

BADALONA POLLUTION

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1. Introduction:

The main purpose of this project is to foresee the future of the pollution in Badalona and check how effective it is. (Pollutant analyzed no2)

2. Materials & Methods:

To carry out this project we have used the R language in R Studio. Within R Studio we have used instructions from the libraries dplyr, prophet, lares,... among others. We have used these libraries to be able to organize, filter and predict the information in tables to later be able to transform them into graphs and analyze the results visually

3. Results:

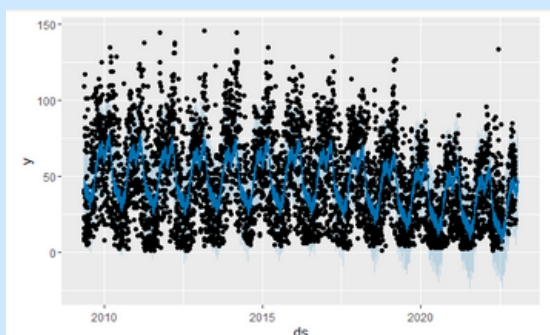


Figure 1. The graph is basically a cloud of points that will be used to predict the future from the analysis of all the data from the past. Just as the prophet instruction does and creates an algorithm that will serve to predict what will happen from now on

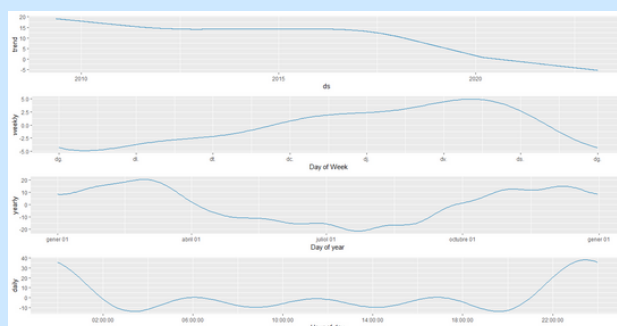


Figure 2. In this graph we can see the evolution of the contamination of no2 during the week, hourly, etc. In the weekly you can see how the pollution is growing until the Sunday that it decays arrives. This may be due to the fact that since there is almost no work on Sundays, then pollution drops radically. In the schedule, on the other hand, it can be seen that it is quite regular, except

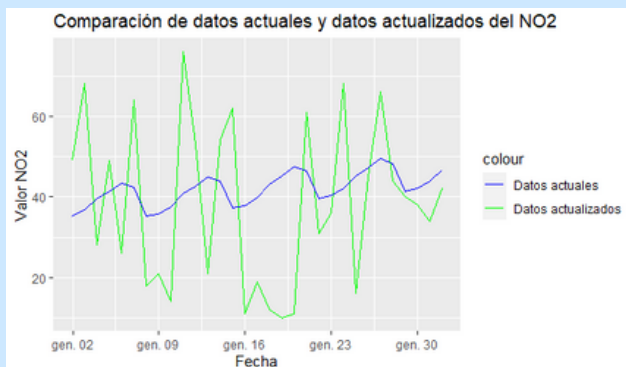


Figure 3. I have made this linear graph to be able to see graphically how much error there is between the real data that DOES have happened and the ones that have been predicted with the algorithm that I have done with prophet. It can be seen that they have almost no similarity between them, however, some data coincides many times.

4. Conclusions:

The conclusion that we can draw is that there is too much difference between the forecast results and the real ones, therefore, there are two options, either there has been an error or simply the algorithm created is not exact at all and means that it is useless.

In order to know if it is an error or just that it isn't exact, we should do more tests so we can recheck.