

Air Inequity Dashboard

Insights on Pollution & Socioeconomic Disparities

Statistics Netherlands

10-02-2025

Air Pollution and Inequality in Europe

Air pollution in Europe worsens health inequalities, hitting vulnerable groups the hardest.

In 2022, air pollution above WHO limits caused an estimated:

- **239,000** premature deaths from **PM2.5**
- **70,000** from **ozone (O3)**
- **48,000** from **nitrogen dioxide (NO2)**

EU Policies for Cleaner Air and Equity

EU policies aim to reduce air pollution and its unequal impacts:

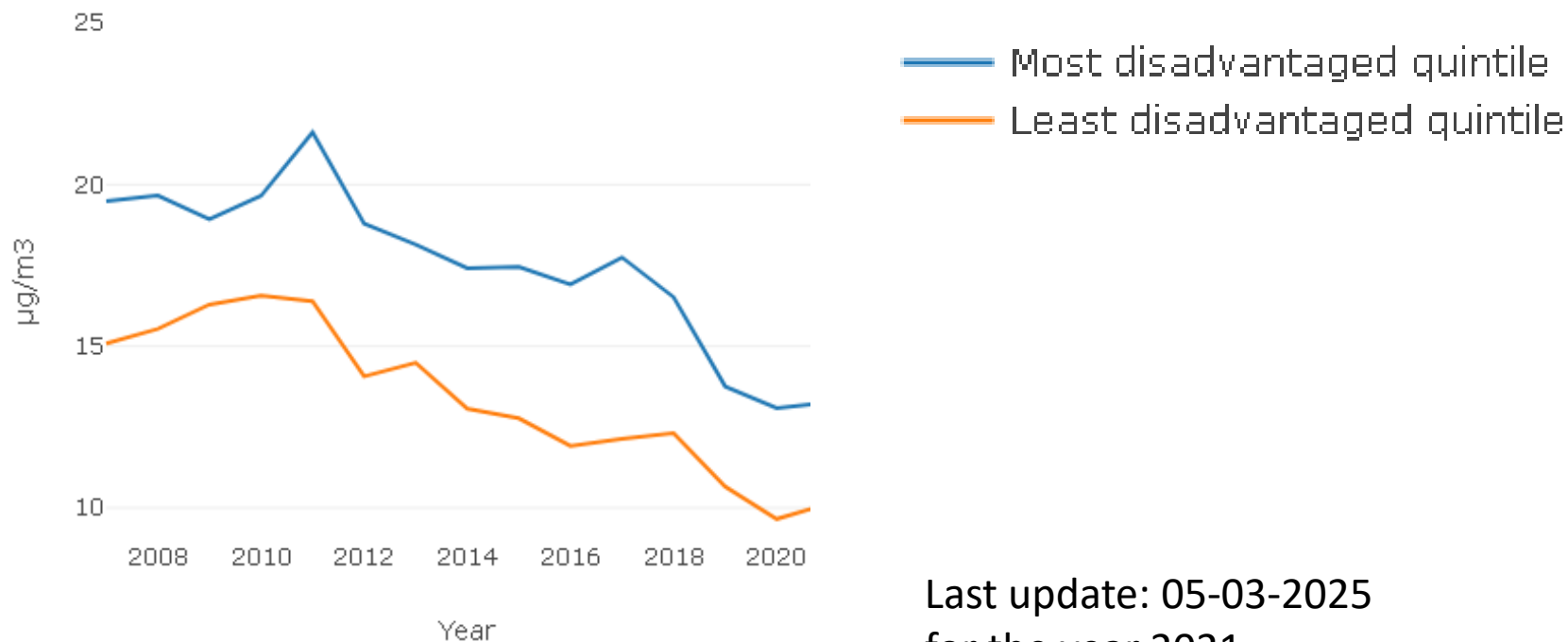
- **Ambient Air Quality Directive**
- **Zero Pollution Action Plan 2030**
- target a **55% reduction in pollution-related premature deaths** by 2030.
- **Other relevant policies:** European Green Deal, Just Transition Mechanism



Air Inequity Dashboard



Inequity in exposure to air pollution (EEA)



Last update: 05-03-2025
for the year 2021



Improvement

EEA approach

Yearly updates

PM2.5 only

Limited spatially

Static reports

CBS approach

Potential daily updates

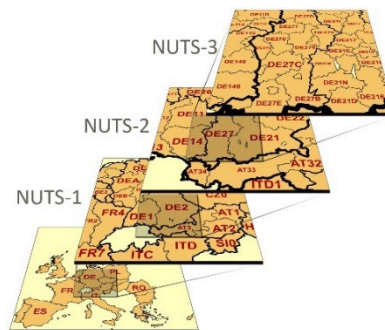
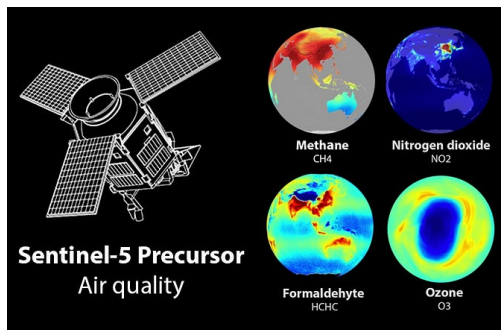
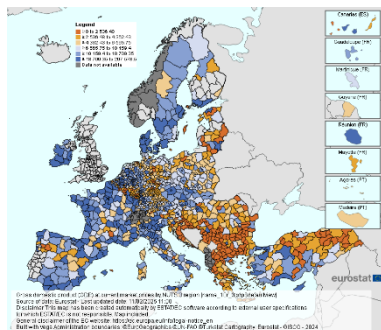
Multiple pollutants

Full NUTS3 coverage

Interactive and on-demand



Datasets and Tools



POLLUTANT	INDEX LEVEL (based on pollutant concentrations in µg/m ³)					
	1	2	3	4	5	6
	Very good	Good	Medium	Poor	Very Poor	Extremely Poor
Ozone (O ₃)	0-50	50-100	100-130	130-240	240-380	380-800
Nitrogen dioxide (NO ₂)	0-40	40-90	90-120	120-230	230-340	340-1000
Sulphur dioxide (SO ₂)	0-100	100-200	200-350	350-500	500-750	750-1250
Particulates less than 10 µm (PM ₁₀)	0-20	20-40	40-50	50-100	100-150	150-1200
Particulates less than 2.5 µm (PM _{2.5})	0-10	10-20	20-25	25-50	50-75	75-800

Note: PM10 and PM2.5 values are based on 24-hour running means

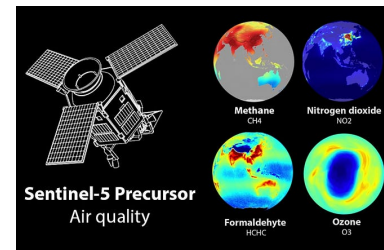
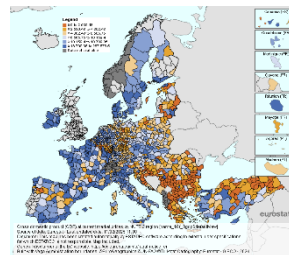
Pollutant	Winter (Dec-Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Autumn (Sep-Nov)
PM _{2.5}	0.40	0.36	0.25	0.35
NO ₂	0.25	0.22	0.15	0.23
O ₃	0.10	0.15	0.30	0.15
SO ₂	0.12	0.12	0.05	0.12
CO	0.06	0.07	0.10	0.07
HCHO	0.07	0.08	0.15	0.08



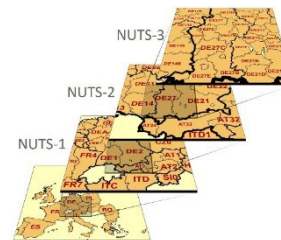
Datasets and Tools



Google Earth Engine



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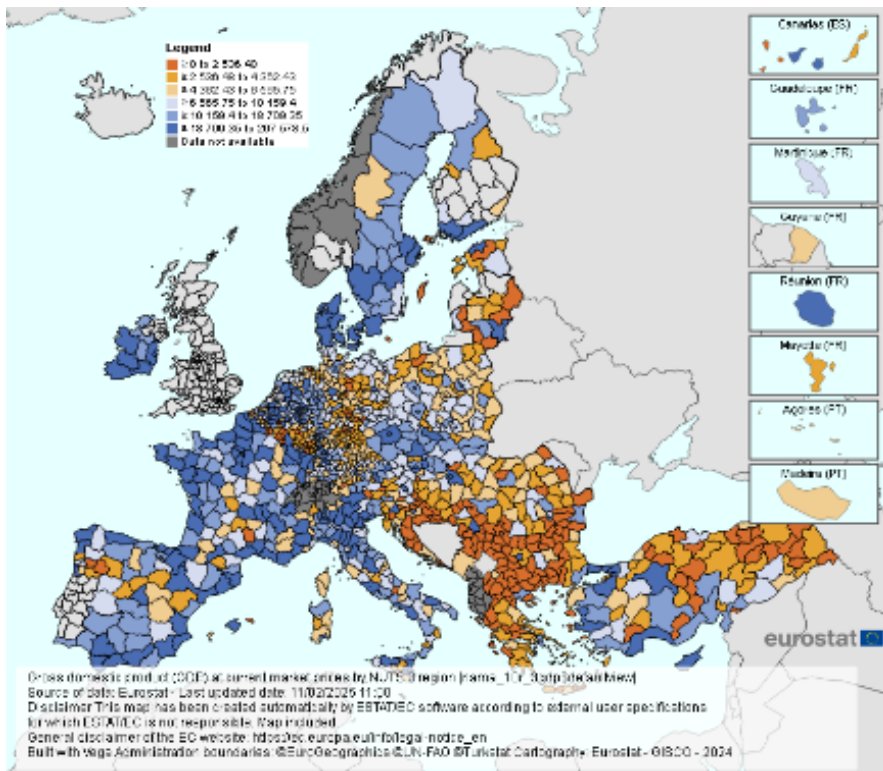


POLLUTANT	INDEX LEVEL <i>(based on pollutant concentrations in µg/m³)</i>					
	1 Very good	2 Good	3 Medium	4 Poor	5 Very Poor	6 Extremely Poor
Ozone (O ₃)	0-50	50-100	100-130	130-240	240-380	380-600
Nitrogen dioxide (NO ₂)	0-40	40-90	90-120	120-230	230-340	340-1000
Sulphur dioxide (SO ₂)	0-100	100-200	200-350	350-500	500-750	750-1250
Particules less than 10 µm (PM ₁₀)	0-20	20-40	40-50	50-100	100-150	150-1200
Particules less than 2.5 µm (PM _{2.5})	0-10	10-20	20-25	25-50	50-75	75-800

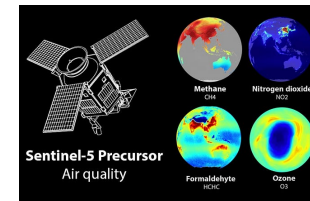
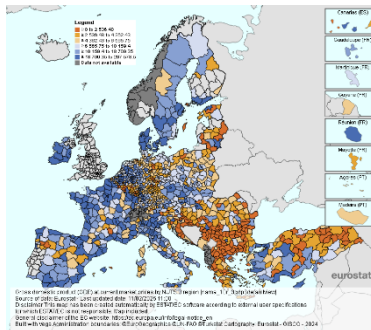
Note: PM10 and PM2.5 values are based on 24-hour running means



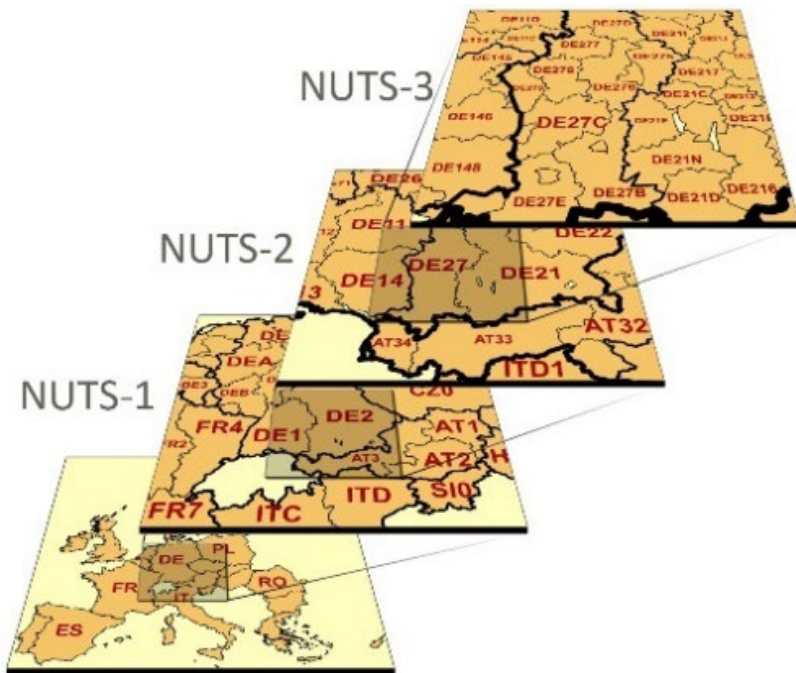
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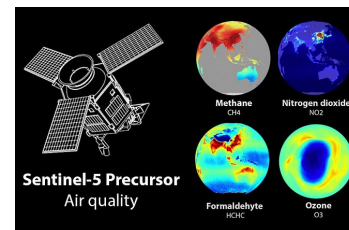
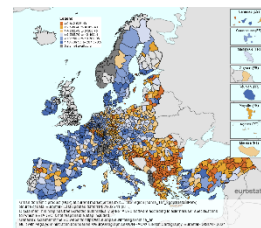
POLLUTANT	RQCL LEVEL (based on pollutant concentrations in µg/m ³)					
	1 Very good	2 Good	3 Medium	4 Poor	5 Very Poor	6 Extremely Poor
Ozone (O ₃)	50-90	90-100	100-120	130-240	240-300	300-600
Nitrogen dioxide (NO ₂)	5-40	40-90	90-120	120-230	230-340	340-600
Sulphur dioxide (SO ₂)	5-100	100-150	200-100	300-700	500-700	700-1200
Particulates less than 10µm (PM ₁₀)	5-20	20-40	40-50	50-100	100-150	150-250
Particulates less than 2.5µm (PM _{2.5})	0-10	10-20	20-25	25-50	50-75	75-100

Note: PM₁₀ and PM_{2.5} values are based on 24-hour running means

Pollutant	Winter (Dec-Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Autumn (Sep-Nov)
PM _{2.5}	0.40	0.36	0.25	0.35
NO ₂	0.25	0.22	0.15	0.23
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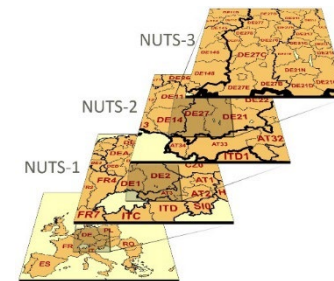


Datasets and Tools



POLLUTANT	INDEX LEVEL <i>(based on pollutant concentrations in $\mu\text{g}/\text{m}^3$)</i>					
	1 Very good	2 Good	3 Medium	4 Poor	5 Very Poor	6 Extremely Poor
Ozone (O_3)	0-50	50-100	100-130	130-240	240-380	380-800
Nitrogen dioxide (NO_2)	0-40	40-90	90-120	120-230	230-340	340-1000
Sulphur dioxide (SO_2)	0-100	100-200	200-350	350-500	500-750	750-1250
Particules less than $10\ \mu\text{m}$ (PM_{10})	0-20	20-40	40-50	50-100	100-150	150-1200
Particules less than $2.5\ \mu\text{m}$ ($\text{PM}_{2.5}$)	0-10	10-20	20-25	25-50	50-75	75-800

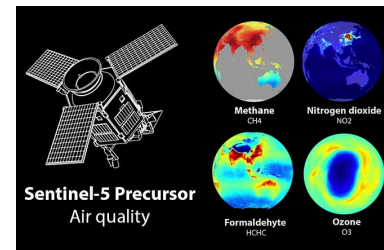
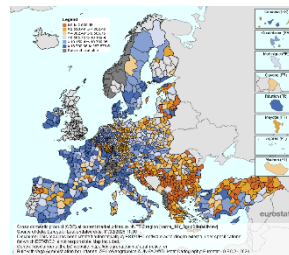
Note: PM_{10} and $\text{PM}_{2.5}$ values are based on 24-hour running means



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$\text{PM}_{2.5}$	0.40	0.36	0.25	0.35
NO_2	0.25	0.22	0.15	0.23
O_3	0.10	0.15	0.30	0.15
SO_2	0.12	0.12	0.05	0.12
CO	0.06	0.07	0.10	0.07
HCHO	0.07	0.08	0.15	0.08



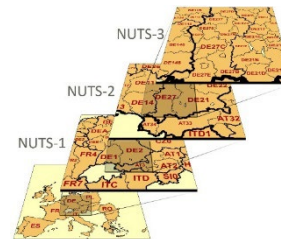
Datasets and Tools



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Methodology

$$API = \sum (AQS_{Pollutant,i} \times Weight_{Month,i})$$

$$GDP' = 1 - \frac{GDP_{NUTS3} - GDP_{Min}}{GDP_{Max} - GDP_{Min}}$$

$$AII = API \times \frac{GDP'}{population}$$

Dashboard demo

[Go to dashboard:](#)

Thank you for listening!

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Statistics Netherlands

