

# Pollution comparison between Martorell and Viladecans-Atrium



Generalitat de Catalunya  
Departament  
d'Ensenyament

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## 1. Introduction

Climate change will be one of the most important issues for the future of humanity. In order to analyze the actual condition of our city, Martorell, and one of our autonomous community, Viladecans, we established some comparisons to determinate the 2018 state.

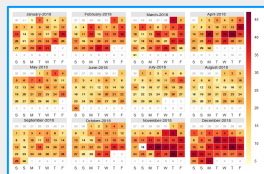
## 2. Materials and methods

Data from both cities was taken from:

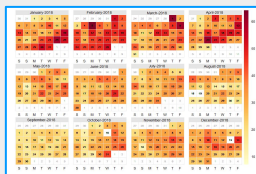
<http://dtes.gencat.cat/icqa/>

To analyze this huge amount of data we used two programs as the main ones. Sublime Text 3 to convert all the data into the correct format and RStudio built under the version 1.0432, with R programm v.3.5.2 and with the next libraries: “nortest”, “ggplot2”, “openair v.1.4.3.1”, “forecast” and “RWeka”

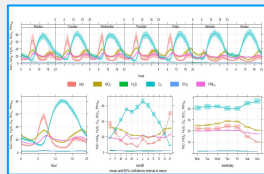
## 3.Results and conclusions



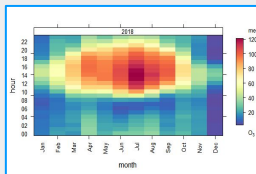
Graphic 1: H2S Calendar plot in Viladecans



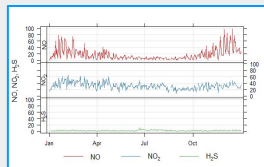
Graphic 2: H2S Calendar plot in Martorell



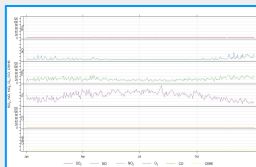
Graphic 3: Time Variation in Viladecans



Graphic 4: O<sub>3</sub> Trend level in Viladecans



Graphic 5: Timeplot in Martorell



Graphic 6: Timeplot in Viladecans

Analysing the results of the results we are able to arrive to these conclusions:

- Even H<sub>2</sub>S in the first months is quite similar, we can see that in the end of the year Viladecans is more polluted. (Graphic 1,2)
- As we can see in Graphic 3, the quantity of O<sub>3</sub> are overrated compared with the other variables.
- In Graphic 4 we can see that O<sub>3</sub> levels are higher on summer and during the morning.
- As a result of the comparison between the two Timeplots we can establish that Martorell has higher levels of NO than Viladecans where levels of H<sub>2</sub>S are higher than in Martorell.
- (Graphic 5,6)

## 4.Bibliography

Learn more about programming language at:

<http://tecnologies.net>

## 5.Agreements

Special agreements to our teacher Dr. Francesc Perez