How is the territory divided?

Initially, the entire Spanish territory is divided into grids measuring 1 km^2, consistent with the division made in the European Grid[1].

Next, the division procedure for these 1 km^2 grids will depend on the number of sampling units (without elevation) existing in each of them:

Case 1: If there are fewer than 40 sampling units in the 1 km^2 grid,

- No additional divisions are carried out.

Case 2: If there are 40 to 249 sampling units in the 1 km^2 grid,

Initially, a vertical division of the cell (in half) is attempted. The following situations may occur:

- The division made leaves 20 sampling units on each side, so the vertical line traced is maintained.

  Next, a horizontal division of the cell (in half) is attempted for each of the partitions previously carried out. This will yield the following options:

  - The division made leaves 20 sampling units on each side. The horizontal line traced is maintained.
  - The division made does not leave 20 sampling units on each side. The horizontal line traced is discarded.

- The division made does not leave 20 sampling units on each side, so the vertical line traced is discarded.
  Next, a horizontal division of the cell (in half) is attempted for each of the partitions previously carried out. This will yield the following options:

  - The division made leaves 20 sampling units on each side. The horizontal line traced is maintained.
  - The division made does not leave 20 sampling units on each side. The horizontal line traced is discarded.

This algorithm must be applied recursively with each cell obtained, until no more horizontal or vertical divisions are possible.

Due to the number of sampling units in grids of this type, the number of cells will be between 1 and 11.

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[1] This grid will be consistent with the standardised definitions on a European level, Grid_ETRS89_LAEA (see the ETRS89-LAEA 52N 10E projection from the European Environment Agency in its version from 8 June 2011 - EEA reference grid).

Case 3: If there are 250 sampling units or more in the 1 km² grid

Each one of the 1 km² grids of this type is subdivided into 400 50 m² cells, and the idea consists of aggregating the cells, in such a way that:

- It is guaranteed that there are at least 20 sampling units in all of the divisions formed
- The resulting cells must have a rectangular shape

In order to achieve these objectives, a parameter "p" is established, which shall be equal to [2]:

$$p = 20 * \left[\left(\sqrt{\frac{n}{20}} \right) + 1 \right]$$

Where "n" is the number of sampling units in the cell of 1 km²

Next, the following 3 steps are taken:

First step
Taking the 1 km² grid and the 50 m² cells as a reference, we will trace as many vertical lines as possible that leave at least "p" sampling units to the left and right of each division.

Second step
For each of the aggregations obtained in the first step, and taking the 50 m² cells as a reference, we will trace as many horizontal lines as possible that leave at least 20 sampling units above and below each division.

Third step
For each of the aggregations obtained in the second step, and taking the 50 m² cells as a reference, we will trace as many vertical lines as possible that leave at least 20 sampling units to the left and right of each division.

The 1 km² grid will be divided into as many cells result from the application of the third step.

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[2]For example, if n=500, then p=120