NO$_2$

Contribution RIVM – GLOBE European Mini Congres

Eline Verhoeven

3 April 2025

National Institute for Public Health and the Environment in the Netherlands (RIVM)

Since 1909 we do research for policy-making:

Living in a safe, clean, healthy environment
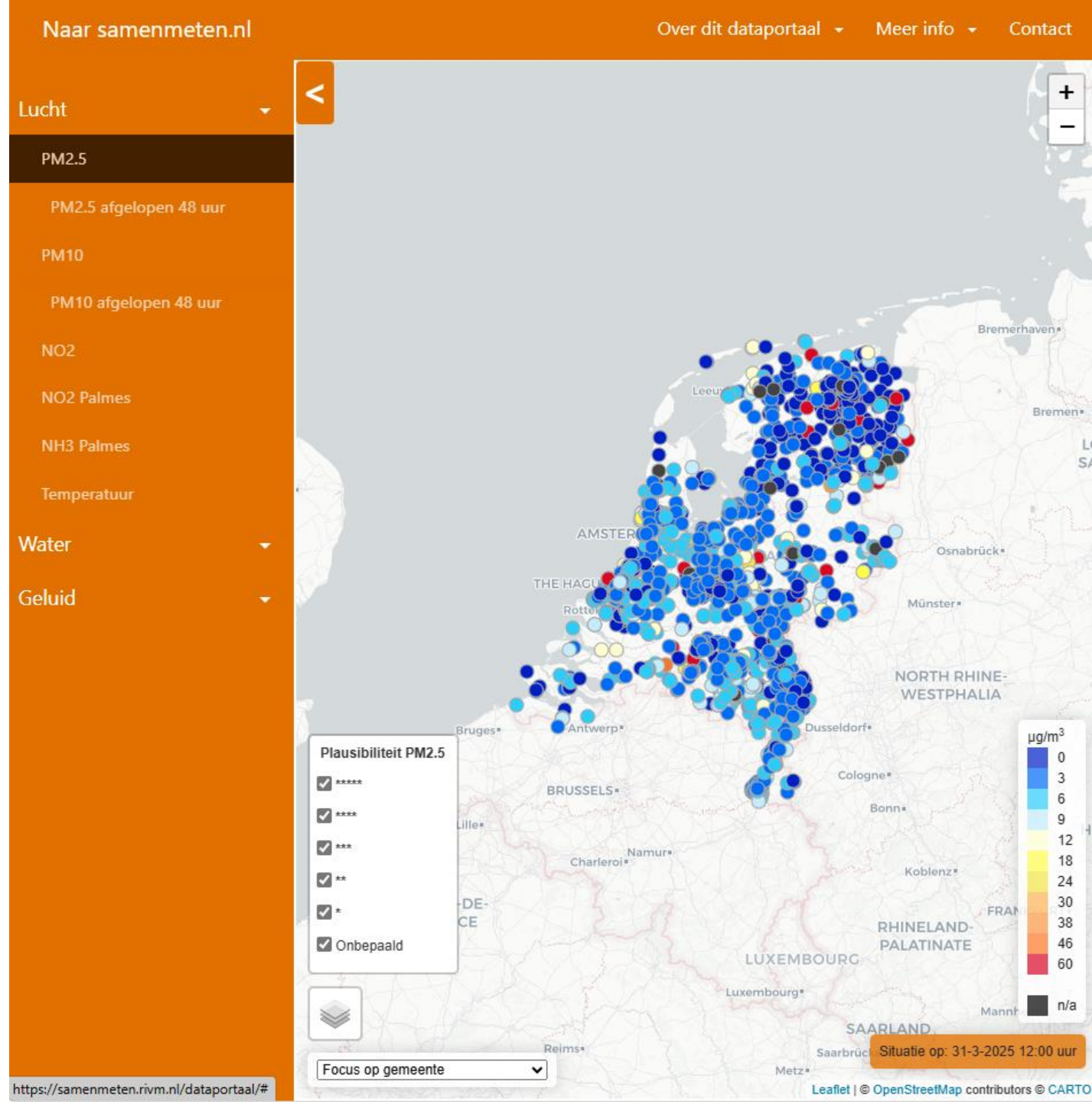

Preventing and controlling infectious diseases

Good healthcare and a healthy lifestyle

My work

Team Measure Together

Our national citizen science infrastructure for environmental monitoring

We help everyone who wants to measure air quality, noise or water;

as individual or in a group!

You don't see it, but:

› NO$_2$ pollution led to 48,000 early deaths in the EU in 2022

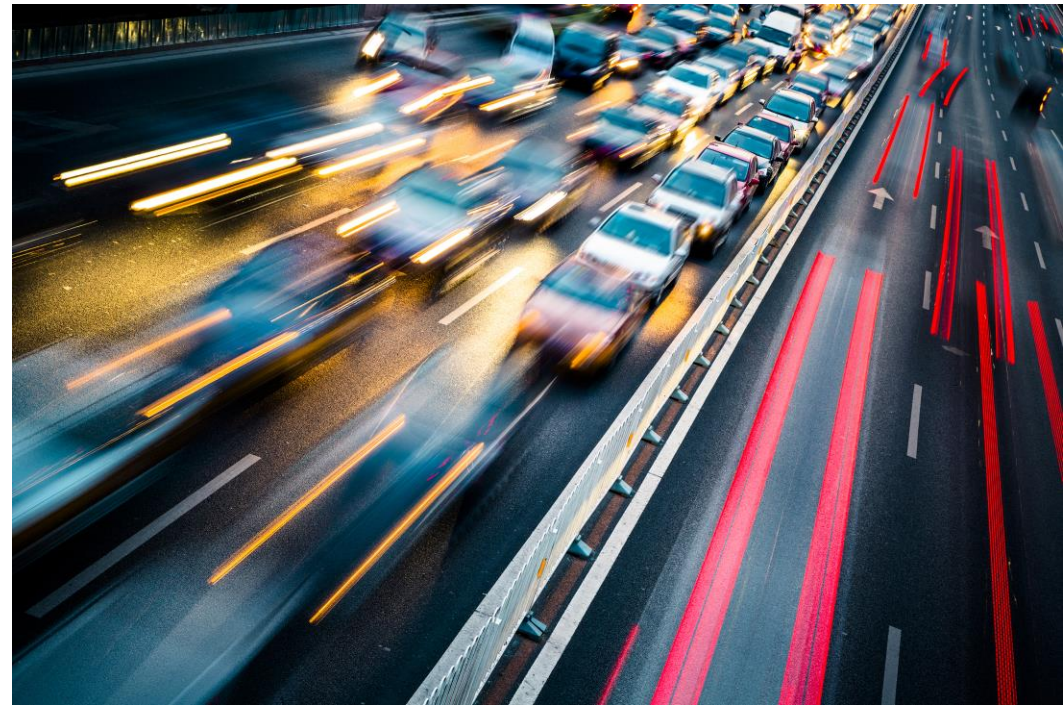## Ella Adoo-Kissi-Debrah: Air pollution a factor in girl's death, inquest finds

16 December 2020

Ella Adoo-Kissi-Debrah lived 25 metres from the South Circular Road in south-east London

A nine-year-old girl who died following an asthma attack has become the first person in the UK to have air pollution listed as a cause of death.

Ella Adoo-Kissi-Debrah: Air pollution a factor in girl's death, inquest finds - BBC News

Premature deaths due to air pollution continue to fall in the EU, more efforts needed to deliver a toxic-free environment | European Environment Agency's home page

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NO$_2$ (nitrogen dioxide)

› Chemical compound

› Forms when (fossil) fuels burn

› Particularly useful to measure traffic pollution

Measure NO2

› Palmes tubes:

– Have a chemical compound that react with NO2
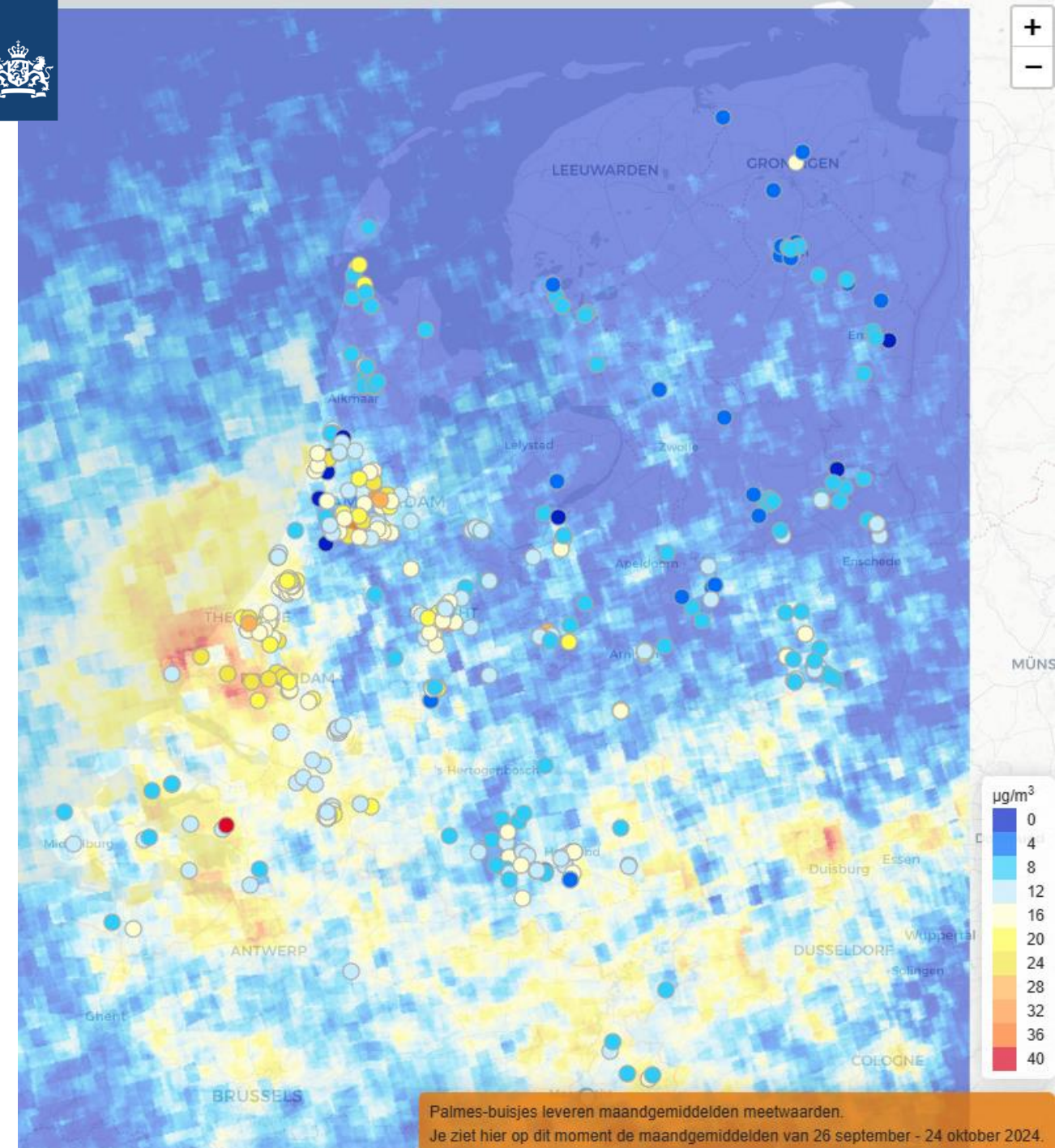
– After one month: analysis in the lab

What can you do with Palmes data?

Students

› Access GLOBE data portal to view data

› Add satellite data to compare satellite data with Palmes data (validation)

Everyone

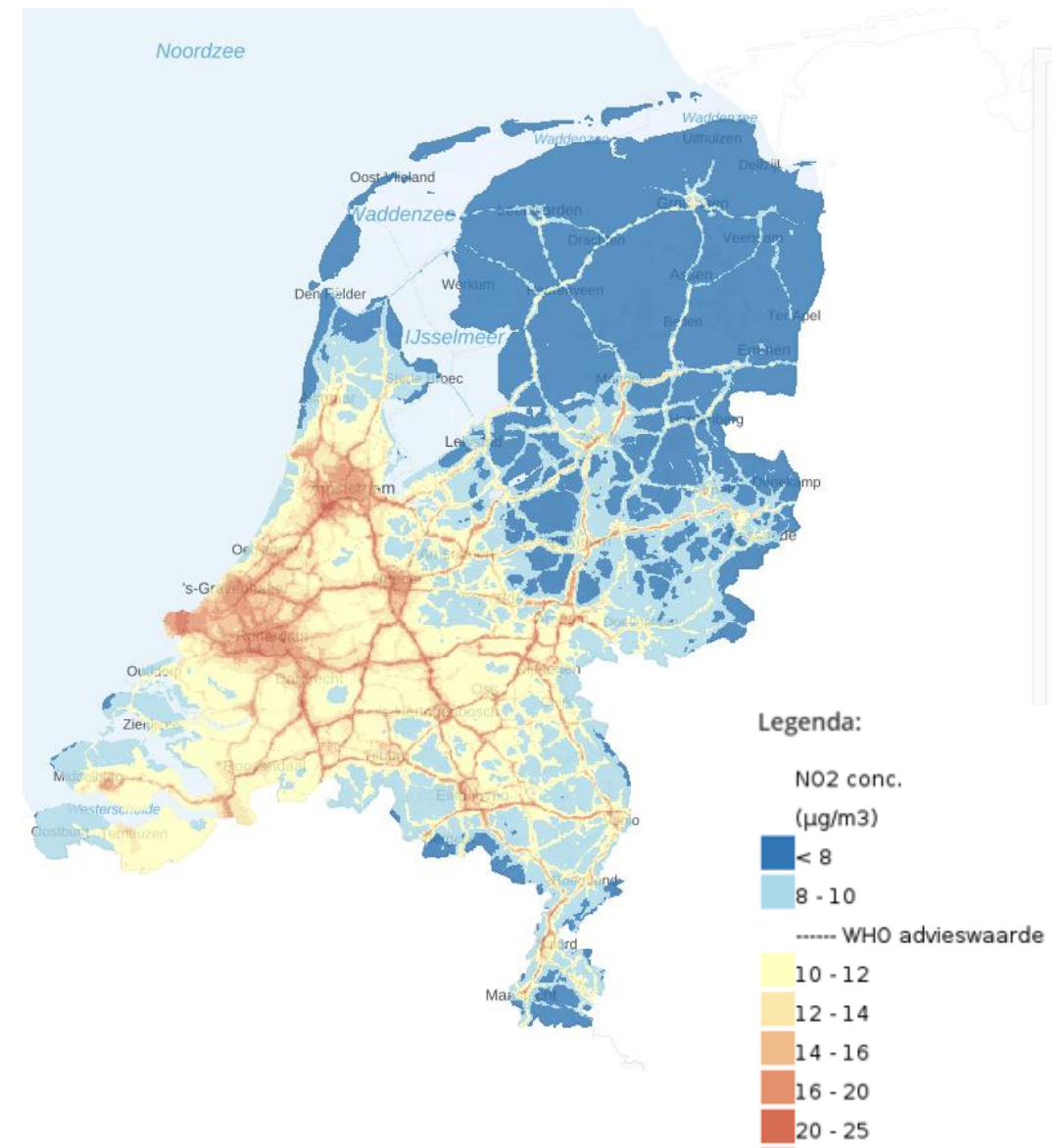› Access Samen Meten data portal where you can see all Palmes data

μg/m³
0
4
8
12
16
20
24
28
32
36
40

Palmes-buisjes leveren maandgemiddelden meetwaarden.
Je ziet hier op dit moment de maandgemiddelden van 26 september - 24 oktober 2024.

What do researchers do with Palmes data?

KNMI (meteorological institute):

Validate satellite data

RIVM:

Validate annual mean NO_2 concentrations

Legenda:

NO2 conc.
(µg/m3)

- ■ < 8
- ■ 8 - 10
- ----- WHO advieswaarde
- ■ 10 - 12
- ■ 12 - 14
- ■ 14 - 16
- ■ 16 - 20
- ■ 20 - 25

Thank you!

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