C2-C12 NMHC MEASUREMENTS IN TWO SITES WITH CONTRASTED CHARACTERISTICS IN THE GREATER ATHENS AREA OVER THE PERIOD 2015-2019

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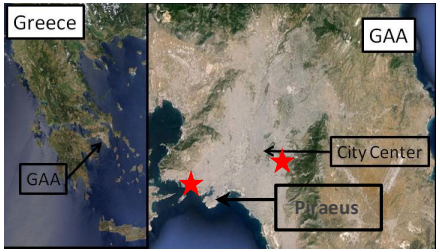


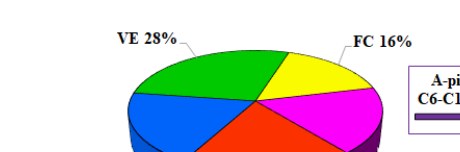
2015-2017: Athens Urban Background Site (Thissio Air Monitoring Station - NOA)

- Historical center of Athens, Greece
- Chromatotec "airmoVOC C2–C6" and "airmoVOC C6–C12" automatic gas chromatographs (30 minutes resolution)

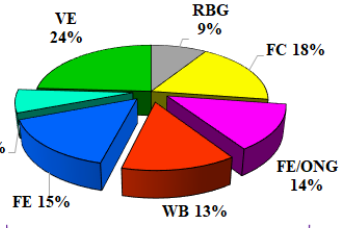
2019: Piraeus Coastal Urban Site (Keratsini-Drapetsona Atmospheric Pollution Monitoring Station-KDR)

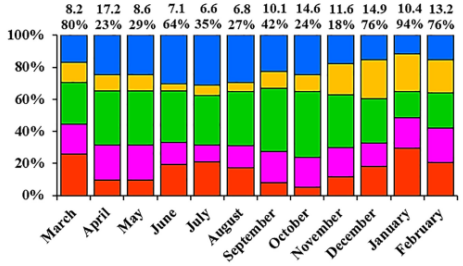
- 2km westerly of the passenger terminals of the Piraeus Port, Greece
- Chromatotec "AirmoVOC C6–C12" automatic gas chromatograph (30 minutes resolution)

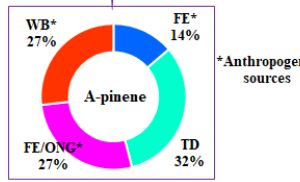
Dominance of traffic related emissions and increase of wood burning impact during winter in the urban background site.



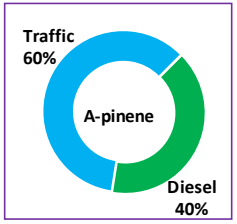
A-pinene, C6-C16 VOC

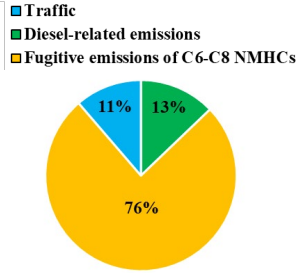






FE: Fuel Evaporation; VE: Vehicle exhaust; FC: Fuel Combsution; FE/ONG-LPG: Fugitive Emissions from Oil and Natural Gas and Liquified Petroleum Gas exploitation; WB/RBG: Wood-burning/Regional background; TD: Temperature-driven sources





The exclusion of α-pinene by the PMF run doesn't affect the source apportionment profile

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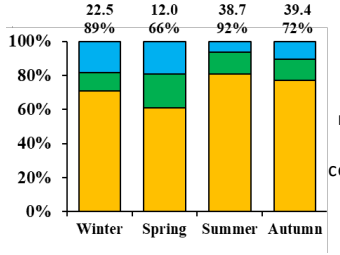

Mean monthly contributions of the modeled NMHC sources; (top) average predicted levels (μg m^{-3}) and completeness of the data per period (%).

Dominance of fugitive emissions in the coastal urban site regardless the season and enhancement under increased temperatures.

Concurrent ACSM measurements

α-pinene and limonene observed levels could account for at least 22% and 13% of the locally produced **SOA** in summer and winter respectively.

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Panopoulou et al., Atmos. Environ., 2020; Panopoulou et al., Sci. Total Environ., 2021