Copernicus & COVID-19

Atmosphere Monitoring Service (CAMS)
Climate Change Service (C3S)

Earth Observation unit
Directorate-General for Defense Industry and Space
European Commission

European Centre for Medium-Range Weather Forecasts (ECMWF)
Recent addition: daily “COVID-19 emissions” scenario runs + advanced “Air Control toolbox”

What would be today’s forecast of NO₂ (PM10, PM2.5) under normal circumstances?

What would be today’s forecast of NO₂ (PM10, PM2.5) with emissions changed because of COVID-19 related measures?

What is the difference between the two?

Crude hypotheses at this stage: -60% for road traffic, -30% for industrial, +20% for residential, and no change for agricultural activities or maritime shipping as well as for natural sources. Powered by Ineris (France).
Air pollution across Europe compared to 2017-2019 and as a function of lockdown measures.

How consistent are surface and satellite measurements?

CAMS currently contributes to a number of epidemiological studies trying to evaluate the links between air pollution and COVID-19 (effects of long- and short-term exposure; fine particulate matter as a potential vector in air for the virus?...)

S-5P is the 1<sup>st</sup> satellite to provide credible measurements of air quality.

CAMS also showed that erroneous use of S-5P data led to think that effect of restriction measures on US air quality were earlier and stronger than in reality.
C3S helps health experts explore how temperature and humidity affect virus spread


Recent research suggests that the spread of the new coronavirus (SARS-CoV-2) could be affected by temperature and humidity, so the C3S has worked with environmental software experts B-Open to develop an application that maps mortalities against temperature and humidity data. The application allows health authorities and epidemiology centres to explore the claims that temperature and humidity could affect the spread of coronavirus.