# Article information:

Investigations on meteorological conditions for elevated PM2.5 in Fairbanks, Alaska-Web of Science 核心合集
[https://www.webofscience.com/wos/woscc/full-record/WOS:000285988300003](https://www.webofscience.com/wos/woscc/full-record/WOS%3A000285988300003)

# Article summary:

1. The study investigated the relationship between meteorological conditions and PM2.5 concentrations in Fairbanks, Alaska using ten years of observational data.

2. During wintertime, high PM2.5 concentrations occurred under calm wind, extremely low temperature, and moisture multiday surface-inversion conditions that trap pollutants in the breathing level and inhibit transport of polluted air out of Fairbanks.

3. Low temperatures are required because they lead to increased emission rates from domestic heating and power production, but during multiday inversions with temperatures above -20 degrees Celsius, high relative humidity partly caused by water-vapor emission reduces PM2.5 concentrations.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article investigates the relationship between meteorological conditions and PM2.5 concentrations in Fairbanks, Alaska, using observational data from ten years. The study finds that during wintertime, PM2.5 concentrations exceeding the 24-hour National Air Quality Standard occur under calm wind, extremely low temperature, and moisture multiday surface-inversion conditions that trap pollutants in the breathing level and inhibit transport of polluted air out of Fairbanks.

The article provides a detailed analysis of the meteorological conditions that lead to elevated PM2.5 concentrations in Fairbanks. However, it does not explore the sources of pollution or potential solutions to reduce pollution levels. The study also does not consider the impact of long-term exposure to high levels of PM2.5 on human health.

The article is published by Elsevier Science Inc., which may have a bias towards scientific research and publications. The study is funded by various organizations, including the College of Natural Sciences and Mathematics, Fairbanks North Star Borough, and National Science Foundation (NSF). The funding sources do not appear to influence the findings or conclusions of the study.

Overall, while the article provides valuable insights into meteorological conditions leading to elevated PM2.5 concentrations in Fairbanks, it lacks a comprehensive analysis of pollution sources and potential solutions to reduce pollution levels. Additionally, it does not consider the long-term health impacts of exposure to high levels of PM2.5 on residents in Fairbanks.

# Topics for further research:

* Sources of PM
* 5 pollution in Fairbanks
* Alaska
* Health effects of long-term exposure to PM
* 5 in Fairbanks
* Strategies to reduce PM
* 5 pollution in Fairbanks
* Community efforts to address PM
* 5 pollution in Fairbanks
* Comparison of PM
* 5 levels in Fairbanks to other cities in Alaska and the US
* Government regulations and policies related to PM
* 5 pollution in Fairbanks

# Report location:

<https://www.fullpicture.app/item/1f0c55c60616a035d15efbe06219cf8f>