25.09.2024

STATENS SERUM INSTITUT

Results from the national surveillance of SARS-CoV-2 in wastewater

Content

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Information about the national wastewater surveillance of SARS-CoV-2

Below is a short description of the wastewater surveillance of SARS-CoV-2 in Denmark. A detailed description of the wastewater surveillance can be found on SSI's website (link to detailed description).

Where do we measure wastewater concentrations of SARS-CoV-2?

In the national wastewater surveillance of SARS-CoV-2, 29 wastewater samples are taken from 28 treatment plants across Denmark.

How do we measure wastewater concentrations of SARS-CoV-2?

Genetic material (RNA) of the SARS-CoV-2 virus are excreted in the feces of approximately half of the infected individuals and can therefore be measured in wastewater. Wastewater samples are transported to SSI's laboratory, where they are preprocessed and analyzed using PCR tests (RT-qPCR). This provides an estimate of the number of RNA copies of SARS-CoV-2 per liter of wastewater. The PCR analysis also includes the naturally occurring virus PMMoV, that is excreted in the feces. The laboratory results are analyzed by the Infectious Disease Epidemiology & Prevention department at SSI.

How are the results of wastewater measurements presented?

There are two main categories of wastewater results: A weekly weighted average of the SARS-CoV-2 concentration in wastewater, and a growth rate that describes the change in the national concentration (increasing, stable, or decreasing) based on the three most recent weeks of wastewater data.

The weekly weighted average for the last 15 months is presented nationally and for each region. For each sampling site, the weekly weighted average is shown after April 1, 2023. The results are presented first for Denmark and then for each region in alphabetical order.

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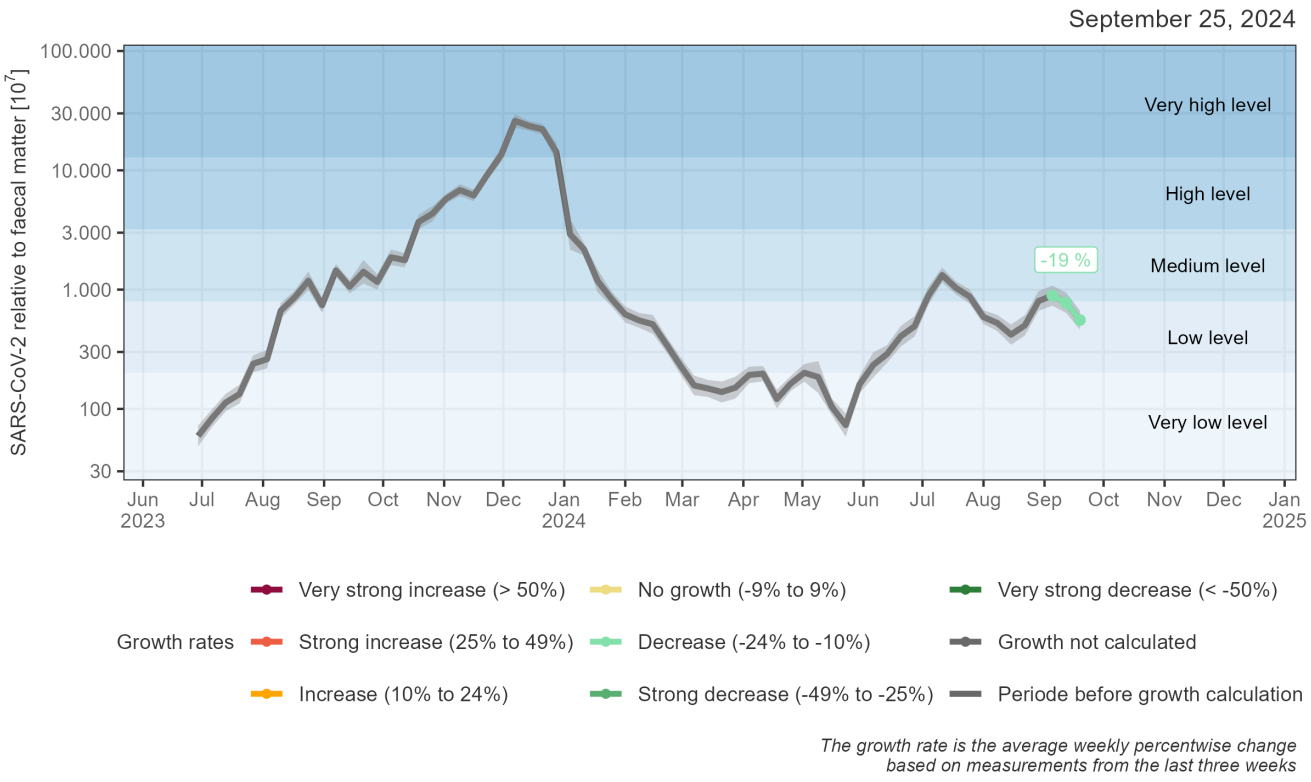
Surveillance of wastewater concentrations of SARS-CoV-2, week 38

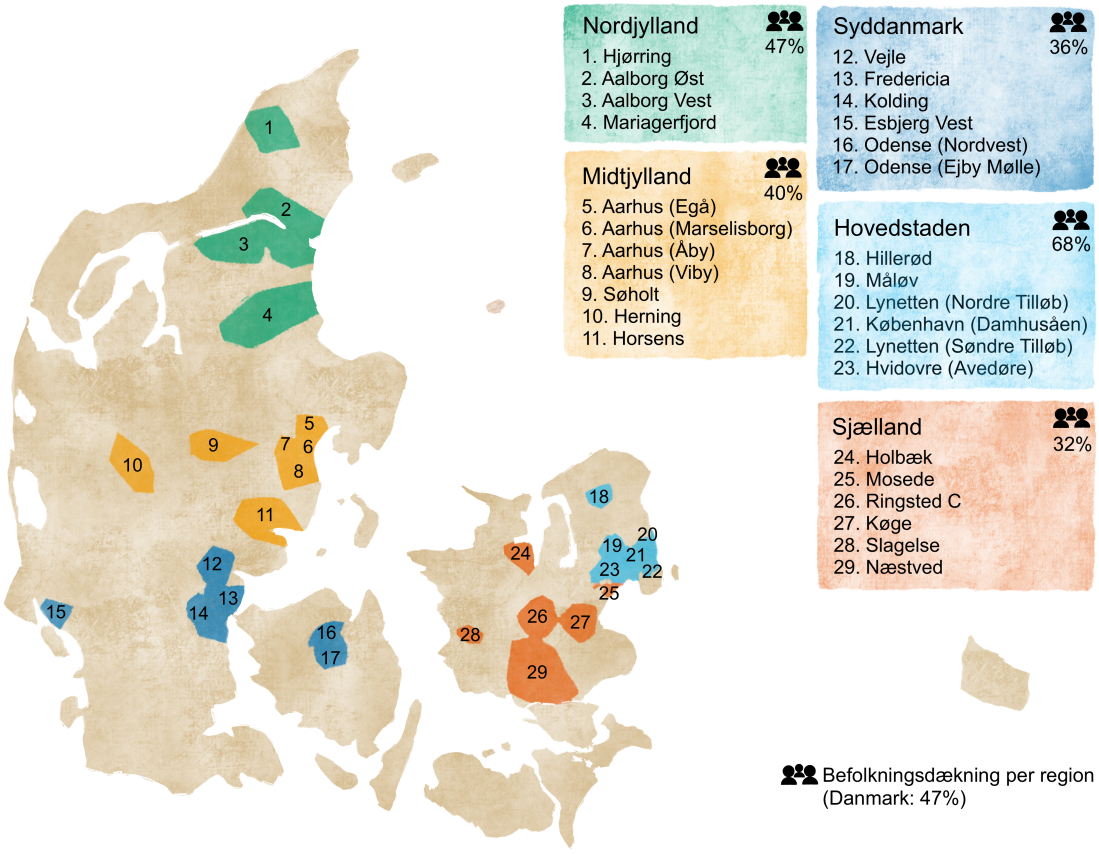
Denmark

The figure below shows the concentration of SARS-CoV-2 in the wastewater, aggregated for all the sampling sites in Denmark. The level of SARS-CoV-2 concentration in the wastewater is indicated in the horizontal bands, ranging from 'Very low level' to 'Very high level'.

The national growth rate, which is the average weekly percentage change in SARS-CoV-2 concentration in the wastewater over the past three weeks is also illustrated in the figure. In cases where the wastewater samples contain few SARS-CoV-2 copies, either due to a low number of infected individuals or a high degree of dilution of the wastewater, the calculation of the growth rate becomes uncertain. Therefore, the growth rate is not published if the concentration of SARS-CoV-2 falls below the limit of quantification of the laboratory method (LoQ) in more than 1/3 of the received wastewater samples, in more than two of the past three weeks. The growth rate is also omitted if one of the recent three weekly national averages is categorized as being at a 'Very low level'.

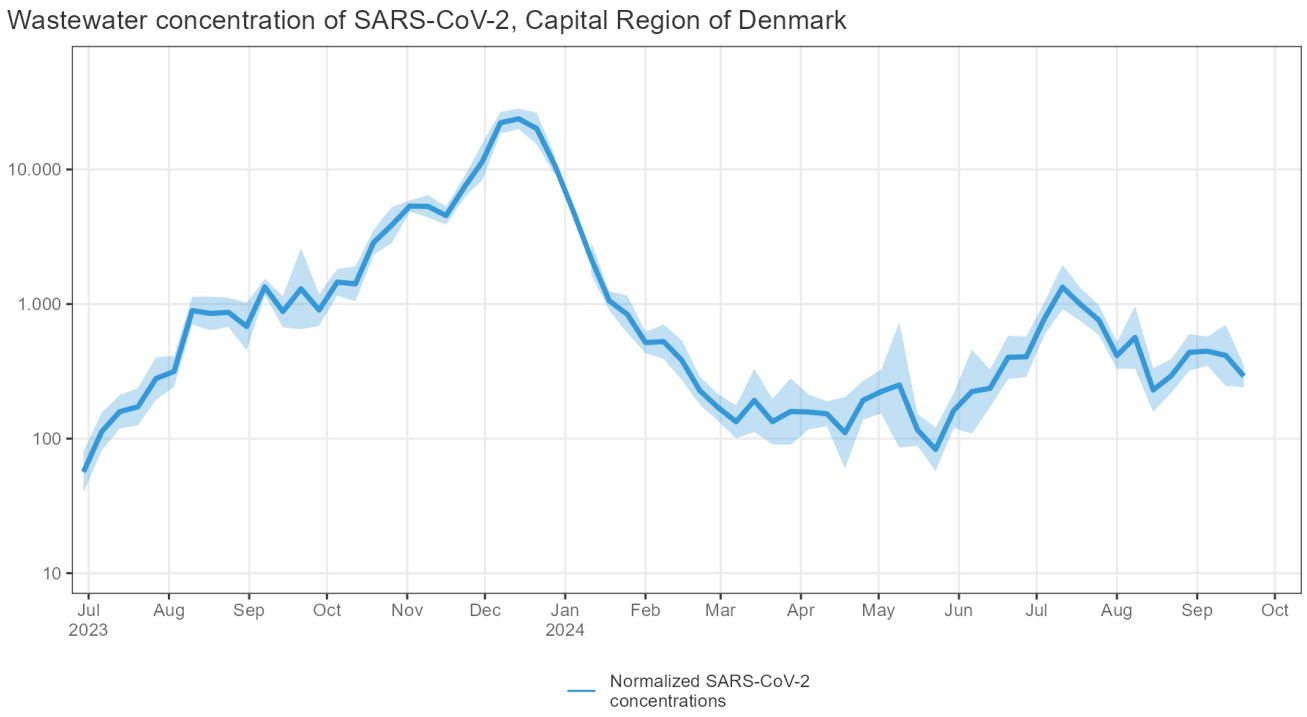


A map of the cathment areas of the included wastewater treatment plants is seen below.

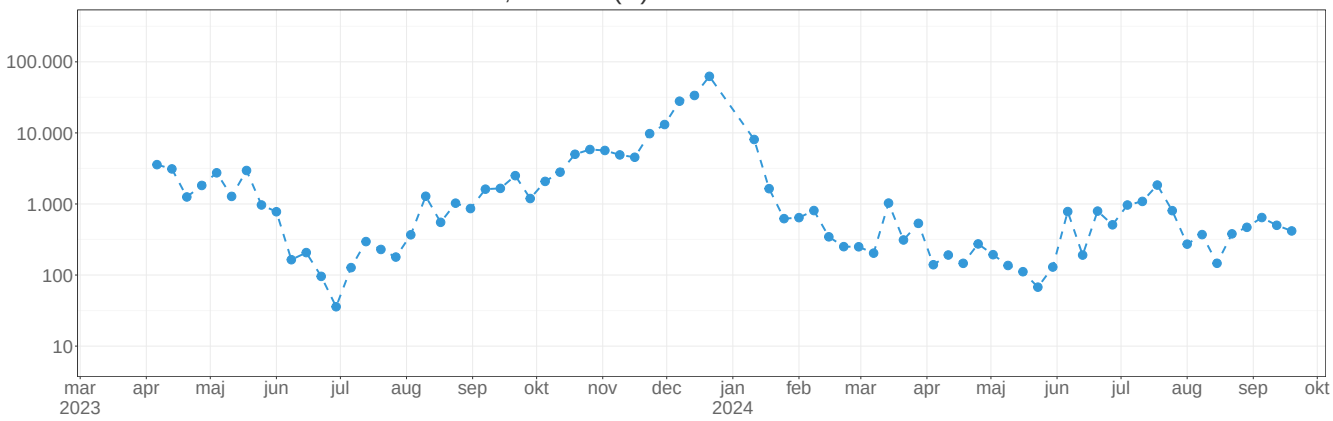


Capital Region of Denmark

The wastewater concentration of SARS-CoV-2 in the Capital Region of Denmark, aggregated and for each sampling site, is shown below.

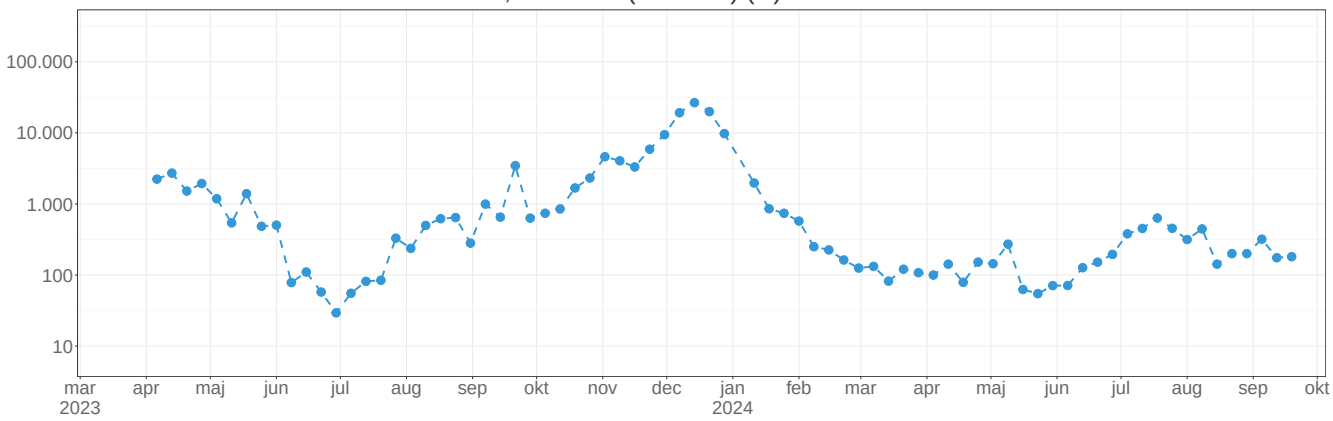


Wastewater concentration of SARS−CoV−2, Hillerød (R)



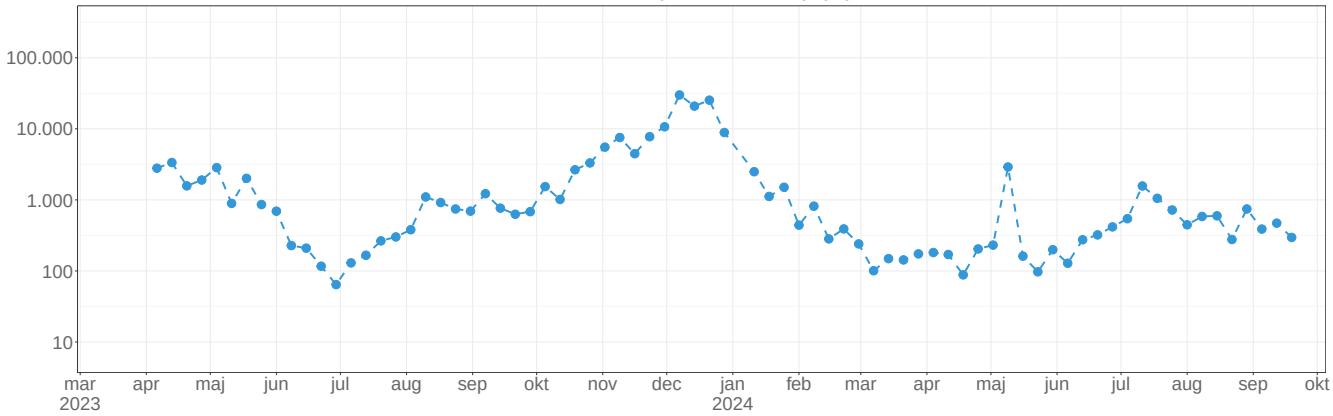
Number of inhabitants: 40.898

Wastewater concentration of SARS−CoV−2, Hvidovre (Avedøre) (R)



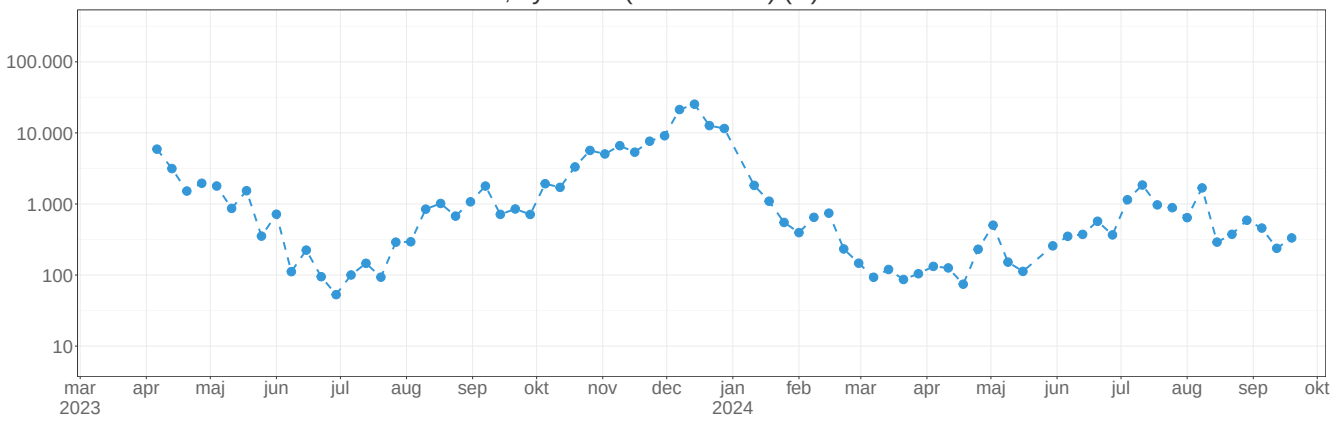
Number of inhabitants: 272.038

Wastewater concentration of SARS−CoV−2, København (Damhusåen) (R)



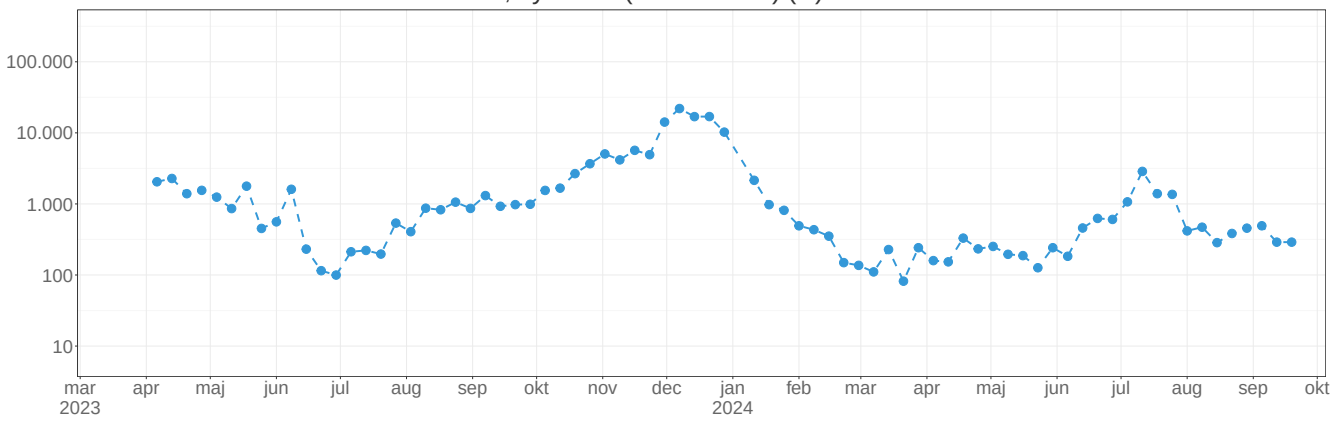
Number of inhabitants: 299.472

Wastewater concentration of SARS−CoV−2, Lynetten (nordre tilløb) (R)



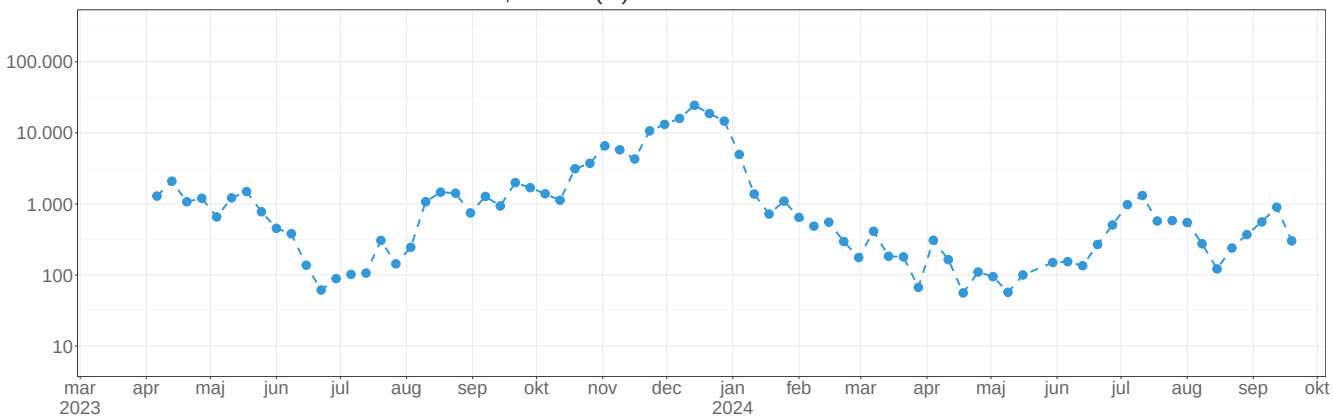
Number of inhabitants: 213.707

Wastewater concentration of SARS−CoV−2, Lynetten (søndre tilløb) (R)



Number of inhabitants: 444.460

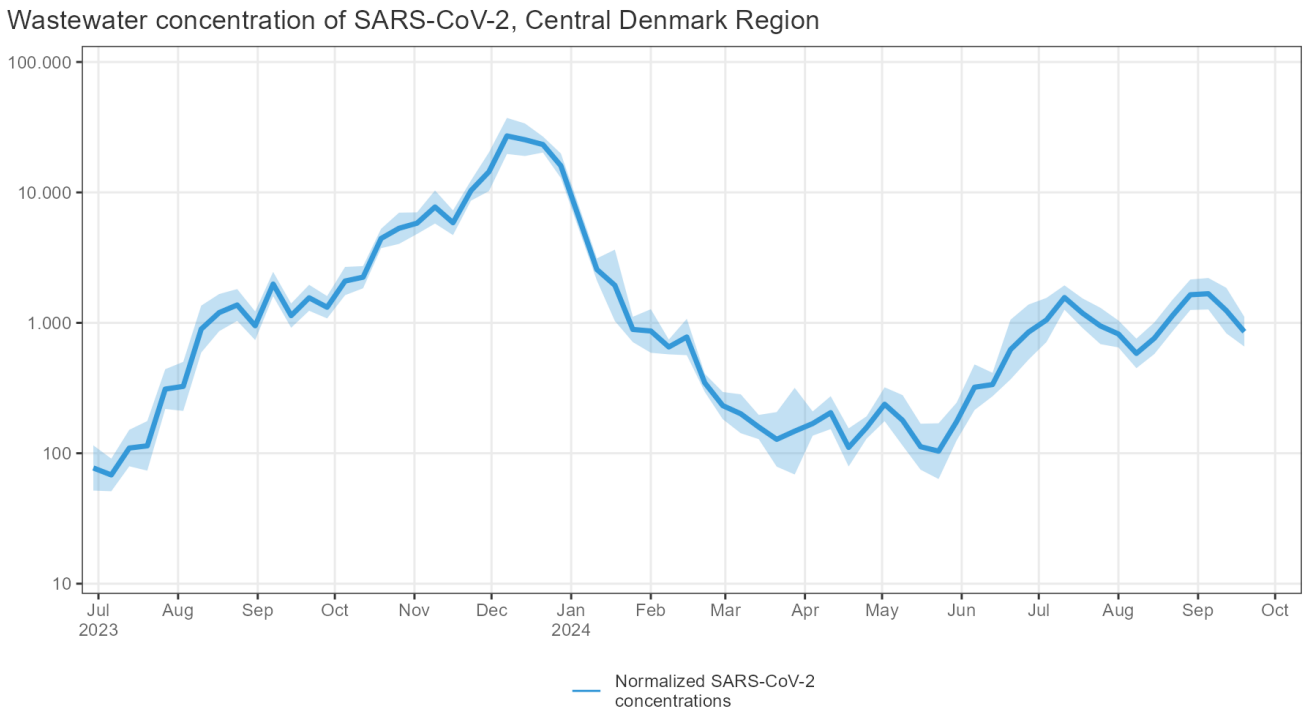
Wastewater concentration of SARS−CoV−2, Måløv (R)



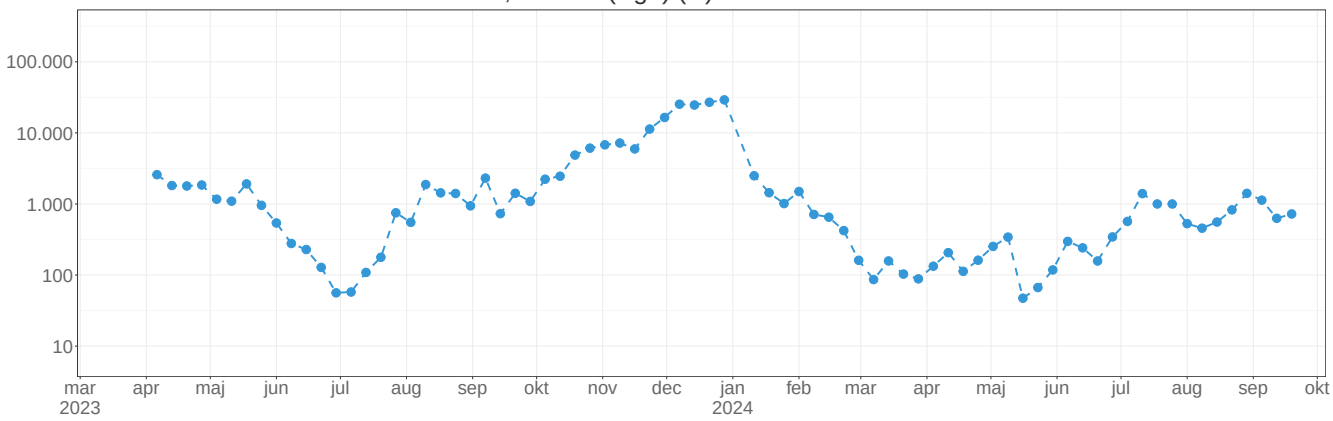
Number of inhabitants: 51.442

Central Denmark Region

The wastewater concentration of SARS-CoV-2 in the Central Denmark Region, aggregated and for each sampling site, is shown below.

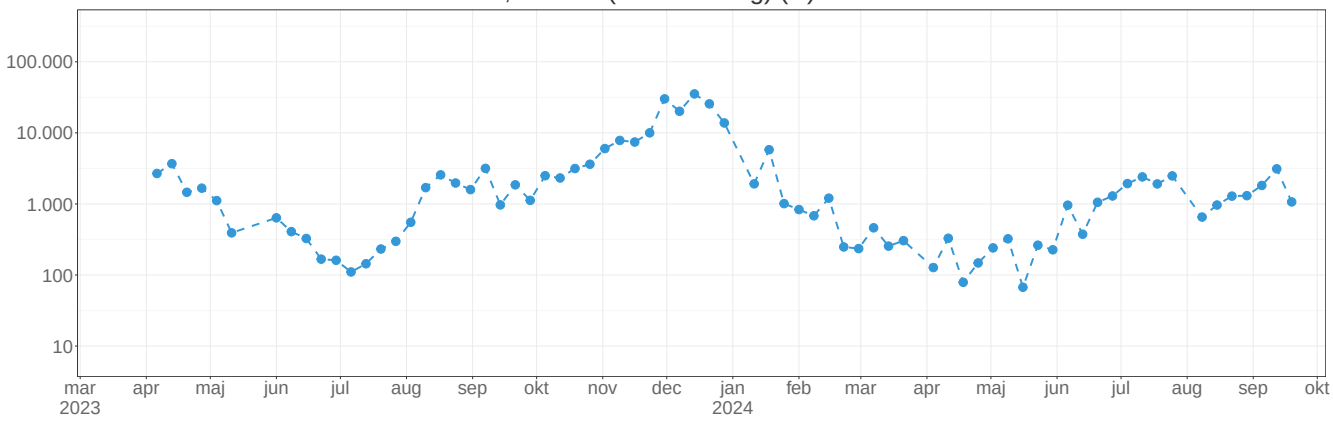


Wastewater concentration of SARS−CoV−2, Aarhus (Egå) (R)



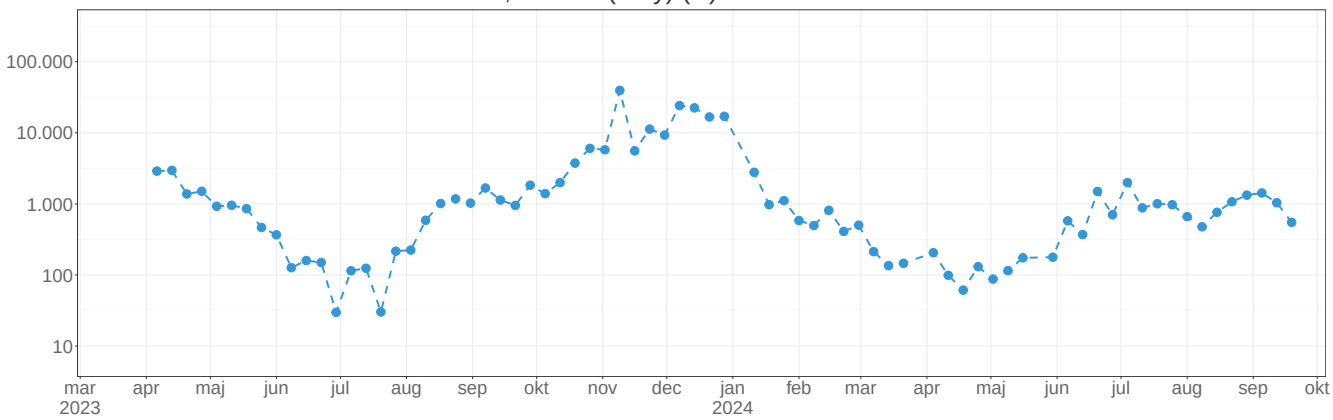
Number of inhabitants: 92.481

Wastewater concentration of SARS−CoV−2, Aarhus (Marselisborg) (R)



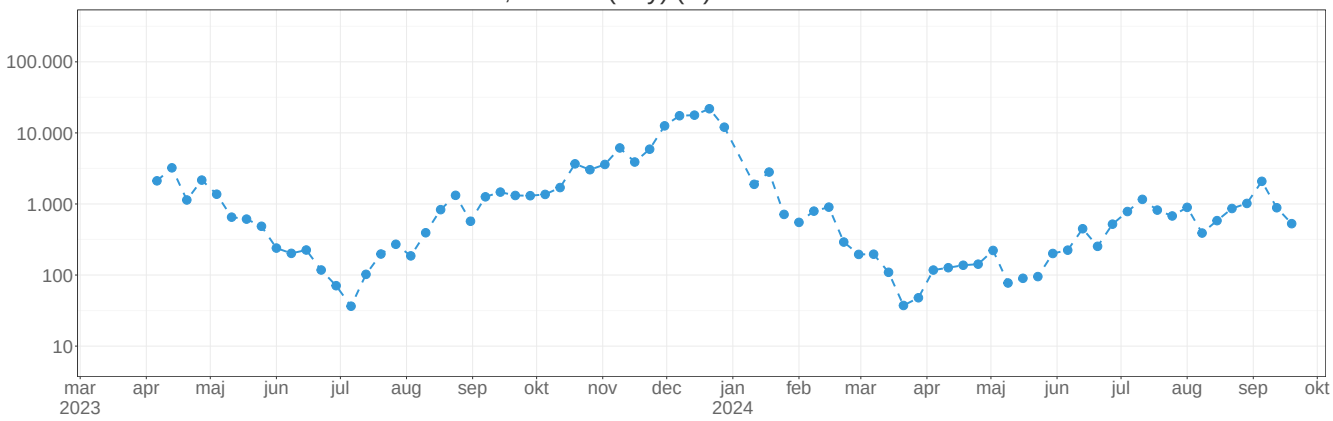
Number of inhabitants: 131.092

Wastewater concentration of SARS−CoV−2, Aarhus (Viby) (R)



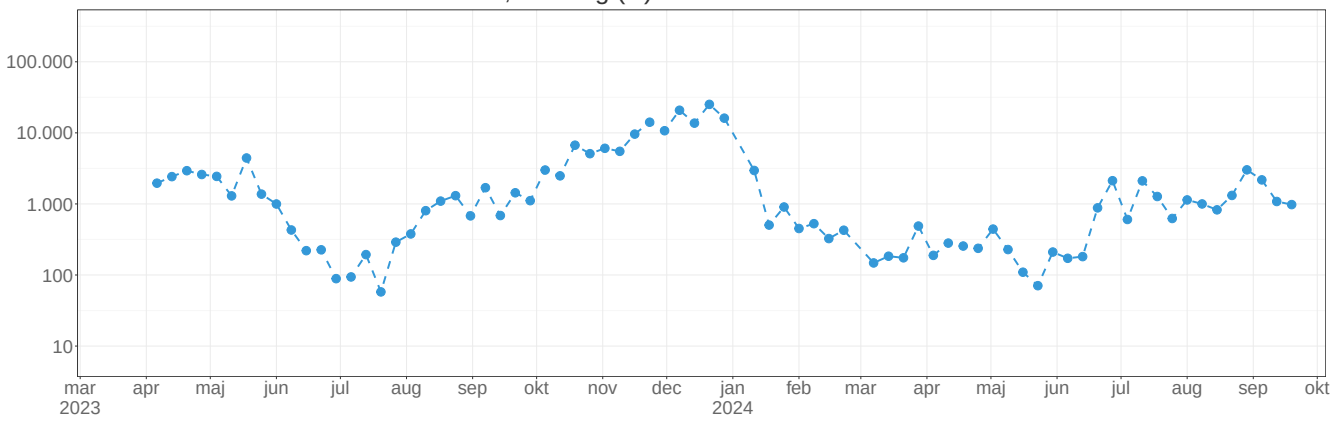
Number of inhabitants: 80.087

Wastewater concentration of SARS−CoV−2, Aarhus (Åby) (R)



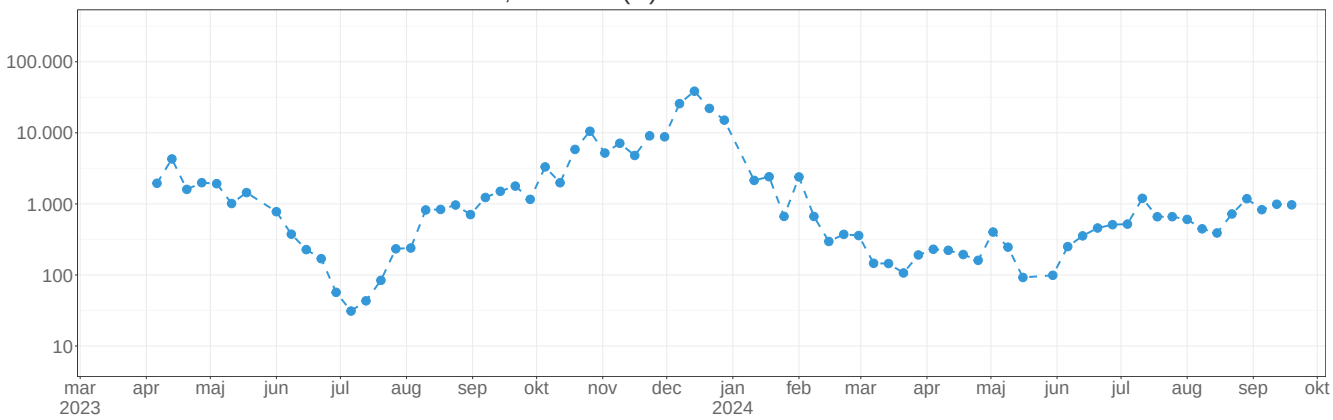
Number of inhabitants: 61.154

Wastewater concentration of SARS−CoV−2, Herning (R)



Number of inhabitants: 56.124

Wastewater concentration of SARS−CoV−2, Horsens (R)



Number of inhabitants: 81.381

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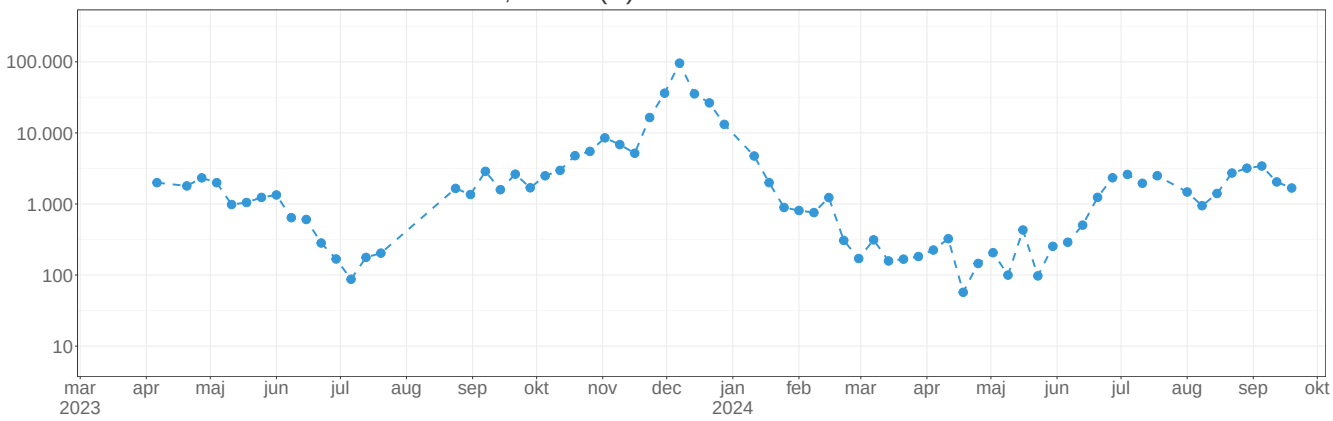
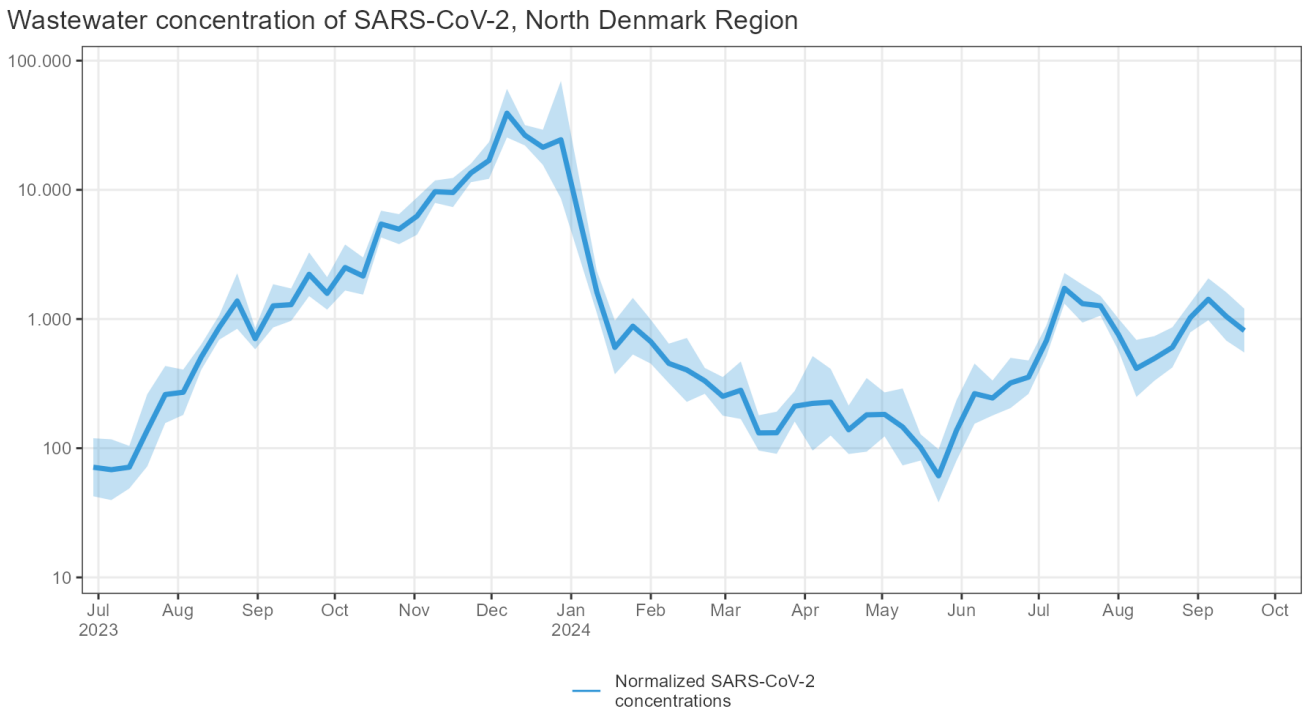
Wastewater concentration of SARS−CoV−2, Søholt (R)



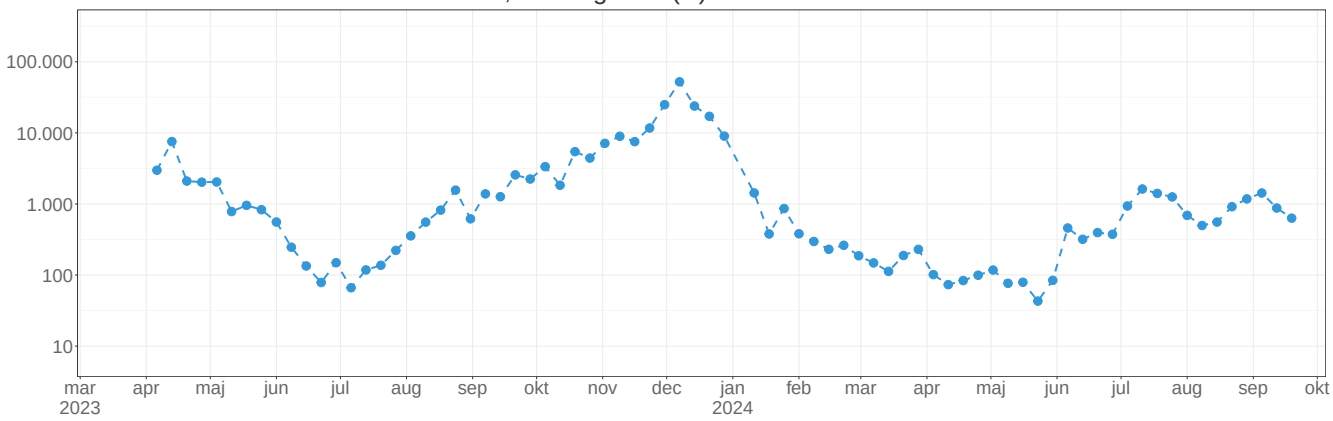
Number of inhabitants: 60.468

North Denmark Region

The wastewater concentration of SARS-CoV-2 in the North Denmark Region, aggregated and for each sampling site, is shown below.

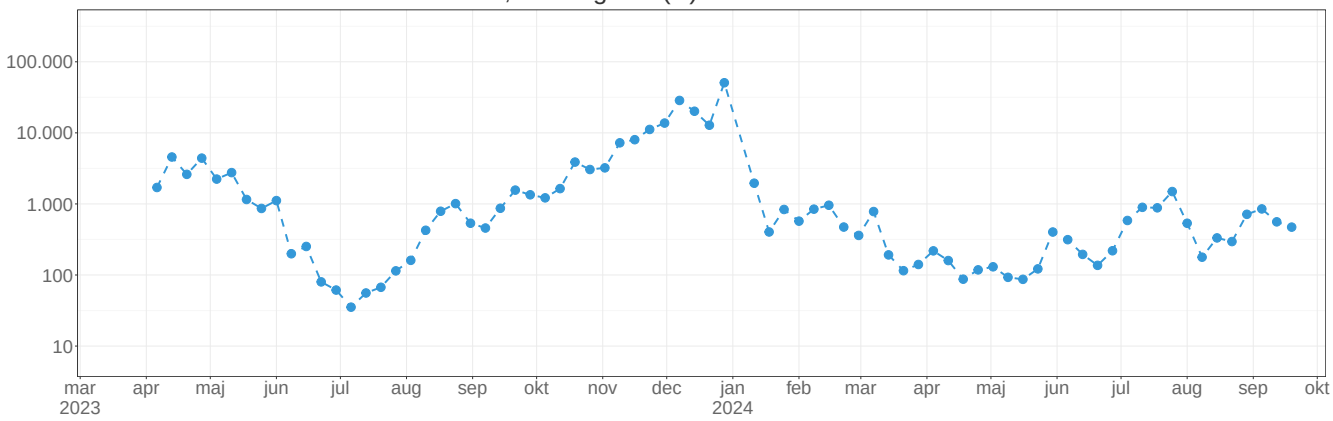


Wastewater concentration of SARS−CoV−2, Aalborg Vest (R)



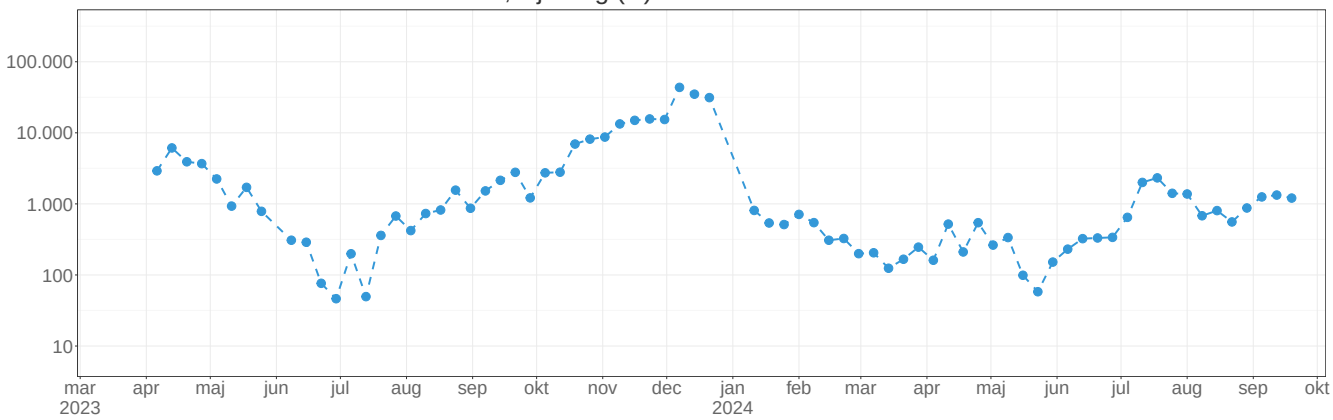
Number of inhabitants: 143.854

Wastewater concentration of SARS−CoV−2, Aalborg Øst (R)



Number of inhabitants: 69.420

Wastewater concentration of SARS−CoV−2, Hjørring (R)



Number of inhabitants: 33.954

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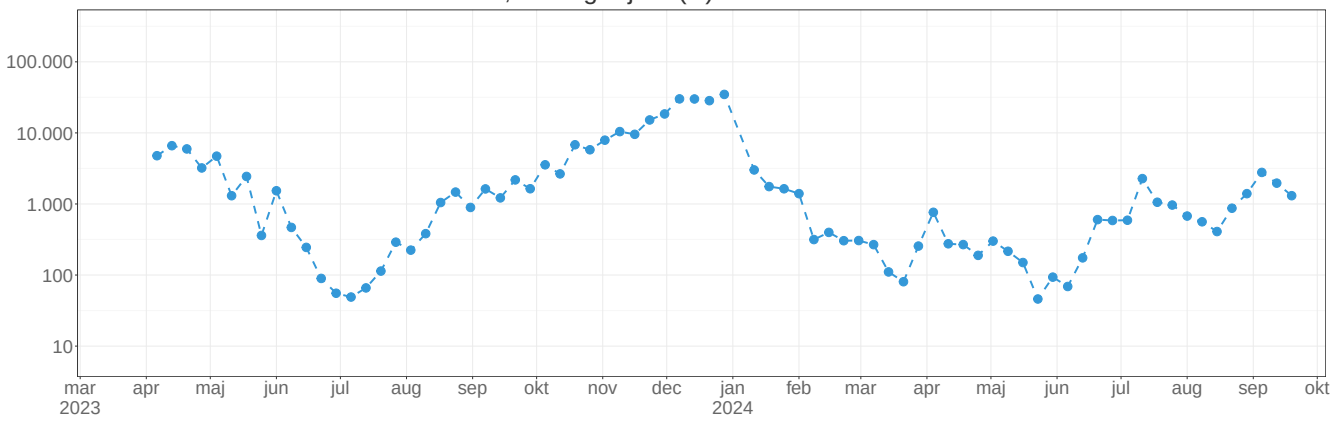
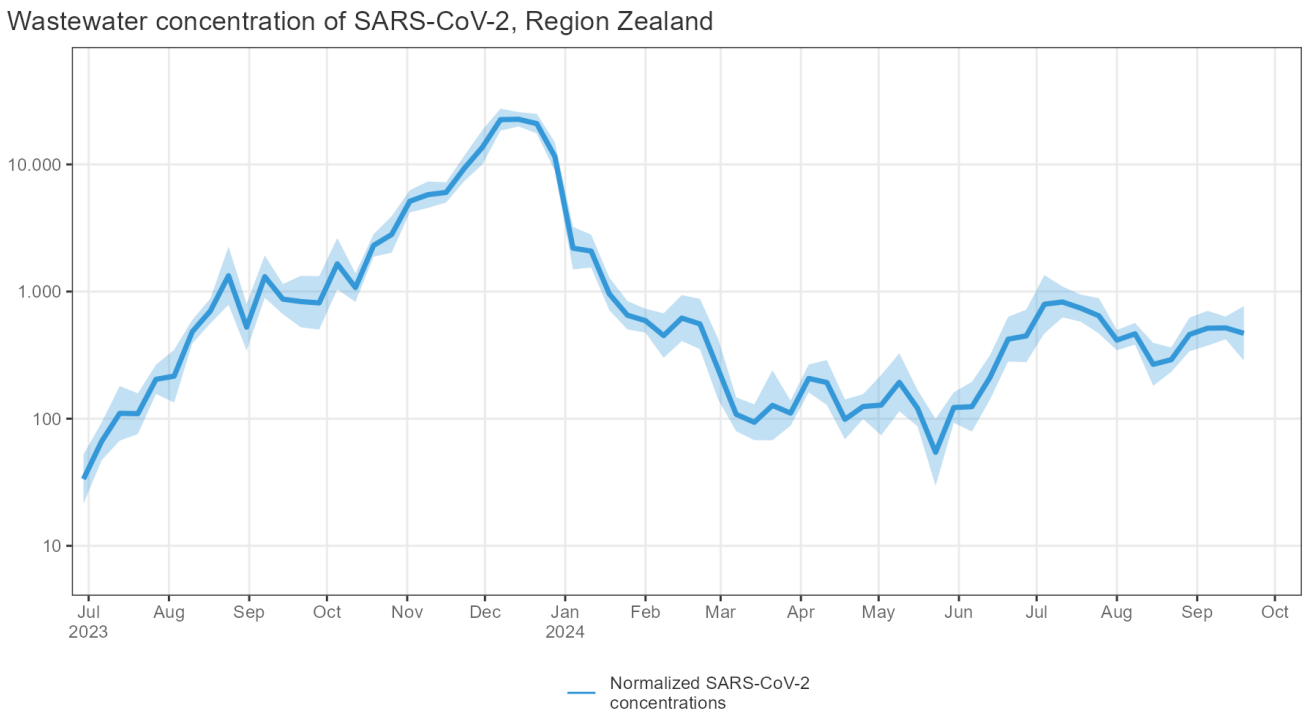
Wastewater concentration of SARS−CoV−2, Mariagerfjord (R)



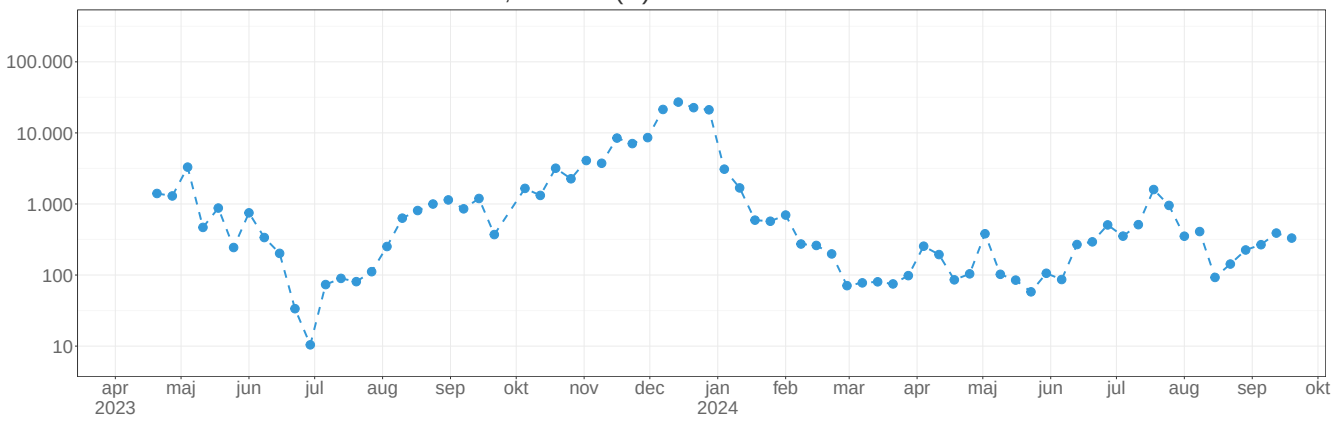
Number of inhabitants: 34.747

Region Zealand

The wastewater concentration of SARS-CoV-2 in Region Zealand, aggregated and for each sampling site, is shown below.

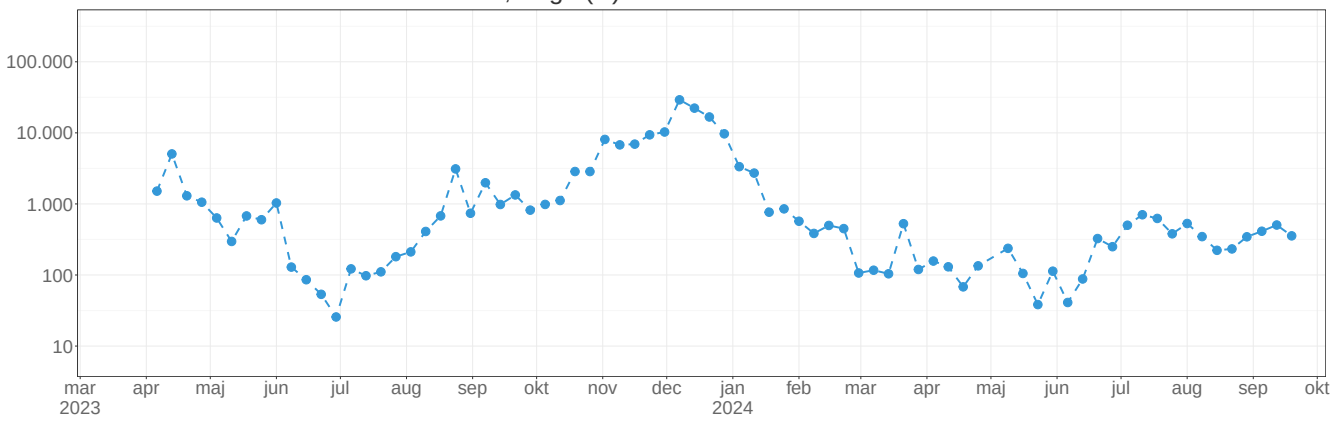


Wastewater concentration of SARS−CoV−2, Holbæk (R)



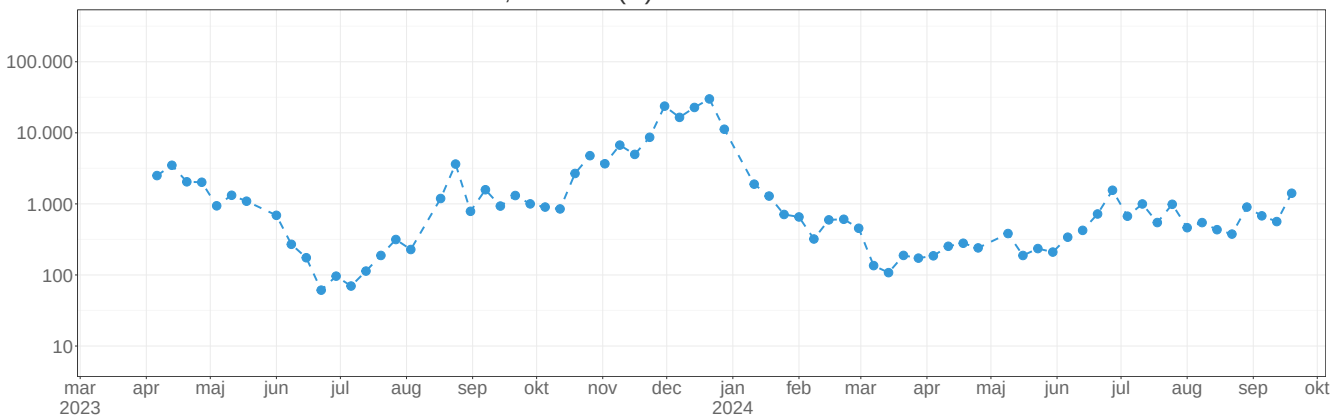
Number of inhabitants: 37.146

Wastewater concentration of SARS−CoV−2, Køge (R)



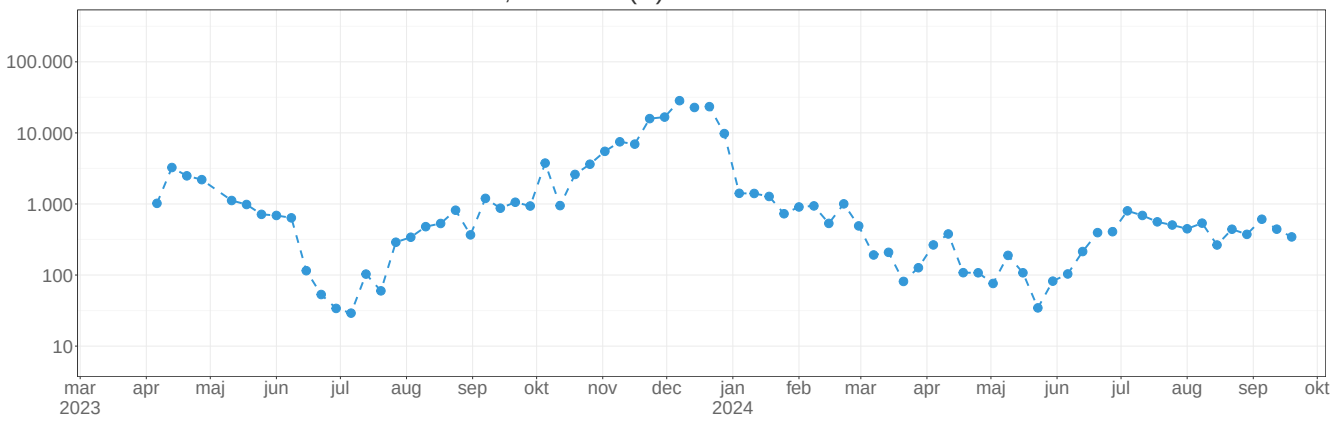
Number of inhabitants: 54.525

Wastewater concentration of SARS−CoV−2, Mosede (R)



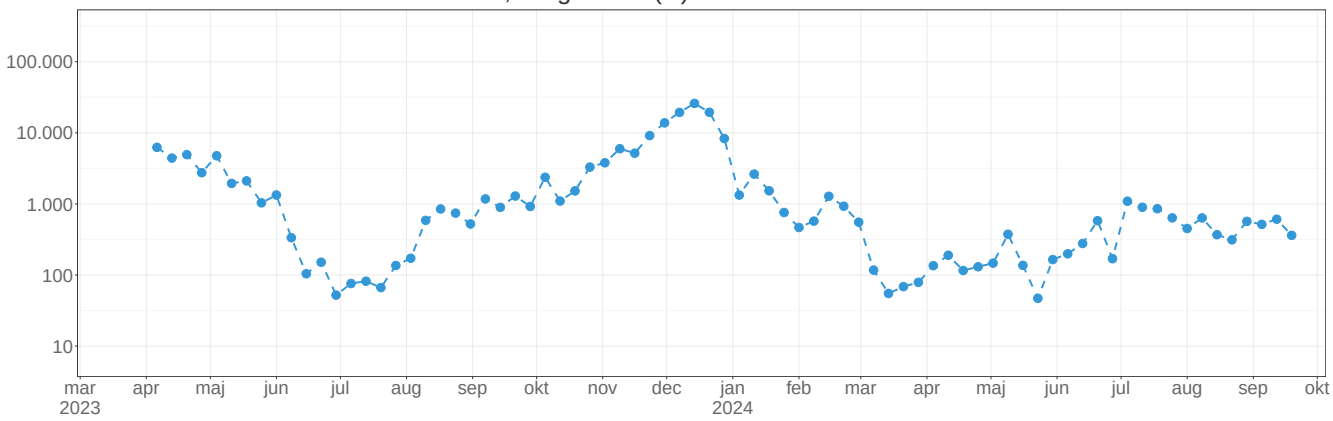
Number of inhabitants: 49.735

Wastewater concentration of SARS−CoV−2, Næstved (R)



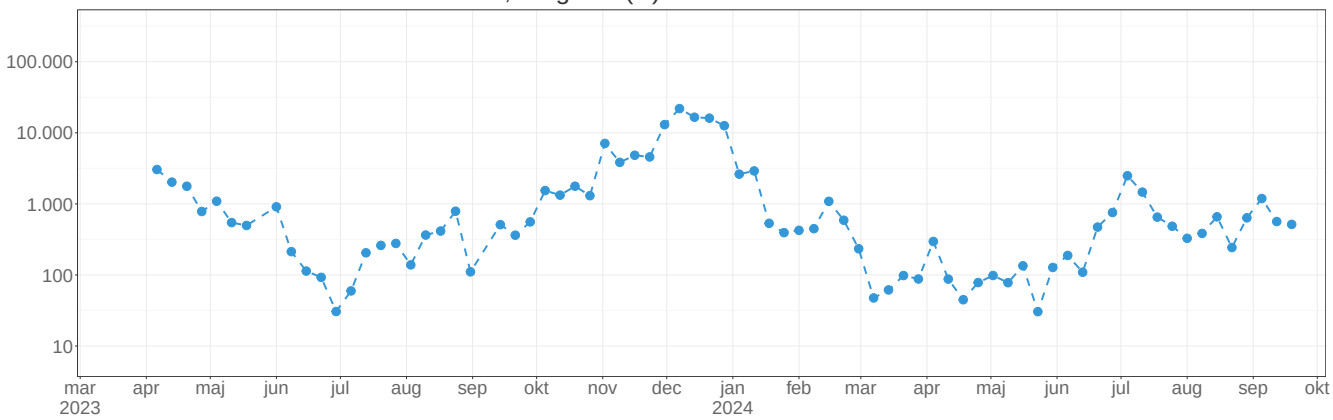
Number of inhabitants: 70.000

Wastewater concentration of SARS−CoV−2, Ringsted C (R)



Number of inhabitants: 32.865

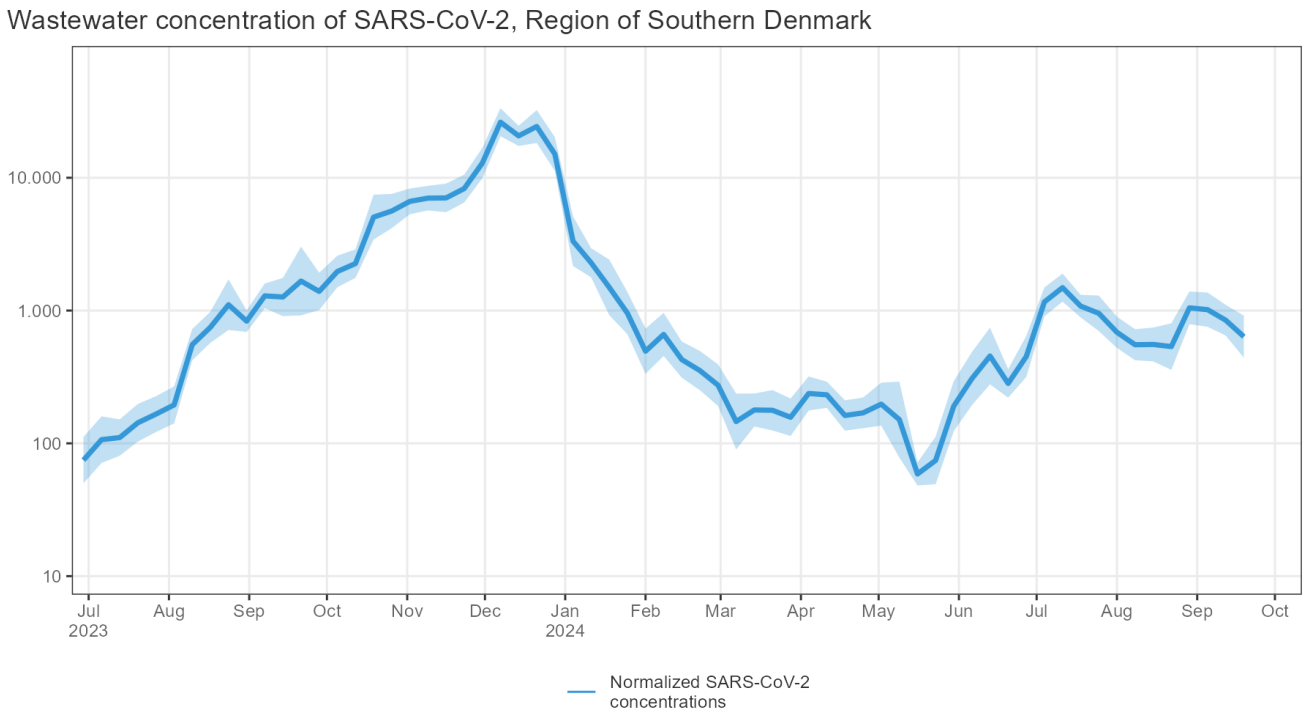
Wastewater concentration of SARS−CoV−2, Slagelse (R)



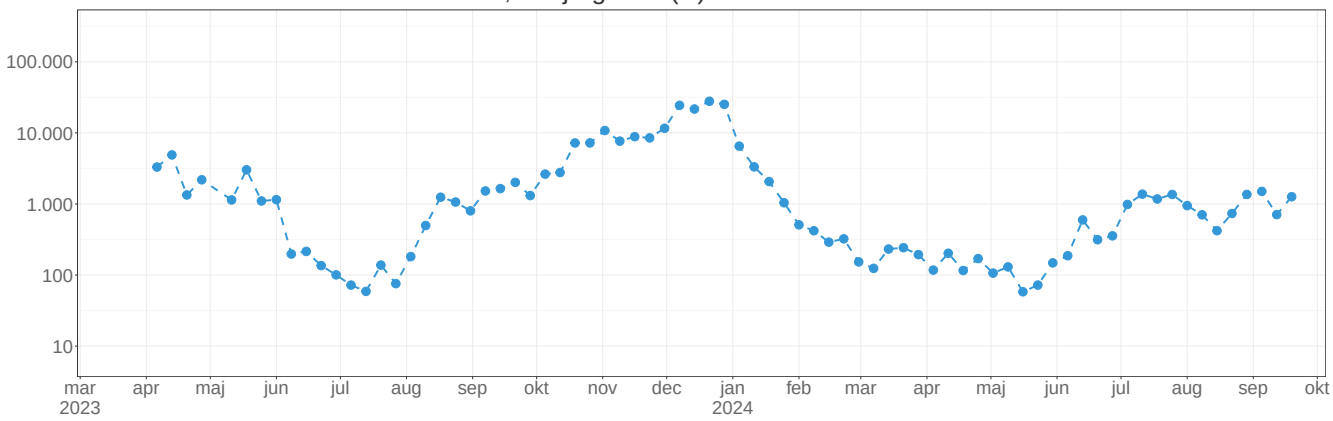
Number of inhabitants: 36.734

Region of Southern Denmark

The wastewater concentration of SARS-CoV-2 in the Region of Southern Denmark, aggregated and for each sampling site, is shown below.

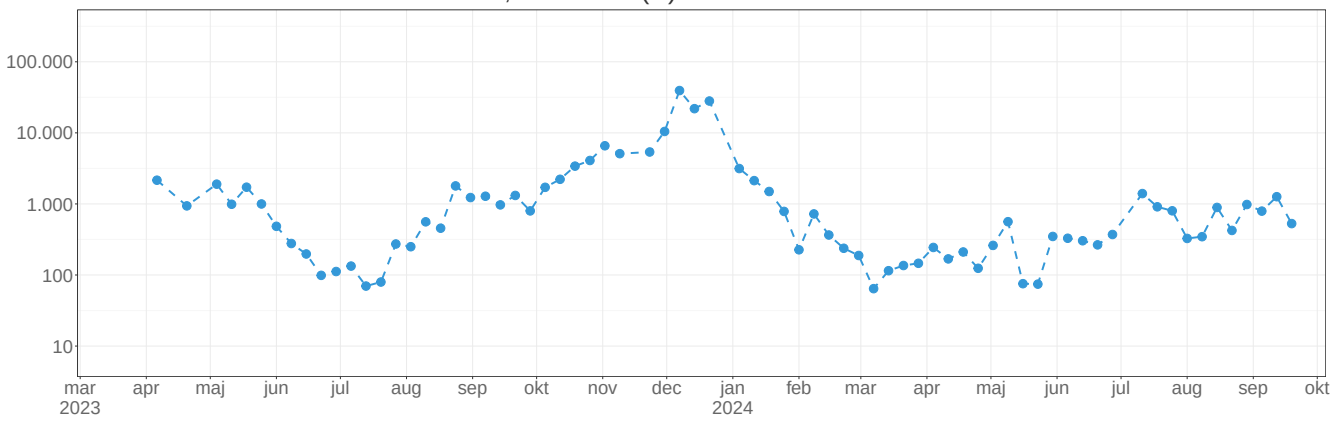


Wastewater concentration of SARS−CoV−2, Esbjerg Vest (R)



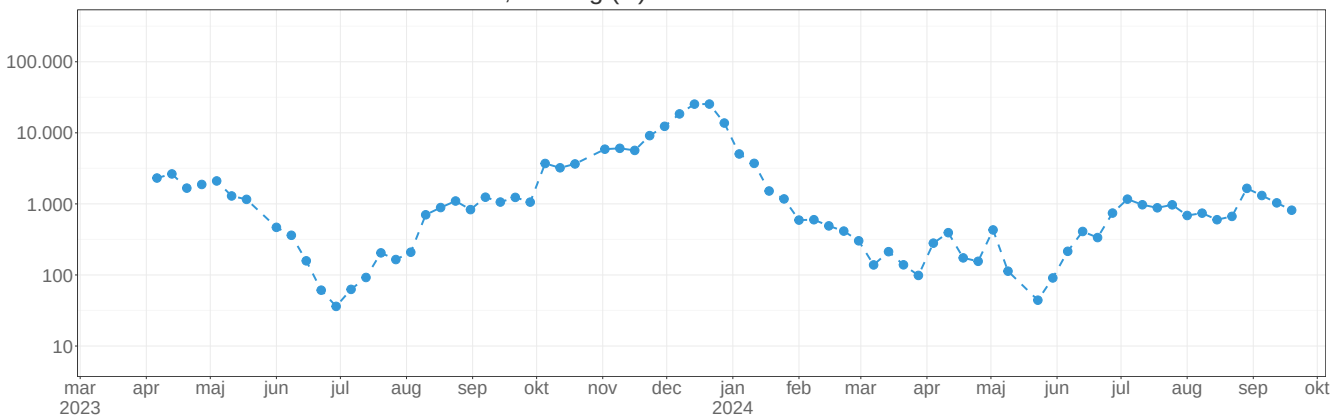
Number of inhabitants: 62.016

Wastewater concentration of SARS−CoV−2, Fredericia (R)



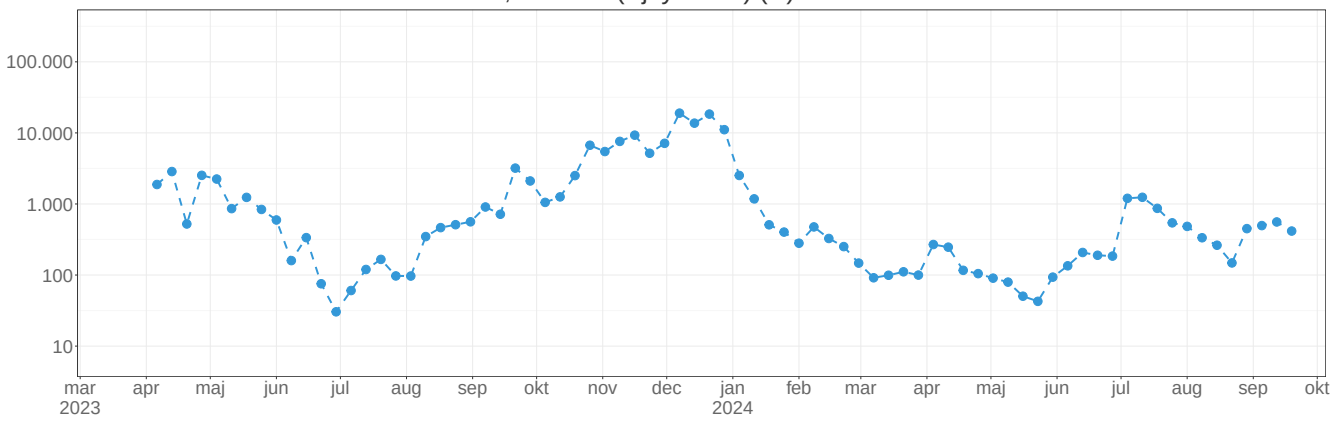
Number of inhabitants: 52.311

Wastewater concentration of SARS−CoV−2, Kolding (R)



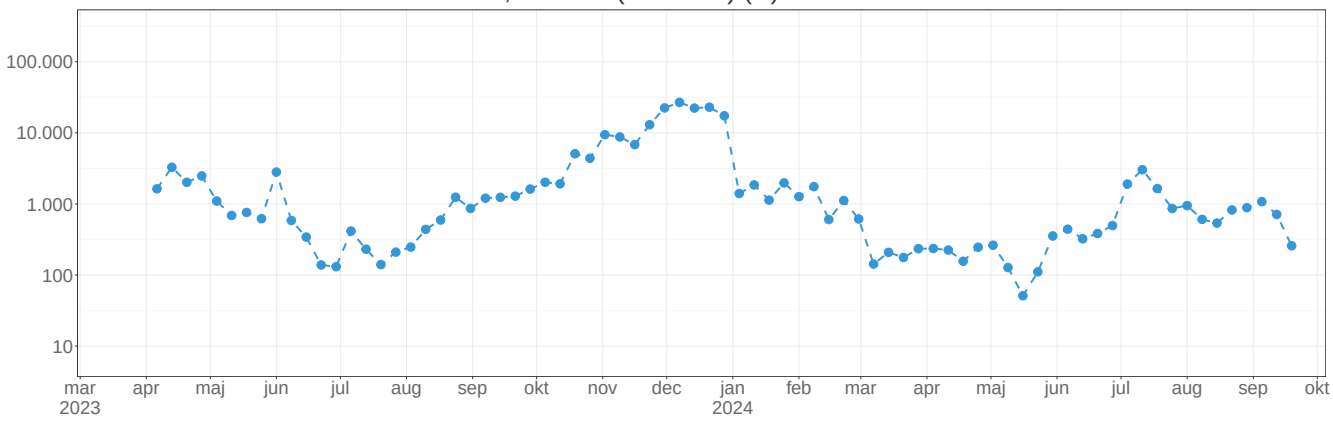
Number of inhabitants: 74.268

Wastewater concentration of SARS−CoV−2, Odense (Ejby Mølle) (R)



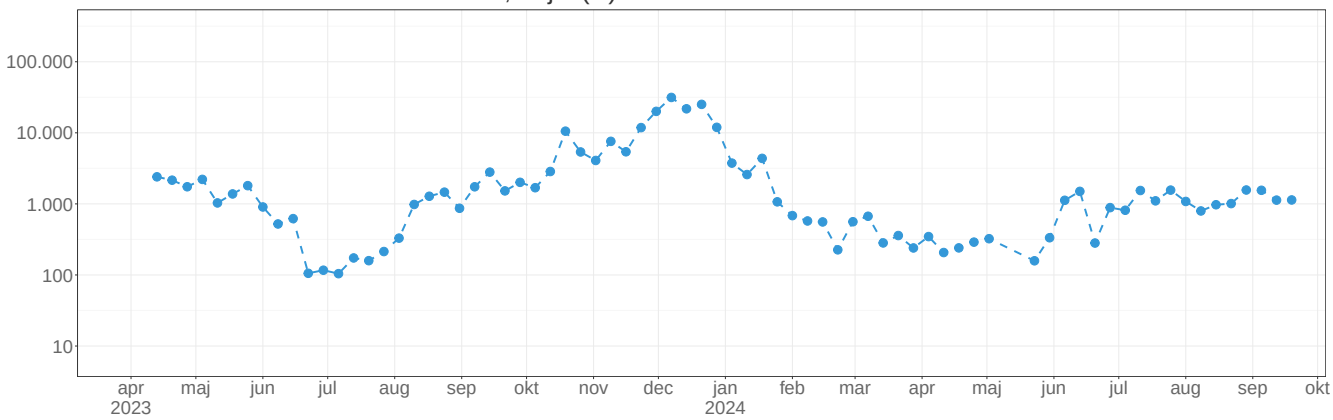
Number of inhabitants: 134.849

Wastewater concentration of SARS−CoV−2, Odense (Nordvest) (R)



Number of inhabitants: 52.868

Wastewater concentration of SARS−CoV−2, Vejle (R)



Number of inhabitants: 72.604