Assignment description

We would like you to analyze and present elaborated data from an agricultural application map.

The yield maps are georeferenced files created by agricoltural machinery (such as tractors, harvester, etc.) containing the actual result of harvesting products on the field. In this case, you have a harvesting in the Jolanda Di Savoia plains.

Below is a brief description of the attributes of the file:

* **Longitudin/Latitudine** geo-references of the acquisitions, CSR is in EPSG:4326
* **RESAKG** the amount of the product harvested acquired, in kg.
* **VELOCITA**, the speed of the harvester, in km/h.
* **AREA**, the area harvested since the last acquisition, in mq.
* **UMIDITA**, the average relative humidity of the product.

You will have to process the following:

1. The data shall be treated to cleanse them for further processing (explain the steps taken).

2. Spatially interpolate the resulted data (explain the algorithm/s used, input data format, output data format).

3. Correlate the results with an average vegetational vigor index of your choice calculated over the last year for that field.

Guidelines

• The result code should be implemented in Python.

• You can use any framework you desire, and any tool you wish.

• You should enclose the code in a Jupiter notebook, with both code, images and explaining text.

• Any other extra feature/idea can be included; it will be considered as a bonus.

What we expect from you

• Upload project files (source code and any other files) to an online git repository of your choice (in case a private repository, send us invitation).

• the notebook should contain:

o Design decisions as well data base selection and data modeling decisions.

o Instructions on how to test/build/deploy the application.

• Clean and readable source code.

• In case of an unfinished functionality please explain what went wrong:

o In case of an unfinished implementation due to time management issues please indicate the steps that you would follow, to finish it and a rough estimation.

o In case of a bug please include details on how to reproduce it and your ideas or

suggestions on how to solve it.

Good luck!