Aerosol Optical Depth (AOD) Estimation

Li et al. (2019) compared AOD retrieved from Landsat-8 and Sentinel-2A data with ground-based Aerosol Robotic Network (AERONET) data across Chinese cities. They found strong agreement, indicating the effectiveness of these satellite data in urban AOD estimation.

BR-PMx Models for PMx Concentration Estimation

Zhang et al. (2019) employed Landsat 8 OLI data and multilayer perceptron neural networks to estimate PMx (PM10 and PM2.5) concentrations in Beijing, China. Their models achieved satisfactory performance in estimating PMx concentrations, providing a promising method for assessing air quality in various cities.

Aerosol Level Retrieval and PM2.5 Estimation

Rahman & Haque (2022) applied Landsat imagery to retrieve Aerosol Optical Depth (AOD) and estimate PM2.5 concentrations in the Dhaka Metropolitan Area. Their study demonstrated a significant increase in PM2.5 concentrations over time and highlighted correlations between AOD, Land Surface Temperature (LST), and NDVI.

Estimation of PM10 Concentration

Studies like Saraswat et al. (2017) utilized Landsat 8 OLI satellite data over Delhi, India, correlating atmospheric reflectance with PM10 measurements from ground stations. The research developed a multispectral empirical model, demonstrating a high degree of accuracy in predicting PM10 concentrations.

Long-Term PM10 Estimation and Urbanization Impact

Shaheen et al. (2017) employed Landsat TM and ETM+ data to estimate PM10 concentrations over Gaza Strip, Palestine. They developed a multispectral algorithm showing a strong correlation between calculated and measured PM10, highlighting an increase in PM10 concentrations over urban areas due to urbanization

PM10 Estimation Using Landsat Data

Fernández-Pacheco et al. (2018) utilized Landsat 5 TM and Landsat 8 OLI data to estimate PM10 distribution in the Principado de Asturias, Spain. Their study established a relationship between path radiance and PM10 measurements using the Random Forest algorithm, generating efficient PM10 maps for local and regional studies.