

RI-URBANS

Research Infrastructures Services Reinforcing Air Quality Monitoring Capacities in European Urban & Industrial Areas (Project n. 101036245)



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CSIC & UHEL



UNIVERSITY OF HELSINKI

3rd RI-URBANS Stakeholder Meeting, 19th June 2023



Research Infrastructures Services Reinforcing Air Quality Monitoring Capacities in European Urban & Industrial Areas (RI-URBANS)



RI
URBANS

Horizon 2020, LC-GD-9-1-2020,
Work programme H2020-2018-2020
Research & Innovation Action
Number: 101036245
Duration: 48 months, 01/10/2021-30/09/2025



3rd RI-URBANS Stakeholder Meeting, 19th June 2023

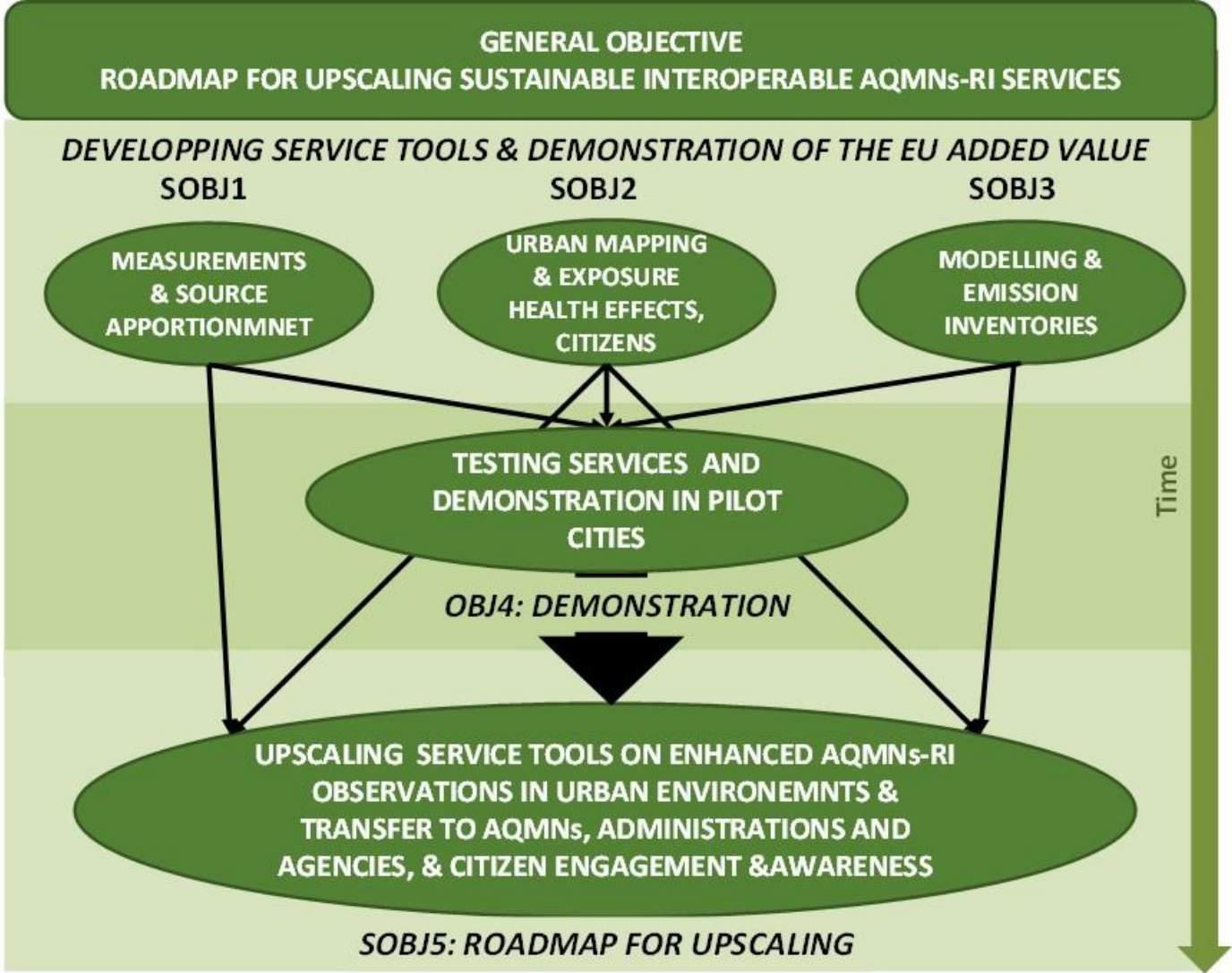


14 countries, 25 beneficiaries, 1 associated beneficiary, starting with 11 cities



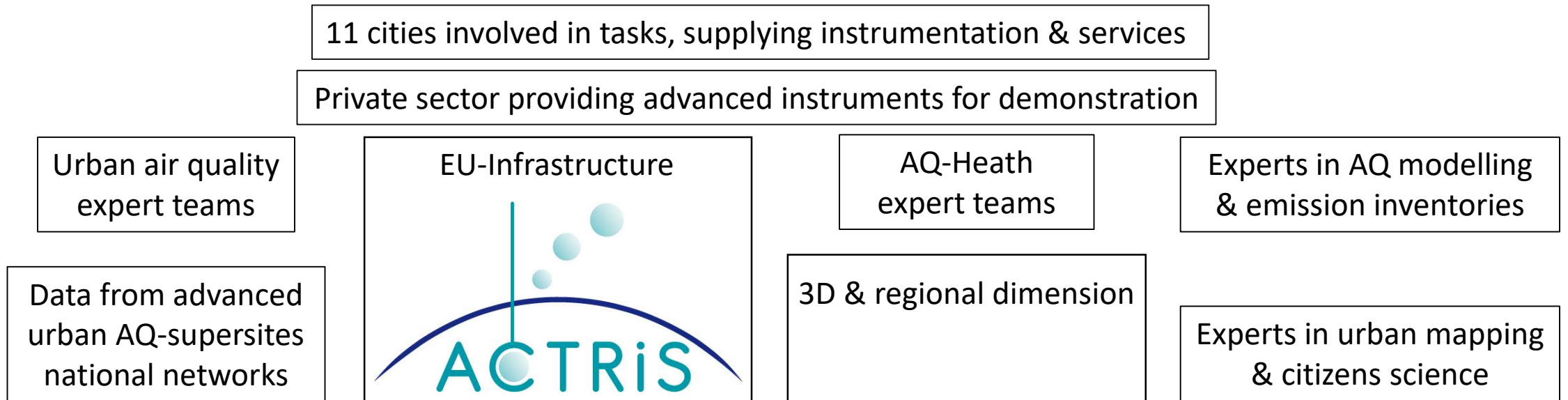
				
				
				
				
				
				

OBJECTIVES



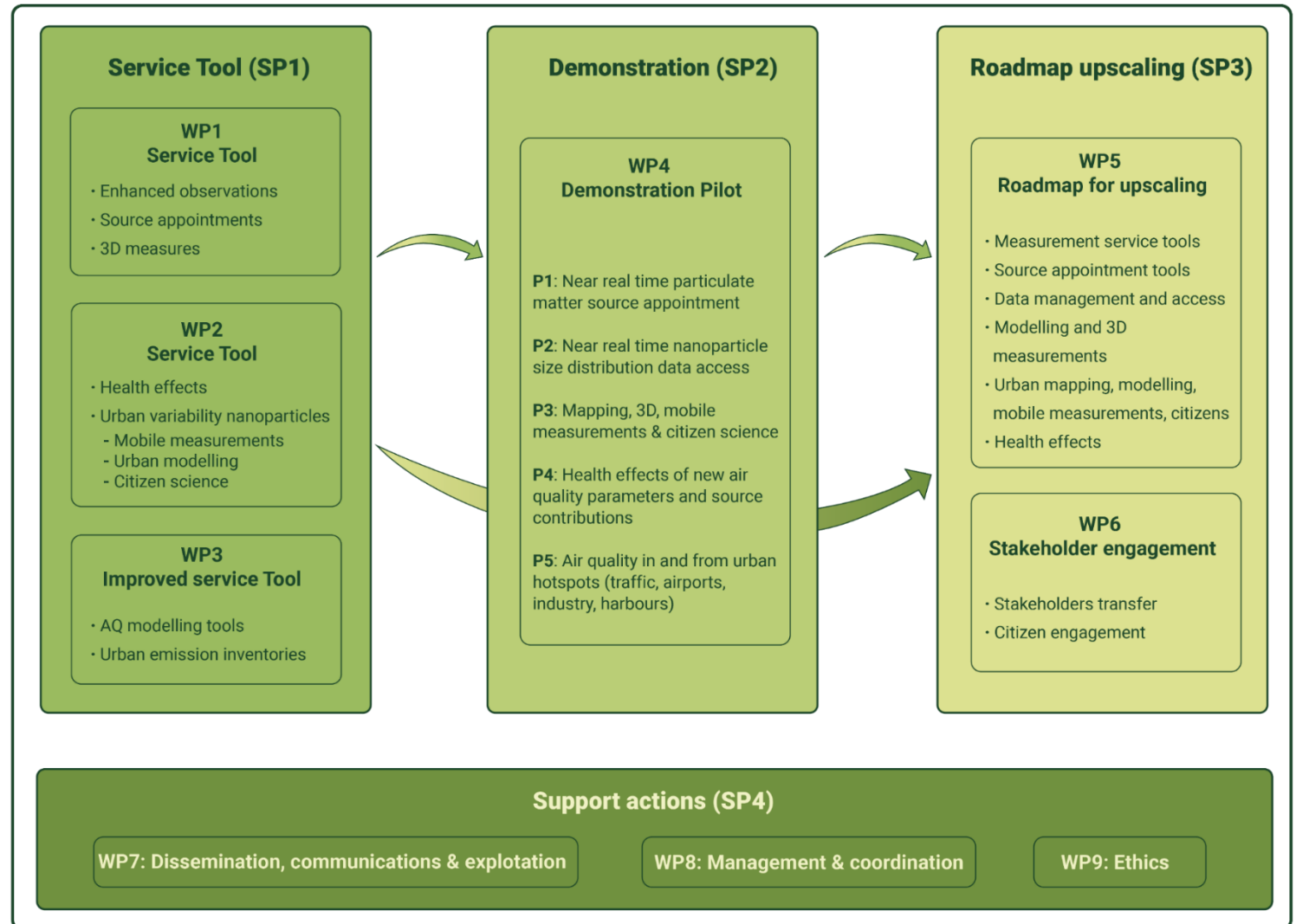
THE TEAM

- 25 beneficiaries, 1 associated beneficiary 11 cities: Athens, Barcelona, Birmingham, Bucharest, Helsinki, Milan-Bologna, Paris, Rotterdam-Amsterdam, Zürich
- Other cities accepted for upscaling



RI-URBANS CONCEPT

- UFP-PNSD
- PM Source apportionment
- BC and source apportionment
- Oxidative potential
- Urban mapping of pollutants
- Health effects of UFP, BC, PM sources, OP
- NH₃
- VOCs

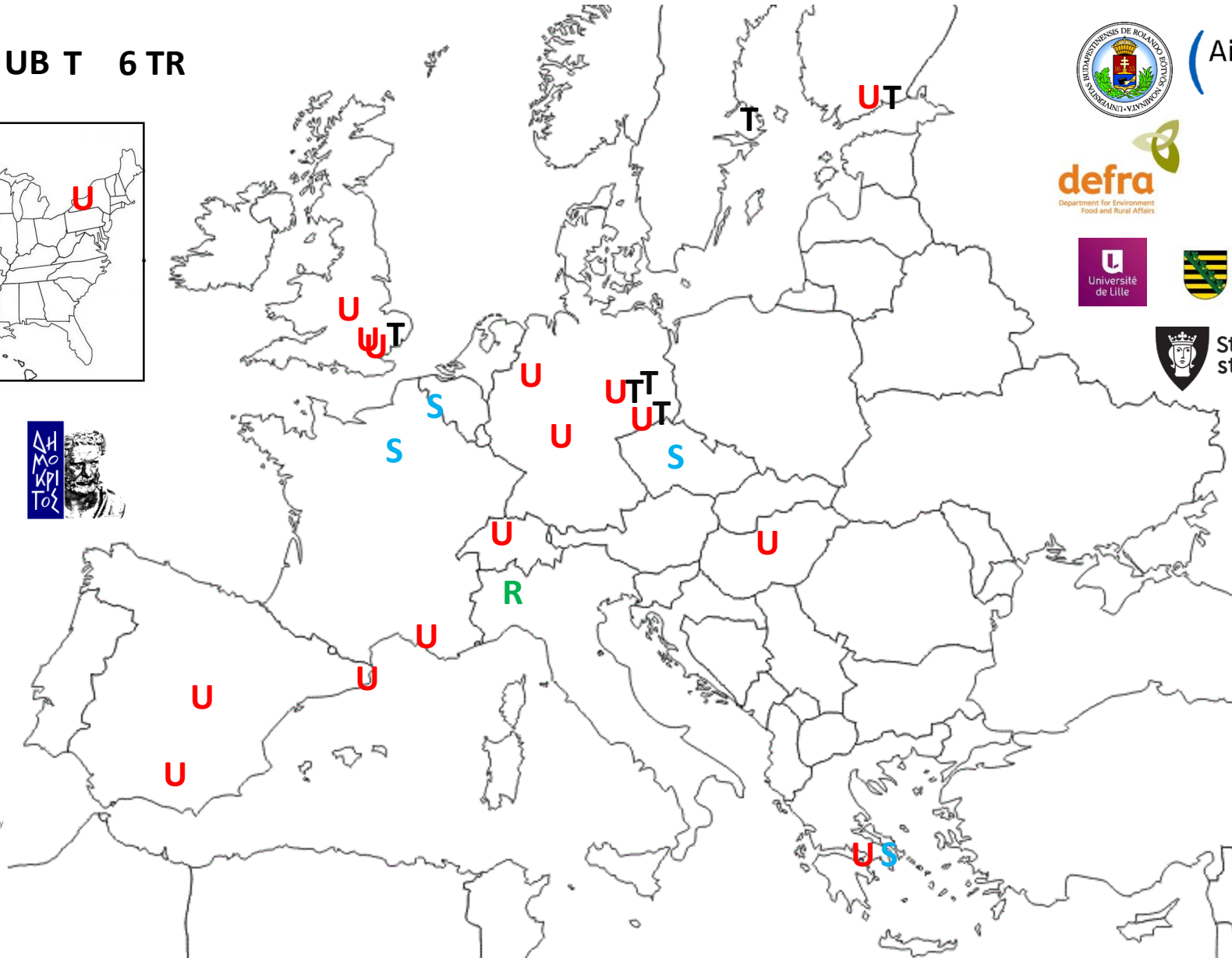


ULTRAFINE PARTICLES

Trechera P. et al., 2022. Environment International

UKD Universitätsklinikum
Düsseldorf

R, S 1 REG, 4 SUB U 16 UB T 6 TR



12 datasets

Other than ACTRIS

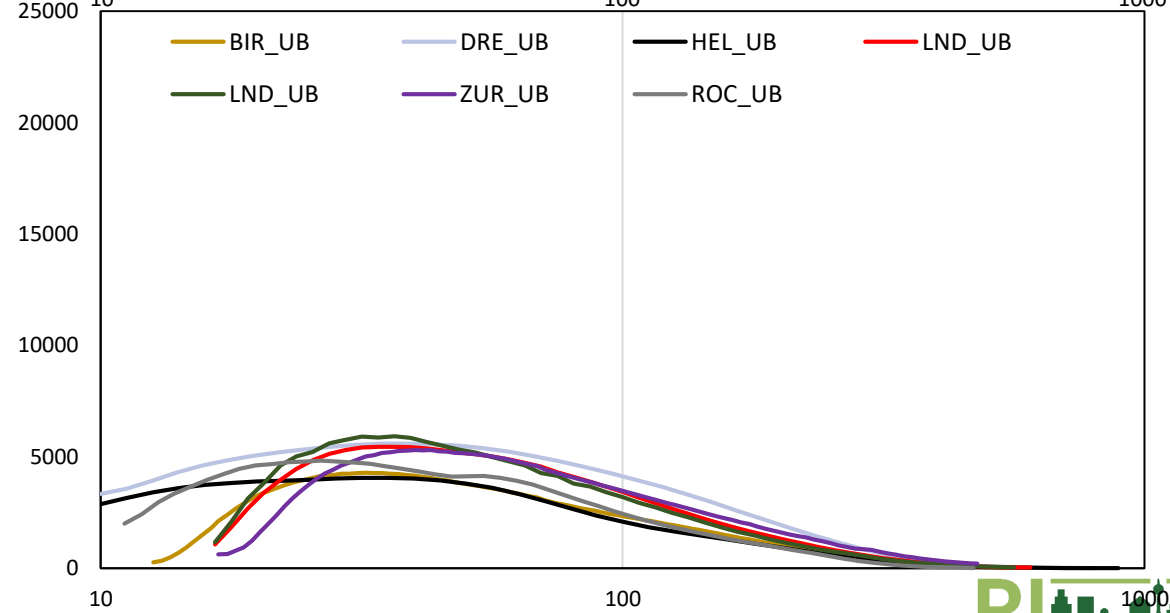
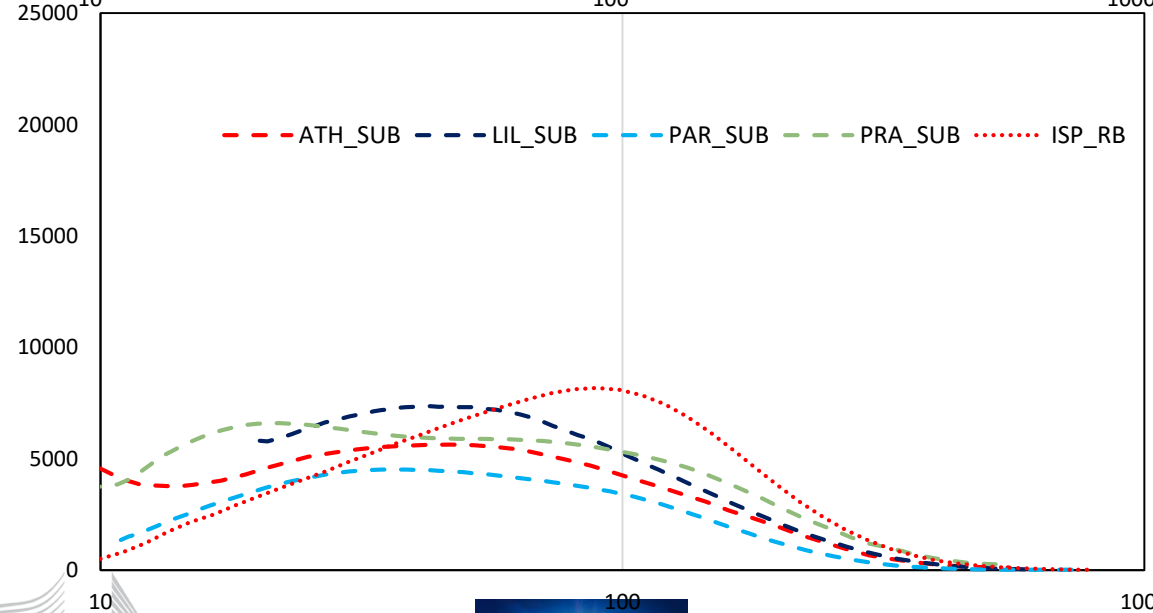
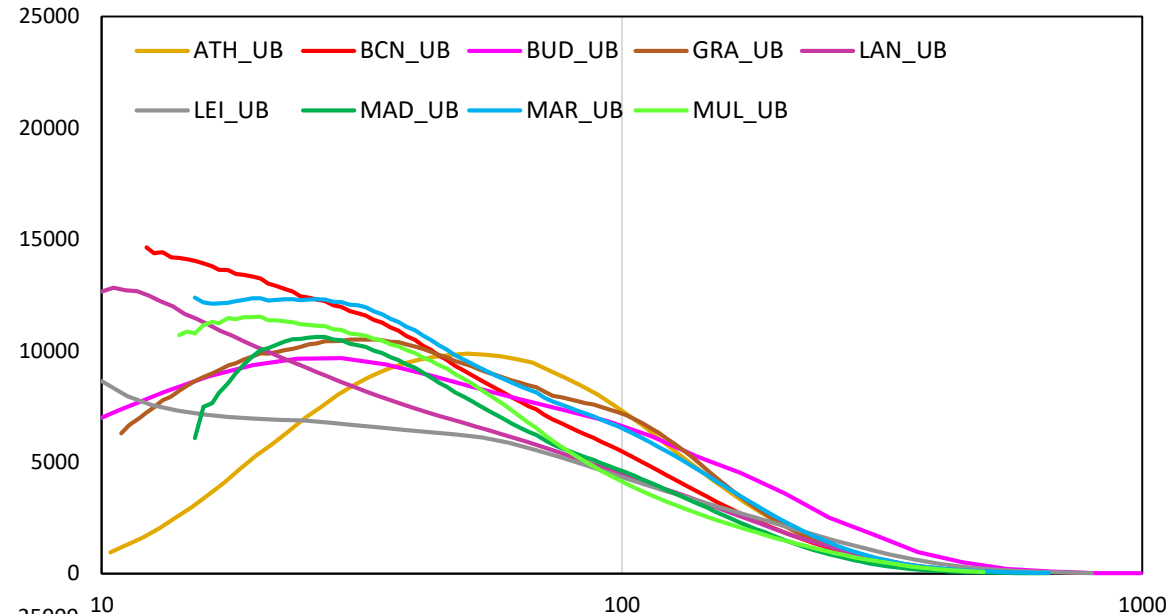
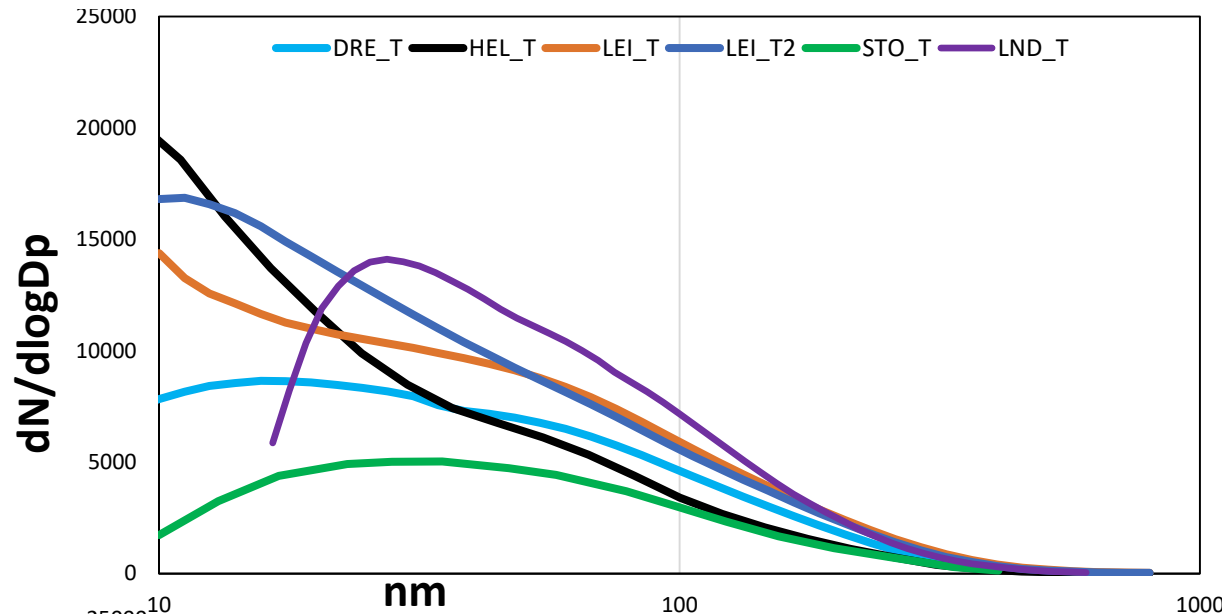
15 datasets

3rd RI-URBANS Stakeholder Meeting, 19th June 2023



ULTRAFINE PARTICLES

Trechera P. et al., 2022. Environment International



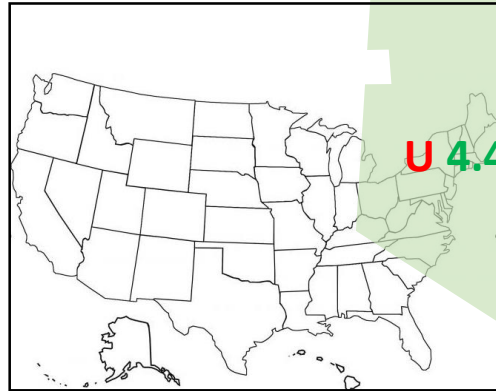
3rd RI-URBANS Stakeholder Meeting, 19th June 2023



ULTRAFINE PARTICLES

Trechera P. et al., 2022. Environment International

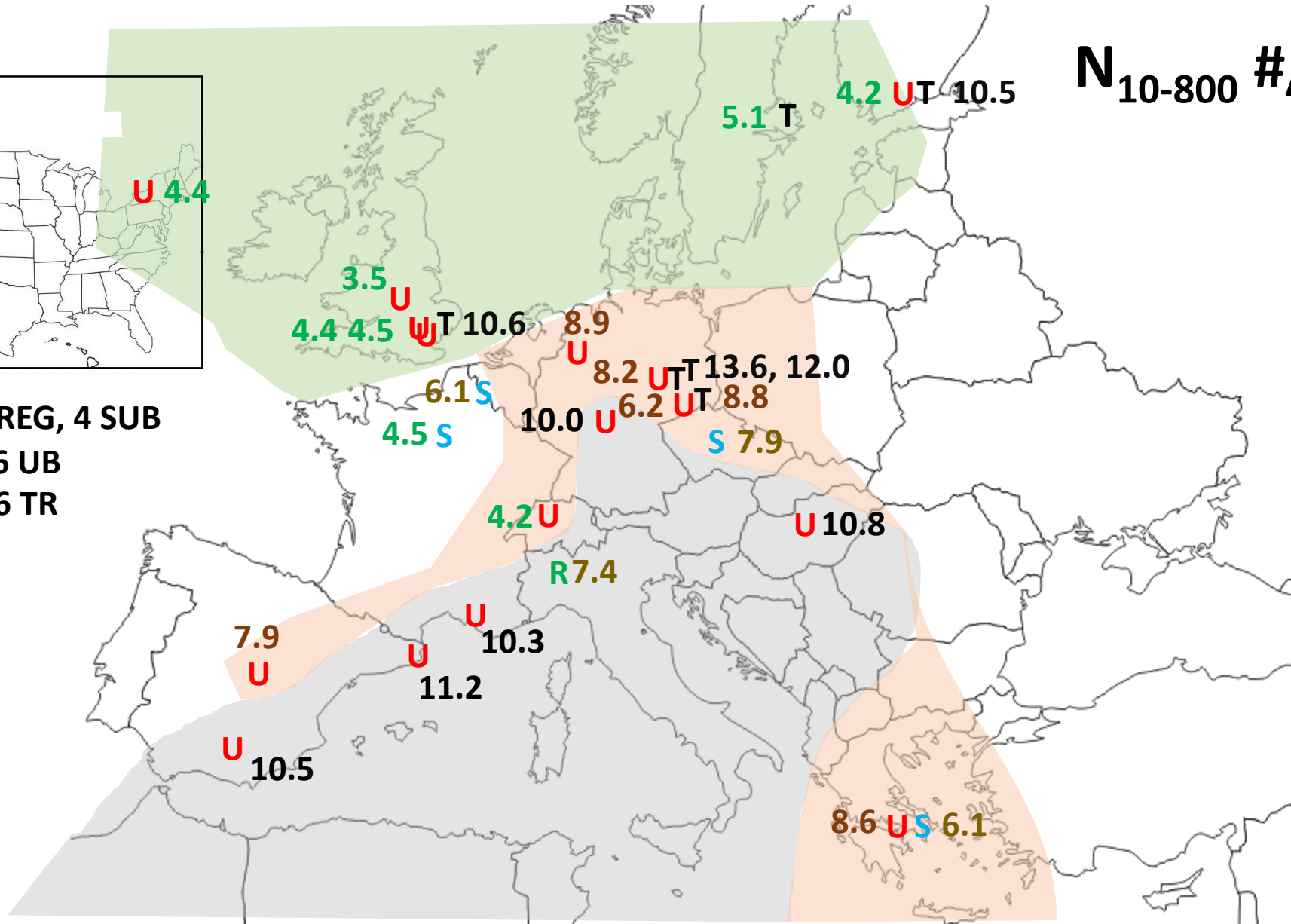
N_{10-800} #/1000/cm³



R, S 1 REG, 4 SUB

U 16 UB

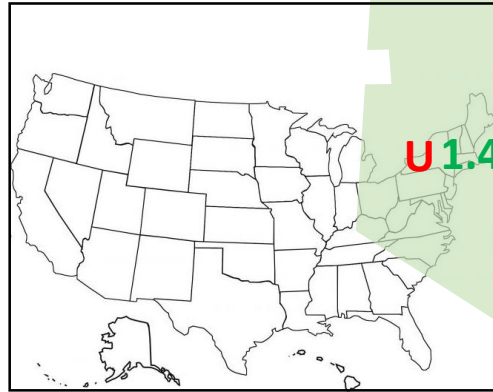
T 6 TR



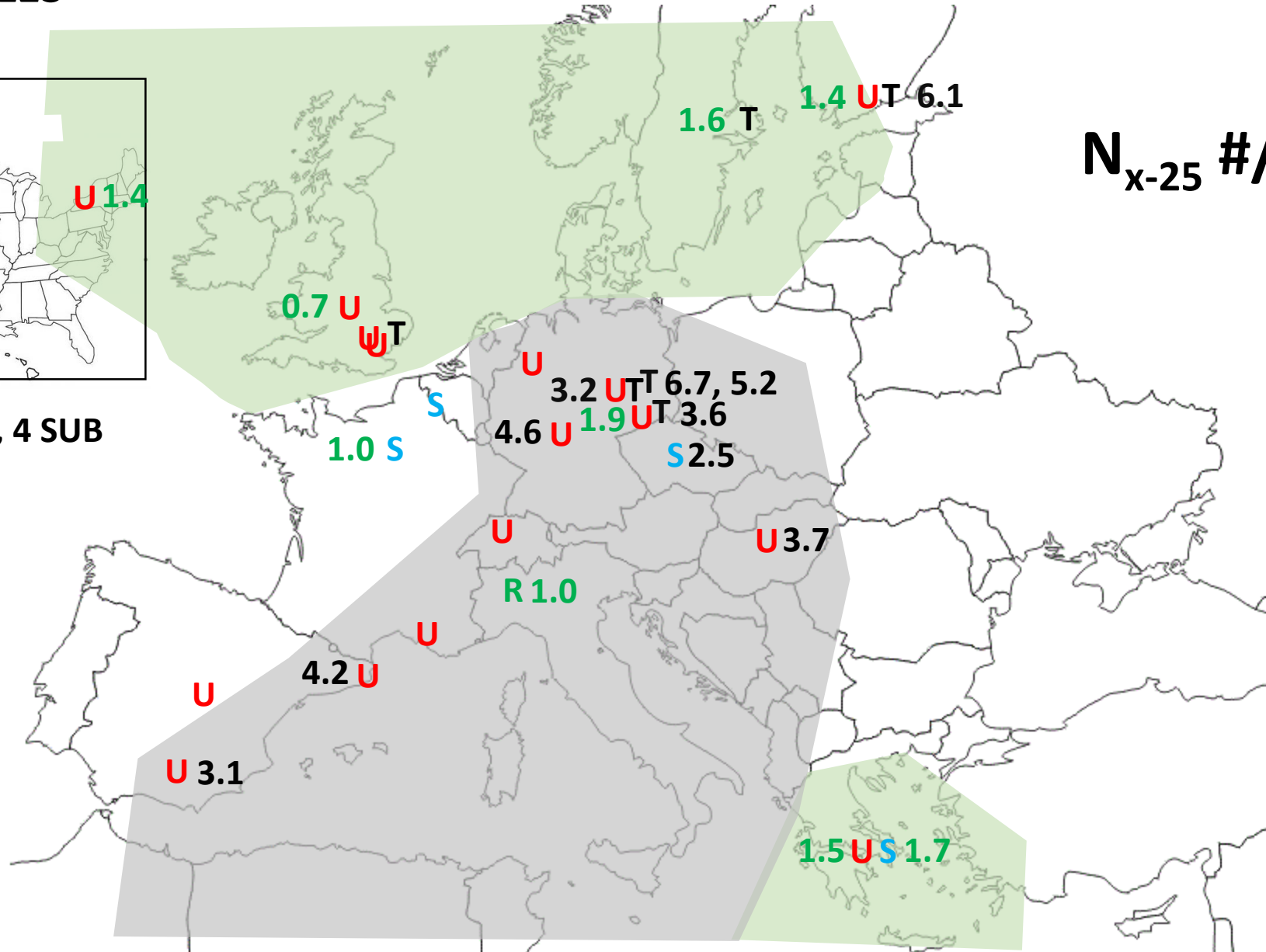
ULTRAFINE PARTICLES

Trechera P. et al., 2022. Environment International

N_{x-25} #/1000/cm³

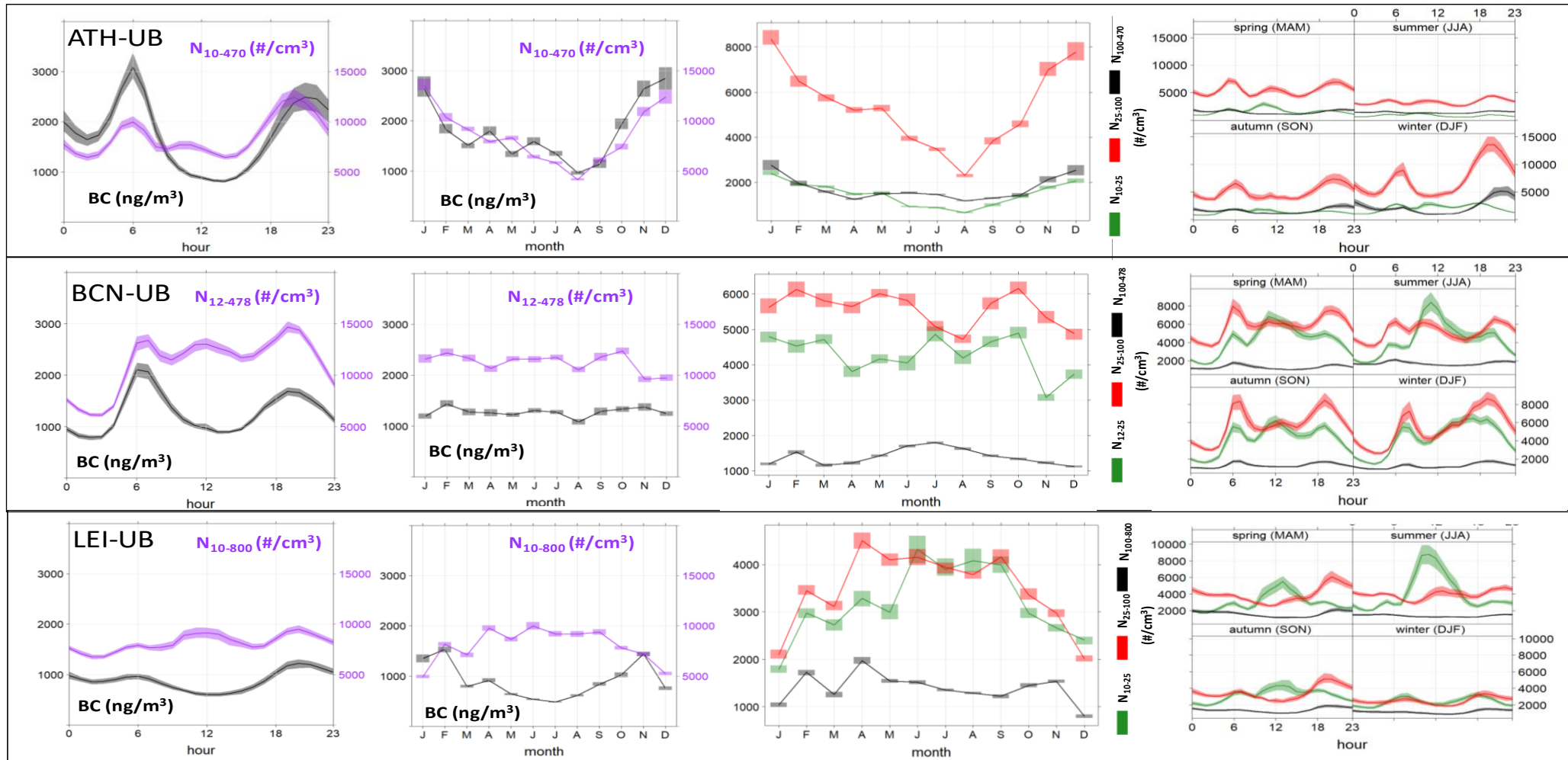


R, S 1 REG, 4 SUB
 U 16 UB
 T 6 TR



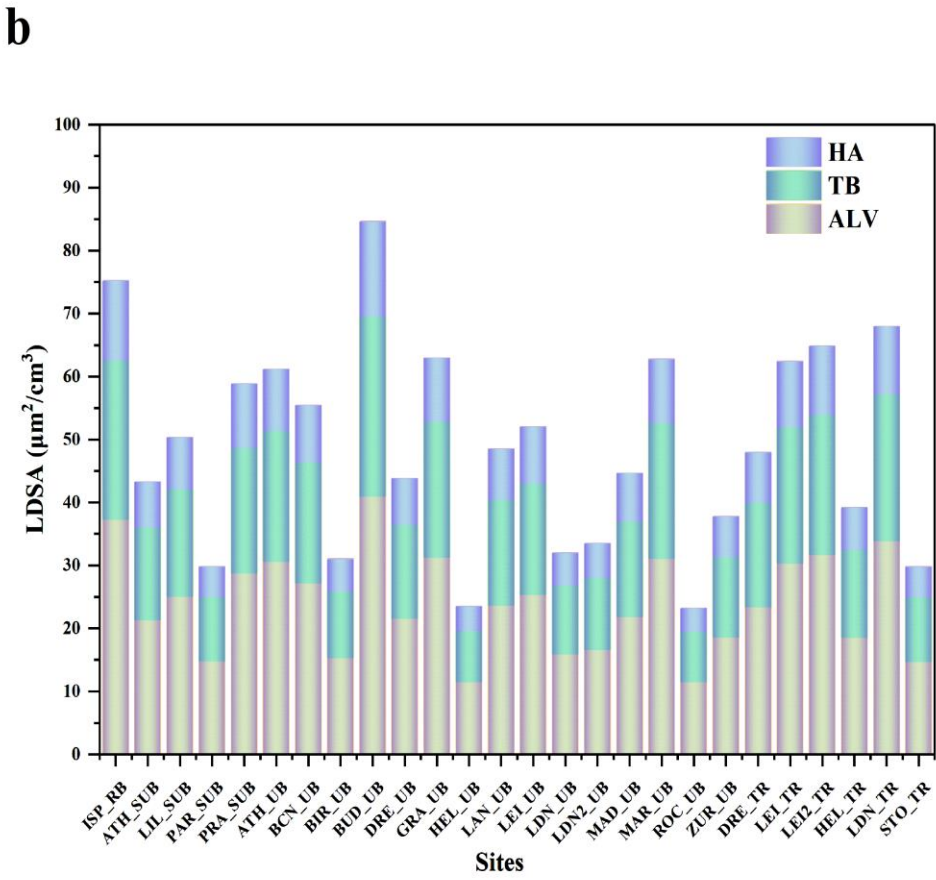
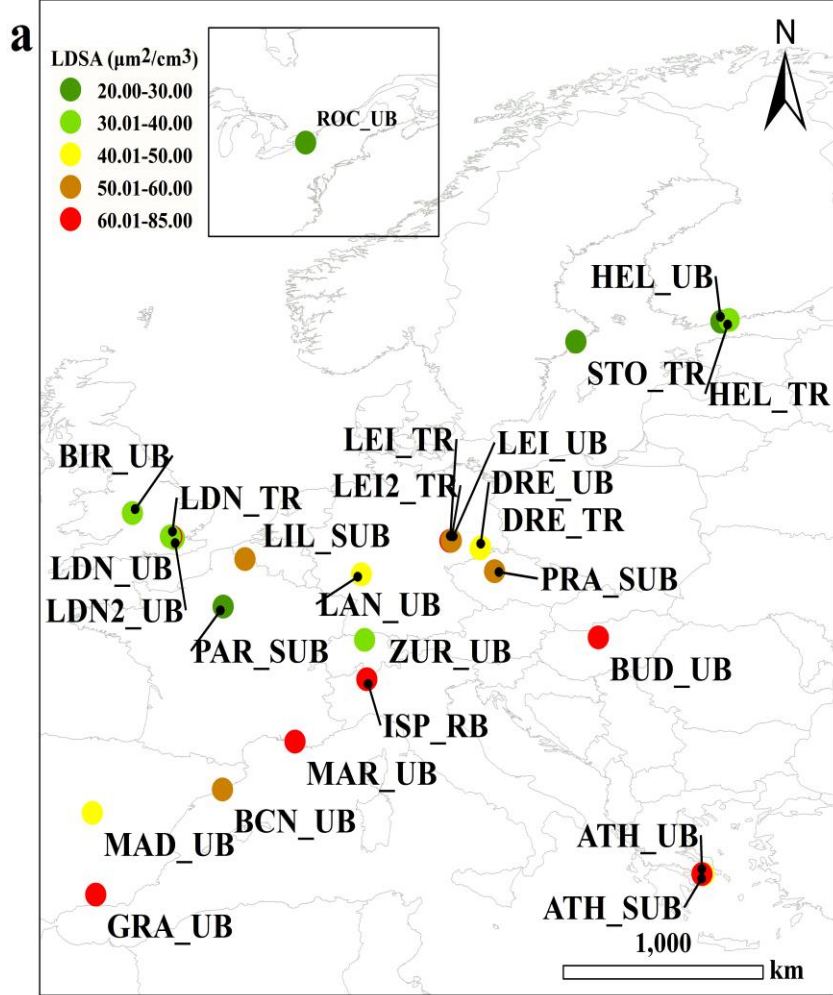
ULTRAFINE PARTICLES

Trechera P. et al., 2022. *Environment International*

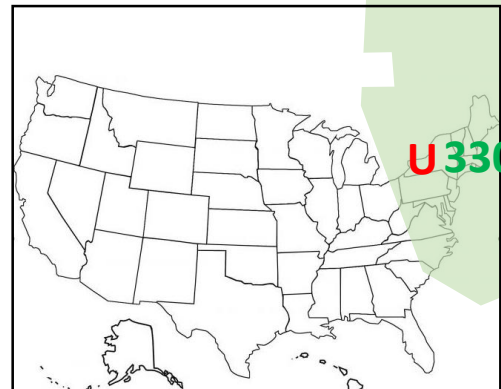


LUNG DEPOSITED SURFACE AREA ($\mu\text{m}^2 \text{cm}^{-3}$)

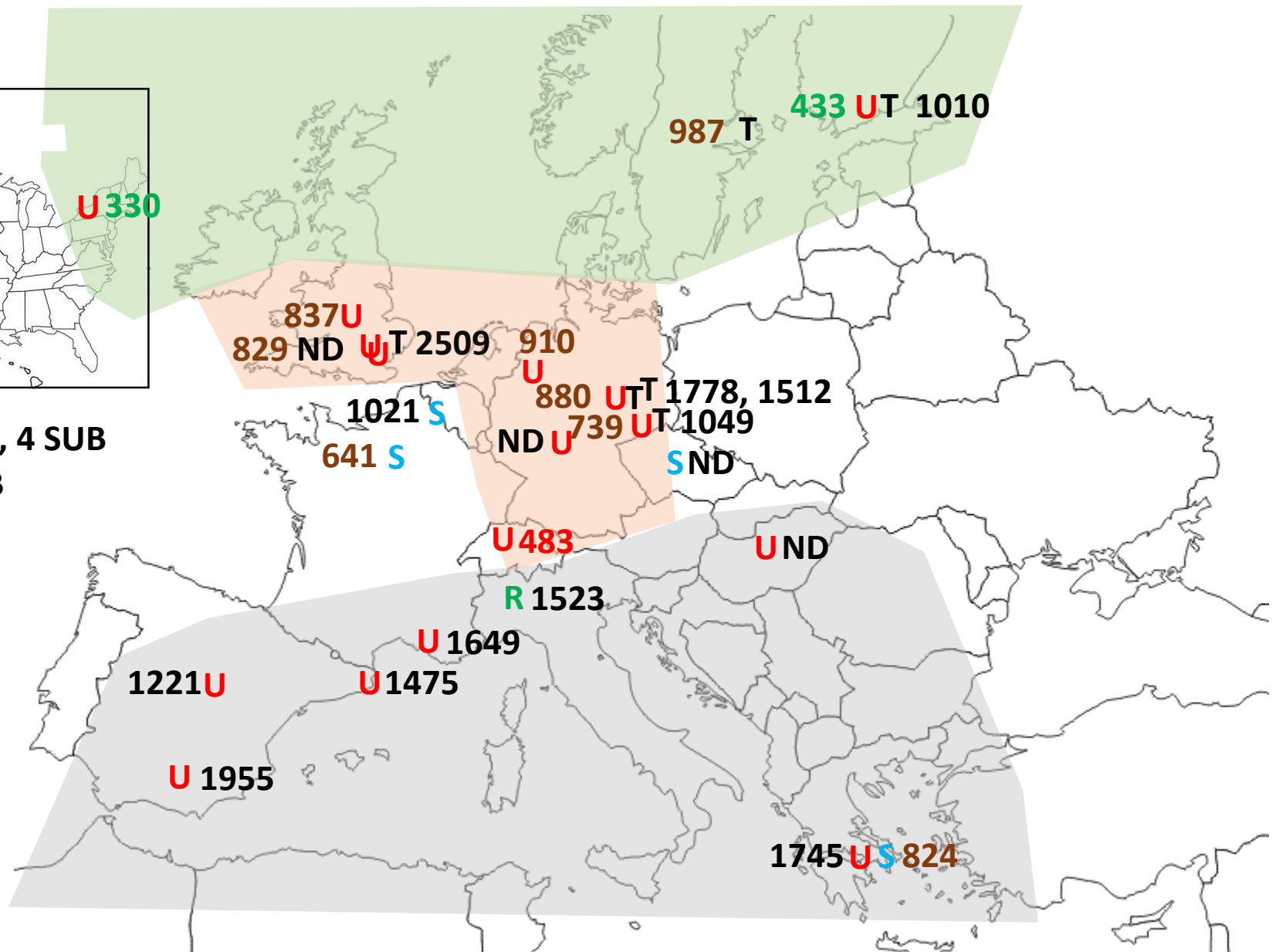
Liu X. et al., 2023. Submitted STOTEN



BC (ng/m³)

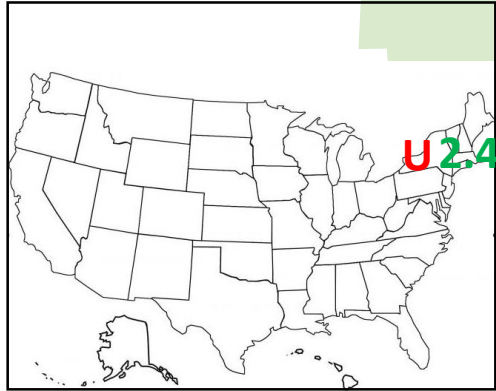


R, S 1 REG, 4 SUB
 U 16 UB
 T 6 TR

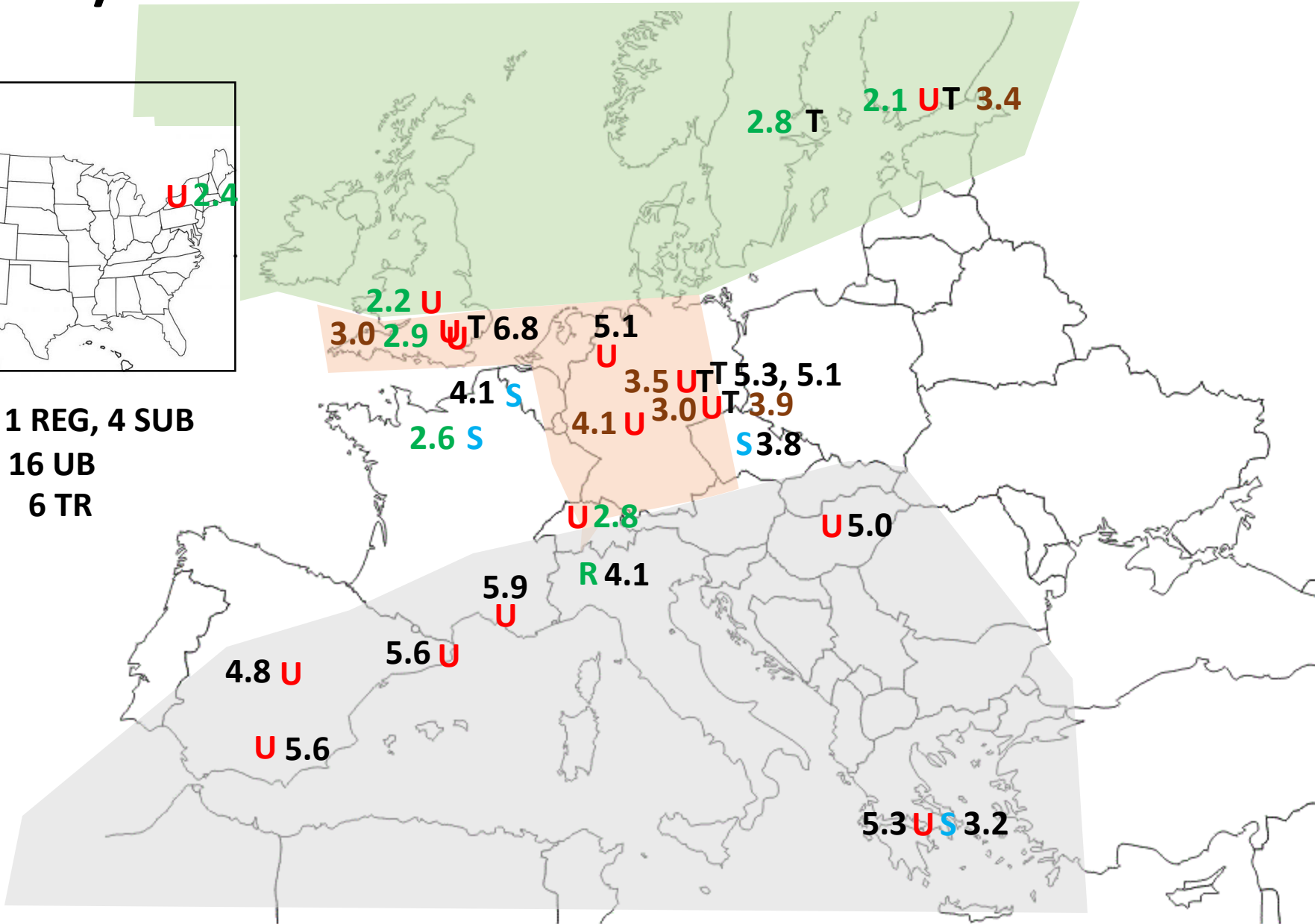


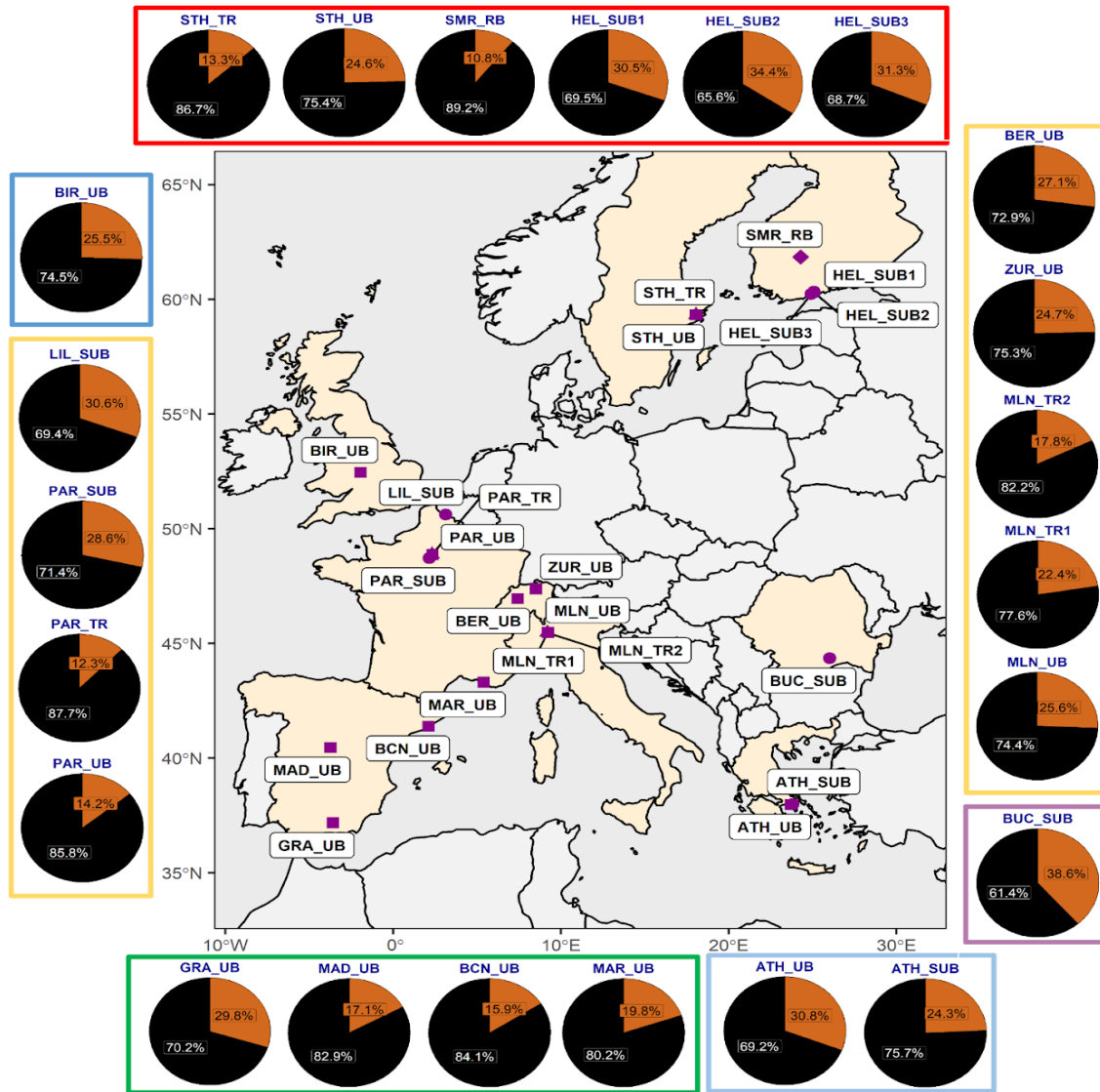
N_{25-100} #/1000/cm³

Trechera P. et al., 2022. Environment International

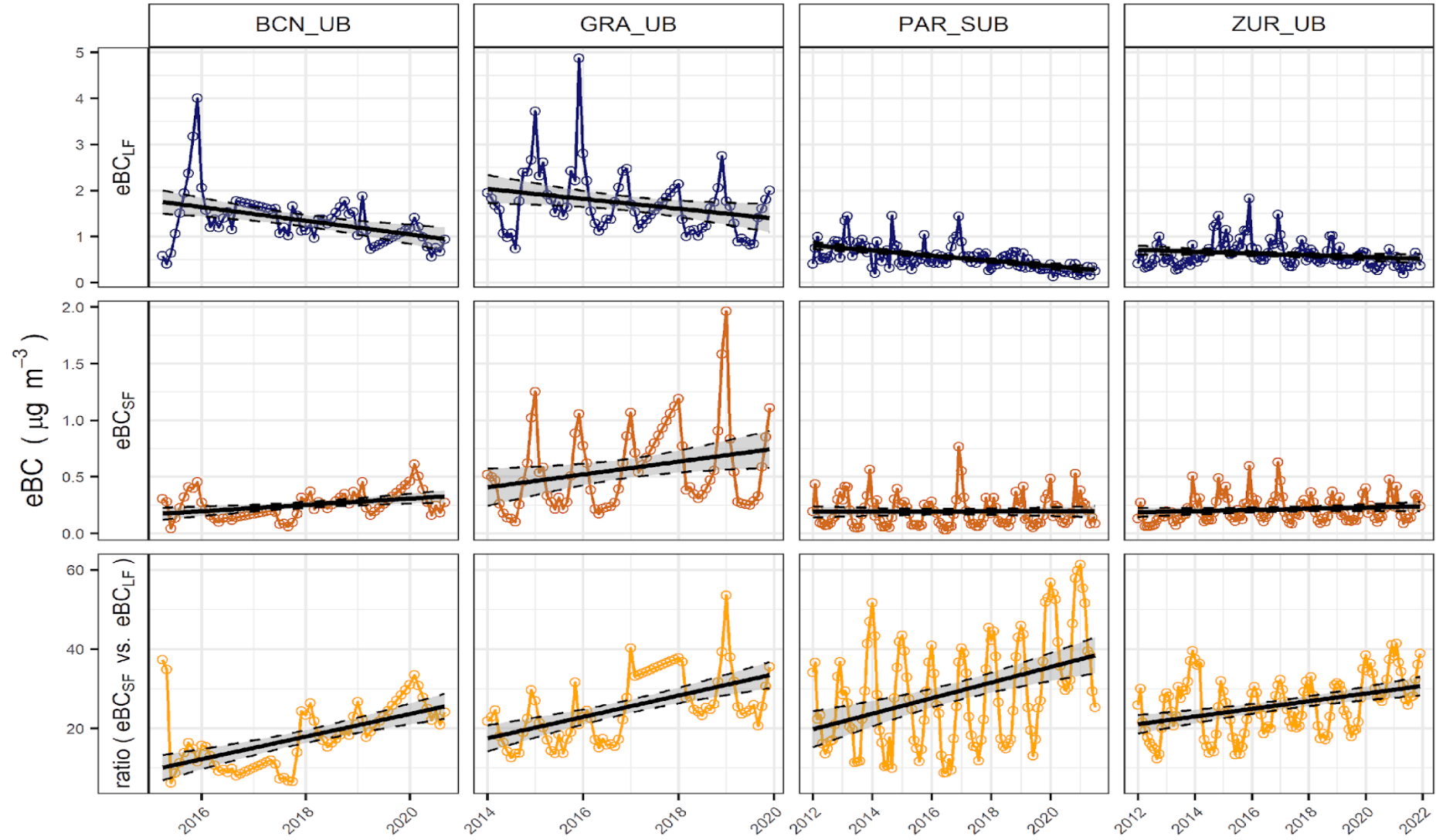


R, S 1 REG, 4 SUB
 U 16 UB
 T 6 TR





Savadkoohi M. et al., 2023. Submitted to Environment International



OXIDATIVE POTENTIAL

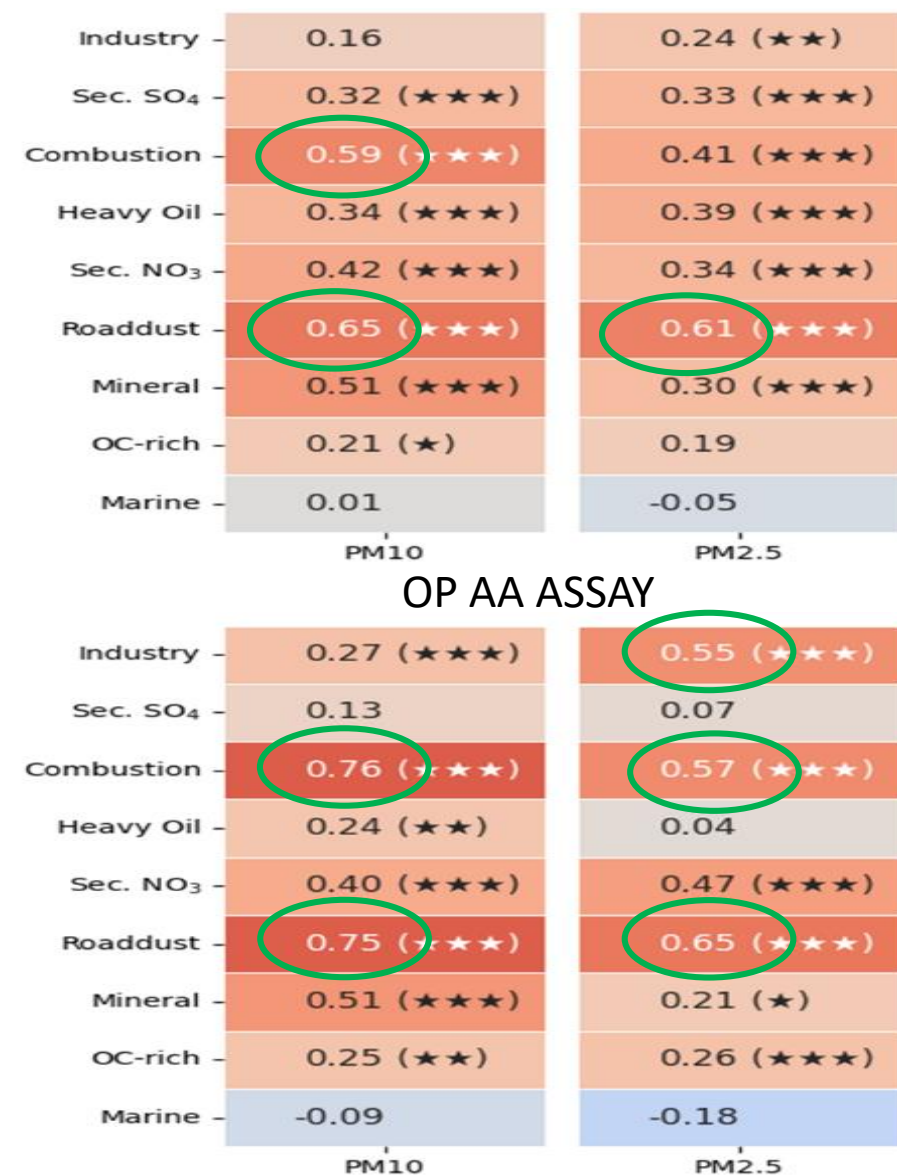
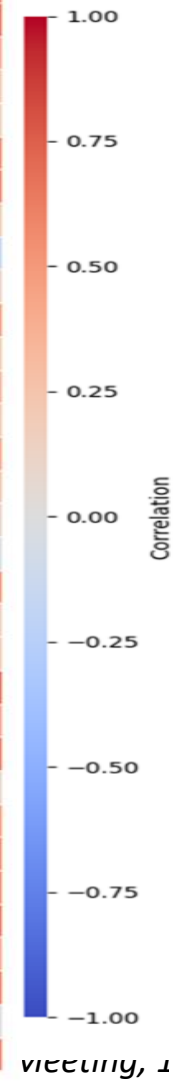
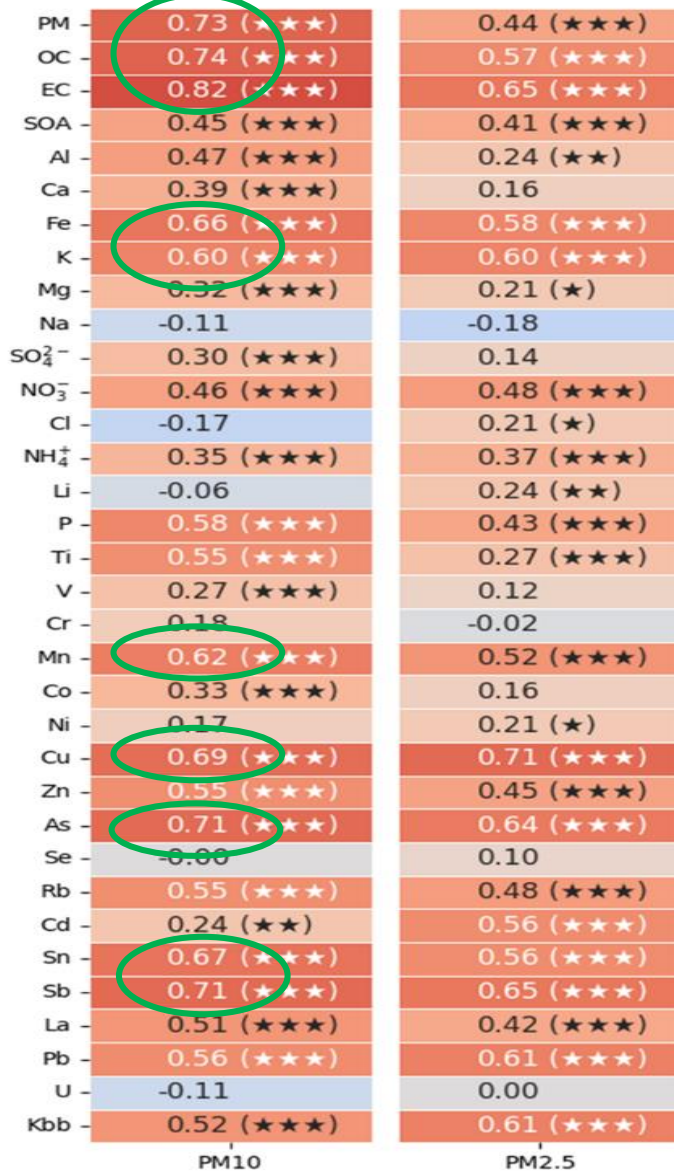
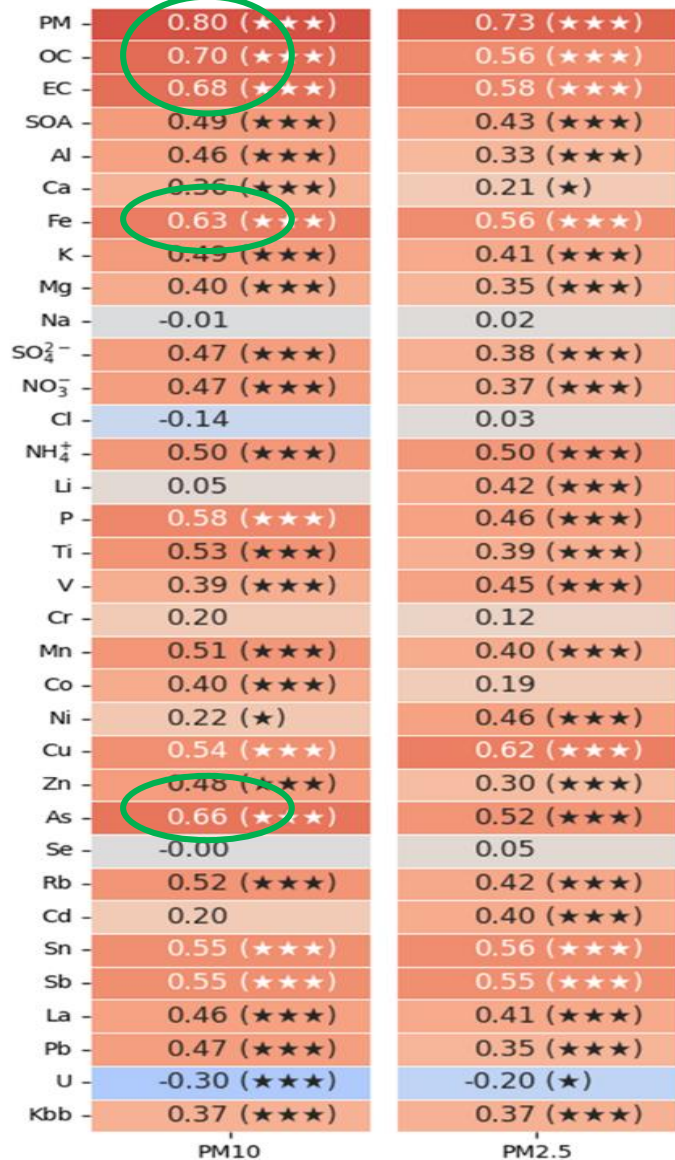
in 't Veld M., 2022. STOTEN

BARCELONA 2018-2019

OP DTT ASSAY

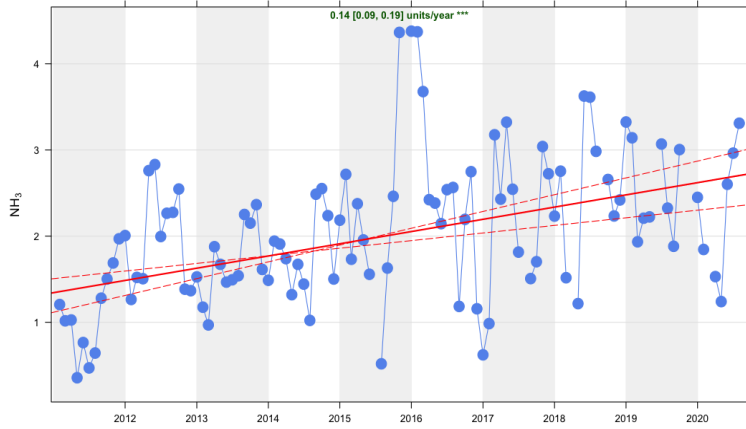
OP AA ASSAY

OP DTT ASSAY

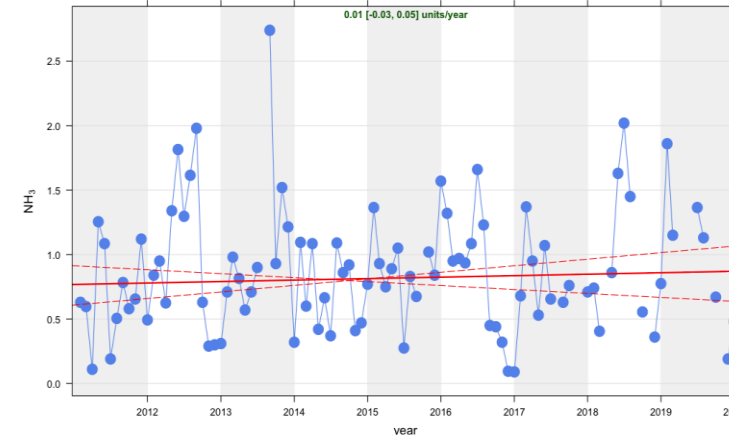


URBAN & REGIONAL NH₃: WHY SIA DECREASE SO MUCH WITH NH₃ REMAINING HIGH?

Reche C. et al., 2022. Chemosphere

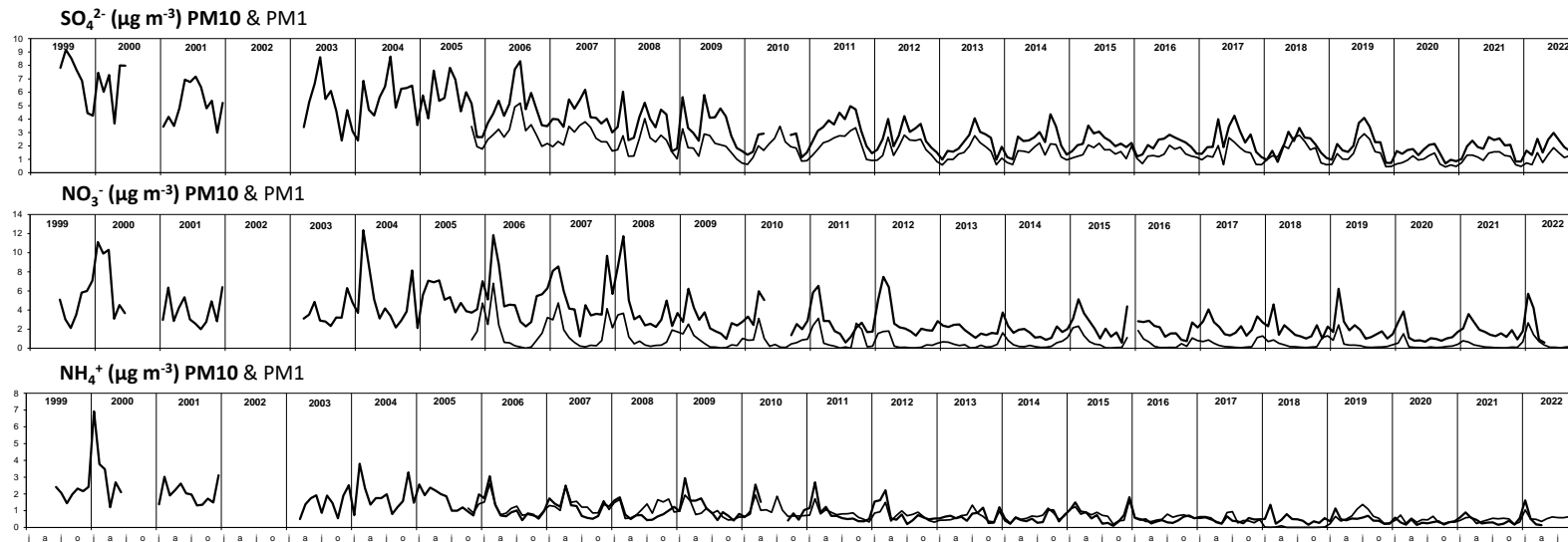


Urban background
NH₃, Barcelona
2011-2021



Regional background
NH₃, Barcelona
2011-2021

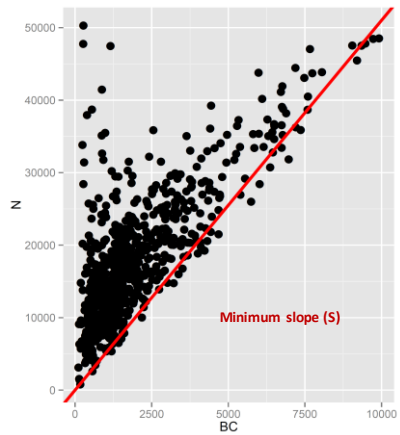
URBAN AMMONIA SHOULD DECREASE TO ABATE SIA & PM2.5



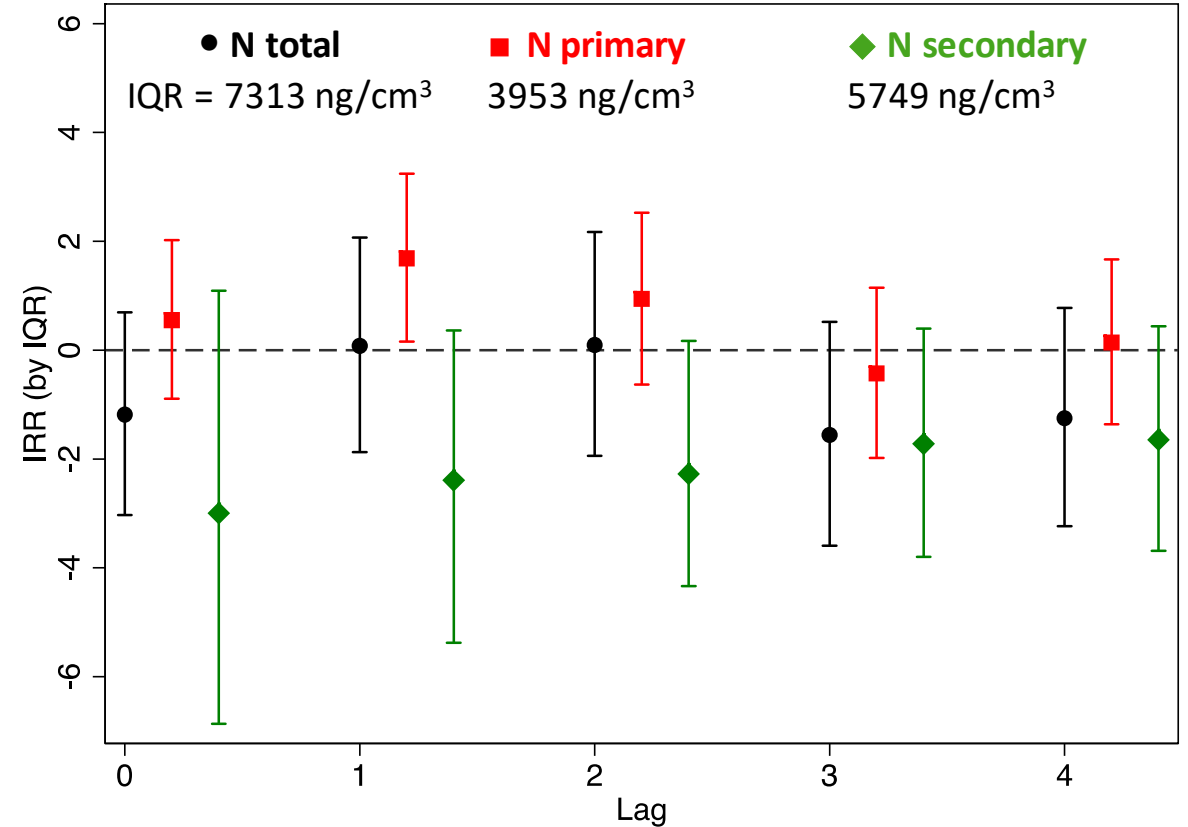
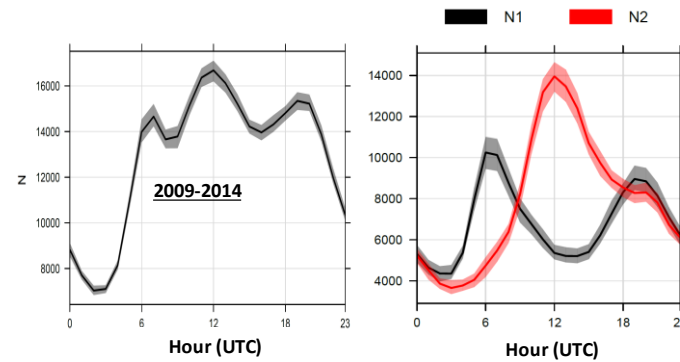
FURTHER STEPS

DAILY MORTALITY AND PRIMARY AND SECONDARY UFP IN BARCELONA 2009-2014

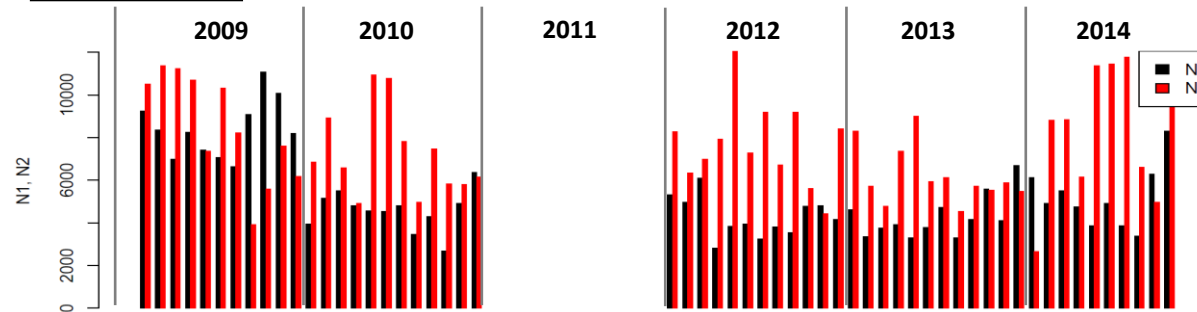
Tobias A. et al., 2018. Environment International, 111, 144-151



UFP Contribution of minimum primary emissions (N1) and new particle formation enhancements (N2) in Barcelona urban environment



MONTHLY AVERAGES



Comments from ACTRIS (and RI-URBANS) to DG ENV and AQUILA on the proposal for reviewing the EC Air Quality (AQ) Directives published on 26th October 2022

February 2023

This is a document containing preliminary recommendations from ACTRIS (and RI-URBANS) on this on the proposal for reviewing the EC Air Quality (AQ) Directives published on 26th October 2022. This document was elaborated by a group of experts from ACTRIS and RI-URBANS and we decided to send these preliminary comments now to adapt to the timing of the revision of the directive. From now, we will share this with the full ACTRIS community and a report will be produced in the near future.

The Aerosol, Clouds and Trace Gases Research Infrastructure (ACTRIS) is directly mentioned in the draft proposal of the EC Air Quality (AQ) Directives published on 26th October 2022 with specific indications that, when appropriate, AQ monitoring shall be coordinated with the strategy and measurement programme of ACTRIS.

ACTRIS is an ESFRI (European Strategy Forum on Research Infrastructures) landmark¹. The ACTRIS legal entity, established in Finland as a European Research Infrastructure Consortium (ERIC)², will be officially created in winter 2023, as **ACTRIS ERIC**, with the long-term political and financial commitment by **17 founding member and observer countries** (FI, IT, AT, BE, BG, CH,

Thank you very much for your attention!!!!

