# Programming\_1

Final assignment programming 1

This project will answers two research questions mentioned below. For this project two datasets will be used from the National Institute for Health and Environment Netherlands.

The first dataset is the amount of corona RNA particles in sewage water on different locations in the provinces of the Netherlands.

The second dataset is the total amount of corona cases in each province of the Netherlands.

The sewage dataset has a timeline from 3/30/2020 to 1/27/2021. This timeline is shorter than that of the total amount dataset. Because of this the data will be filtered on this timeline to give a more representative result.

What should be taken into account is that the amount of measured locations of sewage water has gone way up over time.

A way to correct this is by only looking at the location that have been measured throughout, however this does lower the quality of the data.

**#### Another aspect that has to be taken into account is the way of measuring. Firstly the RNA is counted per ml, later on it is measured as RNA flow per 10.000.**

## data source both data files

sewage data in json format and number of municipalities cumulative in json format.

both can be found on:

https://data.rivm.nl/covid-19/

## With this data the following questions will be answered:

- Does the sewage data correspond with the data from the corona cases?

This will be tested by visualization of both the sewage data and the amount of corona cases in each province in the Netherlands.

- Did the first dataset correspond correctly with the number of real corona cases?

This will be tested by checking the second wave and comparing this with the first wave corresponding with the more precise data from the sewage data.

This assumes the sewage data gives a more correct view of the amount of corona cases.

Because the second wave has more realistic data than the first wave these two will be compared.

- Additionally an interactive map of the Netherlands showing the amount of RNA particles in sewage water and the amount of measured corona cases from each province will be visualized.