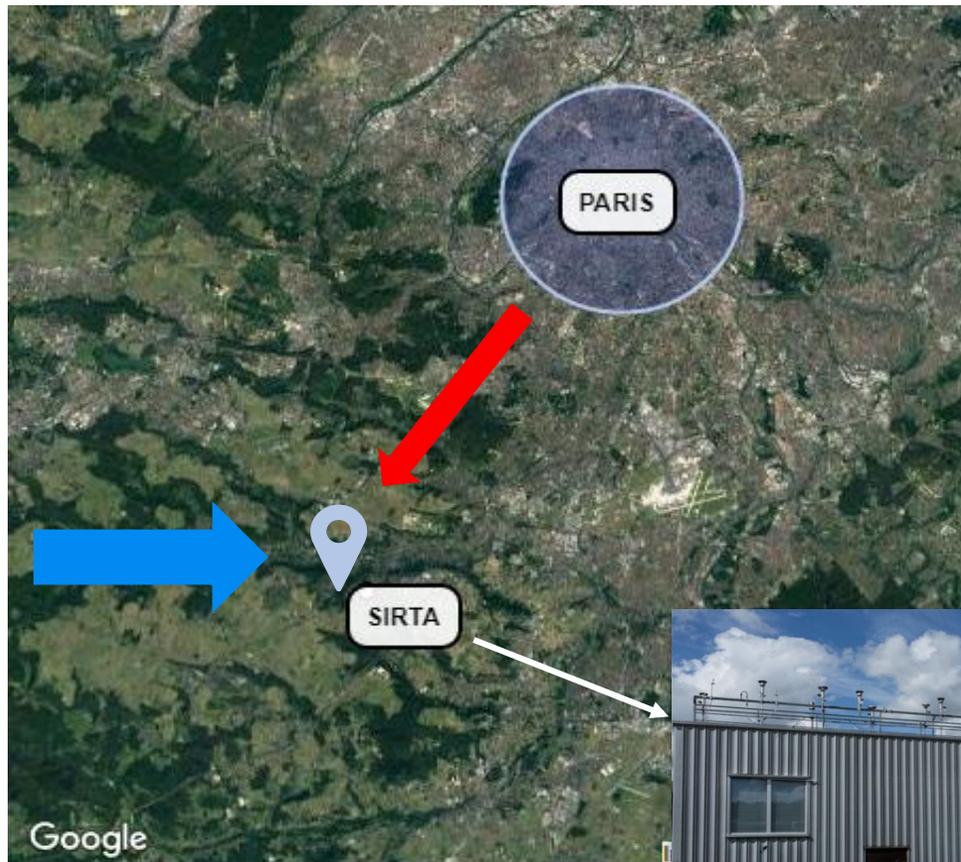


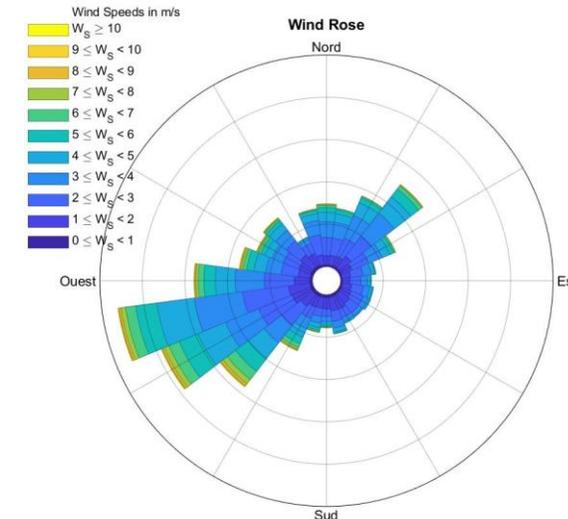
Lorna Foliot¹, Valérie Gros¹, Marc-Antoine Drouin², Christophe Boitel²

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²Laboratoire de Météorologie Dynamique, LMD/IPSL, Palaiseau, France



- Station SIRTA : Peri-urban site, south-west from Paris
- Paris region : ~ 20% of French population
- Several potential local sources (trafic, residential, building work...)
- continental/Paris (North-east) air masses or oceanic (West, South-West) air masses / dominant



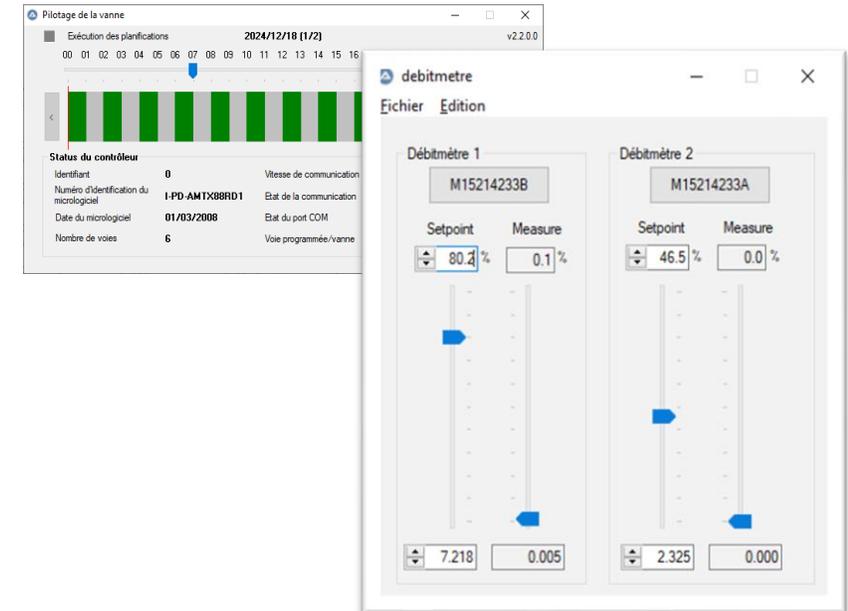


Measured since 2020:

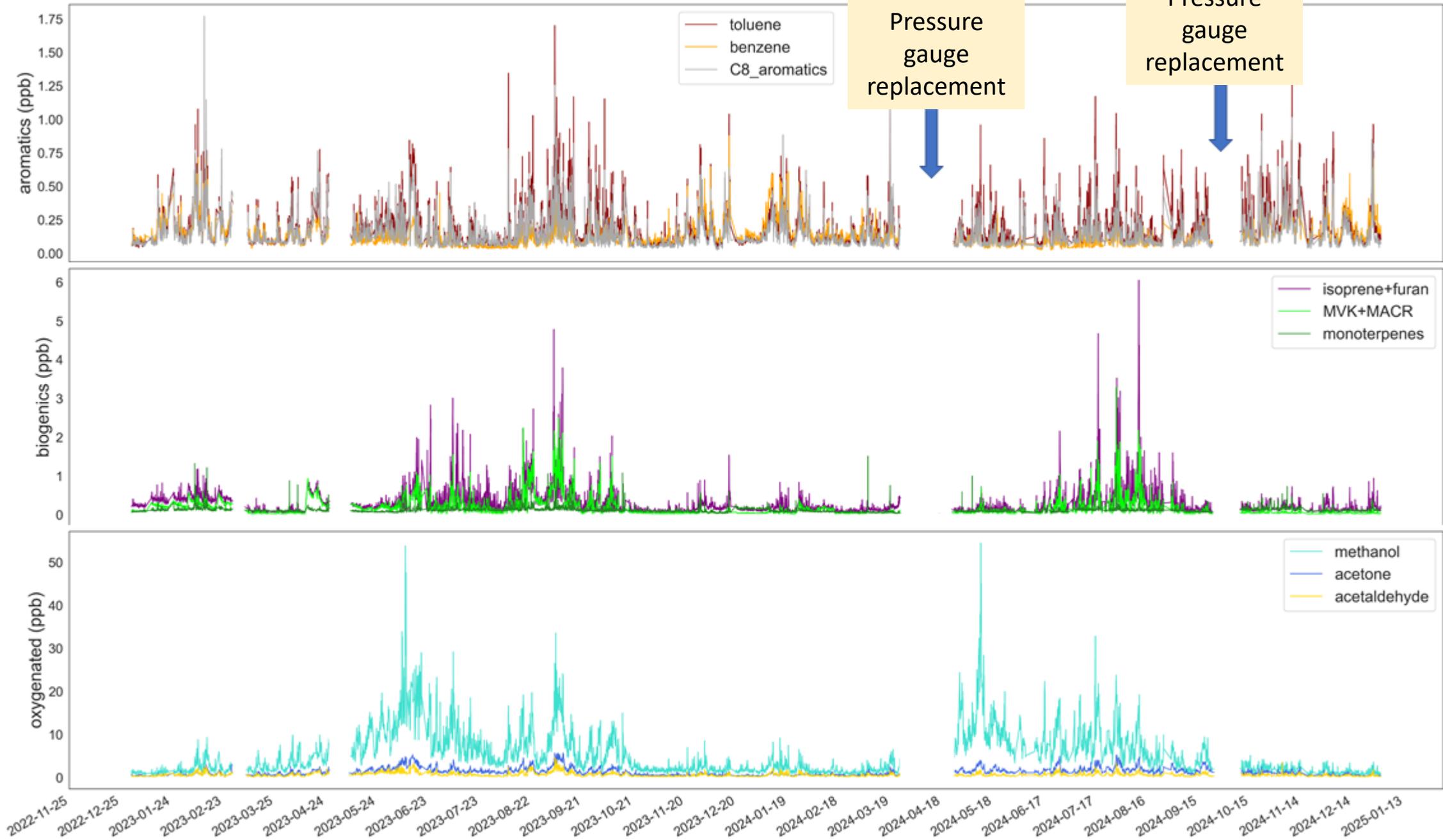
mass compound(s)	mass compound(s)	mass compound(s)	mass compound(s)
31 Formaldehyde	58 Allylamine	75 Methylacetate	99 Furandione
33 Methanol	59 Acetone	79 Benzene	107 C8-Aromatics
42 Acetonitrile	60 Trimethylamine	81 MTs' fragments	111 Benzenediol
45 Acetaldehyde	61 Acetic acid	83 Methylfuran	121 Trimethylbenzene
46 Ethylamine/NO ₂ ⁺	63 DMS	85 Methylbutenone	137 Monoterpenes
47 Ethanol/Formic acid	69 Isoprene/Furan	87 Butandione	139 Nopinone
57 Propenal	71 MVK/butenal	93 Toluene	147 Dichlorobenzene
	73 MEK/butanone	97 Furfural	151

2024 technical news :

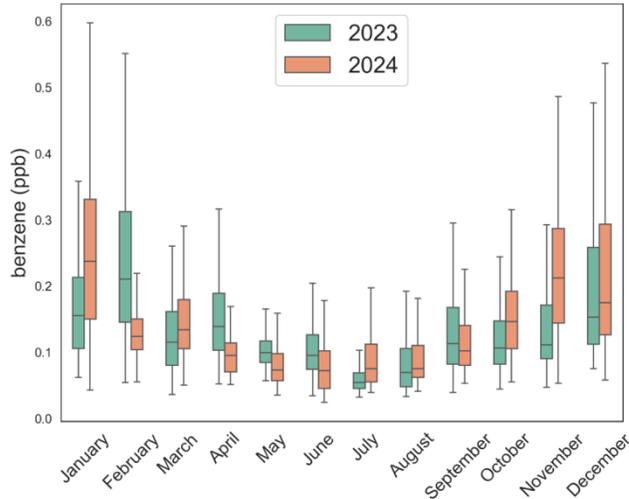
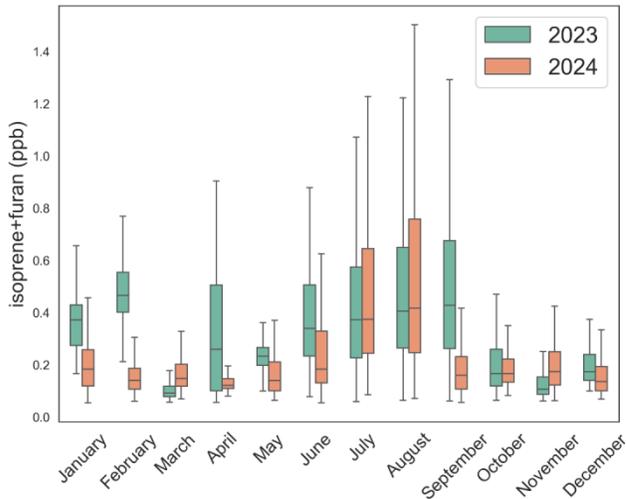
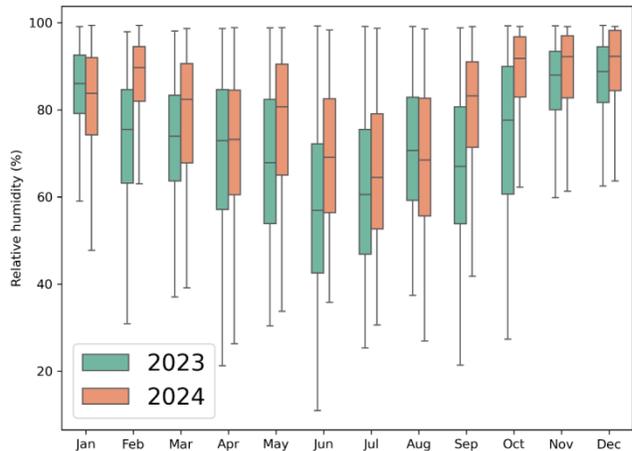
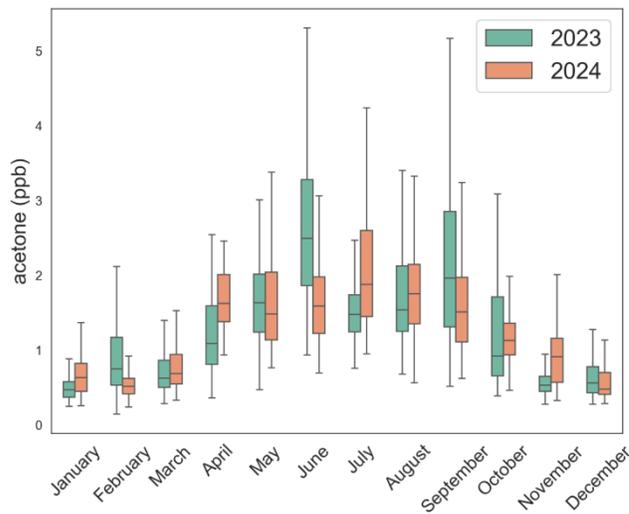
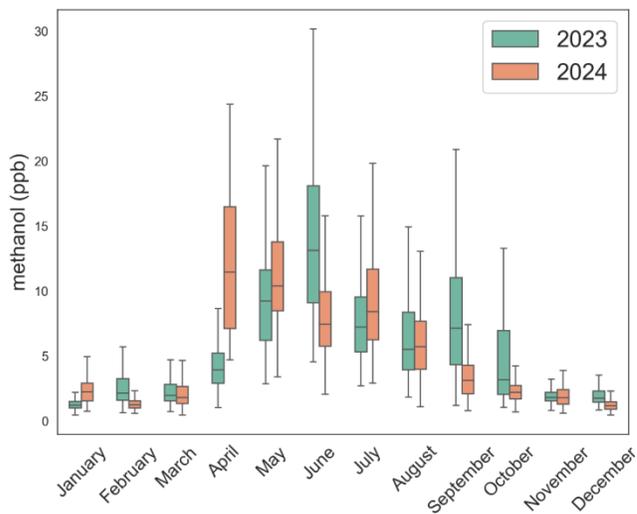
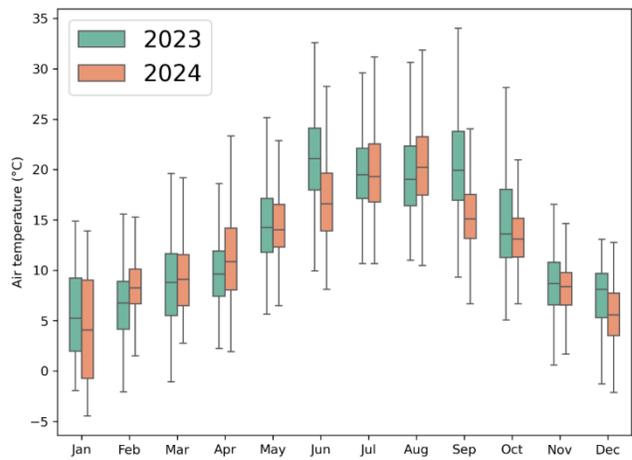
- Challenges with PTR-quad aging : the supplier might not be able to prevent maintenance in the future (problem with PKR gauge that cut some data)
- Calibration automation with the development of a MFC software linked to the valve program (by C. Boitel) for NRT (CAMS 2.1)



Overview VOC measurements from 2023 to 2024



Seasonal variability between 2023 & 2024



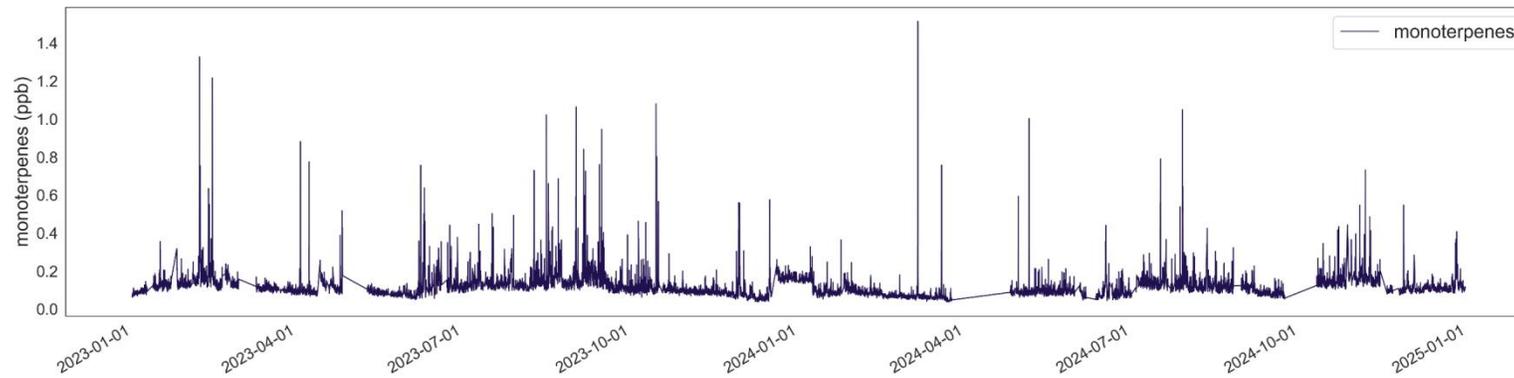
Seasonal cycle quite similar from one year to the other

Oxygenated compounds maximum in spring-summer (methanol is peaking earlier than acetone)

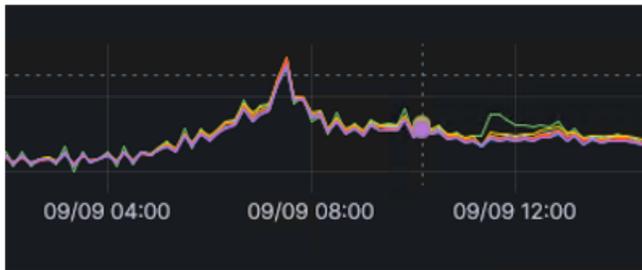
Aromatics compounds like benzene max in winter

Impact of Rainfall difference between June 2023/2024 to be studied

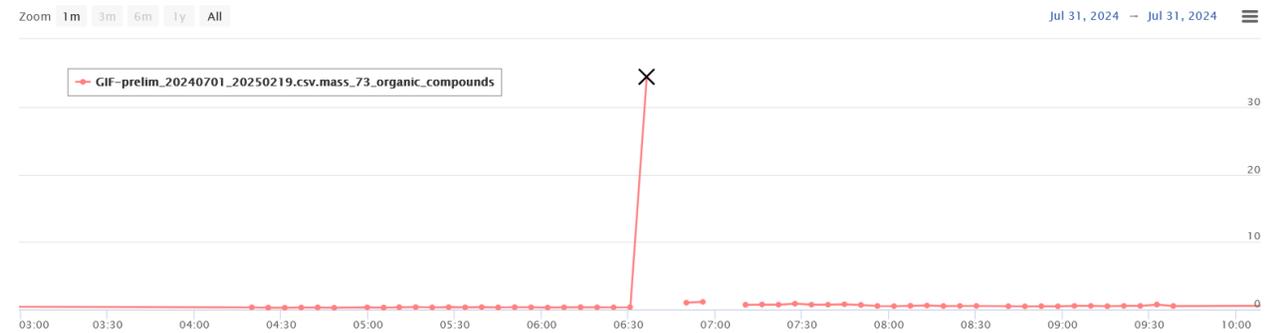
Flags



Tendency on
monoterpenes to show
sharp spikes along the
year => currently kept in
the dataset



Defined peak with gaussian shape
and sufficient duration =>
atmospheric variability



Short and high amplitude spikes => certainly
coming from hyper local /specific sources or
unidentified mechanical problem, we think
these data are not representative of our station
and we have flagged them as invalid.

More about flagging in Mantis issue 0005880

Perspectives for 2025

- Continuation of CAMS 21-a project
- Upgrade plan for ACTRIS labelling:
 - Measurement line height to be increased (2m above the roof), so we consider changing the current PFA line by Silconert one.
 - Secondary standard (target) to be measured weekly
 - Requalification of NPL standard (IMT)
- Focus on PTR-TOF 1000 data treatment – deployment on Integreen campaign in Paris (June-July 2025) and then maybe for long-term measurement at Sirta station

Acknowledgements

We thank Aurélien Chauvigné (AERIS) for helping with data submission

