

# DLR Covid-19 Activities

D. Loyola et al. (DLR)

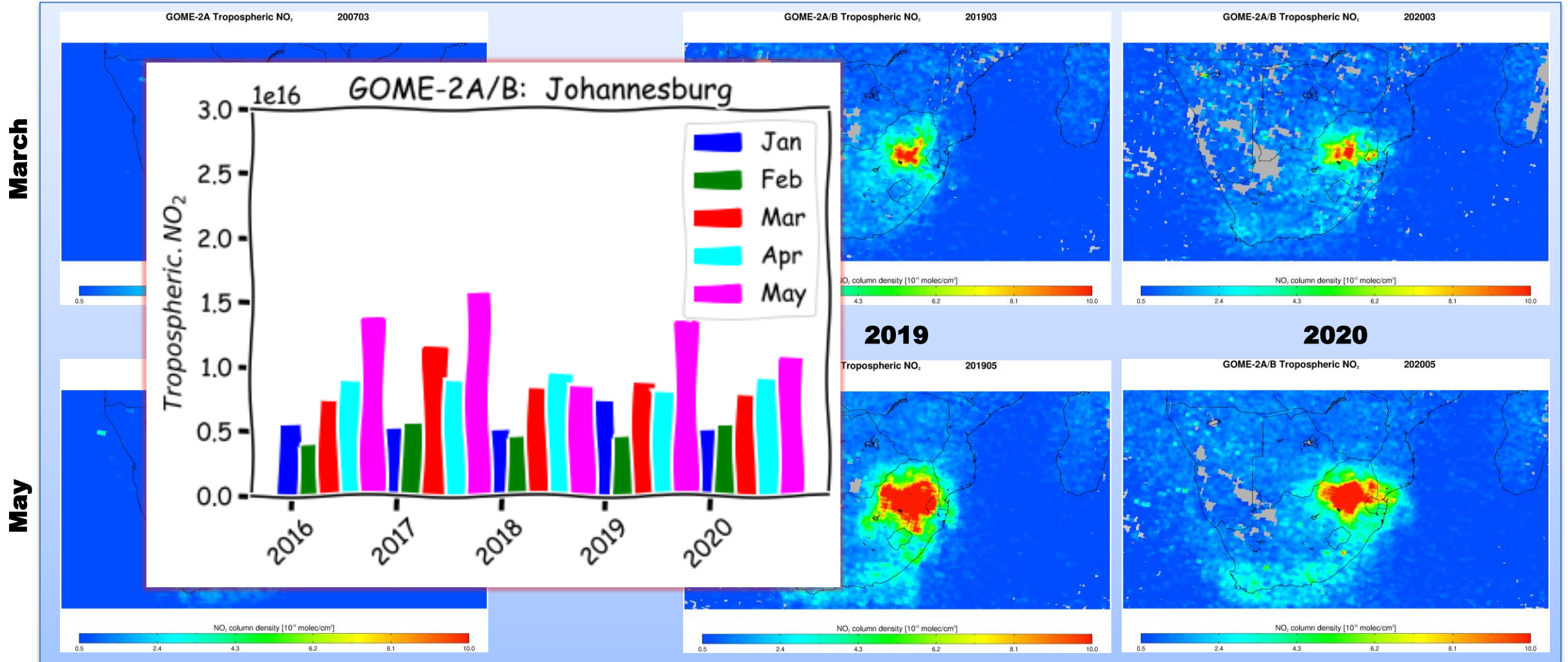
CEOS AC-VC 16, June 12<sup>th</sup>, 2020



Wissen für Morgen

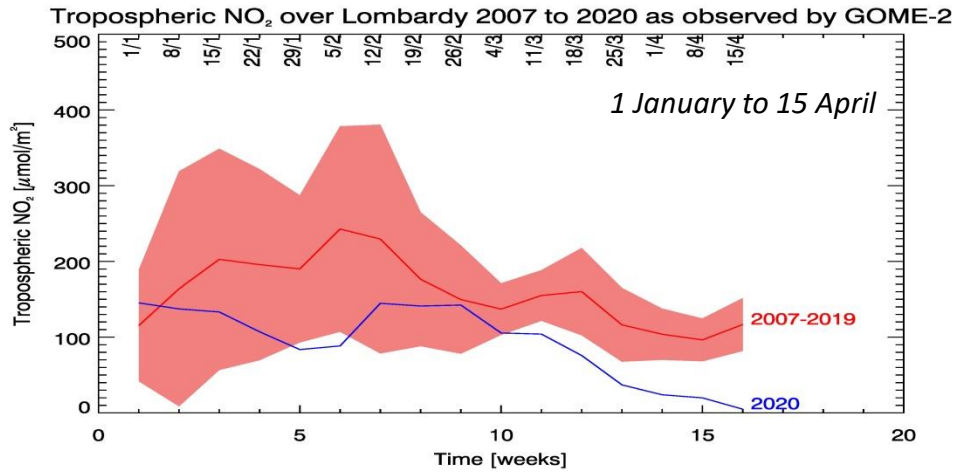


# GOME-2A/B Tropospheric NO<sub>2</sub> – Operational Product from AC-SAF (DLR/EUM)

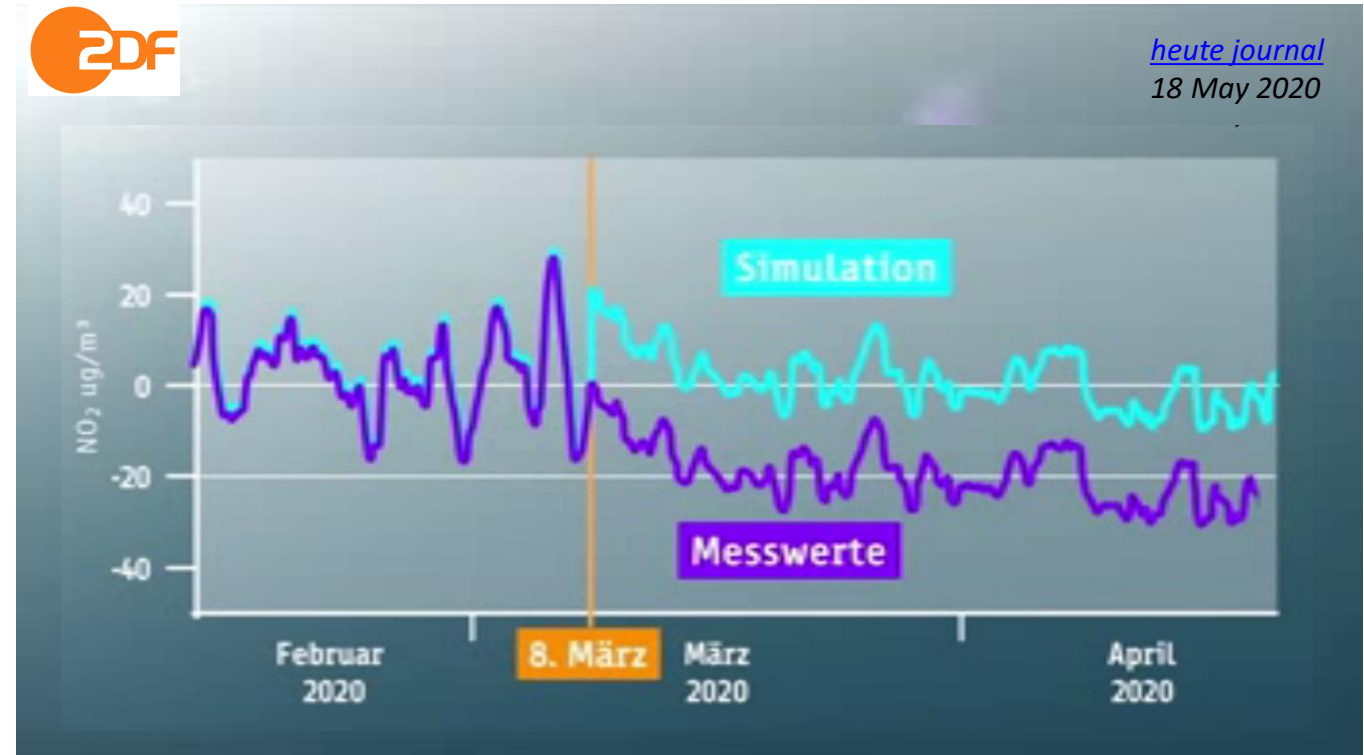
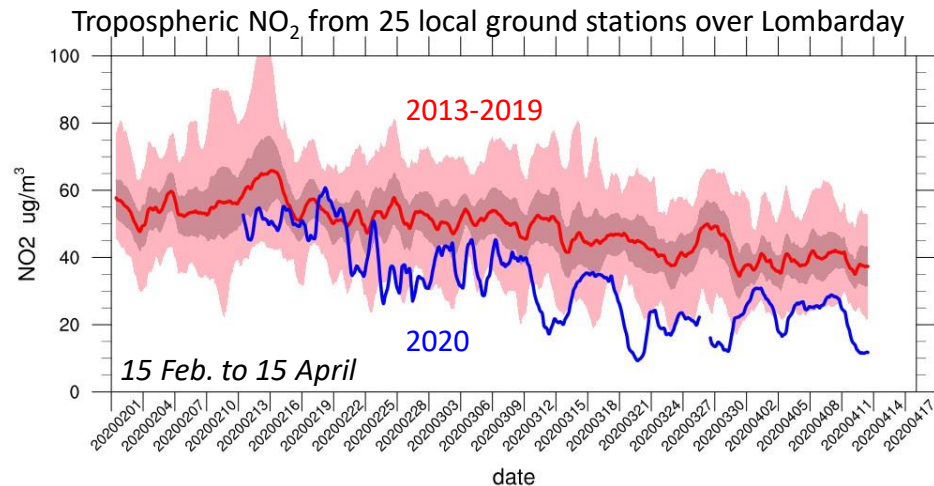


# Combining satellite, in-situ & models – Tropospheric NO<sub>2</sub> in Lombardy/Italy

[https://www.dlr.de/content/en/articles/news/2020/02/20200505\\_effect-of-the-coronavirus-on-air-quality-is-now-visible.html](https://www.dlr.de/content/en/articles/news/2020/02/20200505_effect-of-the-coronavirus-on-air-quality-is-now-visible.html)

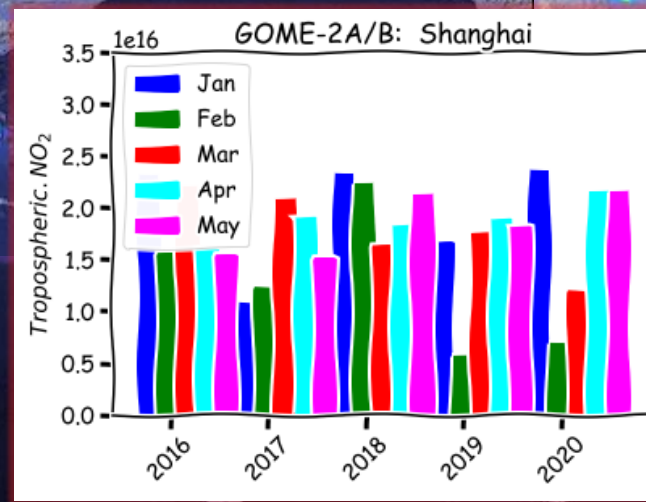
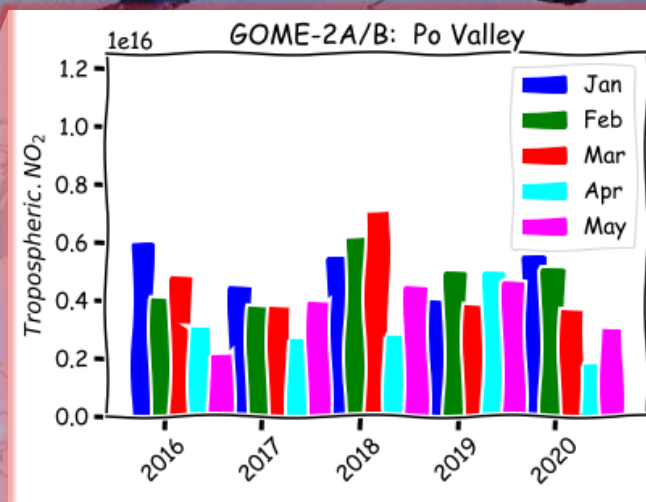


- Model calculates air constituents using mean pollution emissions and the prevailing meteorological conditions in 2020.
- Modelled simulations are subtracted from the current ground measurements. Shutdown led to 45% reduction of NO<sub>2</sub> pollution.



# TROPOMI/S5P Tropospheric NO<sub>2</sub> – Research Product from DLR

**March-April**



**2019**  
**February**

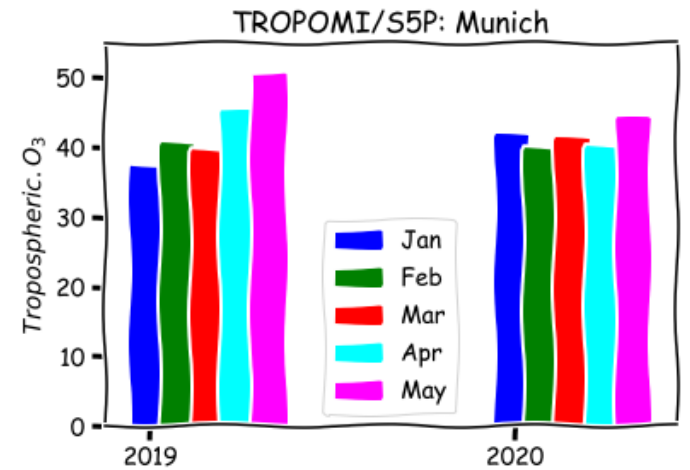
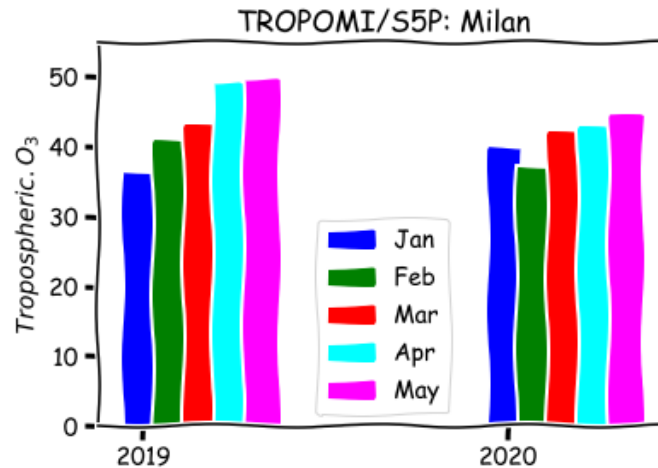
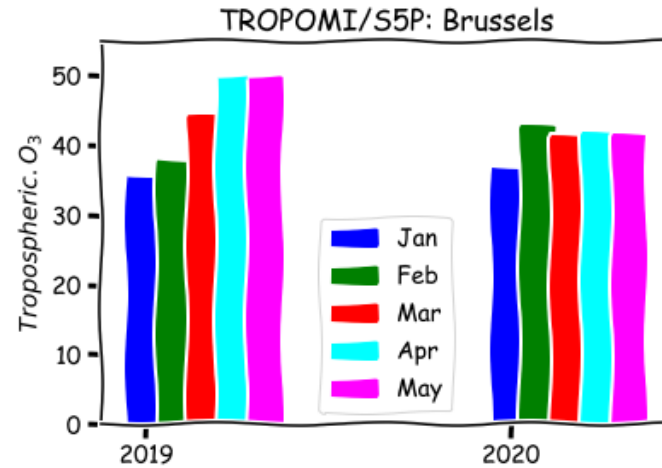
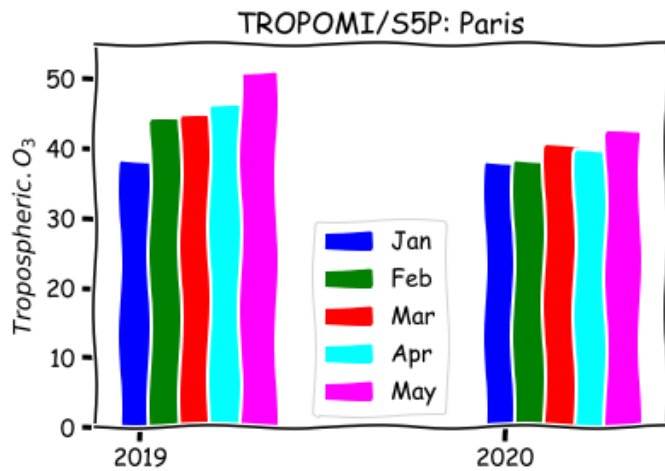


Courtesy L. Song (DLR-IMF)

# TROPOMI $\neq$ BASCOE Tropospheric Ozone – Research Product from DLR + BIRA [DLR Atmos](https://atmos.eoc.dlr.de/tropomi)

<https://atmos.eoc.dlr.de/tropomi>

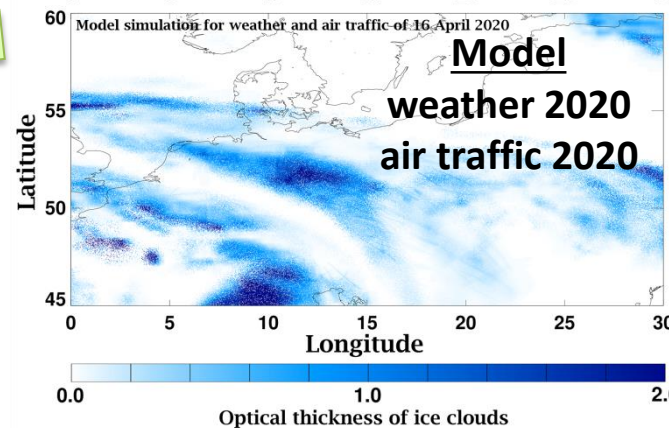
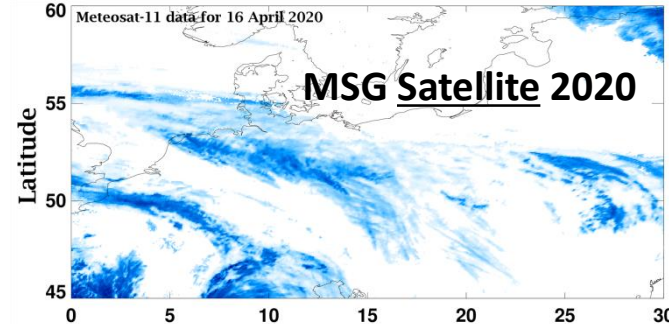
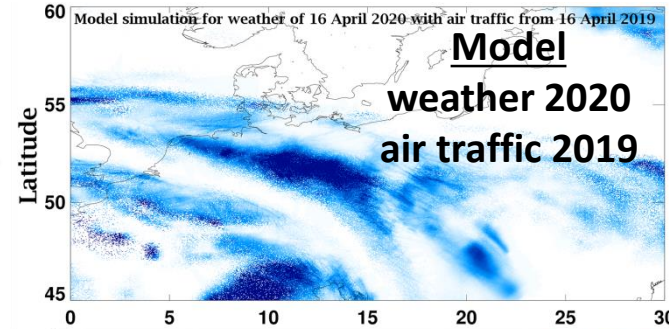
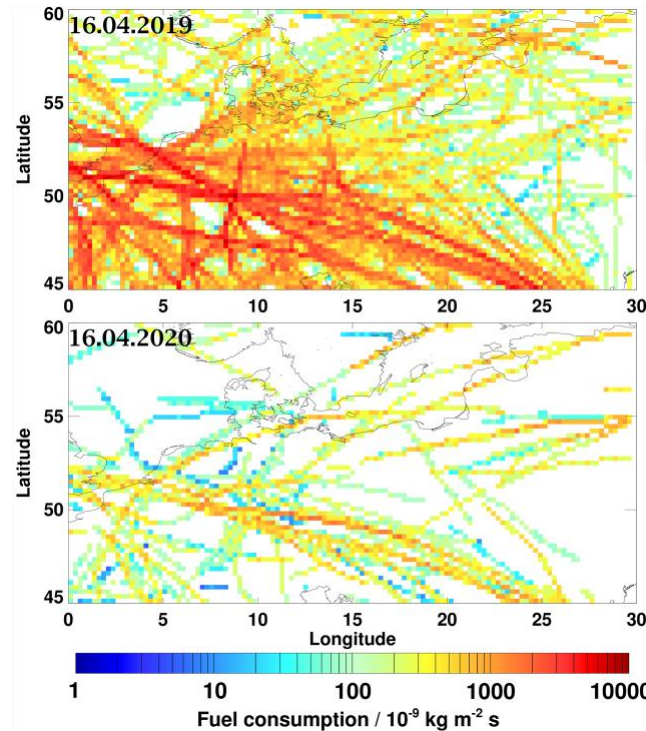
- Reduction of tropospheric ozone over Europe in 2020 compared to 2019
- Related to COVID-19 restrictions?



Courtesy K.-P. Heue (DLR-IMF)

# Up to 90% fewer condensation trails due to reduced air traffic over Europe

[https://www.dlr.de/content/en/articles/news/2020/02/20200520\\_fewer-condensation-trails-due-to-reduced-air-traffic.html](https://www.dlr.de/content/en/articles/news/2020/02/20200520_fewer-condensation-trails-due-to-reduced-air-traffic.html)



- Model calculates the coverage of natural clouds and cirrus clouds produced by aircraft contrails based on current weather data and air traffic data from 2019 and 2020
- Large coverage reduction from contrail cirrus clouds, with an increased optical thickness of the ice clouds, in 2020.



Courtesy L. Bugliaro et al. (DLR-PA)

