

## **Fog Alleviation: An Unintended Benefit of Airport Construction and Operations at Amsterdam's Schiphol Airport?**

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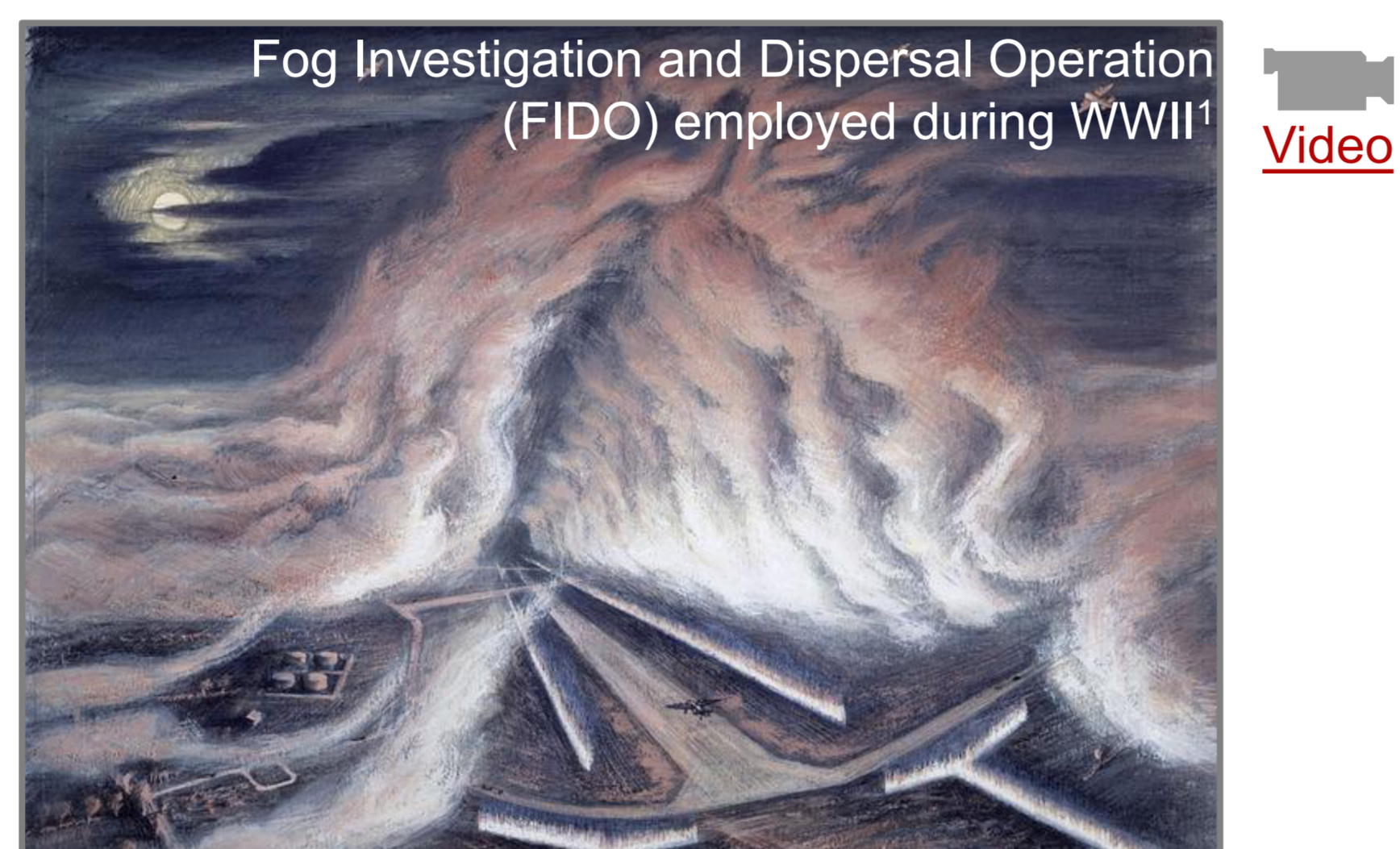
# Fog Alleviation

An Unintended Benefit of Airport Construction and Operations at Amsterdam's Schiphol Airport?

Jonathan G Izett, B J H van de Wiel, P Baas, R B Schulte

## Might urbanization, and even aircraft movements, play a role in reducing fog occurrence at airports?

Weather modification that prevents, or disperses fog has been attempted, but is expensive (and dangerous!)

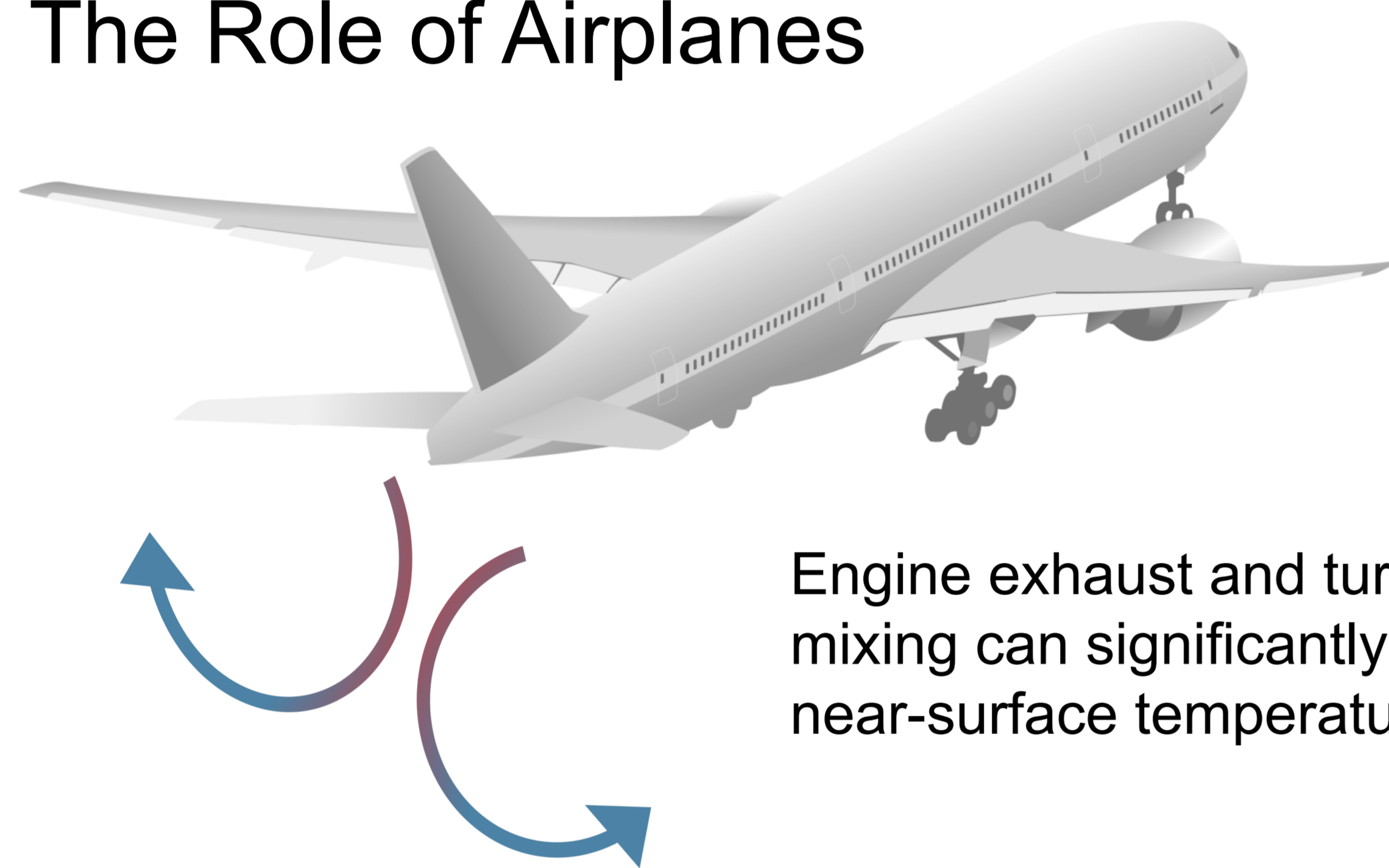


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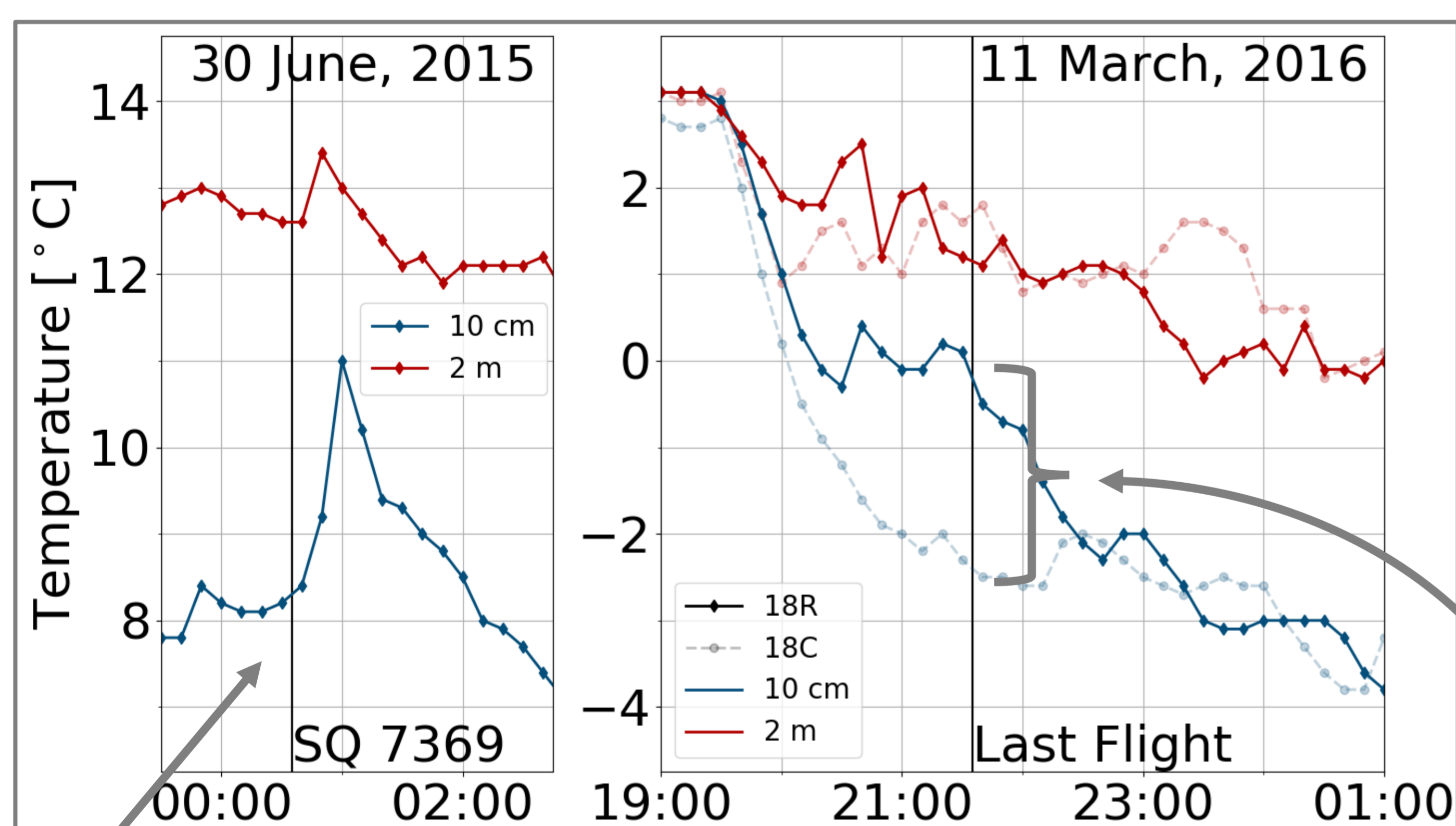
...but, conditions at large airports may already be less favourable for (radiation) fog formation<sup>2</sup>.

Fogginess – the observed occurrence of fog – is certainly much lower at Schiphol than its surroundings.

### The Role of Airplanes



Engine exhaust and turbulent mixing can significantly elevate near-surface temperatures<sup>4</sup>.



Spike due to take-off of a single Boeing 747!

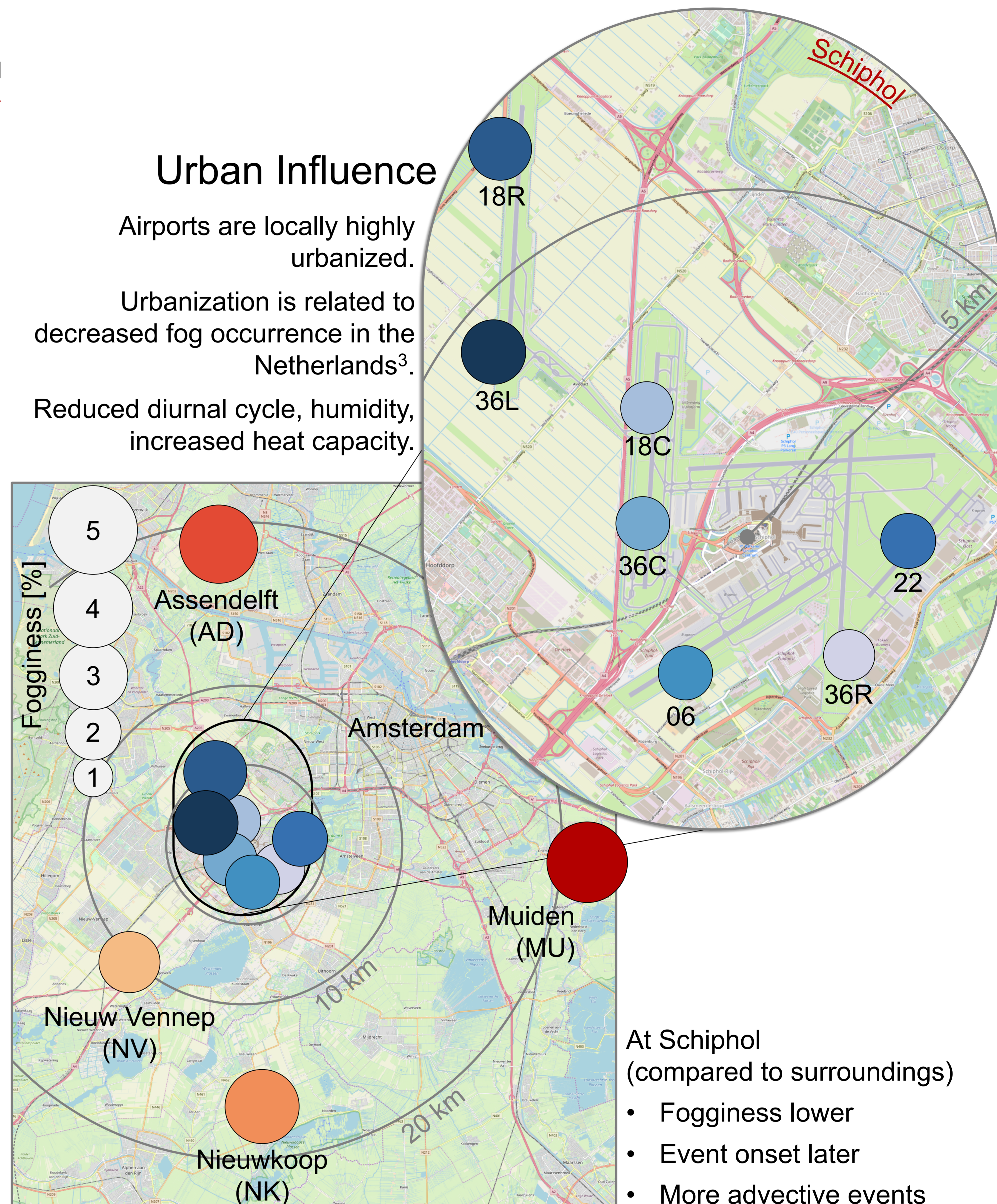
Successive take-offs delay nocturnal cooling. Delayed cooling means delayed fog formation. Lots of time for conditions to change<sup>2</sup>!

### Urban Influence

Airports are locally highly urbanized.

Urbanization is related to decreased fog occurrence in the Netherlands<sup>3</sup>.

Reduced diurnal cycle, humidity, increased heat capacity.



At Schiphol (compared to surroundings)

- Fogginess lower
- Event onset later
- More advective events

