# TerraIncognita™ help

TerraIncognita™ is software which is designed to simplify working with various map sources and possibly to convert maps between them. Preffered map sources are various web map servers, but program can open also maps stored on local media. Big advantage is simplified switching between maps with preserving current position and map resolution. Panning on map is done by drag and move mouse, zooming is done by left or right click on the map.

Status panel shows selected resolution of map and current position in GPS coordinates. There are also shown various notification and information messages.

Menu contains basic items: for saving maps and file operations, selection map source, selection map resolution and creating selected area on map.

Map sources are grouped by their origin, for example all maps from the same web server are grouped into one submenu. If maps contains layers those are selected by checking particular menu item.

Save map to file is possible only if some part of map is selected. **Selection** mode can be activated from menu and after selection is done it must be deactivated.
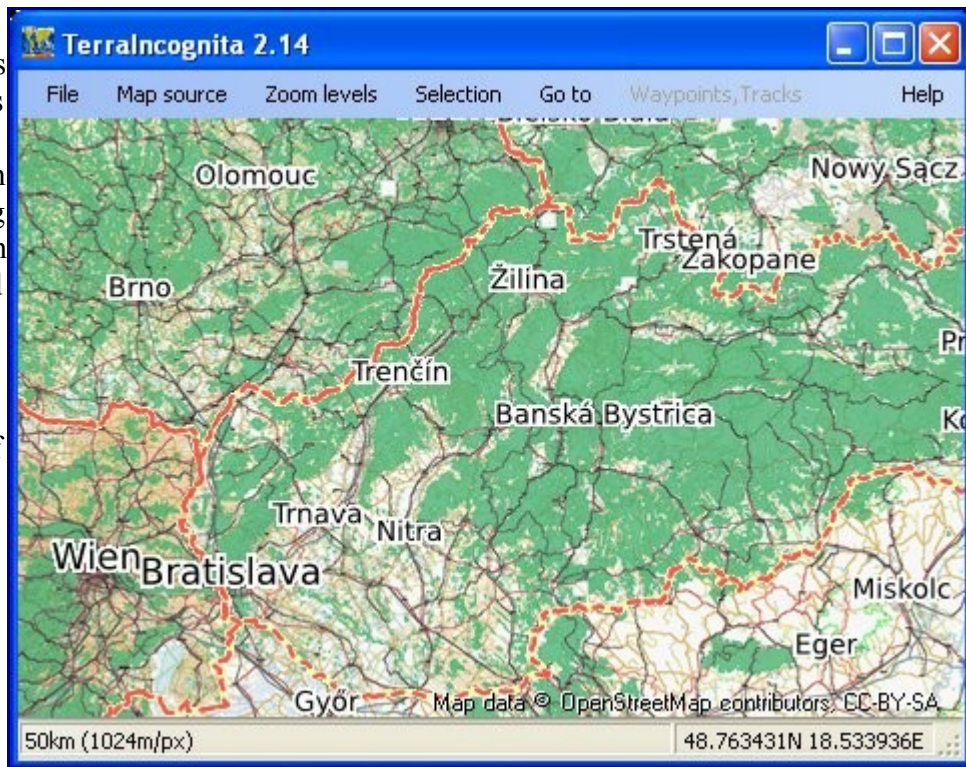
Help sections

- [Keys and mouse](#)
- [Selection of area](#)
- [Quick save map tutorial](#)
- [screenshots](#)
- [goto user position](#)
- [waypoints and tracks](#)
- [settings dialog](#)
- [user defined map sources](#)

Keys and mouse

- scroll map: hold Left mouse button + mouse moving
- zoom up: click Left mouse button
- zoom down: click Right mouse button
- selection: hold Ctrl key + selecting by mouse

Basic movement on map is done by left mouse button, to scroll map press left button, move mouse in your direction and release button.
To zoom map for higher resolution click by left mouse button to place which you want in center of screen. To zoom for lower resolution you can click by right mouse button.
For fast zooming you can use also menu 'zoom' and select desired resolution.

Selection can by quickly done by holding Ctrl key and selection polygon points by left mouse click on map. Rectangle selection also can by done with Ctrl and left mouse press, move mouse to opposite corner and release mouse.
If you activate selection mode in menu 'selection' you don't need to hold Ctrl key. Then you must deactivate selection mode to be able to scroll map again.

Selection of area

Selection of map area is intended to reduce downloading time of map tiles. On some high level resolutions is even not possible to download whole map because of huge amount of data.

There are two selection modes which can be activated in menu

- rectangle
- polygon

Rectangle selection mode is easy for selecting simple rectangular areas on map. It can be activated in menu and then user just press left mouse button in one corner of area, move mouse to next corner and release mouse button. Changing of selected rectangle is simply by press left mouse button on border or corner of area and drag it to new position.

Polygon selection area is designed to select complicated area to save time during download of unimportant map tiles. Selected area is created by clicking on the polygon points. It is possible to drag any point of the created polygon to change selection. Here you can read detailed description of this selection mode. Polygon selection manual
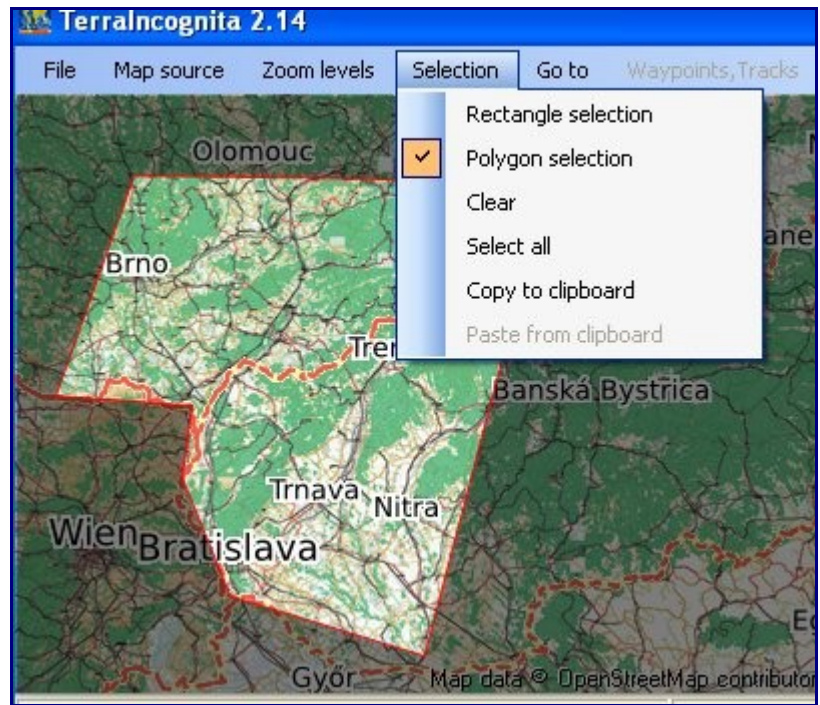
If any selection mode is activated, it must be deactivated before browsing on map, or there must be used Ctrl key with mouse button pressing to temporary use other mode.

Clear Any selection can be cleared with selecting menu item to clear it.

Select all menu item will select whole map area and should be used only on low level map zoom or maps souces from files.

Copy to clipboard can be used to remember selected area for future. User must paste clipboard content to text file and save it on your own.

Paste from clipboard will restore previously copied selection. It is possible to prepare user defined area in simple text format copied to clipboard. There must be 4 gps coordinates separated by coma.
For example

```
71.965388N 161.718750W, 71.965388N 165.937500E, 73.627789S 165.937500E, 73.627789S 161.718750W
```

Quick map save tutorial

1. **Select area** which is interesting for you
   - you can use menu 'selection' to switch to selection mode
   - or you can hold Ctrl key to create selection various ways how to create selection is described later
2. **Select map source** from menu
   - this can be done also before selecting area
3. **Zoom up** to resolution which you want to have used in saved map
   - you can select resolution in menu 'zoom levels' list
   - or you can click to map to zoom up until your detail level is reached
4. **Go to menu 'file' and select 'save map'**
   - you don't need to wait until map is saved, save operation will continue on background
   - if you want to save various maps for the same area you must continue on step 2.
5. Go to menu 'selection' and select 'clear selection'
   - this will remove selection and remove dimmed layer
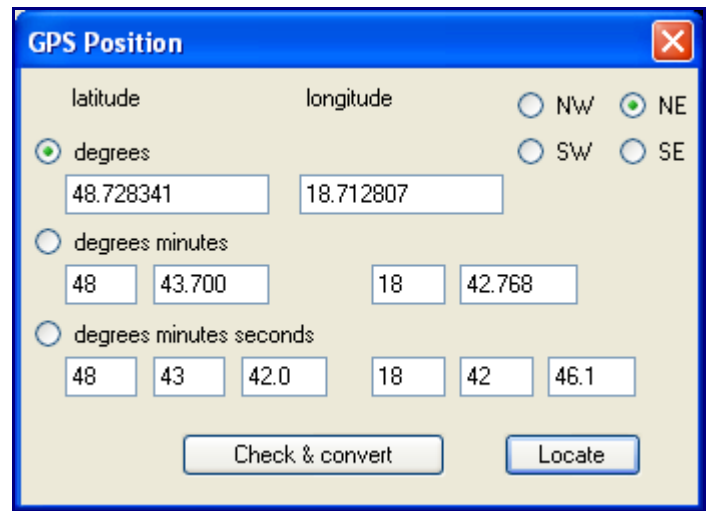
User GPS position

GPS position can be set in three formats:

- degrees with decimal places
- degrees with minutes
- and degrees with minutes and seconds.

All other formats will be recalculated when "check and convert" is clicked. North ,South, West and East are selected with radio button.

Paste maps.google.com link can be used to set the same position as user currently have in browser on google maps. If position is set on maps.google.com there is 'link' button on top right corner on map area. This link can be copied either with right click with 'copy link location' or click on it will selected text in first row of dialog. This text must be copied to the clipboard and then used in Terra Incognita in 'Paste maps.google.com link' menu item. Usually it will immediately show the same position as in browser.
Sometimes link can't be copied, especially when there was used search on maps. This can be solved by small moving of map with mouse and then copied link again.

Settings

All program settings can be set in settings dialog by selecting menu File / Settings. There are more tabs for each group of setting for particular operation. Some settings are set immediately, other needs to restart of program to be applied.
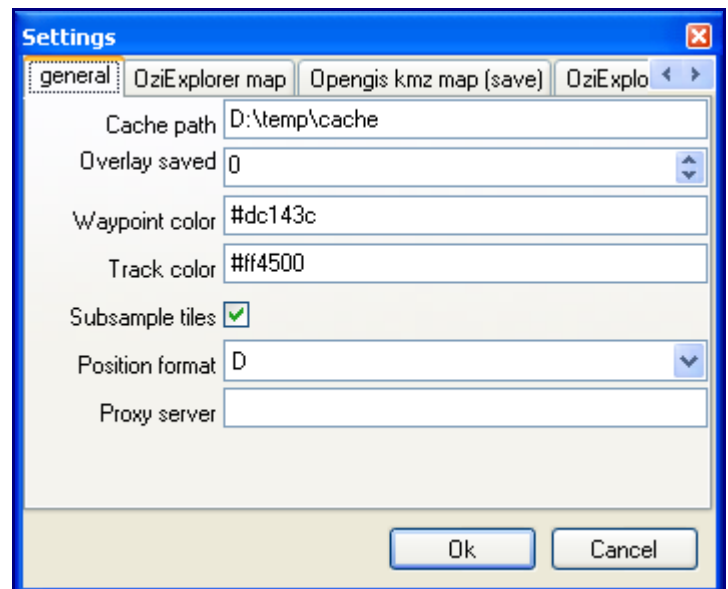
general is for main program settings, there can be set:

- *cache path* - is path to folder which will be used to store cached tiles
- *overlay of maps* - value in pixels to be used if map is split into more smaller parts
- *waypoints and tracks colors* - contains html color code, you can obtain it for example here http://html-color-codes.info/
- *subsampling of map tiles* - map tiles of higher resolution are used to replace map tiles. This can create more map details especially if server uses high jpeg compression on map tiles and can slightly reduce watermarks.
- *GPS position format on status bar* - there can be selected degrees, minutes and seconds or UTM format
- *proxy server* - proxy server name or ip and port number in a format `server:port` for example 10.0.0.1:8080

OziExplorer map is for manual set of tile size, 0 is for automatic value. Some maps can have uncommon size and then is better to enter here user value for example 256 (pixels). This is used only during load of oziexplorer map file as map source.

Opengis kmz map (save) is for saving maps to kmz format. There can be defined tiles image format and jpeg compression factor. Max tile size and count are specially for Garmin users to limit map to fit in device memory.

any map (save) have usually maximum width and height size in pixel which is limit size before split map to more

smaller files. When selection is larger than this limits, there are saved 2 or more smaller maps, possibly overlayed if this is set in general settings.

Map autosplit feature

Large maps are automatically split into smaller files if selection size is larger than limits set in settings (maximum width and height). This is useful if some programs are not able to load a large map files. If there is also overlay value set (general settings) there are repeated borders of each split part on neighbor maps. Usually it is not necessary, but sometimes when some interesting place is just on a border, this can add more space around it on a single map without jumping between two maps.

User defined map sources

If there is any web server with map source which is not yet included in, it can be added by user map source definition. It is necessary to create file with map definition and store it in UserMaps folder.

Structure of definition file is based on xml format with a few key nodes:

- group
    - layer
        - name
        - description
        - copyright
        - projection
        - zoomlevels
            - level
        - tile
        - calibration
            - lefttop
            - rightbottom
            - tiles
        - url
        - cache

group is used only when map has more layers, for example some transparent layers with paths. Then **group** can contain more **layer** nodes for each layer. Group must have attribute **name**. See example 3

layer can be root node or child of **group**. If more layers are used, dependent layers have attribute **base** with name of parent layer. See example 3. Layer must have at least **name**, **tile**, **zoomlevels** and **url** nodes. See examples for usage of those nodes.

zoomlevels must contain at least one **level** node. **Level** node must have **id** attribute. Text is used as label for zoom menu and **id** is used for %level replacement in url links. Optionally there can be used attributes **left**, **top**, **right**, **bottom** if map must be cropped to some local area. See example 4.

tile must have attributes **width** and **height** in pixels. It is size of tiles used in map.

calibration contains **tiles** nodes for each zoomlevel. Attribute **level** must be identical to **zoomlevels/level id** attribute. Attributes **horizontal** and **vertical** are count of tiles for each map zoom level. It can have optional nodes **lefttop** and **rightbottom** for defining smaller area on the Earth, default is whole Earth area. See example 1

url node can be used more times if server offers more links to map tiles. It contains link to server with 3 replaceable parameters:

- %level - will be replaced with **layer/level id** attribute
- %x or %1x,%2x …
- %y or %1y, %2y, %3y …

%x,%y will be replaced with indexes to each map tile (its position on map) \\%1x, %2x, %1y … are just single digits from %x numbers on each position in number. For example if %x = 2573 then %1x = 3, %2x = 7, %3x = 5, %4x = 2, %5x = 0, %6x = 0 and so on. This can be used if server have tiles stored in multiple folders. See example 2.

cache is optional and contains string to subfolder in cache also with 3 replaced parameters %level, %x, %y.

Example 1

```
<layer>
<name>example1</name>
<description>OpenStreetMap - Mapnik</description>
<copyright>(c) OpenStreetMap</copyright>
<projection>Mercator</projection>
<zoomlevels>
<level id="1">level1</level>
<level id="3">level3</level>
<level id="4">level4</level>
<level id="2">level2</level>
<level id="5">level5</level>
<level id="6">level6</level>
<level id="7">level7</level>
</zoomlevels>
<tile width="256" height="256"/>
<calibration>
<lefttop longitude="-180" latitude="85.0511287798066"/>
<rightbottom longitude="180" latitude="-85.0511287798066"/>
<tiles level="1" horizontal="2" vertical="2"/>
<tiles level="2" horizontal="4" vertical="4"/>
<tiles level="3" horizontal="8" vertical="8"/>
<tiles level="4" horizontal="16" vertical="16"/>
<tiles level="5" horizontal="32" vertical="32"/>
<tiles level="6" horizontal="64" vertical="64"/>
<tiles level="7" horizontal="128" vertical="128"/>
</calibration>
<url>http://a.tile.openstreetmap.org/%level/%x/%y.png</url>
<url>http://b.tile.openstreetmap.org/%level/%x/%y.png</url>
<url>http://c.tile.openstreetmap.org/%level/%x/%y.png</url>
<cache>usermap1\%level\%x_%y.png</cache>
</layer>
```

Example 2

```
<layer>
<name>example2</name>
<description>Forest Roads of Slovakia (NLC Zvolen)</description>
<projection>Mercator</projection>
<zoomlevels>
<level id="10" left="559" top="348" right="576" bottom="357">level10</level>
<level id="13">level13</level>
<level id="14">level14</level>
</zoomlevels>
<tile width="256" height="256"/>
<calibration>
<tiles level="10" horizontal="1024" vertical="1024"/>
<tiles level="13" horizontal="16384" vertical="16384"/>
<tiles level="14" horizontal="32768" vertical="32768"/>
</calibration>
<url>http://mapy.hiking.sk/tiles/tzt/%level/%9x%8x%7x/%6x%5x%4x/%3x%2x%1x/%9y%8y%7y/%6y%5y%4y/
%3y%2y%1y.png</url>
<cache>NLC_Zvolen2\%level\%x_%y.png</cache>
</layer>
```

Example 3

```
<group name="example 3">
<layer>
<name>example3</name>
<description>Forest Roads of Slovakia (NLC Zvolen)</description>
<projection>Mercator</projection>
<zoomlevels>
<level id="14">level14</level>
<level id="15">level15</level>
</zoomlevels>
<tile width="256" height="256"/>
<calibration>
<tiles level="14" horizontal="16384" vertical="16384"/>
```

```
<tiles level="15" horizontal="32768" vertical="32768"/>
</calibration>
<url>http://gpsteam.eu/cache/nlcmm/%level/%y/%x.png</url>
<cache>NLC_Zvolen\%level\%x_%y.png</cache>
</layer>
<layer base="example3">
<name>example3a</name>
<description>Hiking paths gpsforum.sk</description>
<projection>Mercator</projection>
<zoomlevels>
<level id="14">level14</level>
<level id="15">level15</level>
</zoomlevels>
<tile width="256" height="256"/>
<calibration>
<tiles level="14" horizontal="16384" vertical="16384"/>
<tiles level="15" horizontal="32768" vertical="32768"/>
</calibration>
<url>http://gpsteam.eu/cache/tzt/%level/%x/%y.png</url>
<cache>NLC_Zvolen\%levelT\%x_%y.png</cache>
</layer>
</group>
```

Example 4

```
<layer>
<name>example4</name>
<description>Bergfex</description>
<zoomlevels>
<level id="9" left="269" top="175" right="281" bottom="182">level1</level>
<level id="10" left="538" top="351" right="562" bottom="363">level2</level>
<level id="11" left="1077" top="703" right="1123" bottom="726">level3</level>
<level id="12" left="2154" top="1406" right="2245" bottom="1452">level4</level>
<level id="13" left="4309" top="2813" right="4490" bottom="2904">level5</level>
</zoomlevels>
<tile width="256" height="256"/>
<calibration>
<tiles level="9" horizontal="512" vertical="512"/>
<tiles level="10" horizontal="1024" vertical="1024"/>
<tiles level="11" horizontal="2048" vertical="2048"/>
<tiles level="12" horizontal="4096" vertical="4096"/>
<tiles level="13" horizontal="8192" vertical="8192"/>
</calibration>
<url>http://static2.bergfex.at/images/amap/%level/%level_%x_%y.png</url>
<url>http://static3.bergfex.at/images/amap/%level/%level_%x_%y.png</url>
<url>http://static4.bergfex.at/images/amap/%level/%level_%x_%y.png</url>
</layer>
```