

# Towards Measuring the Impact of Weather Phenomena on Arrival Management

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**TEASER** With air transportation recovering around the globe, the policy focus shifts back to environmental protection and the climate change impact of air transportation. Arrival operations at airports form part of a substantial benefit pool. **WHY IMPORTANT** Little attention is currently given to the underlying mechanism of changing weather phenomena on arriving air traffic. **APPROACH** This paper presents the conceptual approach to describe arrival management sequencing as a spatio-temporal problem within 200NM around an airport. The success of the trajectory-based operations will be analysed in light of significant weather disruptions at the arrival airports and within the studied arrival horizon. **EXPERIMENT MAJOR RESULT/TAKE AWAY**

## Note

This article is work in progress. We also use the Quarto manuscript project type to explore the new features. Please consult these pages regularly to follow any updates.

## Introduction

Table 1: Threshold values for proxies defining particular hazard type.

Hazard type	Shortcut	Threshold values
Thunderstorm	TSTM	ML CAPE $>150 \text{ J kg}^{-1}$ , convective precipitation $>0.25 \text{ mm h}^{-1}$
Limited visibility	LIMV	Ceiling height $<200 \text{ ft AGL}$ , low-level cloud cover $\frac{1}{4}100\%$
Low-level wind shear	LLWS	$0\text{--}100 \text{ m AGL}$ vertical wind shear gradient $>3 \text{ kt per } 100 \text{ ft}$
Snowfall	SNOW	Snowfall $>0.5 \text{ mm h}^{-1}$ (liquid water content equivalent)

Source: [Article Notebook](#)

Values from (Taszarek, Kendzierski, and Pilguy 2020). Add some more text. Where is the article gone?

## **Background**

## **Concept, Methods, and Data**

## **Results and Discussion**

## **Conclusion**

## **References**

Taszarek, Mateusz, Sebastian Kendzierski, and Natalia Pilguy. 2020. "Hazardous Weather Affecting European Airports: Climatological Estimates of Situations with Limited Visibility, Thunderstorm, Low-Level Wind Shear and Snowfall from ERA5." *Weather and Climate Extremes* 28 (June): 100243. <https://doi.org/10.1016/j.wace.2020.100243>.