

## **Dissect and dissolve overlaps SAGA Next Gen Ver 0.1**

**QGIS 3.34 LTR**

### **WARNING**

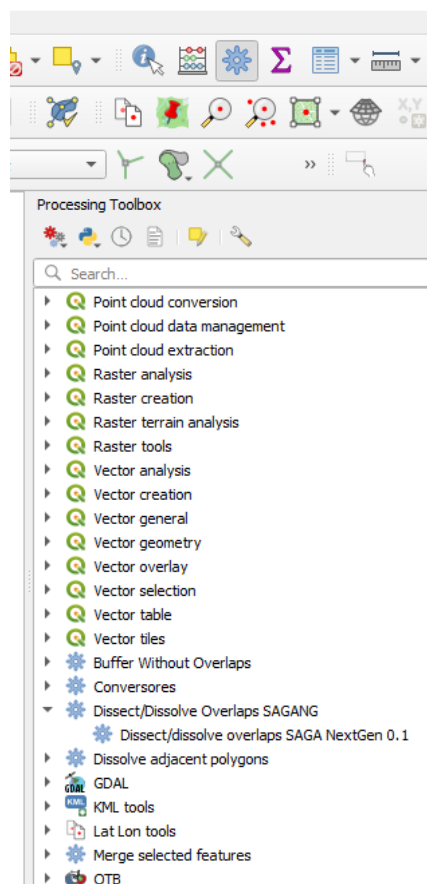
This plugin uses SAGA algorithms. Users must have QGIS 3.34 or newer with SAGANG enabled. SAGA 9.1 or newer must be installed in your PC. See page 6 for more information.

### **1. Introduction**

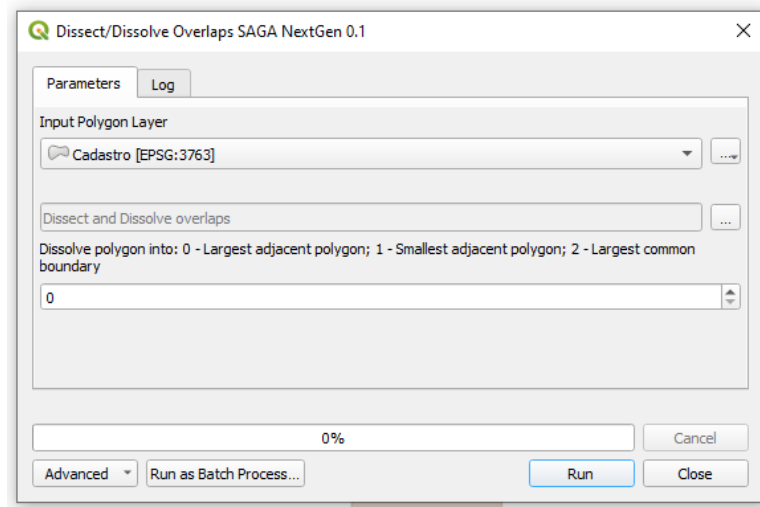
Use this plugin to detect if a polygon layer has two or more features (polygons) overlapping each other. In this case, the plugin can dissect the overlaps into distinct features and dissolve those features into a neighboring feature.

### **2. Using the plugin**

Run the plugin by double clicking *Processing Toolbox -> Dissect/Dissolve Overlaps SAGANG -> Dissect and dissolve overlaps SAGA Next Gen 0.1*, like the following image:

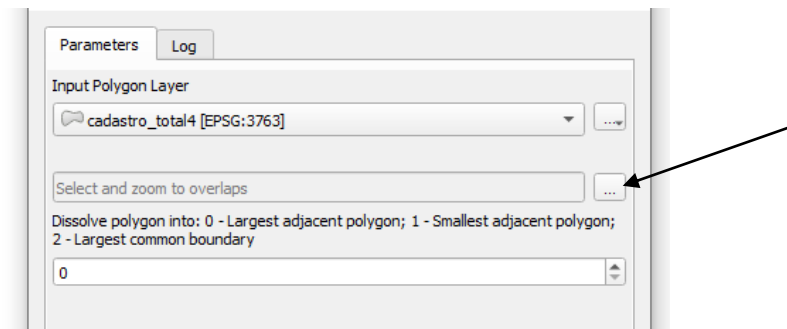


This action opens the following plugin parameters window:



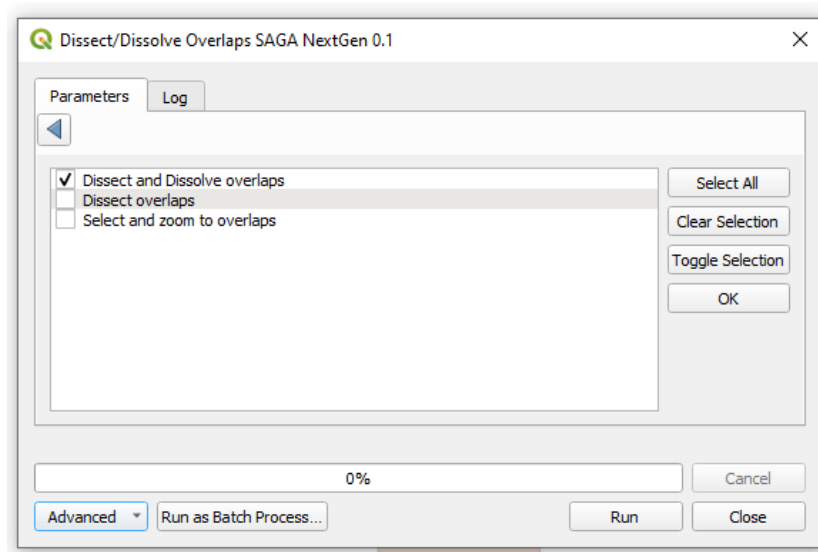
Where:

- **Input Polygon Layer:** user must choose a polygon layer in order to detect if there are overlapping features and, if so, proceed with the following options;
- **Options window:** to open options window, click on the ellipsis sign:



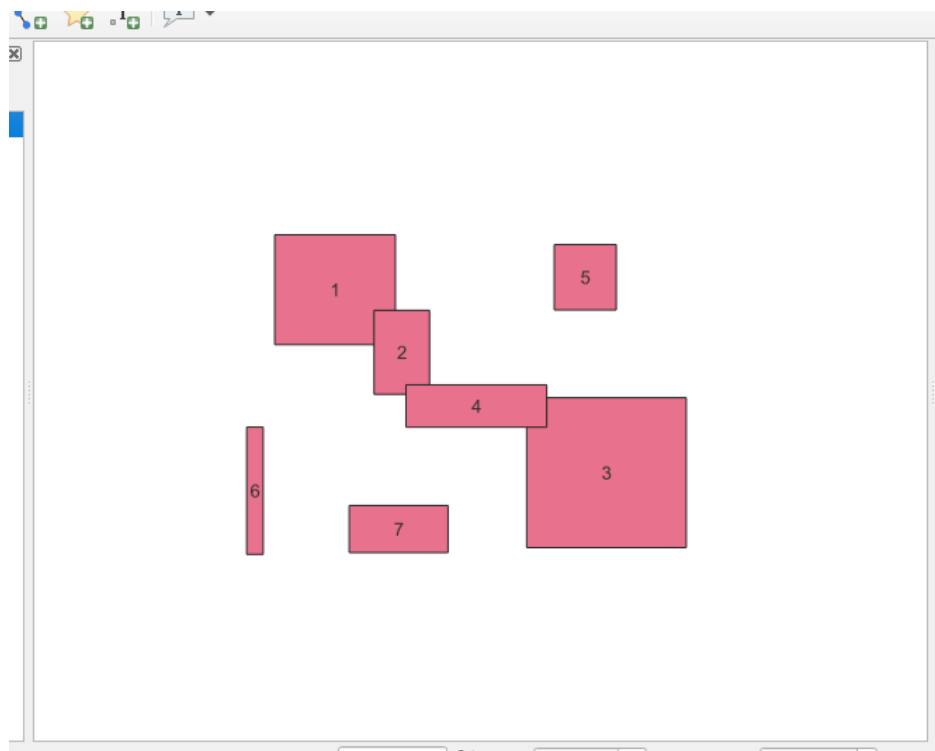
- **Options:** there are 3 options available:
  - Dissect and dissolve overlaps;
  - Dissect overlaps;
  - Select and zoom to overlaps;

Note that “Dissect and dissolve overlaps” is the default selection:

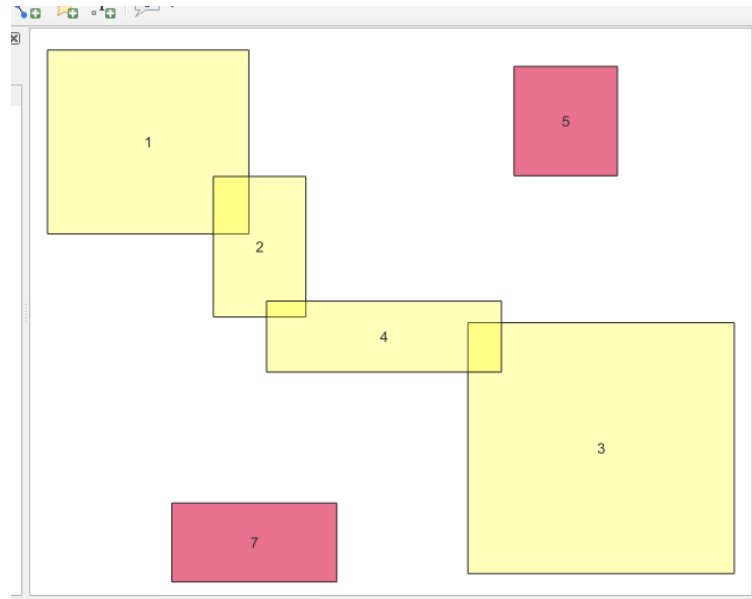


For greater simplicity of explanation, let's start with the last option:

- **Select and zoom to overlaps**: this option, that is always active, is used to detect if there are overlaps in the input polygon layer; if so, the features that overlap each other are selected, and the canvas zoom to this selection;

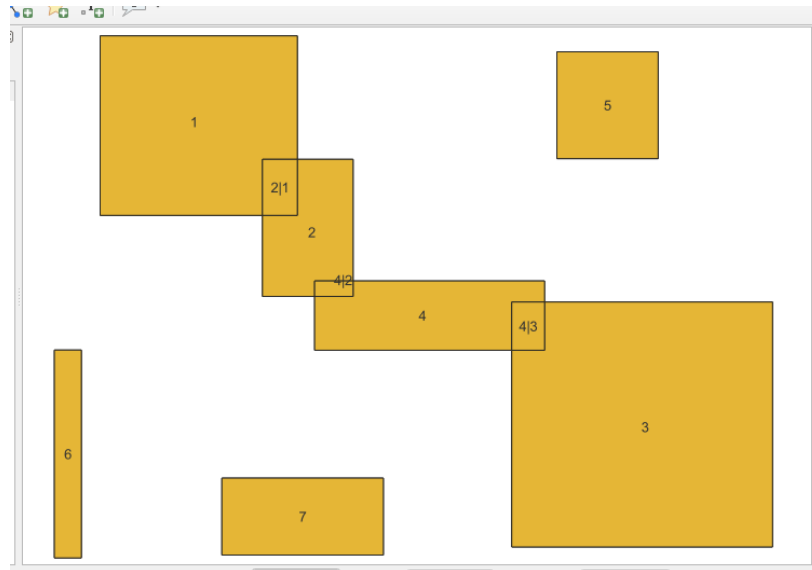


In the above image of the canvas, feature 2 intersects parts of features 1 and 4, and features 3 and 4 intersect each other in part.



In the above image of the canvas, after running the plugin, the intersections of features 1, 2, 3 and 4 are detected, selected and zoomed to them.

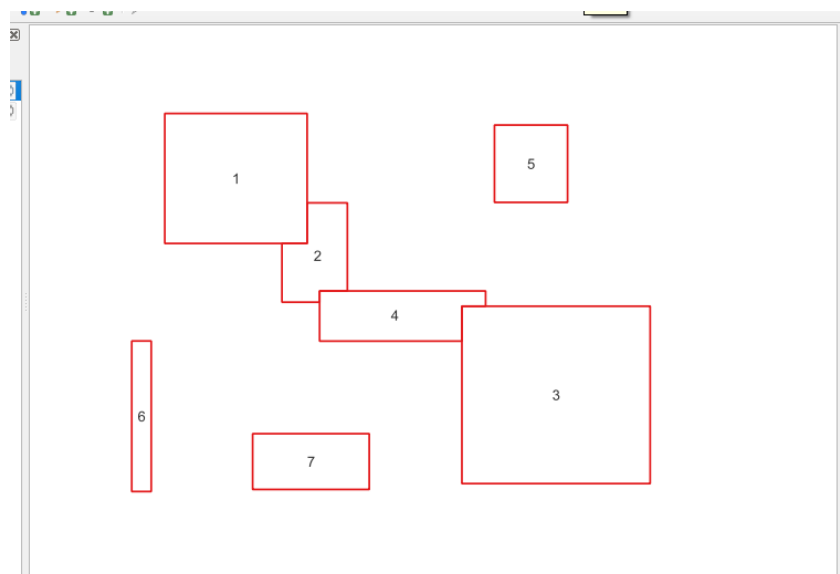
- **If input polygon layer has no overlaps:** in this case, the plugin will issue a message, which will be visible for a period of ten seconds, closing automatically and ending the plugin execution (users should not try to close this window manually !);
- **Dissect overlaps:** if the previous option detects overlaps, and user have selected this one, the plugin will perform the dissection of the overlaps into distinct features, and will create a new shapefile layer, named “IntersectedXYZ”:



In the above image of the canvas, after running the plugin with the option 2 selected, the intersections of features 1, 2, 3 and 4 are dissected, and a new shapefile layer were created with 3 new features, with Id\_SI Inte = 2|1, 4|2 and 4|3.

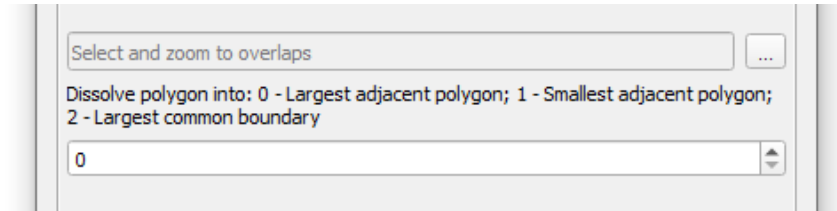
This new shapefile layer will have two new fields, named “Id\_SI” and “Id\_SI Inte”; the last one will have values like ‘2|1’, for example. This value means that this feature was the overlapping area of features Id\_SI=1 and Id\_SI=2.

- **Dissect and dissolve overlaps**: with this third option selected, the plugin will dissolve the new features created by the dissection of the overlapping areas, into the neighboring features, and a new shapefile layer named “DissolvedXYZ” is created:



In the above image of the canvas, after running the plugin with the option 3 selected, the intersections of features 1, 2, 3 and 4 are dissolved, and a new shapefile layer were created.

- ***Dissolve polygons into:*** user may choose the way overlaps are dissolved into neighboring features with the following options:  
0 – Largest adjacent polygon; 1 – Smallest adjacent polygon;  
2 – Largest common boundary.



- ***What do the letters X, Y and Z mean in the shape name:*** it is a set of 6 digits, corresponding to the [Hour, Minute, Second] the plugin was started by the user. Example: Dissolved141710 means that the user start running this plugin at 14 hours, 17 minutes and 10 seconds. This is a convenience for the user to try out several options.
- ***Where the new shapes created are stored:*** the IntersectedXYZ and DissolvedXYZ shapes are stored in the same folder as the respective QGIS project.

### 3. Preparing your QGIS 3.34 (or higher) to work with SAGA Next Generation (SAGANG)

To use the "Dissect/Dissolve Overlaps SAGANG" plugin, you need to install and enable the "Processing Saga NextGen Provider" plugin, along with the latest SAGA GIS version (9.x):

- 1 download the latest version 9.x of SAGA GIS <sup>1</sup>;
- 2 unzip the file "saga-9.3.2\_x64.zip" (or higher) and place the unzipped folder anywhere in your PC;
- 3 in the unzipped folder look for the file "saga4qgis.zip"; unzip this file and follow the instructions contained therein;
- 4 install the "Processing Saga NextGen Provider" plugin by going to menu Plugins->Manage and Install Plugins->All->Processing Saga NextGen Provider;
- 5 activate the "Processing Saga NextGen Provider" plugin by going to Settings->Options->Processing->Providers->SAGANG and enable SAGA, and look for the folder where

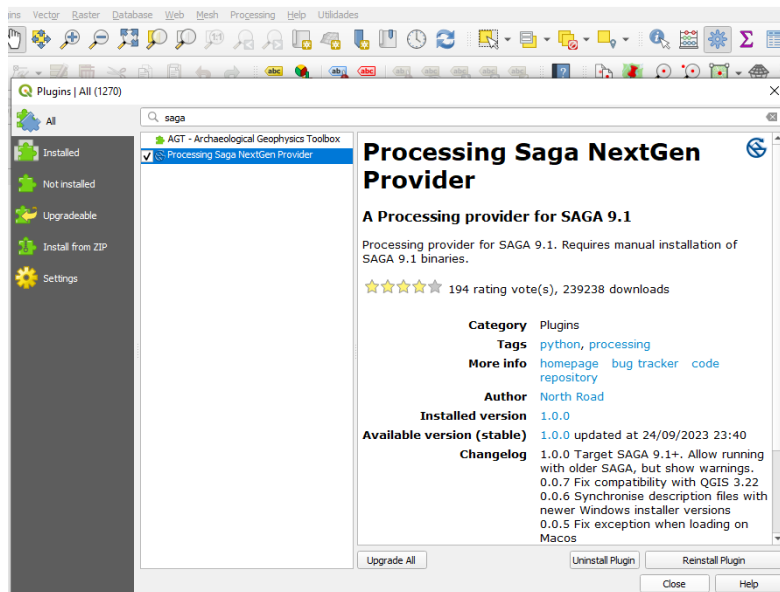
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<sup>1</sup> Try this link to download SAGA binaries: <https://sourceforge.net/projects/saga-gis/files/>

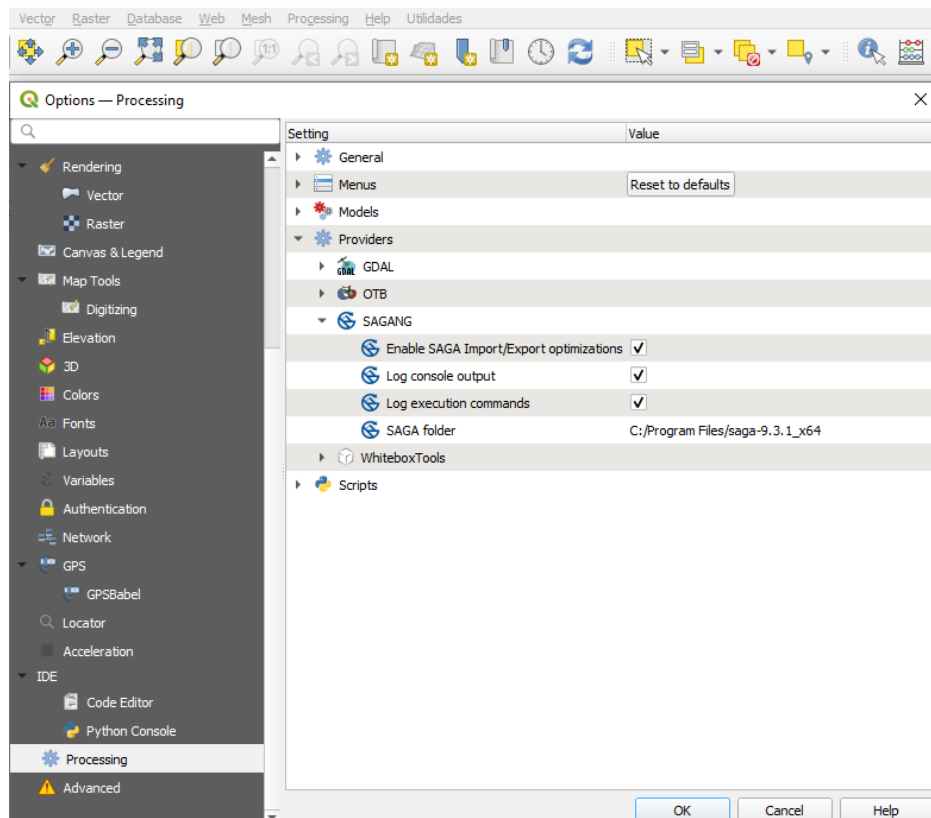
## Dissect and dissolve overlaps SAGA Next Gen

"saga-9.3.2\_x64" was unzipped (this folder must be kept in your PC).

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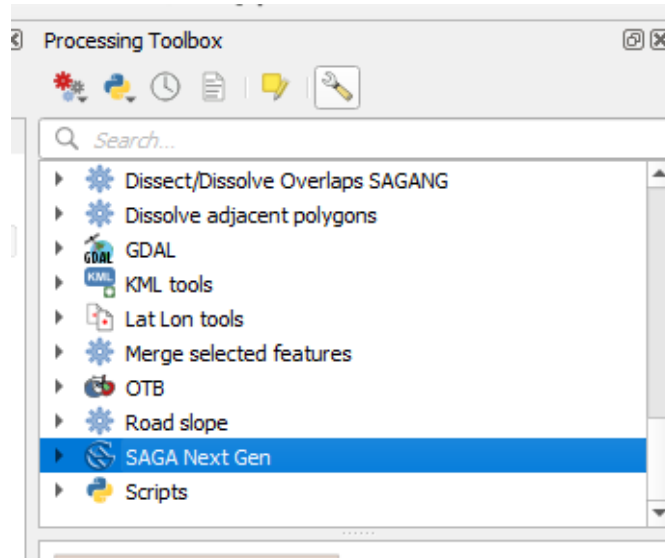


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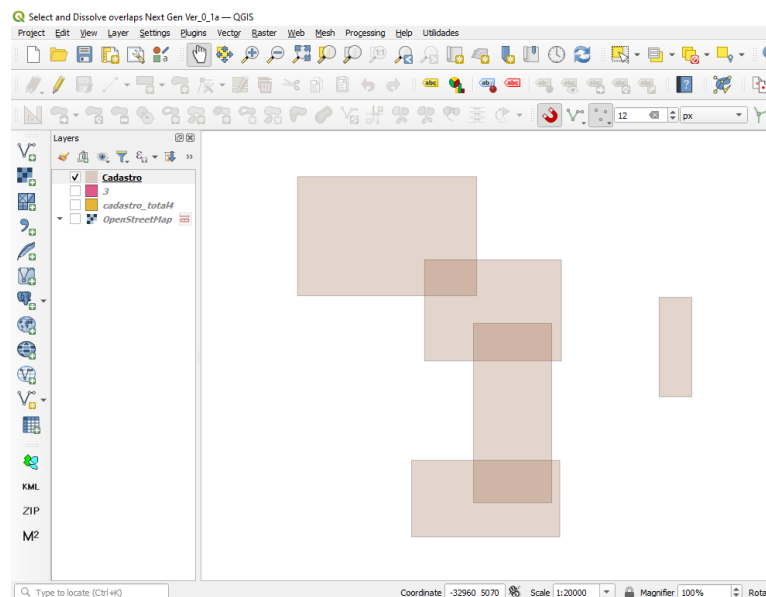


**Check if your SAGA Next Generation installation is working correctly**

**1 – check if there is an entry for SAGA Next Gen in the Processor Toolbox;**

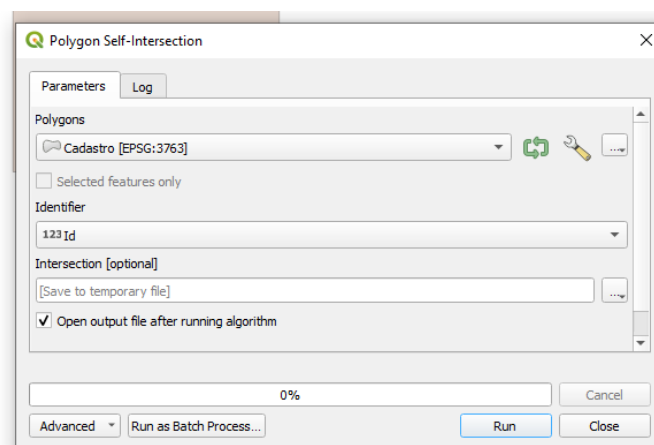
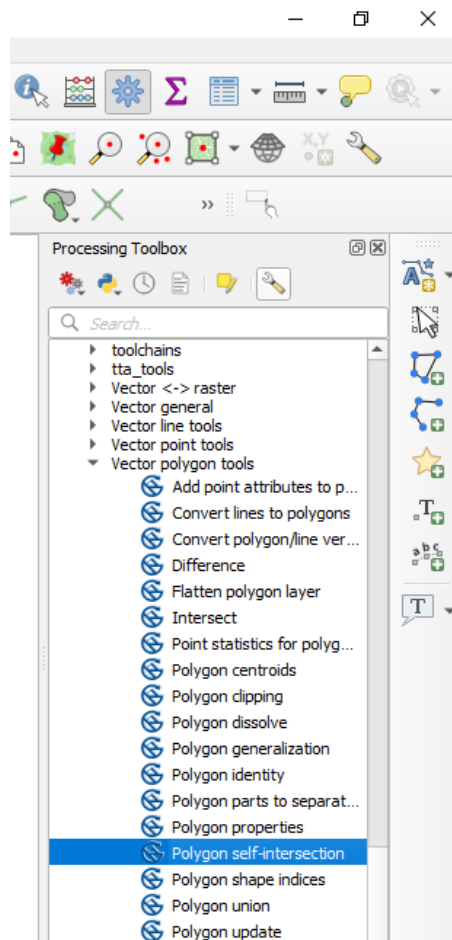


**2 – Choose (or create) a polygon shapefile with a few overlaps, like the following image:**



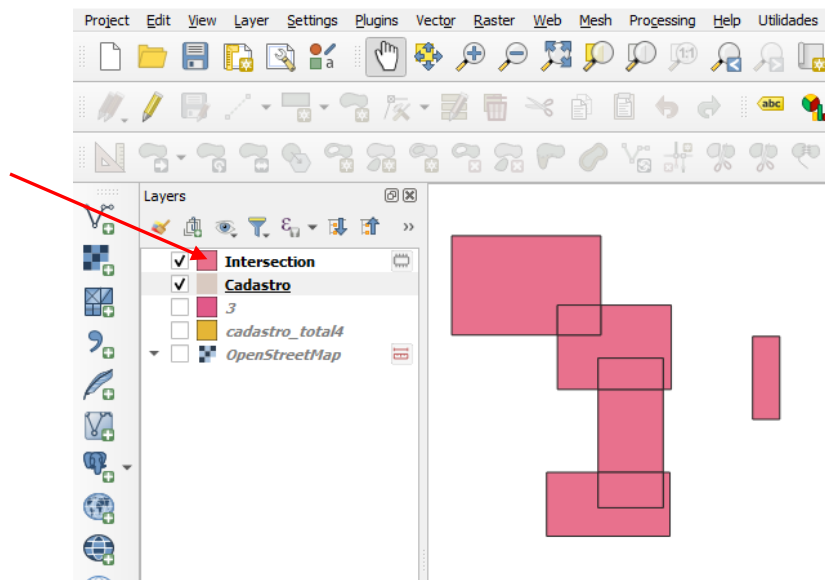
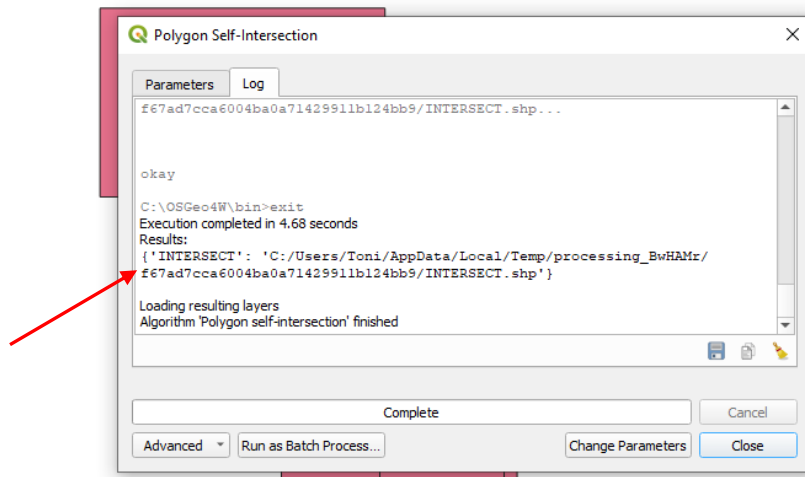


**3 – find the “Polygon self-intersection” in the “SAGA Next Gen” toolbox, and run this script by clicking twice on it:**



**Select the polygon layer with some overlaps, select any identifier field, and RUN the script;**

4 – If **SAGA Next Generation plugin** is correctly installed, then you should get a LOG similar to the one in the image below, and a new shapefile called "Intersection" should have been created and placed in the list of layers of your QGIS project:



4. Other plugins that may be of interest to you:
- A) "Fill gaps" - This plugin is intended to fill gaps and holes in a polygon layer.
  - B) "Buffer Without Overlaps" - This plugin creates a buffer around features of a given type, without overlaps.

- C) "Change NODATA" - This plugin allows you to quickly and efficiently change the NODATA value of rasters.**
- D) "Dissolve Adjacent Polygons" - This plugin dissolves polygons adjacent to other polygons, according to user-chosen options.**
- E) "Merge Selected Features (Processing)" - Merge selected features in a polygon vector layer, much faster than the QGIS tool.**
- F) "Polygon Cut" - This plugin allows the user to perform polygon cutting in a polygon layer using one or more polygons from another polygon layer.**
- G) "Road Slope Calculator" - This algorithm is used to calculate the longitudinal slope of forest paths and roads, based on a 2D line vector layer and a DEM (Digital Elevation Model).**