



VAISALA



Wind profiles over the Paris (France) area from Doppler Lidar

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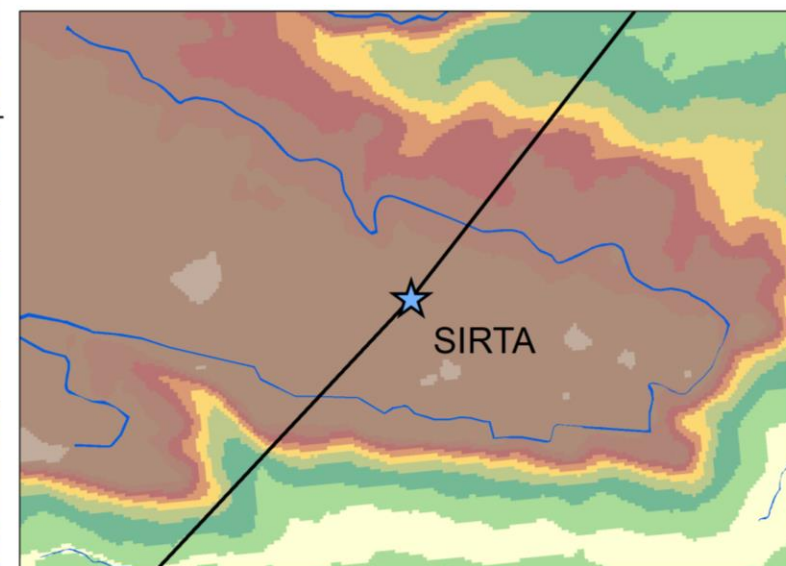
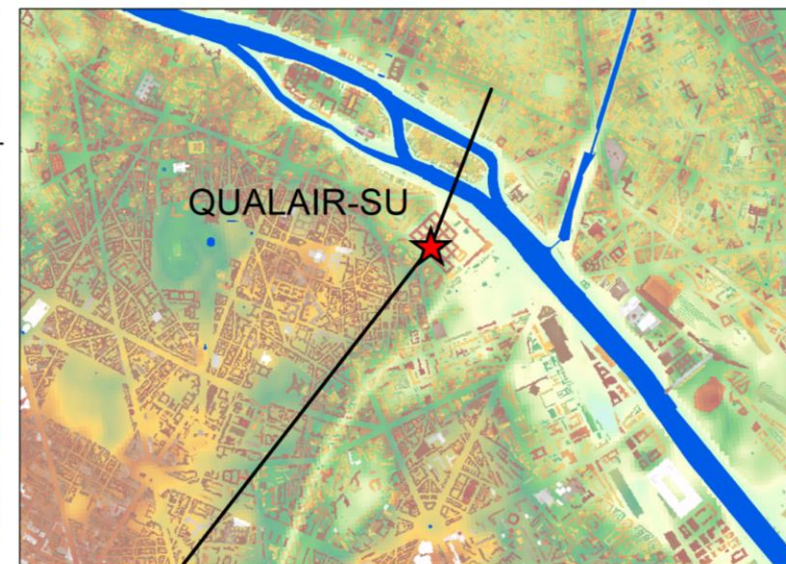
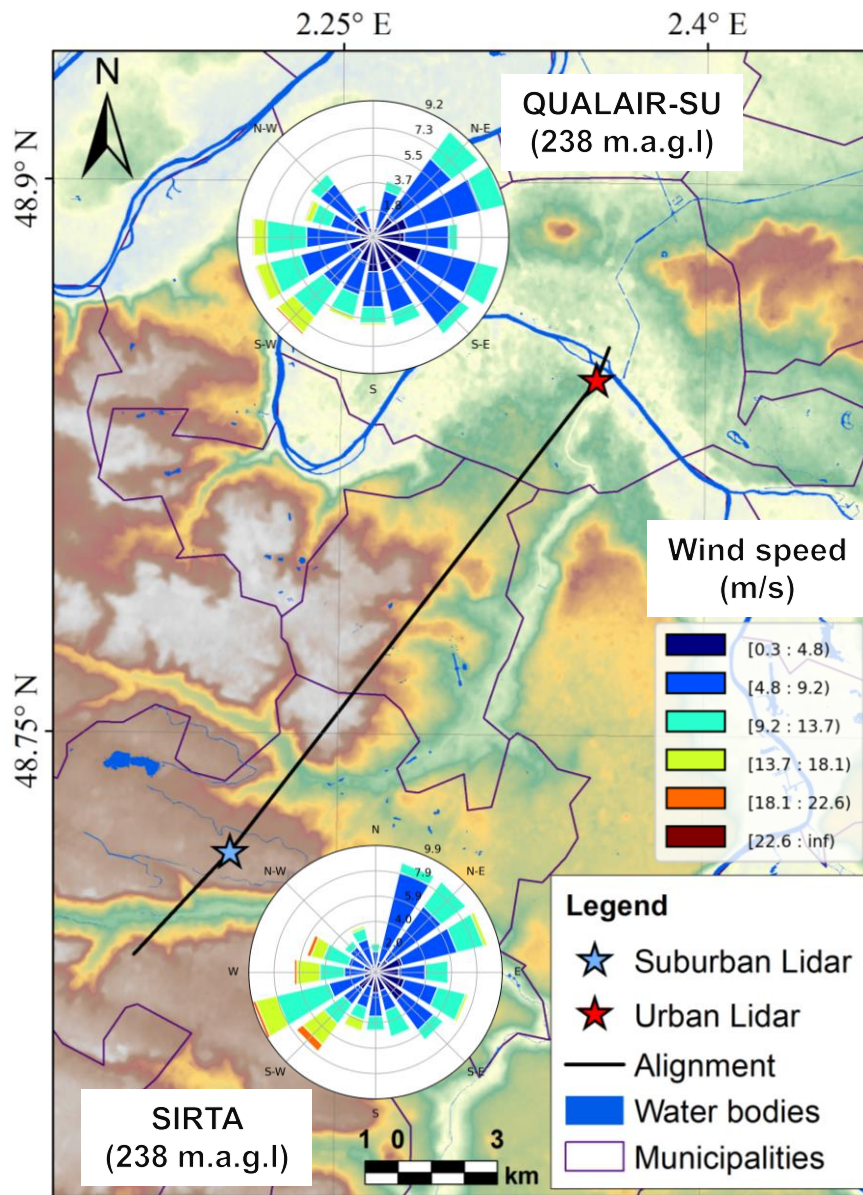
[Session 09] – [Atmospheric temperature, water vapor, wind, turbulence, and waves]

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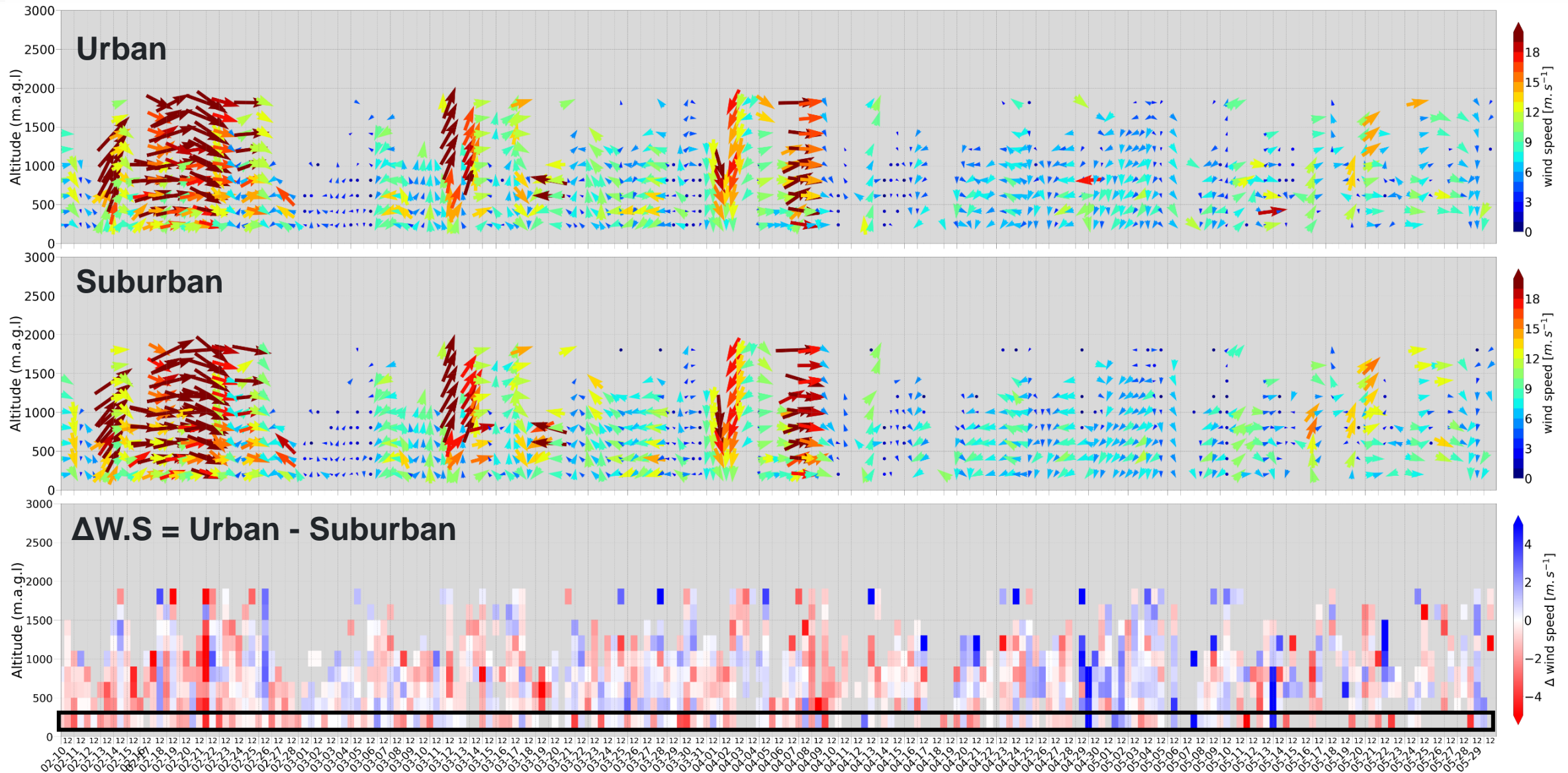
Research Motivation:

- What are the effects of the urban surface and topography on the Paris (France) wind field?
- What are the elements of the urban configuration that induces cooling or heating effect in the urban region?



Time series measurement

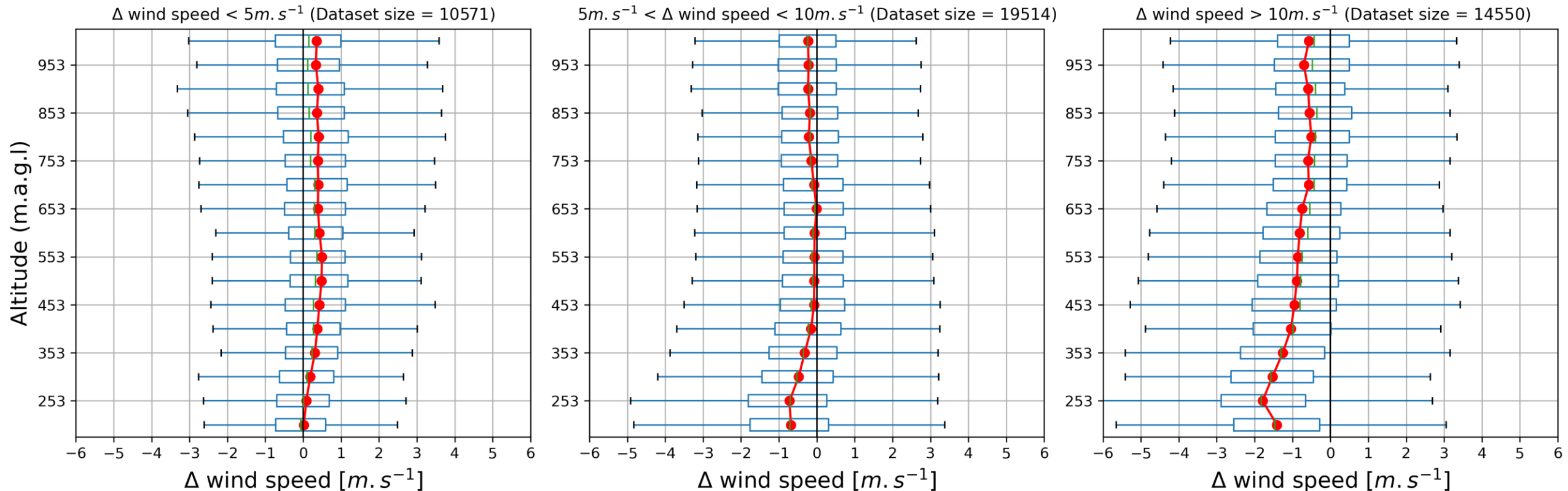
We already have a dataset based on ~4 months of measurements to compare both places (2022-02-10 / 2022-05-31)



$\Delta W.S$ by wind speed sectors

- These profiles were created based overall ~4 months dataset
- In high wind speed conditions, the differences between both places in the lower layers is higher. We can hypothesize this results is product of the surface-wind interaction, to be demonstrated.

$\Delta W.S = \text{Urban} - \text{Suburban}$



$\Delta W.S$ daily cycle by wind speed sectors

- These profiles were created based overall ~4 months dataset.
- In high wind speed conditions, we can appreciate how there is well defined diurnal cycle in the low layers, specially in the daytime. We can hypothesize this behavior is result of difference of the atmospheric stability conditions in both places.

$\Delta W.S = \text{Urban} - \text{Suburban}$

