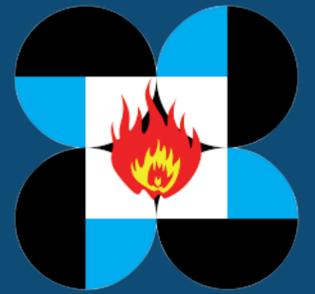


ASSESSMENT OF AEROSOLS WITHIN PHILIPPINE SCIENCE HIGH SCHOOL-CENTRAL LUZON CAMPUS VIA THE UTILIZATION OF LIGHT SENSORS AND SETTLING PLATES

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INTRODUCTION

- **Aerosols** are tiny particles that are either naturally occurring or human-made that could have **significant impacts on air quality, climate change, and human health** (WHO, 2021).
- **Clark, Pampanga** has **high presence of aerosols** and heavy metals (DOST-PNRI, 2018).

RESEARCH QUESTIONS



How does the number of aerosols in the selected areas of PSHS-CLC differ from one another based on their amount and relative light intensity ratio?

Which among the selected areas in PSHS-CLC would have the most and least number of aerosols?



METHODS



Preparation of settling plates



Exposure of settling plates



Characterization of particulate matter



Analysis of Data

RESULTS AND DISCUSSION

Mass Loss of the Gelatin

- The initial mass is larger than that of the final mass.
- The highest calculated mass loss of gelatin was observed in the **GRH (Residence hall)** while the least was the one stationed at the **library**.

Mass of the Particulates

- There were some that resulted in a **negative value** such as the hallway, hallway control, library control, and gymnasium settling plates. This may be due to the obtained maximum value for the relative light intensity after 21 hours of exposure and the evaporation of some particles from settling plates.
- The **classroom control** gained the **largest value** of suspended particle mass

Relative Light Intensity Before and After 21 Hours of Exposure

- The settling plate placed in the **gymnasium** obtained the **lowest change** in relative intensity at **69%**

CONCLUSION

- The study **quantified the aerosols** in various areas in Philippine Science High School - Central Luzon campus **after 21 hours of exposure** through the use of **settling plates and light sensor** characterization.
- Factors such as **heat and humidity** in these closed areas contribute to the kinetic energy and circulation of the aerosols that are present.
- Areas that are readily **exposed to outdoor air** have **less particulate matter** which is most likely due to the breeze that causes the outflow of aerosols, supported by NASA EOSDIS



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