

## Workshop 2 – From GIS to 2.5D visualization

### Objectives

1. Export data in .KML format from GIS
2. Import and drape in Google Earth
3. Create a 2.5D picture with legend and title
4. (optional) Test the Qgis2threejs plugin

### Data

Use own data (from workshop 1) if you have mapped enough or the glacial reconstruction data that you'll find in the resource folder..

### Tutorial

#### From GIS to KML: manual way

KML is a markup language like HTML. Specification can be found here:

<http://developers.google.com/kml/documentation/kmlreference>

As Google Earth uses a Mercator projection system, data must be reprojected from CH1903/LV3 to WGS84 (EPSG:4326). Firstly you have to change the project's CRS (enable on the fly transformation) from Project/Project properties/CRS.

There are many ways to export data from QGIS to KML. The basic options are:

**AS VECTOR DATA:** export thematic layers (Layer/Save as) with KML format and Project CRS (WGS84).

For example select all moraines crests, and save all the selected objects at once in a moraines\_crest.kml file. You don't have to export everything you have mapped, but try with some different processes and with some lines and polygons features.

!! Symbology won't be kept from the GIS layer: you have to recreate all the symbology (only with colors!) in Google Earth. You can edit the .KML files with a text editor with Google Earth.

**AS RASTER DATA:** export map as a picture (Project/Save as a picture). You can erase the white surfaces to make them transparent (save as .PNG).

!! Georeferencing won't be kept: you have to reference the picture layer in Google Earth (it's easy, but not very precise). Then save as a .KMZ file from Google Earth.

#### From GIS to KML: automatic way

With the use of **plugins**, you can make the things go faster and better...

**GEarthView** plugin: in one click, your data is exported and directly draped in Google Earth.

**GarminCustomMap** plugin: export the visible range of your map to a .KMZ tiled file. The process should be long and a bit unstable, but effective. There is no work to do after the export (only possibly erase the white surfaces to make them transparent).

### Google Earth

Open the .KML files with Google Earth. The goal is to obtain a nice and interesting picture of the area. Play:

1. with rendering parameters (Tools/Options): elevation factor, atmosphere, ... and
2. with layer properties: color, order, draping type,...

Export visualization as a picture (File/Save/Save picture). You can then edit the picture and add legend, points of interest, ...) in a drawing or picture edition program.

## **Other 3D plugins for QGIS**

You can install and test some other plugins in QGIS.

**Globe** plugin: show your data on a virtual globe inside QGIS (a bit unstable...).

**Qgis2threejs** plugin: export your QGIS project to a Threejs web application using HTML 5 canvas and WebGL. Beware: polygons features cannot be draped as vector on DEM (only points and lines) but they can be displayed and draped as image: select Map canvas image (all what is shown on QGIS screen) or as Layer image (selected layers) in World menu.