LCCS3 BASIC CODER (V 0.4)

QGIS PLUGIN

LCCS3 Basic Coder is a QGis Plugin devoted to make easy the coding of geographical features on the basis of the classes of a LCCS3 legend.

LCCS3/LCML

LCCS3 is the last version of the Land Cover Classification System (LCCS) developed by FAO and UNEP in 1998 to facilitate the understanding of the classes of land cover regardless of the scale of mapping, the type of coverage, method of data collection, or geographic location.

LCCS3 is an implementation of LCML (Land Cover Meta Language), become a standard ISO in 2012 with the identification 19144-2:2012. The LCML provides a common reference structure for the comparison and integration of data for any generic land cover classification system, and describes different land cover classification systems based on the physiognomic aspects.

WHY A QGIS PLUGIN?

LCCS3 was already implemented into the advanced photointerpretation and coding software MADCAT, and into the interface library LCCS3lib, both developed on behalf of FAO. Anyway,

- given that QGis is one of the most common GIS open source software
- to increase the use of LCCS3
- to make available the innovative criteria of land cover classification of LCML to the largest number of users

the LCCS3 Basic Coder plugin has been developed.

GENERAL FEATURES

LCCS3 Basic Coder is an user-friendly plugin which allows QGis user to assign LCCS3 classes to geographical features.

It is an entry-level application, and it implements only a subset of the potential features of LCCS3/LCML. It was designed for a fast coding of geographical features, without going in depth on all the opportunities of the object-oriented model behind LCML.

LCCS3 Basic Coder was developed in PYTHON and it is multi-platform.

The main features are:

- selection and loading of a LCCS3 legend
- display of the list of LCCS3 classes
- selection (and activation) of the vector layer containing the features to be coded
- selection of the column (in the attributes table) to archive the LCCS3 codes
- coding selected features

LAUNCH THE LCCS3 BASIC CODER PLUGIN

LCCS3 Basic Coder is installed into QGis inside "Plugins" toolbar. A single tool button allows the user to open the LCCS3 Basic Coder Window. When the tool button is clicked, the user is asked to select a LCCS3 legend.
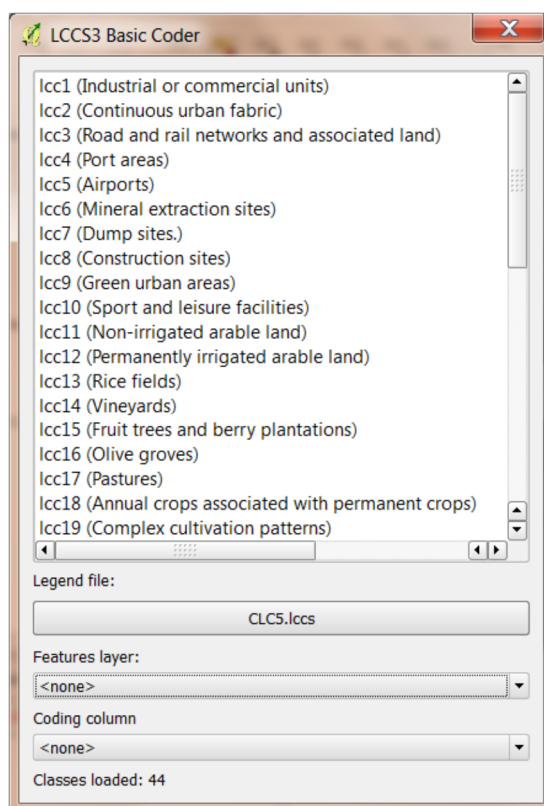

HOW TO CREATE LCCS3 LEGENDS?

LCCS3 legend can be created by using the freeware LCCS3, a Java application developed on behalf of FAO, and freely distributed by FAO (it is also available at link http://www.geovis.net/LastVersion.htm#LCCS3download).

SELECTION AND LOADING OF LCCS3 LEGEND AND DISPLAY OF THE LIST OF LCCS3 CLASSES

When LCCS3 Basic Coder is launched, the user is asked to select a LCCS3 .lccs file.

The legend can be changed also from the LCCS3 Basic Coder window by clicking on the button below "Legend file".

After a LCCS3 legend is selected, this file is decoded and the list of all defined classes is automatically loaded into LCCS3 Basic Coder window; both "normal" and "mixed" classes are loaded.
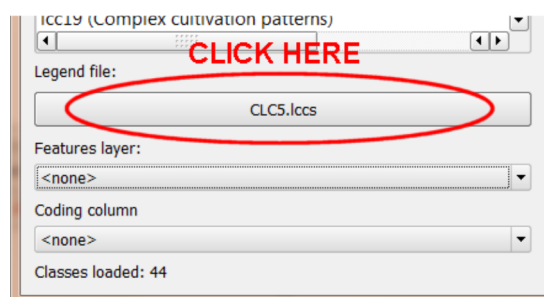

The list of classes displays for each class:

- the MAPCODE (a mnemonic small code used as coding value, and archived for each geographical feature)
- the NAME of the class (a more descriptive short name of the class) is displayed between brackets
- the DESCRIPTION of the class is added as tooltip of each
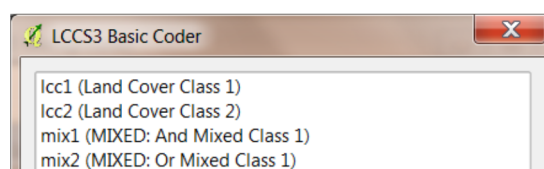
class item

Mixed classes (defined inside the .lccs file by using the LCCS3 Java software) are flagged by the word "MIXED" before the name of the class)

SELECTION OF THE ACTIVE VECTOR LAYER
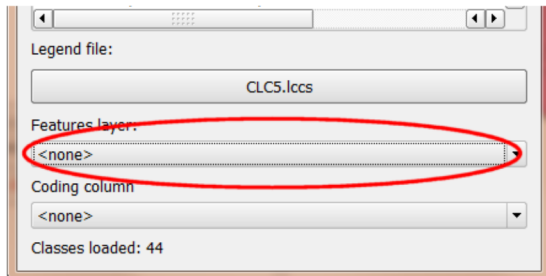
When the LCCS3 Basic Coder window is displayed, the "Feature layer" is not set.

Then the user must set the layer containing the features to be coded, by selecting a layer from the combobox.

The combobox lists only vector layers (then, theoretically only layers able to be coded).

As soon as a layer is selected:

- selected layer become the "QGis active layer"
- the combobox of the "Coding columns" is filled with the list of available columns, selecting only the column of type "string"

SELECTION OF THE COLUMN TO ARCHIVE THE LCCS3 CODES

Having selected the active vector layer, the user must select the column to archive the LCCS3 codes.

The functionality "Coding selected features" is not enable until legend, layer and column are not set.

CODING SELECTED FEATURES

After legend, layer and column are set, clicking a list item (a LCCS3 class), all selected features of active layer will be coded with the MAPCODE related to clicked list item.

Then, operationally, the user will perform the following operations:

- selection of the features of the active layer by using the normal selection tools of QGis (selection by rectangle, by polygon, by attribute, ...)
- click on the list item related to the LCCS3 class to be assigned to those features

Note that the LCCS3 Basic Coder window, as soon as the user will click on QGis to make a selection, will lose the focus and also will be send to back on respect to QGis. To avoid the problem it is recommended to arrange the windows on the screen without being overlapping.