

2022 GLOBE International Virtual Science Symposium

Kaohsiung Municipal Kaohsiung
Girls' Senior High School
Yi-Wei, Chung
Cheng-Hsi, Chung
Chia-Hsin, Chung
Teacher:Chien-Hung Chen

PM2.5 concentration variation during Chinese New Year

Abstract

PM2.5 affected air quality in Taiwan very much, and it will also affect human health. Our study aims to explore the difference in PM2.5 concentration between Chinese New Year and normal working days. We analyzed the PM2.5 concentrations in Qianjin District, Linyuan District, Fengshan District in Kaohsiung City, and Taipei City Xinyi District. During consecutive holidays, the PM2.5 concentration was lower, which belonged to the regular holiday effect, and Xinyi District had the lowest PM2.5 concentration among the four regions. Among them, the concentration of PM2.5 in Qianjin and Fengshan District is the highest at the head and tail of the fake, which is presumed to be related to the in and out of traffic, while the Linyuan District is due to the emission of exhaust gas from the factory, which leads to the obvious difference before and after the holiday.

Purpose

- 1.Find out the differences between Chinese New Year and normal working days among the four districts we chose.
- 2.Analyze their PM2.5 data and compare the reason affected behind it.

Results

1. During the Spring Festival holiday, the PM2.5 concentration in the industrial park is significantly lower than usual because many factories are on holiday during the Spring Festival, which greatly reduces exhaust emissions.
2. During the Spring Festival holiday, the concentration of PM2.5 in Qianjin District of the Cultural and Educational District did not increase due to the return of hometown and tourist crowds, and the holiday effect still occurred.
3. During the Spring Festival, Fengshan District, a residential area, also had a holiday effect.
4. We expected that the Xinyi District of Taipei, which is located in the center of the capital city, where tourism and commerce are highly developed, will have a positive holiday effect. However, our research results show that the PM2.5 concentration in Xinyi District is still slightly reduced during the Spring Festival, but the detailed reasons remain to be clarified.

