Seasonal Trends of Particulate Matter: Selected Western Cities 2010-2015

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Background

Particulate matter measurements for selected western cities are primarily dependent on topography and seasonal weather patterns, along with land use and population. Similar topography yields similar statistics regarding particulate matter data. All of the observed cities are located in basins, however elevation varies. Resulting weather patterns frequently include wintertime inversions. Particulate matter sources may vary by season: agricultural dust in summer and fall, smoke in summer and fall, and smoke and other fine pollutant materials in winter. Weather patterns in the spring including wind and precipitation reduce particulate matter concentrations. Winter periods consistently show higher particulate measurements in all locations. Summer spikes are the result of regional fires and smoke.

Conclusions

Increases and decreases in particulate matter measurements do not demonstrate consistent patterns of change over the past five years, regardless of the population base or land use. Slight increases or decreases are observed; however the lack of consistency requires more investigation to determine the basis for the changes. Possible contributing factors may be changes in local regulations and ordinances, population increases or decreases, related industrial modifications, or significant variations in local weather.

Resources


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