

## AIR POLLUTION ANALYSIS IN POLAND, CZECH REPUBLIC AND SPAIN

Air pollution is one of the most worrying problems these days. The most polluting agents are carbon dioxide, sulfur dioxide, nitrogen oxides, ozone and dust. In this project we have selected three countries in the European Union, Czech Republic, Poland and Spain. For each of them we have chosen two places, one of them corresponding to an urban area and the other corresponding to a rural area. In our study we have studied the influence of some atmospheric conditions as temperature, atmospheric pressure and wind speed on air pollution. We also have compared urban and rural areas.



Each one of us made correlations, using the software Excel, for our countries from period of one month. For this analysis we chose January.

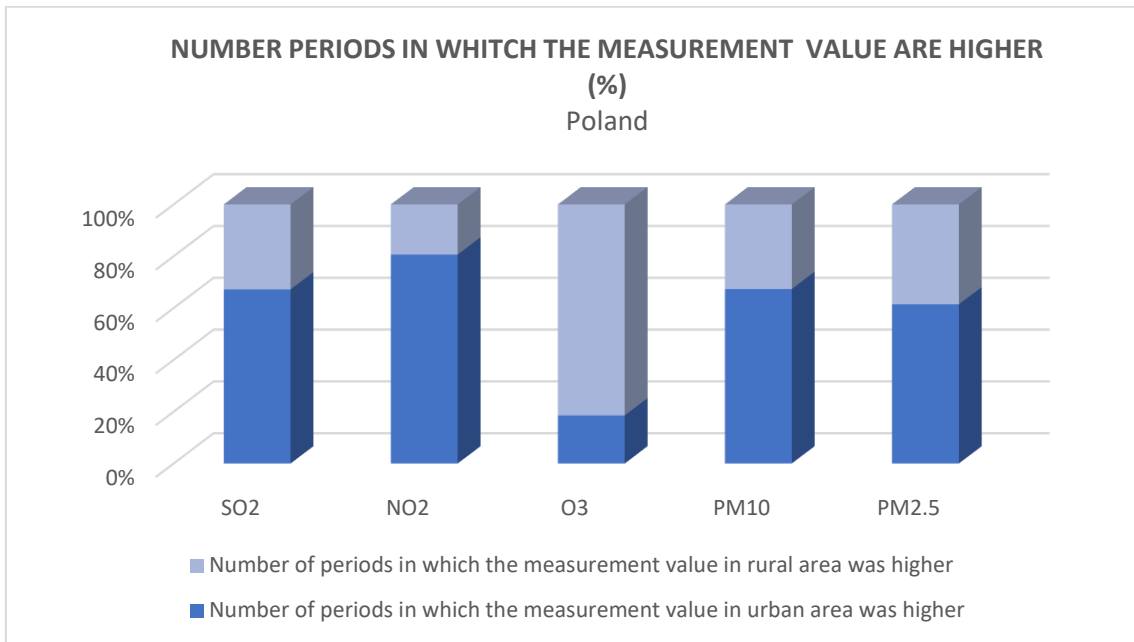
Even though we have found that monthly correlations are not useful to study the relationships between pollutants and climatic factors, daily correlations have allowed us to get some conclusions.

We have also developed a method to compare pollution in different places. For this purpose, we used special function "IF". We assumed that if a value of pollutant for urban area is higher than value in rural area, then true is "U" and if is not then "R". We calculated number of periods in which the measurement value in urban area was higher in percentage and made graphs for every country. Please, see the following video

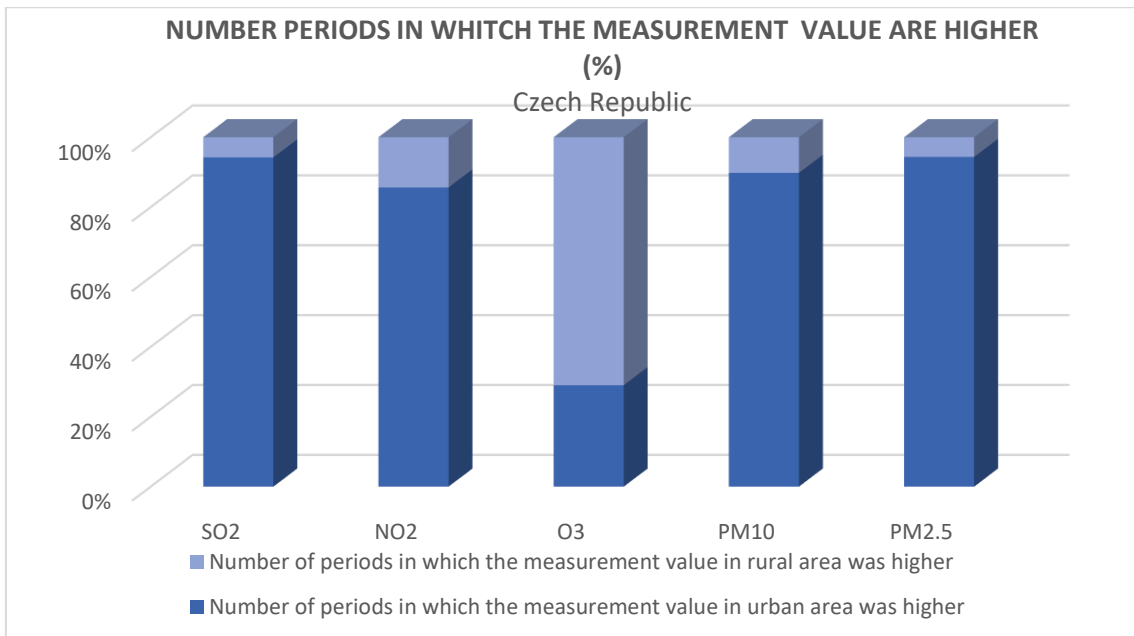
<https://drive.google.com/open?id=12bczoF1ZH-XPkBeXePlsPhdxN3YzrhPk>

So, we have found that rural areas are much cleaner than urban areas, except for ozone. Its concentration is higher in rural areas because of it is carried by the wind and there is not enough NO to react with it.

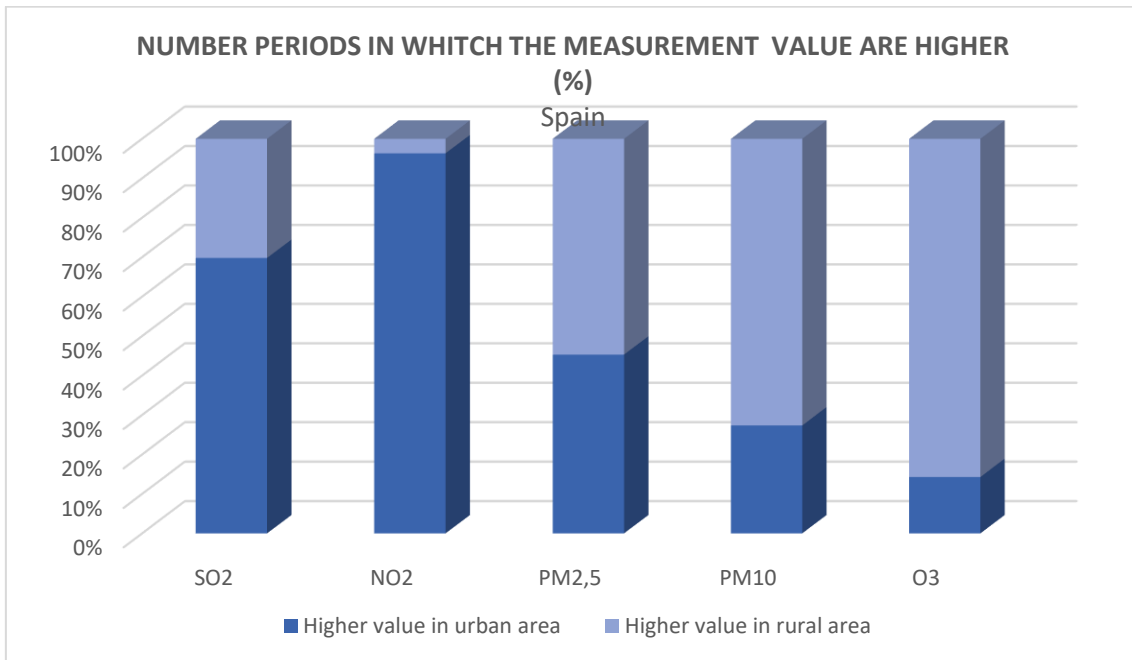
## POLAND



## CZECH REPUBLIC



## SPAIN



Finally, we have also found another example of long-range transport of pollutants in Albacete (rural area in Spain) with values of PM10 and PM2,5 higher than in Madrid (urban area in Spain).

