

An aerial photograph of Rotterdam, Netherlands, showing the city's dense urban landscape and the Erasmus Bridge crossing the Nieuwe Waterweg canal. The bridge features a distinctive white, sail-like pylon and red suspension towers. The surrounding area is filled with modern high-rise buildings and residential blocks. The water of the canal is dark, and several boats are visible. The sky is clear and blue.

Ruisdael Urban campaign: Rotterdam

Sander Houweling, Katharina Heimerl (VU)
+ Ruisdael partners

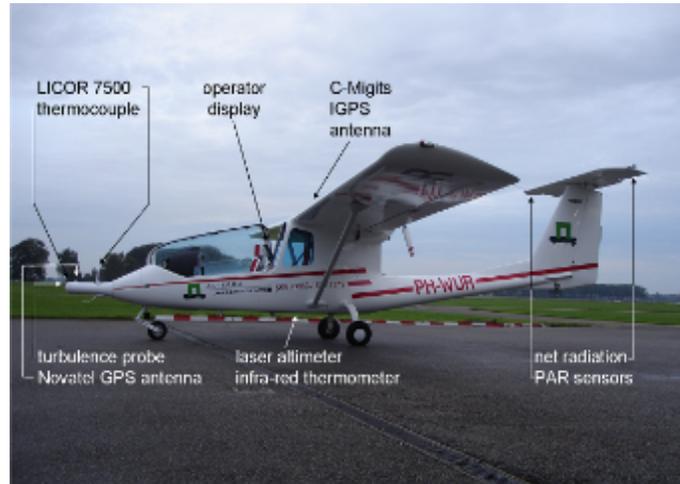
Ruisdael research infrastructure project

- Ruisdael observatory: Dutch NWO funded measurements infrastructure for atmospheric composition and meteorology
- GHG: Consists of a South-West to North-East transect of measurement sites
- AQ: Distributed network of about 90 sites
- + Mobile infrastructure (2 instrumented trailers, aircraft, drones)



Ruisdael measurement facilities

Sky arrow aircraft



Cabauw tower



Mobile trailer



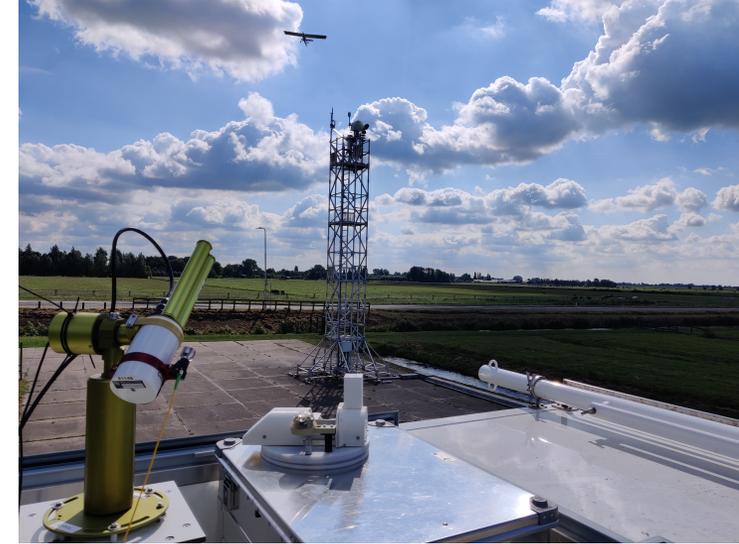
Total column measurements in Ruisdael

- Cimel + Bruker em27/SUN + automated rain cover



Total column measurements in Ruisdael

- Trailer + adjustable platform for the instrumentation

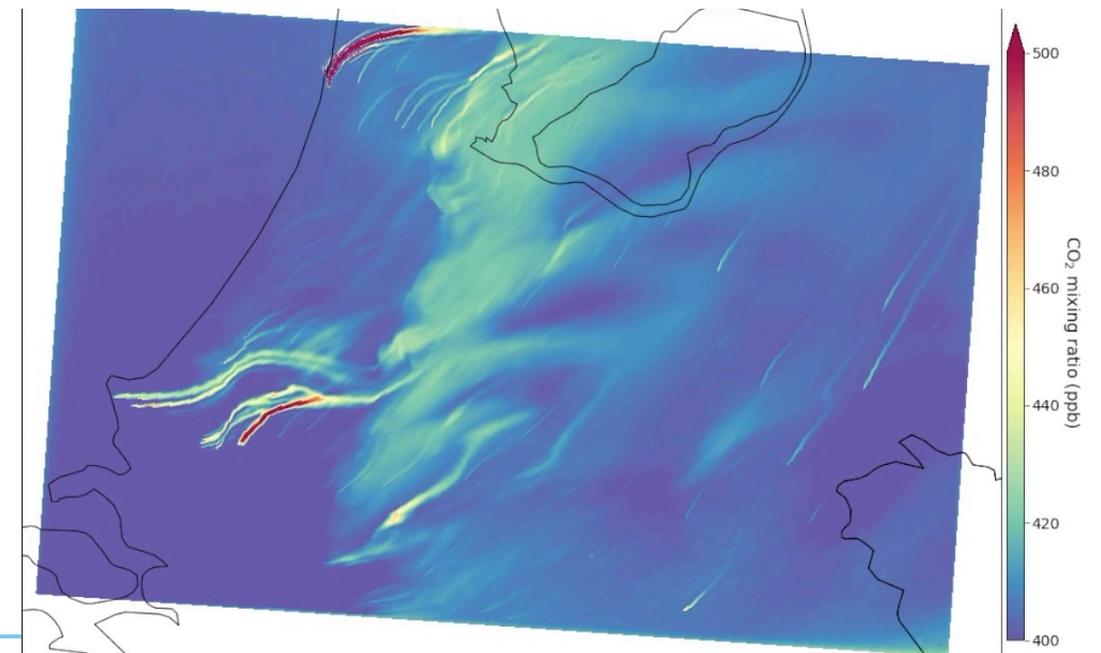
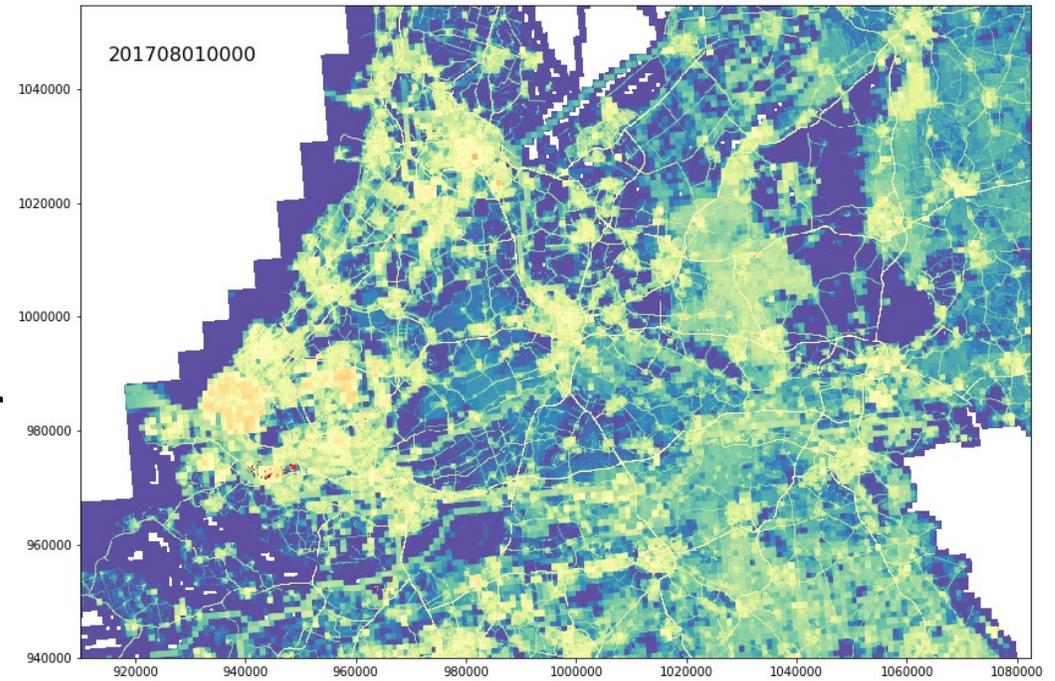


Monitoring of the Randstad and Rotterdam



Dutch fossil CO₂ emissions

- Population 0.5 – 1M
- CO₂ emission of Rotterdam = 30 Mt/yr
- 90% from the harbor
- Modelling at 100m resolution in the Dutch LES Dales



Ruisdael Rotterdam campaign

- Ruisdael Urban campaign, 3 weeks in Sept. 2022
- Rotterdam: associated partner of ICOS-Cities
- Budgeting of CH₄ and CO₂ emissions from the city and harbor
- Interest in extension of the total column measurements (upwind – downwind gradients)

Interest to join? Contract S. Houweling