

HillfortFinderAPP usage instructions

Thank you for your interest in automatic detection of hillforts using Artificial Intelligence (AI)

Simply spoken our AI puts a 2D grid onto your tile¹ and for each grid point computes the confidence (or probability) of a hillfort being "nearby".

The downloaded file "results.csv" contains the data from that grid as a table with these columns:

- prob: the probability, between 0.0 (lowest) and 1.0 (highest)
- x, y: coordinates in the CRS of your tile

The easiest way to analyse these results is to put them into a GIS along with your tile.

QGIS configuration

For QGIS we recommend loading this as a **Delimited Text layer** (see Figure 1 below).

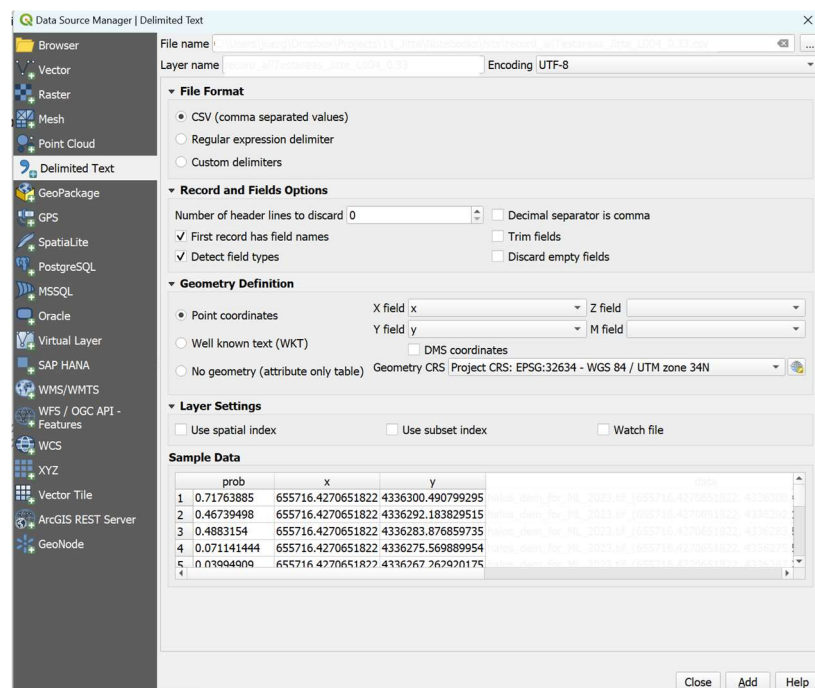


Figure 1 Delimited Text layer

¹ with approx. 150 m steps in both X and Y directions

Then go to the **Layer Properties→Symbology** menu for this layer and configure it according to Figure 2 below: Set the Style to "Graduated", the Value to "prob" and perhaps the Mode to "Pretty Breaks".

The vast majority of your grid points will probably not be near a hillfort and hence show a rather low probability score. To remove them from the screen, simply deselect them in the "Symbol" column in the middle of the Symbology popup.

Advice: We usually start with 0.9 (or 90%) probability or higher and lower that threshold if needed. We usually never go below 0.7 but it depends on your landscape.

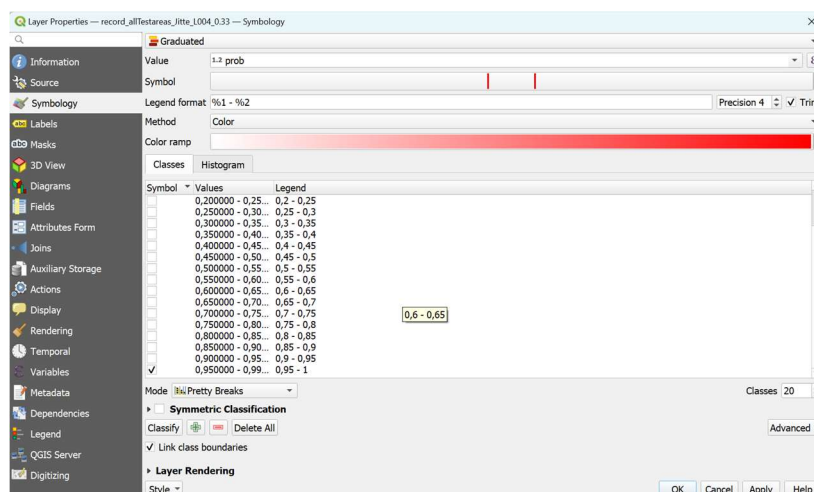


Figure 2 Symbology--> Graduated, Pretty Breaks

Your main screen will then look similar to Figure 3: This is the Sidbury Camp hillfort in Wiltshire, England (with a hillshaded English LiDAR background). The red dots are part of the grid, filtered to be above 90 % . Note that a single hillfort is often marked with several dots, depending on its size.

Note also that there could be regions without any data in the results. This is often because the LiDAR tile contained NaN (Not-a-Number) values nearby or other gaps in the data. These regions cannot be processed and are omitted.



Figure 3 "Sidbury Camp" hillfort with prediction grid

Feedback

If you have any questions please do not hesitate to contact us. We shall be glad to assist.

Besides, the *HillfortFinderApp* is hosted online for free by streamlit.io and its processing capacity is limited to rather small tiles (200 MB). If you want to have a larger area processed, please feel free to contact us, too.

And, of course, we would love to hear how well it worked in your region.

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