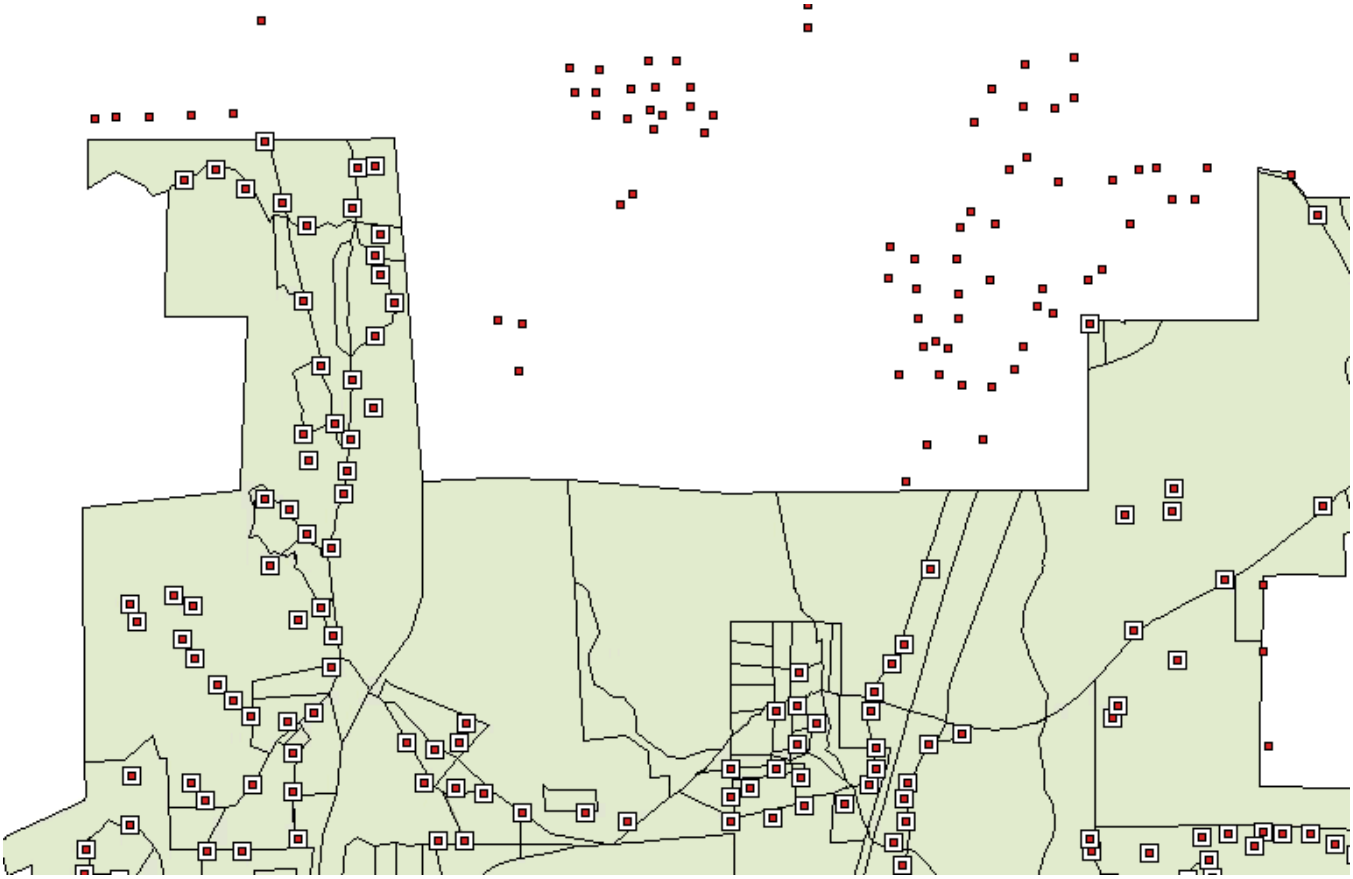
Available on editions

Standard Professional

Query selections by performing geometric operations to locate features that interfere with other features under certain conditions (intersects, touches, within, contains, disjoint, overlaps or crosses).

What are Spatial queries

Spatial queries are geometric operations that Spatial Manager Desktop™ can perform to help you locate Features that interfere with other Features under certain conditions. For example, as you can see in the next picture, to locate which points of a Layer are found within the polygons of another Layer.

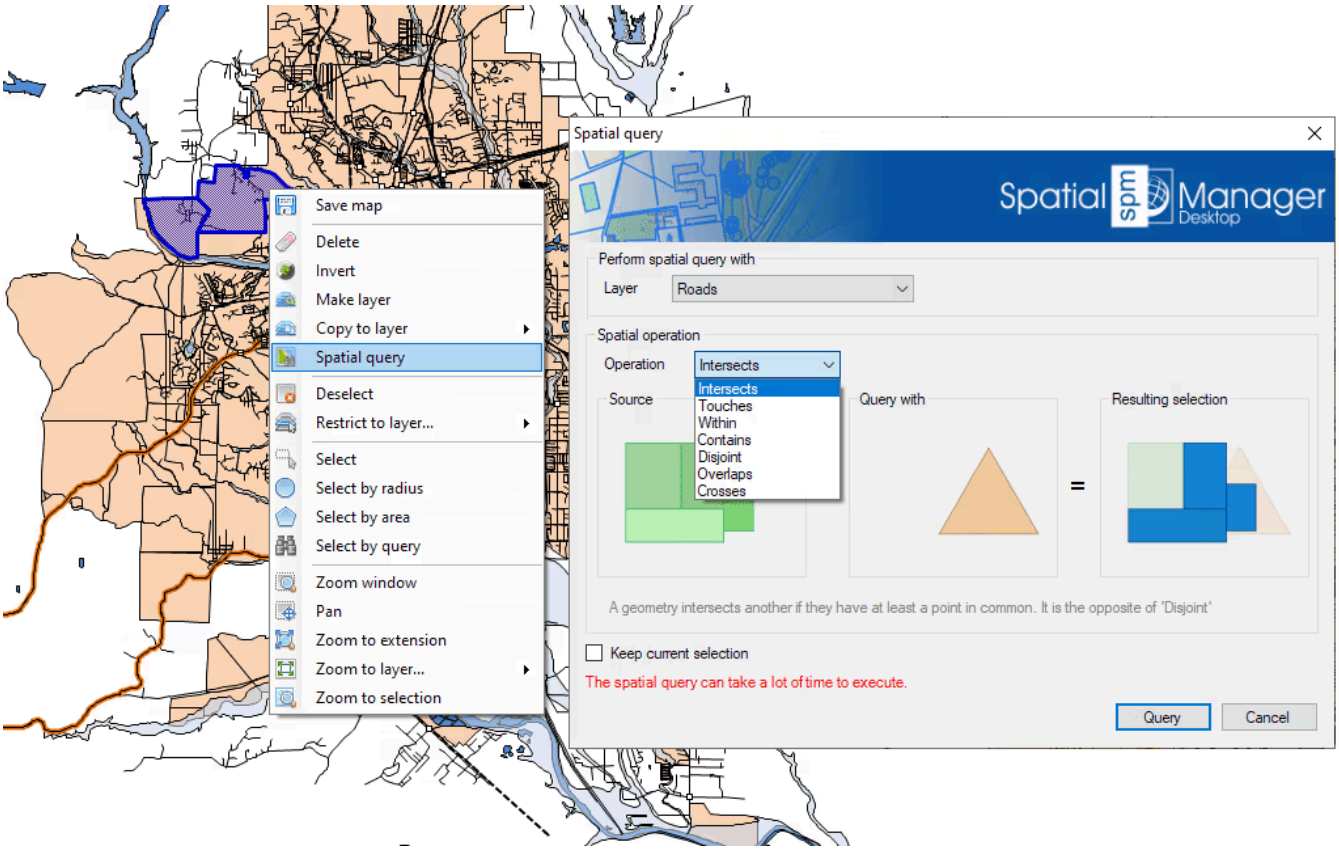


Simple 'Spatial query' sample

Define a Spatial query

To define a Spatial query in Spatial Manager Desktop™, you need to define the base of the query first by selecting the Features to operate. Next, you must select the “Spatial query” function, and then choose a Layer to query and the type of operation to perform. When you select the Features to operate, you can

select a full Layer if you want to perform an interference operation between two full Layers. In addition, the selection resulting from the operation can be added to the Features already selected.



'Spatial query' operations

Operations for Spatial queries

The list of operations that Spatial Manager Desktop™ can perform using Spatial queries is the following:

- **Intersects**: A geometry intersects another one if they have at least one point in common. It is the opposite of 'Disjoint'. For example, combined with Buffers , features that are located at a certain distance from other features, which will normally be points or linear features (such as buildings located at a certain distance from road or street axes, etc.).
- **Touches**: A geometry touches another one if they have common points only at their boundaries, without intersection, and neither contains or is equal to the other. For example, buildings touching another building within a block of contiguous buildings (the map must be very precise because no intersections should occur).
- **Within**: A geometry is within another one if it is completely inside or they are equal. It is the inverse of 'Contains'. For example, to select points representing pharmacies within a neighborhood, polygons representing hospitals within a municipality, or buildings within a parcel, etc.
- **Contains**: A geometry contains another one if the second one is completely inside the first one or they are equal. It is the inverse of 'Within'. For example, to select all the parcels in a municipality that contain one or more buildings.

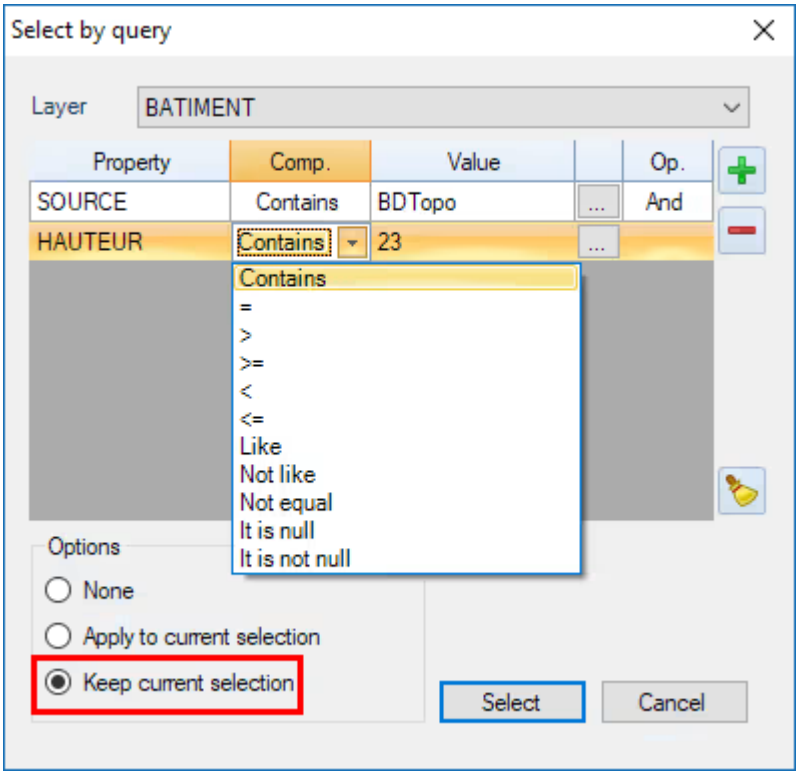
- **Disjoint**: A geometry is disjoint from another one if they do not have any points in common (that is, "out of": It does not intersect and does not touch). It is the opposite of 'Intersects'.
- **Overlaps**: A geometry overlaps another one if they have areas in common, but neither is fully inside the other and they are not equal. For example, polygons that intersect but none of them are completely inside each other, i.e., "they cross". A practical case could be the selection of buildings in one municipality that are located partially within the boundary of the municipality and partially within the boundary of another adjacent municipality.
- **Crosses**: A geometry (linear feature) crosses another one if it has at the same time parts inside and outside the second one. For example, to select road sections that are partially located within the boundaries of two or more municipalities.

DOCUMENTATION

Tools

Add/remove Features to/from a selection

- To add Features to a selection in Spatial Manager Desktop™:
  - Press the CTRL key when you use any graphical selection method.
  - Press the CTRL or SHIFT keys when you click on rows in the Data grid.
  - Click the option "Keep current selection" when you perform a "Selection by query" (you can also find this option when performing "Spatial queries" — "Standard" and "Professional" editions only). As you can see above, the option "Apply to current selection" allows you to apply a query only to the selected Features. You cannot choose the option "Keep current selection" if you choose "Apply to current selection" and vice versa.
- To remove Features from a selection in Spatial Manager Desktop™:
  - Press the CTRL key when you click on a Feature in the Map.
  - Press the CTRL key when you click on a row in the Data grid.

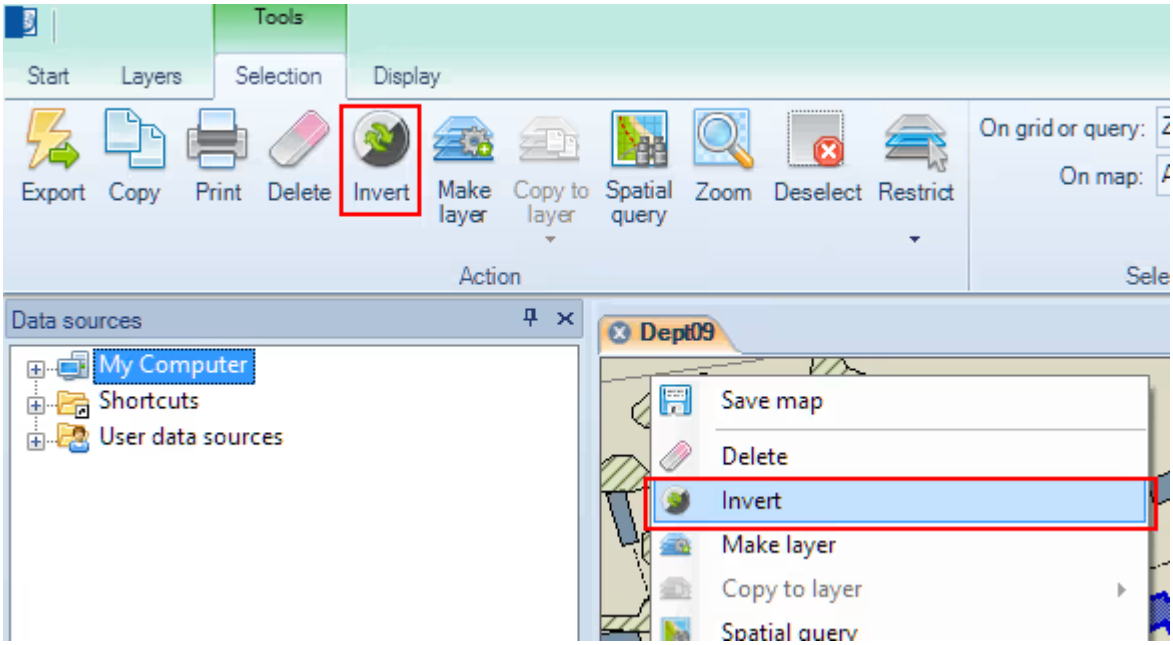


Adding Features to the current selection when Selecting by Query

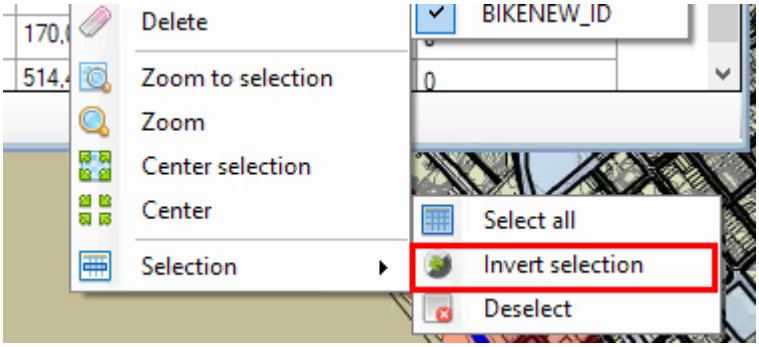
Invert a selection

To invert a selection in Spatial Manager Desktop™, you must use the "Invert" function. You will get selected all Features not selected previously in the Map and vice versa. You can also use the Data grid

right-click menu to invert a selection.



Invert the selection Tool

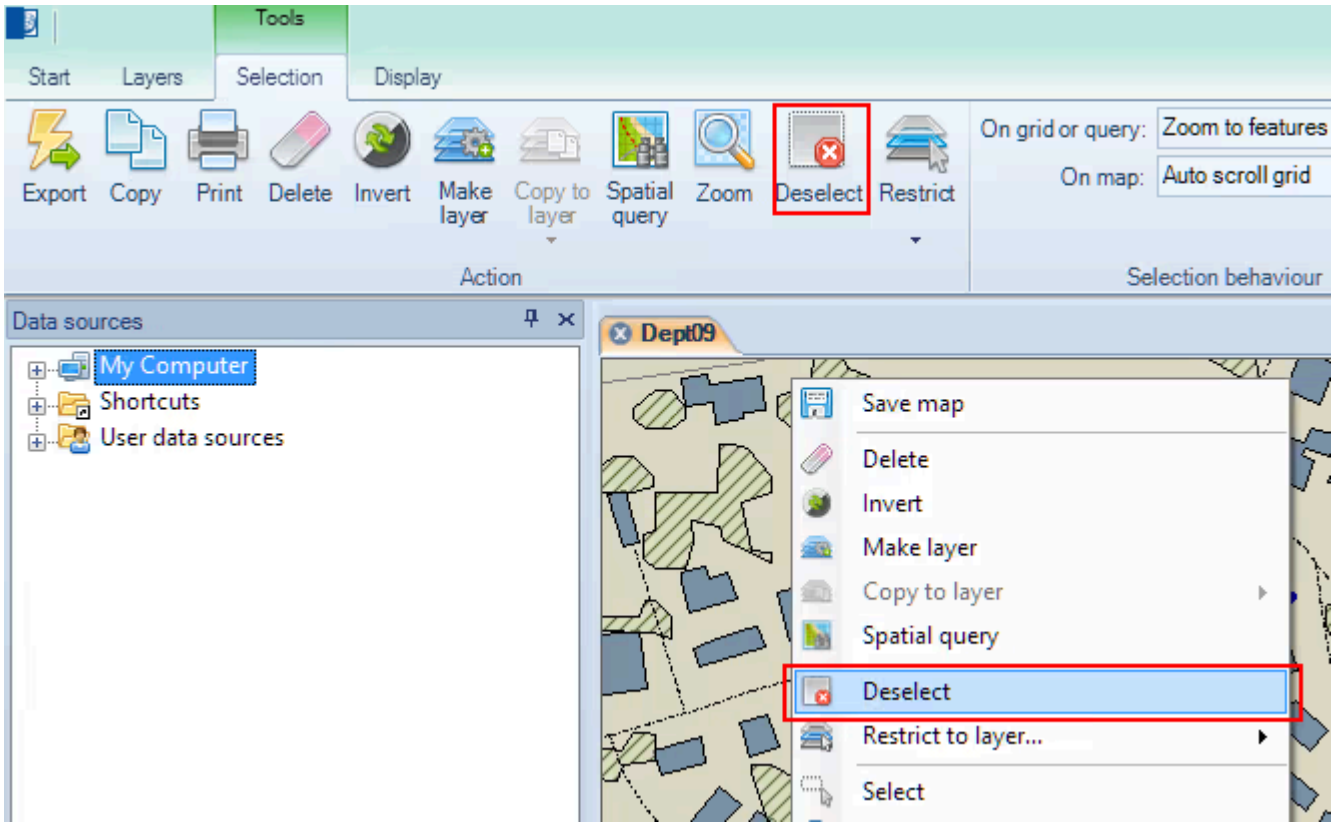


Invert the selection in the Data grid

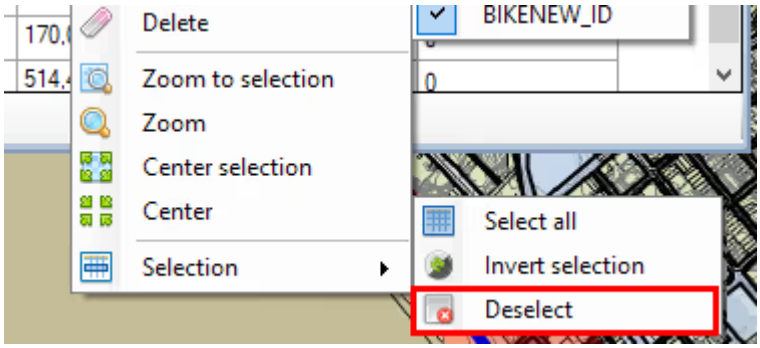
Deselect all the selected Features

There are four methods to deselect all selected Features in Spatial Manager Desktop™:

- Press the ESC key.
- Click anywhere empty in the Map.
- Use the "Deselect" function.
  - You can also access this function from the Data grid right-click menu.



Deselecting the selected Features

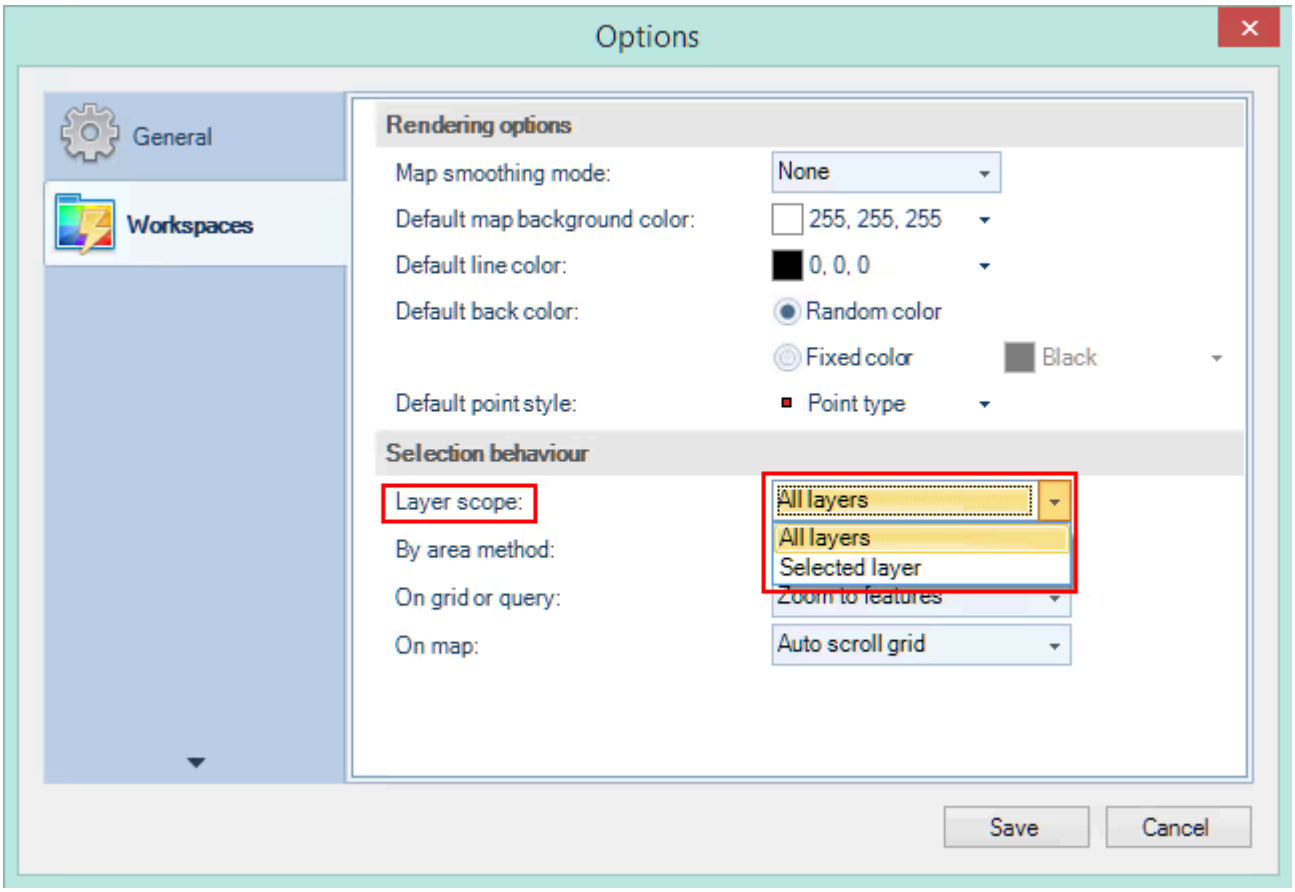


Deselecting from the Data grid

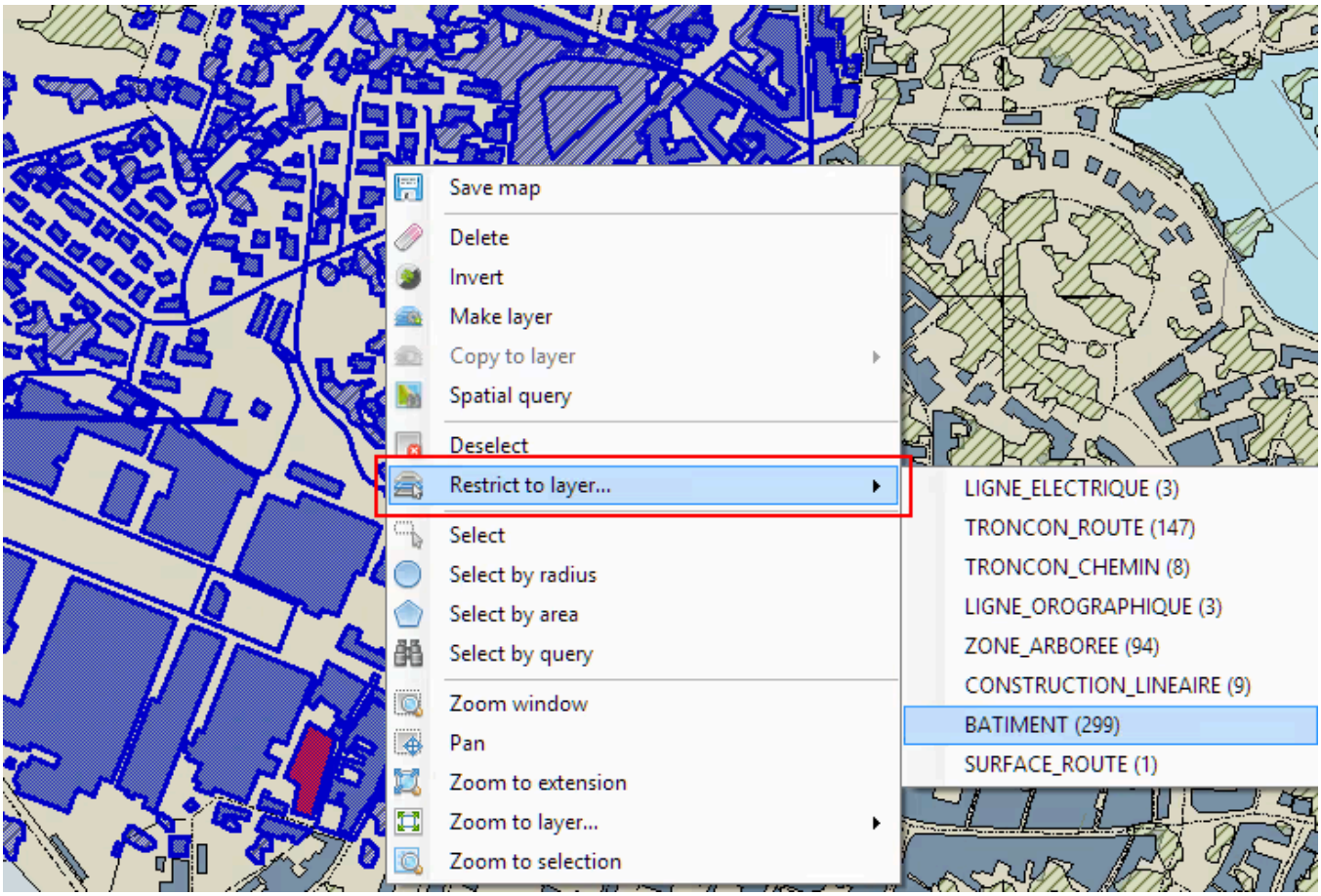
Filter selections by Layer

You can use two ways to filter selections by Layer in Spatial Manager Desktop™:

- By setting the "Layer scope" parameter in "Options\Workspaces", so the graphical selections will apply to all Layers in the Map or to the selected Layer only.
- Use the function "Restrict to layer" to limit the current selection to a single Layer. You can also use this function to find out how many Features are now selected in every Layer of a selection.



'Layer Scope' option



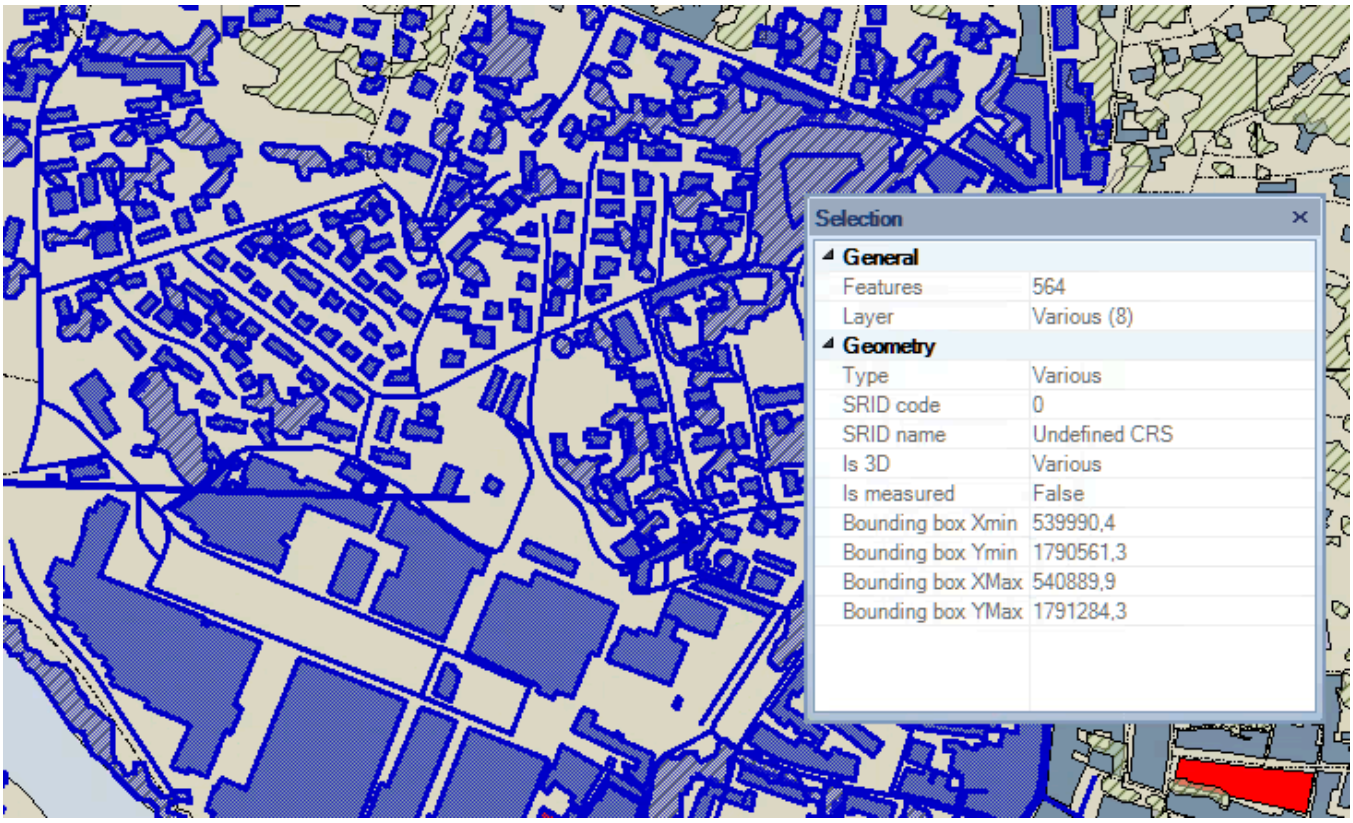
Restrict the selected Features to a Layer only

DOCUMENTATION

Information

Get some information about a selection

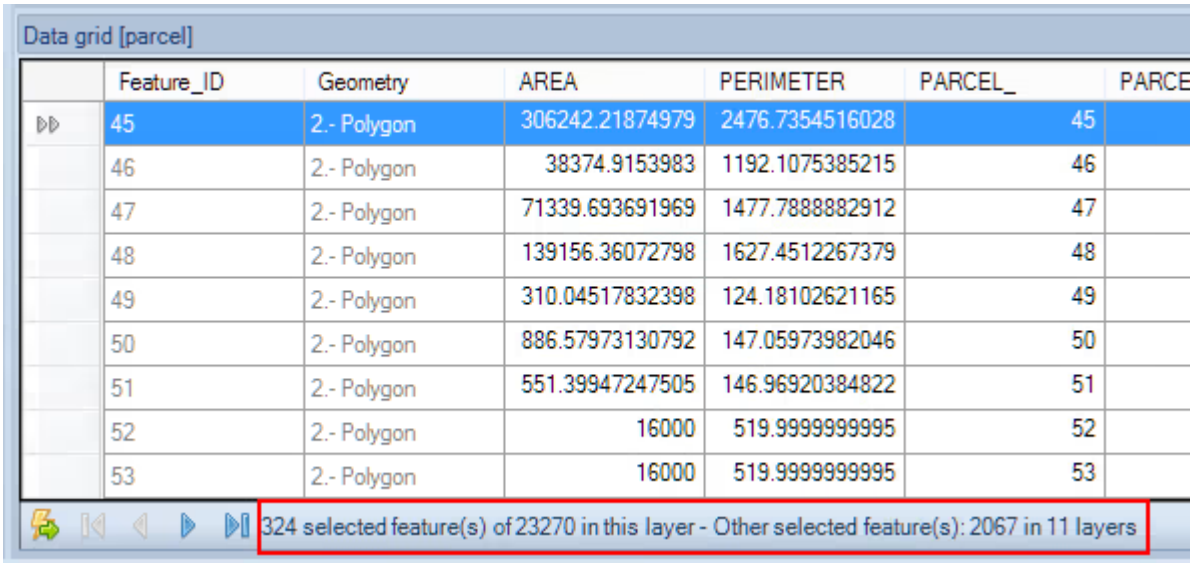
You can find data about a selection in the “Properties” panel of Spatial Manager Desktop™. If you do not see this information in the “Properties” panel when some Features are selected, set the focus of the application in the Workspace by clicking on the tab of the Workspace.



Selection Properties

In addition, at the bottom of the Data grid, you will see this information:

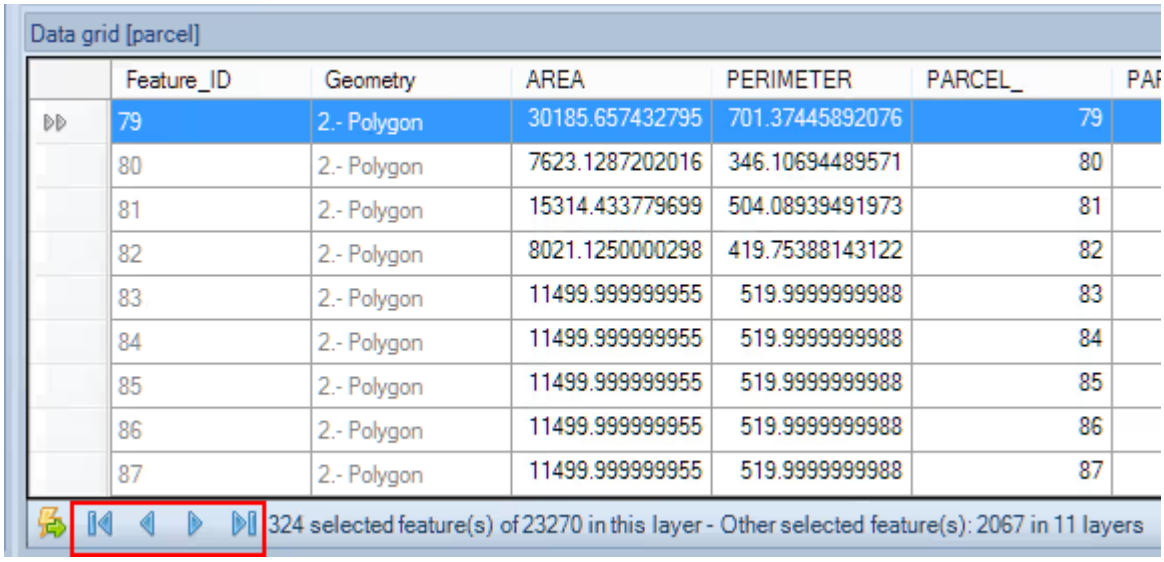
- How many Features are selected in the selected Layer out of the total number of Features included in the selected Layer.
- How many Features are selected in other Layers and the number of Layers including any Features selected.



Selection basic data in the 'Data grid'

Navigate through the selected Features in the Data grid

To navigate through the selected Features in the Data grid in Spatial Manager Desktop™, you can use the bottom arrows in the Data grid to go to the next, previous, first, or last Feature in the grid.



'Data grid' Navigate buttons

DOCUMENTATION

Data Management

Available on editions

Standard Professional

Manage the alphanumeric data attached to the elements, design and edit the structure which will be used to store the data.

DOCUMENTATION

Data edit

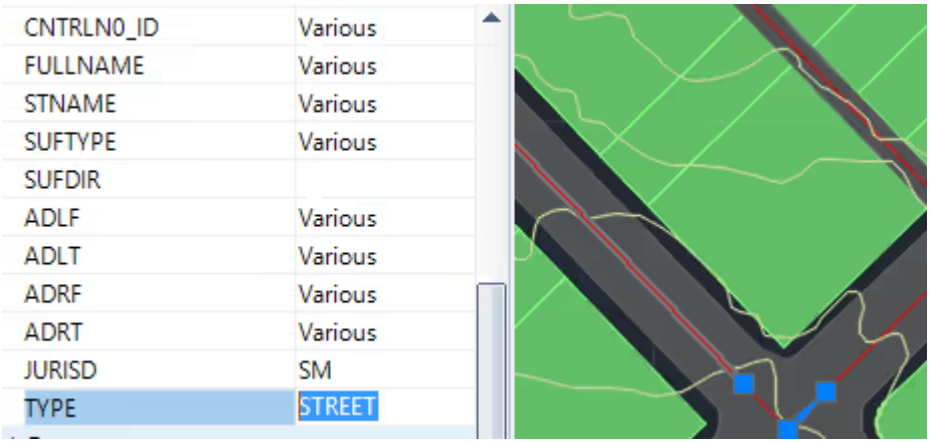
Available on editions

Standard Professional

Manage the alphanumeric data attached to the elements, design and edit the structure which will be used to store the data.

Modify the objects data

You can directly edit a data field value (XDATA / EED direct data edition) for one or more objects in Spatial Manager Desktop™ by selecting the object(s) in the drawing and typing the new value for this field in the 'Properties' area of the 'SpatialManager' palette. You can also delete the field content to get a null value in this field. To validate any modification, you need to press Enter or click on a different field.



Direct data edit in the Properties area

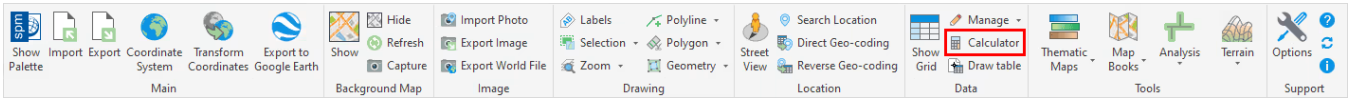
Notes:

- *The fields whose value starts with "http" are automatically converted into active links.*
- *Because of performance considerations, the number of objects selected for which their data are shown in the application palette is limited by the system variable PROPOBJLIMIT.*

Calculate field values based on values of other fields and/or constants

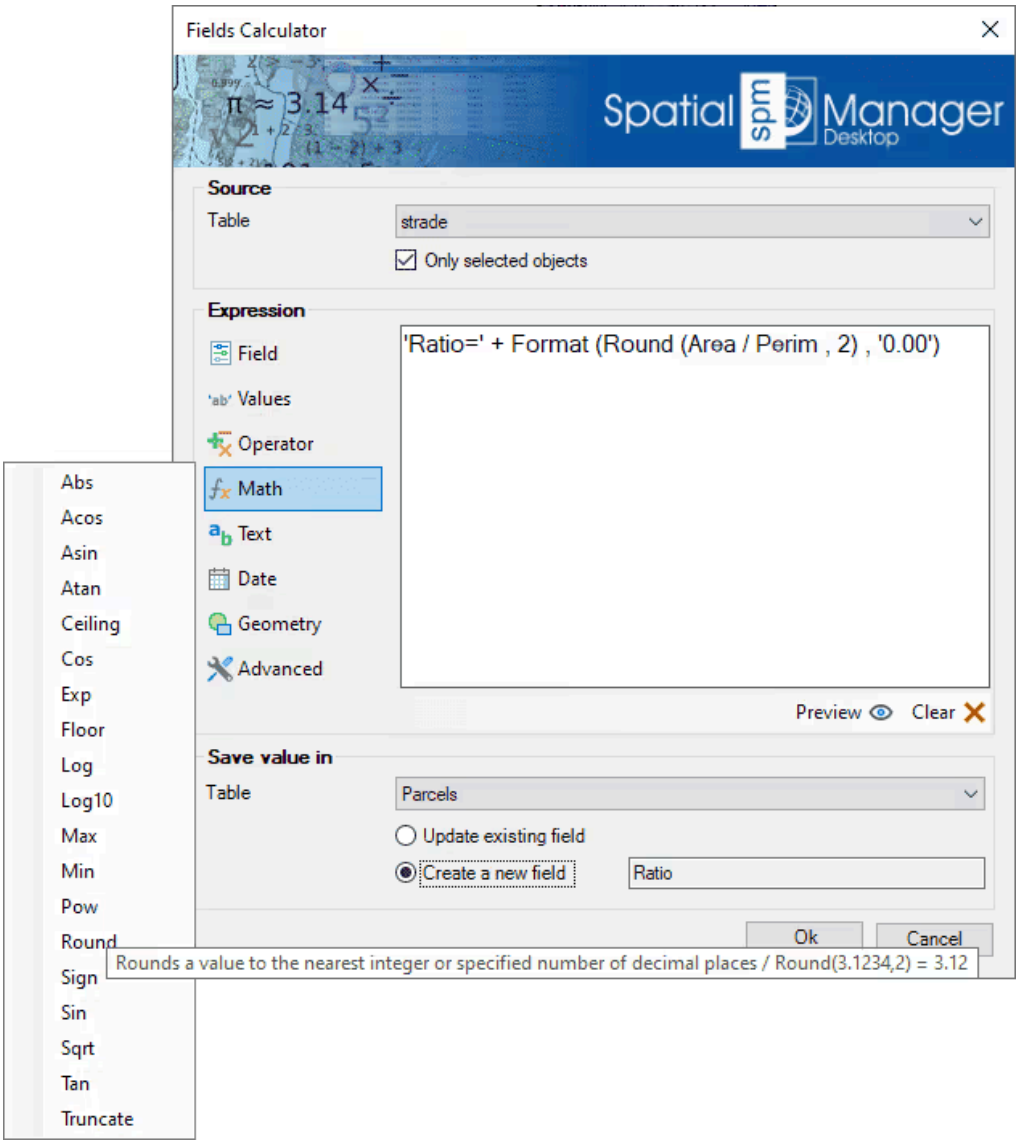
Available on edition Professional

The command **SPMDATACALCULATOR** of Spatial Manager Desktop™ (Fields Calculator) allows you to calculate simple or complex expressions using operators and functions that can be applied to field values in a table and/or to constant values.



'SPMDATACALCULATOR' command in the Spatial Manager Desktop™ ribbon

- **Source**: Select the source table in order to apply calculations on field values from this table. You can apply the calculation result only to the selected objects and not to the whole table.
- **Expression**: In the writing panel of the Fields Calculator window you can create the expression that will be applied as a calculation to a field of the same source table or another table (see below). For example, in the expression that you can see in the image below, a text value will be calculated resulting from concatenating the fixed text "Ratio=" with another text that is the result of converting into text the rounding with two decimal places of the division between the values of the fields 'Area' and 'Perim'.
  - You can use the "Clear" button to leave the current expression blank, and the "Preview" button to preview the calculation results in tabular format.
  - You can type the operators and functions and the source table fields or constant values to which they apply, and also select them through the sections to the left of the writing panel:
    - **Field**: To select any field name defined in the source table.
    - **Values**: To select any value from a selected field in the source table (you will see the full list of values for the selected field), or some "special" fixed values, such as "NULL".
    - **Operator**: Arithmetic, logical, comparator or conditional operators. Many of them can be applied to numeric values but also to text, dates, etc. For example, the "+" operator will return the sum of two numeric values, but it will also return the concatenation of two texts.
    - **Math**: Mathematical functions such as logarithmic or trigonometric expressions, rounding, square roots, etc.
    - **Text**: Text functions, such as full or partial text replacement, converting numerical values to text, splitting texts, etc.
    - **Date**: Date functions such as hourly, daily or monthly calculations, etc.
    - **Geometry**: Functions applicable to object geometries, such as area calculations, elevations, etc. They will be applied to objects attached to the source table.
    - **Advanced**: Set of advanced functions not included in the previous sections, such as creating lists, returning values from one list based on the values of another list, etc.
- **Save value in**: You can set the field where the above expression will be applied. This field can be an existing or a new field in the source table or in any other defined table.



Fields Calculator window

- *Notes:*
  - *When you pass over the operators or functions on the left side, you can see a small help text for each of them as well as an example of use.*
  - *Complex calculations are composed within parentheses and are processed from the inner parentheses to the outer parentheses. For example, in the expression that you can see in the above image, first the division between the values of the fields 'Area' and 'Perim' is calculated (/), then the rounding of the previous result to 2 decimal places is calculated (ROUND), and finally this result is converted into a text with the format type "0.00" (FORMAT), so that it can be concatenated to the fixed text "Ratio=".*
  - *Fixed text values or parameters, such as the text "Ratio=" or the "0.00" parameter of the FORMAT function in the above image, must be enclosed in single quotation marks.*
  - *When you run the Fields Calculator function, the expression writing panel will display the last expression you entered during the current work session, if you had already used the function, so that*

you can correct any previous expression or base a new expression on the whole or part of the last expression used.

- *You can get more help and information about the main available operators and functions through the following links:*
  - *Functions*
  - *Extensions*

DOCUMENTATION

Alphanumeric

Available on editions

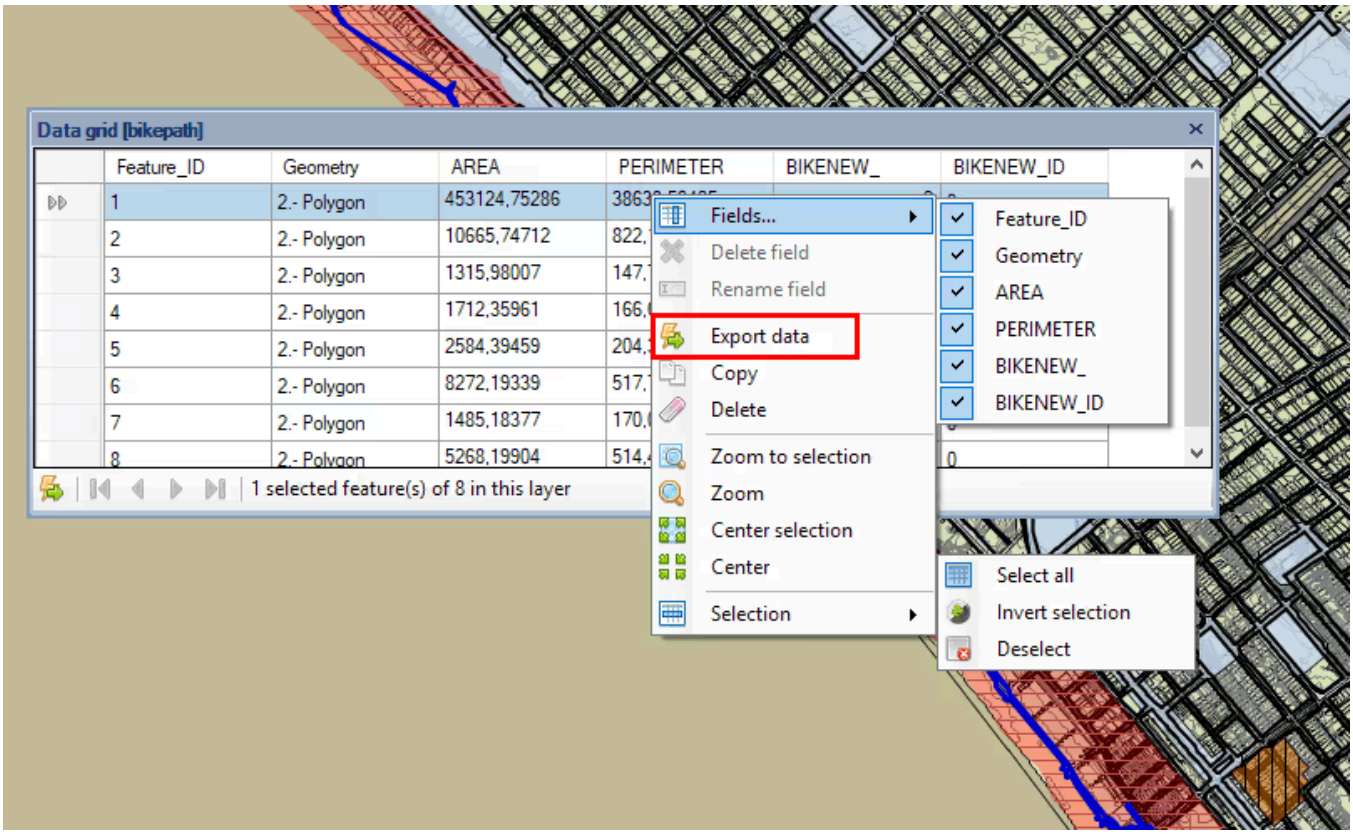
Standard Professional

Manage the alphanumeric data attached to the elements, design and edit the structure which will be used to store the data.

Export alphanumeric data

In Spatial Manager Desktop™ you can export alphanumeric data of the features in the selected Layer to a CSV file (comma-separated values or character-separated values) by using the right-click menu over any place on the Data grid or by clicking on the button in the left bottom of the Data grid. When the export process is finished, you can use the CSV file in other applications, such as office or CAD applications.

You can choose any extension in the name of the outgoing CSV file, but the application will suggest *.txt, *.csv, *.tab* and *.asc*, because they are the most commonly used extensions.



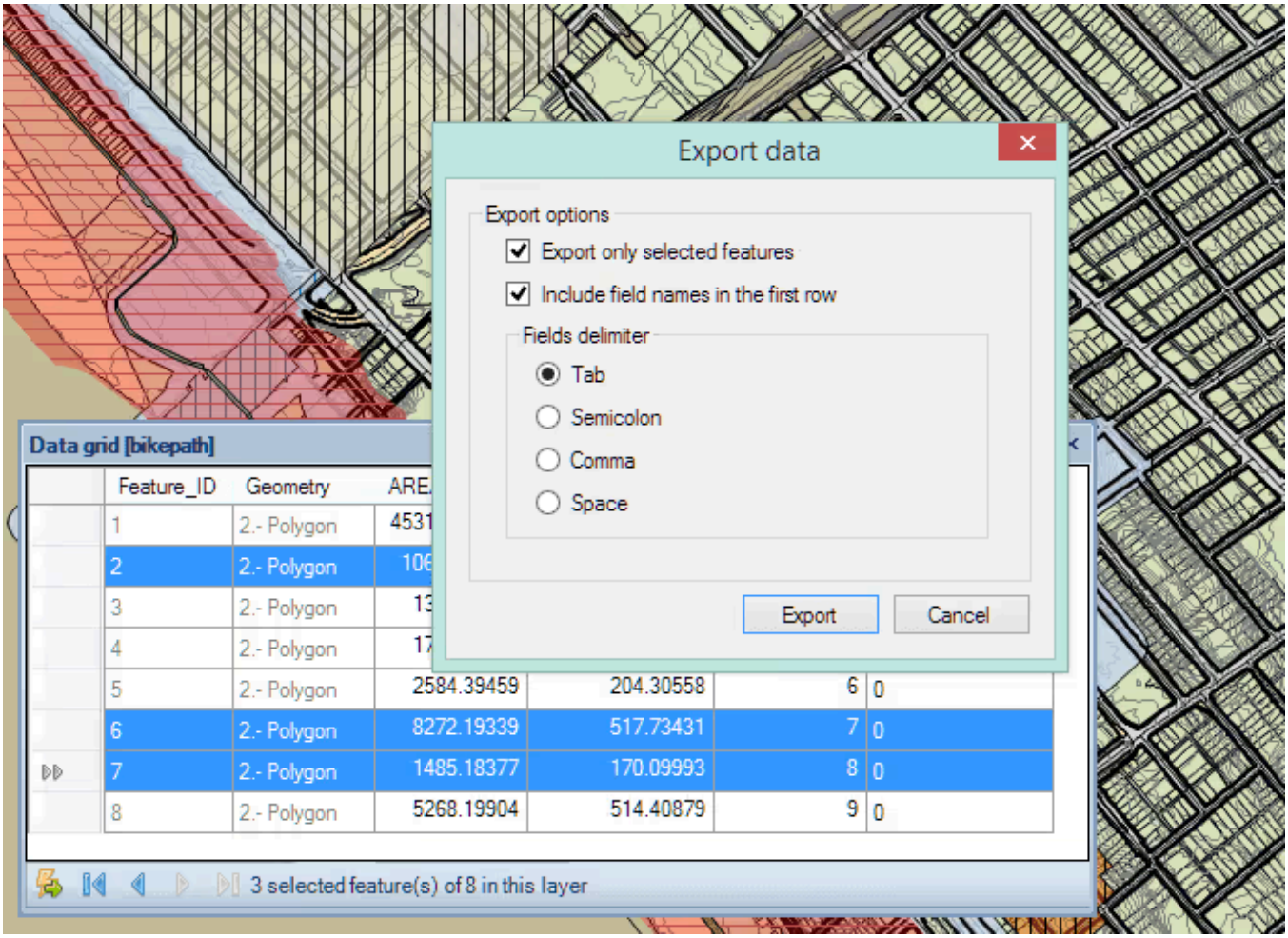
Export Data values from the 'Data grid'

A13

	A	B	C	D	E	F
1	Feature_ID	Geometry	AREA	PERIMETER	BIKENEW_	BIKENEW_ID
2	1	Polygon	453124,7529	38633,50405	2	0
3	2	Polygon	10665,74712	822,1725	3	0
4	3	Polygon	1315,98007	147,79049	4	0
5	4	Polygon	1712,35961	166,66919	5	0
6	5	Polygon	2584,39459	204,30558	6	0
7	6	Polygon	8272,19339	517,73431	7	0
8	7	Polygon	1485,18377	170,09993	8	0
9	8	Polygon	5268,19904	514,40879	9	0
10						

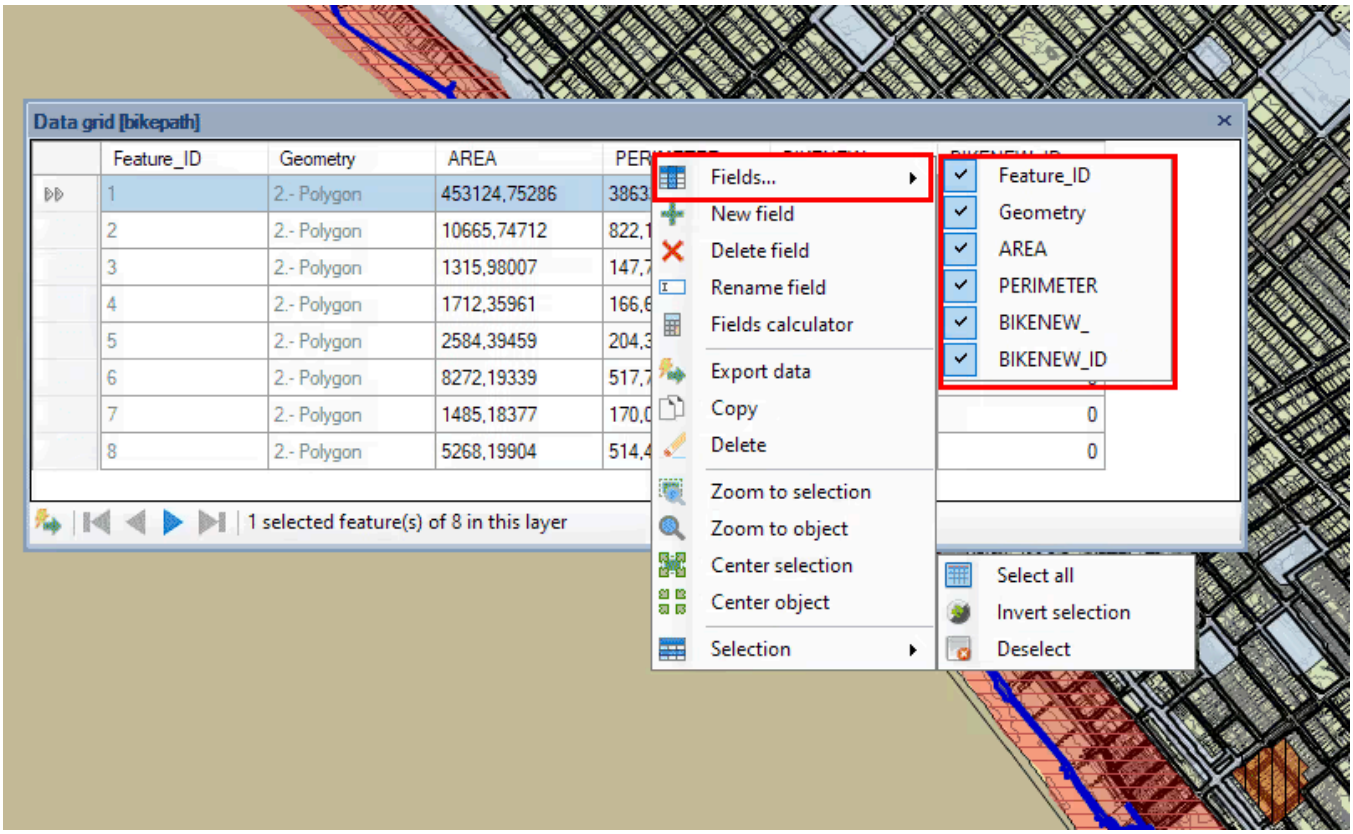
Use the Data in Excel

You can export the data for the whole Layer or only for the selected features in the Layer, if any. You can also choose the values separator and, if you want, you can add a first row in the outgoing CSV file including the names of the data table fields.



'Export Data' options

As you can choose which fields will be displayed in the Data grid, the exported CSV file will only include the data in these fields. And, as you can also sort the field columns in the Data grid by dragging the name of the field to sort, the contents of the exported CSV file will also respect the column order in the grid.



Show/Hide Fields in the 'Data grid' to choose what export

DOCUMENTATION

Layer edit

Available on editions

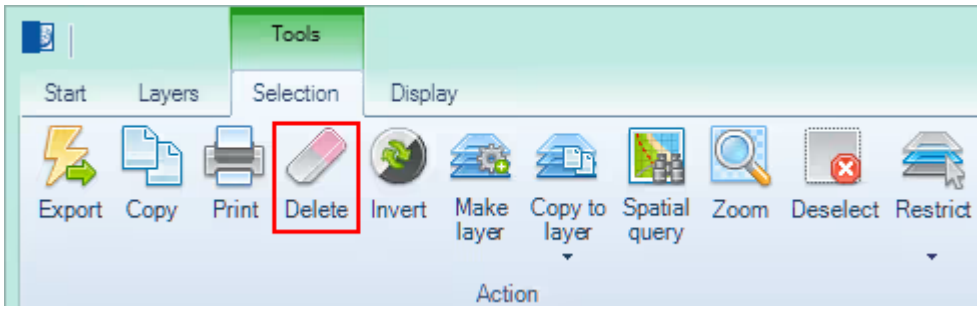
Standard Professional

Manage the alphanumeric data attached to the elements, design and edit the structure which will be used to store the data.

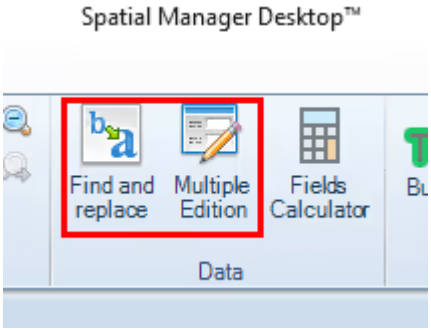
Edit a Layer or Features in a Layer

You can edit Features or Layers in Spatial Manager Desktop™ as follows:

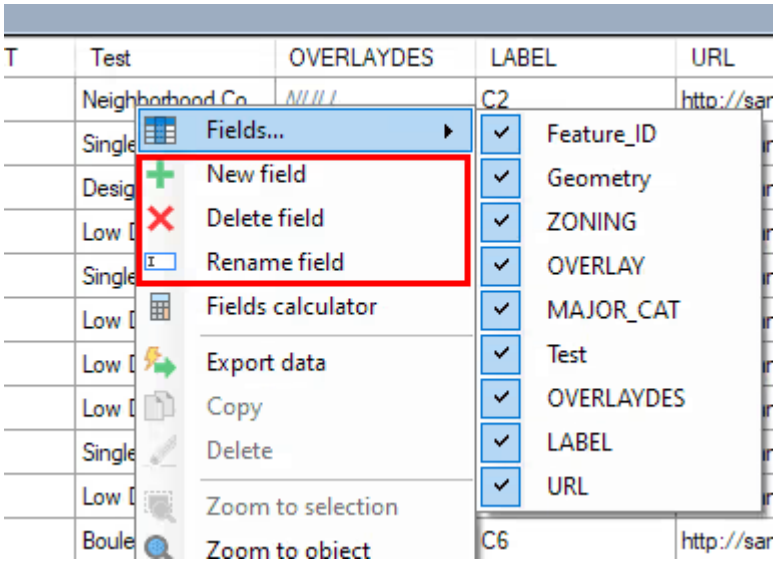
- In “Editable” Layers.
  - “External”.
    - You can “Delete” selected features (“Standard” and “Professional” editions only). You can also “Delete” from the right-click menu of the Data Grid.
    - You can modify values in any field directly in the Data Grid (“Standard” and “Professional” editions only) or using:
      - “Find and replace” function (“Standard” and “Professional” editions only), to find and replace values in the Data Grid for a layer.
      - “Multiple Edition” function (“Standard” and “Professional” editions only), to modify the value of a field in the Data Grid only for a layer. This function may be applied to all features in the layer or only to selected features (if any).
  - “Embedded in the Map” Layers.
    - All the above, and:
    - You can add a copy of the selected features (if any) to the layer using the “Copy to layer” function.
    - You can “Add”, “Delete”, or “Rename” fields in the Data Grid (“Standard” and “Professional” editions only).
- In “Non editable” Layers.
  - There is no way to edit a “Non editable Layer” or its features. You can “Disconnect” a “Non editable” layer from its read-only source, or you can select all features in the layer and “Make” a new layer including a copy of the selected objects.



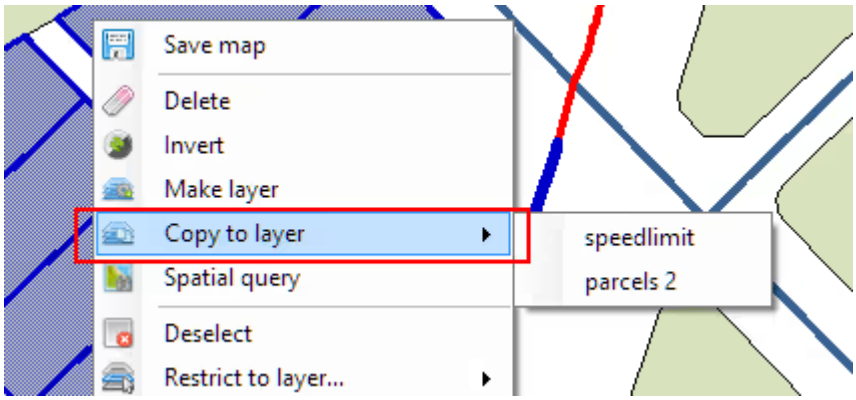
'Delete layer' function



'Find & Replace' and 'Multiple edition' functions



Editing Fields in the 'Data grid'



'Copy to layer' function

DOCUMENTATION

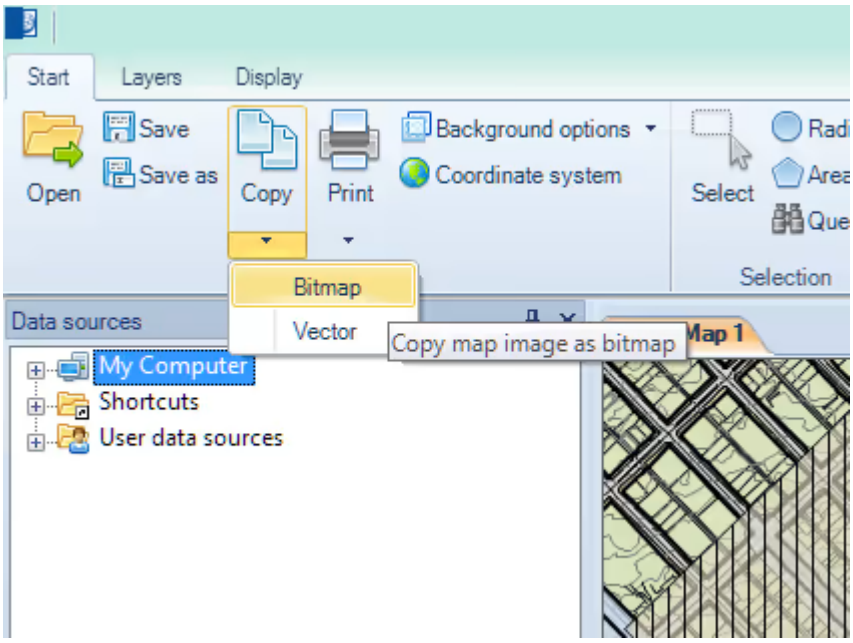
Copy to clipboard

Copy data to the Windows Clipboard

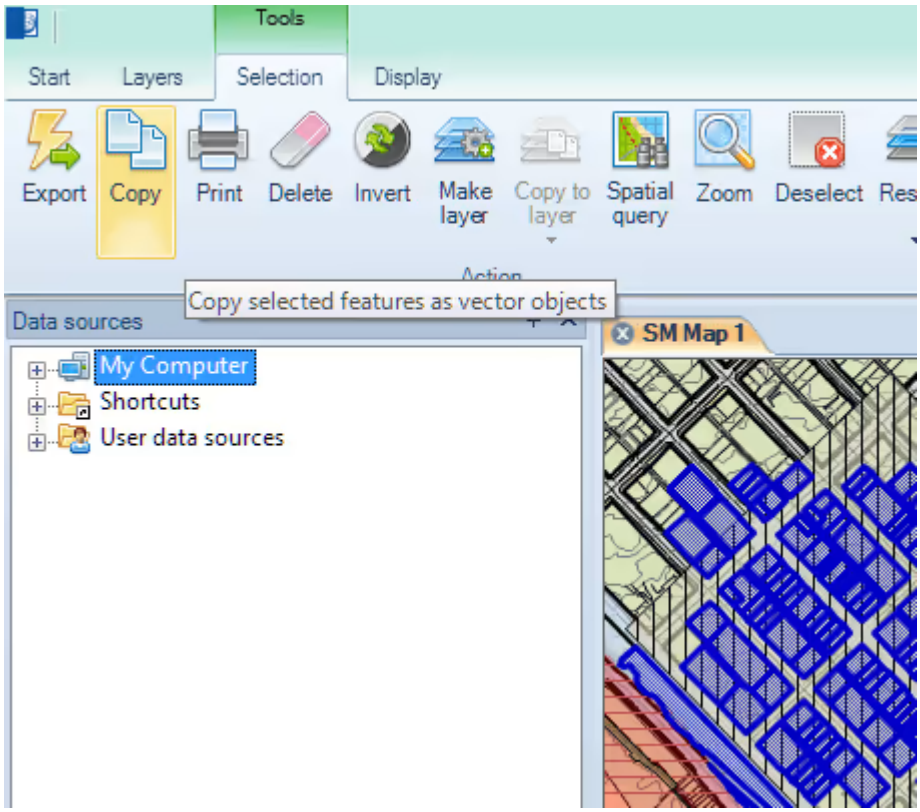
You can copy data to the Windows Clipboard in Spatial Manager Desktop™ in several ways:

- Copy the current view of a Map as an image using the "Copy Bitmap" function in the "Start" ribbon.
- Copy all the features included in the current view of a Map, if any, as vector objects using the "Copy Vector" function in the "Start" ribbon.
- Copy the selected features in a Map, if any, as vector objects using the "Copy" function in the "Selection\Tools" ribbon.
- Copy the alphanumeric data of the selected features in the Data grid, if any, by pressing CTRL+C. You can also copy the data using "Copy" from the Data grid right-click menu.
  - The selected row(s) and header(s) (field names) will be copied in a tab-separated format, suitable for pasting into a spreadsheet, ASCII editor, etc.
  - As an exception, if a field is being edited, only the value of this field will be copied to the clipboard.
- Copy any data in the Properties panel by placing the cursor over this data and pressing CTRL+C.

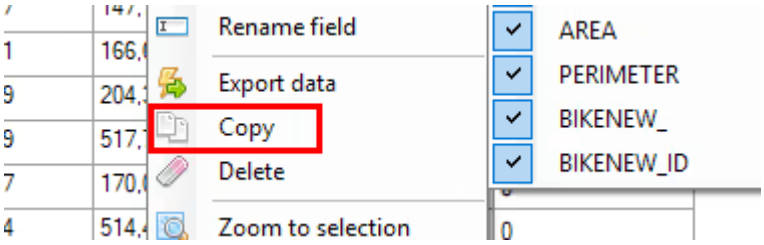
After copying the data to the Windows Clipboard in Spatial Manager Desktop™, you can paste it into another Windows application that supports image, vector, or text data in this operation.



'Copy to Clipboard' function (whole Map)



'Copy to Clipboard' function (Selected Features)



'Copy to Clipboard' from the Data grid (Selected Features)

Paste samples

Sample 1: MS Word as vector objects. Ungroup them after pasting and you can edit the objects in MS Word.

Regulatory Setting

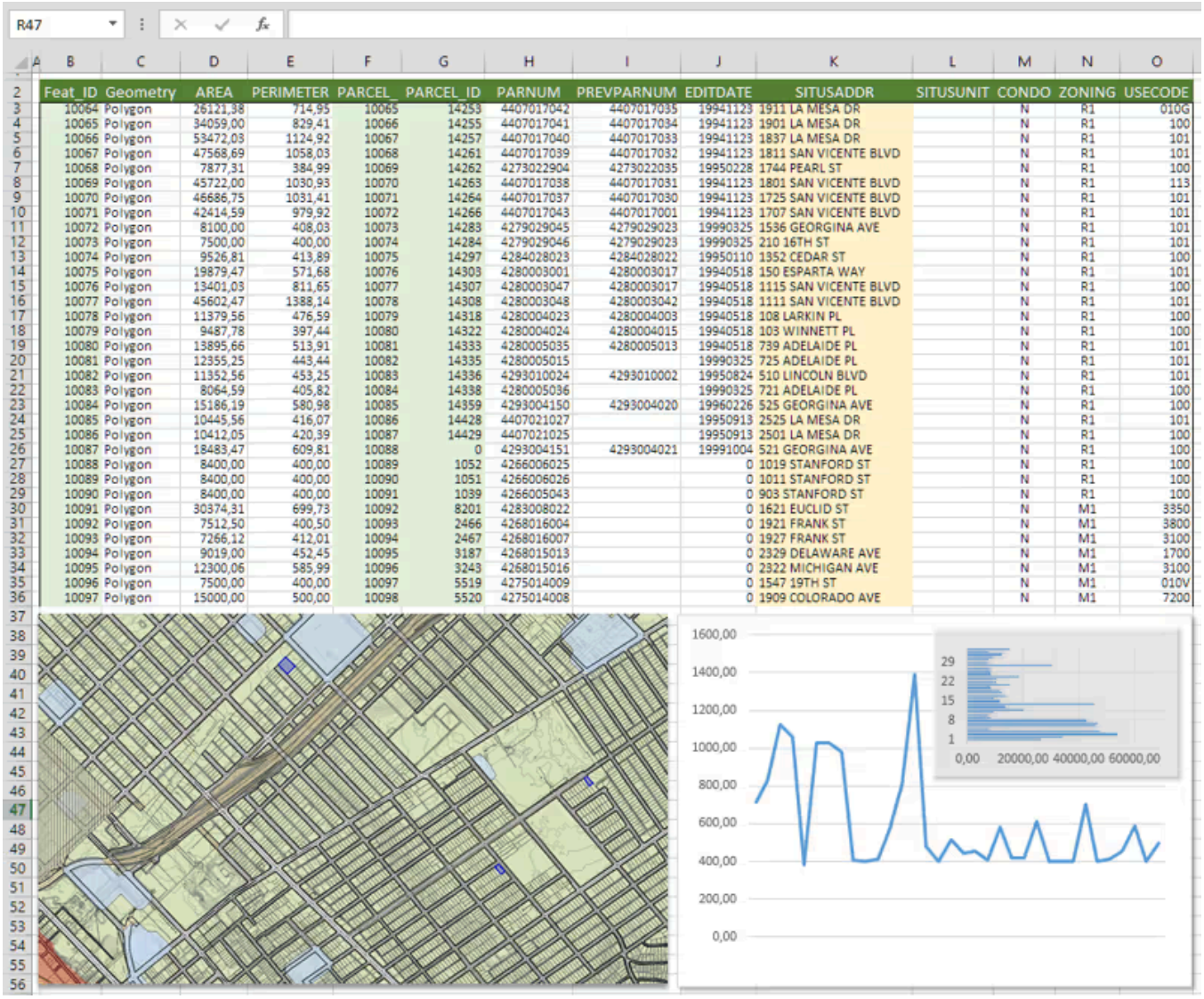
This property has been previously identified and assessed under the City's on-going survey process on three separate occasions. The subject property was initially surveyed during Phase I (1982-1983) of the Santa Monica Historic Resources Inventory Survey and was determined eligible for local listing as a contributor to the potential 2500 Block of 3rd Street District and assigned a National Register Status Code of 5D1. The subject property was later reassessed during the City's 1994 Historic Resources Inventory Update following the 1994 Northridge earthquake, and again identified as a district contributor. Finally, the subject property was assessed again as part of the Historic Resources Inventory Update for the City of Santa Monica in 2004 as a 5D3. The property was determined eligible for listing as a contributor to a district, the 2500 Block of 3rd Street District, which appears eligible for local listing or designation through survey evaluation.

Architectural Description

Based on historic Sanborn maps, the two detached cottage residences situated on the subject property were originally constructed between 1902 and 1907. According to the survey forms created during the 1982-1983 survey, a building permit from 1907 described the construction of the rear, secondary cottage located at 238 Mills Street as a "three room box dwelling" obtained by owner, Helen L. Clement. It appears the larger cottage fronting 2nd street was constructed earlier than 1907, as it is situated prominently on the corner of Mills and 2nd while the rear cottage functions as the smaller secondary

Using the vector or the bitmap data in Word

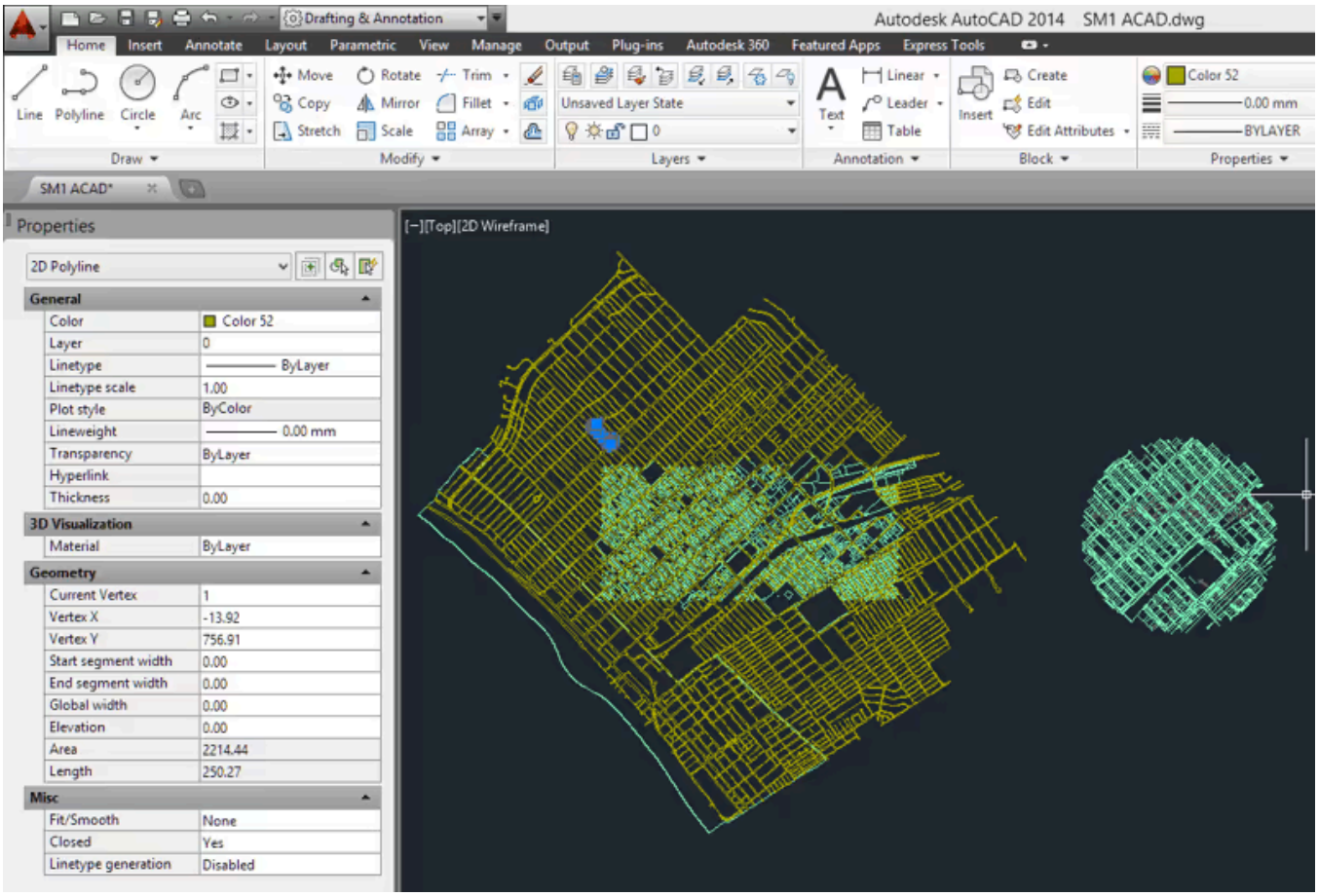
Sample 2: MS Excel as an image.



Feat_ID	Geometry	AREA	PERIMETER	PARCEL_	PARCEL_ID	PARNUM	PREVPARNUM	EDITDATE	SITUSADDR	SITUSUNIT	CONDO	ZONING	USECODE
10064	Polygon	26121,38	714,95	10065	14253	4407017042	4407017035	19941123	1911 LA MESA DR		N	R1	010G
10065	Polygon	34059,00	829,41	10066	14255	4407017041	4407017034	19941123	1901 LA MESA DR		N	R1	100
10066	Polygon	53472,03	1124,92	10067	14257	4407017040	4407017033	19941123	1837 LA MESA DR		N	R1	101
10067	Polygon	47568,69	1058,03	10068	14261	4407017039	4407017032	19941123	1811 SAN VICENTE BLVD		N	R1	101
10068	Polygon	7877,31	384,99	10069	14262	4273022904	4273022035	19950228	1744 PEARL ST		N	R1	100
10069	Polygon	45722,00	1030,93	10070	14263	4407017038	4407017031	19941123	1801 SAN VICENTE BLVD		N	R1	113
10070	Polygon	46686,75	1031,41	10071	14264	4407017037	4407017030	19941123	1725 SAN VICENTE BLVD		N	R1	101
10071	Polygon	42414,59	979,92	10072	14266	4407017043	4407017001	19941123	1707 SAN VICENTE BLVD		N	R1	101
10072	Polygon	8100,00	408,03	10073	14283	4279029045	4279029023	19990325	1536 GEORGINA AVE		N	R1	101
10073	Polygon	7500,00	400,00	10074	14284	4279029046	4279029023	19990325	210 16TH ST		N	R1	101
10074	Polygon	9526,81	413,89	10075	14297	4284028023	4284028022	19950110	1352 CEDAR ST		N	R1	100
10075	Polygon	19879,47	571,68	10076	14303	4280003001	4280003017	19940518	150 ESPARTA WAY		N	R1	101
10076	Polygon	13401,03	811,65	10077	14307	4280003047	4280003017	19940518	1115 SAN VICENTE BLVD		N	R1	100
10077	Polygon	45602,47	1388,14	10078	14308	4280003048	4280003042	19940518	1111 SAN VICENTE BLVD		N	R1	101
10078	Polygon	11379,56	476,59	10079	14318	4280004023	4280004003	19940518	108 LARKIN PL		N	R1	100
10079	Polygon	9487,78	397,44	10080	14322	4280004024	4280004015	19940518	103 WINNETT PL		N	R1	100
10080	Polygon	13895,66	513,91	10081	14333	4280005035	4280005013	19940518	739 ADELAIDE PL		N	R1	101
10081	Polygon	12355,25	443,44	10082	14335	4280005015		19990325	725 ADELAIDE PL		N	R1	101
10082	Polygon	11352,56	453,25	10083	14336	4293010024	4293010002	19950824	510 LINCOLN BLVD		N	R1	101
10083	Polygon	8064,59	405,82	10084	14338	4280005036		19990325	721 ADELAIDE PL		N	R1	100
10084	Polygon	15186,19	580,98	10085	14359	4293004150	4293004020	19960226	525 GEORGINA AVE		N	R1	100
10085	Polygon	10445,56	416,07	10086	14428	4407021027		19950913	2525 LA MESA DR		N	R1	101
10086	Polygon	10412,05	420,39	10087	14429	4407021025		19950913	2501 LA MESA DR		N	R1	100
10087	Polygon	18483,47	609,81	10088	0	4293004151	4293004021	19991004	521 GEORGINA AVE		N	R1	100
10088	Polygon	8400,00	400,00	10089	1052	4266006025		0	1019 STANFORD ST		N	R1	100
10089	Polygon	8400,00	400,00	10090	1051	4266006026		0	1011 STANFORD ST		N	R1	100
10090	Polygon	8400,00	400,00	10091	1039	4266005043		0	903 STANFORD ST		N	R1	100
10091	Polygon	30374,31	699,73	10092	8201	4283008022		0	1621 EUCLID ST		N	M1	3350
10092	Polygon	7512,50	400,50	10093	2466	4268016004		0	1921 FRANK ST		N	M1	3800
10093	Polygon	7266,12	412,01	10094	2467	4268016007		0	1927 FRANK ST		N	M1	3100
10094	Polygon	9019,00	452,45	10095	3187	4268015013		0	2329 DELAWARE AVE		N	M1	1700
10095	Polygon	12300,06	585,99	10096	3243	4268015016		0	2322 MICHIGAN AVE		N	M1	3100
10096	Polygon	7500,00	400,00	10097	5519	4275014009		0	1547 19TH ST		N	M1	010V
10097	Polygon	15000,00	500,00	10098	5520	4275014008		0	1909 COLORADO AVE		N	M1	7200

Using the bitmap data in Excel

Sample 3: As vector objects. You will get Polylines, Points, etc., if you paste them as CAD objects.



Using the vector objects in AutoCAD

DOCUMENTATION

Print

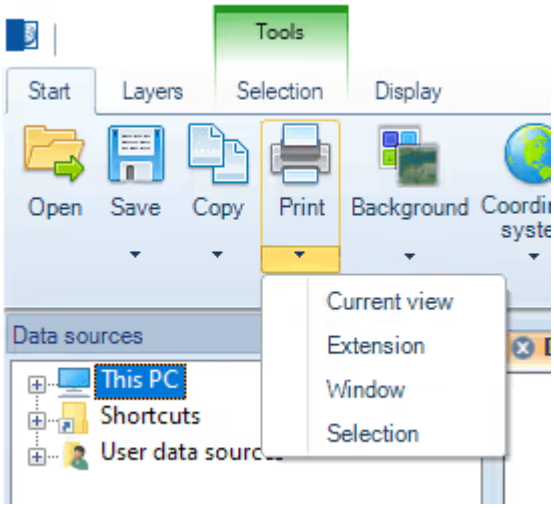
Print Background Maps

You can print several views of a map in Spatial Manager Desktop™ by using the “Print” drop-down button in the “Start” ribbon. The functions included in this button are the following:

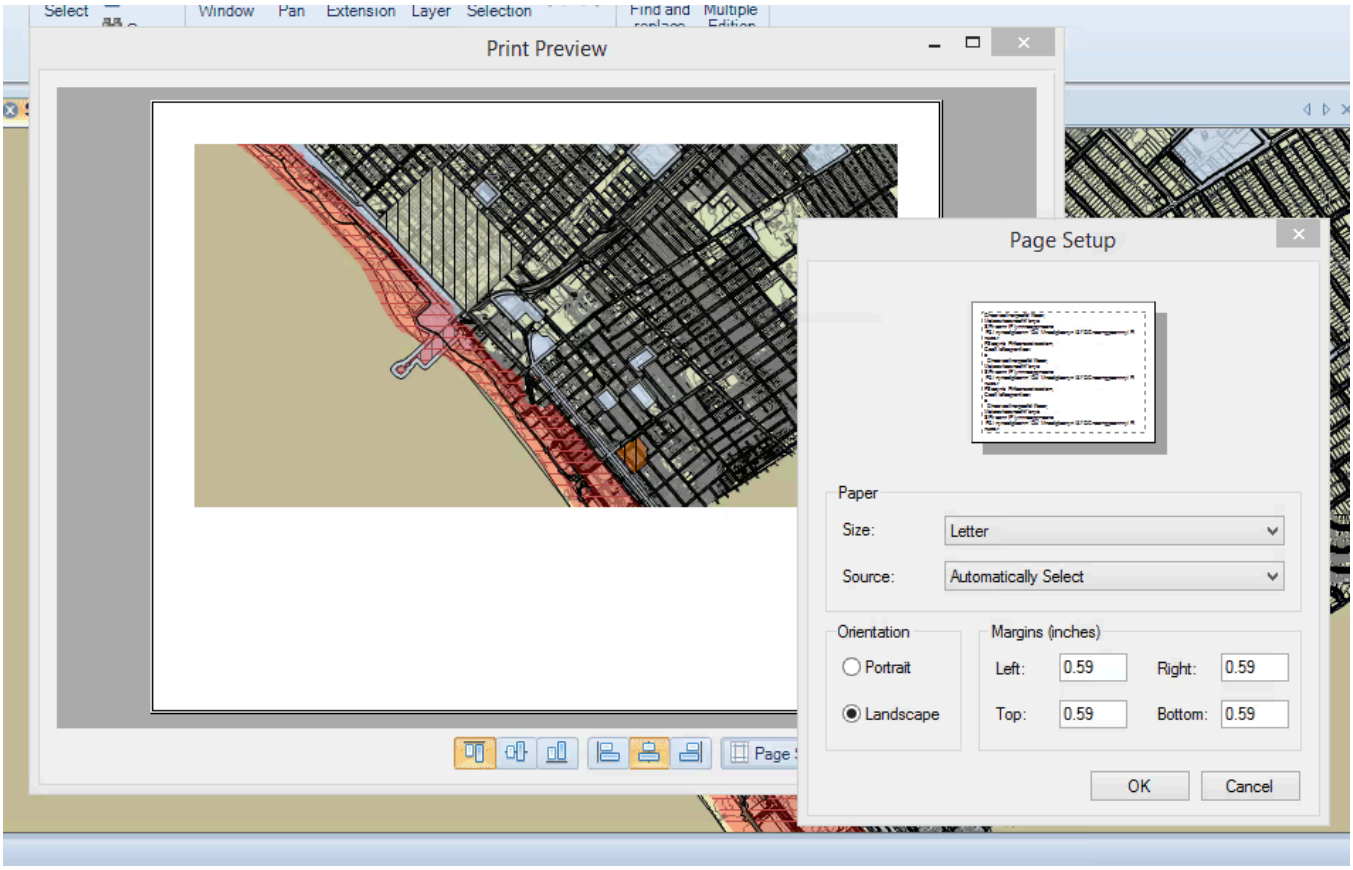
- Print the current view of the map.
- Print the extents of the map.
- Print an area of the map defined by a window.
- Print the extents of the currently selected features of a map (if any). You can also find this function in the “Selection\Tools” ribbon.

When you run any of these functions, you will get a “Print Preview” window to check the area to be printed. Furthermore, in this window, you can adjust the basic “Page Settings” and the horizontal and vertical alignments of the printed area inside the page.

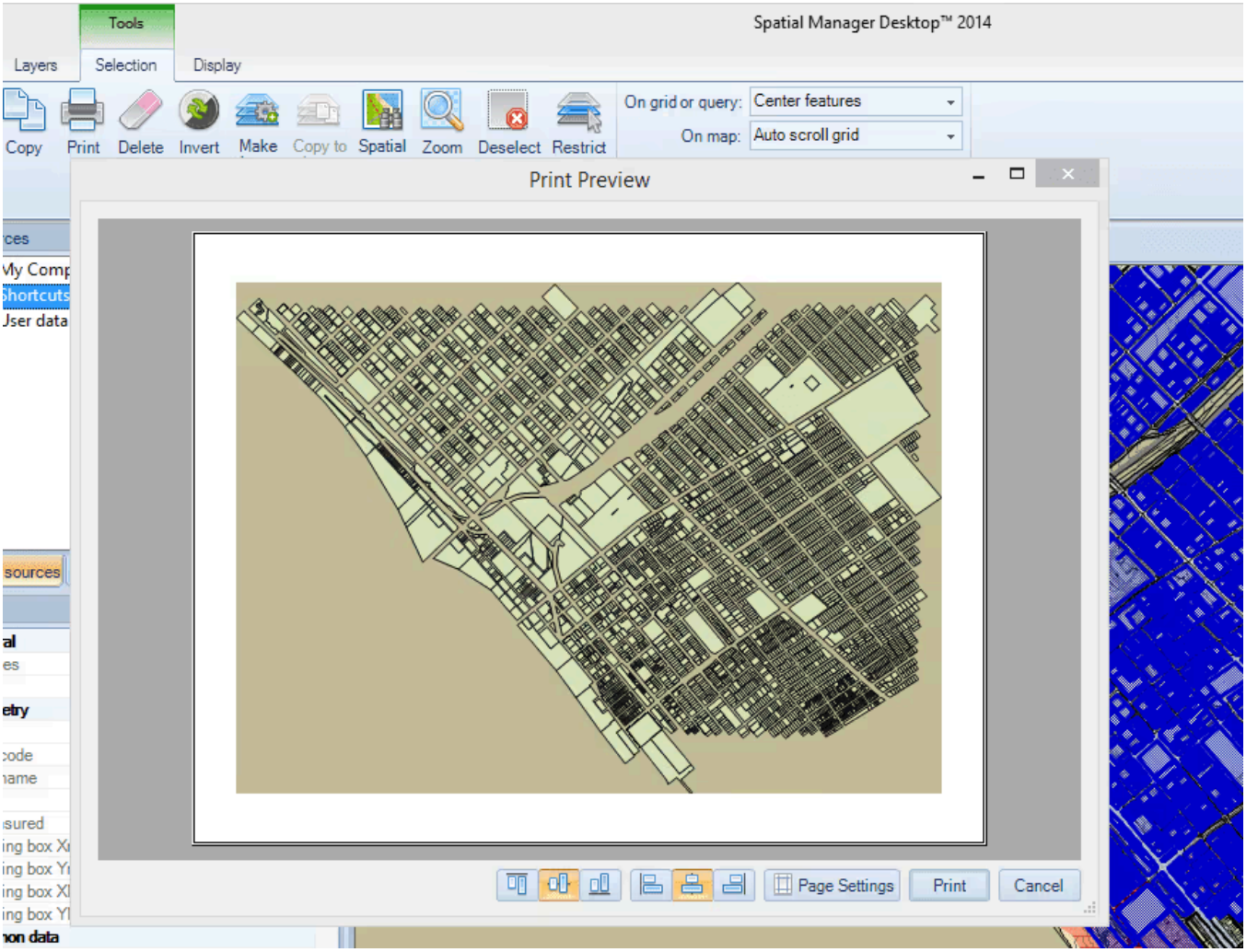
Note that, if you have chosen a base map as background, it will also be printed. If not, the “Background color” configured for the map will be the printed color for any empty zone inside the selected area to print.



'Print' function



Printing Page setup



Printing Preview

DOCUMENTATION

Coordinate Management

Calculate coordinate transformations of the objects in the import and export processes in CAD.

DOCUMENTATION

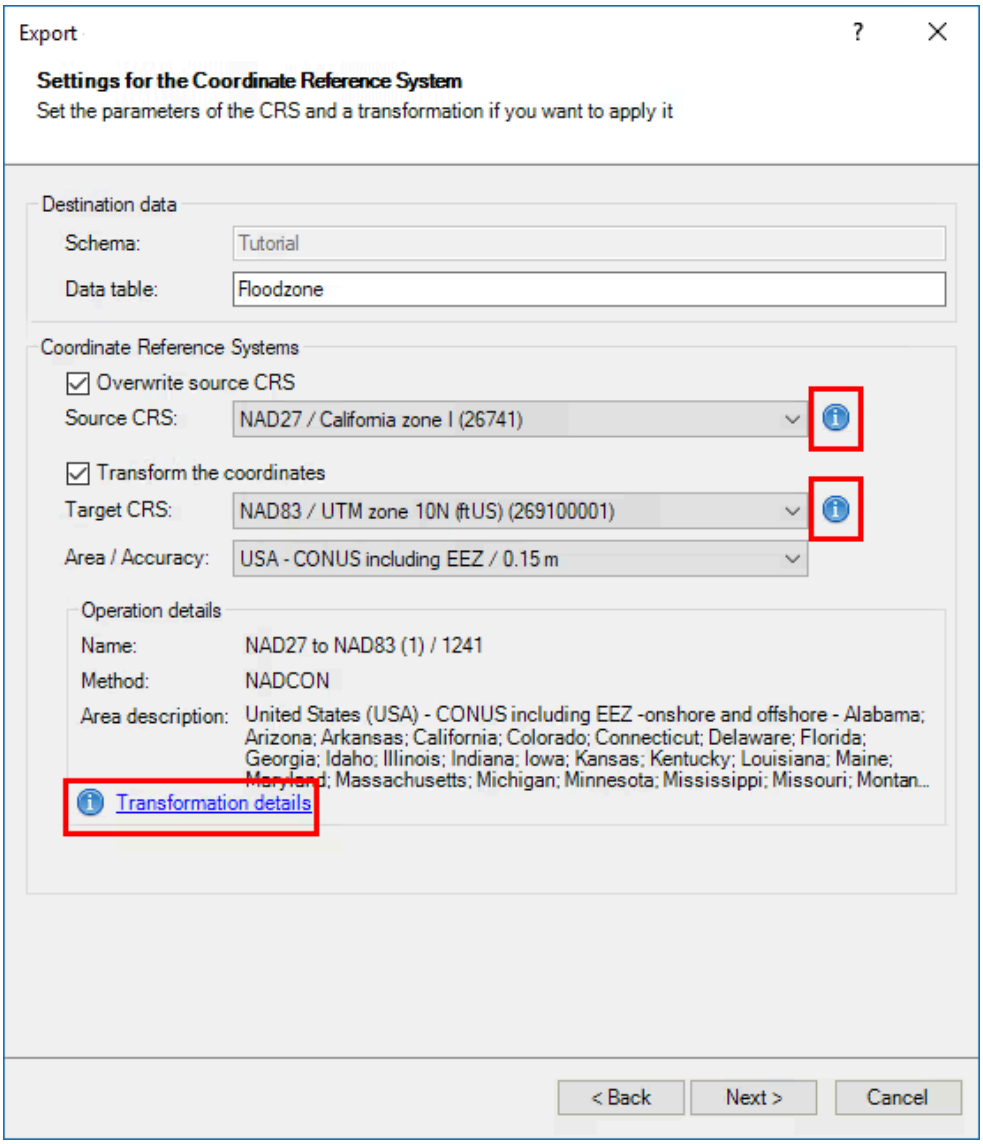
Details

Calculate geometric transformations of the features in the import and export processes.

Coordinate Systems and Transformation details

As you will see in several 'Spatial Manager Desktop™' windows, there are some links or buttons to access detailed information about a selected Coordinate System or Transformation process.

Sample links and buttons to access detailed information (Export Wizard)

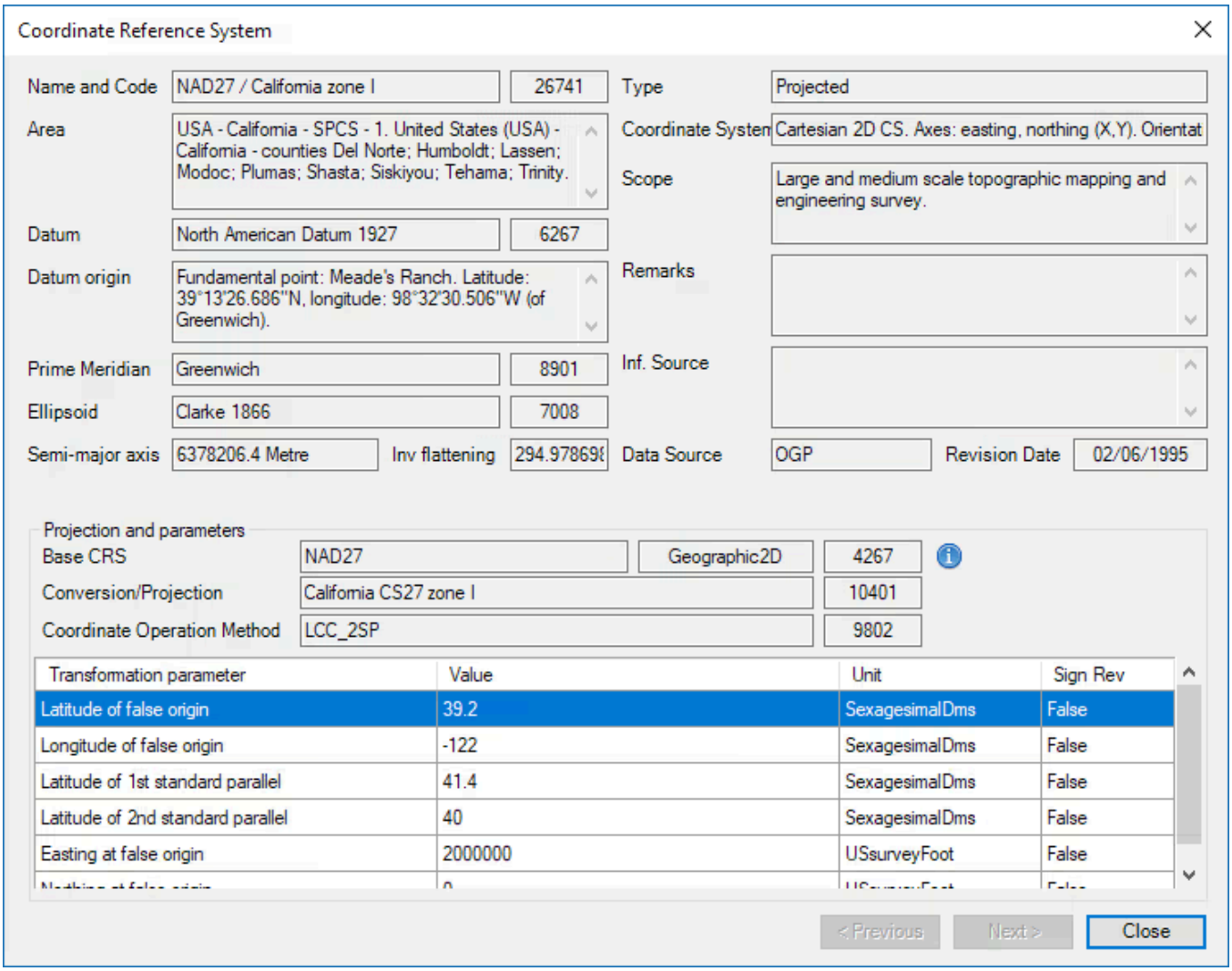


Sample links and buttons to access detailed information

Extended CRS information

- Datum.

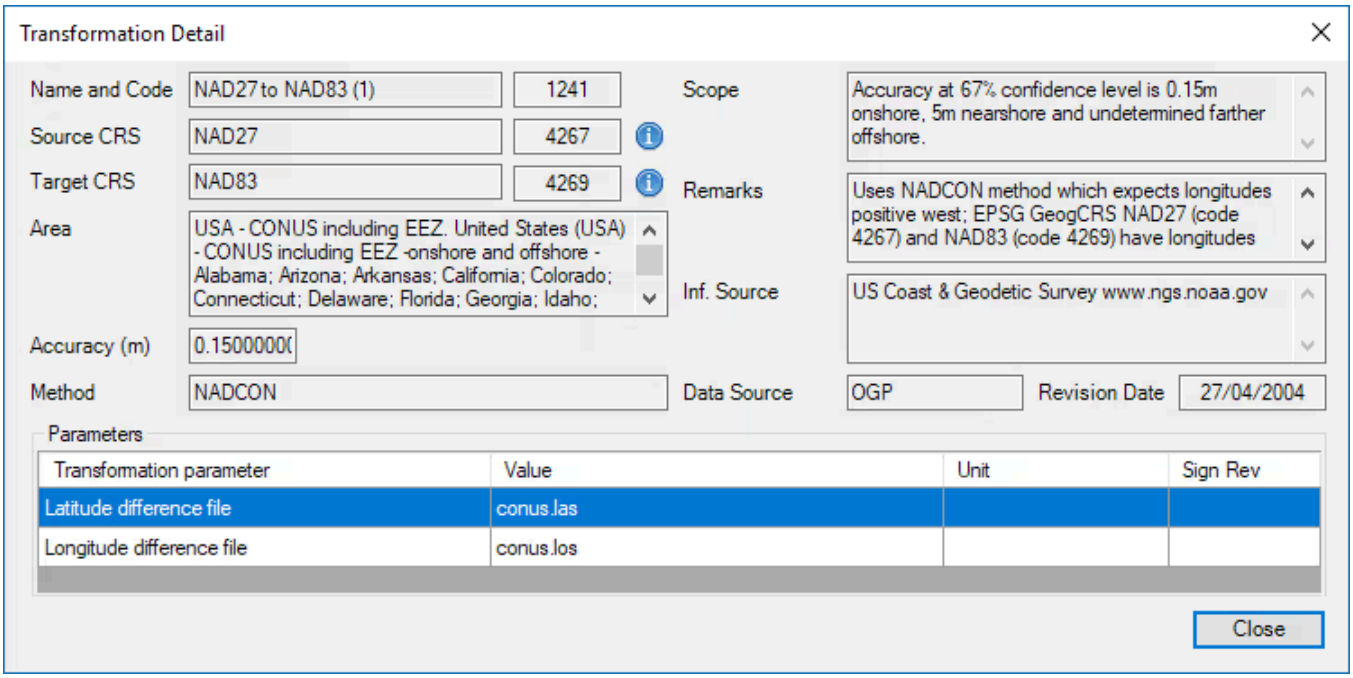
- Prime Meridian.
- Ellipsoid.
- Type.
- Scope.
- Projections and parameters.
- Etc.



CRS detail window

Extended Transformation information:

- Accuracy.
- Method.
- Scope.
- Parameters.
- Etc.



Transformation detail window

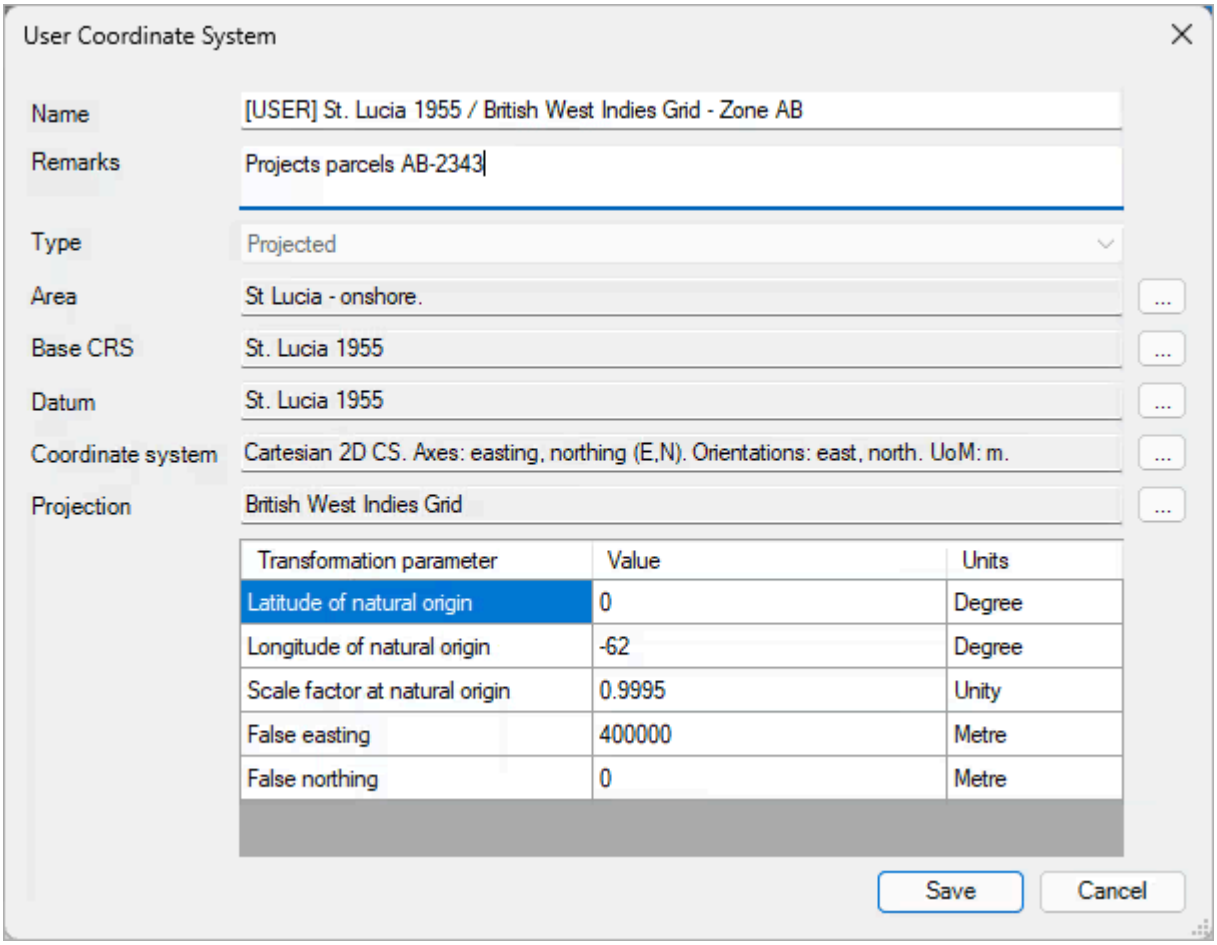
DOCUMENTATION

Custom

Geometric transformations of the features in line with the import or export processes. Coordinate reference system (CRS) of the source and the target data. Complete CRSs catalog. Drop down list including the favorite or most recent used CRSs.

User Coordinate Systems

You can create new User Coordinate Systems based on any existing one. To do so, in the CRS Catalog select an existing base Coordinate System and click on the "User Coordinate System" button in order to modify the parameters of the chosen System according to your convenience. Review the available Coordinate Systems and Transformation details and parameters .



User Coordinate System setup'

Once a User Coordinate System is defined, it will be stored in the application configuration, and you will be able to select it in any drawing in the CRS Catalog by checking the "User defined" box, which will display a list of all the User Coordinate Systems you have defined.

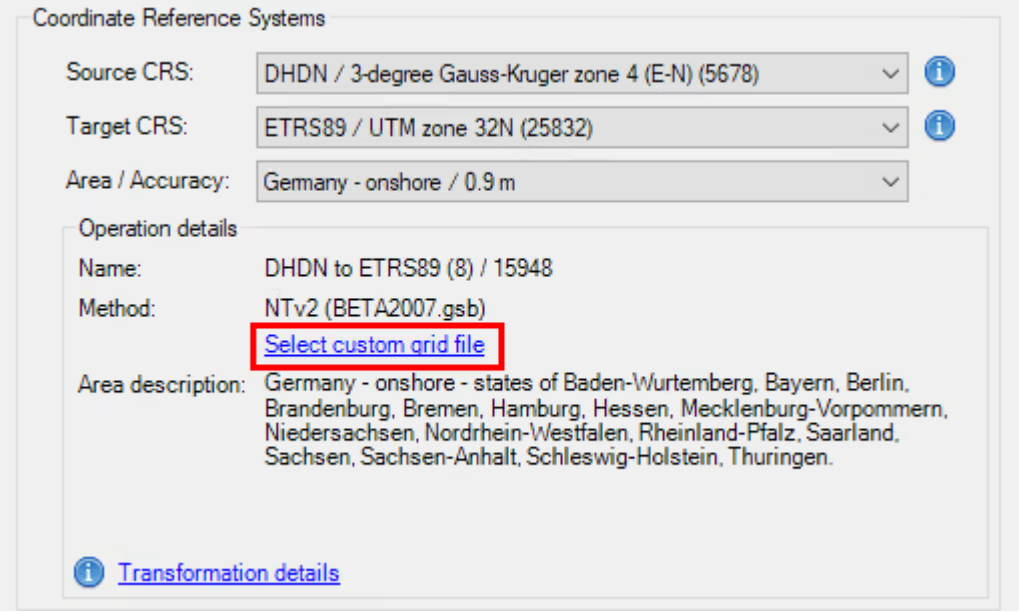
DOCUMENTATION

Grid files

The application allows loading custom grid files for NTv2 coordinate transformations.

Transformation using Grid files

- Some coordinate transformations (NTv2, etc.) require one or more Grid files in order to be processed. Some of the most commonly used Grid files worldwide are included in the application, but you can see that some others instruct you on where to download Grid file(s) not included with the application (usually a download URL).
- On the other hand, even if the required Grid file(s) already exist (included as standard in the application, or previously downloaded by the user), the application allows the user to choose alternative Grid file(s) so that he can use more accurate or updated Grid transformations when more appropriate files are available. This custom choice for a Grid file is kept by default for a work session, but will not be memorized when exiting and re-entering the application.



Selecting alternative Grid files'

DOCUMENTATION

Geometry Tools

Available on edition

Professional

A set of tools to edit and transform polylines, polygons, and other spatial geometries.

DOCUMENTATION

Polyline Tools

Available on edition

Professional

A powerful set of tools for editing and transforming polylines. Whether you need to compound new lines from anothers, reduce complexity using simplification, or create new linear geometries from points, these tools will help your workflow..

DOCUMENTATION

Aggregate Line

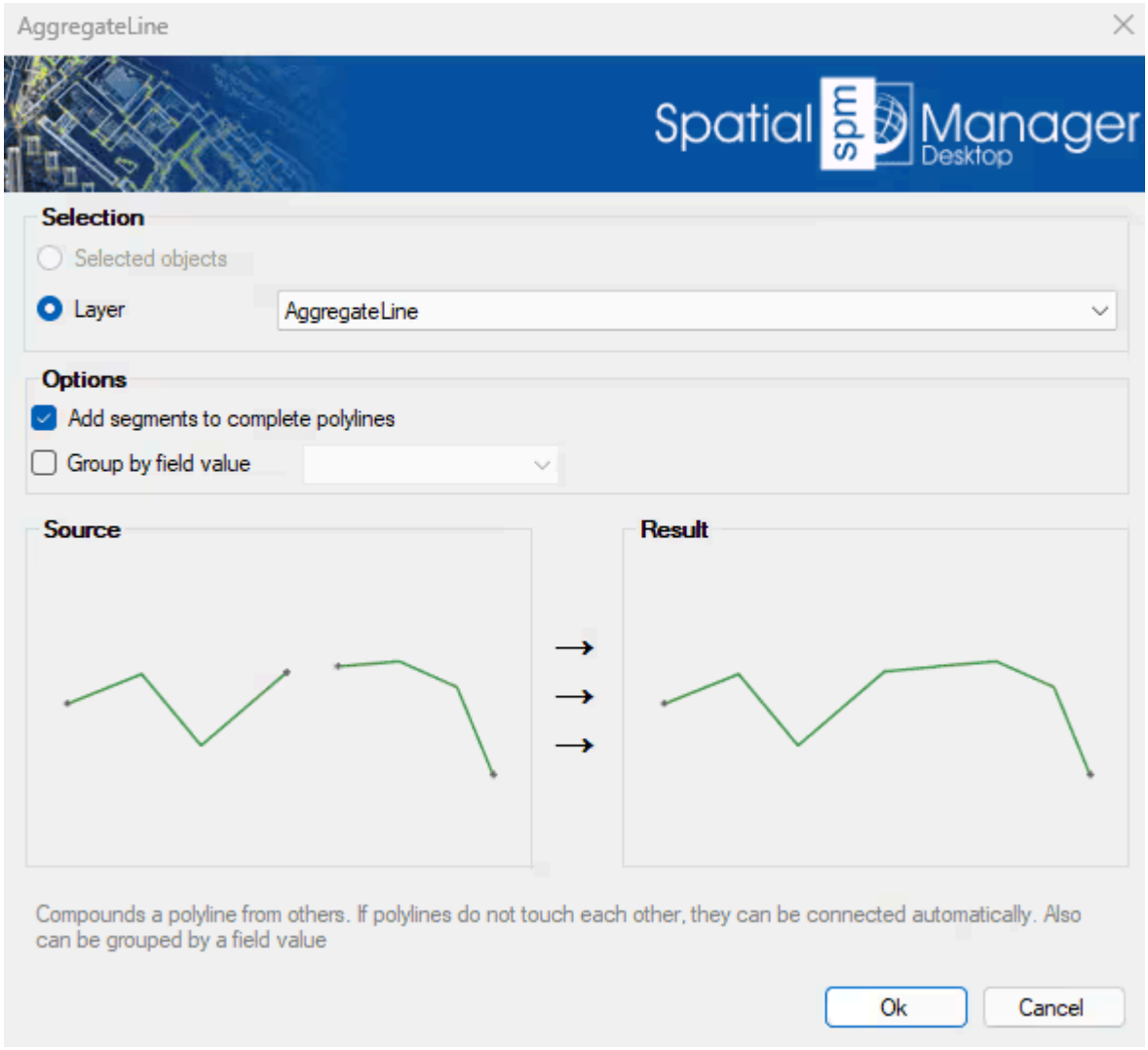
Available on edition

Professional

Generates a single polyline by combining multiple existing polylines. When the polylines are not connected, the application can automatically join them based on proximity. Additionally, this process allows grouping and aggregation of polylines according to a specific field value, offering a flexible way to organize and simplify complex line geometries..

Aggregate Line Options

- **Selection**: select the polylines from the previous selection, or select by layer.
- **Options**:
  - *Add segments to complete polylines*: If polylines do not touch each other, they will be connected creating new segments. If unchecked, only polylines that touch each other will be connected.
  - *Group by field value*: If checked, the polylines will be grouped by the value of the selected field, creating polylines for the same value. If unchecked, all polylines will be joined into one polyline.



Aggregate line options

DOCUMENTATION

Points to Polyline

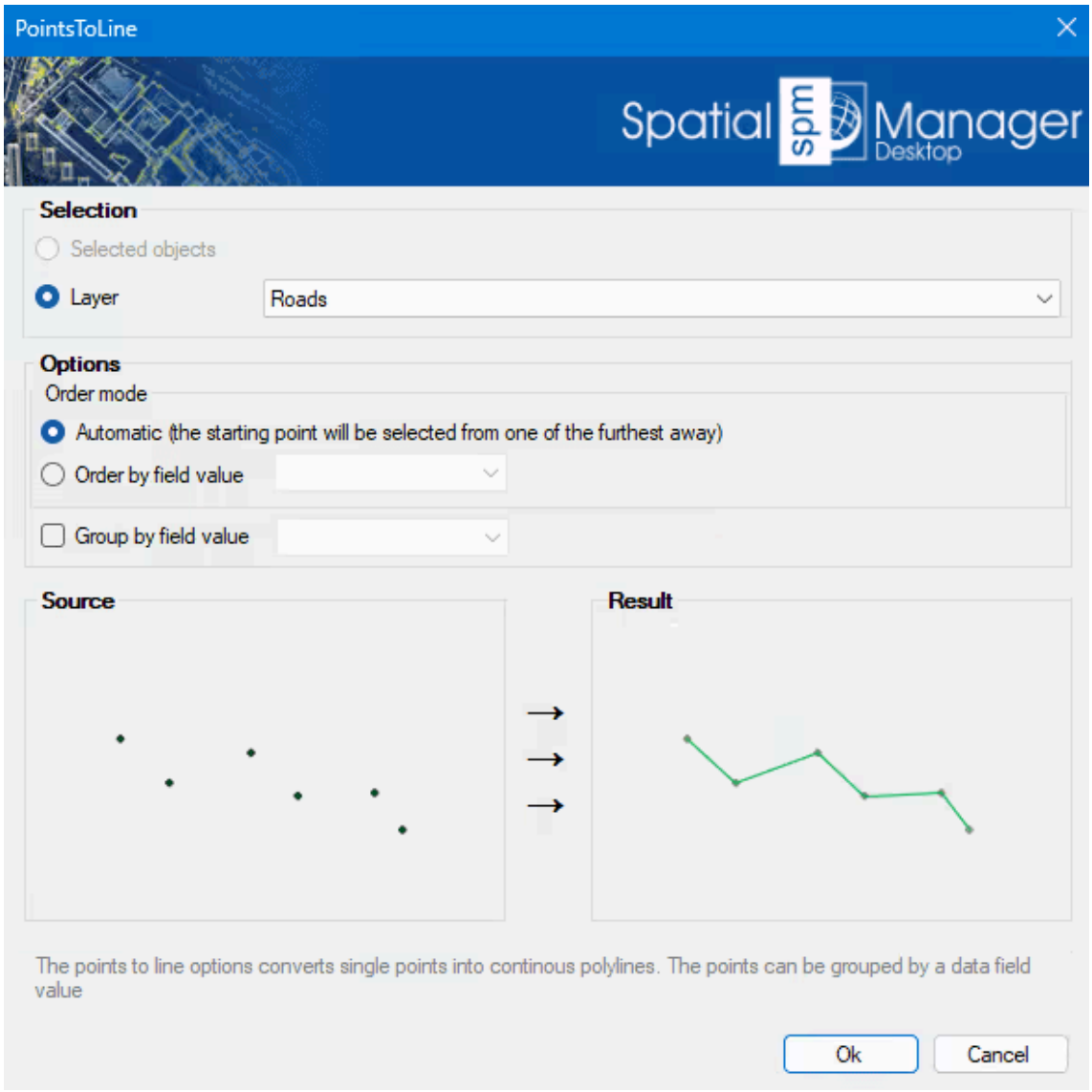
Available on edition

Professional

Transforms individual points into continuous polylines by connecting them in the order they appear or based on a selected attribute. This feature is ideal for generating linear features such as routes or boundaries from point data. Points can be grouped by a specific data field, allowing for the creation of multiple polylines from categorized point sets..

Points to Polyline Options

- **Selection**: select the polylines from the previous selection, or select by layer.
- **Points to Polyline options**
  - *Order mode*:
    - *Automatic*: The polyline creation begins at the furthest point from all selected points. Each following point is selected as the nearest point from those remaining.
    - *Order by field value*: If the points have an associated field value, you can choose to create the polyline based on that value ascending order.
  - *Group by field value*: If the points have an associated field value, you can choose to create separate polylines for each unique field value.



Points to polyline options

DOCUMENTATION

Segmentation

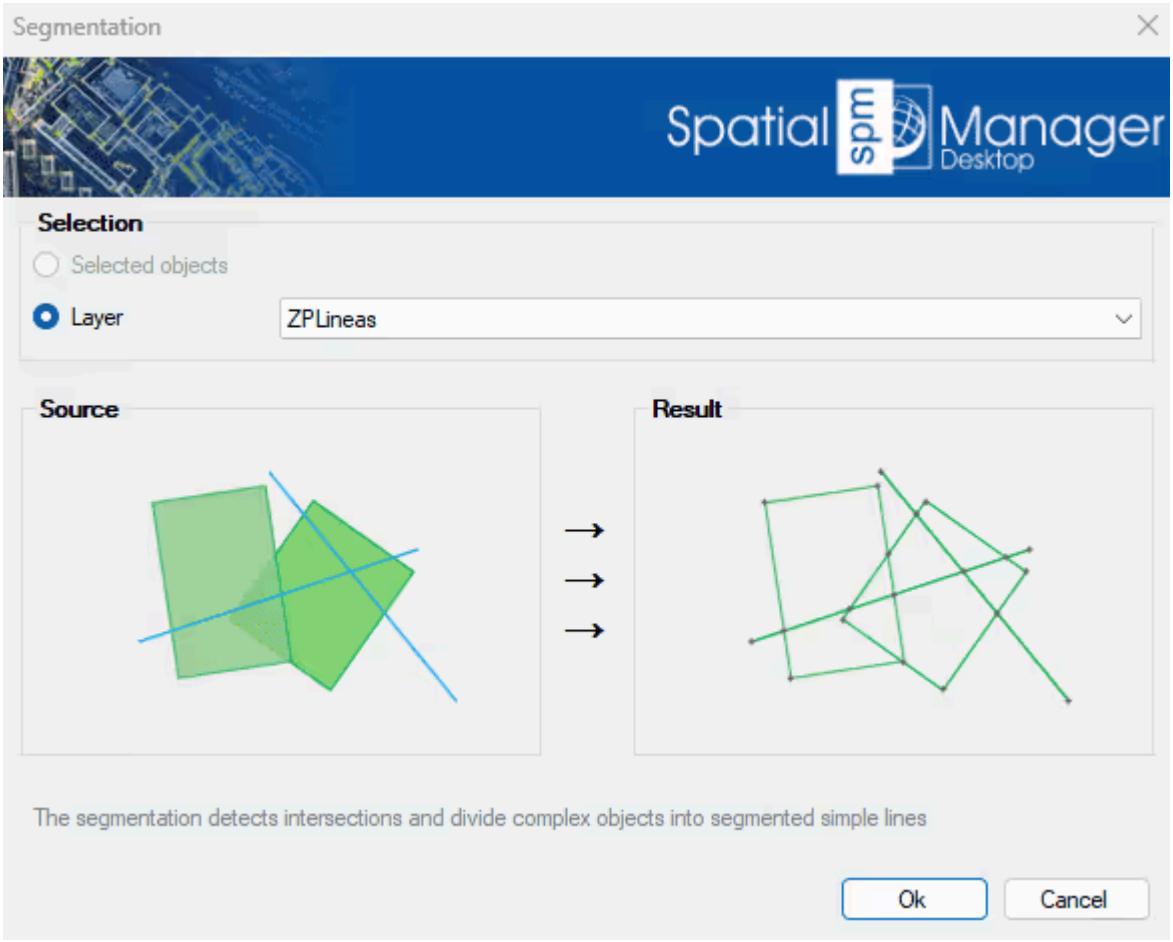
Available on edition

Professional

Identifies intersections and automatically splits complex linear geometries into simpler line segments. This process is useful for preparing data for topological analysis, editing, or export to systems that require simpler geometry structures..

Segmentation Options

- **Selection**: select the polylines from the previous selection, or select by layer.



Segmentation options

DOCUMENTATION

Polygon Tools

Available on edition

Professional

A set of polygon tools designed to simplify and enhance your spatial editing tasks. Generating polygons from point sets, merging adjacent polygons, or creating polygons from intersecting lines..

DOCUMENTATION

Points to Polygon

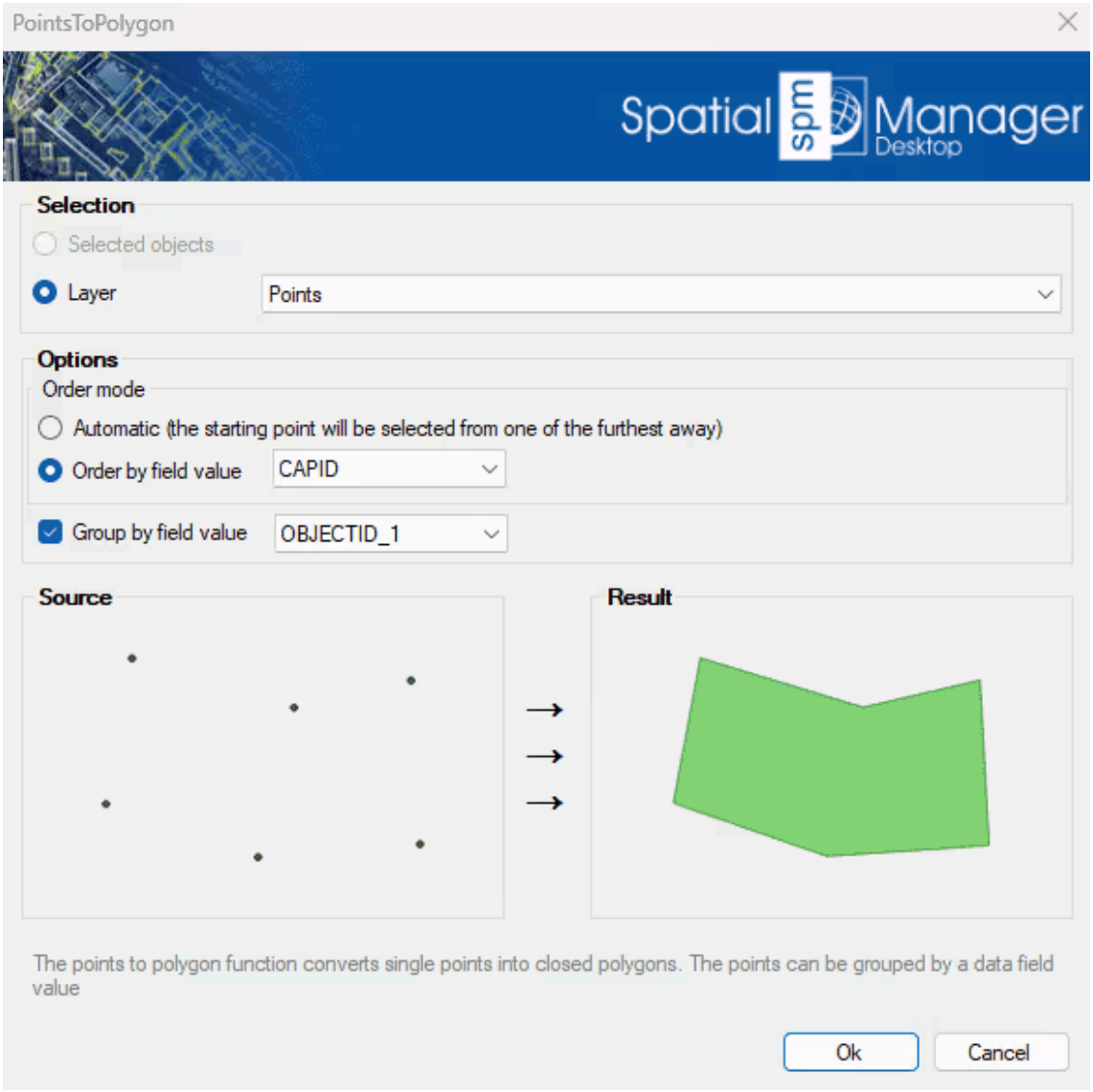
Available on edition

Professional

Creates closed polygon geometries by connecting individual points in sequence. This tool is particularly useful when reconstructing area features from boundary points, such as land plots or enclosures. Points can be grouped by a specified data field, enabling the generation of multiple polygons based on categorized point sets..

Points to Polygon Options

- **Selection**: select the polylines from the previous selection, or select by layer.
- **Points to Polygon options**
  - *Order mode*:
    - *Automatic*: The polygon creation begins at the furthest point from all selected points. Each following point is selected as the nearest point from those remaining.
    - *Order by field value*: If the points have an associated field value, you can choose to create the polygon based on that value ascending order.
  - *Group by field value*: If the points have an associated field value, you can choose to create separate polygons for each unique field value.



Points to polygon options

DOCUMENTATION

Polygon Union

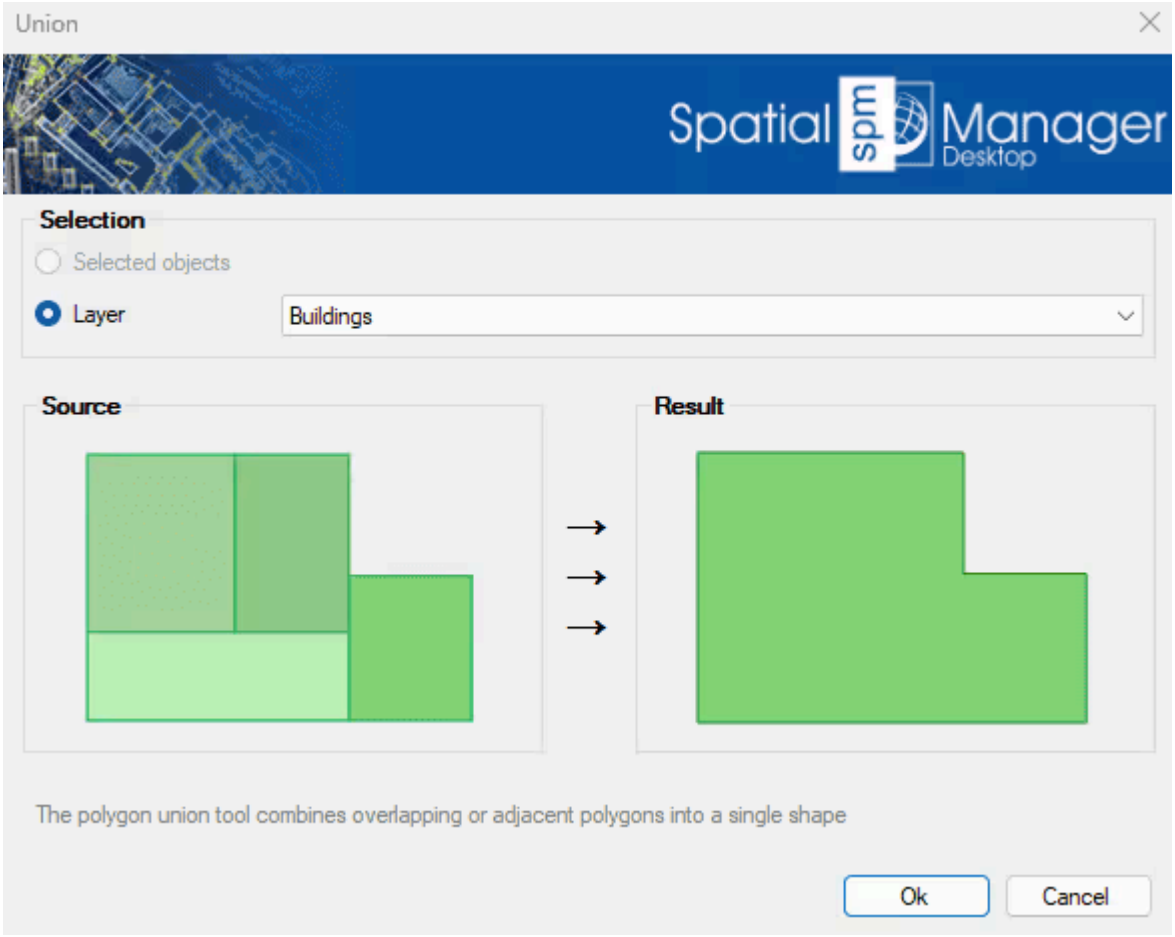
Available on edition

Professional

Combines overlapping or adjacent polygons into a single, unified geometry. This tool simplifies complex datasets by removing internal boundaries and merging connected areas. It is essential for consolidating features such as land parcels, administrative zones, or habitat regions, ensuring cleaner and more efficient spatial data..

Polygon Union Options

- **Selection**: select the polylines from the previous selection, or select by layer.



Polygon union options

DOCUMENTATION

Polygonize

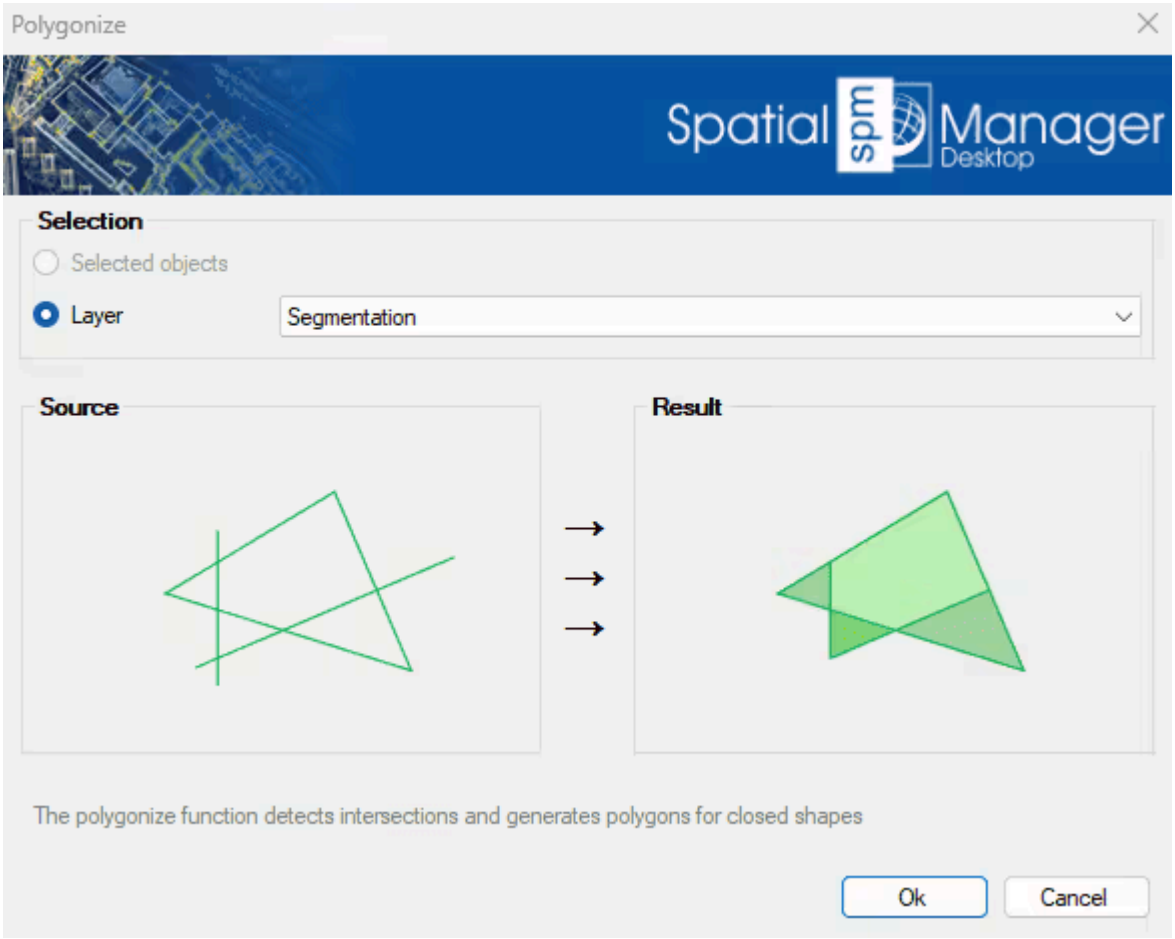
Available on edition

Professional

Automatically detects intersections between line geometries and generates polygons from the resulting closed shapes. This tool is ideal for transforming networks of lines—such as cadastral boundaries or urban layouts—into usable polygon features..

Polygon Union Options

- **Selection**: select the polylines from the previous selection, or select by layer.



Polygonize options

DOCUMENTATION

Geometry Editing

Available on edition

Professional

A wide range of functions to edit, reshape, and analyze spatial geometries. Tools such as Convex Hull, Envelope, or Triangulation. Additional capabilities like Simplify reduce complexity in shapes or Vertex extraction are available..

DOCUMENTATION

Convex hull

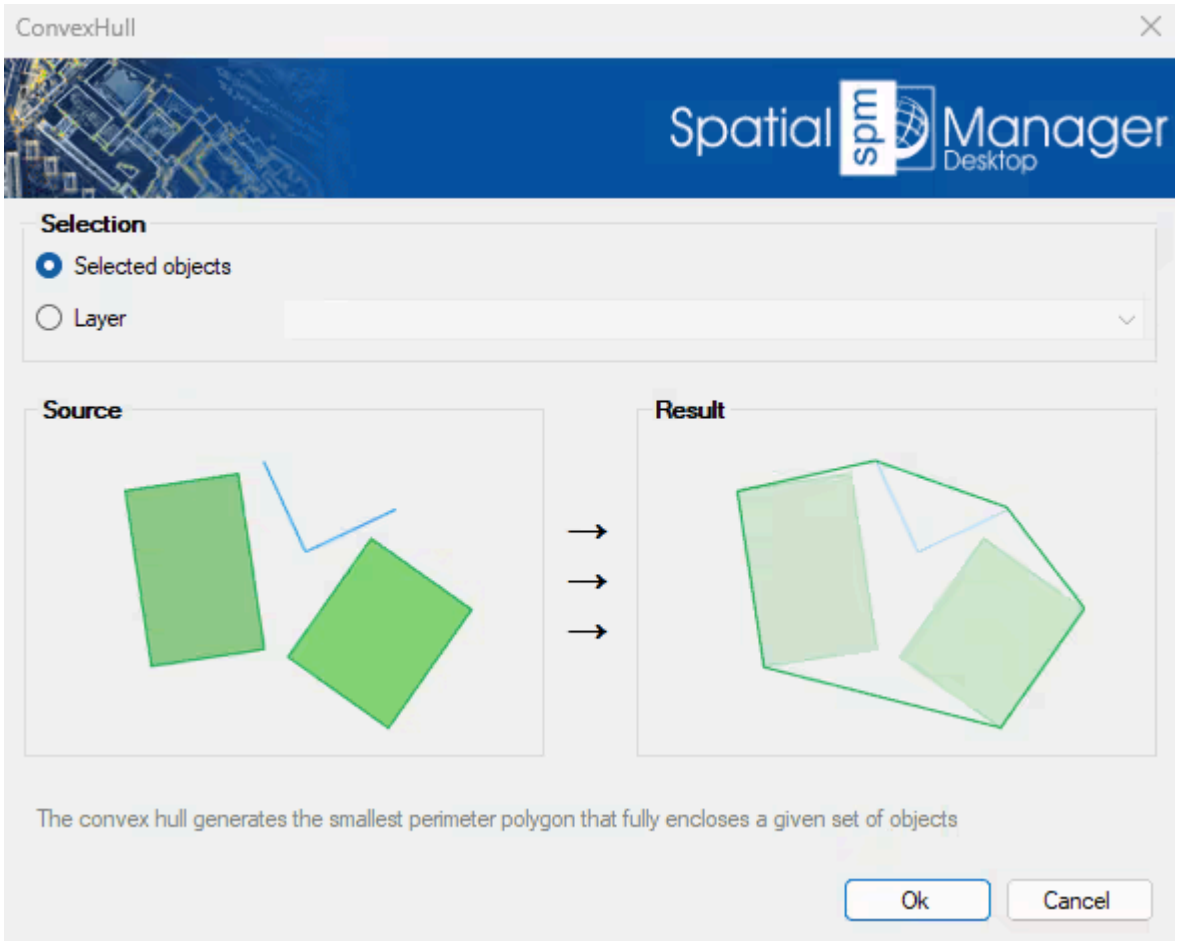
Available on edition

Professional

Generates the smallest convex polygon that completely encloses a selected set of geometries. This operation is useful for creating bounding areas, simplifying complex datasets, and performing spatial analysis. The resulting shape forms the minimal convex envelope around the input features, ensuring optimal coverage with minimal boundary length..

Convex Hull Options

- **Selection**: select the polylines from the previous selection, or select by layer.



Convex hull options

DOCUMENTATION

Envelope

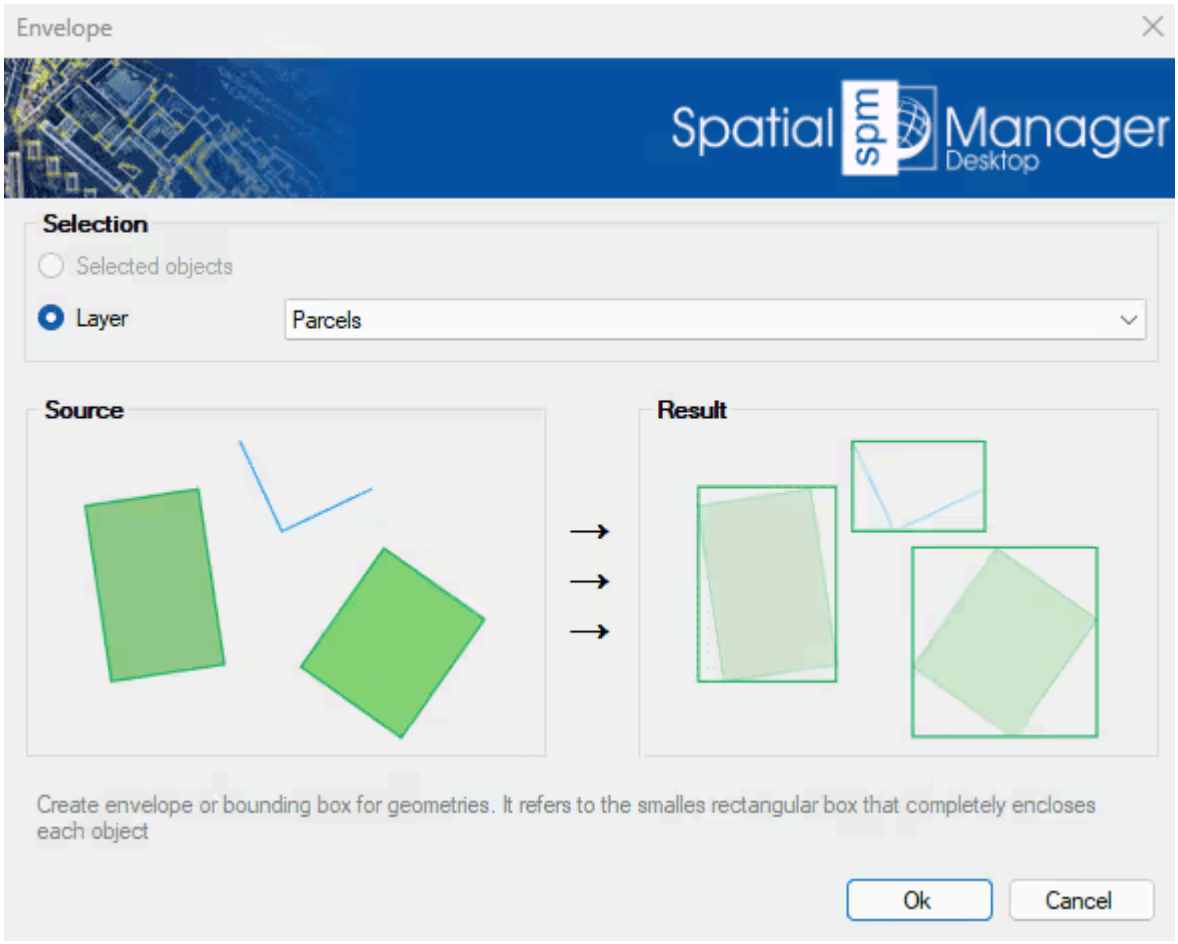
Available on edition

Professional

Creates an envelope or bounding box for selected geometries. This refers to the smallest rectangular area that fully contains each object. It is commonly used to generalize shapes, define extents, or prepare spatial data for indexing, visualization, or spatial queries. The result is a simplified and standardized representation of the original geometry's outer limits..

Envelope Options

- **Selection**: select the polylines from the previous selection, or select by layer.



Envelope options

DOCUMENTATION

Simplify

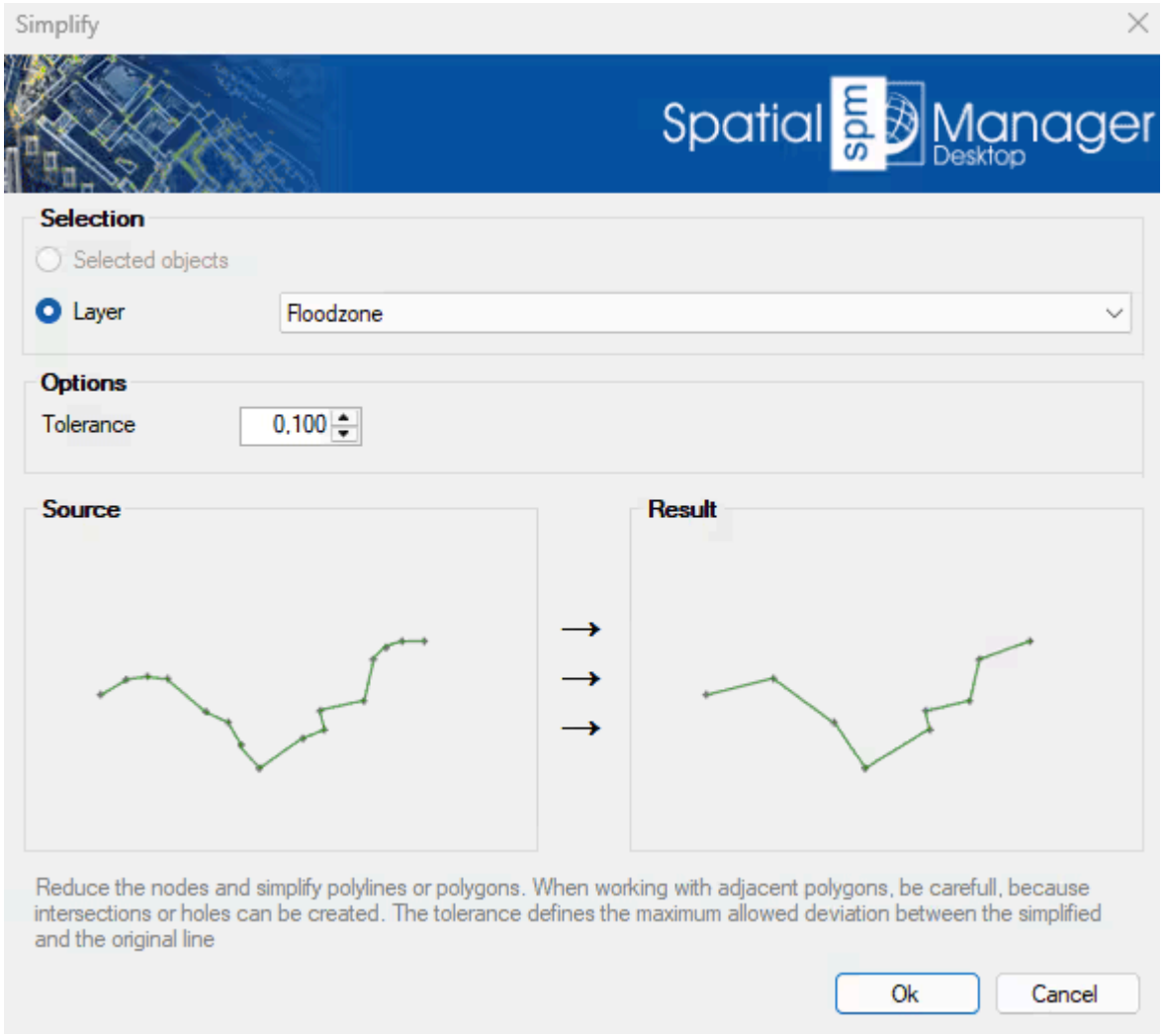
Available on edition

Professional

Reduces the number of vertices (nodes) to simplify polylines or polygons, optimizing geometry complexity while maintaining overall shape integrity. This function is useful for improving performance and visualization of spatial data by decreasing detail where appropriate. When working with adjacent polygons, caution is advised as simplification may create unintended intersections or holes. The tolerance parameter controls the maximum allowed deviation between the simplified geometry and the original..

Simplify Options

- **Selection**: select the polylines from the previous selection, or select by layer.
- **Tolerance**: defines the maximum permitted deviation between the simplified geometry and the original.



Simplify options

DOCUMENTATION

Triangulation

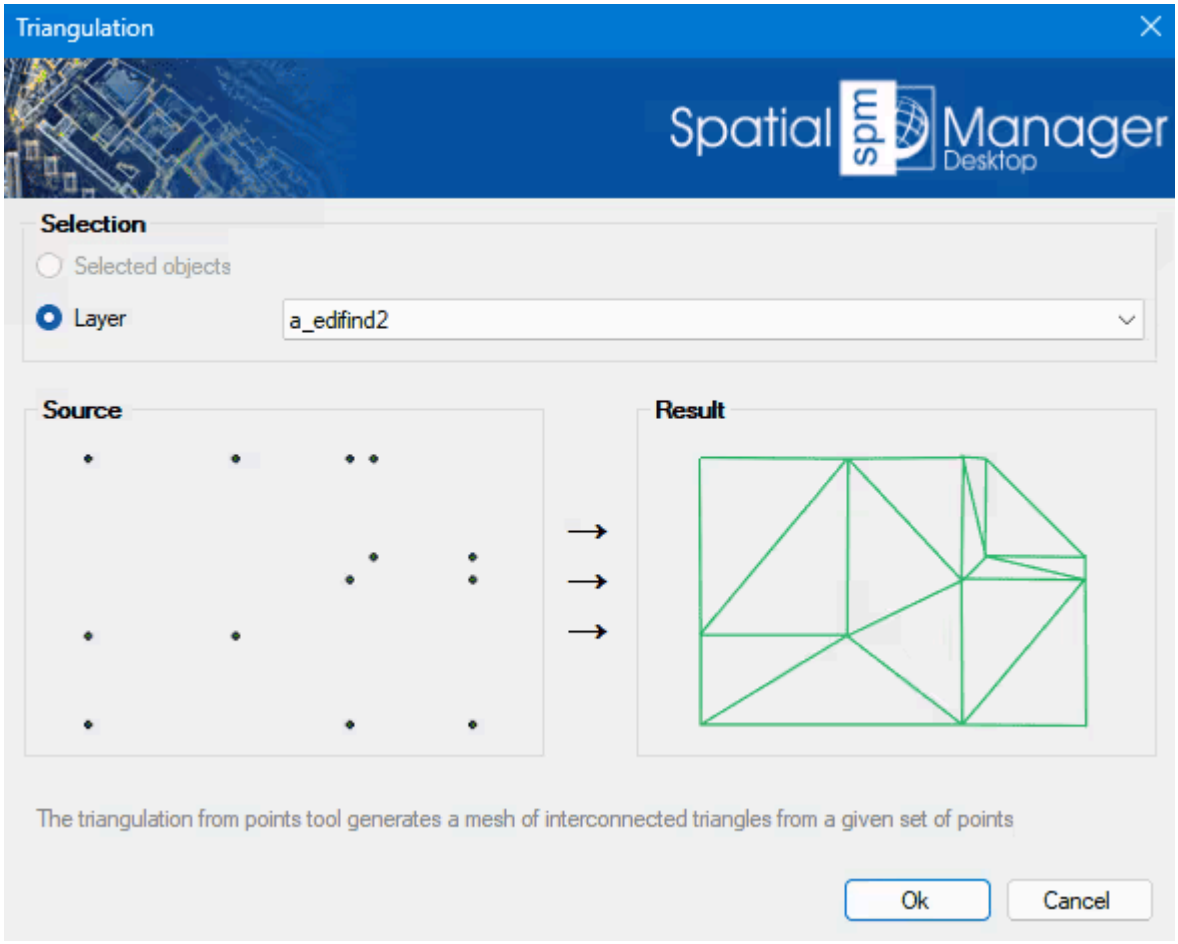
Available on edition

Professional

The Triangulation from Points tool generates a mesh of interconnected triangles by connecting a given set of points. This process creates a network of triangles that can be used for surface modeling, terrain analysis, and interpolation of spatial data. The resulting triangular mesh provides a foundation for advanced GIS and CAD operations, ensuring accurate representation of complex spatial structures..

Triangulation Options

- **Selection**: select the polylines from the previous selection, or select by layer.



'Triangulation' options

DOCUMENTATION

Vertex extraction

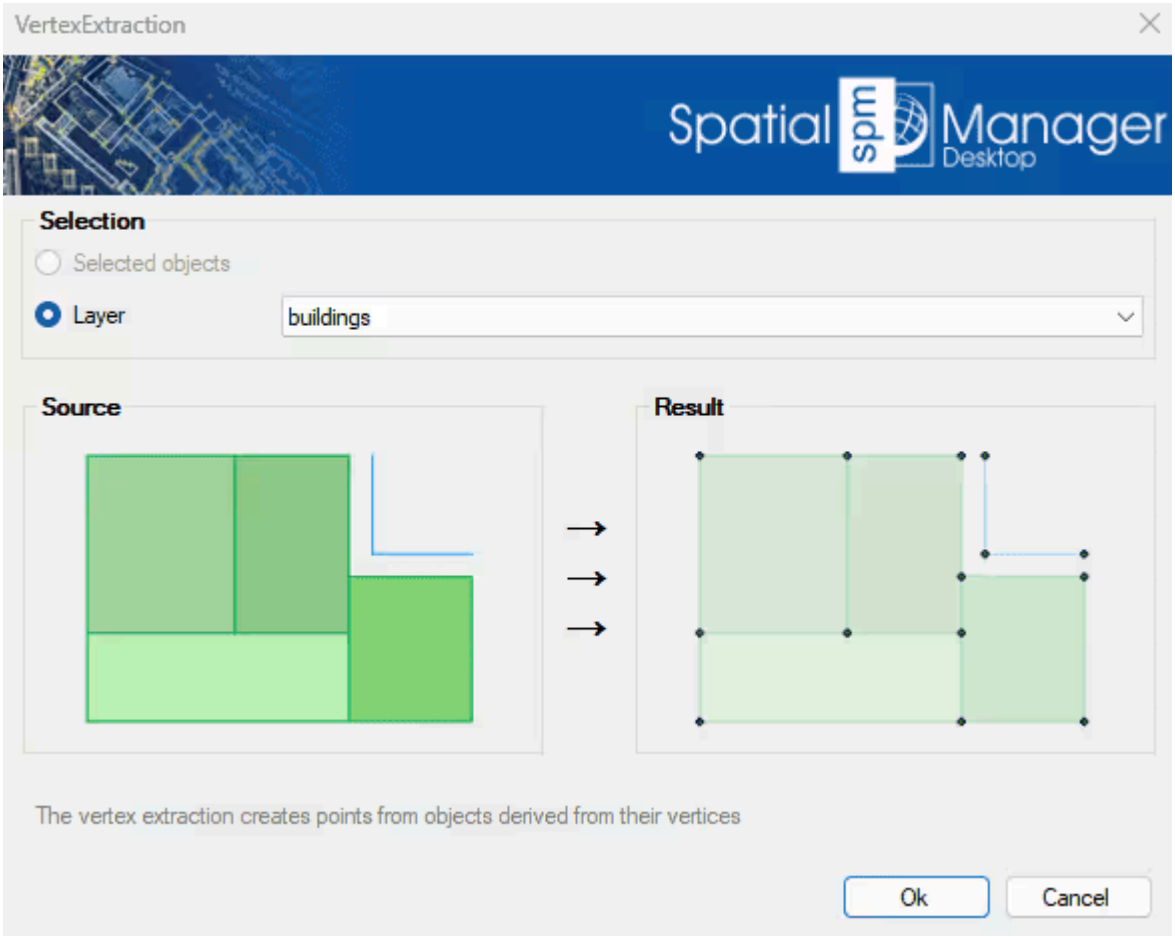
Available on edition

Professional

The Vertex Extraction tool generates individual point features from the vertices of existing geometries. This function is useful for analyzing, editing, or exporting key coordinate points that define lines, polylines, or polygons..

Vertex extraction options

- **Selection**: select the polylines from the previous selection, or select by layer.



Vertex extraction options

DOCUMENTATION

Data Sources

DOCUMENTATION

Providers

Data Providers

Spatial Manager Desktop™ accesses spatial data for importing and/or exporting using their own data Providers. The application can access different data formats and storage systems depending on the spatial data Providers installed.

Available data Providers

The available standard data Providers for Spatial Manager Desktop™ at this time are the following:

Spatial files

- Esri Shape file (.SHP)
- Google Earth file (.KML .KMZ)
- OpenStreetMap file (.OSM .OSC .PBF) (1)
- LiDAR file (.LAS .LAZ)
- GPS exchange format file (.GPX)
- Esri ASCII Grid file (.ASC .ASCII)
- ASCII text file (.ASC .CSV .NEZ .TXT .XYZ .UPT)
- SQLite file (.DB .SQLITE)
- GeoPackage file (.GPKG)
- GML file (.GML .GZ)
- GeoJSON file (.GEOJSON .JSON)
- GeoJSON file (2) (5)
- Autodesk SDF file (.SDF) (3)
- MicroStation v.7 file (.DGN) (2)
- CAD DXF file (.DXF) (2)
- Esri ArcInfo export file (ASCII) (.E00) (1) (2)
- MapInfo file (.TAB) (2)
- MapInfo interchange format file (.MIF) (2)
- LandXML file (.XML) (1)

Spatial raster files

- Raster image file (.TIF .PNG .JPG .JPEG .TIFF) [6]
- Variable resolution Raster image file (Cloud Optimized GeoTIFF/COG TIFF) [1] [4] [6]
  - Georeference sources (GeoTIFF, World files, Google Earth .GEPRINT, GPS EXIF, etc.)

Spatial data servers and Geo-databases

- Esri Geodatabase File (.GDB) [1]
- PostGIS database
- Microsoft SQL Server Spatial database
- MySQL database [1] [3]

Image map servers

- WMS/OGC API Maps Web Map Services [4]
- WMTS/OGC API Tiles Web Map Tile Services [4]
- XYZ/TMS Tile Map Services [4]

Other spatial data sources

- Open Database Connectivity ODBC [1]
- WFS/OGC API Features data store [1]
- WFS data store (OGR) [1] [2] [5]
- WFS data store (FDO) [1] [3] [5]

[1] Read-only
[2] OGR data source
[3] FDO provider
[4] Background Maps technology

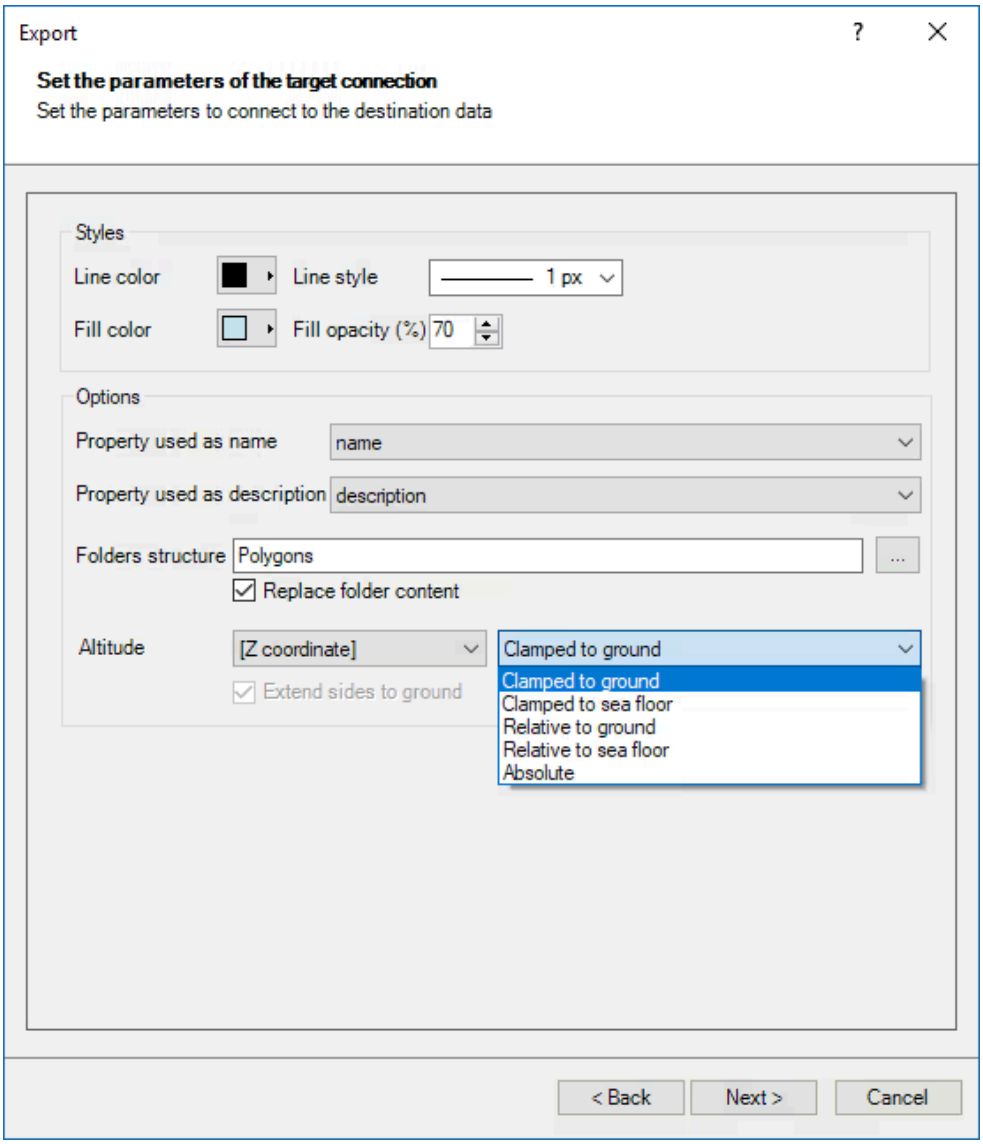
[5] DEPRECATED - Whenever possible use the native data provider. In addition, OGR for WFS data stores will not be found in the data Provider list under some circumstances (certain CAD Map versions and others).
[6] Professional Edition only

Note: certain data Providers are only valid for some Editions of the application.

Parameters of the data Providers

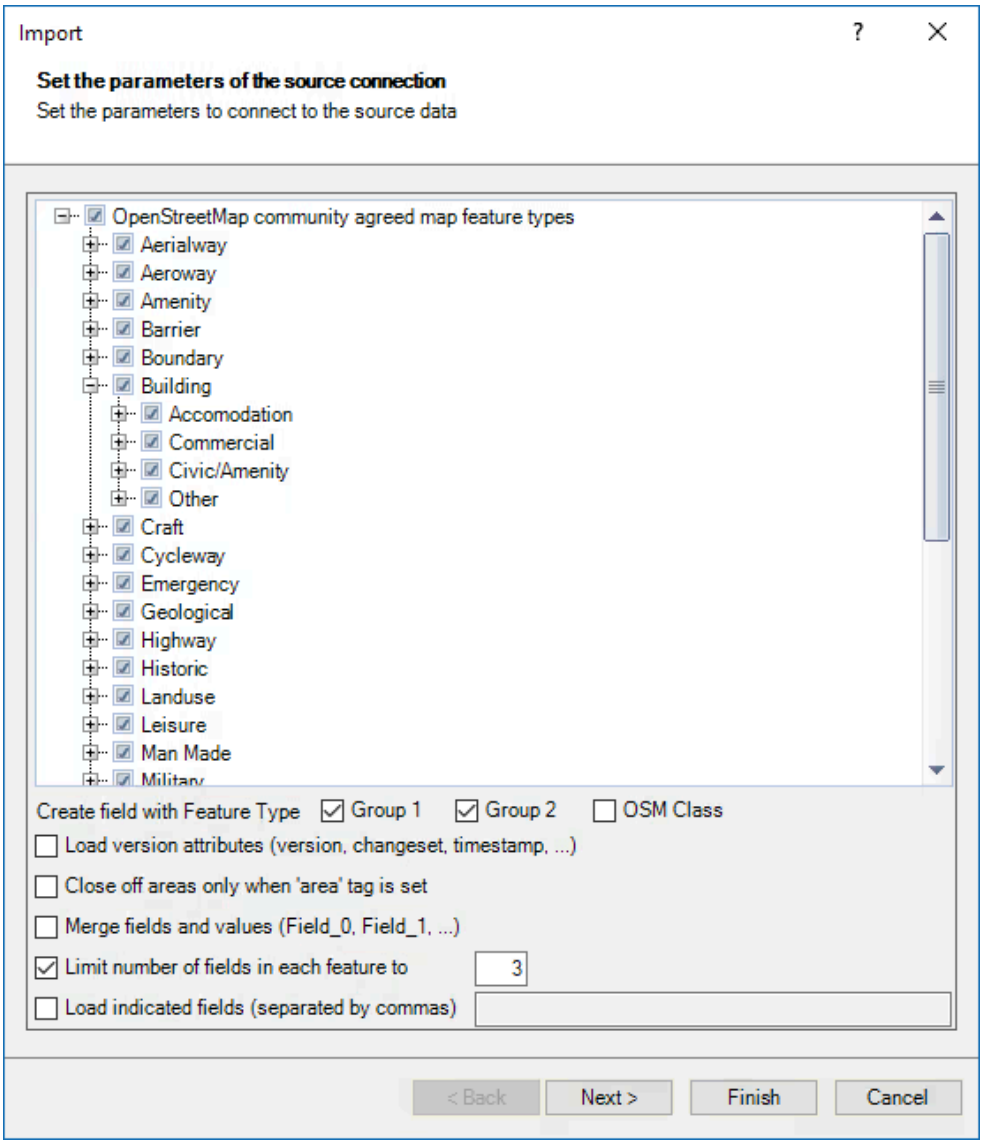
The parameters of the data Providers in Spatial Manager Desktop™ are the settings that the application needs to connect when reading (importing) or writing (exporting) spatial tables or files by using a given data Provider. Certain data Providers need the reading parameters and the writing parameters, and these settings can be different. Some other data Providers will only need the reading or the writing parameters but not both of them. You will see a parameters window every time the application needs them when running a given import or export process.

Sample 1: KML/KMZ Google Earth file writing parameters window



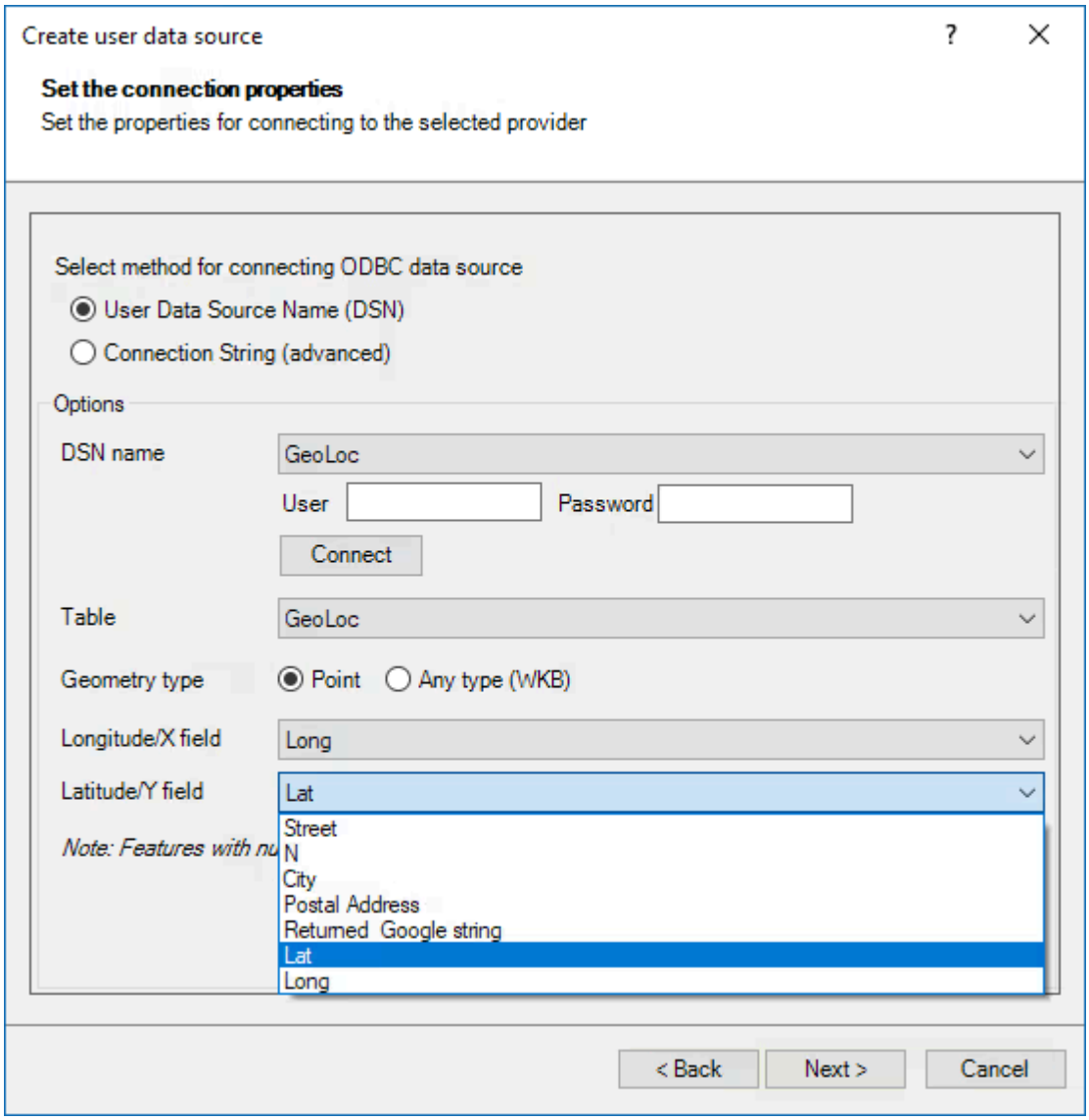
KML/KMZ Google Earth file writing parameters window

Sample 2: OSM/PBF OpenStreetMap file reading parameters window



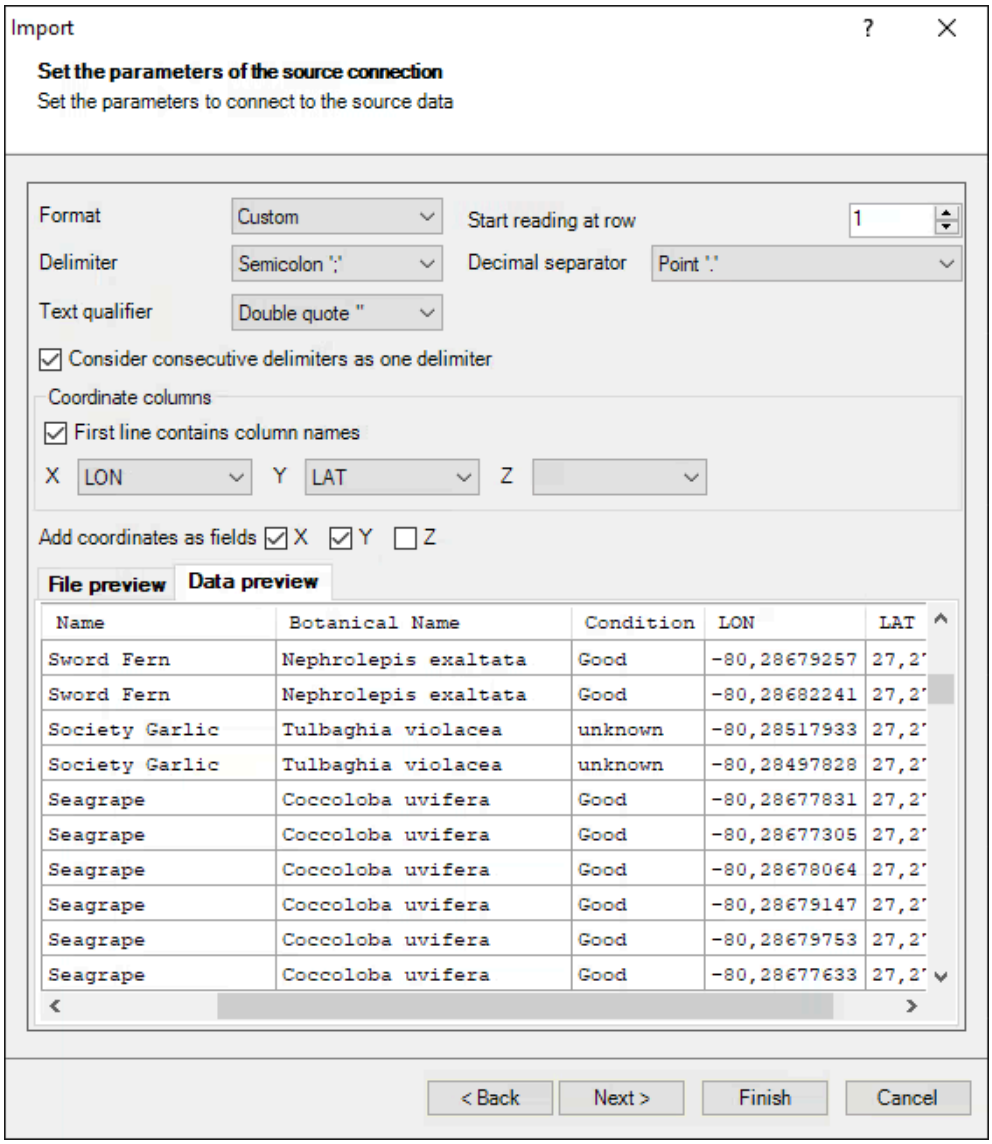
OSM/PBF OpenStreetMap file reading parameters window

Sample 3: Open Database Connectivity ODBC (creating a User Data Source) parameters window



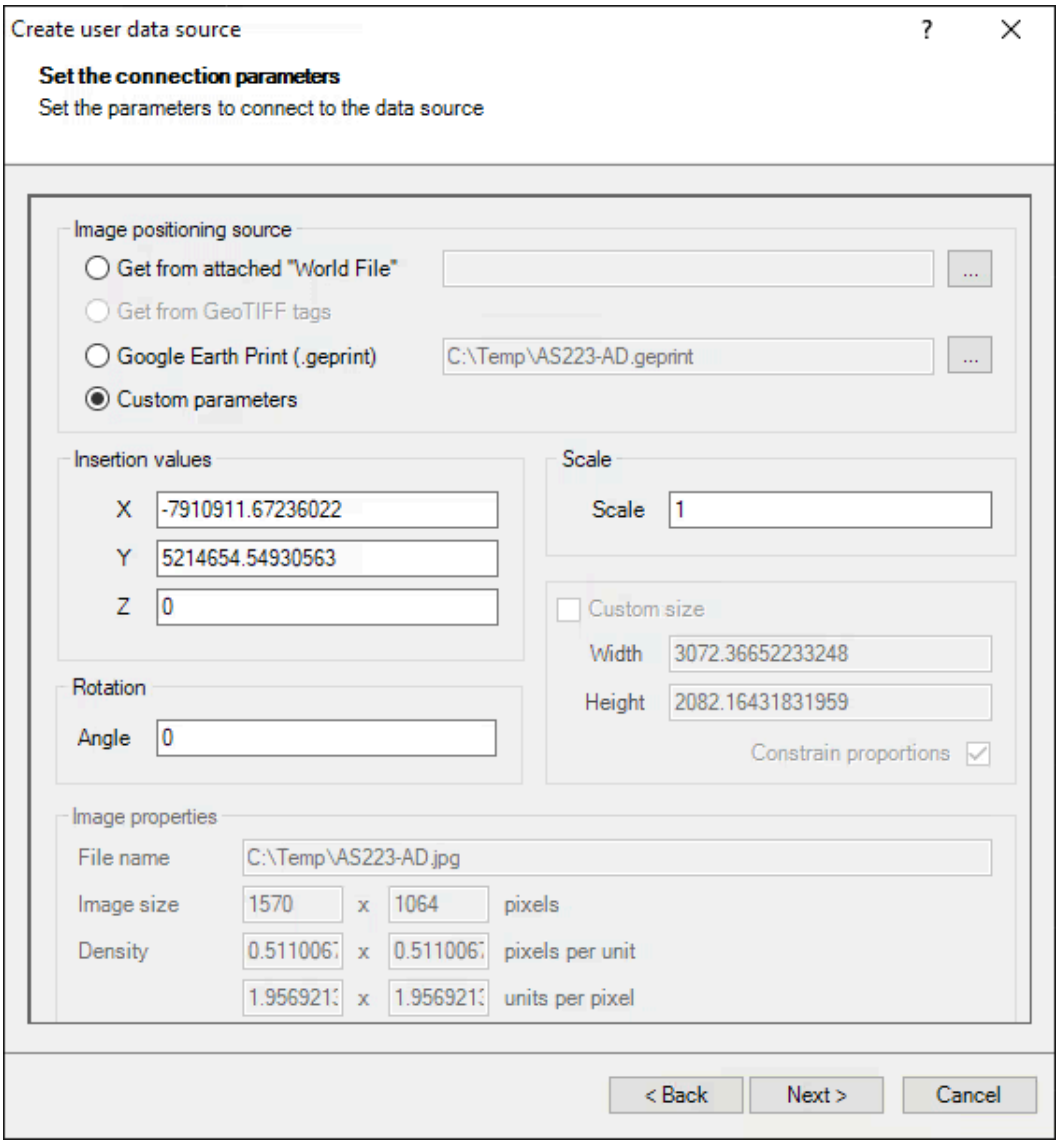
Open Database Connectivity ODBC parameters window

Sample 4: ASCII file (custom settings) reading (import process) parameters window



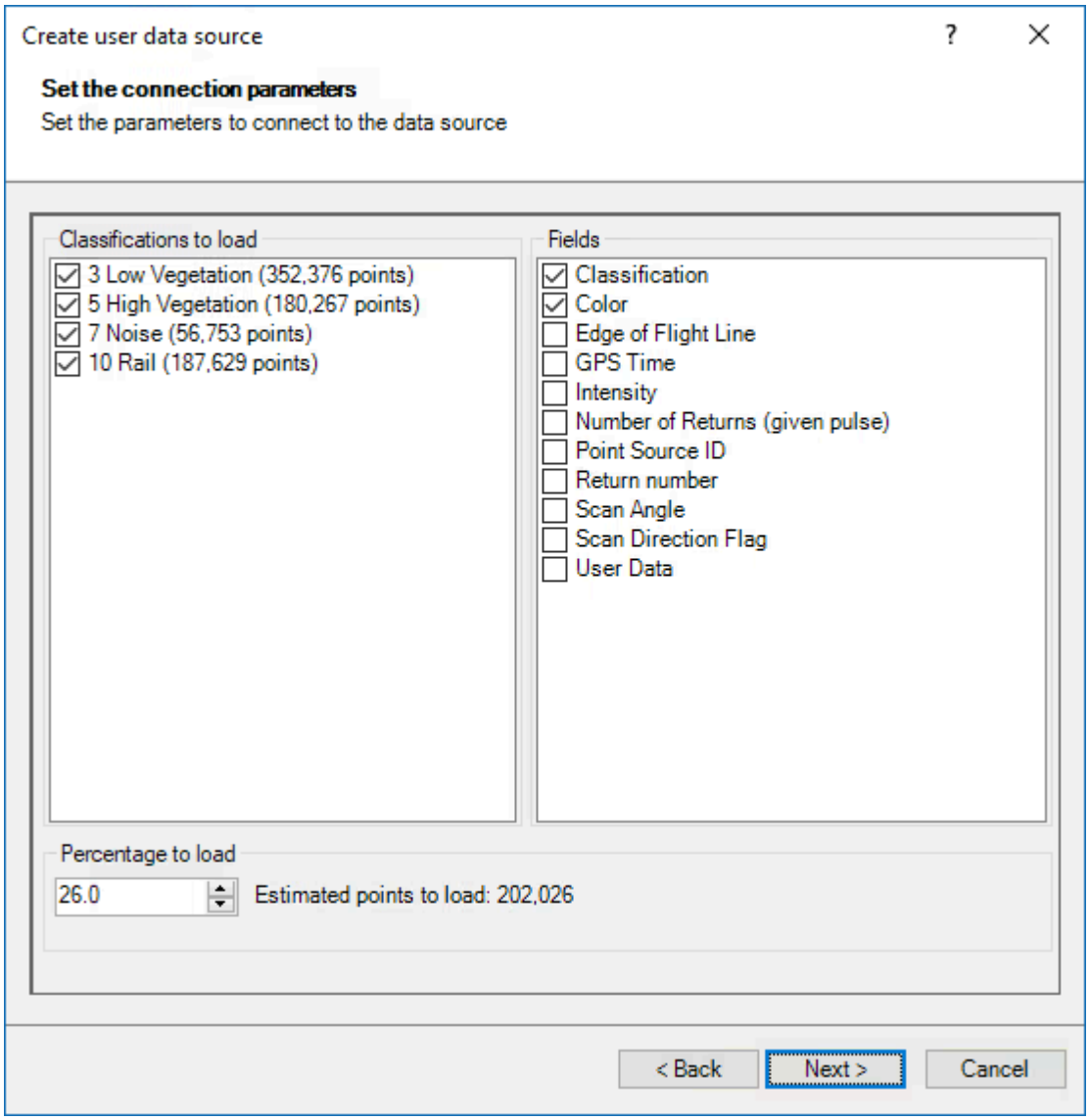
ASCII file reading (import process) parameters window

Sample 5: Raster image file reading Provider parameters window



Single image Raster Provider parameters window

Sample 6: LiDAR file reading parameters window



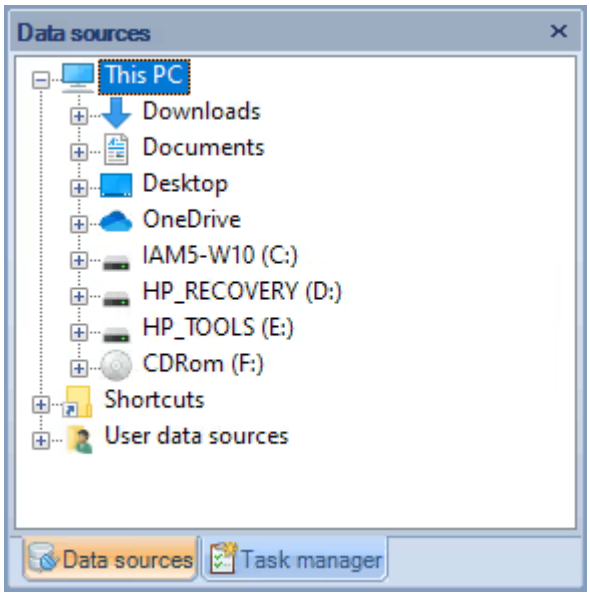
LiDAR file reading parameters window

DOCUMENTATION

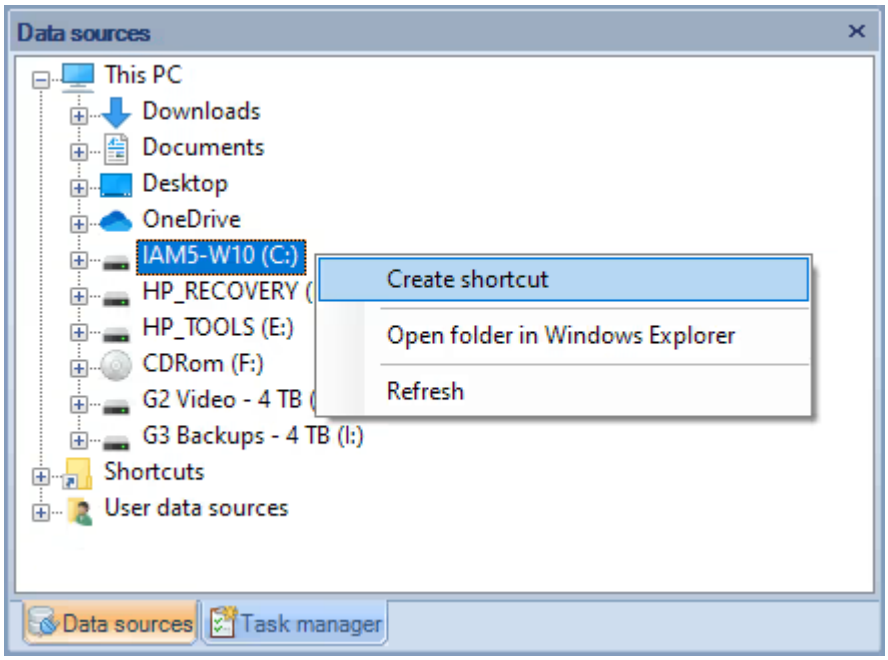
Shortcuts

Access to disk drives, local folders, local network paths, etc.

You can access local locations (such as hard drives, removable disks, local network drives, etc.) through the “This PC” branch in the “Data sources” panel of Spatial Manager Desktop™. Here you will also find access to common folders, such as Downloads, Documents, OneDrive, etc. The contextual (right-click) options in this area will allow you to create shortcuts (see next paragraph) and run many other disk- and folder-related functions.



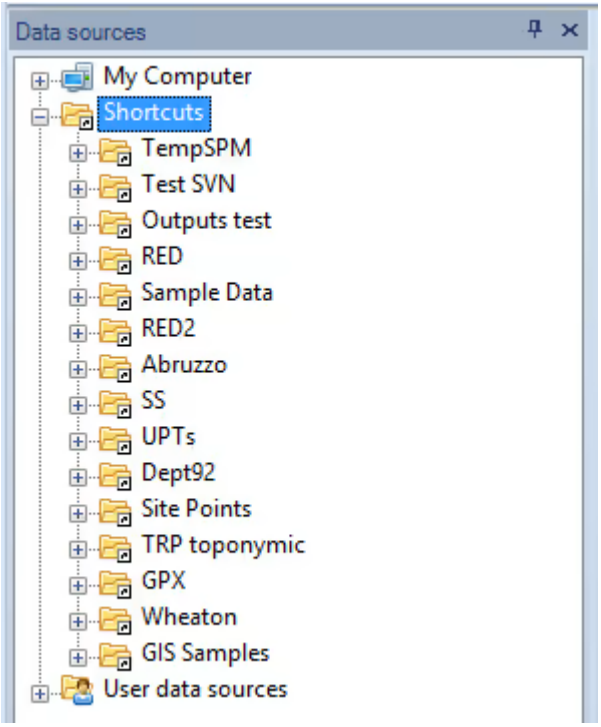
Spatial Manager Folders-Disks



Spatial Manager Folders-Disks contextual options

Shortcuts

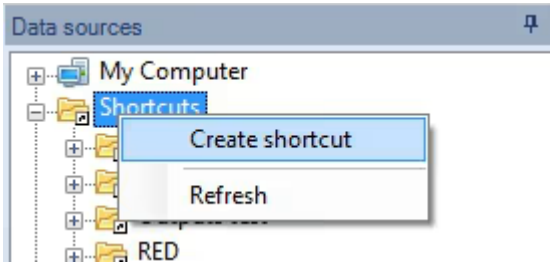
The shortcuts in Spatial Manager Desktop™ are the way you can reference any folder on a physical or network drive, or the drive itself, and they allow you quick access to its path. You can access the shortcuts through the “Data sources” panel.



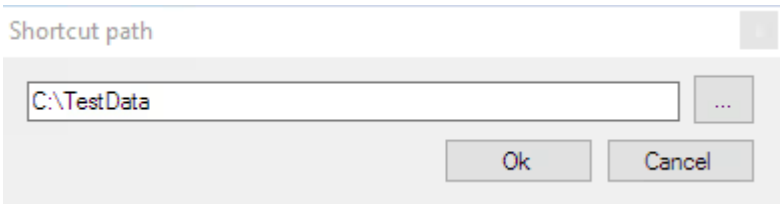
Spatial Manager Shortcuts

Create a new Shortcut

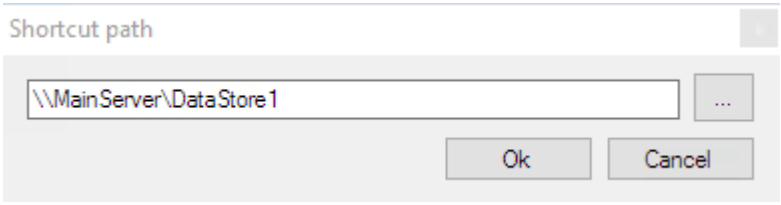
You can create new shortcuts in Spatial Manager Desktop™ using the right-click menu over the “Shortcuts” paragraph in the “Data sources” panel, typing a path (local or network) or choosing a folder or drive. You can also create a new shortcut using the right-click menu over any folder or drive item that you see in the “Data sources” panel to reference the path of this folder or drive.



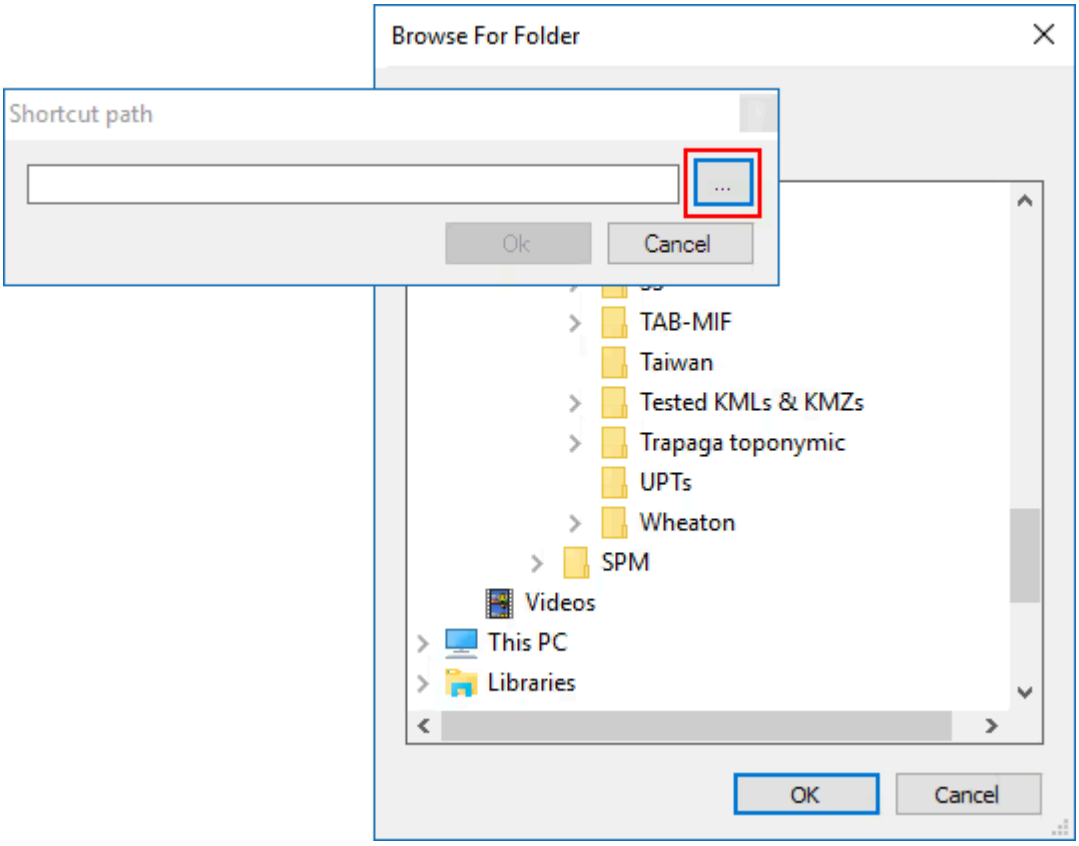
Create a new Shortcut



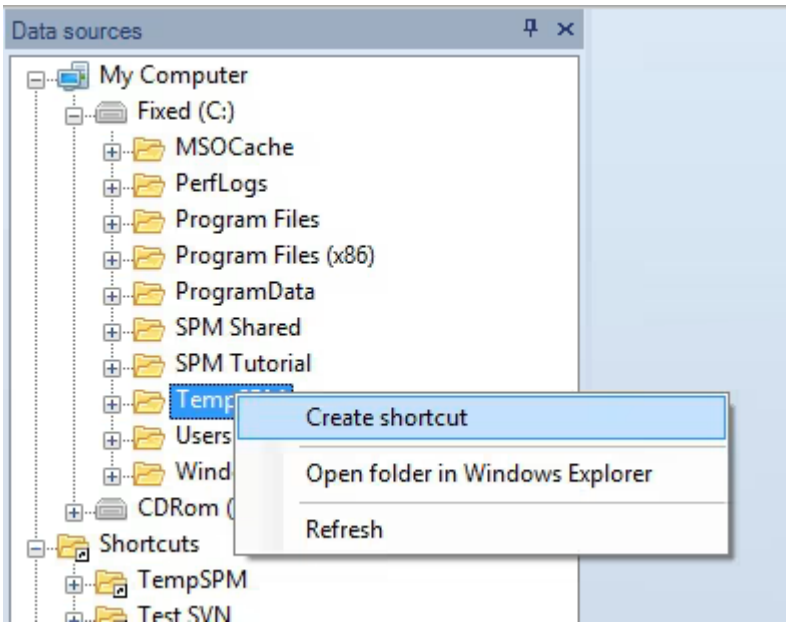
Create a new Shortcut - Type a local Shortcut



Create a new Shortcut - Type a network Shortcut



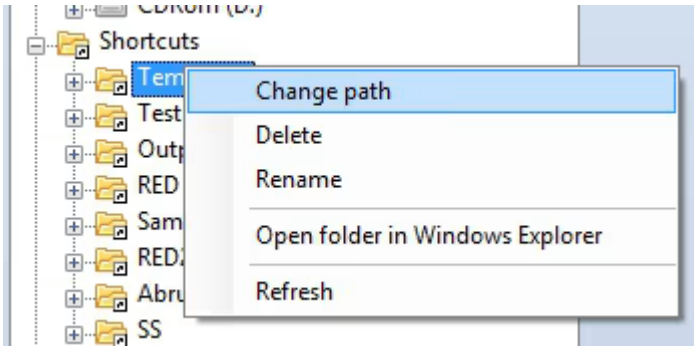
Create a new Shortcut - Browse for folder



Create a new Shortcut from a folder

Edit a Shortcut

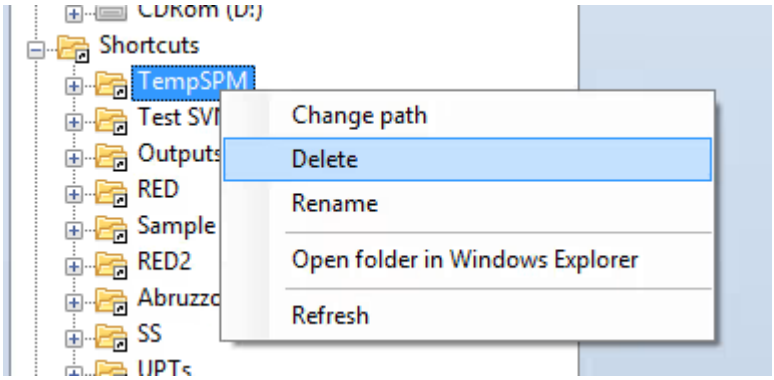
You can edit a shortcut in Spatial Manager Desktop™ using the right-click menu over the item in the "Data sources" panel to change the path of the folder or drive referenced. You will see a warning window if the shortcut is referenced by any task ("Professional" edition only).



Edit a Shortcut

Other functions for the Shortcuts

In Spatial Manager Desktop™ you can delete (a warning window will be displayed if the shortcut is referenced by any task — "Professional" edition only) or rename the shortcut. You can also refresh the folder or drive content, and you can open Windows Explorer for the folder or drive referenced by the shortcut. All these functions are available using the right-click menu over the shortcut item in the "Data sources" panel.



Other Shortcuts functions

DOCUMENTATION

User data sources

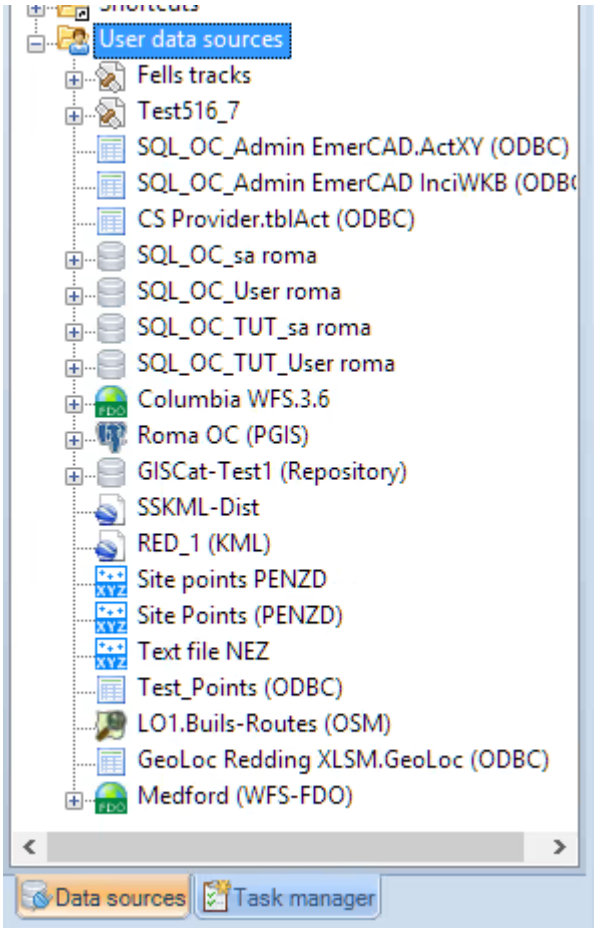
User Data Sources (UDSs)

Available on editions Standard Professional

The UDSs in Spatial Manager Desktop™ are the way you can connect with spatial database servers or data stores, and also the way you can define the path to a particular spatial data file including its own connection parameters. You can access the UDSs through the "Data sources" panel.

Usually, the access to the data tables in the servers is tedious. Depending on the type of server, you need to enter many connection parameters that are not easy to remember, such as the server name, the user, the password, the connection port, the name of the database, etc. Spatial Manager Desktop™ introduces the concept of "User Data Source" (UDS), which allows you to store, inside your user settings, all the access parameters for the servers that you regularly connect to, by defining all the parameters once.

Files: If you frequently access a file that requires some connection parameters to load it into a Map, export it, or use it as part of any task definition ("Professional" edition only), you may be interested in creating a UDS for this file access, which will also include the connection parameters you choose at the time of defining the new UDS.

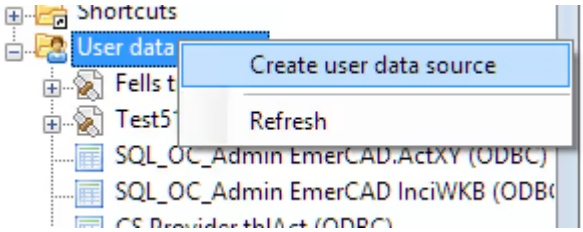


Spatial Manager User Data Sources (UDS)

Create a new User Data Source (UDS)

Available on editions Standard Professional

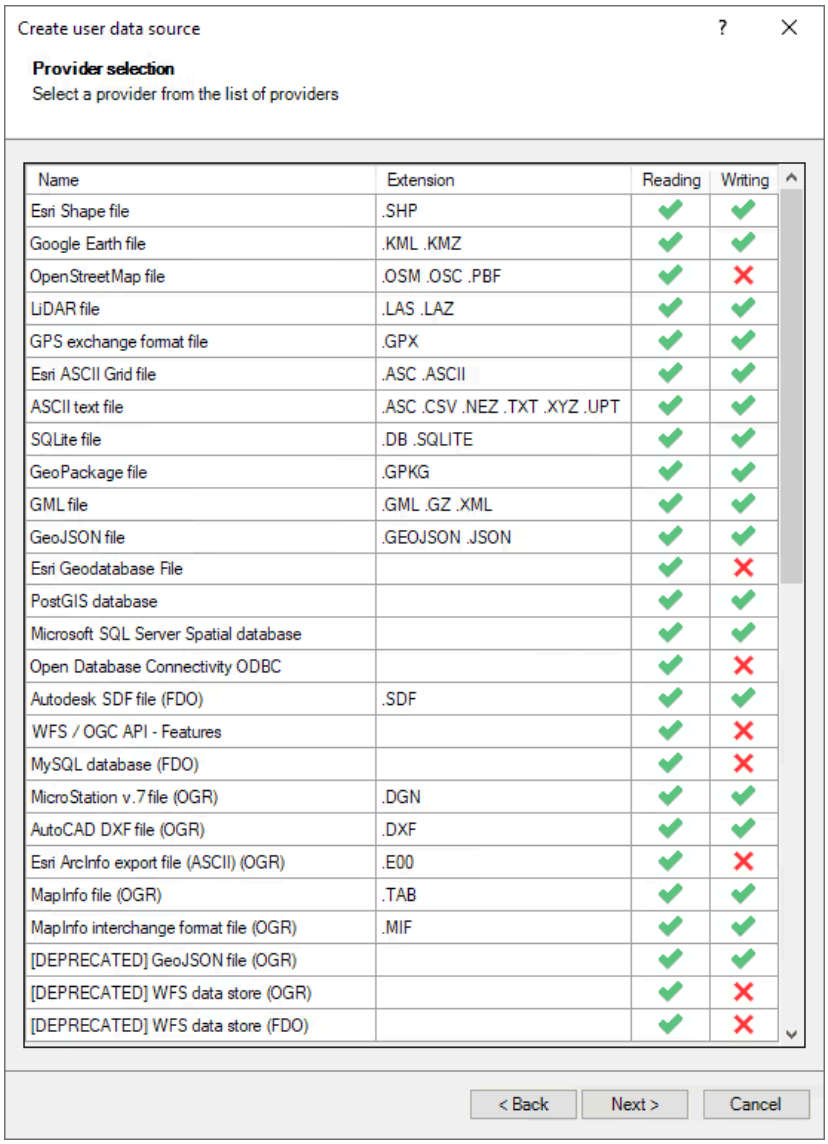
You can create new UDSs in Spatial Manager Desktop™ using the right-click menu over the “User data sources” paragraph in the “Data sources” panel to start the “Create user data source” wizard.



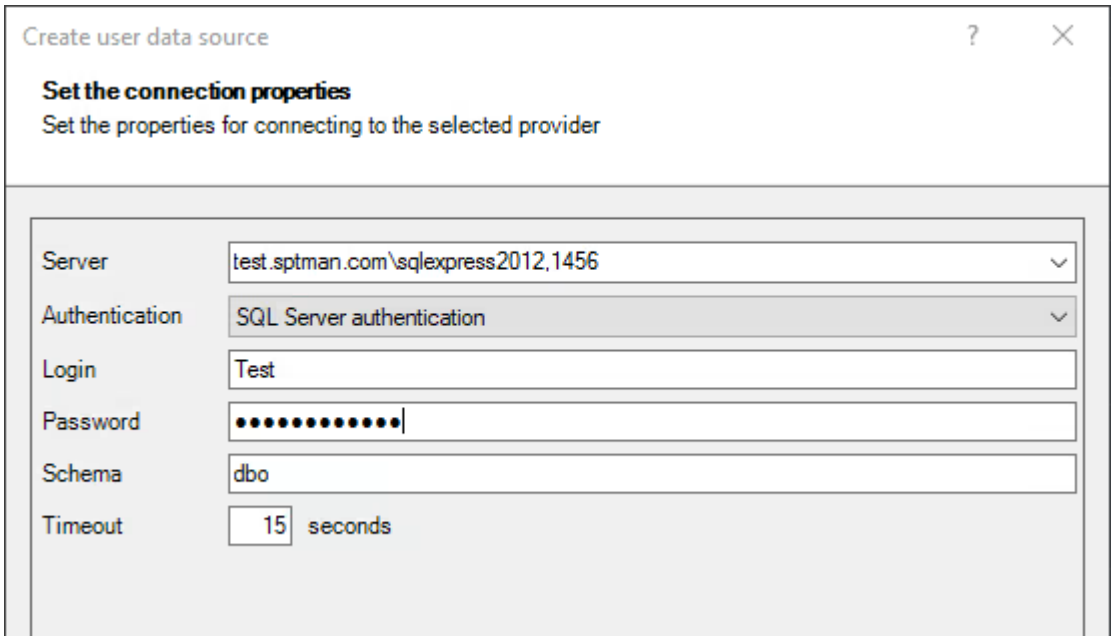
Create a User Data Source

When you create a new UDS to connect with a particular spatial database server, you need to choose the appropriate data provider for this server, the connection parameters for the server, and the name of the UDS. When you create a UDS to access a particular spatial data file, you also need to choose the appropriate data provider for this file, the file itself, the file parameters, and the name of the UDS. All

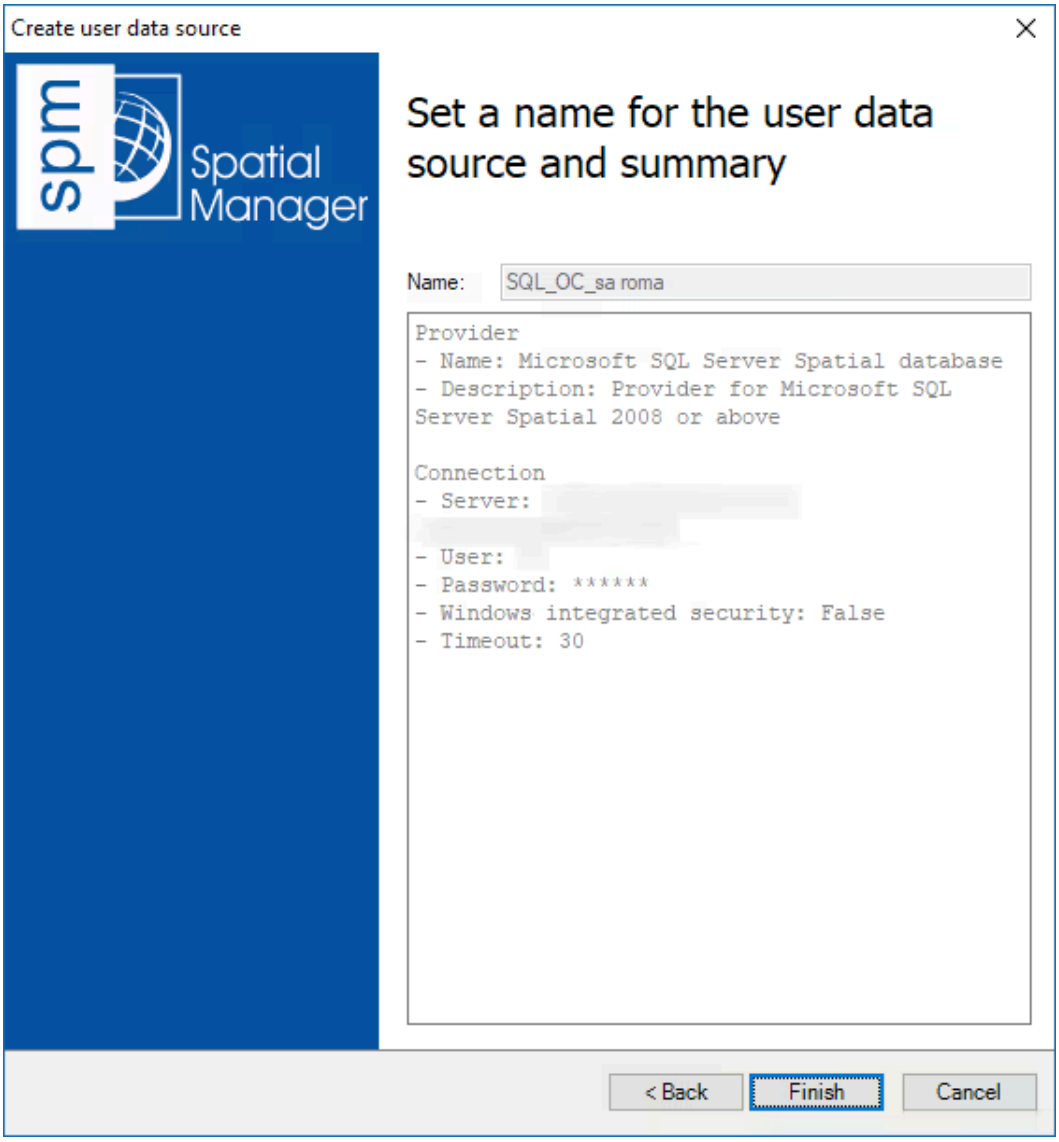
this data is saved in your application configuration until you delete or modify it. Note that if you choose a read-only data provider, you will be able to read data through this UDS but not write data.



Select a Spatial Manager Data Provider



Define the Connection Parameters

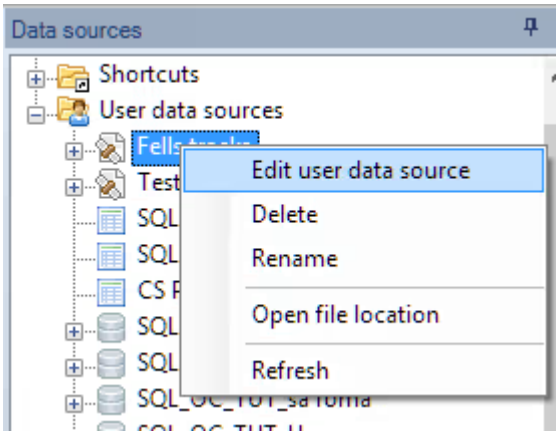


Assign a Name to the new User Data Source

Edit a User Data Source (UDS)

Available on editions Standard Professional

You can edit a UDS in Spatial Manager Desktop™ using the right-click menu over the UDS item in the "Data sources" panel to start the "Create user data source" wizard and proceed as described in "Create a new User Data Source (UDS)." The only difference is that the parameters you entered when you created the UDS are still there to be edited. You will see a warning window if the UDS is referenced by any task ("Professional" edition only).

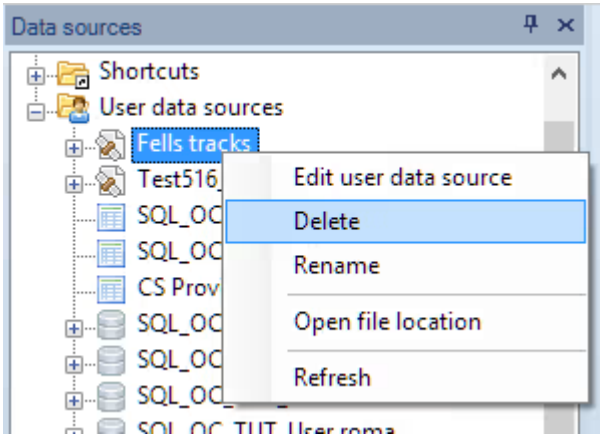


Edit a User Data Source

Other functions for the User Data Sources (UDSs)

Available on editions Standard Professional

In Spatial Manager Desktop™ you can delete (a warning window will be displayed if the UDS is referenced by any task — "Professional" edition only) and rename the UDS. You can also refresh the UDS content and, if the UDS is connected to a file, you can open Windows Explorer for the folder of the file location. All these functions are available using the right-click menu over the UDS item in the "Data sources" panel.

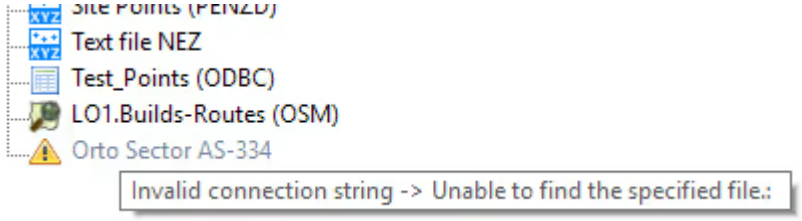


Other User Data Source functions

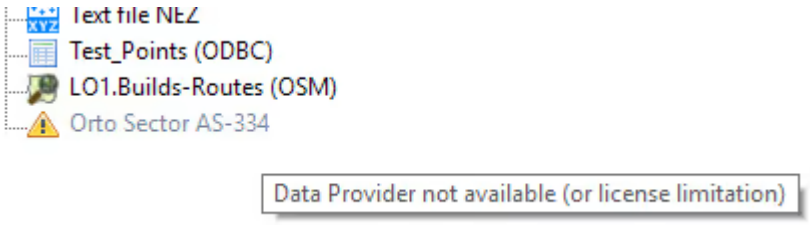
Warnings in the list of User Data Sources (UDSs)

Available on editions Standard Professional

When problems occur with any UDS, such as deleted sources, incompatible UDSs, etc., warning messages may appear in the 'Spatial Manager Desktop™' "Data sources" panel that alert you about the problem caused by the corresponding inaccessible UDS.



Missing USD warning



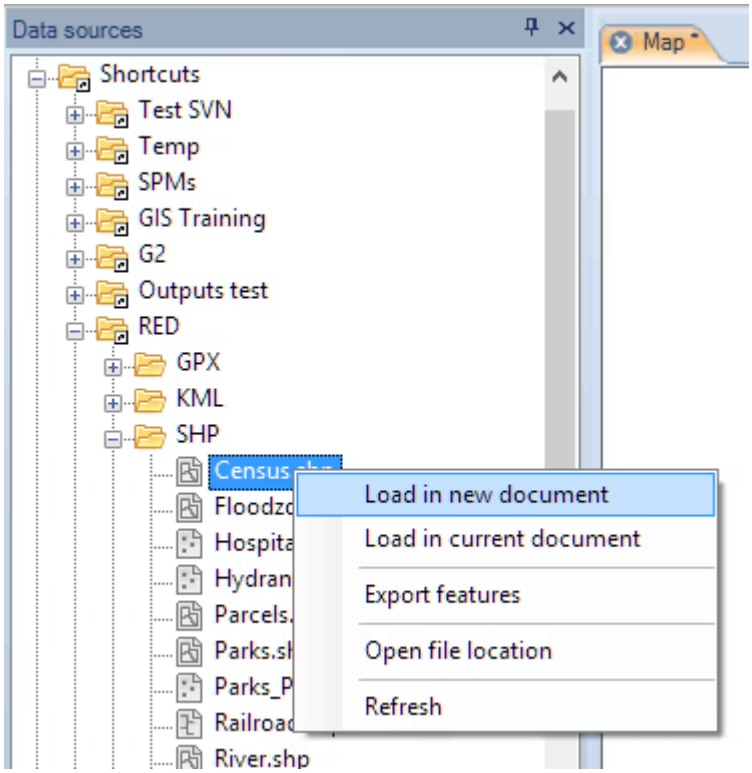
USD Data Provider not available

DOCUMENTATION

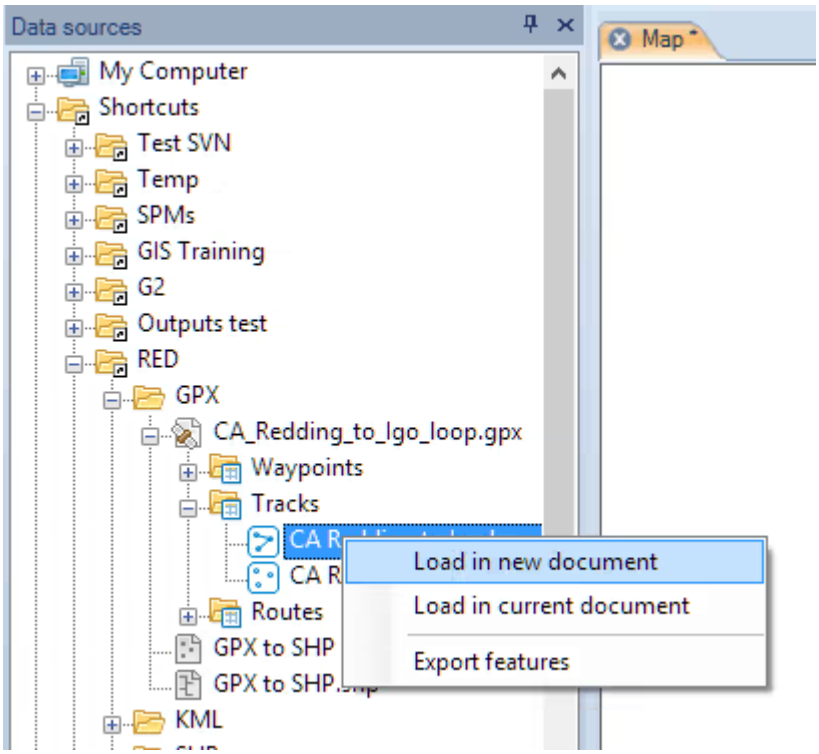
Spatial files

Load a data table from a spatial file into a Map

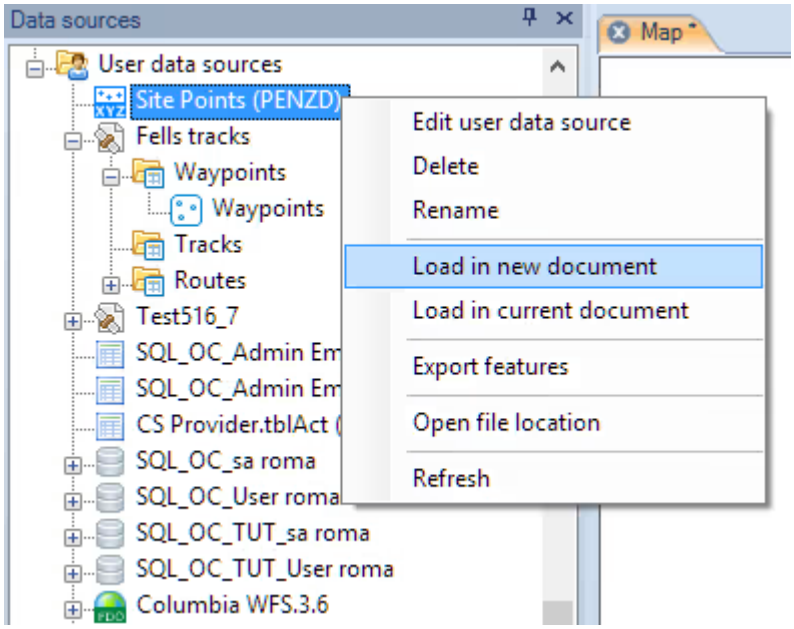
You can load a data table from a spatial file in Spatial Manager Desktop™ using the right-click menu over the file item itself, over a table from the file, or over any UDS (“Standard” and “Professional” editions only) that refers to the file, in the “Data sources” panel, to load its content into a new or existing Map. You can also double-click the file item itself, a table from the file, or any UDS (“Standard” and “Professional” editions only) that refers to the file, in the “Data sources” panel, to load its content into a new or existing Map (this behaviour may be configured in the application settings).



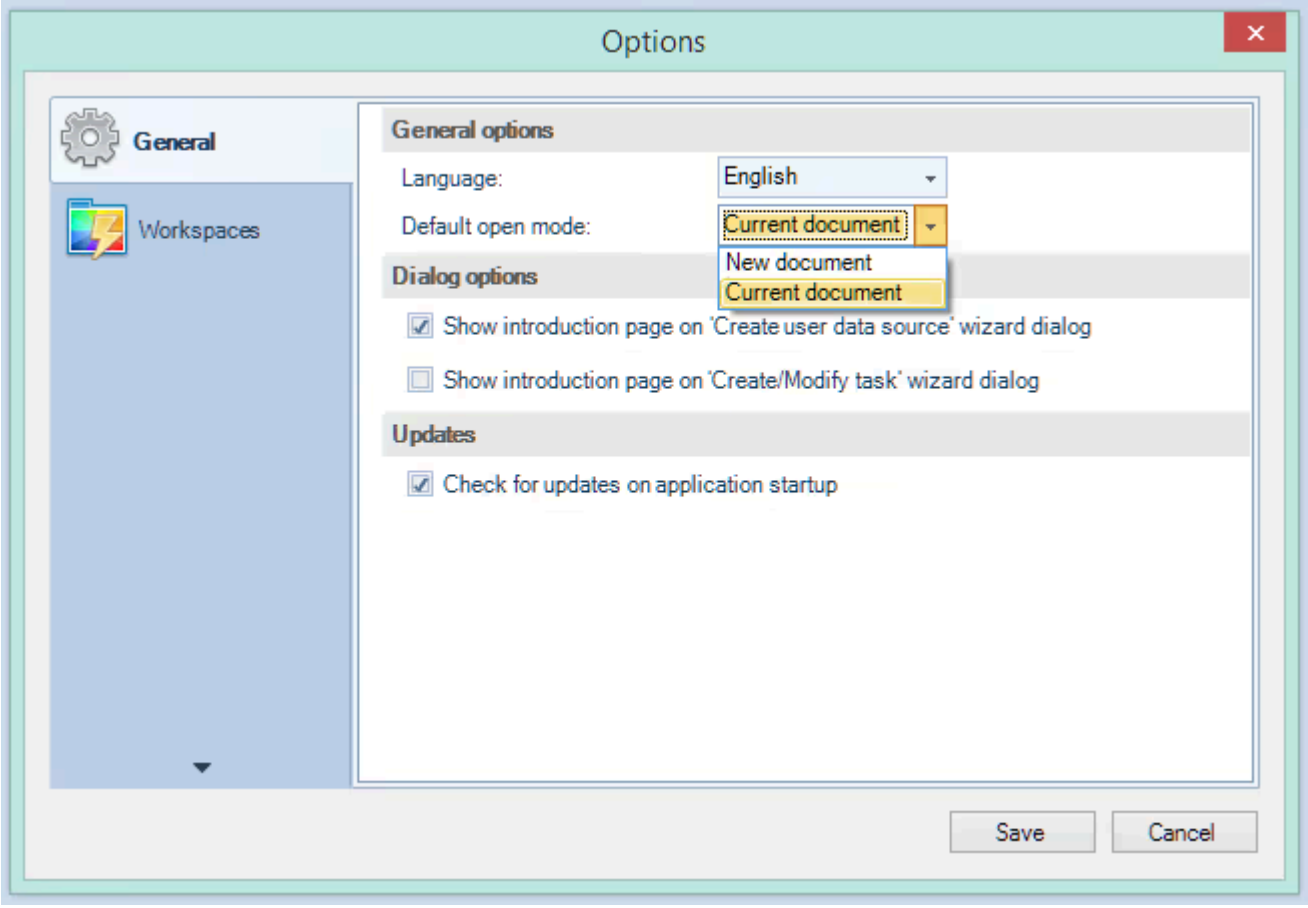
Load a file in a Map



Load a table from a file in a Map



Load a table from a User Data Source (UDS) in a Map



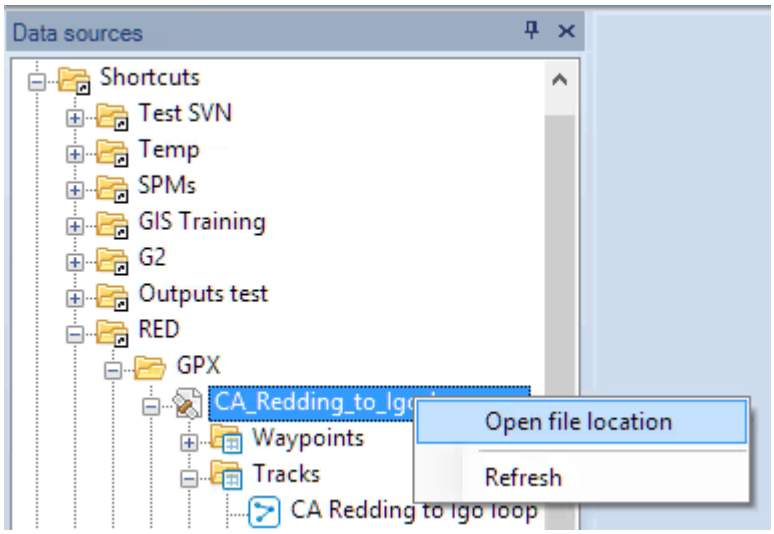
Configure the double-click option

You can also load data tables from spatial files into a Spatial Manager Desktop™ Map by dragging and dropping them from Windows Explorer. This way of loading allows you to load several files at one time, as long as these types of files do not need additional parameters to load them (for example, loading SHP files). If the data provider used for the files to load needs additional parameters, it is only possible to drag and drop one file at a time (for example, loading KML files).

Also, it is possible to assign Spatial Manager Desktop™ as the application to "Open" a file type in Windows Explorer and load this type of file directly into a new Map by using a double-click or through the contextual menu in Windows Explorer.

Open directly the folder containing a file

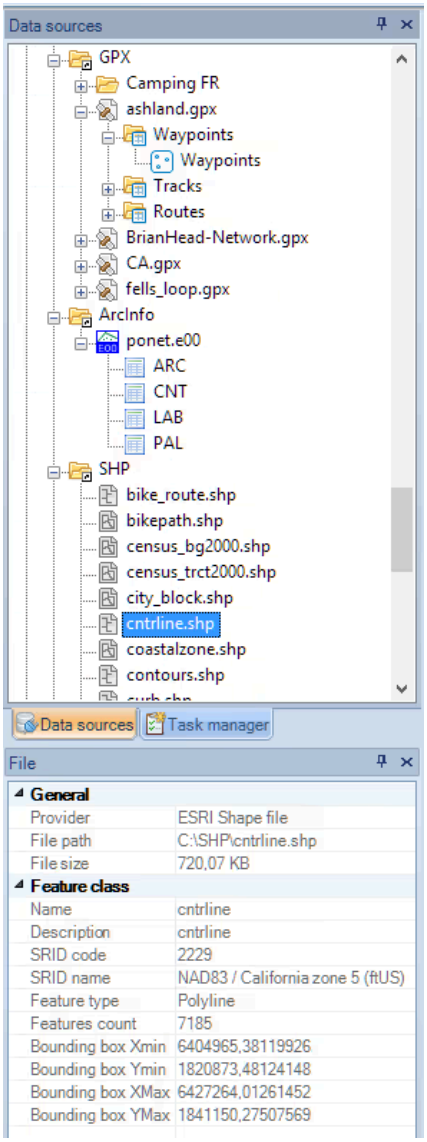
To open a file location in Spatial Manager Desktop™, use the right-click menu over the file item in the "Data sources" panel.



Open the file location in Windows Explorer

Recognize each different type of file and its properties

To recognize each different type of file, you will see the different icons used for each data provider in the “Data sources” panel of Spatial Manager Desktop™. In addition, when you select any file, you will see its properties in the “Properties” panel.



Different types of files in the 'Data sources' panel

DOCUMENTATION

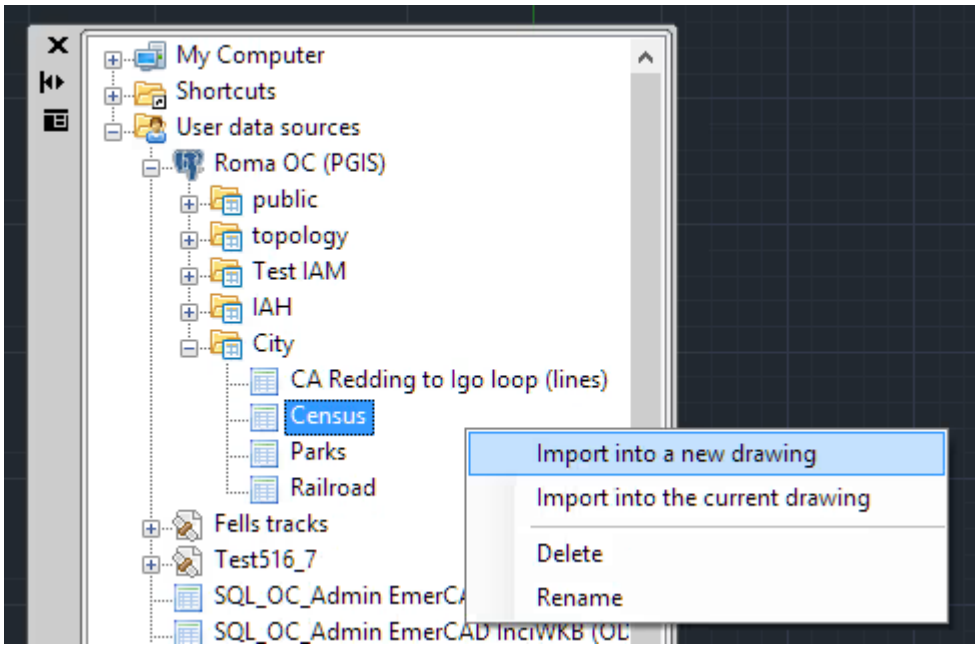
Databases

Load a data table from a spatial database or data store into a map

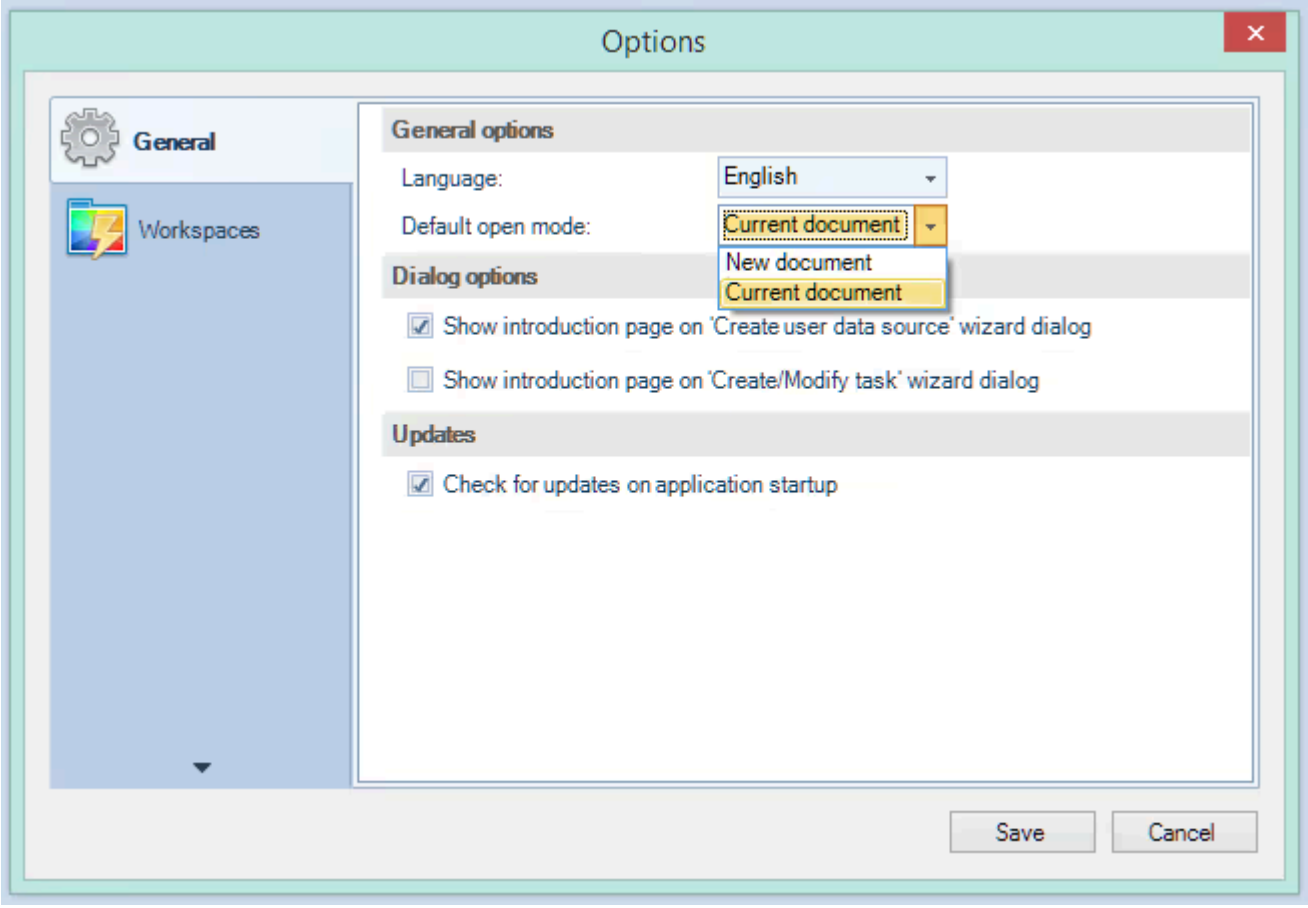
Available on editions Standard Professional

To access spatial databases or data stores in Spatial Manager Desktop™ you first need to have defined a User Data Source (UDS). A UDS is a saved connection configuration that stores all the parameters needed to connect to a specific database or data store, so you don't have to enter them each time. To learn more about UDSs, see: Data sources page .

You can load a data table from a spatial database or data store using the right-click menu over the table item itself inside a container of the UDS (usually a schema) in the "Data sources" panel, to load its content into a new or existing map. You can also double-click the table item itself in the "Data sources" panel to load its content into a new or existing map (this behaviour may be configured in the application settings).



Load a table from a spatial database in a map

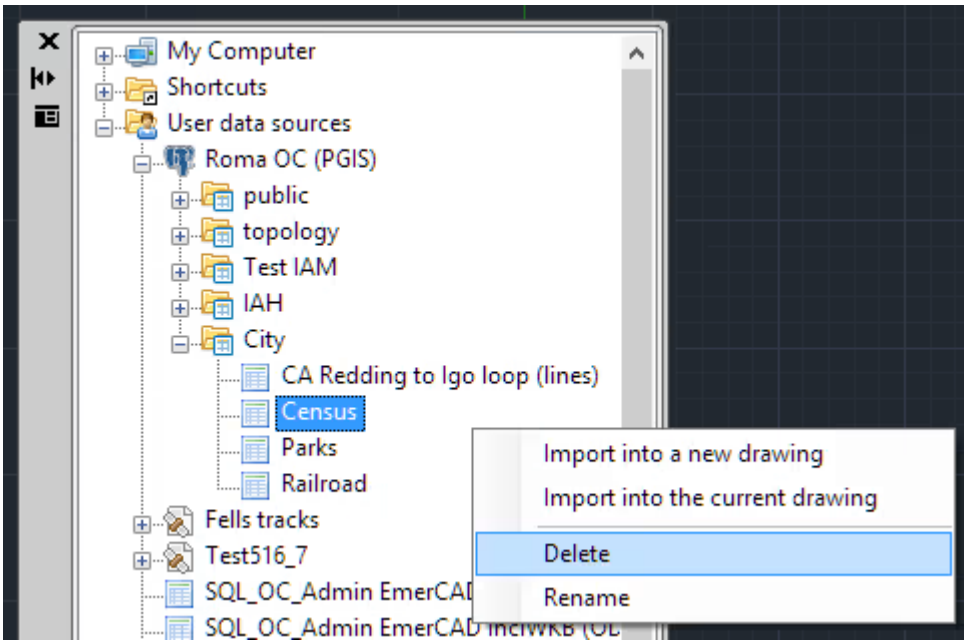


Configure the double-click option

Other functions for the tables

Available on editions Standard Professional

You can delete or rename the tables in Spatial Manager Desktop™ using the right-click menu over the table item itself. This is valid for tables in spatial databases but not for tables in data stores.

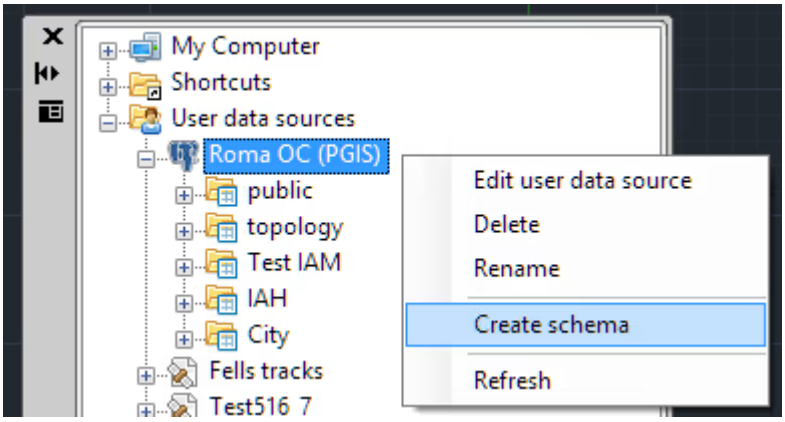


Delete or rename a table in a spatial database

Create a schema in a spatial database

Available on editions Standard Professional

You can create a schema in a spatial database in Spatial Manager Desktop™ using the right-click menu over the UDS. When creating, you can assign a name to the new schema.



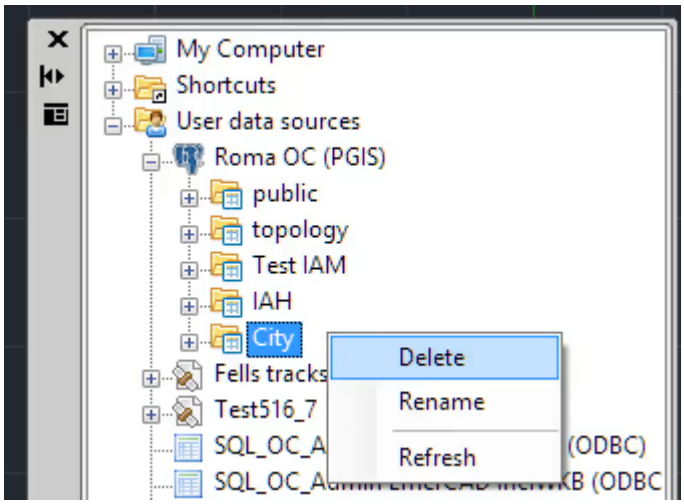
Create a schema in a spatial database

Other functions for the schemas

Available on editions Standard Professional

You can delete or rename the schemas and refresh the schema contents in Spatial Manager Desktop™ using the right-click menu over the schema item itself. **Be careful** when you delete a schema because

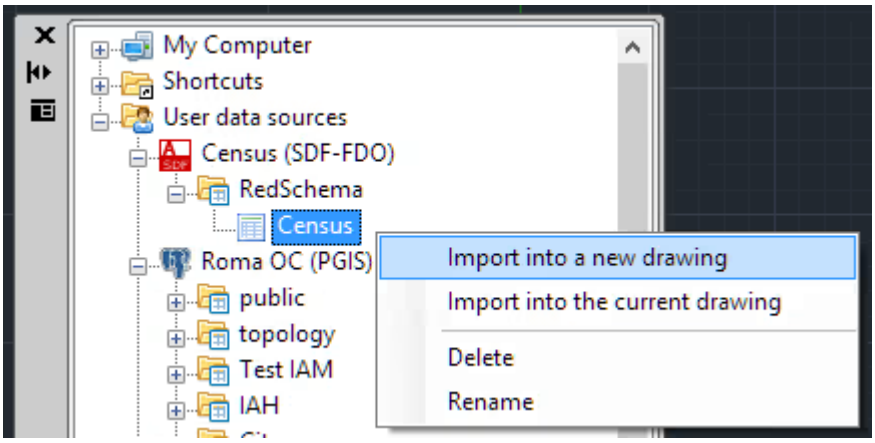
all the tables that it contains will also be deleted. This is valid for schemas in spatial databases but not for schemas in data stores.



Delete or rename a schema in a spatial database

Other kinds of data sources using schemas or tables

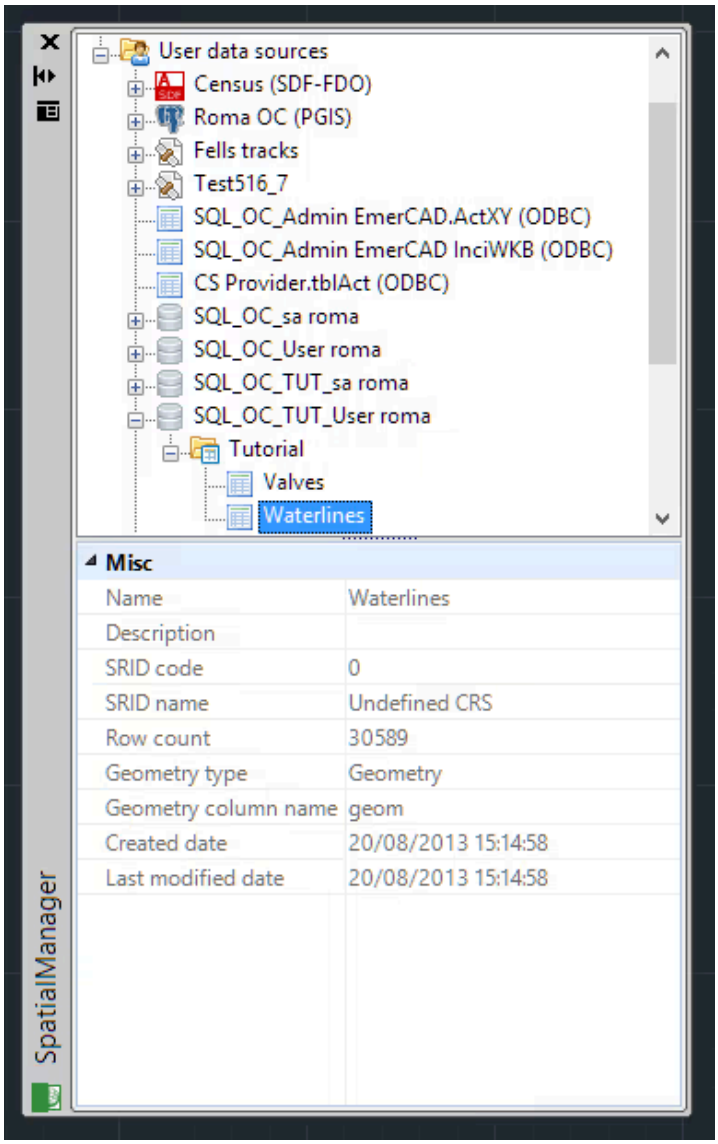
You can find some providers using schemas or tables in Spatial Manager Desktop™, besides spatial databases or data stores, such as some types of files like SDF and more, or special connections such as ODBC ("Standard" and "Professional" editions only) and more. Everything said here for schemas and tables is valid for these types of data sources.



Load a table from a User Data Source (UDS) in a map

See the properties of schemas or tables

You can see the properties of schemas or tables in the "Properties" panel of Spatial Manager Desktop™ when you select any of these items in the "Data sources" panel.



Properties of schemas and tables in the 'Properties' panel

DOCUMENTATION

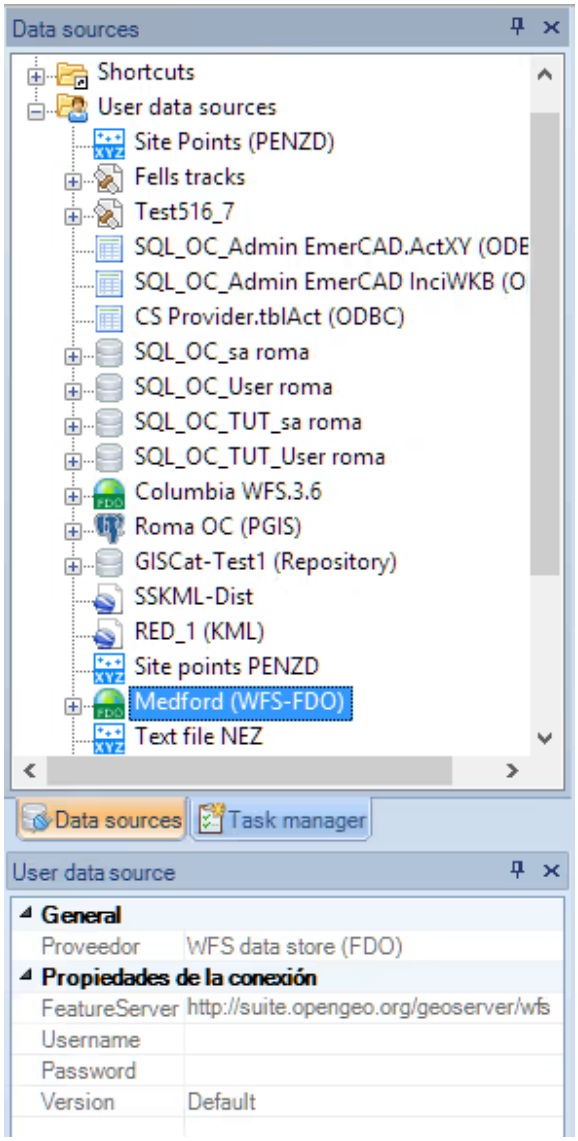
Advanced

Sort the Shortcuts or User Data Sources (UDS)

To sort any Shortcut or UDS (“Standard” and “Professional” editions only) item in the “Data sources” panel of Spatial Manager Desktop™, you must drag and drop up or down the item itself.

Recognize each different type of spatial data and its properties

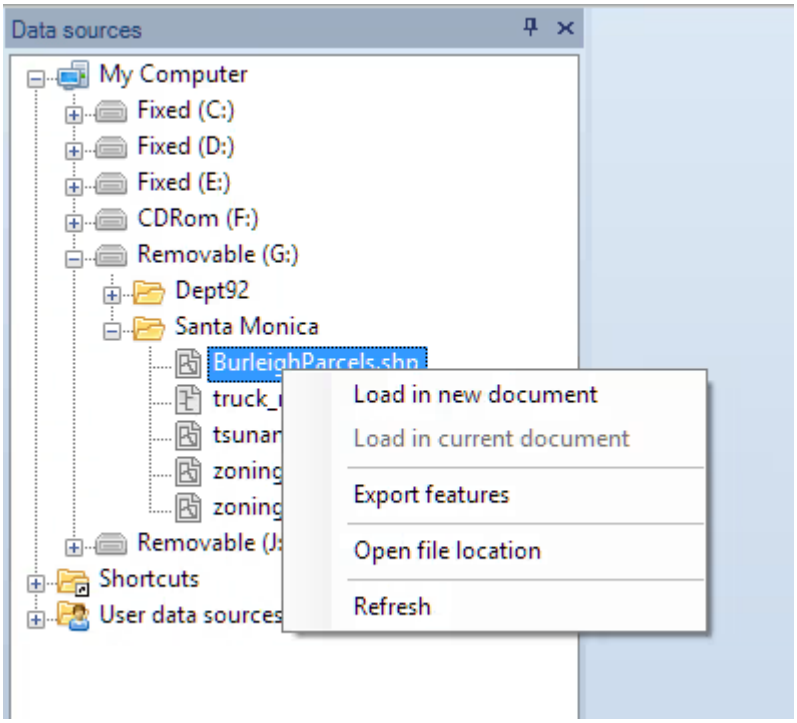
To recognize each different type of spatial data, you will see the different icons used for each data provider in the “Data sources” panel of Spatial Manager Desktop™. In addition, when you select any data source, you will see its properties in the “Properties” panel.



Different types of spatial data

Other ways to access spatial data

You can access spatial data files directly through the “My computer” node in the “Data sources” panel of Spatial Manager Desktop™. However, to access spatial databases or spatial stores, you should always use UDSs.



Another way to access spatial data files

DOCUMENTATION

Spatial Analysis

Available on edition

Professional

Perform spatial analysis operations over the objects in the drawing or map generating new objects from such analysis.

DOCUMENTATION

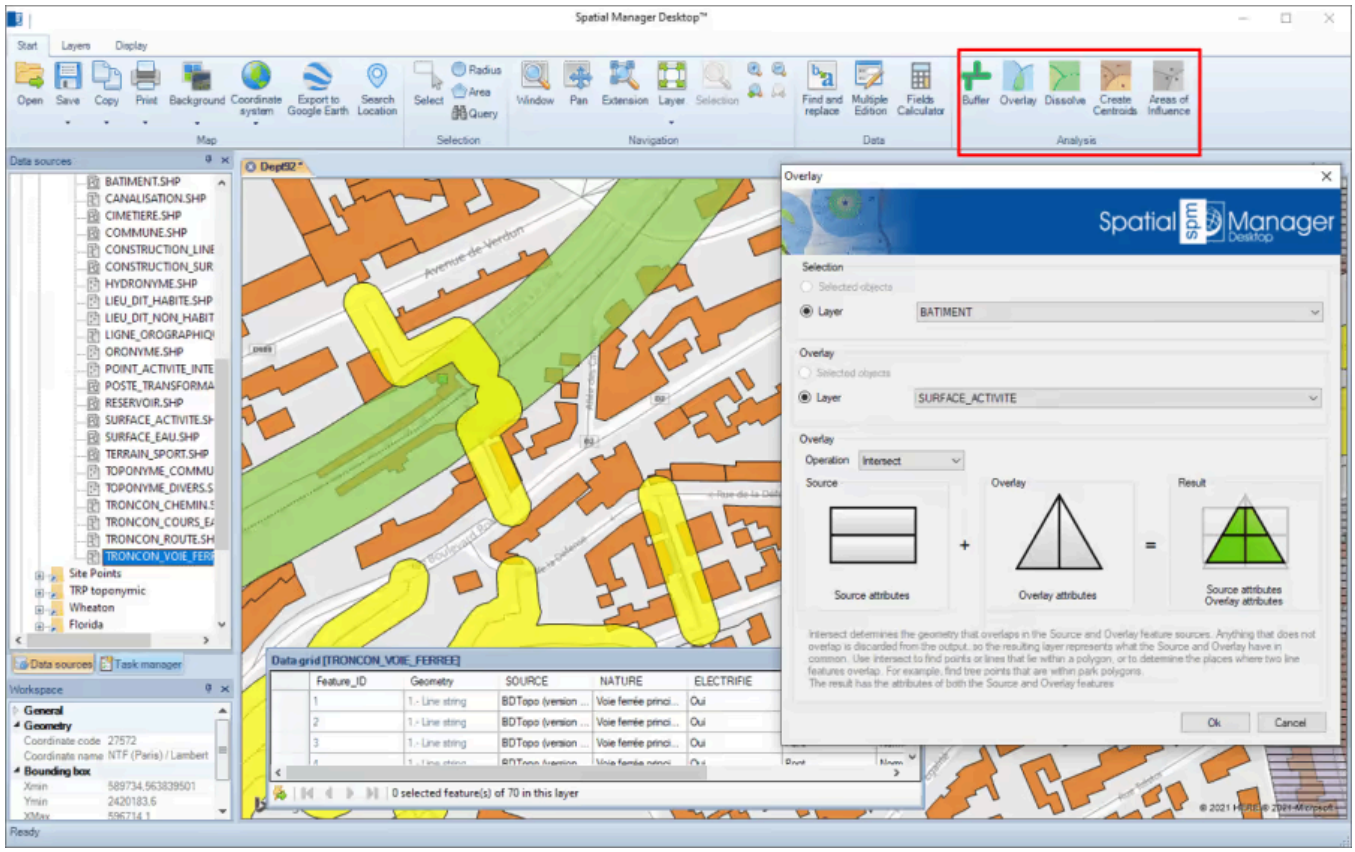
Introduction

Available on edition

Professional

Perform spatial analysis operations over the objects in the drawing or map generating new objects from such analysis.

Spatial Manager Desktop™ includes a set of advanced tools designed for geometric and spatial analysis of geographic features and their geometric relationships, resulting in new features generated from the resolution of such analysis.



Performing GIS Analysis in the map

About features selection

Some of the analysis tools described allow you to select features before executing. Even some of them allow you to select two groups of features to operate between them. For all of these functions, the following notes and instructions apply:

- **Selected objects:** Only a selection of features will be processed. You can select the features before executing the functions by using any of the application selection methods .

- **Layer:** Only the features included in a map Layer will be processed. You can select the Layer using the drop-down list in this window.

DOCUMENTATION

Spatial query

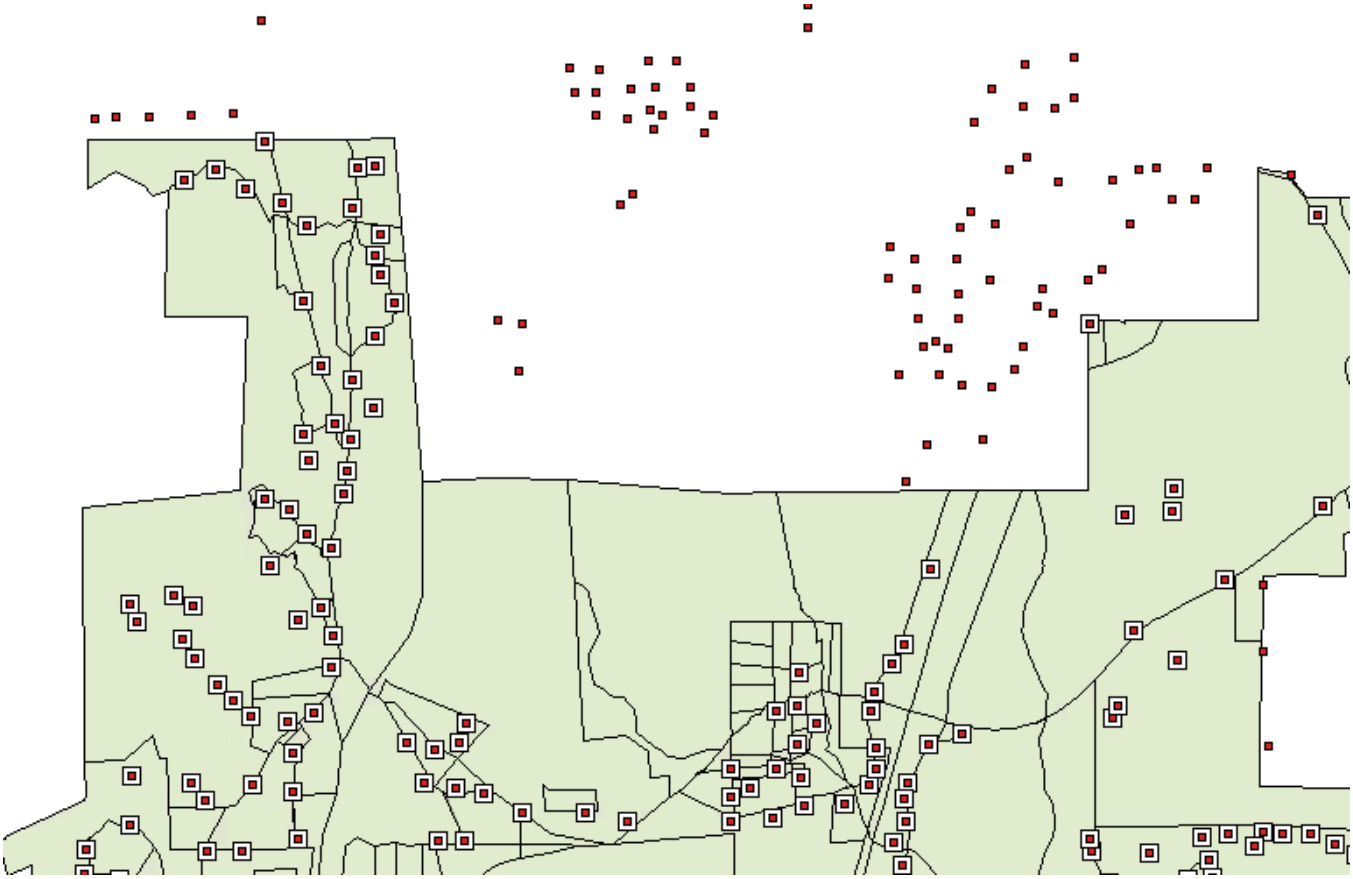
Available on editions

Standard Professional

Query selections by performing geometric operations to locate features that interfere with other features under certain conditions (intersects, touches, within, contains, disjoint, overlaps or crosses).

Spatial queries

Spatial queries are geometric operations that Spatial Manager Desktop™ can perform to help you locate Features that interfere with other Features under certain conditions. For example, as you can see in the next picture, to locate which points of a Layer are found within the polygons of another Layer.

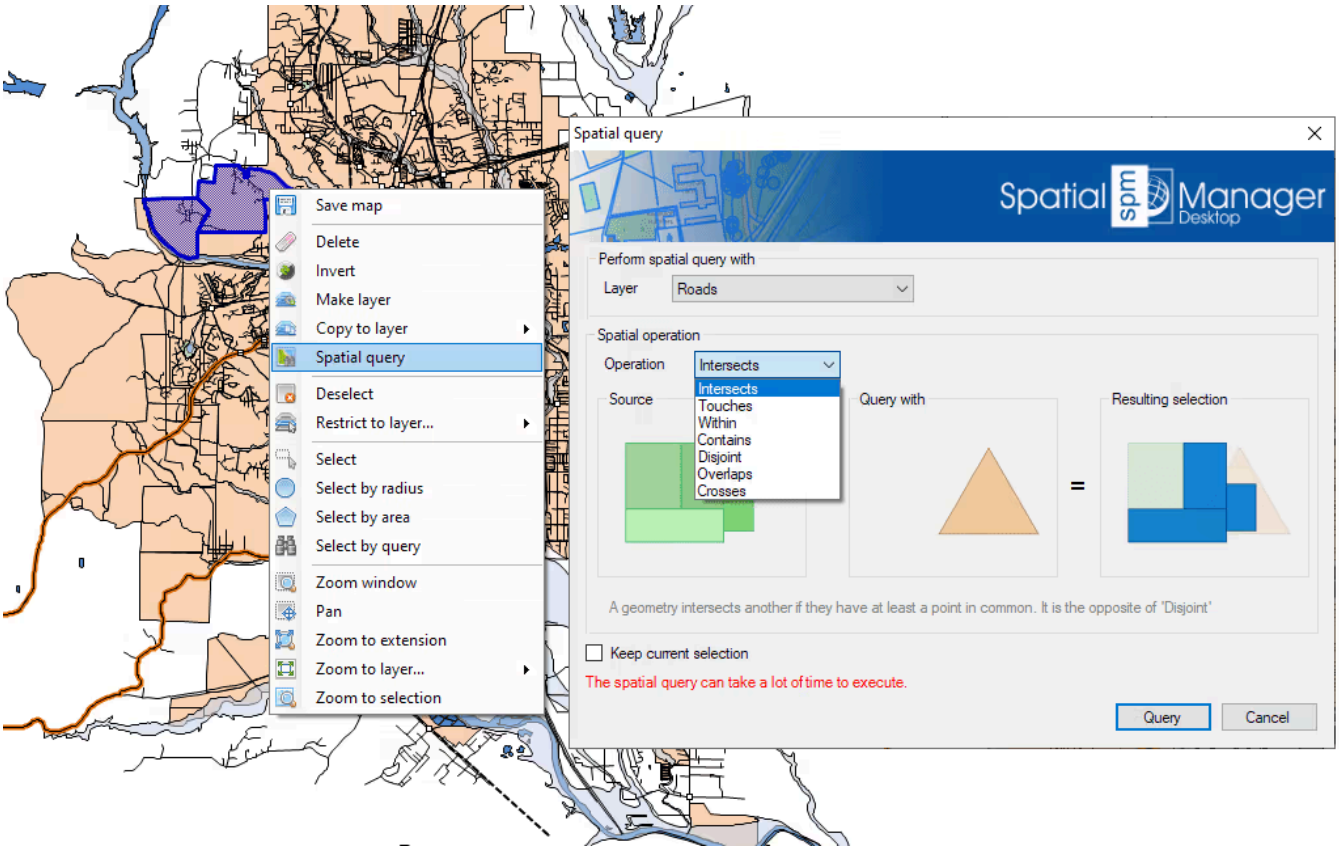


Simple 'Spatial query' sample

Define a Spatial query

To define a Spatial query in Spatial Manager Desktop™, you need to define the base of the query first, by selecting the Features to operate, next you must select the “Spatial query” function, and then you choose a Layer to query and the type of operation to perform. When you select the Features to operate,

you can select a full Layer if you want to perform an interference operation between two full Layers. In addition, the selection resulting from the operation can be added to the features already selected.



'Spatial query' operations

Types of operations for Spatial queries

The list of operations that Spatial Manager Desktop™ can perform using Spatial queries is the following:

- **Intersects**: A geometry Intersects another one if they have at least a point in common. It is the opposite of 'Disjoint'. For example, combined with Buffers , features that are located at a certain distance from other features, which will normally be points or linear features (such as buildings located at a certain distance from road or street axes, etc.).
- **Touches**: A geometry Touches another one if they have common points only at their boundaries, without intersection and no one of them contains or is equal to the other. For example, buildings touching another building within a block of contiguous buildings (the map must be very precise because no intersections should occur).
- **Within**: A geometry is Within another one if it is completely inside or they are equal. It is the inverse of 'Contains'. For example, to select points representing pharmacies within a neighborhood, polygons representing hospitals within a municipality or buildings within a parcel, etc.
- **Contains**: A geometry Contains another one if the second one is completely inside of the first one or they are equal. Is is the inverse of 'Within'. For example, to select all the parcels in a municipality that contain one or more buildings.

- **Disjoint**: A geometry is Disjoint from another one if they do not have any points in common (that is, "out of": It does not intersect and does not touch). It is the opposite of 'Intersects'.
- **Overlaps**: A geometry Overlaps another one if they have areas in common, but no one of them is fully inside the other one and they are not equal. For example, polygons that intersect, but none of them are completely inside each other, i.e., " they cross". A practical case could be the selection of buildings in one municipality that are located partially within the boundary of the municipality and partially within the boundary of another adjacent municipality.
- **Crosses**: A geometry (linear feature) Crosses another one if it has at the same time parts inside and outside of the second one. For example, to select road sections that are partially located within the boundaries of two or more municipalities.

DOCUMENTATION

Buffer

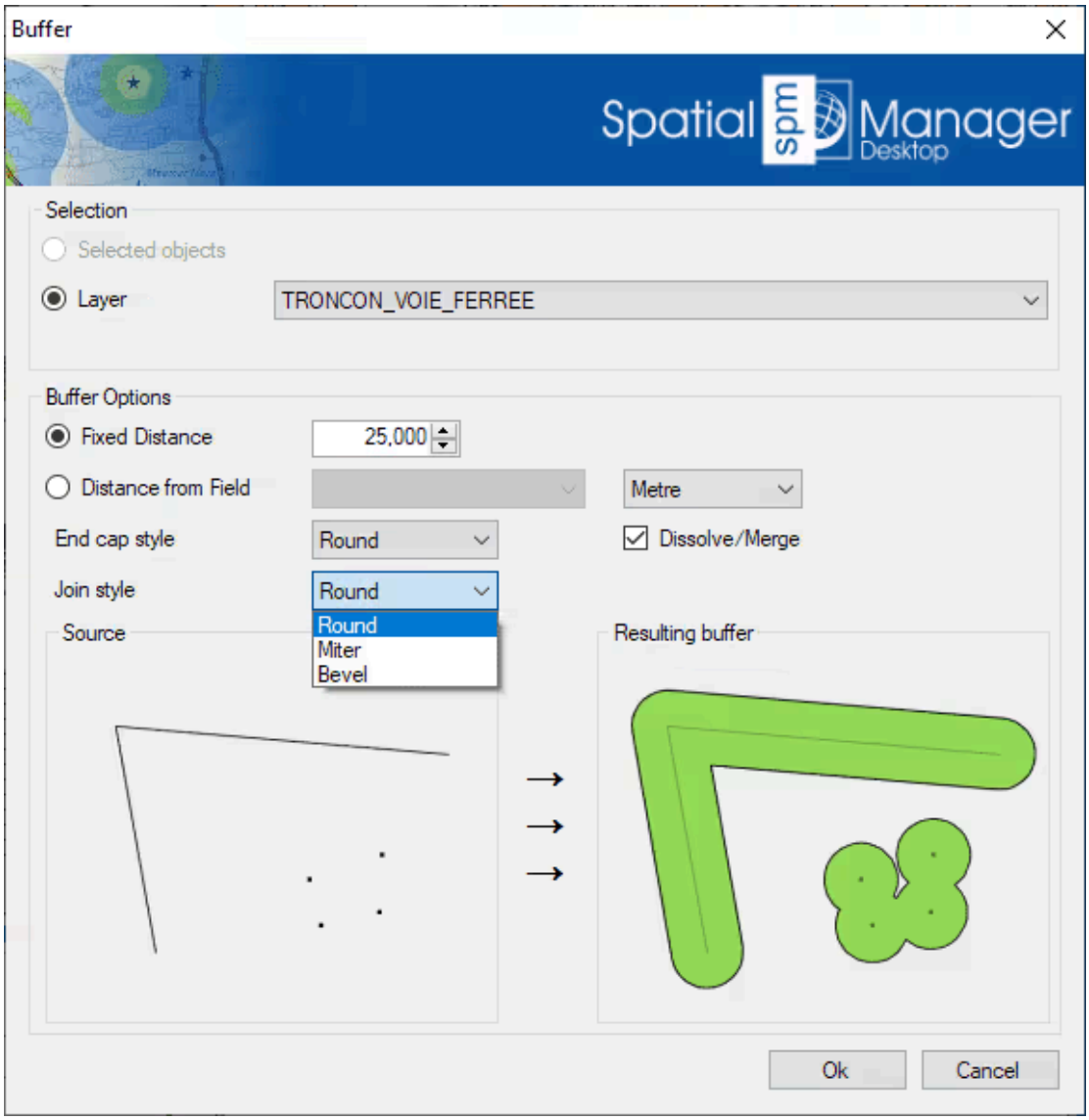
Available on edition

Professional

Generate Buffered polygons around point, linear or polygonal features.

Buffer

A buffer is a zone around a geographic feature, defined by a specific distance. The Buffer function in Spatial Manager Desktop™ allows you to generate, in a new layer, buffered polygons around point features, linear features, or polygon boundaries. Buffer distance can be constant or taken from the value of a table field for each feature. It is possible to merge the generated features in their common areas, and different styles of joins and endings can be chosen.



Buffer parameters window

- **Selection:** See the section "features selection" .
- **Buffer options:** You can select the buffer distance (fixed value or field-based value), the distance units (read below), the join and end cap styles, and whether you want to dissolve/merge the generated buffered polygons.
  - About units conversion: If a coordinate system with a defined unit of measurement is assigned to the map, the user can select another unit from the drop-down list to define the entered buffer distance, and the application will perform the conversion between it and the one defined by the coordinate system. If the map does not have a coordinate system assigned to it, or the coordinate system does not have defined units, the user can select from the drop-down lists the unit in which the entered buffer distance is defined and the map units. The application will perform the conversion between the two.

DOCUMENTATION

Overlay

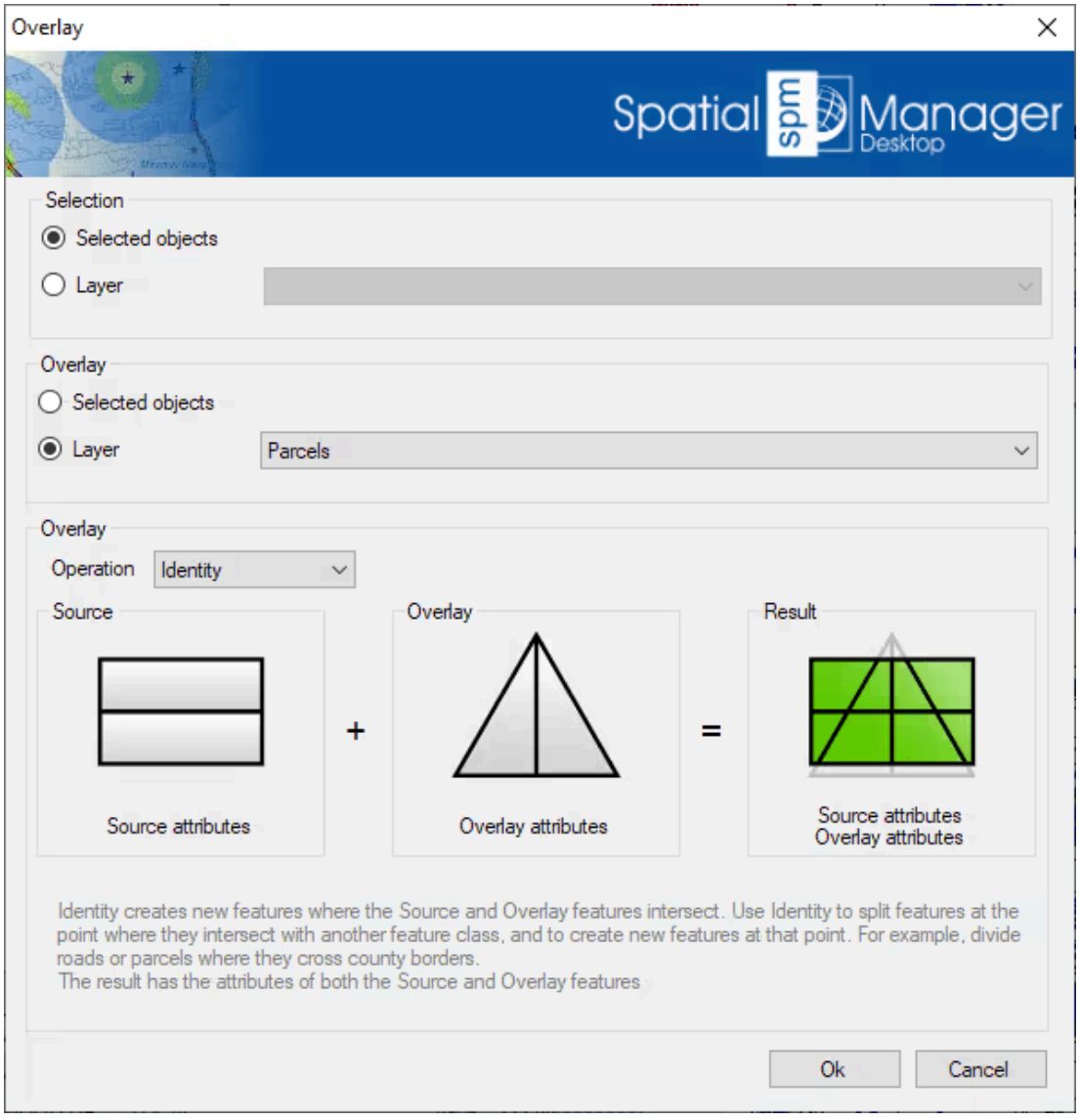
Available on edition

Professional

Allows you to create new features based on geometric and data operations between two existing feature groups. These operations are':' Intersect, Union, Erase, Identity, Clip, Paste and Symmetric Difference.

Overlay

The Overlay function in Spatial Manager Desktop™ allows you to create new features based on geometric and data operations between two existing feature groups.



Overlay parameters window

This function allows you to generate new features in a new layer of the map by performing geometric operations between two groups of existing features: "Selection" (Group 1) and "Overlay" (Group 2). For example, according to the chosen parameters in this image, for all selected features (roads, etc.) that are located within any parcel, the Overlay Identity function will create new features which are equal to the Selection features split at the parcel boundaries.

- **Selection:** See the section "features selection" above (Group 1 and Group 2).
- **Overlay parameters and options:**
  - **Operation:**
    - **Intersect:** Determines the geometries that overlap in the Selection and Overlay feature groups. Anything that does not overlap is discarded from the output, so the resulting features represent what the Selection and Overlay have in common. For example, find tree point features that are within park polygons. The resulting data table will include the data of both the Selection and Overlay features.
    - **Union:** Determines the geometries that exist in either the Selection or Overlay features. Where the geometries intersect, additional features are created. Use this to combine two groups of related polygons. The resulting data table will include the data of both the Selection and Overlay features.
    - **Erase:** Determines the geometries from the Selection features that do not intersect with the Overlay features. Use this to subtract portions of a group of features. The resulting data table will include the data of the Selection features only.
    - **Identity:** Creates new features where the Selection and Overlay features intersect. Use this to split features at the point where they intersect with another features group. The resulting data table will include the data of both groups.
    - **Clip:** Creates features from the areas of the Selection that overlap with the Overlay, keeping only the Selection data.
    - **Paste:** Creates new features by combining Overlay features with non-overlapping portions of the Selection. The resulting data table will include the data of both groups.
    - **Symmetric Difference:** Determines the areas in the Selection and Overlay that do not overlap. Overlapping areas are discarded. The resulting data table will include the data of both groups.

DOCUMENTATION

Dissolve

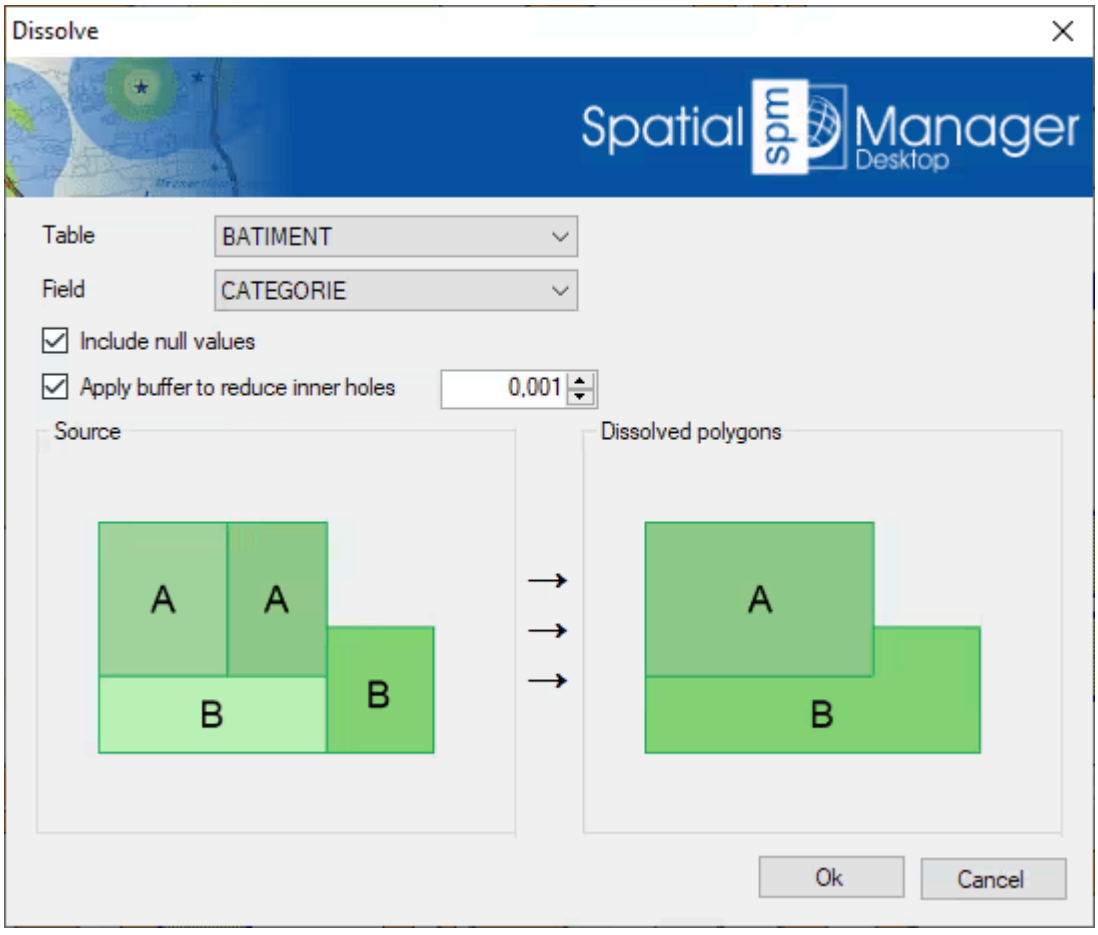
Available on edition

Professional

Generate new Polygons based on the grouping of other adjacent polygons with some common data.

Dissolve

Dissolve is a spatial operation that merges adjacent polygons sharing common attribute values into single, larger features. The Dissolve function in Spatial Manager Desktop™ allows you to generate new polygons based on the grouping of other adjacent polygons with some common data.



Dissolve parameters window

You can select the common table/field data for dissolving the polygons (even including null data). To reduce possible precision errors in the geometry, you can check the option to generate a temporary small buffer around the polygon boundaries in order to avoid as much as possible the generation of inner holes during the operation.

Note: Since this operation can only be performed on polygonal features, the application will alert the user either if there are non-polygonal features in the selected table (warning) or if there are not enough polygons to process it (cancellation).

DOCUMENTATION

Centroids

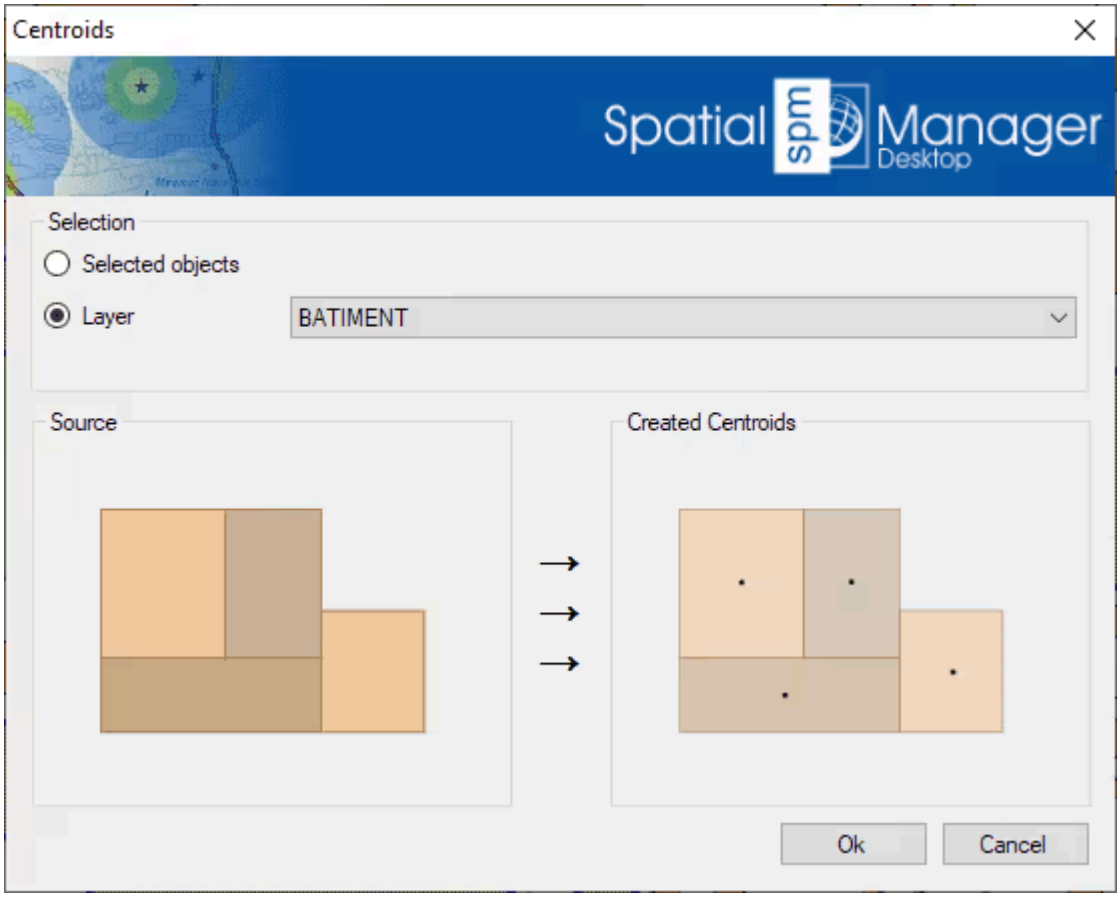
Available on edition

Professional

Allows you to generate Centroids (Point features) for the selected polygons. The polygons data will be attached also to the Centroid features.

Centroids

The Centroids function in Spatial Manager Desktop™ allows you to generate, in a new map layer, the centroids (point features) for the selected polygons. The polygon data (if any) will also be attached to the centroid features.



Centroid parameters window

- **Selection:** See the section "features selection" .

DOCUMENTATION

Areas of Influence

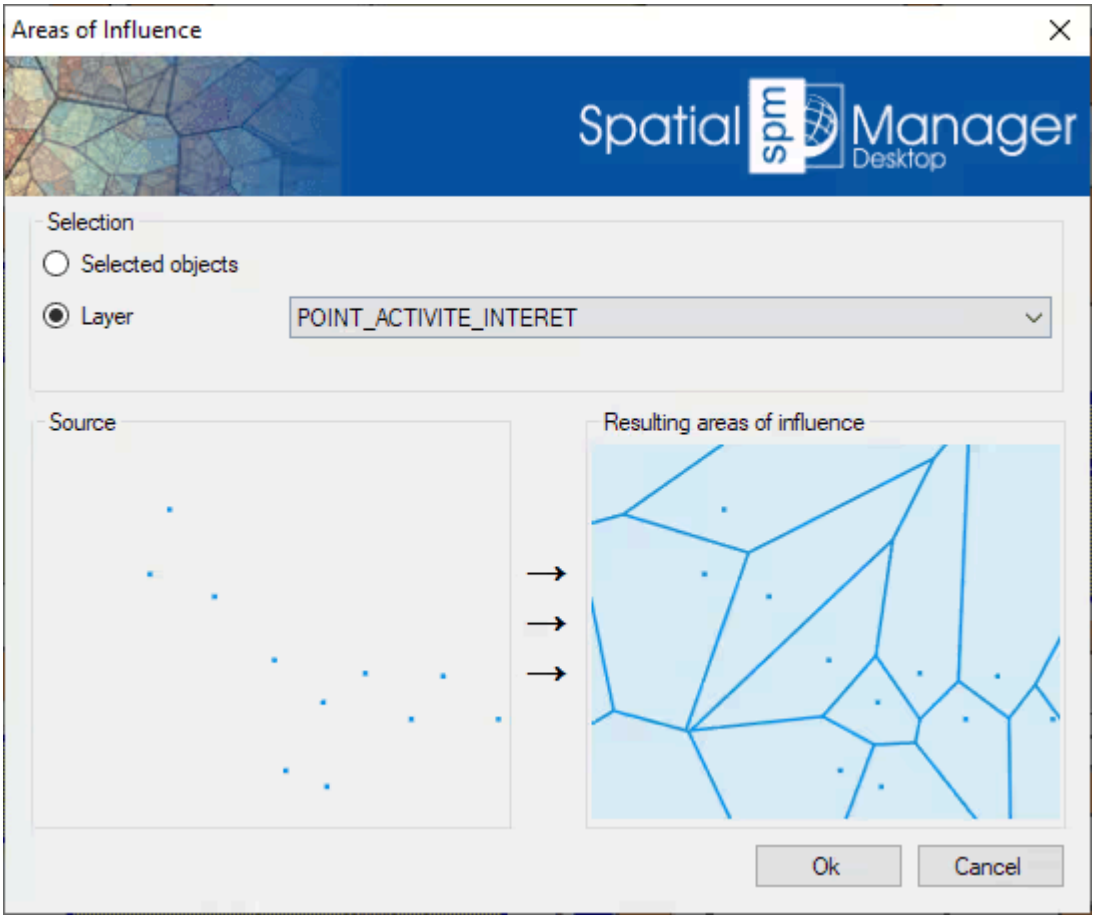
Available on edition

Professional

Creates polygons defined by the sets of points closest to each point of a selection in the map (Voronoi diagrams).

Areas of Influence

The Areas of Influence function in Spatial Manager Desktop™ allows you to generate, in a new map layer, polygons defined by the set of points closest to each point of a selection of points in the map (Voronoi diagram). Each polygon generated will adopt the same data (if any) as the corresponding point. For example, it would serve to determine which nearby areas are covered by each pharmacy in a municipality and similar scenarios.



Areas of Influence parameters window

- **Selection:** See the section features selection .

DOCUMENTATION

Location Tools

Available on edition

Professional

Location and geo-coding tools help to add reference elements and enhanced data to existing objects.

DOCUMENTATION

Direct geocoding

Available on edition

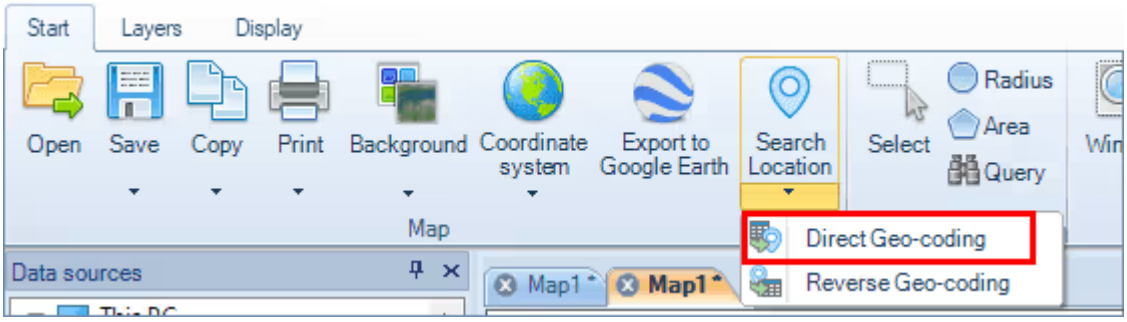
Professional

Insertion of points in the drawing from postal addresses

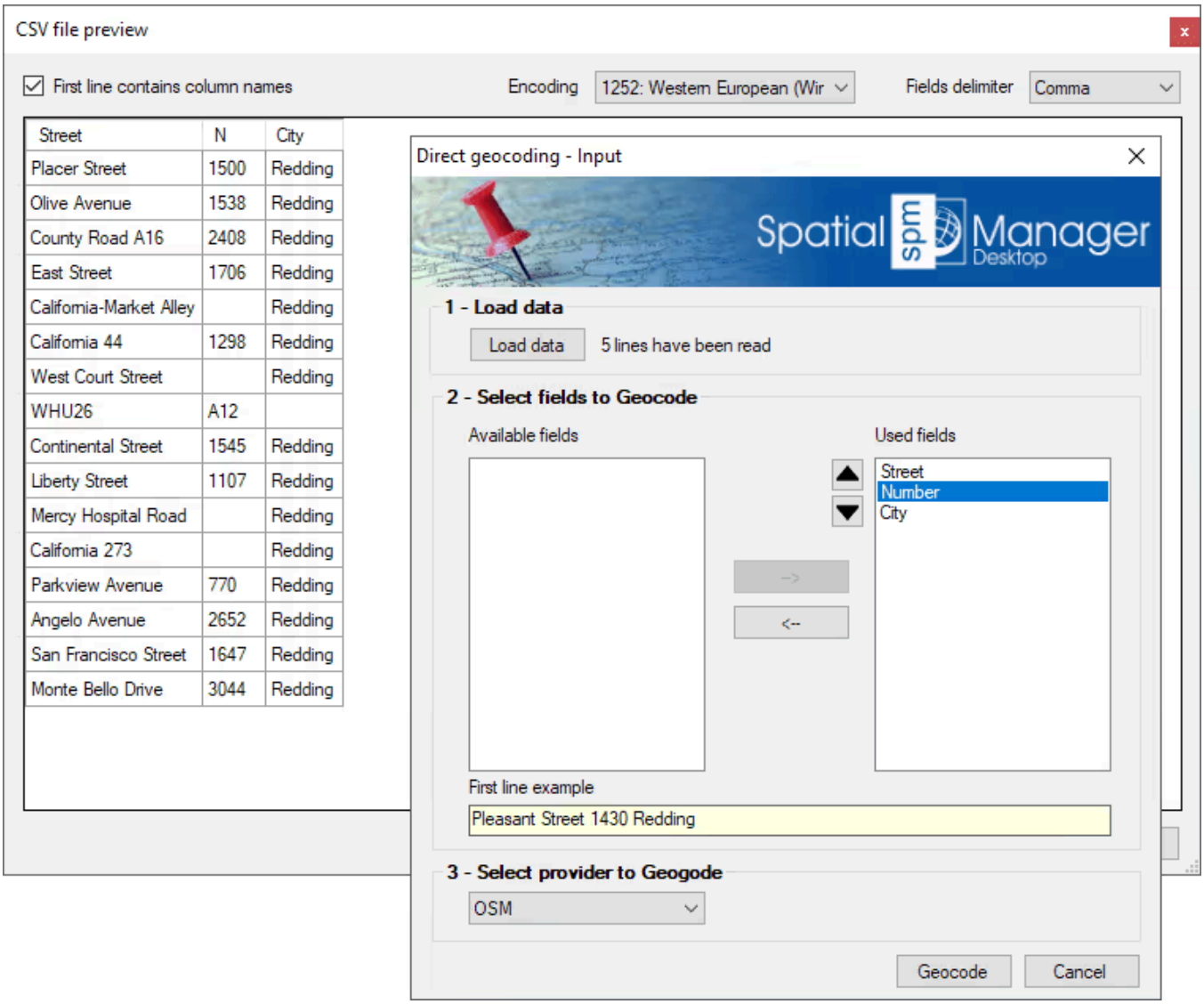
Load texts from CSV files and seek for their coordinates. Resulting points includes attached data.

Insert map Points from a geographic data table

Geocoding is the process of converting postal addresses into geographic coordinates (latitude and longitude). Spatial Manager Desktop™ includes the 'Direct geocoding' function that allows you to compose addresses from a geographic data file (CSV, TXT, etc.) and geocode these addresses through a Geocode provider (Google, Bing, OpenStreetMap). Once you load the geographic file, you can preview the resulting table, configure some file parameters (such as the fields delimiter, etc.), select (add or remove) and sort the appropriate fields, and select the provider to geocode from the list.



Direct geocoding from addresses file



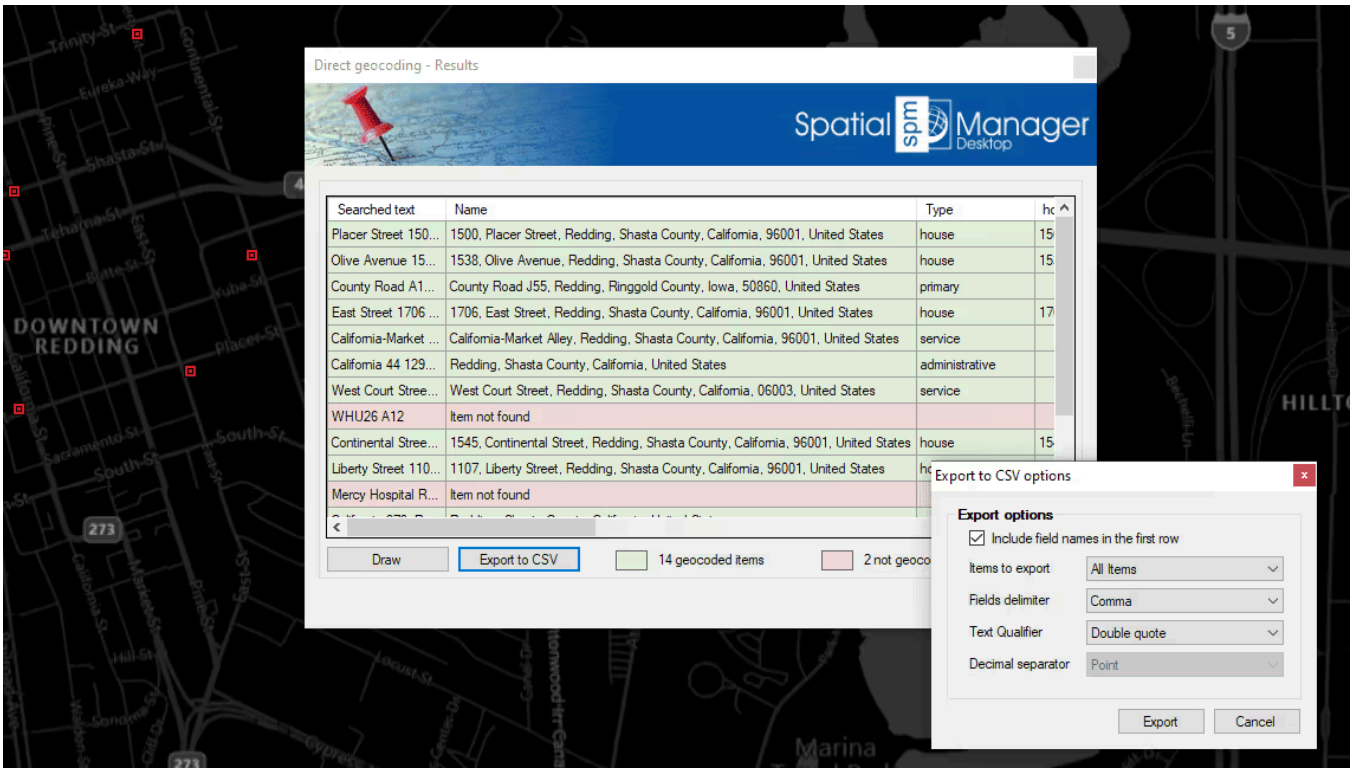
Direct geocoding file preview and geocoding parameters

Notes:

- *Certain location service providers (such as Google or Bing) may require special terms of use for the users of this service. You can configure any special setting for such providers through the Service Provider API Keys .*
- *If you select a large number of addresses to geocode, the application will warn you that this operation may involve high data consumption depending on the geocoding provider chosen.*

Once the direct geocoding process is finished, you will get a results table including all the fields returned by the chosen geocoding service. Those addresses that could not be geocoded (perhaps due to insufficient or inconclusive data) are shown in a different color. From the results of the table, you can:

- *Draw the geocoded Points. Note that you can use the 'Direct geocoding' function even without any map document open. In this case, the insertion of points will be processed in a new blank document.*
- *Export the table to a CSV file: Select the exporting to CSV parameters (delimiter, separator, etc.). You can also opt to omit in the exported CSV the addresses that have not been geocoded.*



Direct geocoding results and export to CSV options

DOCUMENTATION

Reverse geocoding

Available on edition

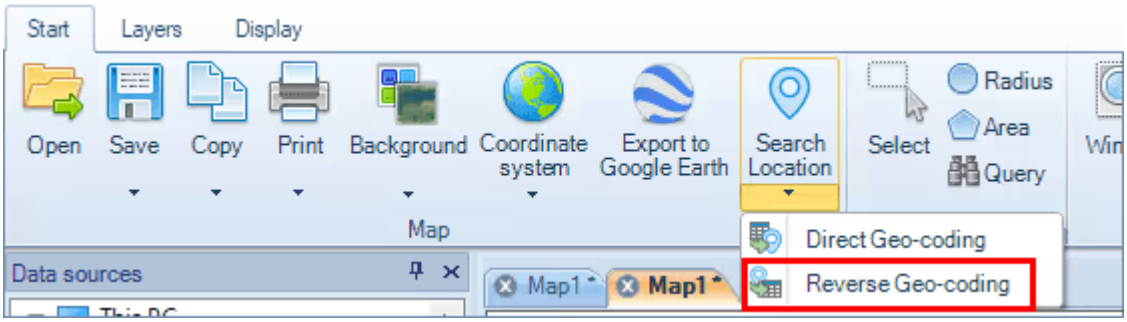
Professional

Obtain postal addresses from objects in the drawing

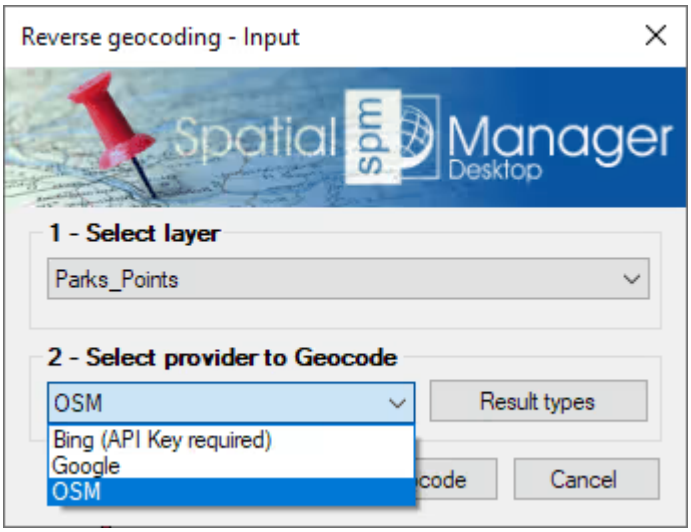
Get data like street, municipality, postal code, etc. and add it to existing objects.

Get the postal addresses of features in the map

Spatial Manager Desktop™ includes the 'Reverse geocoding' function that allows you to obtain the postal addresses of the features in a map layer through a Geocode provider (Google, Bing, OpenStreetMap). All that you need is to select the map layer to be geocoded, choose the provider to geocode from the list, and, optionally, choose the result types (which depend on the results returned by each provider).



Reverse geocoding of map features



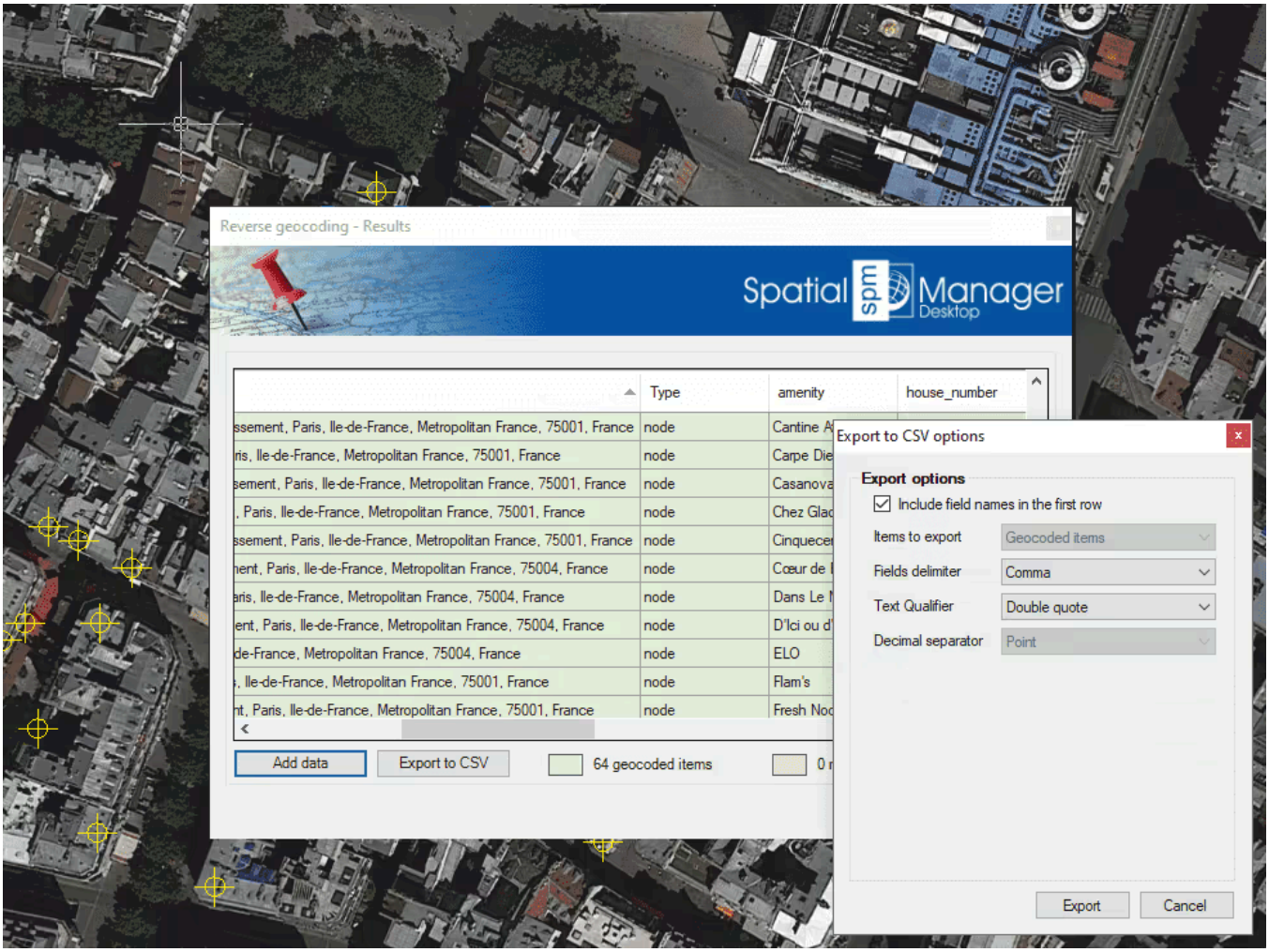
Reverse geocoding layer selection and geocoding parameters

Notes:

- *Certain location service providers (such as Google or Bing) may require special terms of use for the users of this service. You can configure any special setting for such providers through the Service Provider API Keys .*
- *If you select a large number of features to geocode, the application will warn you that this operation may involve high data consumption depending on the geocoding provider chosen.*
- *Note that if you select non-point features to geocode (such as polygons, polylines, etc.) the results may be inaccurate depending on the shapes of these features. For example, for polygonal features (such as parcels, zones, etc.) the centroid of the features will be chosen to calculate their postal address, which may be inaccurate if the shape of these polygons causes the centroid to be outside the polygon or away from the appropriate postal address.*

Once the reverse geocoding process is finished, you will get a results table including all the fields returned by the chosen geocoding service. Those addresses that could not be geocoded (may be due to insufficient or inconclusive data) are shown in a different color. From the results of the table, you can:

- *Add data*: To add the geocoding data to other existing feature data.
- *Export the table to a CSV file*: Select the exporting to CSV parameters (delimiter, separator, etc.). You can also opt to omit in the exported CSV the addresses that have not been geocoded.*



Reverse geocoding results and export to CSV options

DOCUMENTATION

Search locations

Available on edition

Professional

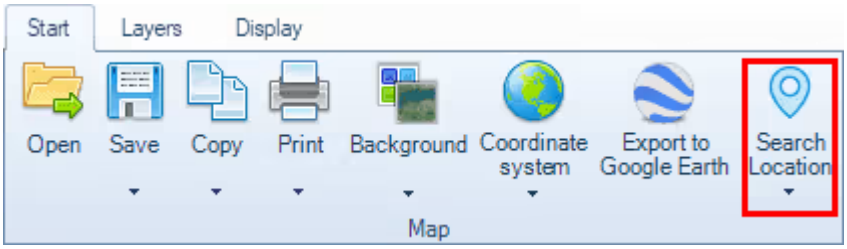
Spatial Manager Desktop™ include functions to geo-locate in your drawing postal addresses, streets, neighborhoods or other geographical objects.

Search for locations of geographical objects

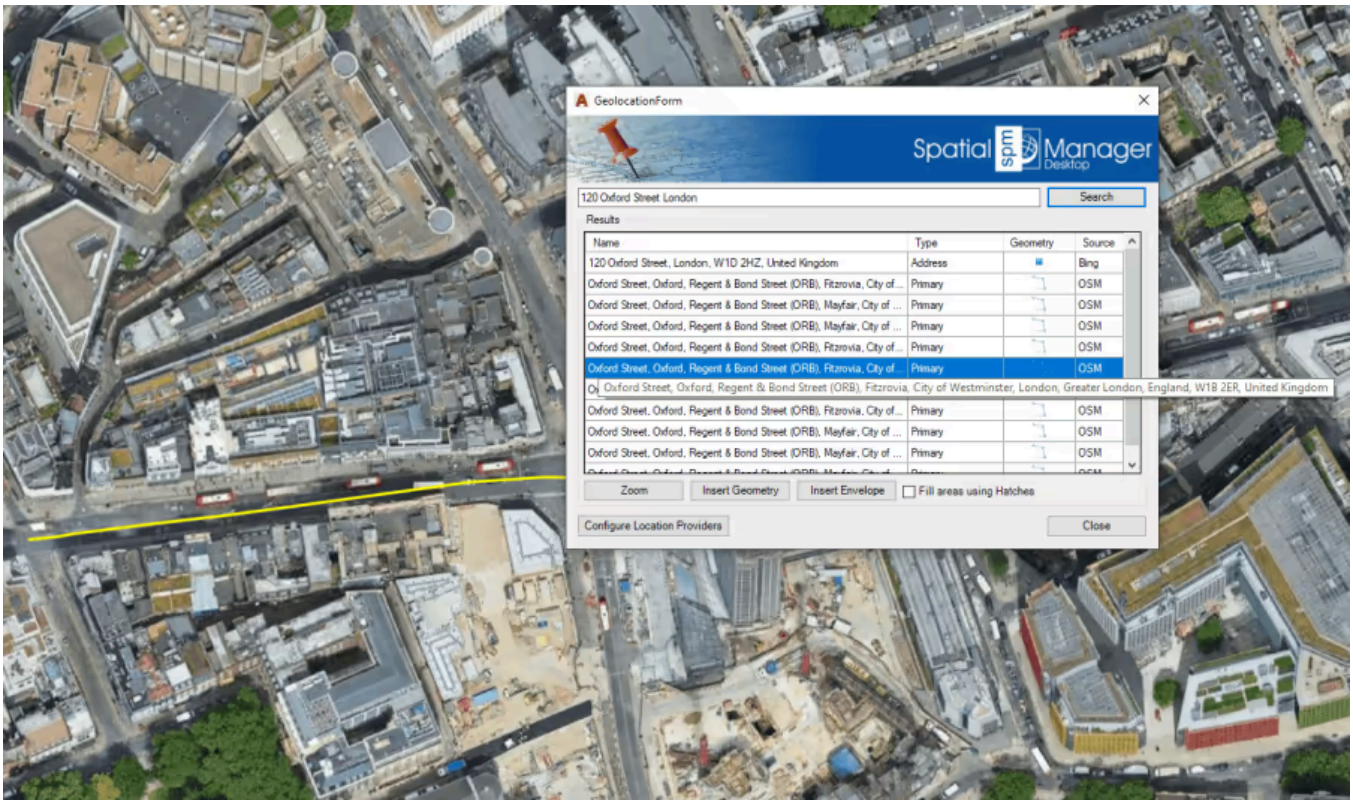
Spatial Manager Desktop™ includes the 'Search Location' function that allows you to search for locations through Internet location services based on your search text. Once you enter the search text (the more precise, the more accurate the location) and click "Search" (or press Enter), the results returned by these services (if found, one or more results) will be shown in the search window and include the following information:.

- *Name:* Full location name. Although you can resize the window if you want, if the full text does not fit, scroll over and a tooltip will be shown.
- *Type:* Location type. According to the classification provided by the localization service.
- *Geometry:* Geometry type. Point, Line-string, Polygon, Multi-Polygon, etc. The icon represents in a simplified way the geometry type, but you can scroll over it and a tooltip including the geometry type text will be shown.
- *Source:* Location service source. The name of the Internet location service that returned the result.
  - *Note: Certain location service providers (such as Google) may require special terms of use for the users of this service. You can configure any special setting for such providers through the button "Configure Location Providers" or the Service Provider API Keys in the application Options. If this is not done, the results corresponding to these providers will not appear in the results table as they will not be available for query.*

You can sort the result rows according to the "Name", "Type" or "Source" columns (direct or inverse order) by clicking on the column title.



Search Locations in a map



'Search Location' window

Use the results shown in the ‘Search Location’ window

The Spatial Manager Desktop™ ‘Search Location’ window allows you to select any shown result in order to:

- Zoom to the location. By using the “Zoom” button or by double-clicking on the chosen result.
- Insert the Geometry in your map, and zoom to the Geometry. Points, Polylines, Polygons, etc., depending on the geometry type.
- Insert the geometry Envelope, and zoom to the Envelope. Internet location services usually also return a rectangular envelope of the geographic object found. This option allows you to insert this rectangle in your map.
- *Notes:*
  - *The ‘Search Location’ window remains open until you close it so that you can repeat the actions with the results you want. In fact, you can navigate through the map, access the Data grid, etc., while the window is still on screen..*
  - *You can use the ‘Search Location’ function even without any map document open. In this case, the insertion of features or envelopes will be processed in a new blank document..*

See also the ‘Geo-coding’ section

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Resources

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Licenses

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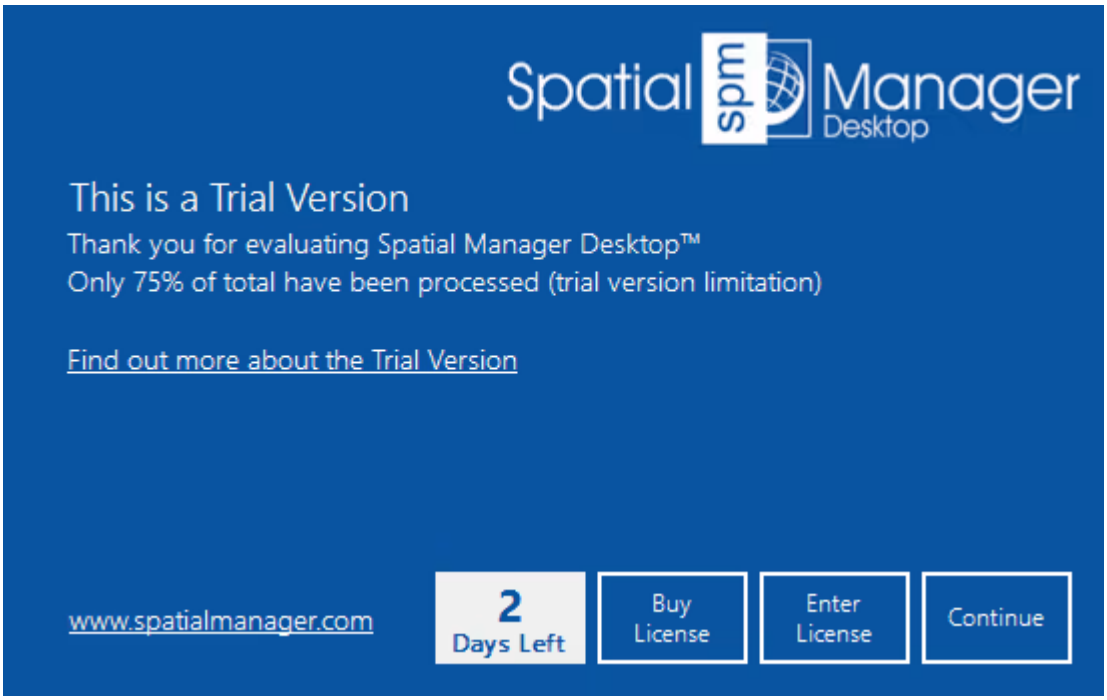
Trial

Trial version of Spatial Manager Desktop™

The trial version of Spatial Manager Desktop™ is a limited version which allows you to try out the application for up to 15 days. When this period ends, or if you want to use the unlimited version, you need to purchase a commercial license of Spatial Manager Desktop™.

Every time you start the trial version of Spatial Manager Desktop™, you will see a window showing the days left in the trial period and the buttons to purchase a commercial license of Spatial Manager Desktop™ or to activate a license.



Spatial Manager Desktop™ trial version window

When the trial period has ended, you will see a similar window, but you can no longer "Continue" using the "Trial version", and you need to activate a commercial license in order to keep working.

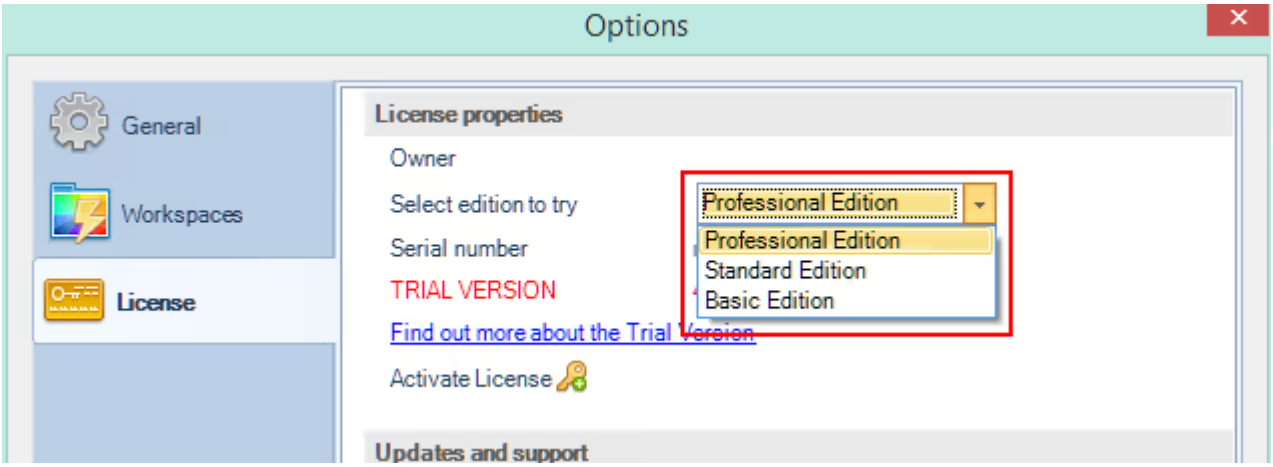
During the testing period, you will find the following limitations:

- A maximum number of Features will be exported. The quantity will be 75% of the total number of Features to be processed.
- A maximum number of Features will be saved.
- A "DEMO" watermark will be added:
  - When showing any 'Background Map'.
  - When printing a map.

- Direct and Reverse Geo-coding functions will only return a maximum of 5 results each time they are executed.
- When running some functions or processes, a warning window may appear about a specific limitation of the "Trial version".

Note: If you think you need an unlimited version for testing, please feel free to contact us (support@spatialmanager.com).

While using the trial version, and whenever you want, you can select the application Edition you would like to try through the application Options.



Spatial Manager Desktop™ select trial edition

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Purchase

Purchase commercial licenses of the application.

You can purchase commercial licenses of Spatial Manager Desktop™ through the product prices page in the: Spatial Manager Desktop™ prices page.

Once you click on the "Buy now" button you will be able to select the options of the license to purchase on the next page. Please read carefully the "Frequently Asked Questions" section at the bottom of this page in order to answer any questions about license types, features, updates/support periods, etc.:

- **License type**: Standalone or Network/Floating.
- **Initial Updates/Support period**: 1 or 3 years (see possibilities of extending this period below).
- **Quantity**.

Once you have purchased and installed a commercial license of Spatial Manager Desktop™, you need to activate it .

Please feel free to consult us with any questions or issues you may have with the purchasing, installation, activation, deactivation or transfer processes (support@spatialmanager.com).

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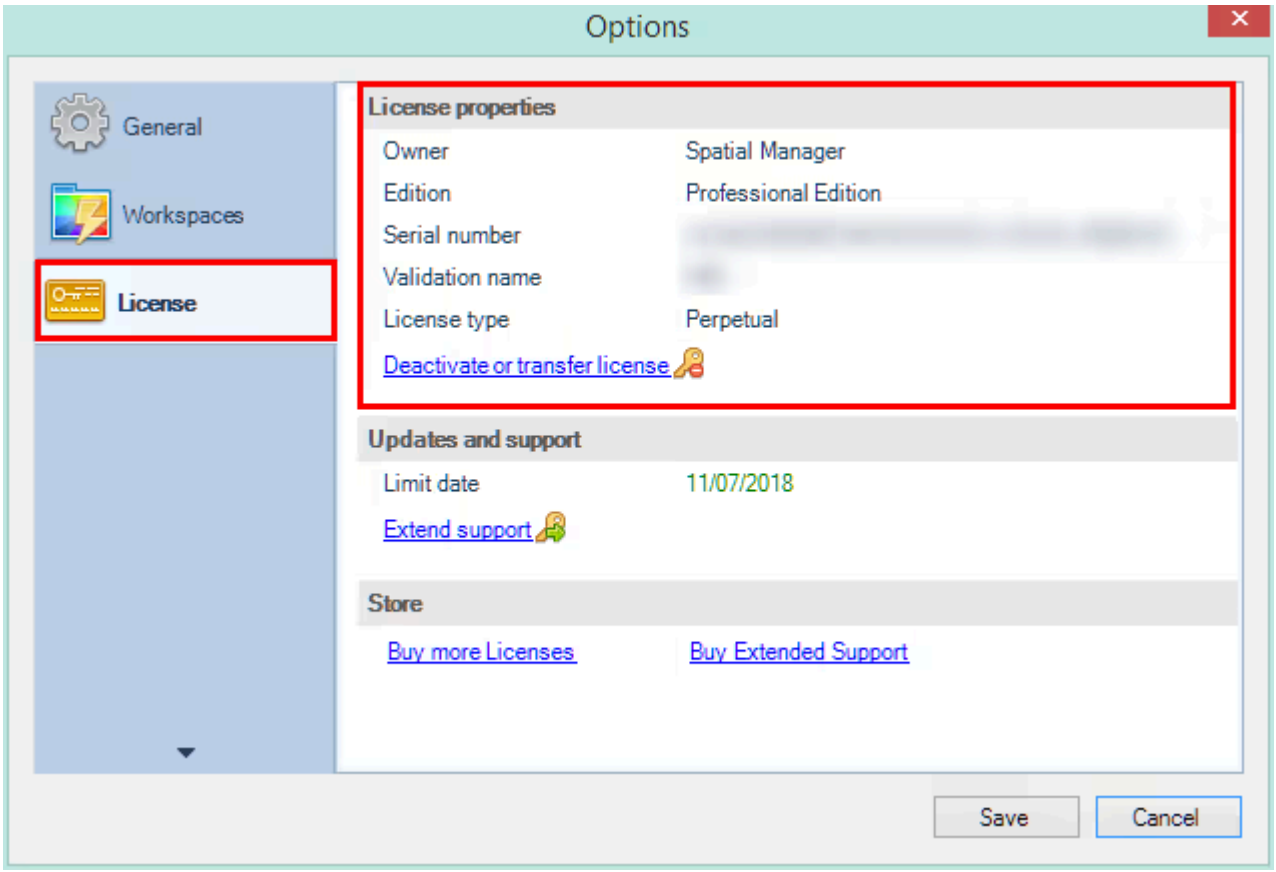
Activate

Activate commercial licenses of the application

CAUTION: *You must run the application as administrator to perform any task related to activation, deactivation or transfer of licenses.*

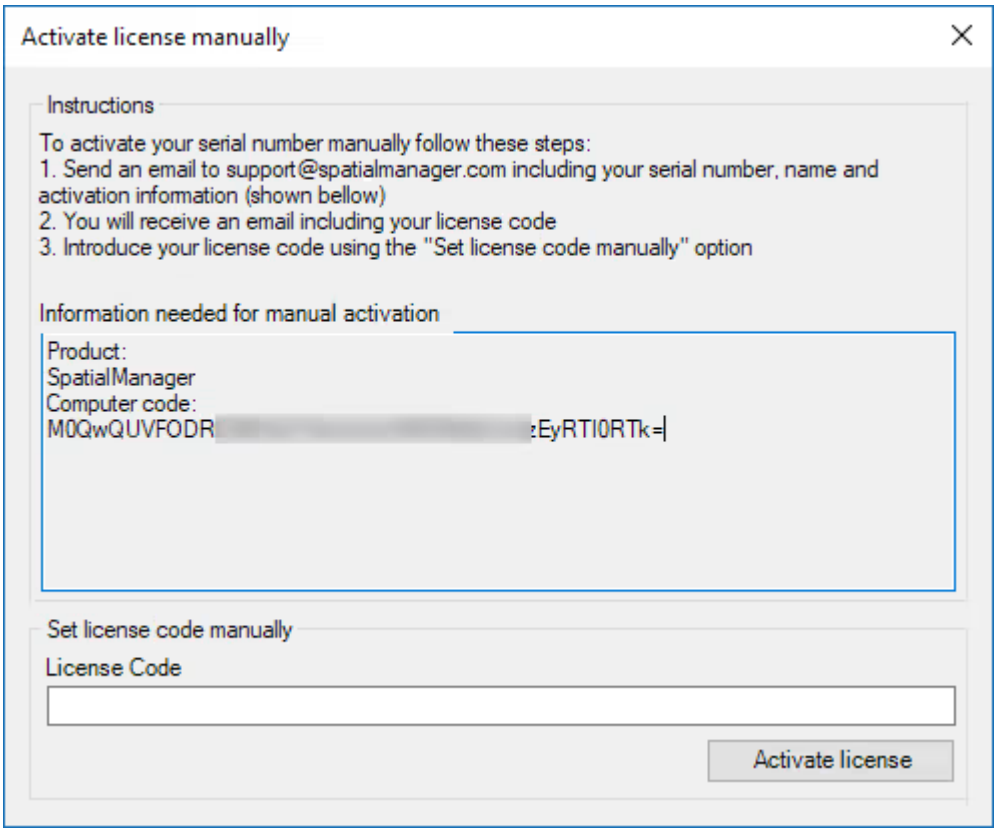
When you purchase one or more licenses of Spatial Manager Desktop™, you will receive by email your serial number(s) to activate your commercial license(s). After installing the application (if needed), you can activate your license by entering the serial number using the "Activate license" function, which can be found in the "License" section of the application Options (SPMOPTIONS).



Spatial Manager Desktop™ Activate licenses window

As stated in the first paragraph of this page, please note that you can also activate your license directly from the "Trial version" window, even if the "Trial version" has expired.

Under some circumstances (no Internet connection, License Server stopped, etc.), it may not be possible to complete successfully the automatic activation of a license. If this happens, you will get a warning window including the "Computer code" and the steps needed to activate it manually.



Spatial Manager Desktop™ - Instructions for manually activate the licenses

Notes about licenses activation:

- *Which network ports are used for activating/deactivating licenses?* License server communication is over standard HTTP/HTTPS protocol, so ports 80 and 443 are used.
- *Is the network license service installed by the user?* The application uses a cloud license server hosted by us, so there is no need to install anything more on the local network whether you use standalone or network (floating) licenses.

Please feel free to consult us with any questions or issues you may have with the purchasing, installation, activation, deactivation or transfer processes (support@spatialmanager.com).

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Upgrade

If you already own a license of Spatial Manager Desktop™, you have several options to upgrade or expand your license to meet your needs.

Upgrade Edition

If you currently have a Basic or Standard edition, you can upgrade to Professional edition to access advanced features. The upgrade process is simple and the cost is calculated based on your current license.

Benefits of Upgrading:

- Access to advanced features

To upgrade your edition:

1. Go to license info page
2. Enter your activation key
3. Select the “Upgrade Edition” option
4. Follow the checkout process
5. Restart the application and the license will be updated

Add License Seats

If you need additional users to work with the application, you can purchase additional license seats. This is particularly useful for teams that are growing or need to expand their usage.

Benefits of Additional Seats:

- Cost-effective for teams
- Centralized license management

To add seats to your license:

1. Go to license info page
2. Enter your activation key
3. Select the “Add Seats” option
4. Choose the number of additional seats needed
5. Complete the purchase process
6. Restart the application and the license will be updated

Upgrade Support and Updates Period

All commercial licenses include a Updates/Support period (1 or 3 years initial period).

Benefits of active Support:

- Software updates and new features
- Technical support
- Access to latest versions
- Bug fixes and patches

To extend your Updates/Support period:

1. Go to license info page
2. Enter your activation key
3. Select the “Extend Support” option
4. Choose the support period (1 or 3 years) or a custom end date
5. Complete the purchase process
6. Restart the application and the license will be updated

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Support

Support period for the application.

You have a free-of-charge support period when you buy Spatial Manager Desktop™ (1 year from the license purchase date). The support of the application (Updates and Support) includes your right to download, install and run any update released within the support period, as well as to enjoy the use of the answer center via email (support@spatialmanager.com) over the same period.

You can extend the support period for Spatial Manager Desktop™ by purchasing an extension through the product support prices page in the: (Spatial Manager Desktop™ prices page).

Notes:

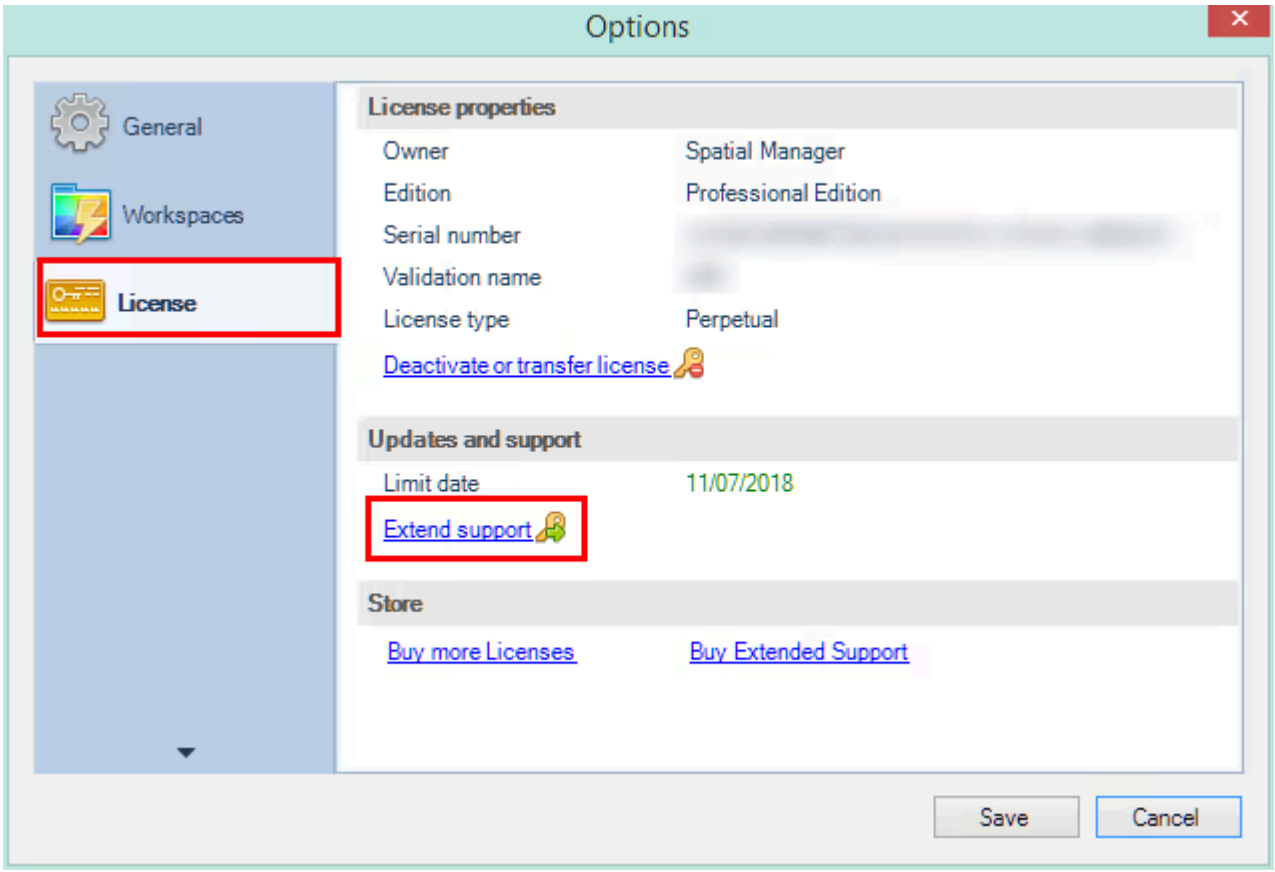
- *When you access here from the application, you will only see the support products applicable to the installed Edition (Basic, Standard or Professional).*
- *The free support period was 30 days for all the licenses bought before 6/10/2016.*

As you will see when you process the purchase of any extension, you will be able to enter your license number or activation key so that the process will automate the license extension. If you want to extend the Updates/Support periods of several licenses, or even change or homogenize these periods for all of them, you can click on If you have more than one key, click here and then enter the numbers or activation keys for all licenses.

Activate support extension for the application.

CAUTION: *You must run the application as administrator to perform any task related to activation, deactivation or transfer of licenses.*

When you purchase one or more support products for Spatial Manager Desktop™, you will receive a confirmation by email in order to extend the support period for the application. After purchasing the support extension, the new support period will be automatically activated the next time you run the application.



Spatial Manager Desktop™ Activate support window

Please feel free to consult us with any questions or issues you may have with the purchasing, installation, activation, deactivation or transfer processes (support@spatialmanager.com).

DOCUMENTATION

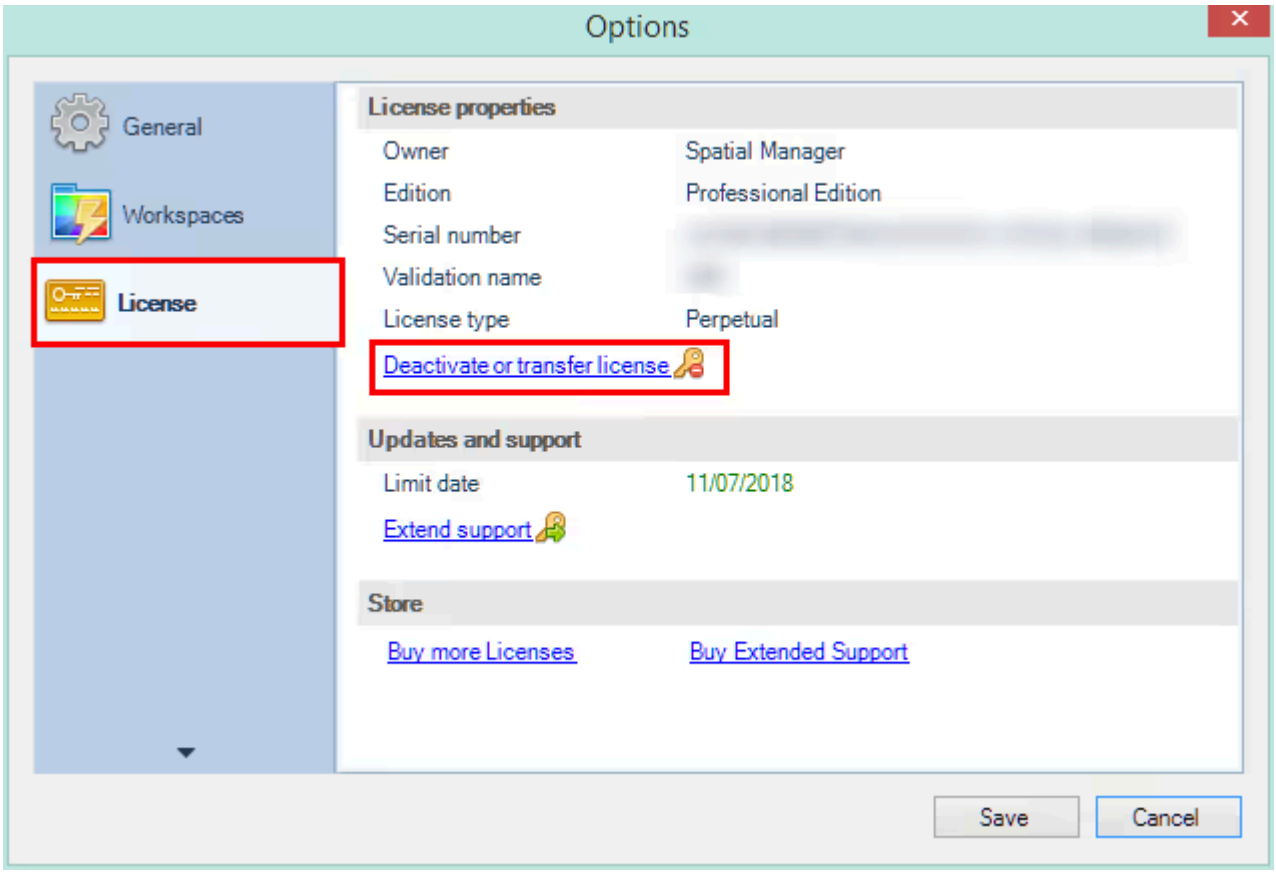
Deactivate

Deactivate or transfer a license.

CAUTION: *You must run the application as administrator to perform any task related to activation, deactivation or transfer of licenses.*

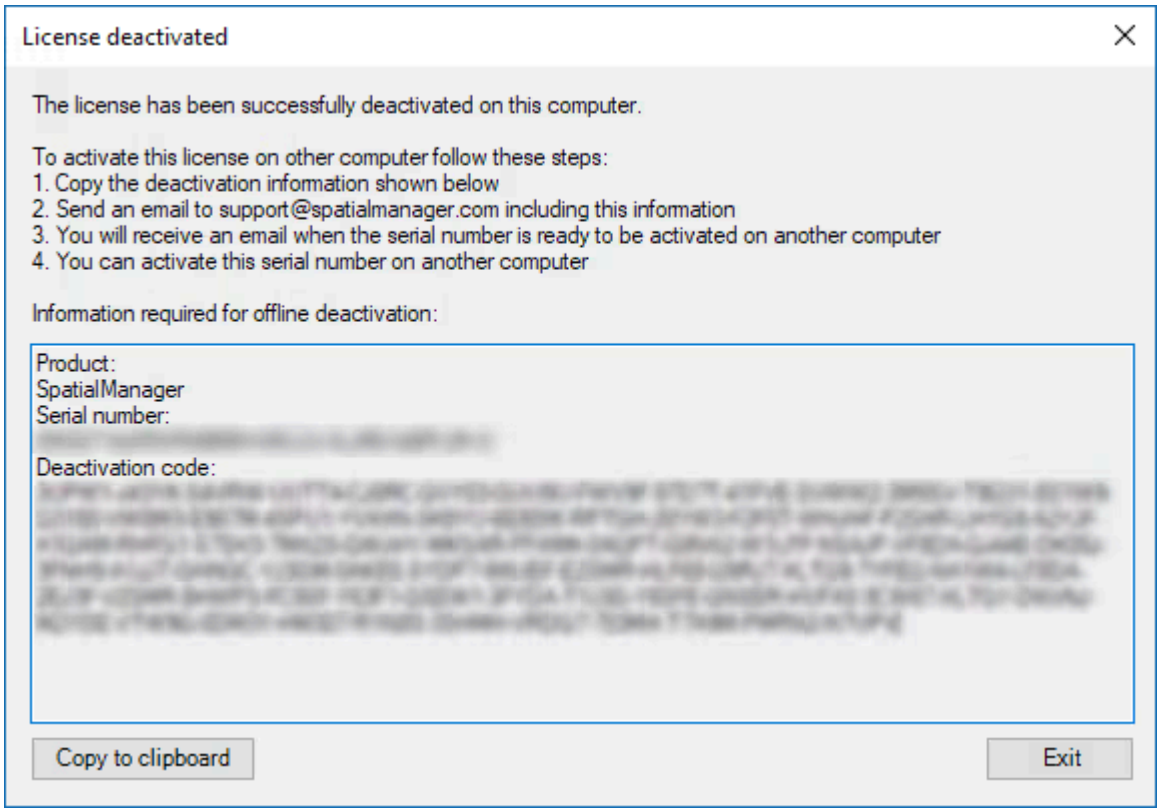
You can deactivate or transfer a license of Spatial Manager Desktop™ by using the "Deactivate or transfer license" function, which can be found in the "License" section of the application options .

When you deactivate a license of Spatial Manager Desktop™ on a computer, you can reactivate it on this computer or on another computer by entering the last serial number of the license; this number is shown when the deactivation process ends.



Spatial Manager Desktop™ Deactivate licenses window

Under some uncommon circumstances (no Internet connection, License Server stopped, etc.), it may not be possible to complete successfully the automatic deactivation of a license. If this happens, the license will be deactivated on your computer and you will get a warning window including the "Deactivation code" and the steps needed to re-activate it manually.



Spatial Manager Desktop™ - License deactivated

Please feel free to consult us with any questions or issues you may have with the purchasing, installation, activation, deactivation or transfer processes (support@spatialmanager.com).