

ABSTRACT

Greater Bandung with a topography in the form of a basin causes horizontal displacement of pollutants blocked by mountains and hills, so that the pattern of vertical spread of pollutants will greatly affect the conditions of air pollution in Greater Bandung. Therefore, researchers conducted observations and analyzes of the distribution of pollutants in the vertical structure. Observations were made by measuring PM_{2.5} and CO₂ concentrations and meteorological conditions (T, RH, and P). From previous studies identified PM_{2.5} and CO₂ concentrations have the same data trends to an altitude of 30 m above the ground. Therefore this research uses drone to reach and add measurement points. Measurements were taken in the area of Telkom University on August 31, 2019 (day time) and September 30, 2019 (night time) at altitudes up to ~ 80 m. During measurements using a drone, it was indicated that there was an influence from the air flow which was affected by changes in the speed of the rotor or the drone's propeller. This disturbance causes a spike in concentration of PM_{2.5} to ~ 20 µg / m³. Measurement results indicate an indication of PM_{2.5} deposition in the morning. Where in the morning there was a significant change at an altitude of more than 40 m ie there was a decrease of ~ 20 µg / m³. The PM_{2.5} concentration is then lifted and mixed evenly in the afternoon to the evening and again rises at night to ~ 15 µg / m³. As for CO₂, up to ~ 80 m altitude does not have a significant or relatively stable change.

Keywords: CO₂, drone, PM_{2.5}, vertical