AssesSeg for Windows 64bit is a command line executable software that calculate a modified version of Euclidian Distance 2 index.

AssesSeg deals only with ESRI polygon shapefile and its source code is written with open source libraries (python 2.7, gdal).

AssesSeg needs two different typologies of input: a reference shapefile and output segmentation shapefiles. Actually, they are called output because they are supposed to be produced with segmentation software.

The output of AssesSeg is an .xlsx file that ha the following structure:

- n spreadsheet, one for each group of output segmentation files (see Use of AssesSeg.exe);
- for each n-th spreadsheet there are the following columns:
    - name: name of the i-th output segmentation shapefile in the n-th output segmentation shapefile output.
    - Scale, shape, compactness: if the i-th output segmentation shapefiles comes from a multiresolution algorithm and has a specific name (see Use of AssesSeg.exe) this three columns will record the input scale, the shape and the compactness values of the i-th output shapefile. If the name of the selected output segmentation shapefile does not respect the required syntax ruled (see Use of AssesSeg.exe) then the scale, the shape and the compactness values will be set to 0.
    - n. gt geometry: number of selected reference geometries that respect the selection criteria (e.g. overlapping condition);
    - n. seg geometry: number of selected output segmentation shapefile geometries that respect the selection criteria (e.g overlapping condition);
    - area_gt: total area of selected ground truth geometries expressed in square of the same unit of the internal reference system of the reference shapefile (if reference system is UTM the unit is meters).
    - under seg area: see reference section;
    - nsr: number-of-segmentation ratio , see reference section;
    - pse: potential segmentation error, see reference section;
    - ED2_index: modified ED_index.

Use of AssesSeg.exe

AssesSeg to run needs a working folder:

The working folder has the following subfolders:

- /gt: you have to past your reference shapefile here.
- /seg_test:
    - in the seg_test folder you have to create n folders (one for every excel spread sheet in the output excel file).
    - The name of the folders in /seg_test is the name of the n-th excel spreadsheet in the output excel file.
    - In the n-th excel spreadsheet you will have the result related to the shapefiles inside the n-th folder.
    - If the shapefiles in the n-th folder are named SclXX_ShpY.Y_CompZ.Z.shp or SclXXX_ShpY.Y_CompZ.Z.shp then AssesSeg is able to recognize scale (XX or XXX),

shape (Y.Y) and compactness (Z.Z): this could be useful if segmentation files were produced with a multiresolution segmentation algorithm.

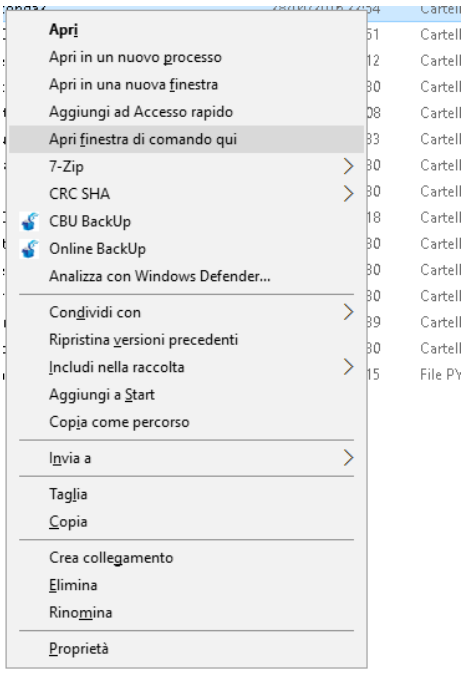
The syntax to run the program is:

AssesSeg -w <working folder> -o <outputfile> -p <overlapping percentage>

- “working folder” : path of the working folder;
- “outputfile”: output name of the excel file (this will be saved in the working folder)
- p: overlapping percentage (see reference section).
- the inverted commas are always necessary for the –w and –o options

In order to easily open a command line in the folder in which is located AssesSeg.exe you need to hold the shift key when you right click with the mouse on the selected folder.

The select “open command window here”



Example:

- If the working folder is located in : E:\documenti\Python Scripts\AssesSeg;

- If the output excel file name is : test
- If the overlapping percentage is 50

You simply need to type:

AssesSeg –w “E:\documenti\Python Scripts\AssesSeg” –o “test” –p 50

the inverted commas are always necessary for the –w and –o options.