



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)



Space



Copernicus EU



Copernicus EU



Copernicus EU



www.copernicus.eu

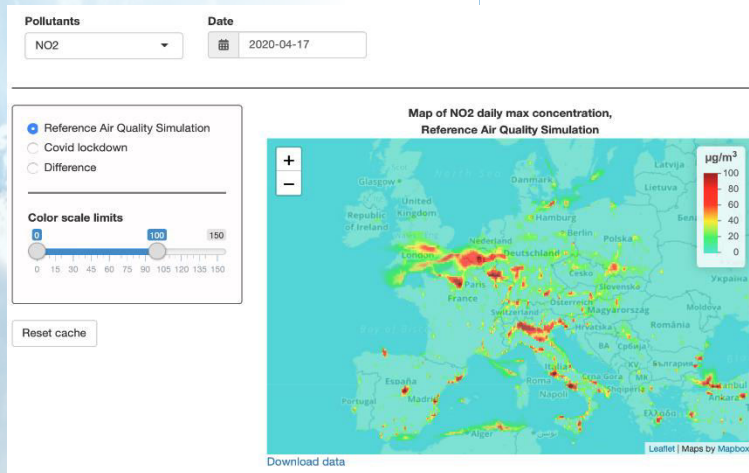




COPERNICUS ATMOSPHERE MONITORING SERVICE

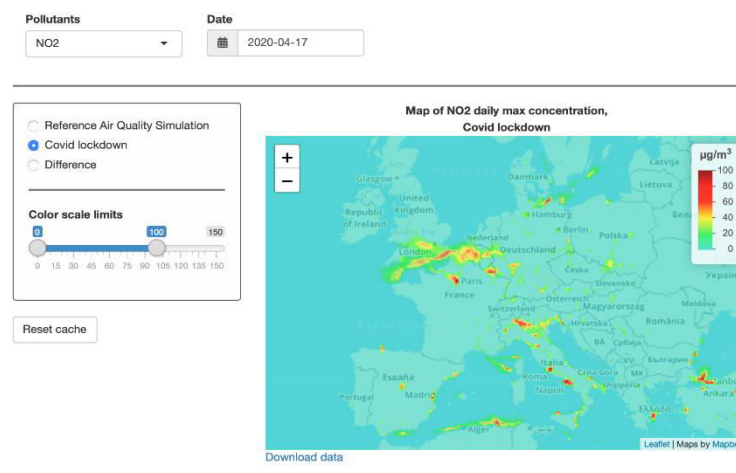
- Dedicated EU Space webpage with initiatives launched by the Commission and its partners and members of the ecosystem is live : www.euspace-programme.eu/coronavirus
- Continued strong interest from international media/press

Recent addition: daily “COVID-19 emissions” scenario runs + advanced “Air Control toolbox”

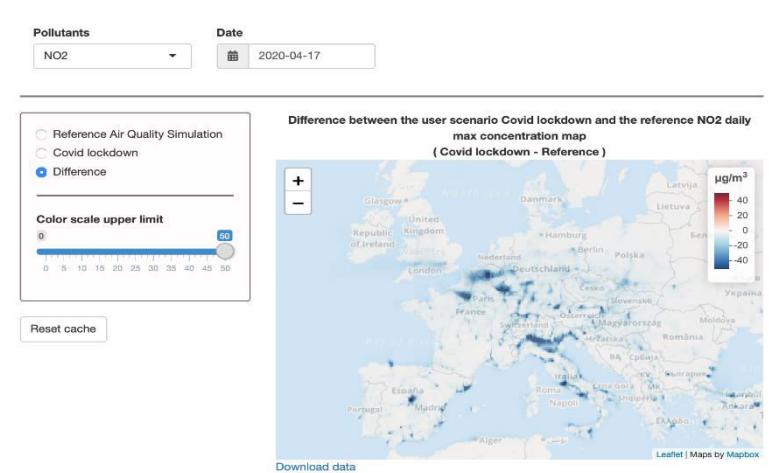


What would be today’s forecast of NO2 (PM10, PM2.5) under normal circumstances?

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).



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?

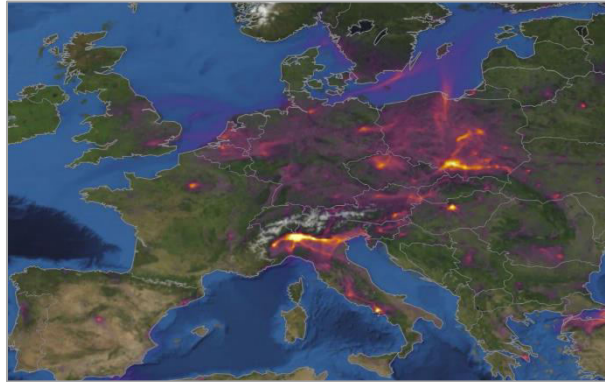


Atmosphere
Monitoring

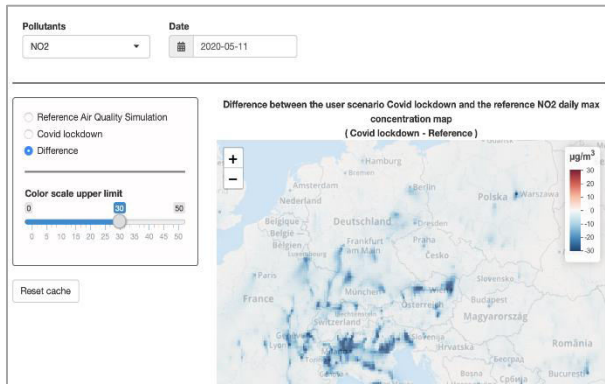
CAMS IN ACTION : CAMS COVID-19 MINISITE

<https://atmosphere.copernicus.eu/european-air-quality-information-support-covid-19-crisis>

Maps and animations of the latest situation in Europe.

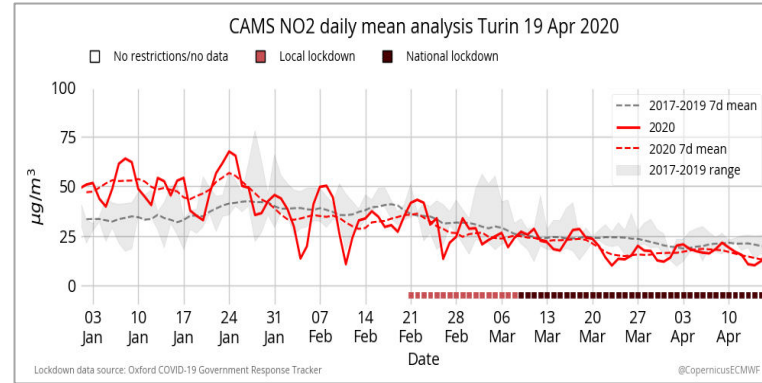


Forecast model estimate of reduction in air pollution is expected on a daily basis accounting for weather effects.

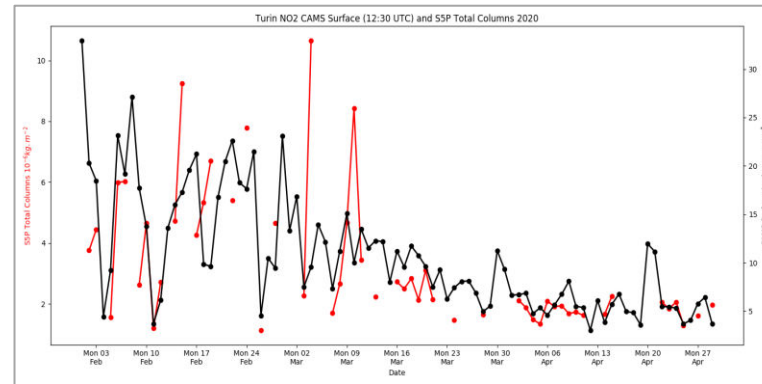


CAMS currently contributes to a number of epidemiological studies trying to evaluate the links between air pollution and COVID-19 (effects of long- and short-term exposure; fine particulate matter as a potential vector in air for the virus?...)

Air pollution across Europe compared to 2017-2019 and as a function of lockdown measures.



How consistent are surface and satellite measurements?



CAMS regional air quality forecasts: Météo-France, Ineris (FR)
CAMS COVID-19 scenario forecasts: Ineris (FR)
CAMS website: ECMWF

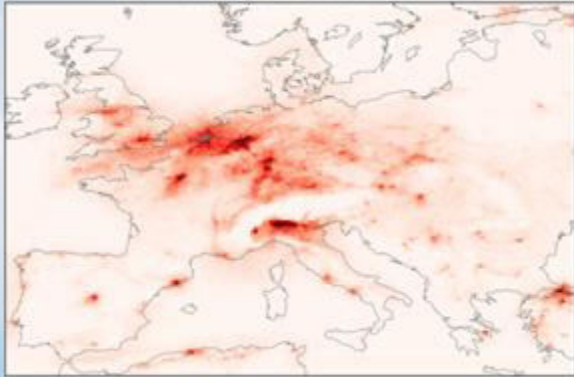


Atmosphere
Monitoring

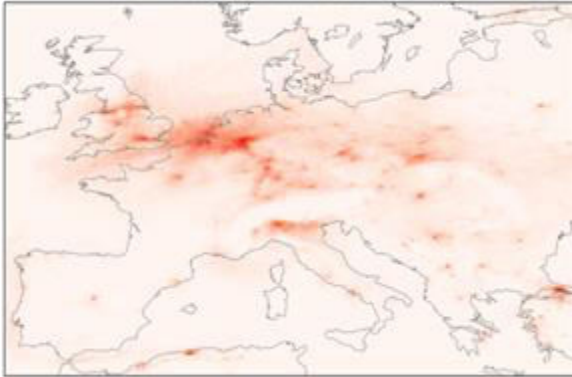
CAMS IN ACTION : SENTINEL-5P, AIR QUALITY FROM SPACE

NO₂ Total Column

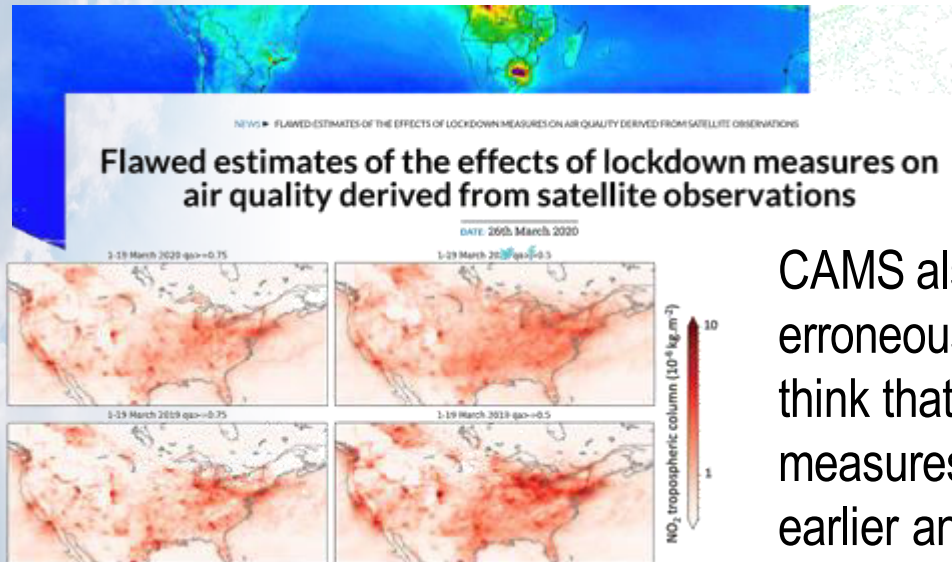
Mid-March to mid-April 2019



Mid-March to mid-April 2020



S-5P is the 1st 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.

BBC Sign in News Sport Weather iPlayer Sounds

NEWS

Home UK World Business Politics Tech Science Health Family & Education

Science & Environment

Coronavirus: Lockdown prompts clear fall in UK air pollution

By Jonathan Amos
Science correspondent

© 31 March 2020

Share



S-5P NO₂ total column provision: ESA, KNMI (NL)
S-5P NO₂ total column processing: ECMWF



Climate
Change

From the Copernicus Climate Change Service

C3S helps health experts explore how temperature and humidity affect virus spread

<https://climate.copernicus.eu/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

