Metadata for Western Scotland Clearance Cairn Dataset

Administrative Info

Author's Name and Contact Details	Mar Roigé Oliver (2146331R@student.gla.ac.uk)
Country/Area of Dataset	Western Scotland, United Kingdom
Coordinate System Used	OSGB 1936/British National Grid EPSG:27700
Original Data Used	Cairn Data provided by Canmore (Historic Environment Scotland, 2019) Erosion Risk by the James Hutton Institute (Lilly and Baggaley, 2018d) Soil Drainage by the James Hutton Institute (Lilly and Baggaley, 2018c) Soil Compaction by the James Hutton Institute (Lilly and Baggaley, 2018a-b) Geology by The Macaulay Institute for Soil Research (Soil Survey of Scotland Staff, 1970)
Software(s) Used	QGIS 3.2.0 (QGIS Development Team, 2019) QGIS 2.18.28 (QGIS Development Team, 2019) QGIS 2.14.22 (QGIS Development Team, 2019)
Date and Place of Writing the Report	September 2019, Glasgow (United Kingdom)

Data Overview

The data used in the creation of this dataset was a collection of archaeological data obtained from Canmore and a series of soil and geology data obtained from the James Hutton Institute. The cairn data (location, description, dating, and characteristics) was exported from Canmore (Historic Environment Scotland, 2019) using the CSV download option available. The cairn information available in Scotland was then reduced and modified to fit the available soil and geology data. This was done using QGIS (QGIS Development Team, 2019). The soil and geology data were retrieved from the official web site of the James Hutton Institute (Lilly and Baggaley, 2018a-d) and The Macaulay Institute (Soil Survey of Scotland Staff, 1970). This data was merged with the available cairn data using QGIS. The dataset was then adapted to include only the required fields.

Two more fields were added by the author: "Cairnfield Pertinance" and "Current Land Use". Both were created through the analysis of aerial imagery. The cairns were observed through Google Maps Satellite Imagery with a resolution of 10 metres. The categories of "Cairnfield Pertinance" were "yes" if there were multiple cairns together and "no" if there were single cairns. The categories of "Current Land Use" were the following depending on the observations from the satellite images:

- **<u>Field:</u>** It is likely this cairn is located in a field area which is currently most likely used for cultivation.

- **Forested Area:** This cairn is currently located in a forested area.

- **Roadside:** This cairn is currently located by the side of the road. For this category, cairns were considered to be roadside if they were within a radius of 5 to 10 metres of the road.

- **Uncultivated Area:** This cairn is currently located in an area that is not used for cultivation and/or a forest. This category included cairns on the side of buildings, mountains, construction sites, rock outcrops, etc.

Documentation of Errors

The most important issues to consider are those relating with the identification of current land use which may have been misinterpreted or outdated. This is due to the satellite imagery used. Google Maps satellite images is updated regularly but it may not constitute the most current and/or accurate depiction of the current use of the land. Additionally, the interpretation of the imagery was a subjective activity. In order to objectivise the process of identification of the current land use, a series of guidelines were followed to choose one of the abovementioned categories:

- Areas with clear field boundaries and outlines were considered field areas.

- Unclear areas such as fields with rock outcrops, shrubs, etc. were often classed as "uncultivated area" to avoid miss-classification as "field".

- Forested areas were only classified as such if the area was of a 50 metre diametre to avoid miss-classifying a shrub area with a forested area.

Documentation of Software

The entire dataset was created using three different versions of QGIS: QGIS 3.2.0, QGIS 2.18.28, and QGIS 2.14.22 (QGIS Development Team, 2019).

A points vector layer was created from the cairn CSV and the soil and geology information. This newly created vector layer included a series of columns with the information from all of the original datasets. The chosen coordinates system for this vector layer was OSGB 1936/British National Grid EPSG:27700. The columns regarding the current land use and the cairnfield pertinance were added in QGIS

using the "Add column" in the "Attribute Table" section. This vector layer was then exported into a CSV which constitutes the final presentation of the dataset.

Bibliography

Lilly, Allan and N. J. Baggaley (2018a). *Runoff risk map of Scotland (partial cover)*. URL: https : / / soils . environment . gov . scot / maps / risk - maps / map - of - runoff-risk-partial-cover/ (visited on 12/04/2019).

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– (2018c). *Subsoil compaction risk map of Scotland (partial cover)*. URL: https : / / soils . environment . gov . scot / maps / risk - maps / map - of - subsoil - compaction-risk-partial-cover/ (visited on 12/04/2019).

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