



Government of Nepal  
Ministry of Forest and Environment  
Department of Environment  
Babarmahal, Kathmandu

# Air Quality Status Of Nepal 2016-2020

Volume IV

Ratnapark Air Quality Monitoring Station



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## 1.Ratnapark Air Quality Monitoring Station

- Address : Ratnapark, Near Rani Pokhari (South of Ranipokhari)
- Location: 85.31 longitude, 27.7 latitude
- Establish year: 2016 (2073)
- Brief introduction of the instruments installed in the station (should include-brief specification; number of instrument)
  1. PM instrument- GRIMM EDM 180
  2. Met sensor luffth WS 700
  3. Data logging and data transmission and power backup system

## 2.Air Quality Status of Ratnapark station (2016-2020)

### 2.1 Air Quality status, 2016

#### 2.1.1Temporal variation of PM1

#### **Annual Average of PM1**

Histogram of hourly average PM1 at Ratnapark station in 2016 is shown in following figure

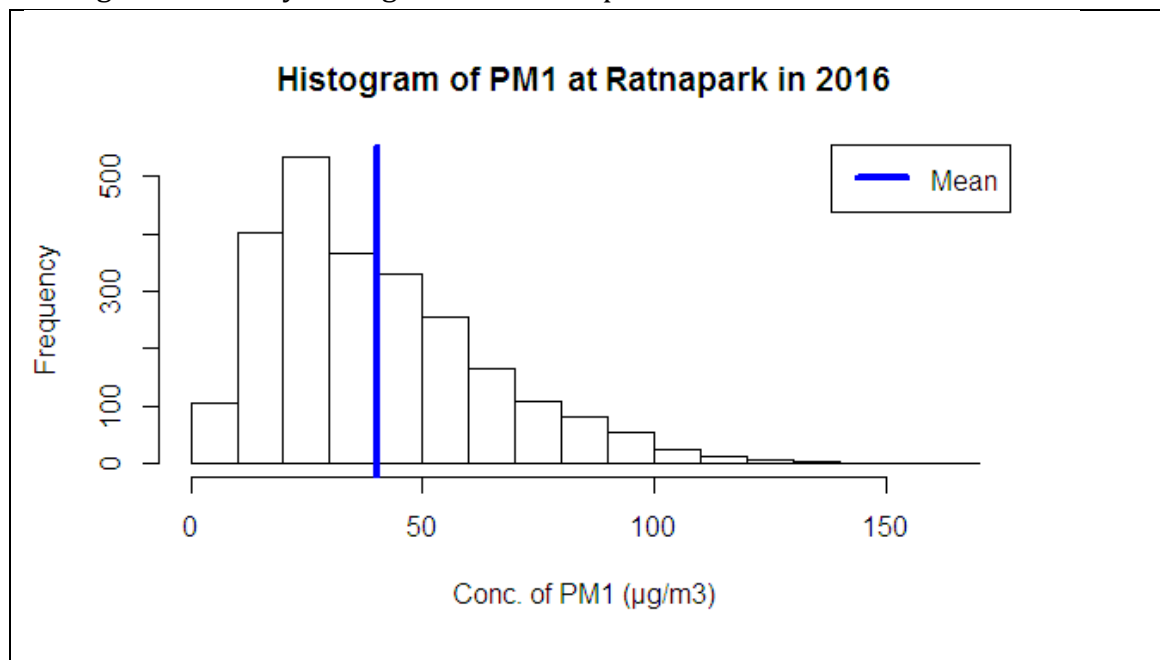


Figure 1. Histogram of PM1 at Ratnapark station in 2016

The Histogram of PM1 at Ratnapark station in 2016 shows that highest no of hourly data is between 20 - 30 µg/m<sup>3</sup> concentration followed by 10-20 µg/m<sup>3</sup> concentration.



### Daily average PM1 at Ratnapark station

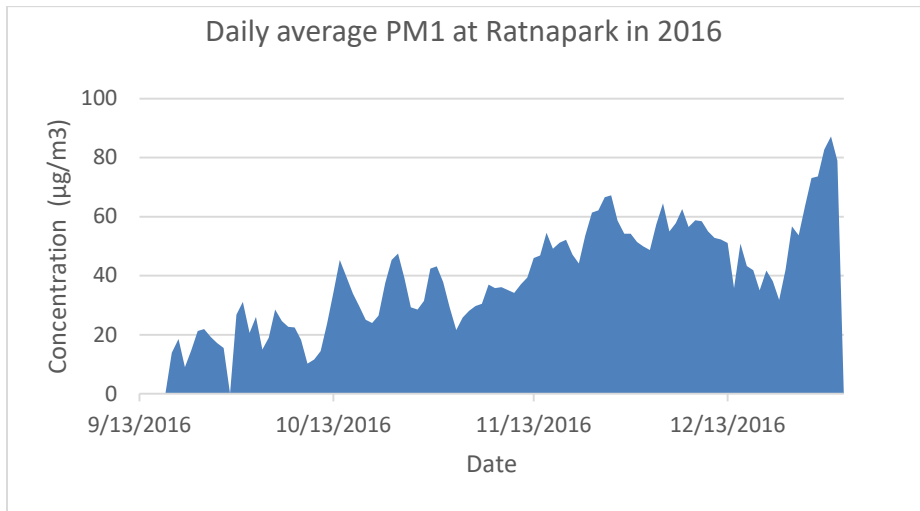


Figure 2. Daily average PM1 at Ratnapark station in 2016

### Monthly Average

Following figure shows monthly average PM1 at Ratnapark station in 2016

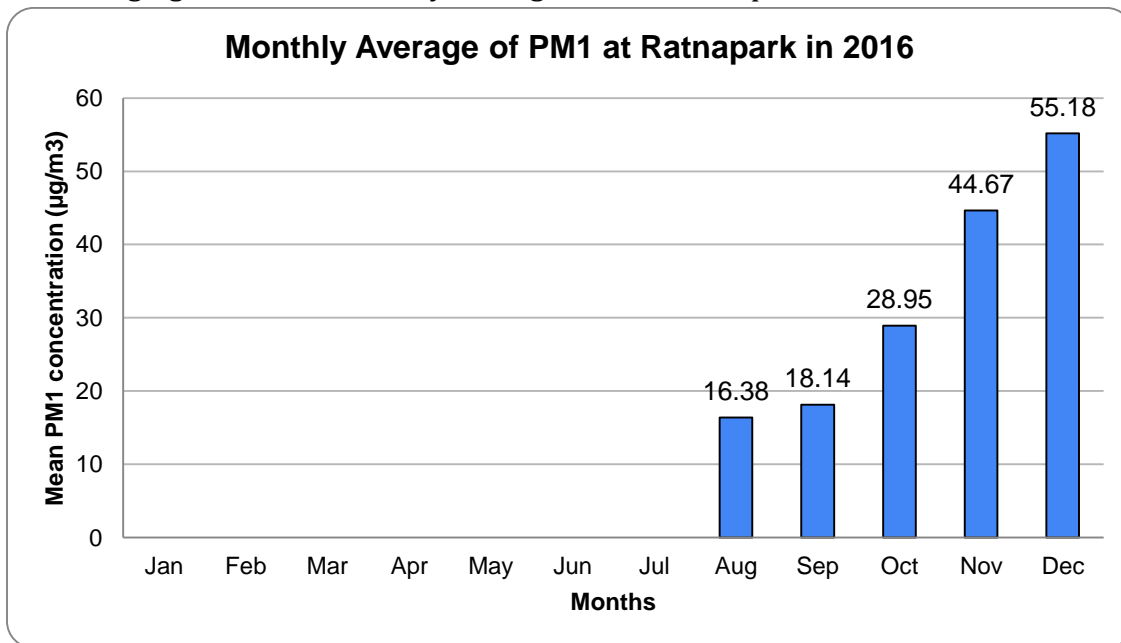


Figure 3. Monthly Average of PM1 at Ratnapark Station on 2016

Out of 5 months with measurement December had the highest monthly average with monthly average value of 55.18  $\mu\text{g}/\text{m}^3$  while August had the lowest value with monthly average value of 16.38  $\mu\text{g}/\text{m}^3$ .

### Monthly variation of PM1

The following figure shows the monthly variation of PM1 at Ratnapark station in 2016.

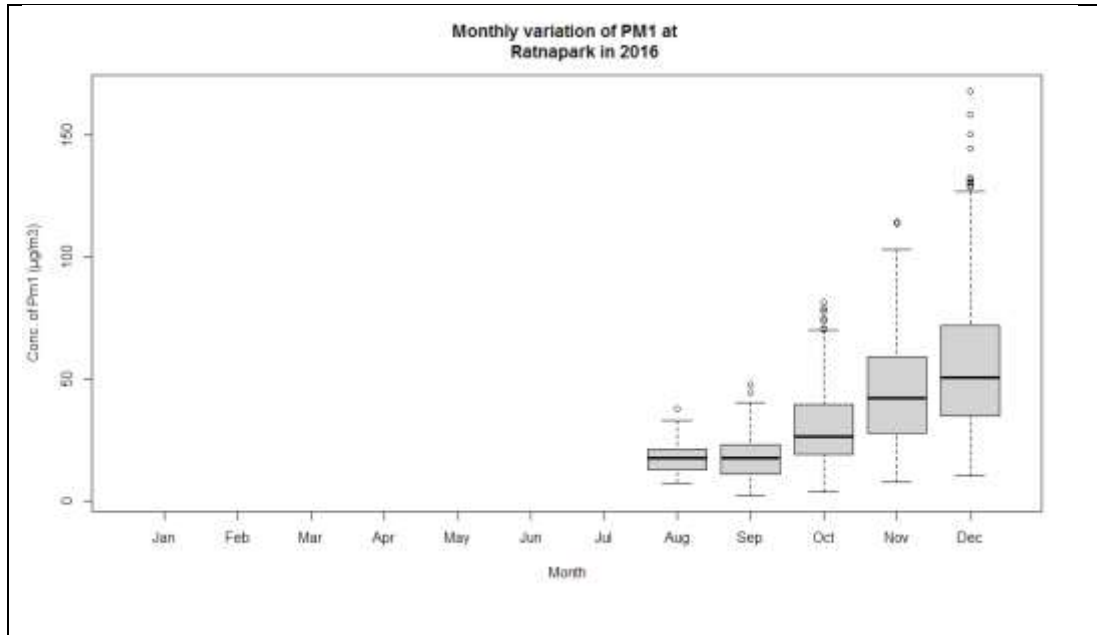


Figure 4. Boxplot of monthly variation of PM1 at Ratnapark station in 2016

Variation in concentration of PM1 was found more in December and low in August.

### Diurnal Variation of PM1

The following figure shows the diurnal variation of PM1 at Ratnapark station in 2016.

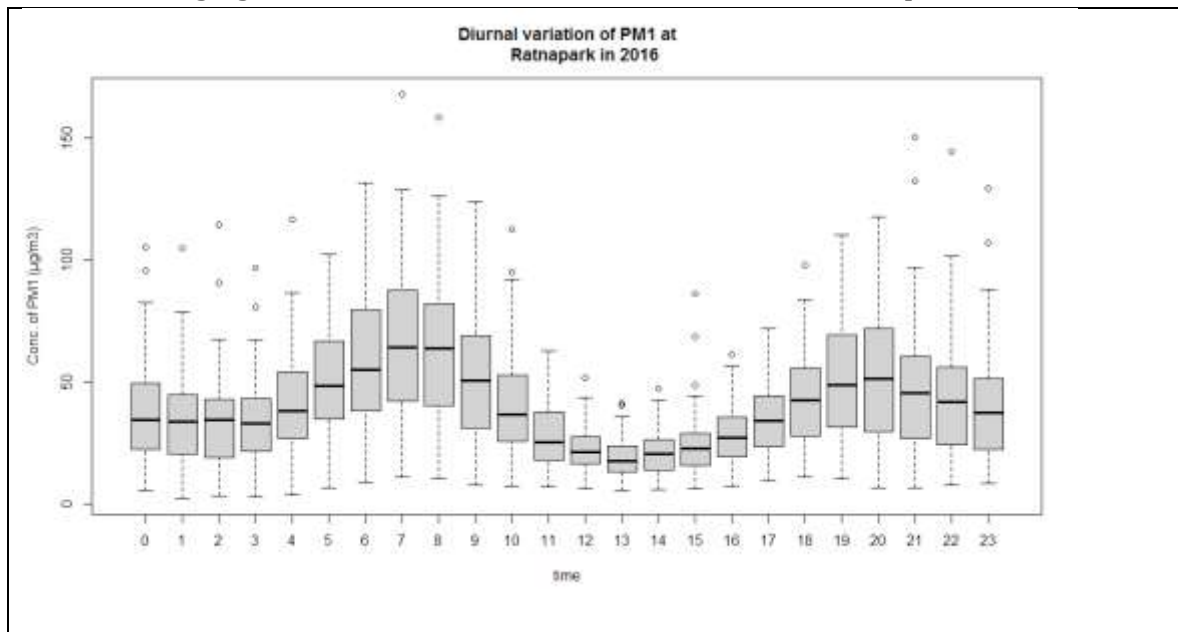


Figure 5. . Boxplot of diurnal variation of PM1 at Ratnapark in 2016

The boxplot shows that PM1 concentration is more in 7 and 8 O clock in the morning and 20 at the night. Similarly it is also more variable during those time.

### 2.1.2 Temporal variation of PM2.5

#### Annual average of PM2.5

The following figure shows the histogram of PM2.5 at Ratnapark station in 2016.

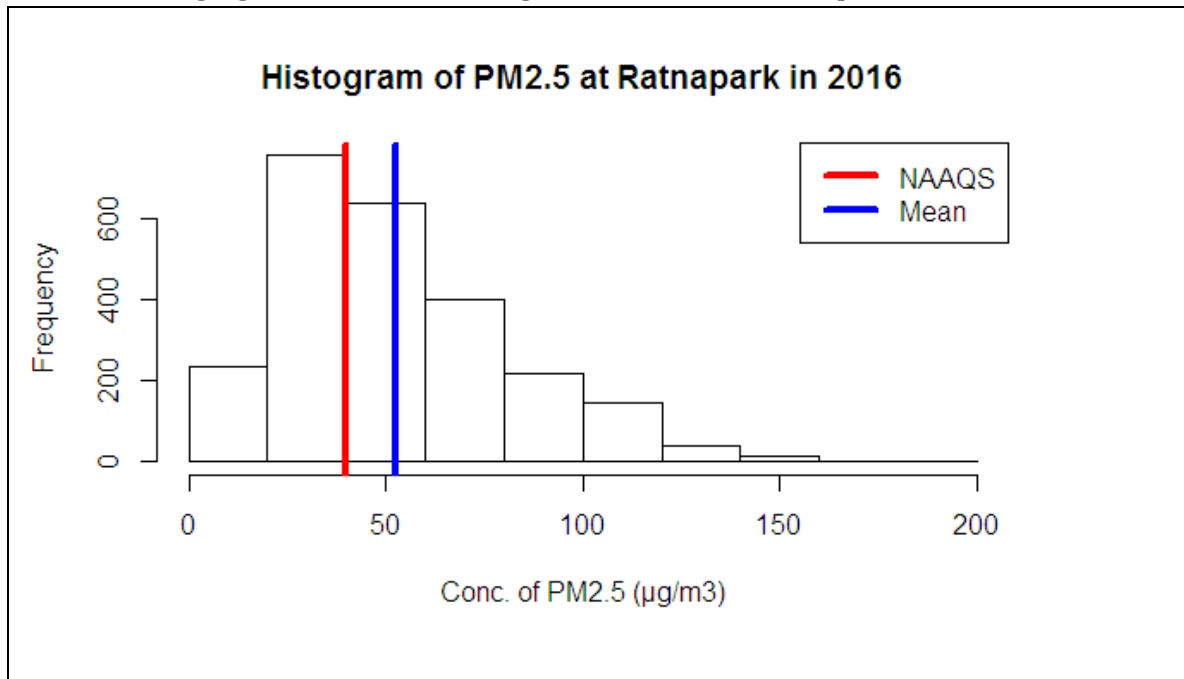


Figure 6. Histogram of PM2.5 at Ratnapark station in 2016

The Histogram of PM2.5 at Ratnapark station in 2016 shows that highest no of hourly data are between 20 - 40  $\mu\text{g}/\text{m}^3$  concentration followed by 40-60  $\mu\text{g}/\text{m}^3$  concentration.

#### Daily average PM 2.5

Following figure shows the daily average PM2.5 bar graph at Ratnapark station in 2016.

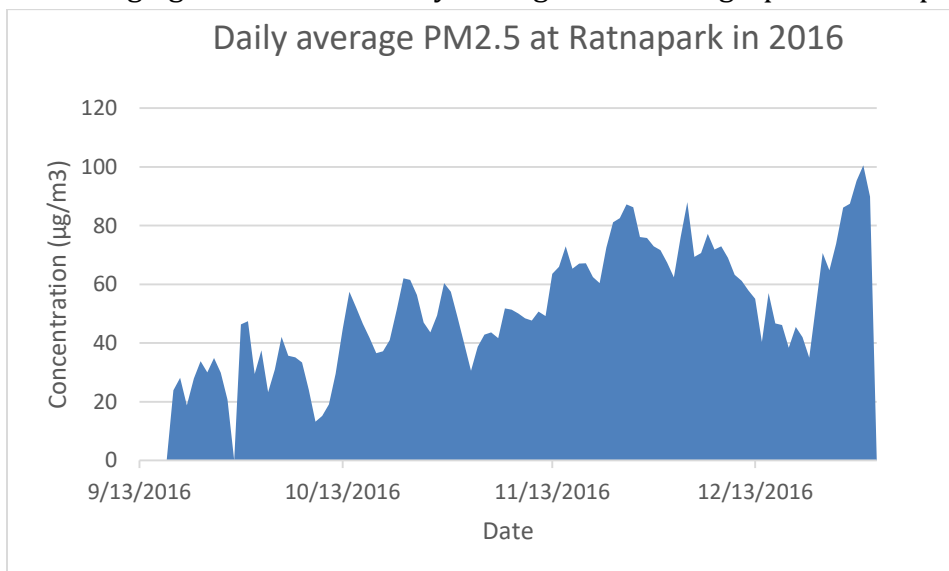


Figure 7. Daily average PM 2.5 at Ratnapark station on 2016

### Monthly Average of PM2.5

Figure 2 shows the monthly average PM<sub>2.5</sub>.

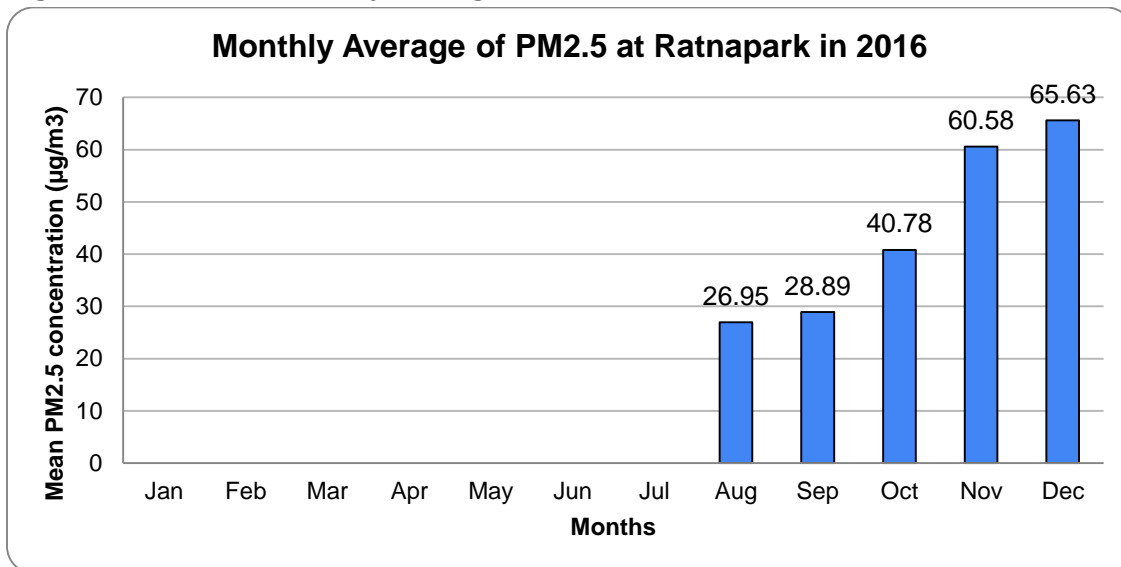


Figure 8. Monthly average PM<sub>2.5</sub> at Ratnapark station in 2016.

Out of 5 months with measurement December has the highest monthly average of PM<sub>2.5</sub> with monthly average of 65.63 µg/m<sup>3</sup> and August has the lowest with monthly average value of 26.95 µg/m<sup>3</sup>.

### Monthly variation of PM2.5

Following figure shows the monthly variation of PM<sub>2.5</sub> at Ratnapark station in 2016.

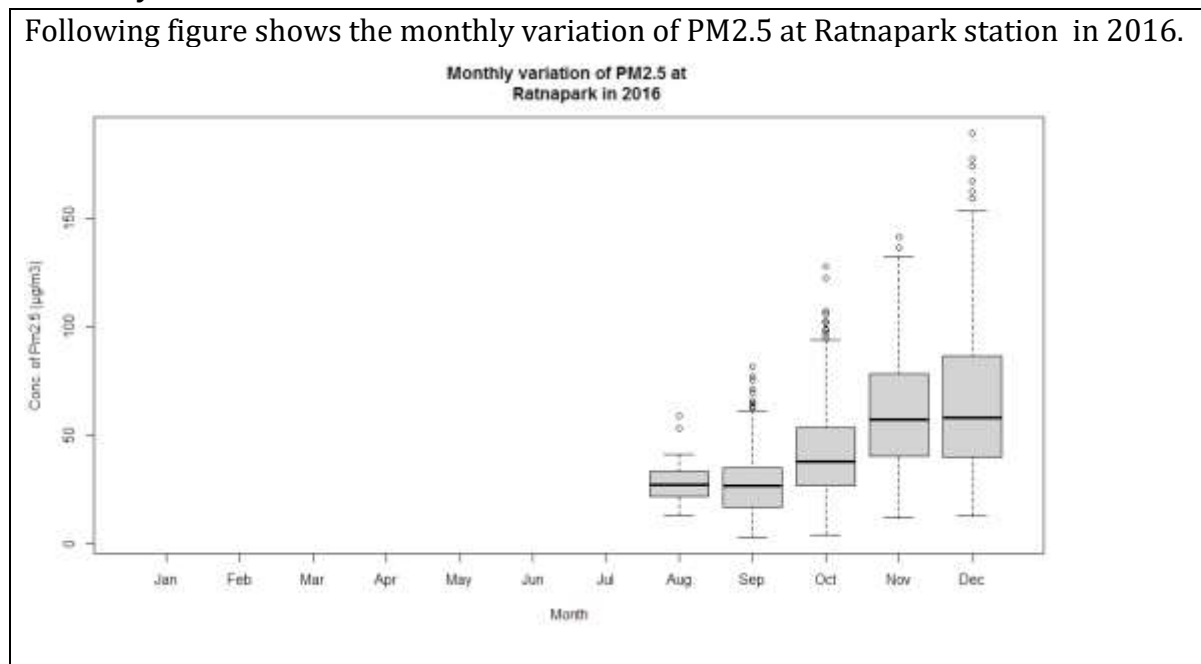


Figure 9. Boxplot of Monthly variation of PM<sub>2.5</sub> at Ratnapark station in 2016

The Boxplot shows there was more variation of Hourly average PM<sub>1</sub> data in the month of November and December.

## Diurnal Variation of PM2.5

The following figure shows the diurnal variation of PM2.5 at Ratnapark station in 2016.

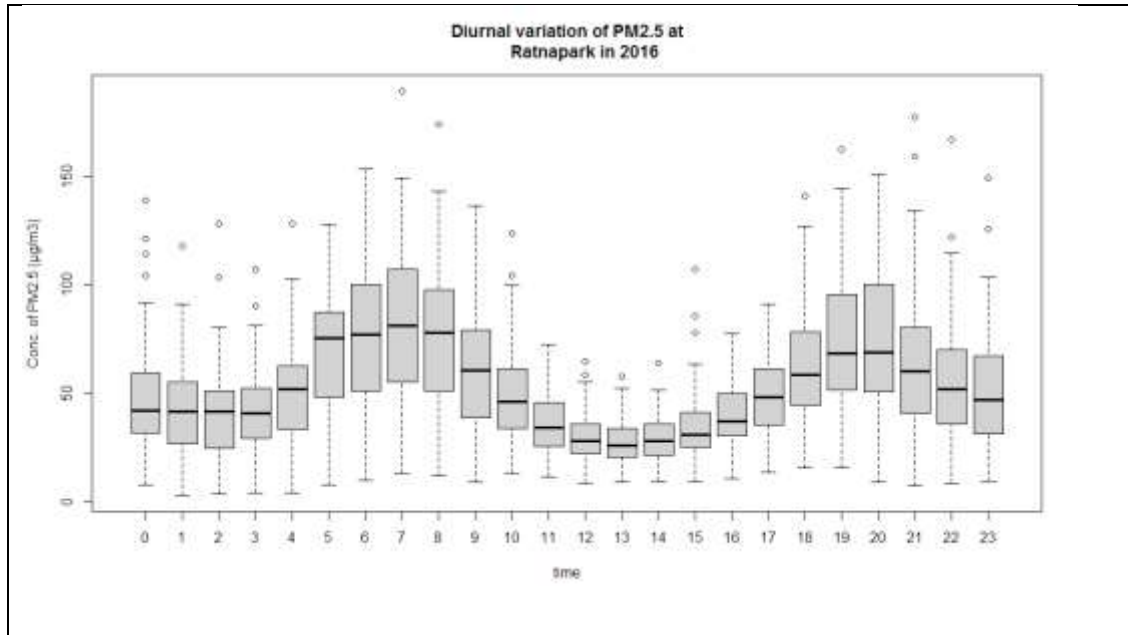


Figure 10. Boxplot of PM2.5 at Ratnapark station in 2016

The Boxplot of diurnal variation of PM 2.5 shows PM2.5 concentrations was highest at 7 o'clock in the morning and 19 and 20 o'clock in the night. Similarly highest variation was observed at those time.

## Compliance with National Ambient Air Quality Standards(NAAQS)

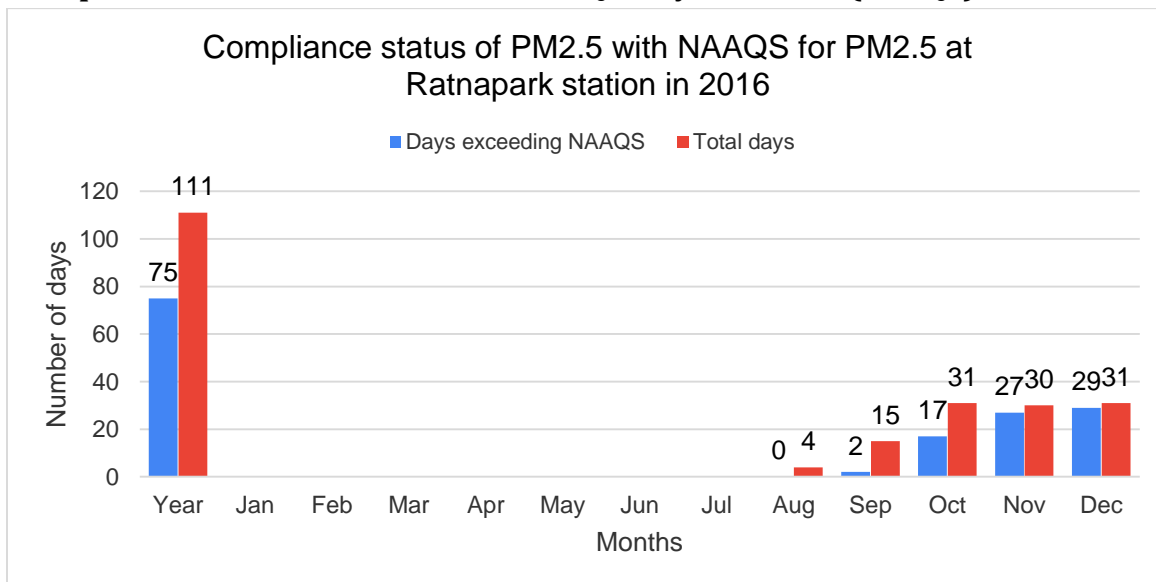


Figure 11. Compliance status of PM2.5 at Ratnapark with NAAQS

In 2016 out of 111 days of measurement 75 days exceeded the national ambient air quality standard for PM2.5.

### 2.1.3 Temporal variation of PM10

#### Annual Average of PM10

Following figure shows the Histogram of PM10 at Ratnapark station in 2016.

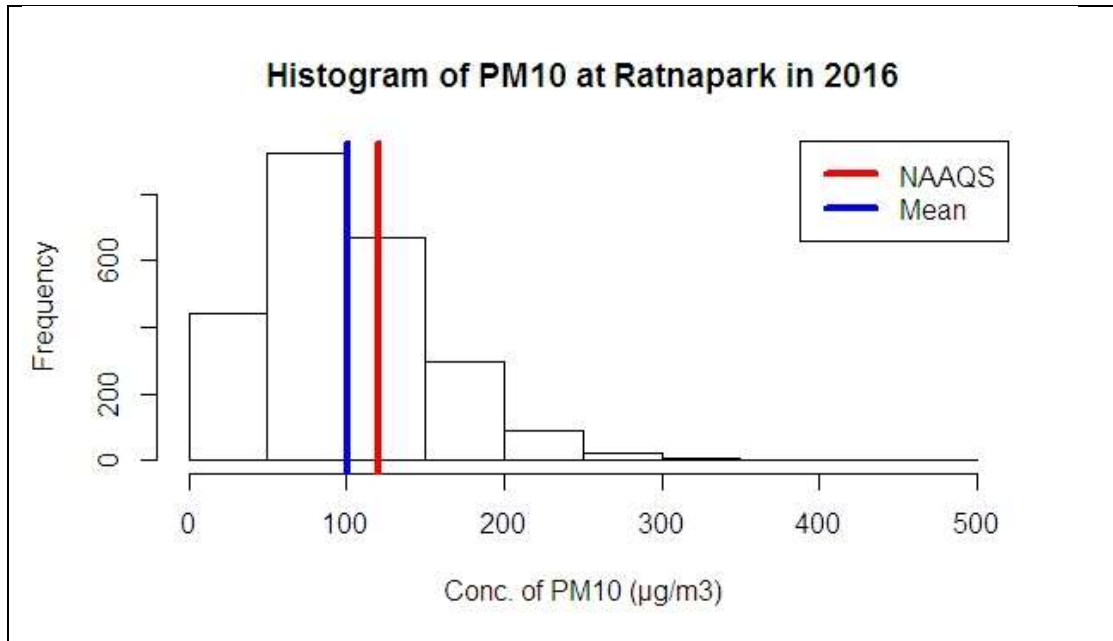


Figure 12. Histogram of PM10 at Ratnapark station in 2016

The Histogram of PM10 at Ratnapark station in 2016 shows that highest no of hourly data is between 50 - 100  $\mu\text{g}/\text{m}^3$  concentration followed by 100-150  $\mu\text{g}/\text{m}^3$  concentration.

#### Daily average PM10 at Ratnapark station in 2016.

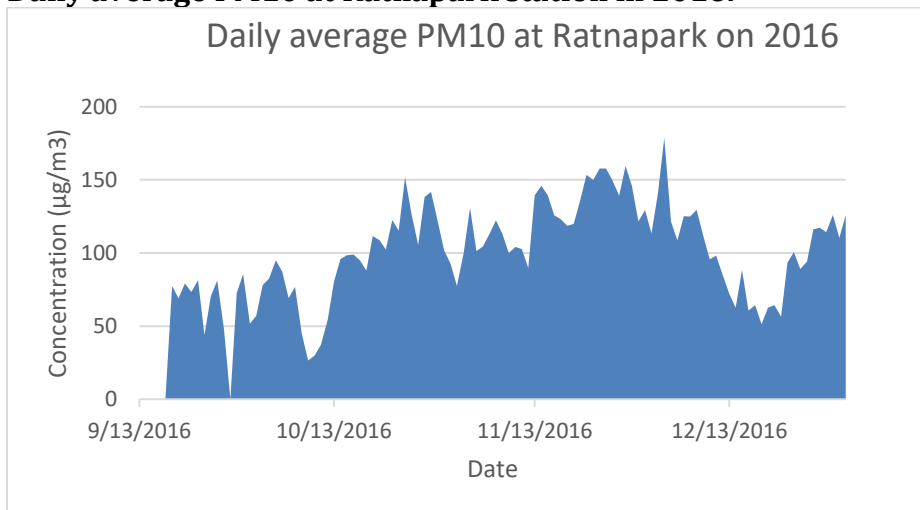


Figure 13. Daily average PM10 at Ratnapark station on 2016

#### Monthly Average of PM10

Figure 8 shows the monthly average of PM10 at Ratnapark on 2016.

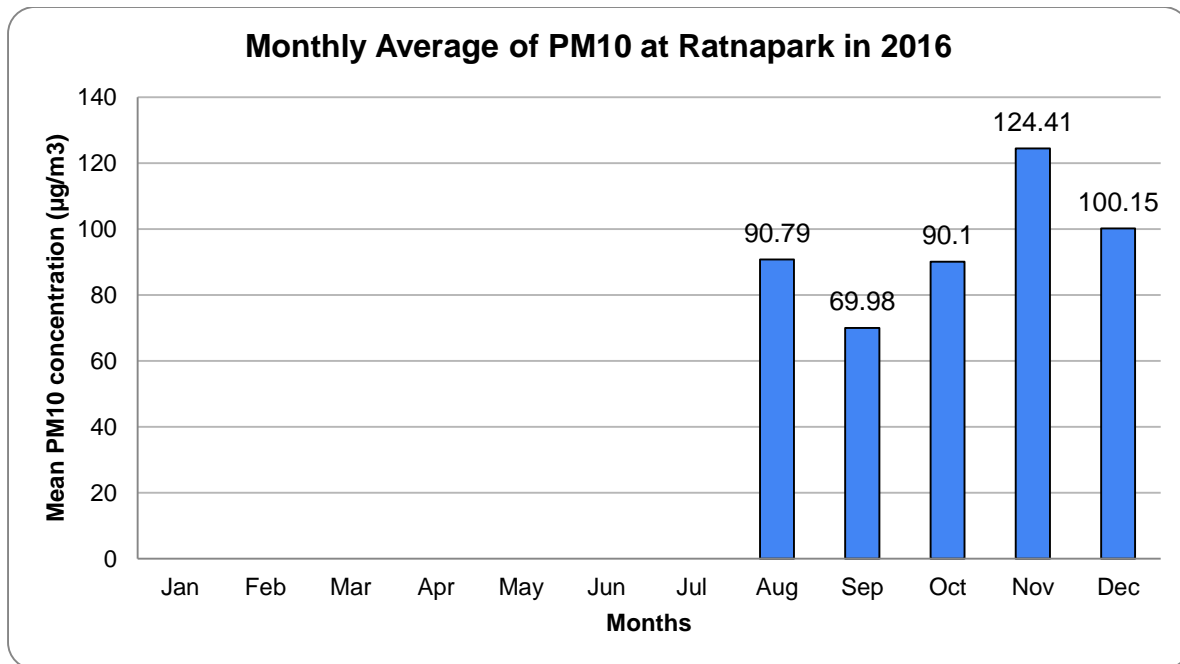


Figure 14. Monthly average PM10 at Ratnapark station in 2016

Out of 5 months with measurement, November has the highest monthly average value with monthly average value of 121.41 µg/m<sup>3</sup>.

**Monthly Variation of PM10**

Following figure shows the monthly variation of PM10 at Ratnapark station in 2016.

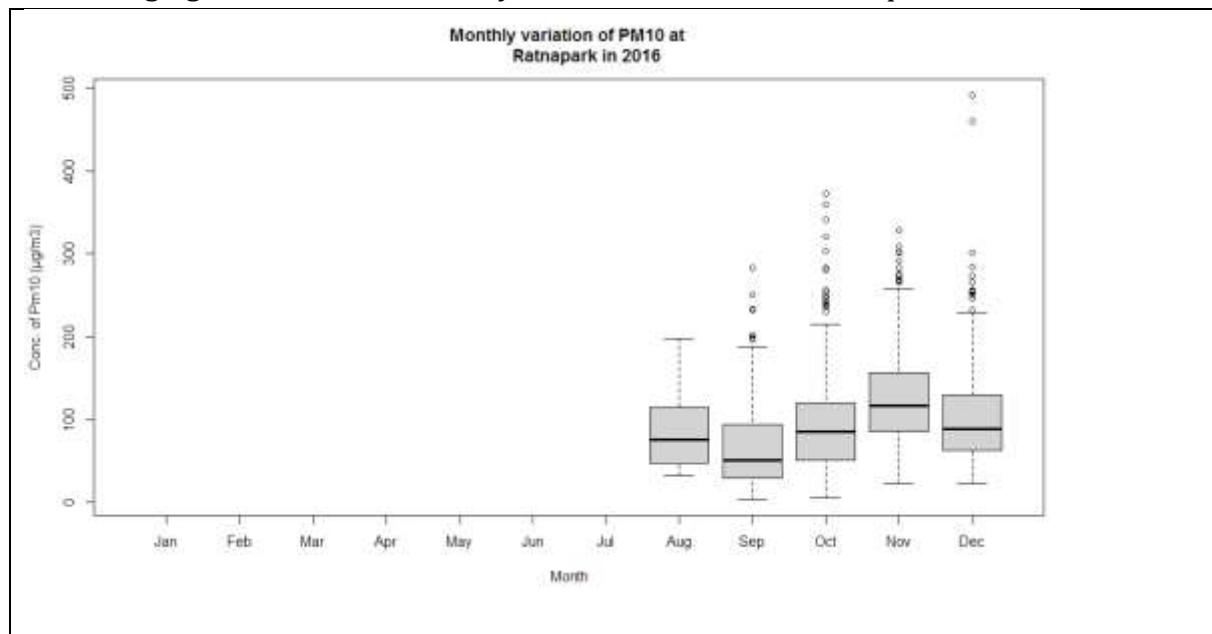


Figure 15. Boxplot of monthly variation of PM10 at Ratnapark in 2016

### Diurnal Variation of PM10

Following figure shows the diurnal variation of PM10 at Ratnapark station in 2016.

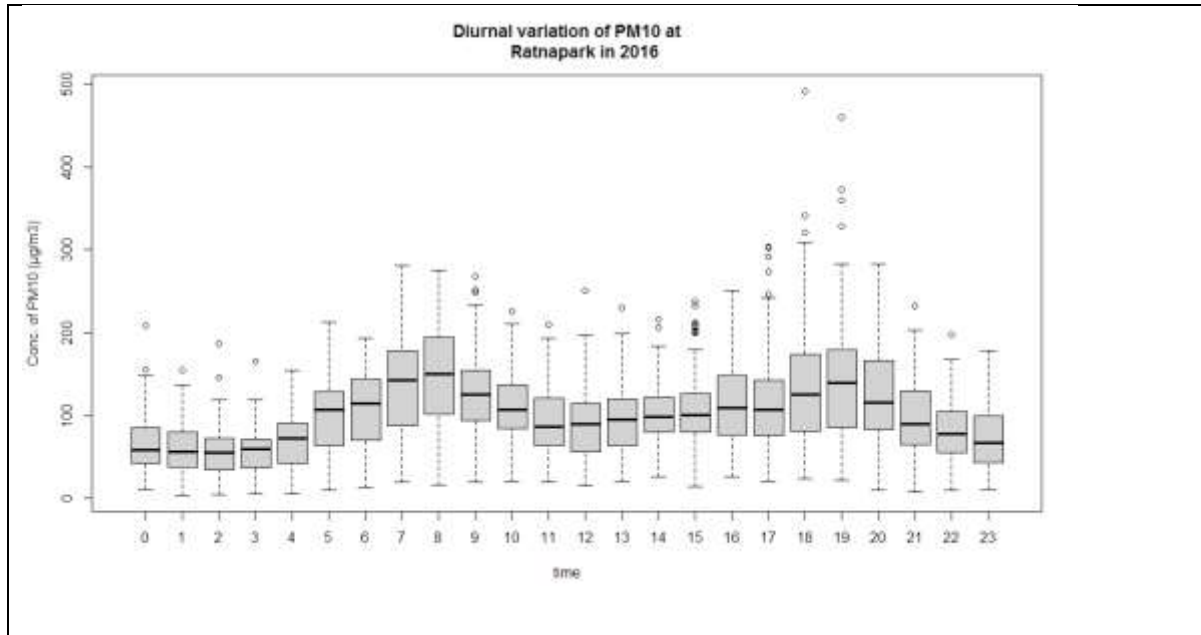


Figure 16. Boxplot of diurnal variation of PM10 at Ratnapark in 2016.

The boxplot of diurnal variation of PM10 at Ratnapark station in 2016 shows that concentration of PM10 was highest during 8 o'clock in the morning and 19 O'clock in the night. Similarly, variation was high during those periods.

### Compliance with National ambient air quality standard

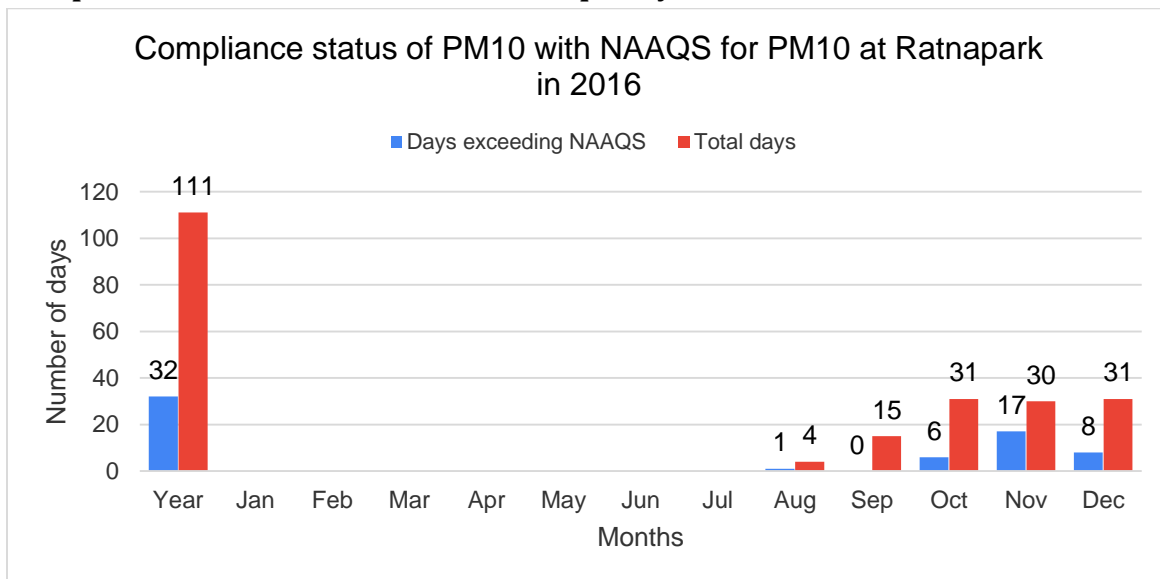


Figure 17. Compliance status of PM10 with NAAQS at Ratnapark in 2016

Out of total 68 days of Measurement only one day exceeded the National ambient air quality standard for PM10.



### 2.1.4 Temporal variation of TSP

#### Annual Average

Following figure shows the Histogram of Total Suspended Particulate(TSP) at Ratnapark station in 2016.

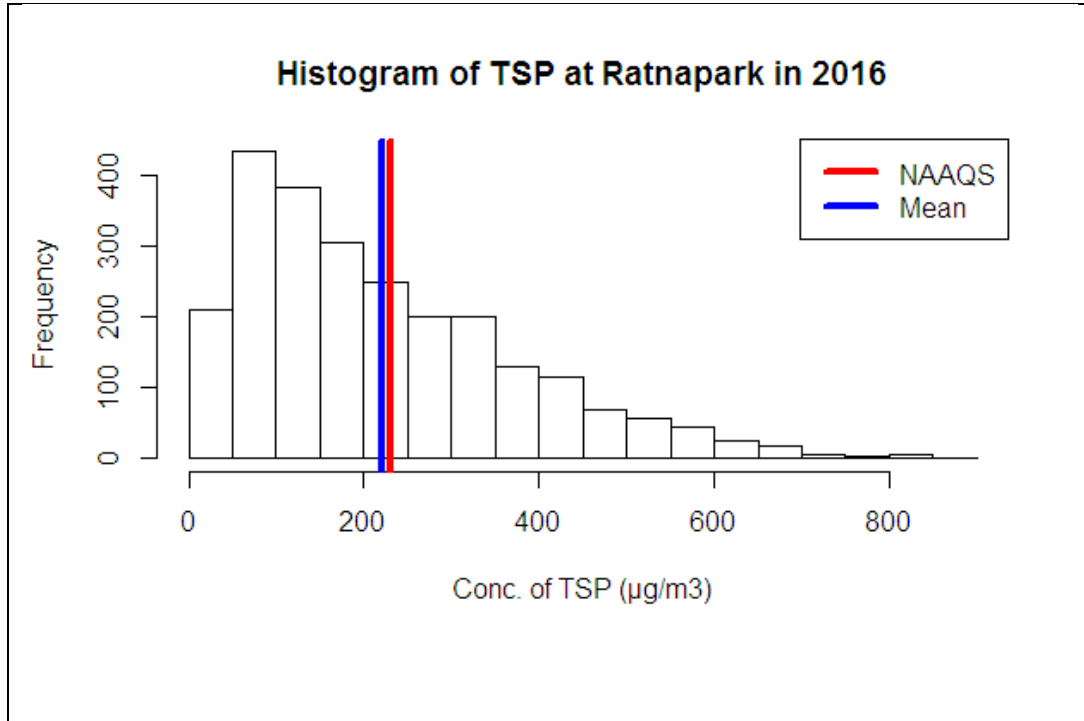


Figure 18. Histogram of TSP at Ratnapark station in 2016

The Histogram of PM<sub>10</sub> at Ratnapark station in 2016 shows that highest no of hourly data is between 50 - 100  $\mu\text{g}/\text{m}^3$  concentration followed by 100-150  $\mu\text{g}/\text{m}^3$  concentration.

#### Daily average Total suspended Particulate

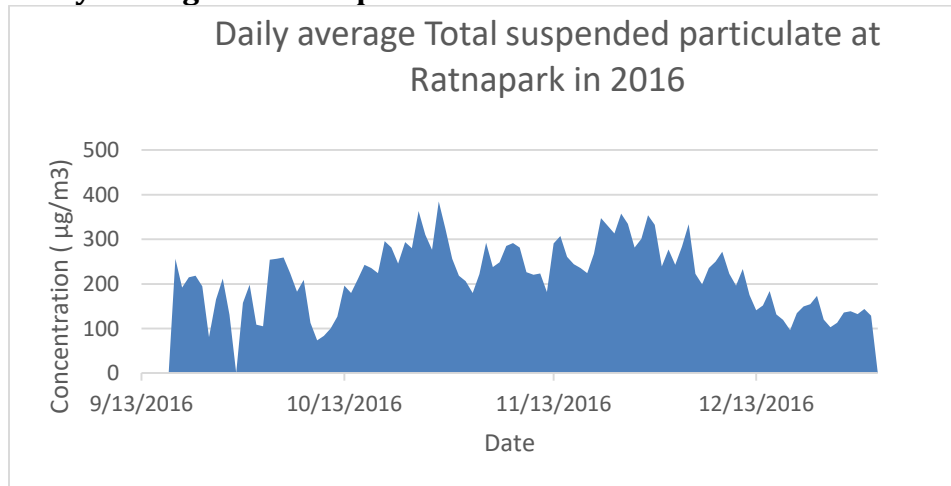


Figure 19. Daily average Total Suspended Particulate at Ratnapark station in 2016

### Monthly Average of TSP

Following figure shows the monthly average of Total suspended particulate at Ratnapark station in 2016.

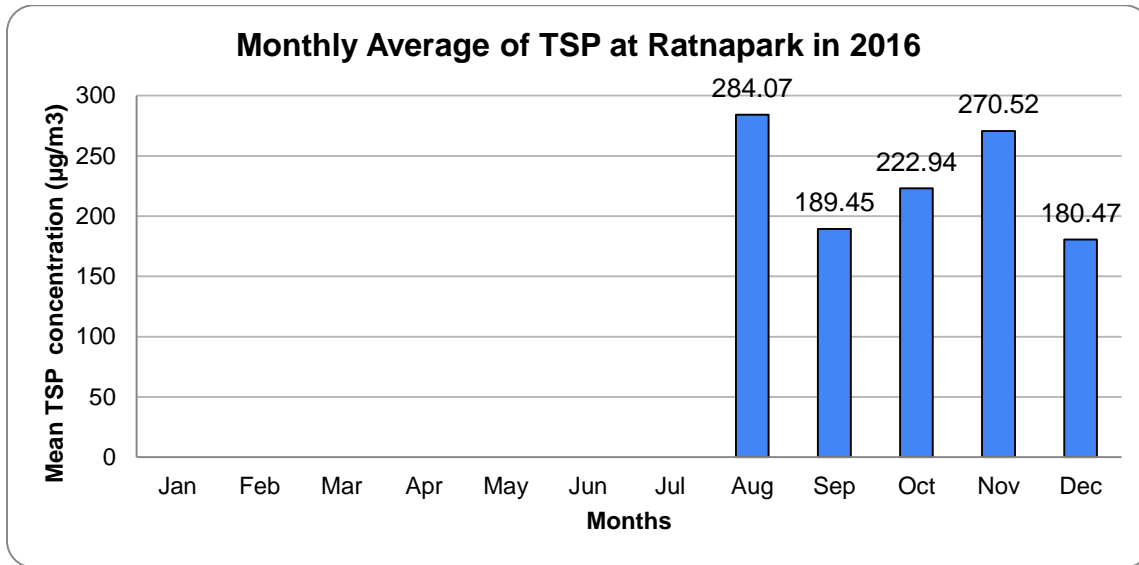


Figure 20. Monthly average total suspended particulate at Ratnapark station on 2016

Out of 5 month with measurement August has the highest monthly average of 284.07 µg/m<sup>3</sup>.

### Monthly variation of TSP

Following figure shows the monthly variation of Total suspended particulate

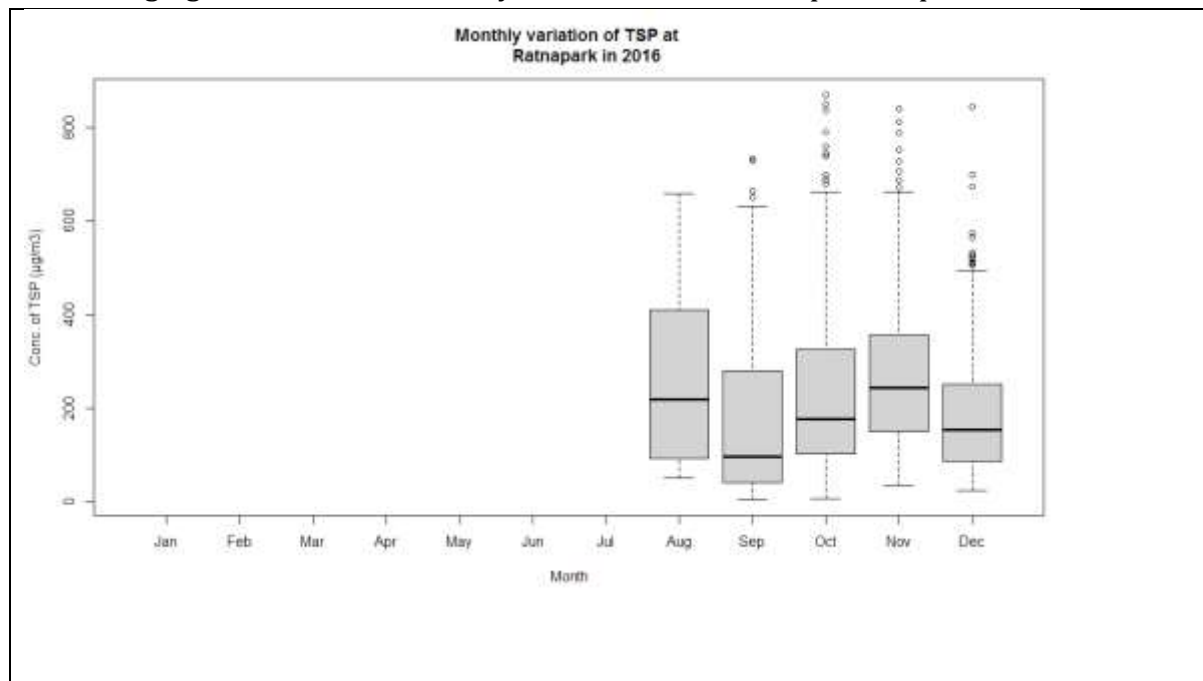


Figure 21. Boxplot of monthly variation of TSP at Ratnapark station in 2016.

The Boxplot of Total suspended particulate at Ratnapark in 2016 shows more variation of TSP was observed in August.

### Diurnal Variation of TSP

Following figure shows the diurnal variation of Total suspended particulate at Ratnapark station in 2016.

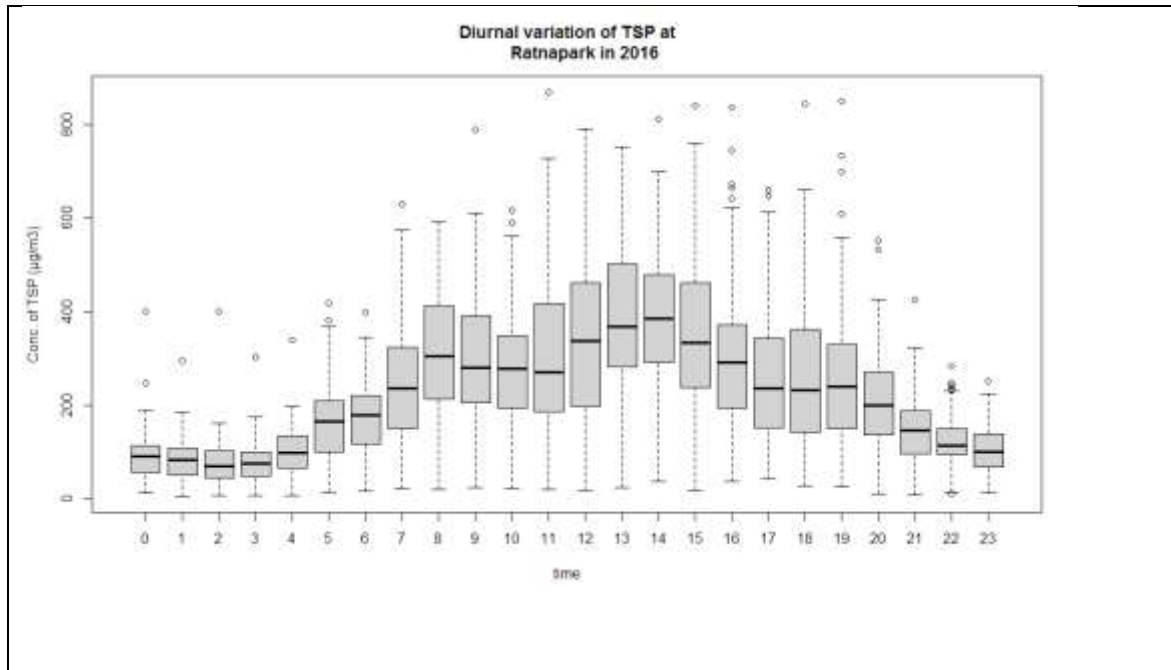


Figure 22. Boxplot of diurnal variation of TSP at Ratnapark in 2016.

The Boxplot of TSP at Ratnapark in 2016 shows that the concentration of TSP was more during during day time and reached to peak at 14 o'clock.

### Compliance with National ambient air quality standard.

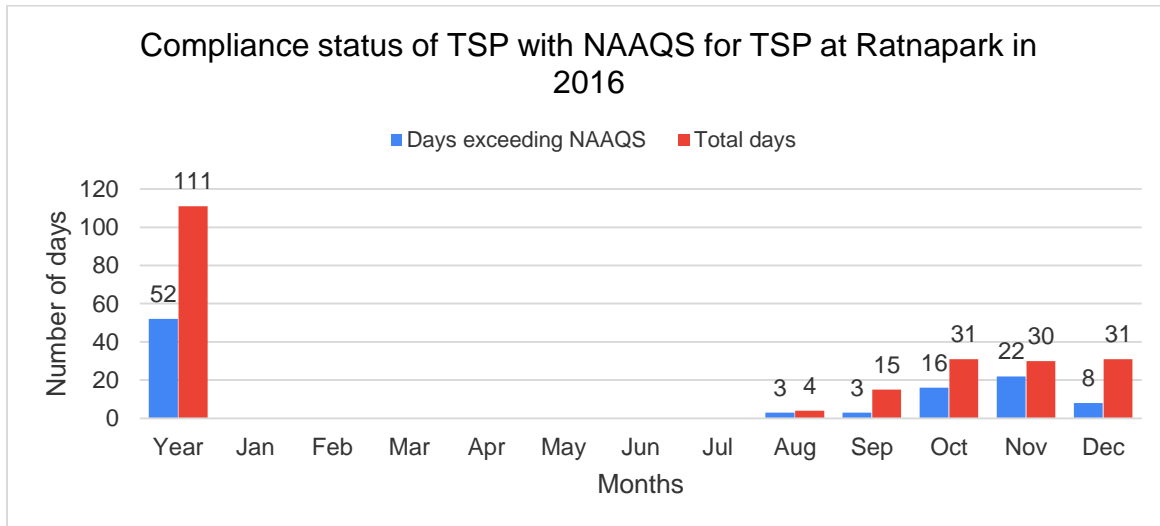


Figure 23. Compliance status of TSP with NAAQS at Ratnapark in 2016.

Out of 111days of measurement in 2016 52 days exceed the National Ambient air quality standard for TSP.

## 2.2 Air Quality Status, 2017

### 2.2.1 Annual average of PM1, PM2.5, PM10 and TSP

The annual average of PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSP of the Ratnapark monitoring station was calculated as shown in figure below.

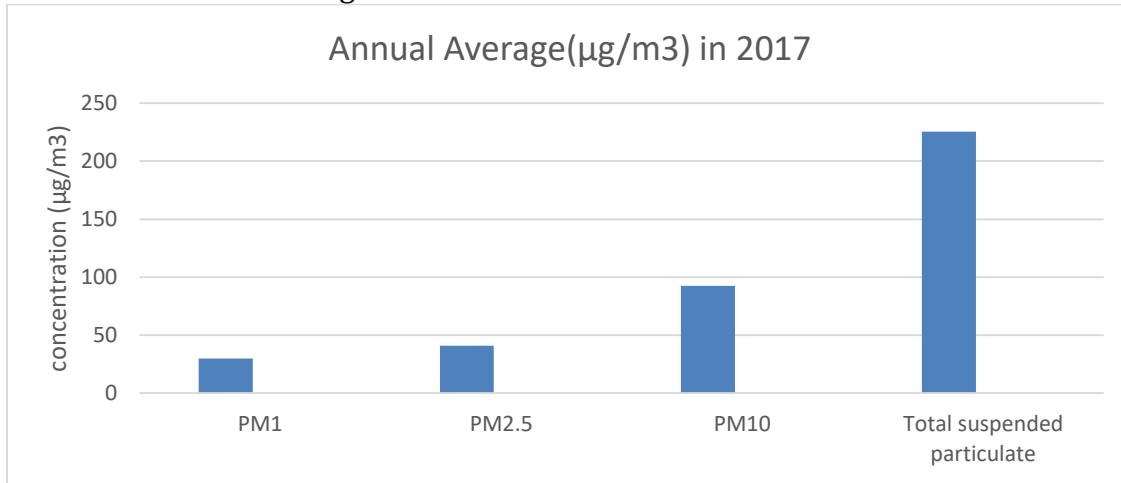


Figure 24. Annual average PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSP at Ratnapark station for 2017.

### 2.2.2 Temporal Variation of PM1

#### Annual Average of PM1

Annual average PM<sub>1</sub> at Ratnapark station at 2017 was 29.84 µg/m<sup>3</sup>. Following figure shows the Histogram of PM<sub>1</sub> at Ratnapark in 2017.

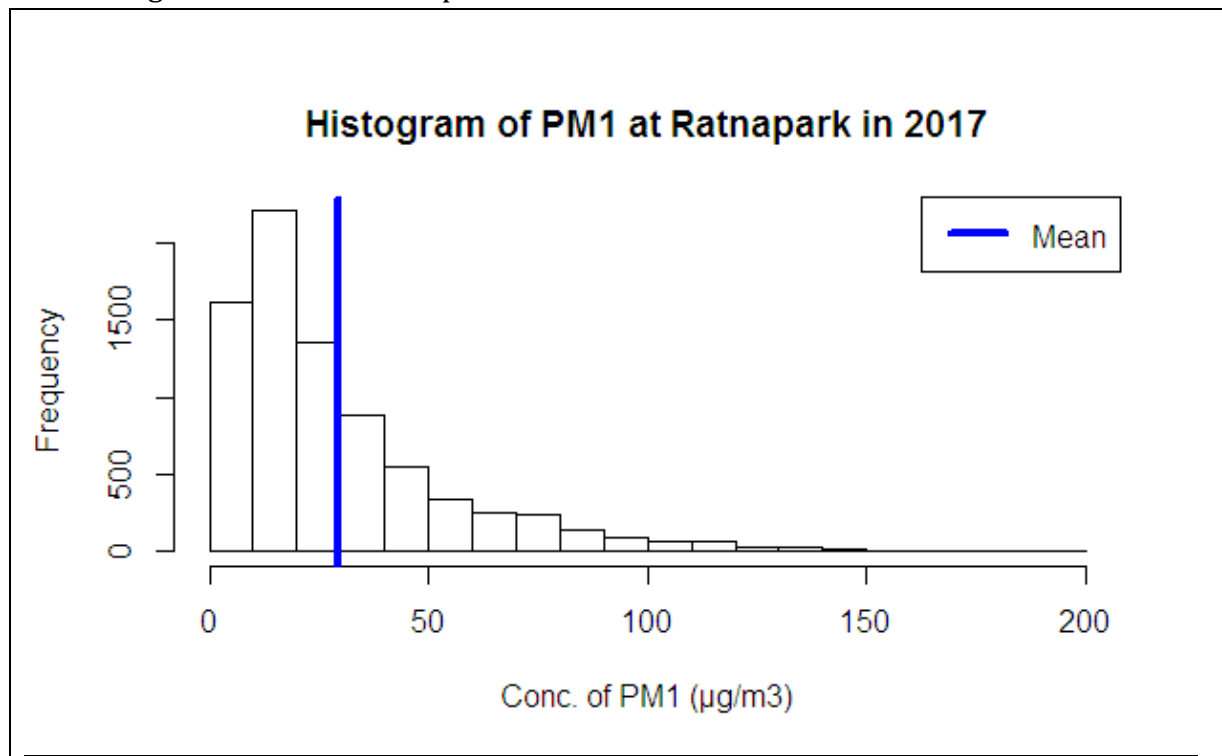


Figure 28. Histogram of PM<sub>1</sub> at Ratnapark in 2017

The Histogram shows that highest no of hourly average data was between 10-20µg/m<sup>3</sup> followed by 0-10 µg/m<sup>3</sup>.

### Daily average of PM1

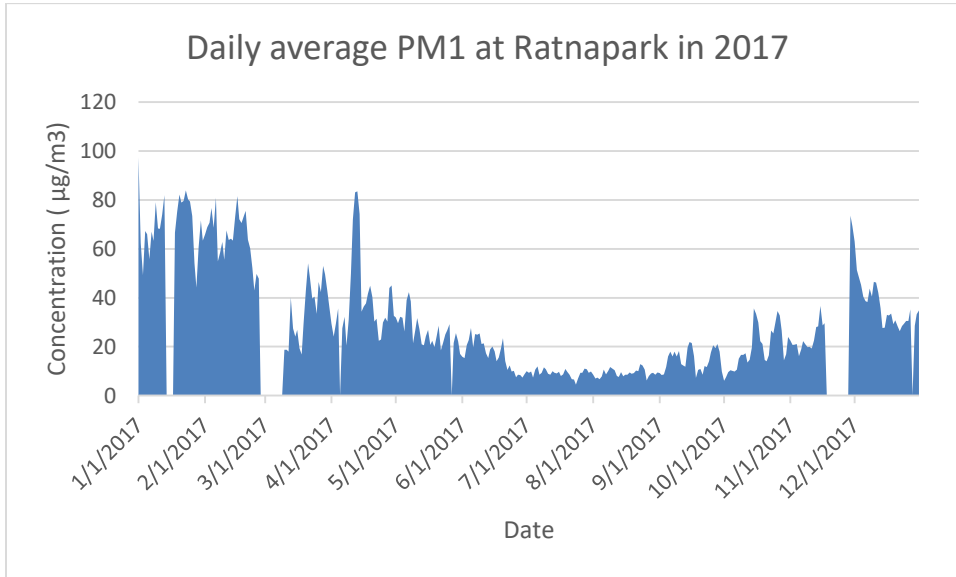


Figure 25. Daily average PM1 at Ratnapark station in 2017

### Monthly Average of PM1

Following Figure shows the monthly average of PM1.

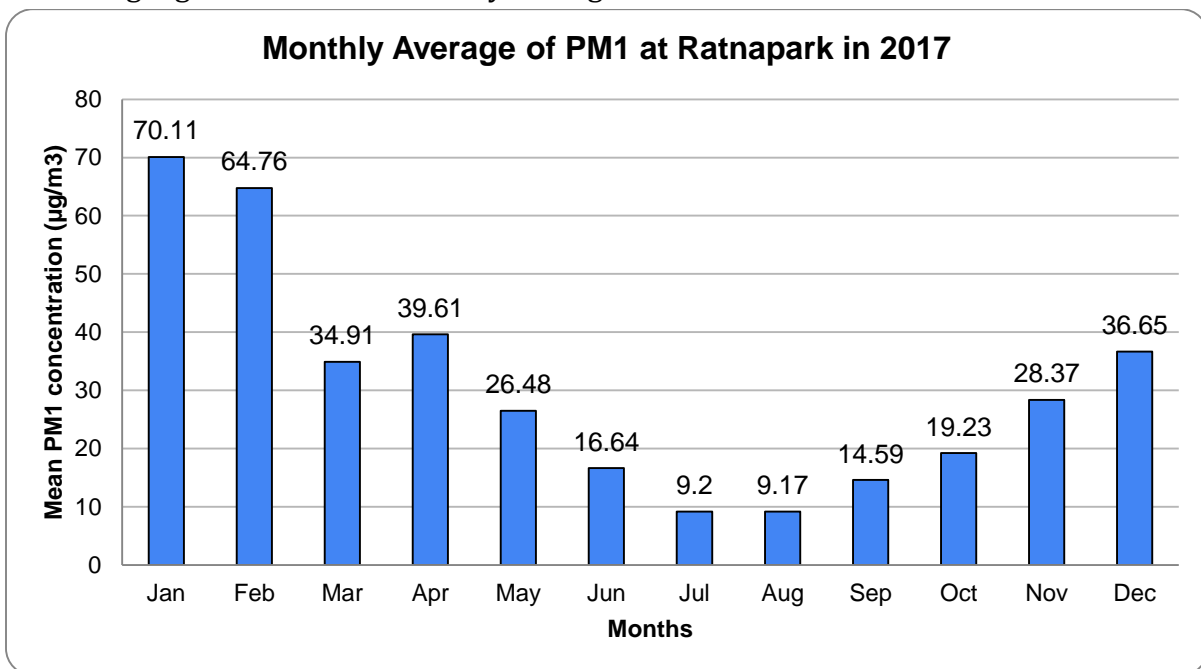


Figure 26. Monthly average PM1 at Ratnapark station in 2017

Above figure shows that the average value of PM<sub>1</sub> was highest in January with 70.11µg/m<sup>3</sup> and while lowest value were observed in July with 9.2 µg/m<sup>3</sup>.

### Monthly Variation of PM1

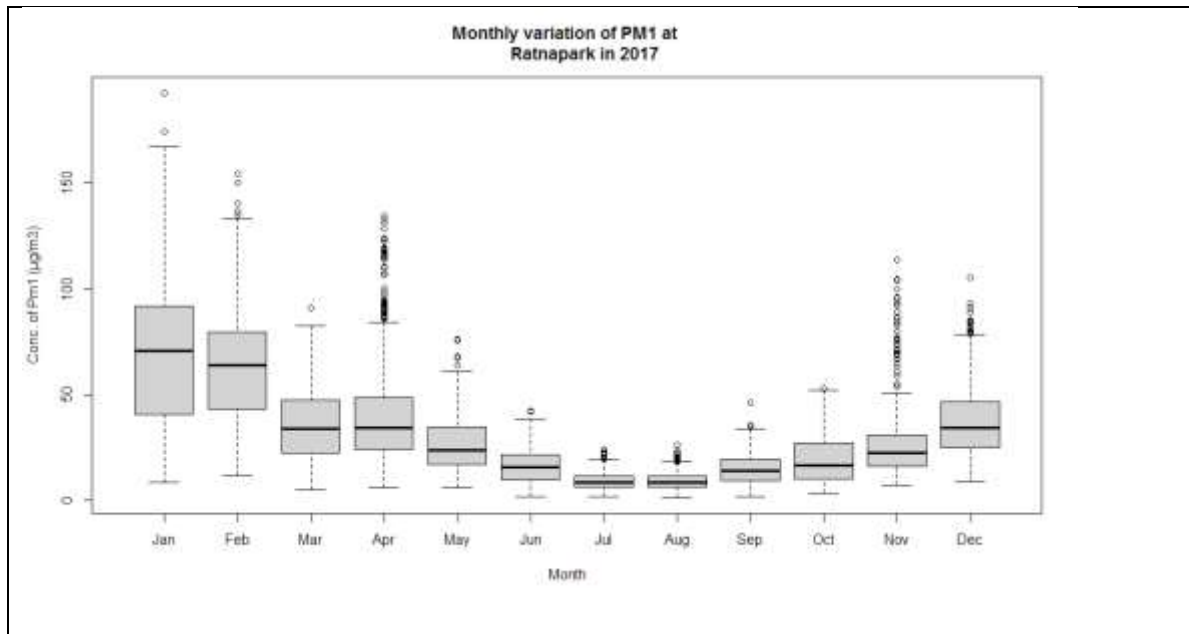


Figure 27. Monthly variation of daily average PM1 at Ratnapark station in 2017.

Boxplot of monthly variation of PM1 shows that highest variation was seen on January.

### 3.2.6 Seasonal Average of PM1

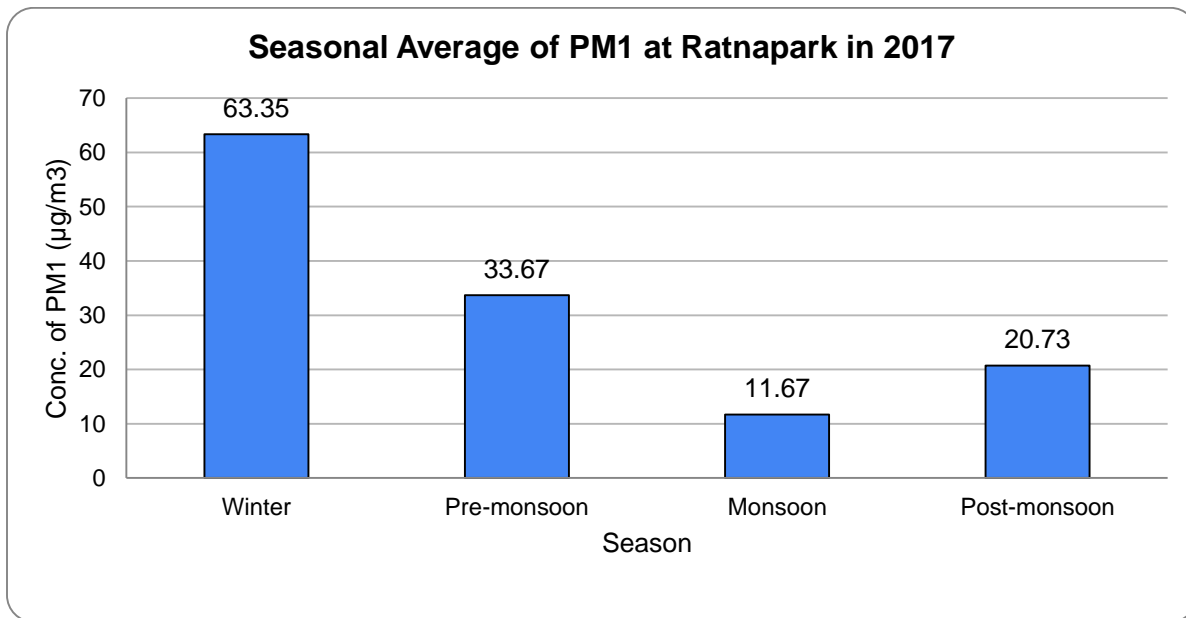


Figure 28.. Ambient concentration of average PM1 with four seasons.

## Diurnal Variation of PM1

Following figure shows the boxplot of diurnal variation of PM1 at Ratnapark station in 2017.

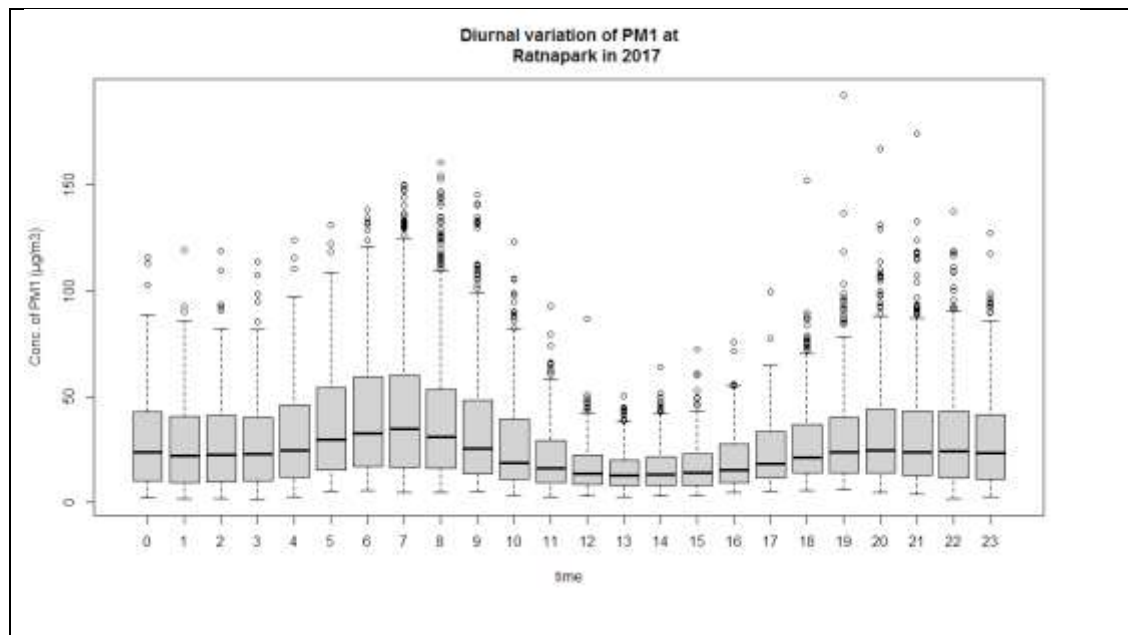


Figure 29. Boxplot of diurnal variation of PM1 at Ratnapark station in 2017.

Above figure shows that PM1 concentration was more at 7 o'clock in the morning and 20 - 23 in the night. Similarly it was more variable at 7 o'clock.

### 2.2.3 Temporal Variation of PM2.5

#### Annual Average of PM2.5

The annual average of PM2.5 at Ratnapark station on 2017 was  $40.95 \mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM2.5 at Ratnapark station in 2017.

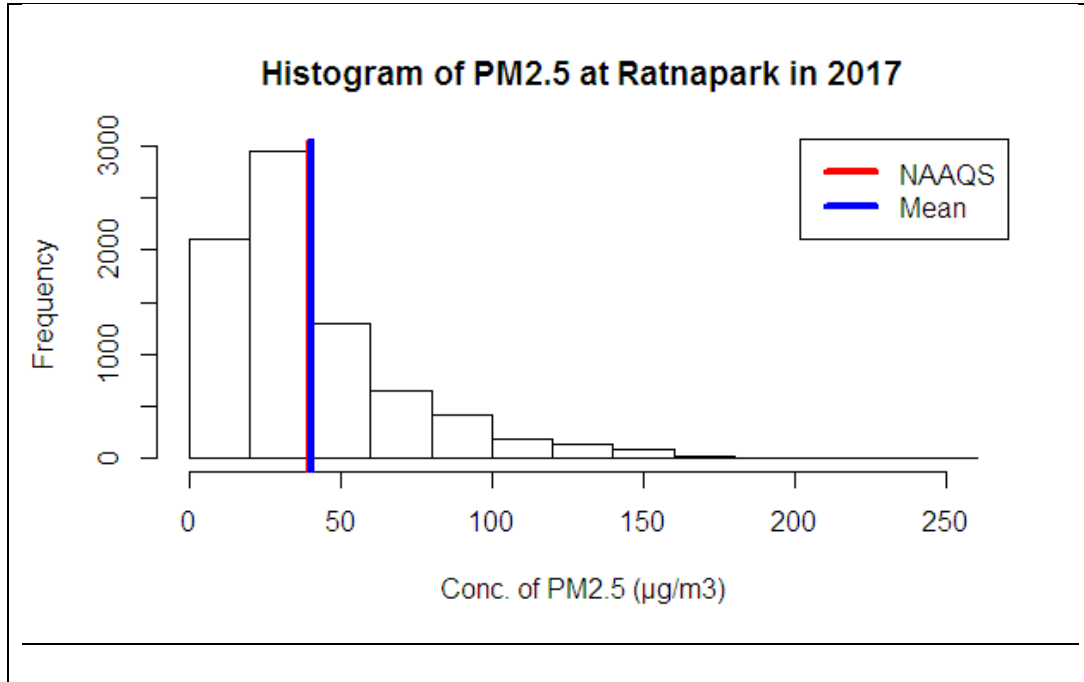


Figure 30. Histogram of PM2.5 at Ratnapark in 2017

The Histogram shows that highest no of hourly average data were between  $20\text{-}40\mu\text{g}/\text{m}^3$  followed by  $0\text{-}20 \mu\text{g}/\text{m}^3$ .

#### Daily Average of PM2.5

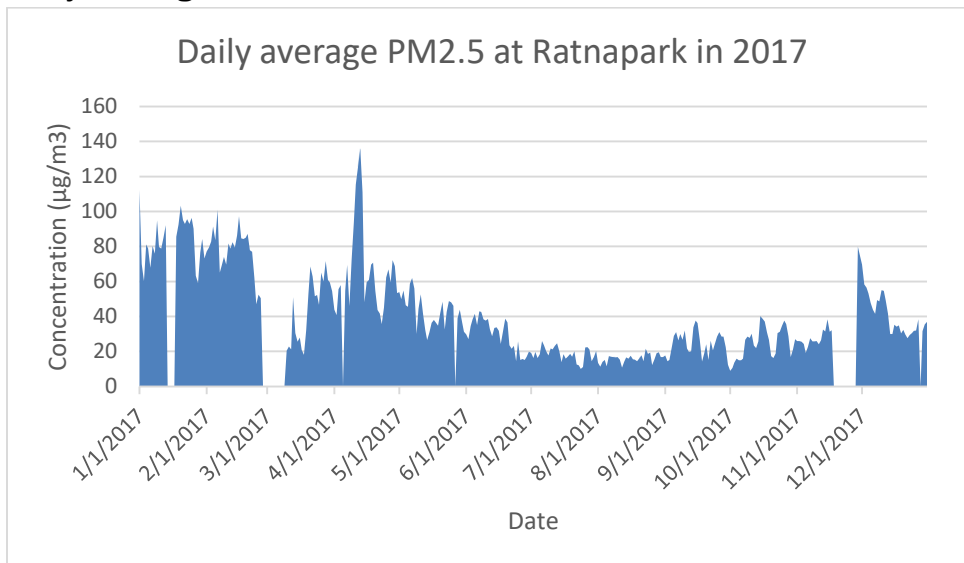


Figure 35. Daily average PM2.5 at Ratnapark station in 2017



## Monthly Average of PM2.5

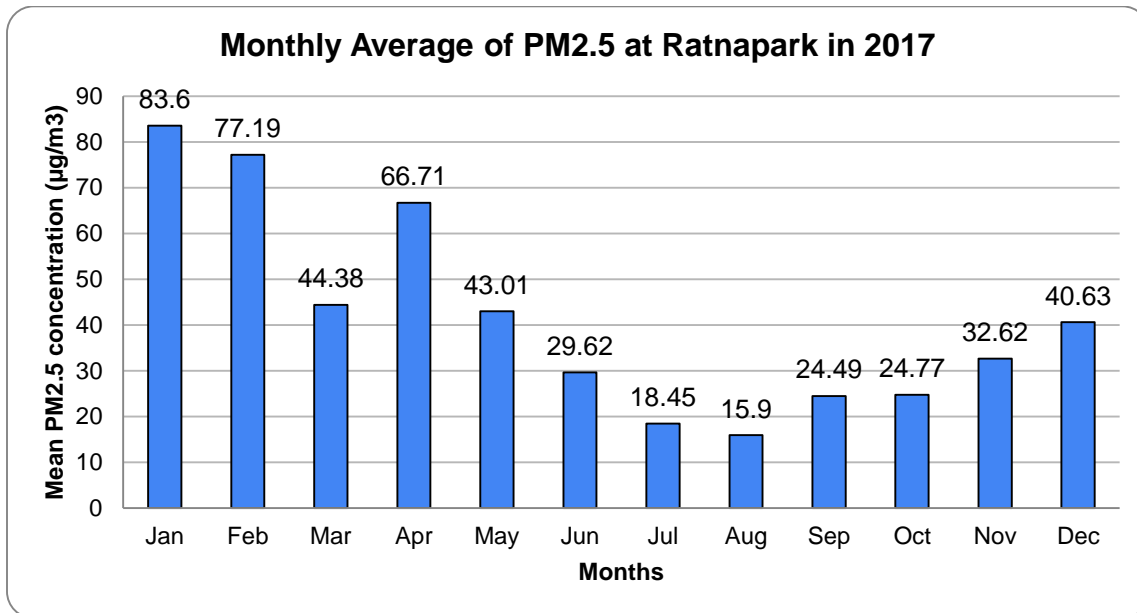


Figure 31. shows the monthly average of PM2.5

Above figure shows that the monthly average value of PM<sub>2.5</sub> was highest in January with monthly average value of 83.6 µg/m<sup>3</sup> while lowest value was observed in August with monthly average value of 15.9µg/m<sup>3</sup>

### Monthly Variation of PM2.5

Following figure shows the boxplot of monthly variation of PM2.5 at Ratnapark in 2017.

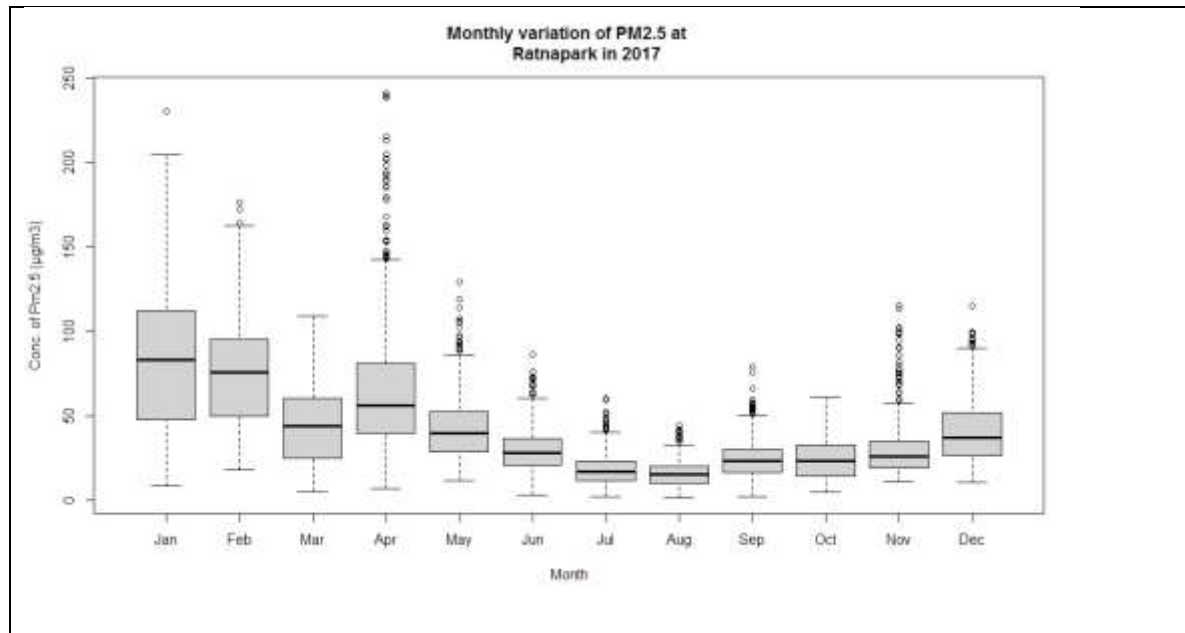


Figure 32. Monthly variation of daily average PM2.5 at Ratnapark in 2017

Above figure shows that hourly average data of PM2.5 was more variable in January.

### Seasonal Average of PM2.5

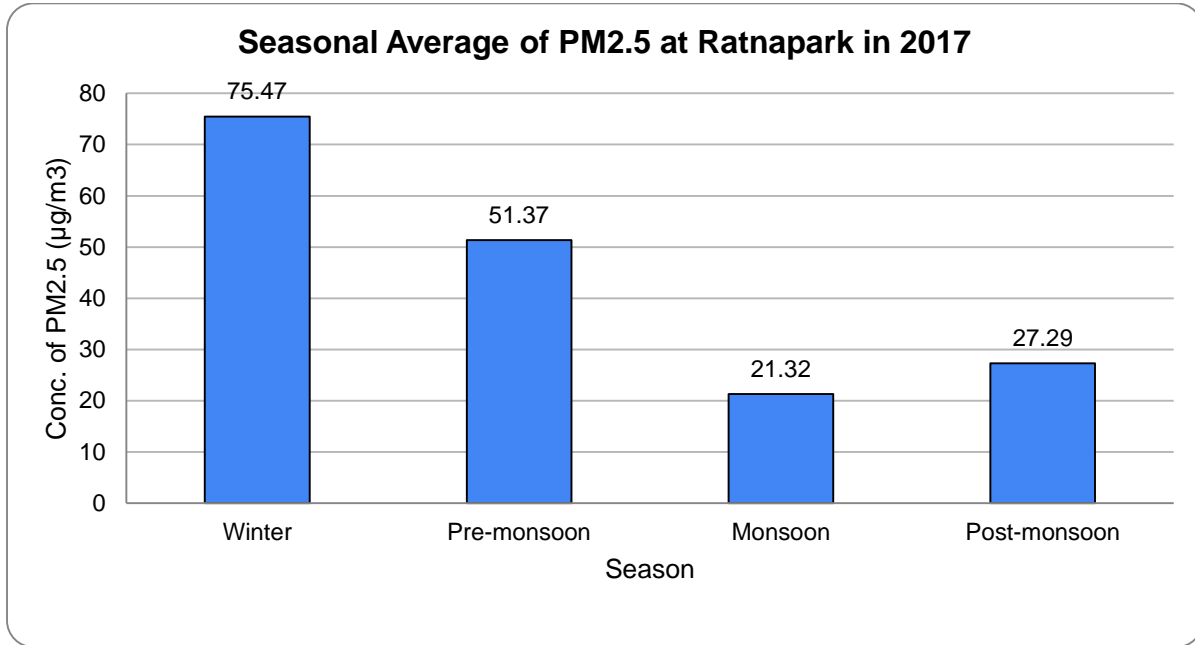


Figure 33. Seasonal variation of PM2.5 at Ratnapark station on 2017

The figure shows highest seasonal average in winter season followed by pre-monsoon while lowest seasonal average was observed in monsoon season.

### Diurnal Variation of PM2.5

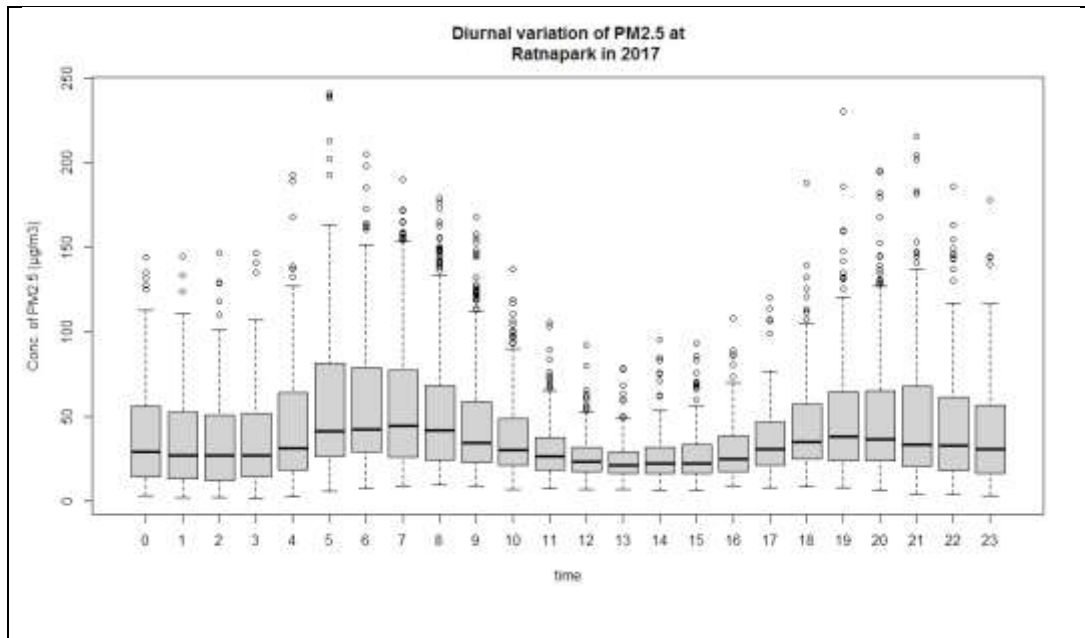


Figure 34. Boxplot of diurnal variation of PM2.5 at Ratnapark in 2017

Above figure shows PM2.5 concentrations was highest was at 7 o'clock in the morning and 19 and 20 o'clock in the night. Similarly, it was more variable at those time.

### Compliance with National Ambient air Quality standard

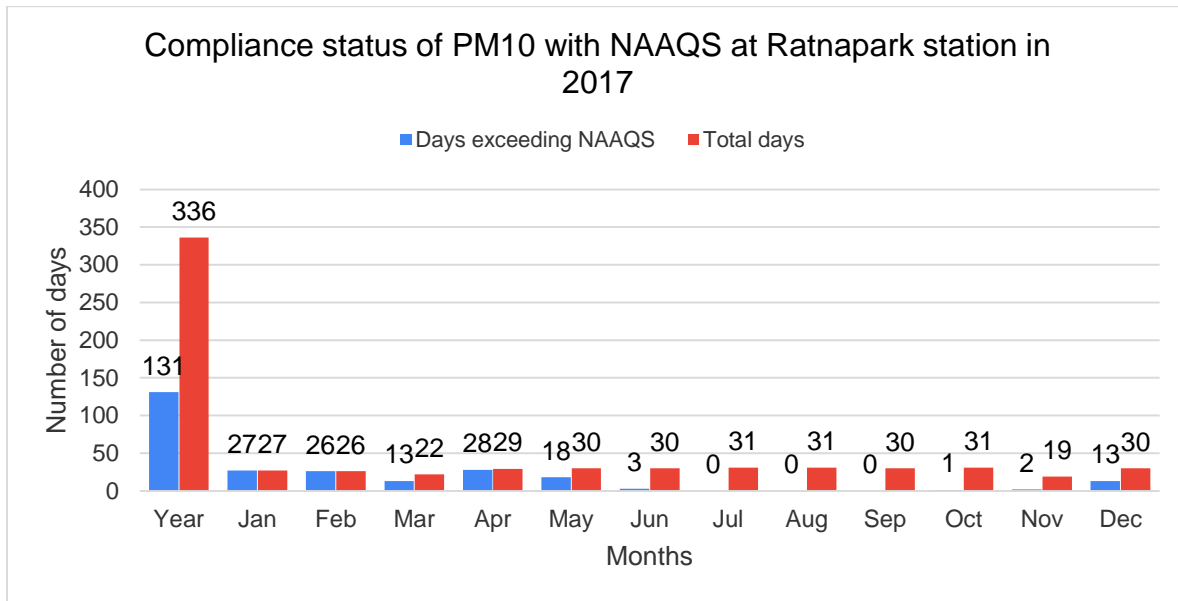


Figure 35. Compliance with National Ambient air quality standard for PM10 at Ratnapark station in 2017

Out of total 336 days of Measurement 131day exceeded the National ambient air quality standard for PM2.5 at Ratnapark station in 2017.

## 2.2.4 Temporal Variation of PM10

### Annual Average of PM10

The annual average PM10 at Ratnapark station on 2017 was  $92.48\mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM10 at Ratnapark station in 2017.

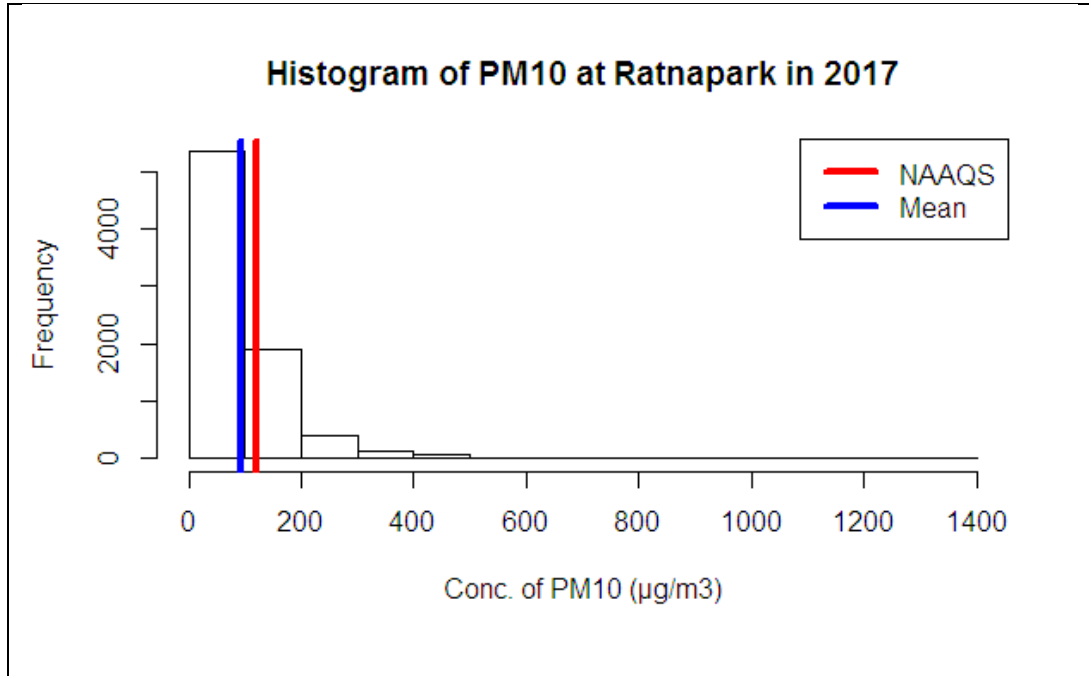


Figure 36. Histogram of PM10 at Ratnapark in 2017

Above figure shows that highest no of hourly average data were between 0-100  $\mu\text{g}/\text{m}^3$ .

### Daily average PM10

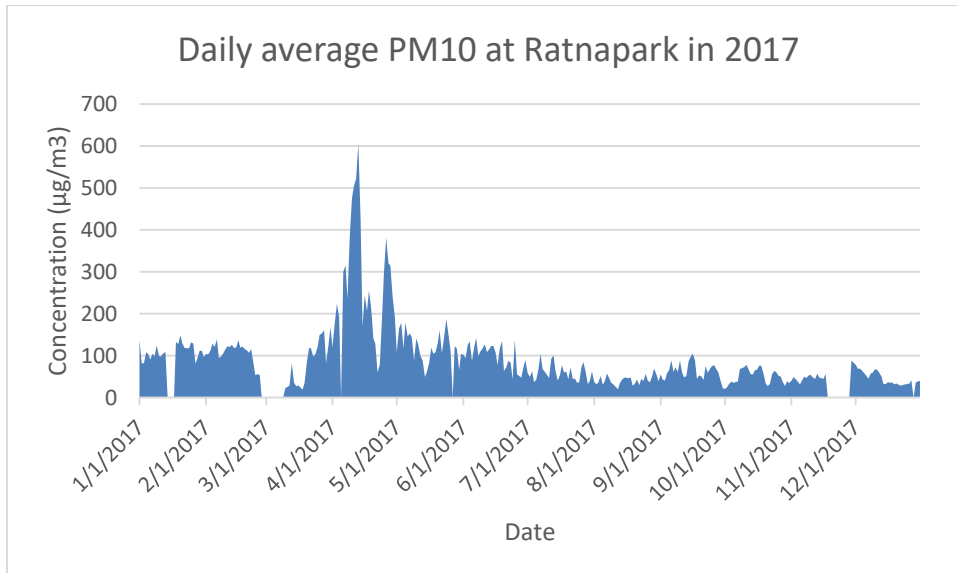


Figure 37. Daily average PM10 at Ratnapark station in 2017

## Monthly Average of PM10

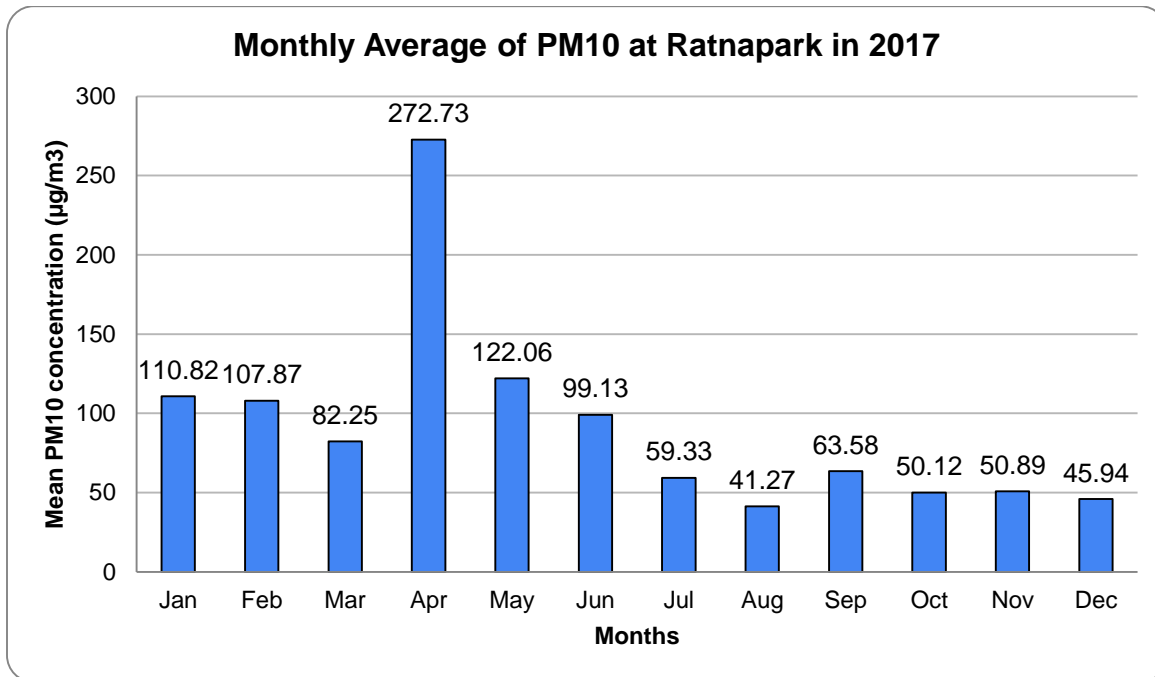


Figure 38. Monthly average PM10 at Ratnapark station in 2017.

Above figure shows that the highest monthly average value of PM10 was found in April with average value of  $272.73 \mu\text{g}/\text{m}^3$  and lowest average was found in August with average value of  $41.27 \mu\text{g}/\text{m}^3$ .

## Monthly Variation of PM10

Following figure shows the boxplot of monthly variation of PM10 at Ratnapark in 2017

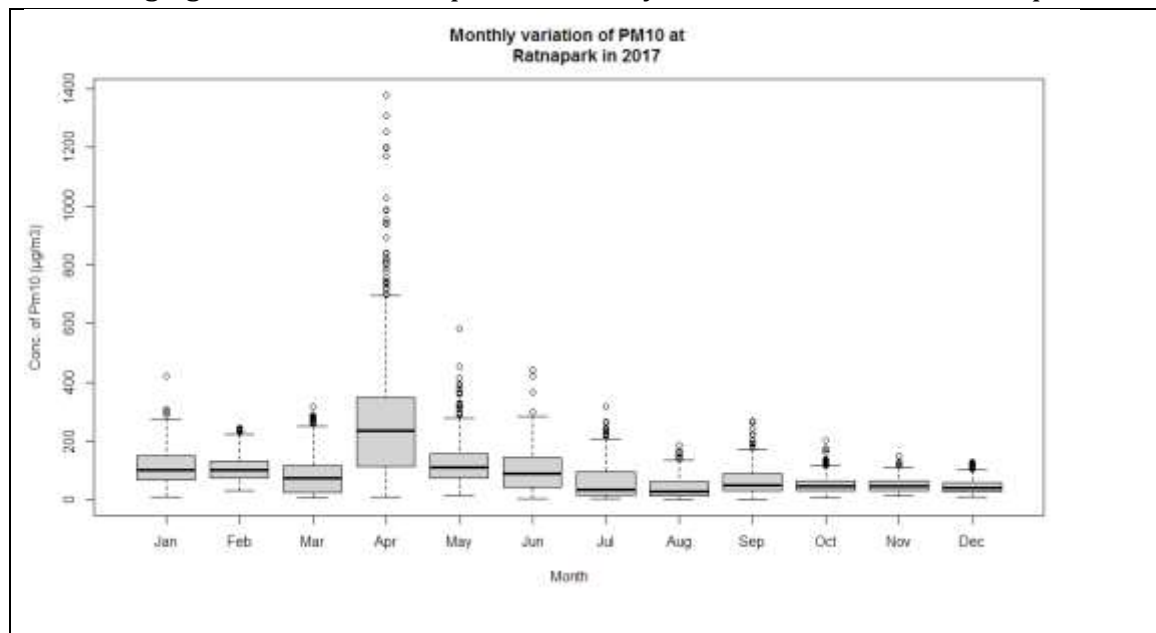


Figure 39. Boxplot of monthly variation of PM10 at Ratnapark in 2017

Above figure shows more variation of hourly average PM10 on April.

### Seasonal Average of PM10

Following figure shows seasonal average of PM10 at Ratnapark in 2017.

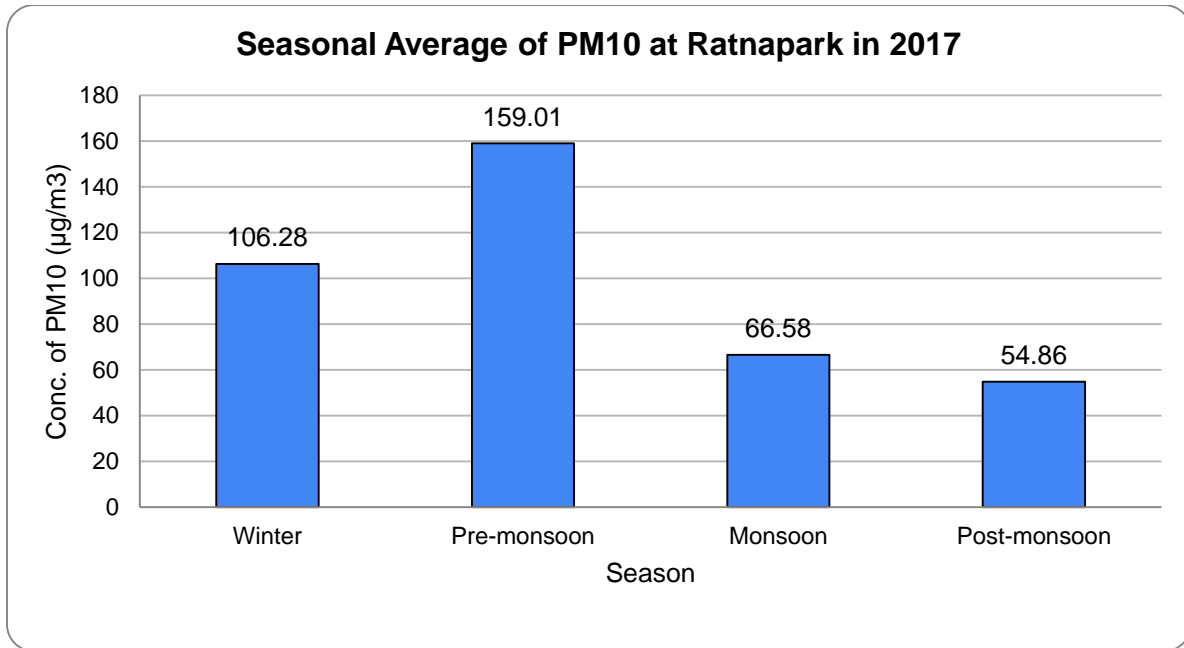


Figure 40. Seasonal average of PM10 at Ratnapark station on 2017

The figure shows highest seasonal average in Pre-monsoon season while lowest seasonal average was observed in post-monsoon season.

### Diurnal Variation of PM10

Following figure shows the diurnal variation of PM10 at Ratnapark in 2017.

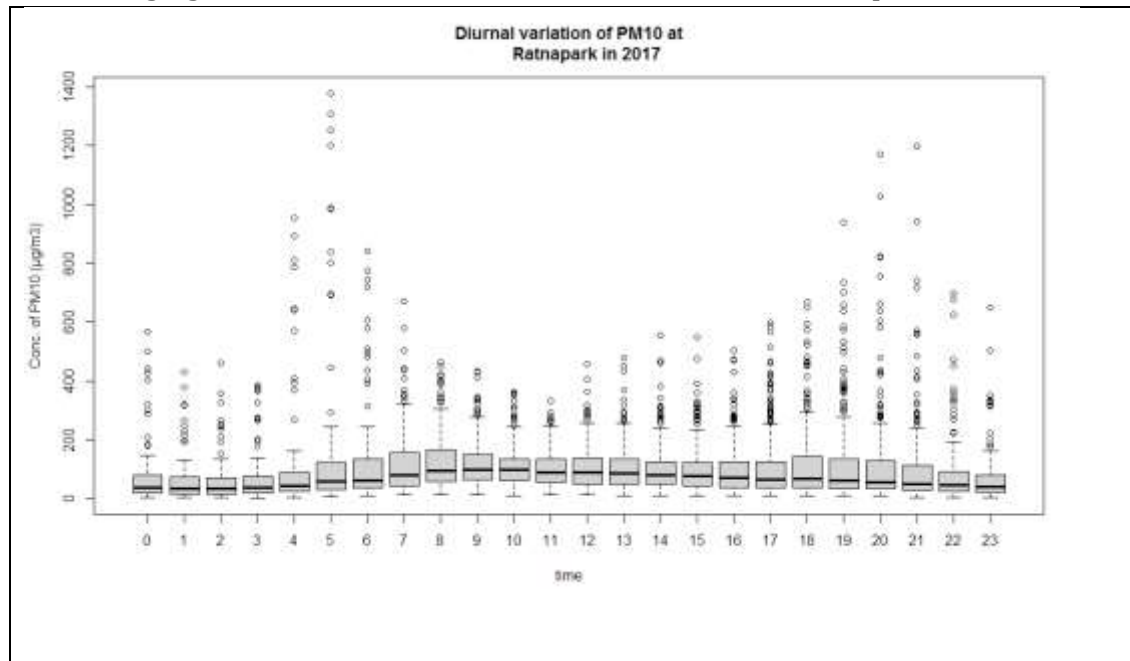


Figure 41. Diurnal variation of PM10 at Ratnapark in 2017.

The boxplot of diurnal variation shows PM10 concentration was highest at 8 and 9 o'clock in the morning.

**Compliance with National Ambient Air quality standard**

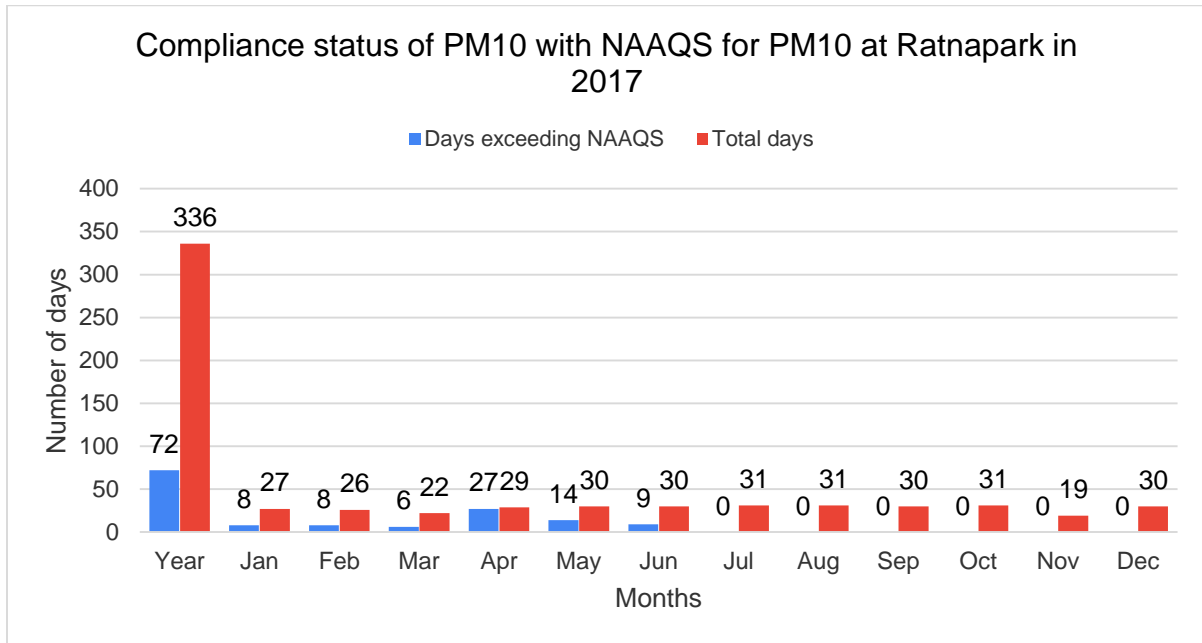


Figure 42. Compliance with National Ambient air quality standard for PM10 at Ratnapark station in 2017

Out of 336 days of measurement 72 days exceed the National Ambient air quality standard for PM10 at Ratnapark station on 2017.

## 2.2.5 Temporal Variation of TSP

### Annual Average

Annual TSP average of Ratnapark Station for the year 2017 was observed to be  $225.47\mu\text{g}/\text{m}^3$ . Following figure shows the histogram of TSP at Ratnapark in 2017.

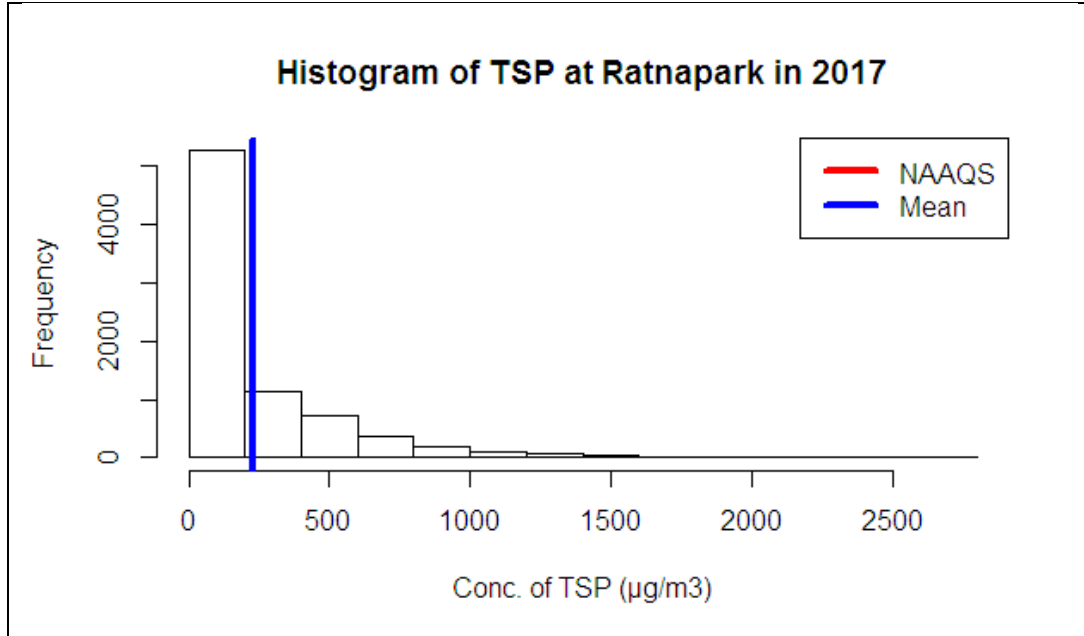


Figure 43. Histogram of TSP at Ratnapark station in 2017.

Above figure shows highest no of hourly average of Total Suspended Particulate data were between  $0\text{-}200\mu\text{g}/\text{m}^3$ .

### Daily average of Total suspended Particulate

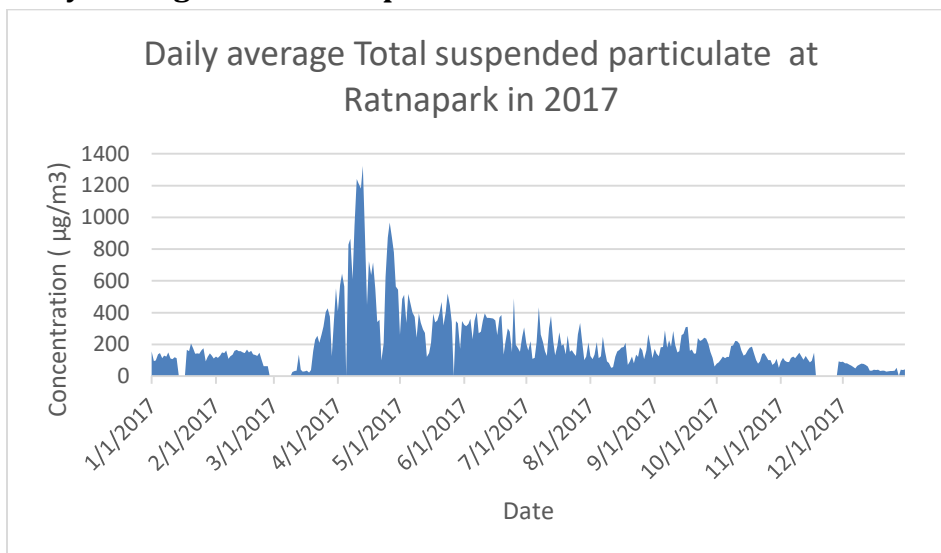


Figure 44. Histogram of TSP at Ratnapark station in 2017.



## Monthly Average of TSP

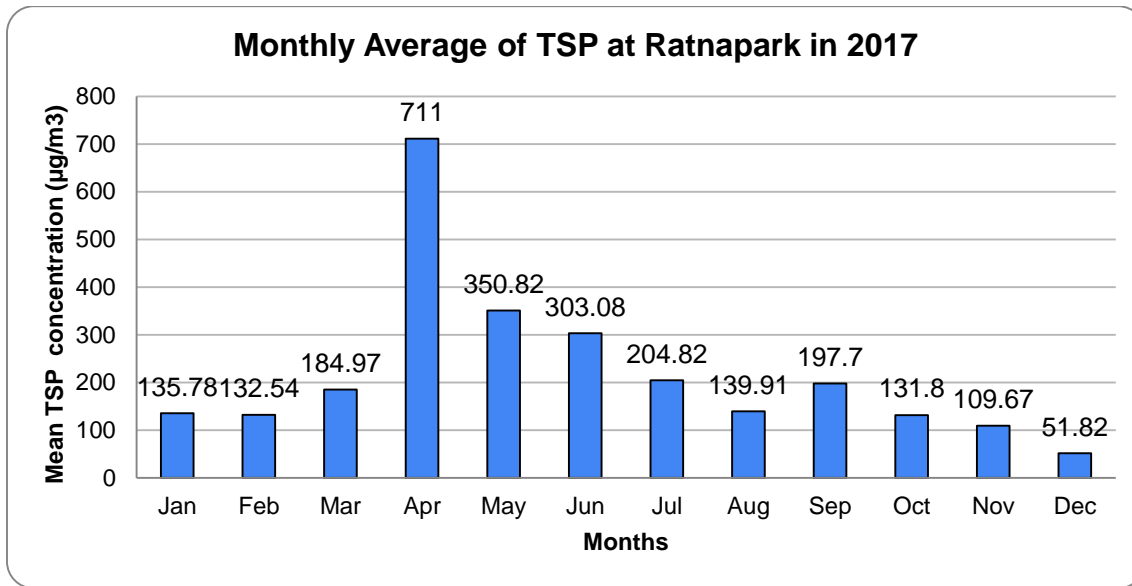


Figure 45. Monthly average of TSP at Ratnapark station in 2017

Above figure shows that the monthly average value of TSP was highest in April with monthly average value of  $711 \mu\text{g}/\text{m}^3$  and lowest in December with monthly average value of  $51.82 \mu\text{g}/\text{m}^3$ .

## Monthly variation of TSP

Following figure shows Boxplot of monthly variation of TSP at Ratnapark in 2017

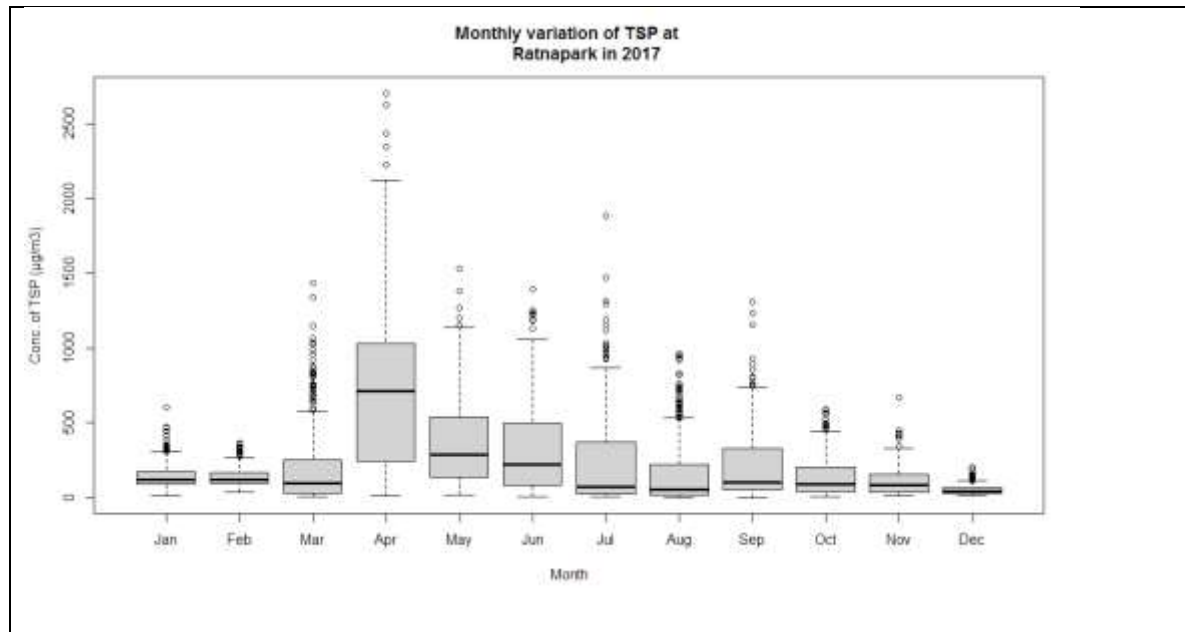


Figure 46. Monthly variation of daily average Total suspended particulate at Ratnapark in 2017

The above figure shows that highest level of variation was seen in April.

### Seasonal Average of TSP

Following figure shows the seasonal average of TSP at Ratnapark station in 2017

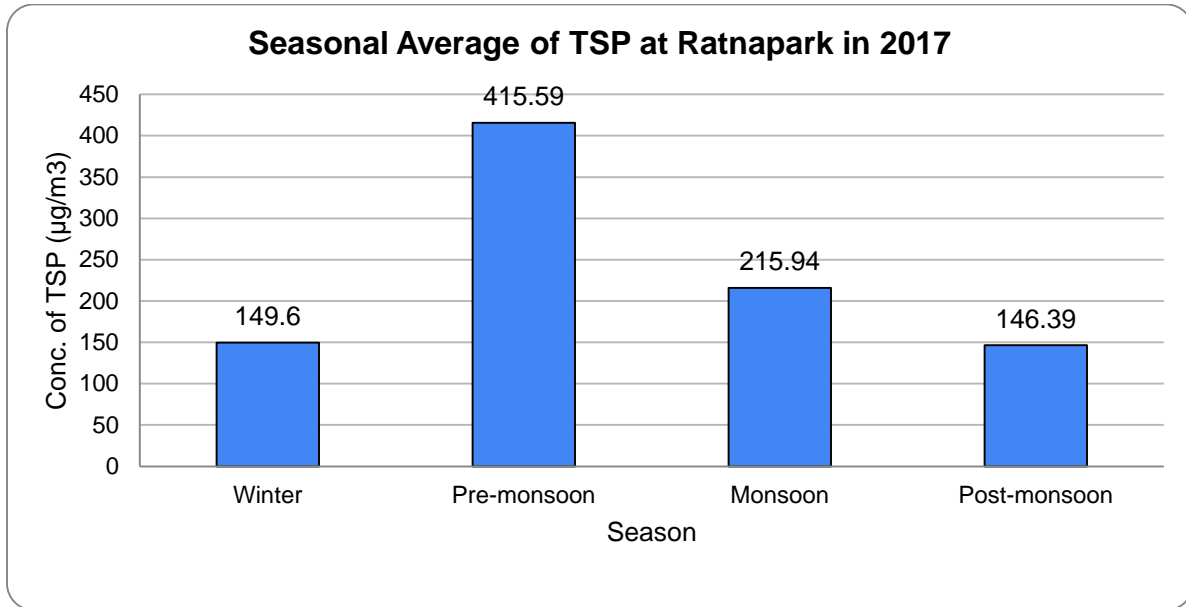


Figure 47. Seasonal average of TSP at Ratnapark station on 2017

Highest seasonal average was observed in Pre-monsoon season with seasonal average value of 415.59  $\mu\text{g}/\text{m}^3$ .

### Diurnal Variation of TSP

Following figure shows the boxplot of diurnal variation of TSP at Ratnapark in 2017.

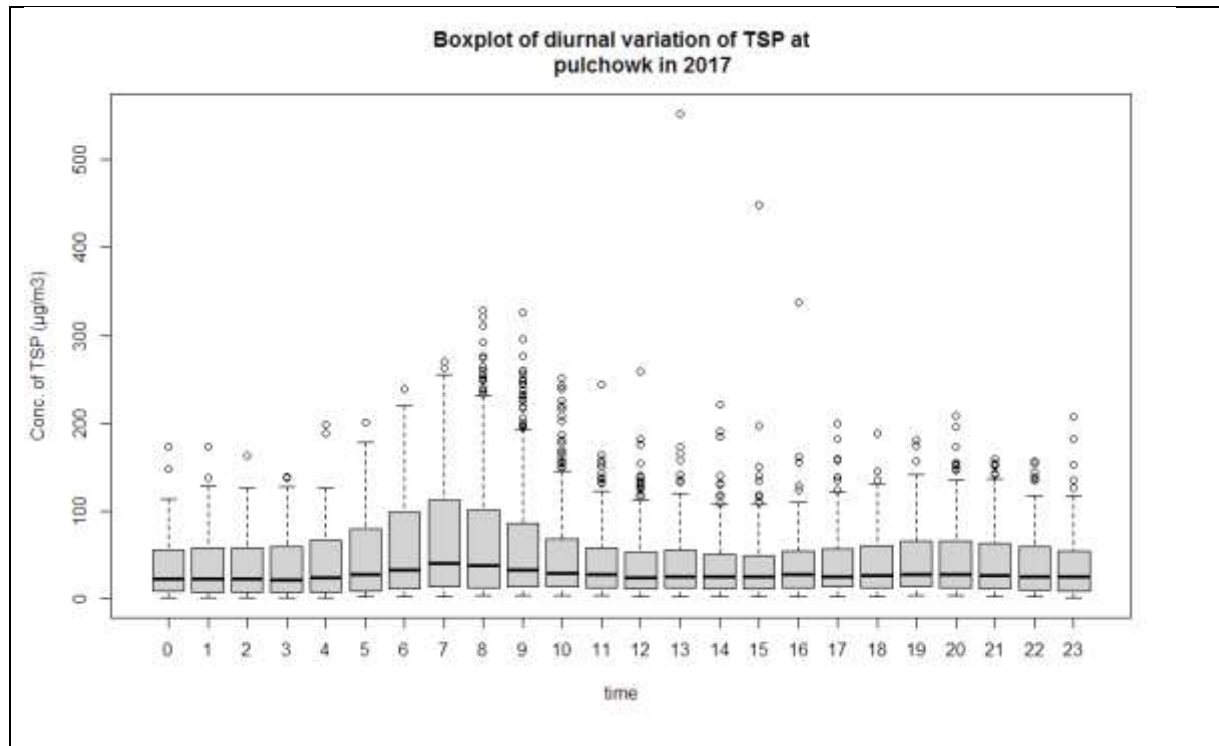


Figure 48. Diurnal variation of TSP at Ratnapark station on 2017

Above figure shows that Total suspended Particulate concentration was highest at 7 and 8 O'clock and variation was also high at that time.

**Compliance with National Ambient air quality Standard**

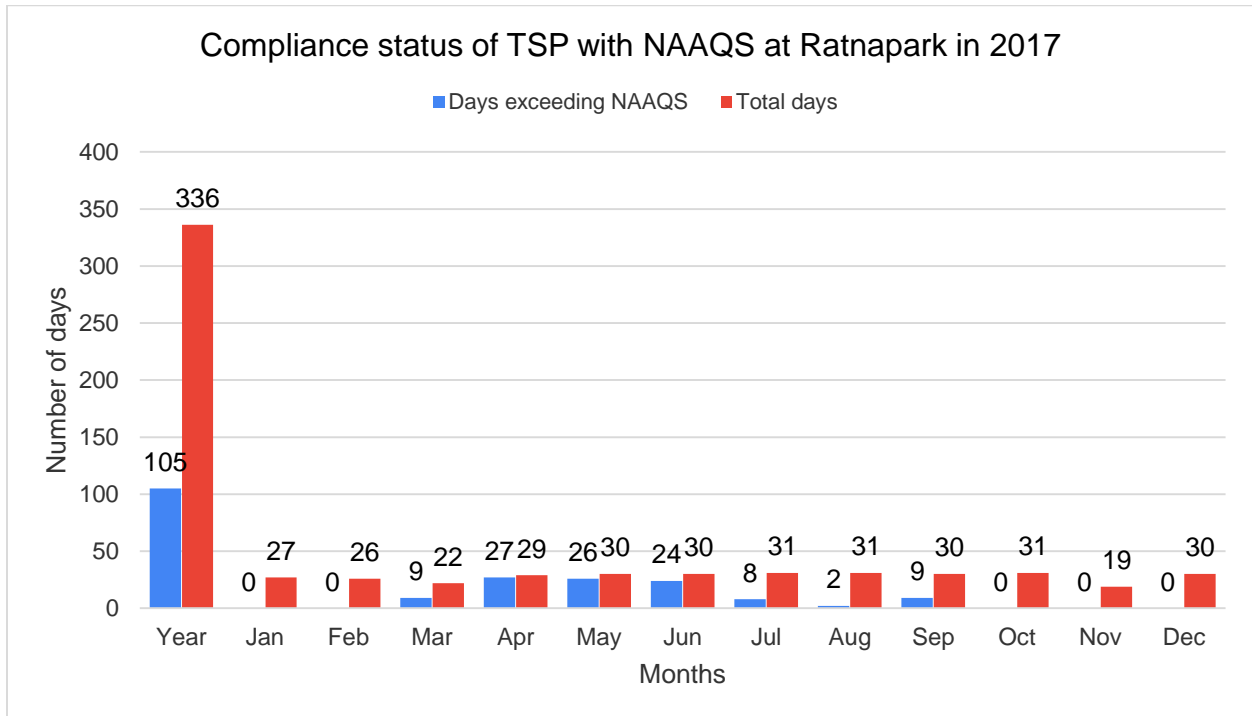


Figure 49. Compliance with National Ambient air quality standard for TSP at Ratnapark station in 2017

Out of 336 days of measurement 105 days exceed the National ambient air quality standards for the Total suspended particulate.

## 2.3 Air Quality Status, 2018

### 2.3.1 Annual average of PM1, PM2.5, PM10 and TSP

Annual average of all parameters (PM1, PM2.5, PM10 and TSP for this station)

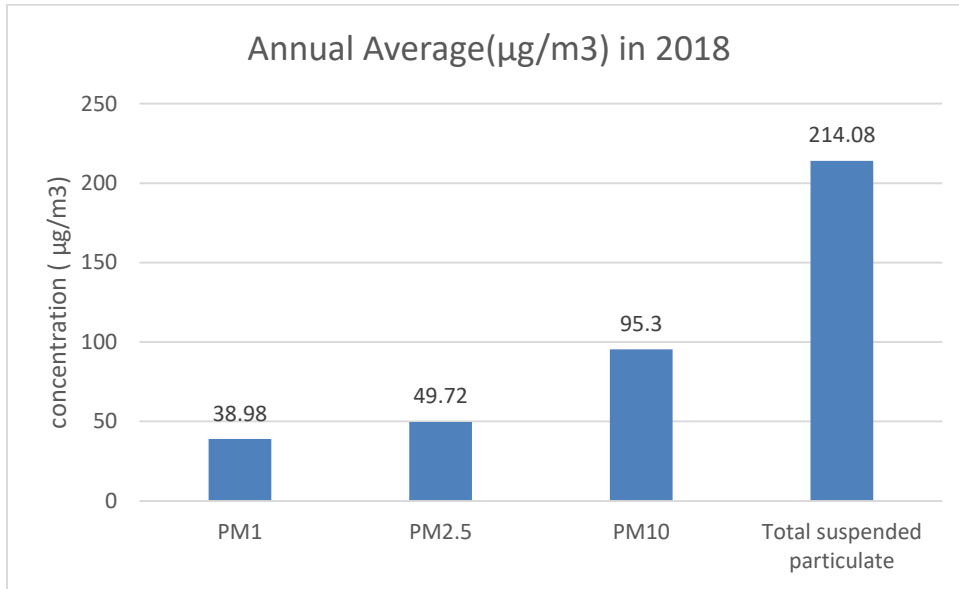


Figure 50. Annual average PM1, PM2.5, PM10 and TSp at Ratnapark station for 2018

### 2.3.3 Temporal Variation of PM1

#### Annual Average of PM1

Annual average PM1 at Ratnapark station at 2018 was 38.98 µg/m<sup>3</sup>. Following figure shows the Histogram of PM1 at Ratnapark in 2018.

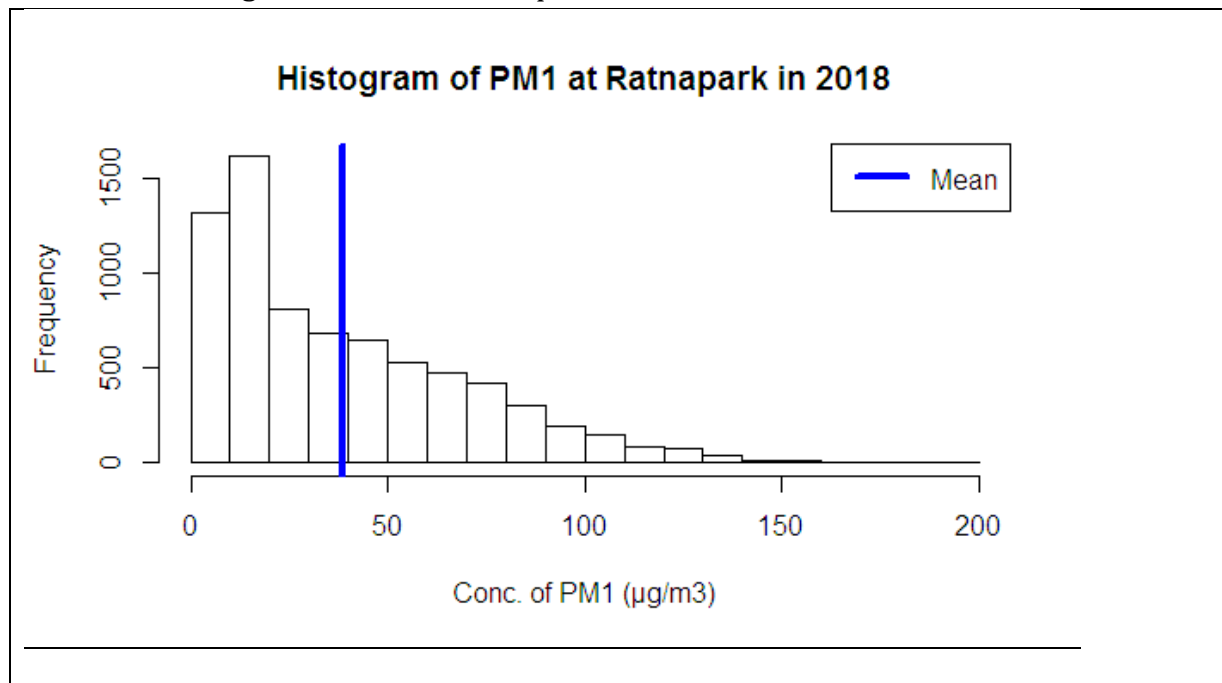


Figure 51. Histogram of PM1 at Ratnapark in 2018

The Histogram shows that highest no of hourly average data was between 10-20 $\mu\text{g}/\text{m}^3$  followed by 0-10  $\mu\text{g}/\text{m}^3$ .

**Daily average PM1**

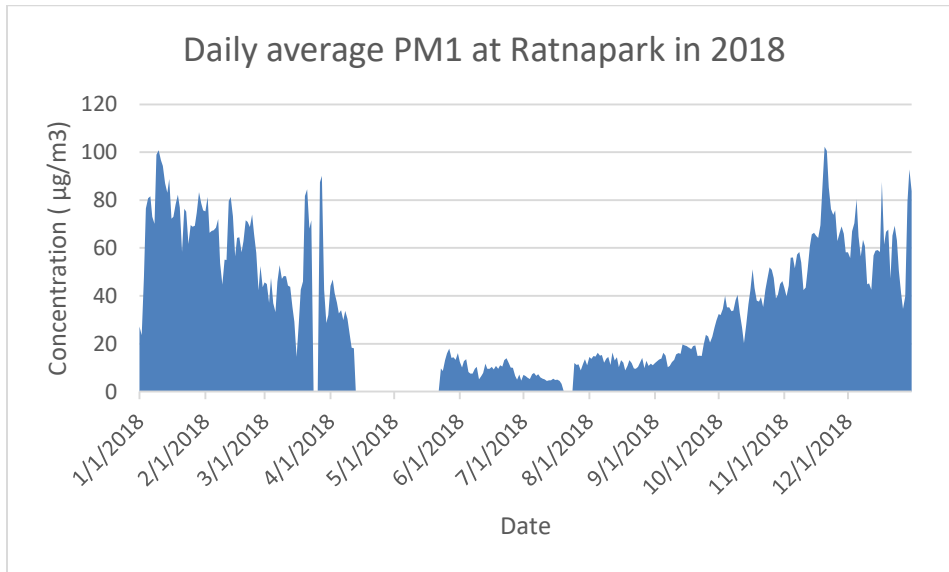


Figure 52. Daily average PM1 at Ratnapark station in 2018

Following Figure shows the monthly average of PM1.

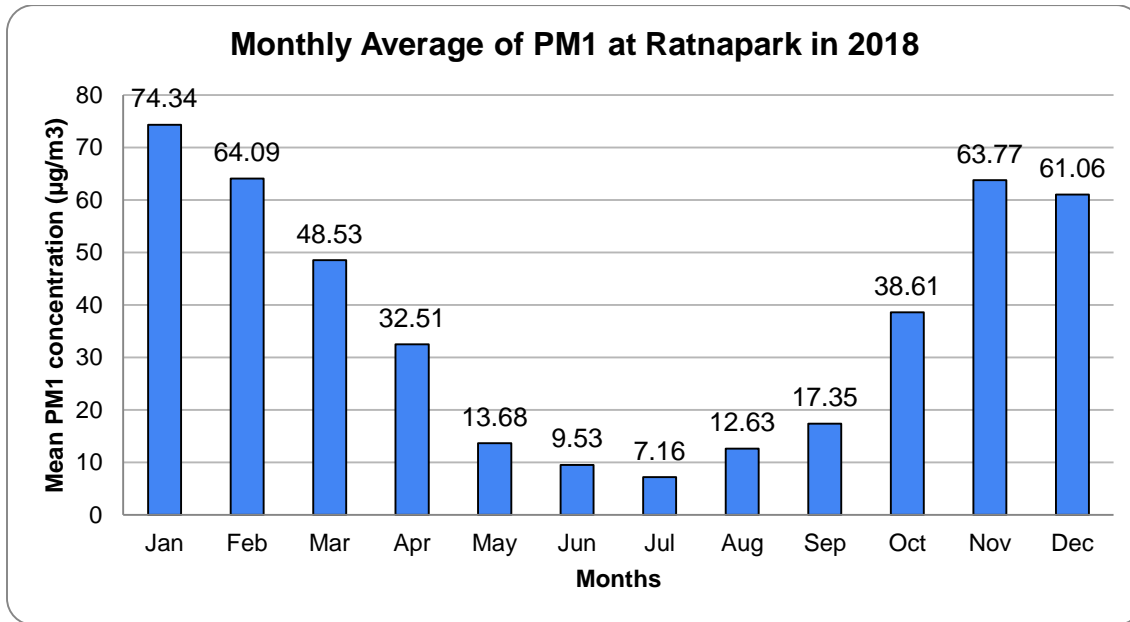


Figure 53. Monthly average PM1 at Ratnapark station in 2018

Above figure shows that the average value of PM1 was highest in January with monthly average value of 74.34 $\mu\text{g}/\text{m}^3$  and lowest value was observed in July with monthly average value of 7.16 $\mu\text{g}/\text{m}^3$ .

## Monthly Variation of PM1

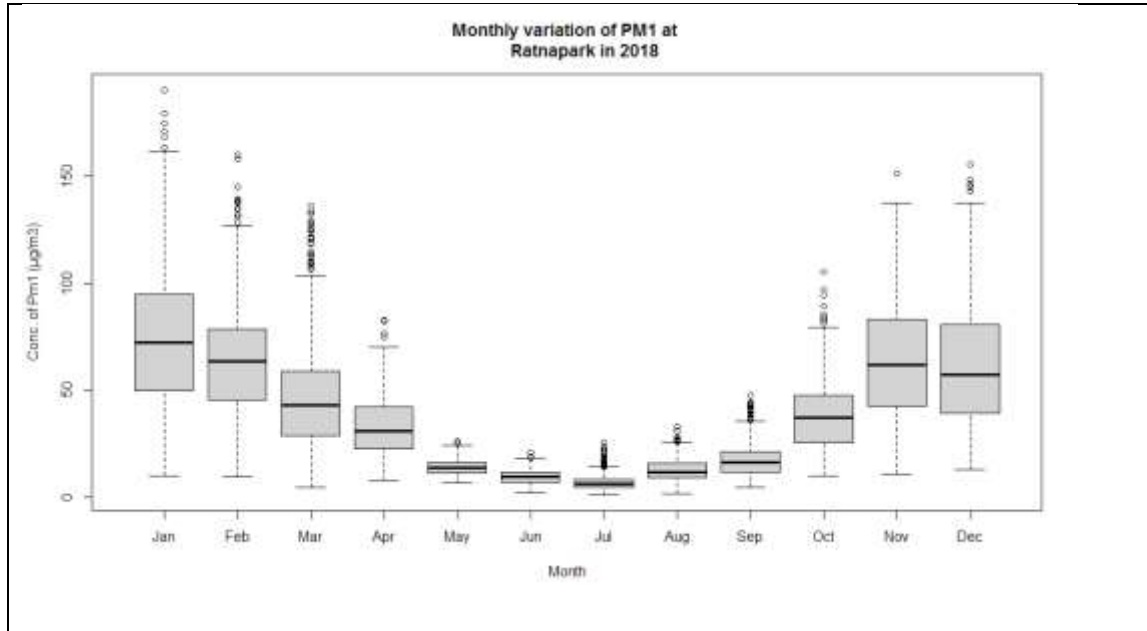


Figure 54. Monthly variation of daily average PM1 at Ratnapark station in 2018

Boxplot of monthly variation of PM1 shows that highest variation was seen on January, November and December.

## Seasonal Average of PM1

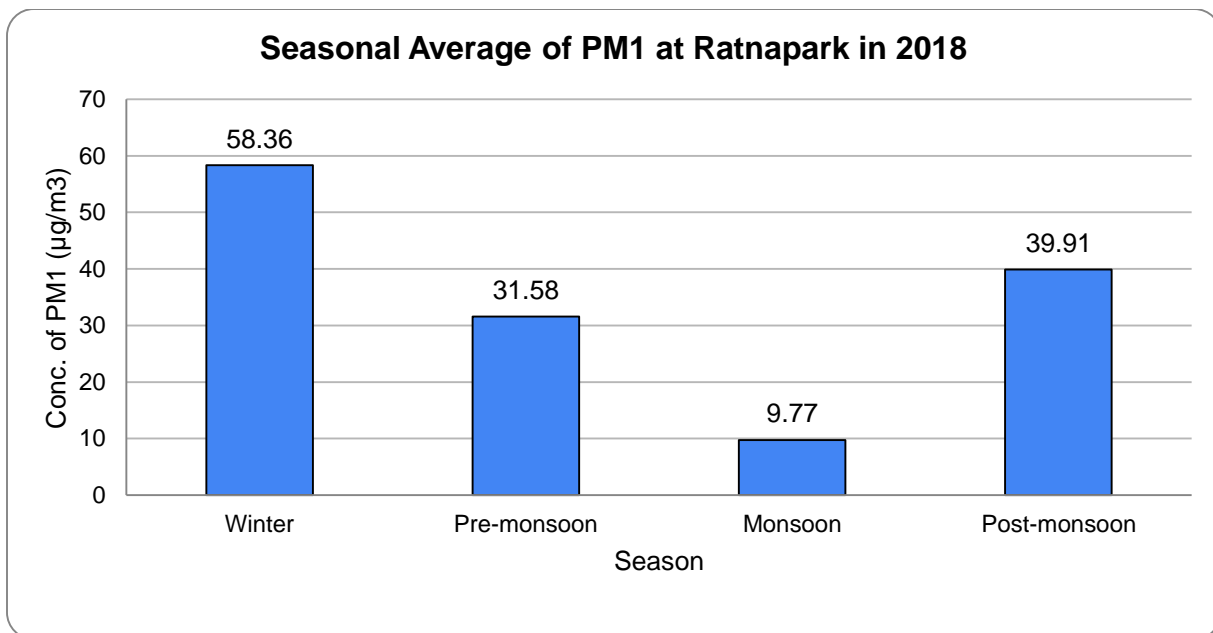


Figure 55. Ambient concentration of average PM1 with four seasons

## Diurnal Variation of PM1

Following figure shows the boxplot of diurnal variation of PM1 at Ratnapark station in 2018.

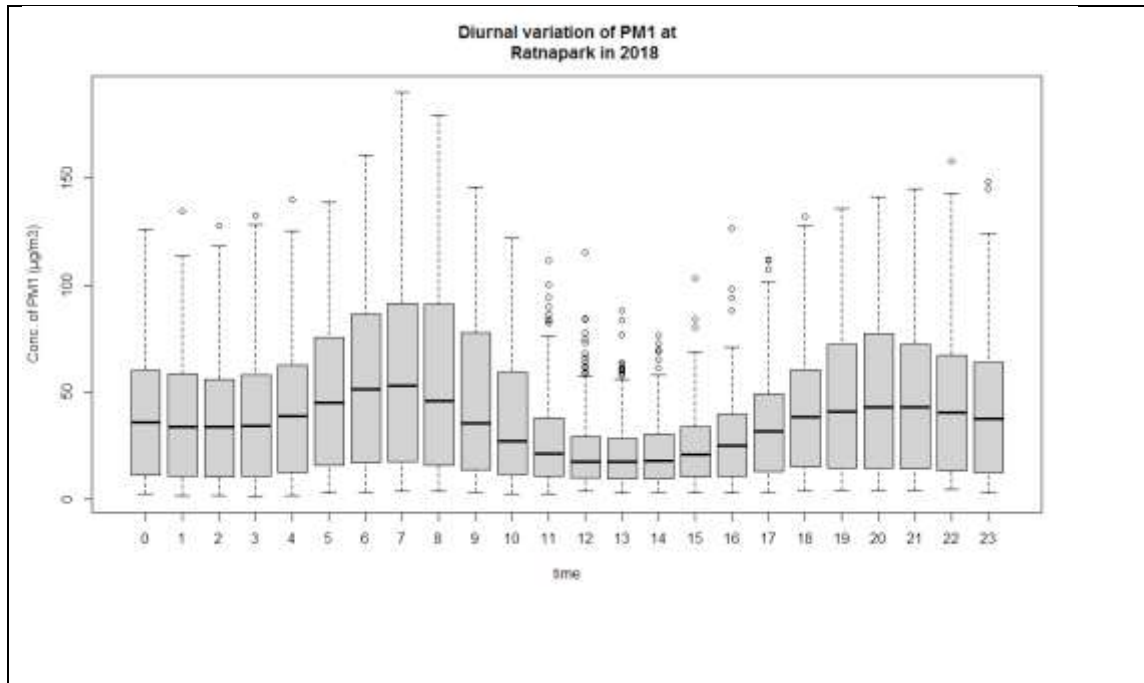


Figure 56. Boxplot of diurnal variation of PM1 at Ratnapark station in 2018

Above figure shows that PM1 concentration was more at 7 o'clock in the morning and 20 and 21 o'clock in the night. Similarly, it was more variable at 7 o'clock in the morning.

### 2.3.3 Temporal Variation of PM2.5

#### Annual Average of PM2.5

The annual average of PM2.5 at Ratnapark station on 2018 was  $49.72 \mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM2.5 at Ratnapark station in 2018.

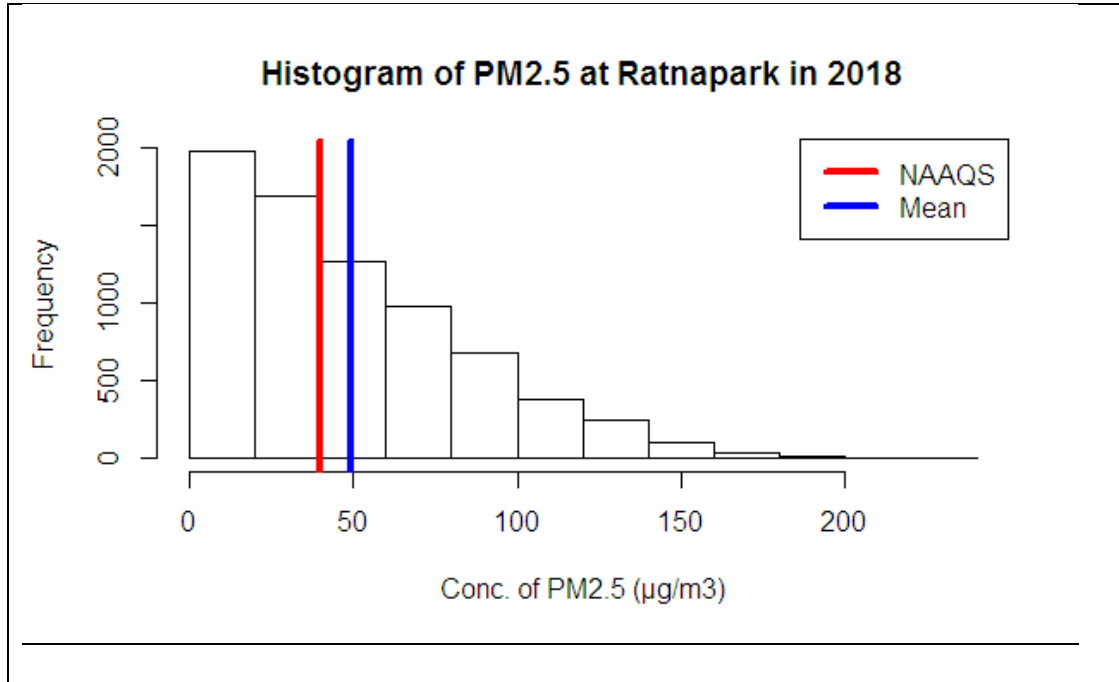


Figure 57. Histogram of PM2.5 at Ratnapark in 2018

The Histogram shows that highest no of hourly average data was between  $0-20 \mu\text{g}/\text{m}^3$  followed by  $20-40 \mu\text{g}/\text{m}^3$ .

#### Daily Average of PM2.5

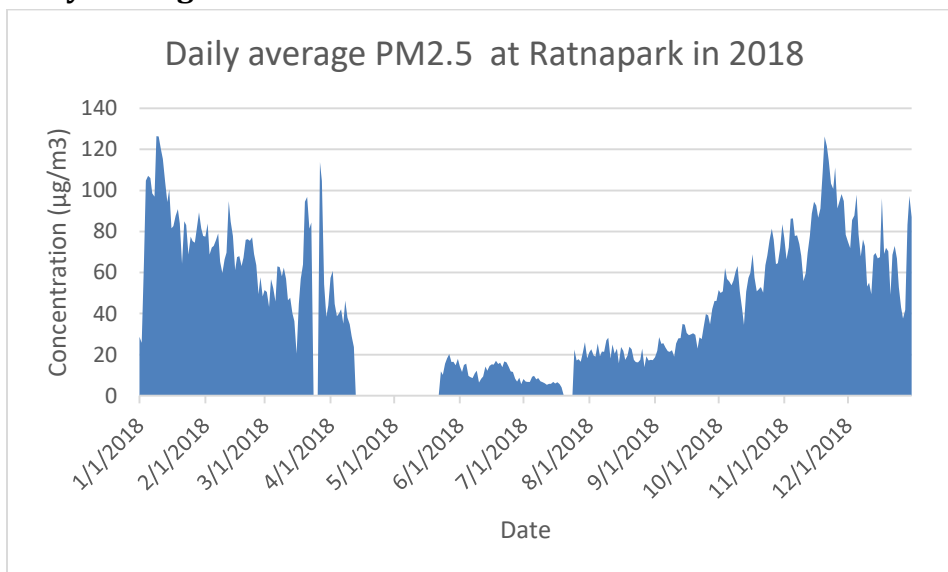


Figure 58. Daily average PM2.5 at Ratnapark station in 2018



## Monthly Average of PM2.5

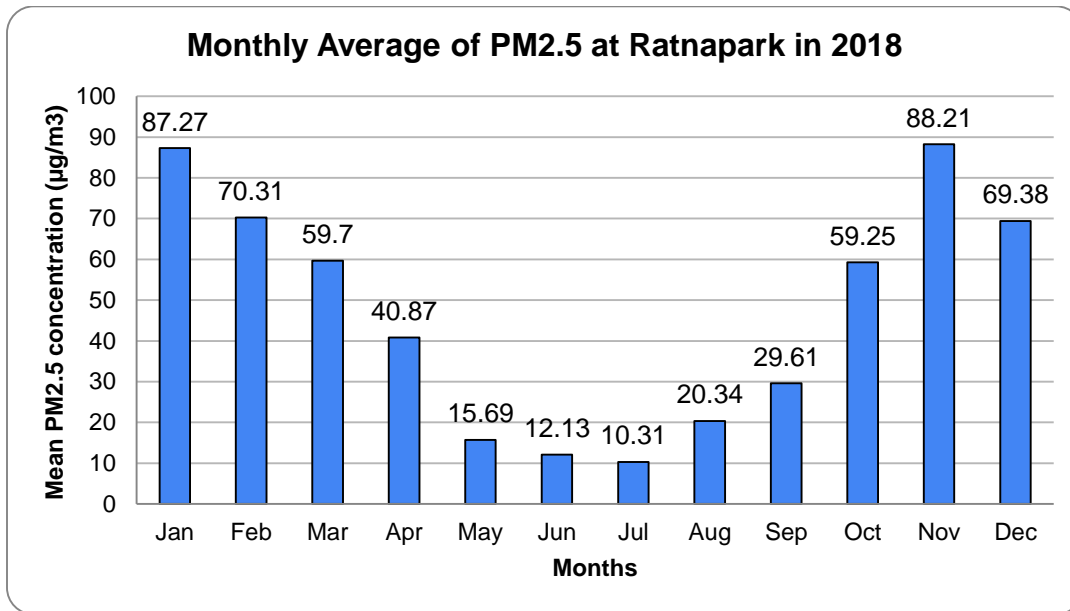


Figure 59. Monthly average of PM2.5 at Ratnapark station in 2018

Above figure shows that the monthly average value of PM<sub>2.5</sub> was highest in November with monthly average value of 88.21µg/m<sup>3</sup> while lowest value was observed in July with monthly average value of 10.31µg/m<sup>3</sup>.

## Monthly Variation of PM2.5

Following figure shows the boxplot of monthly variation of PM2.5 at Ratnapark in 2018.

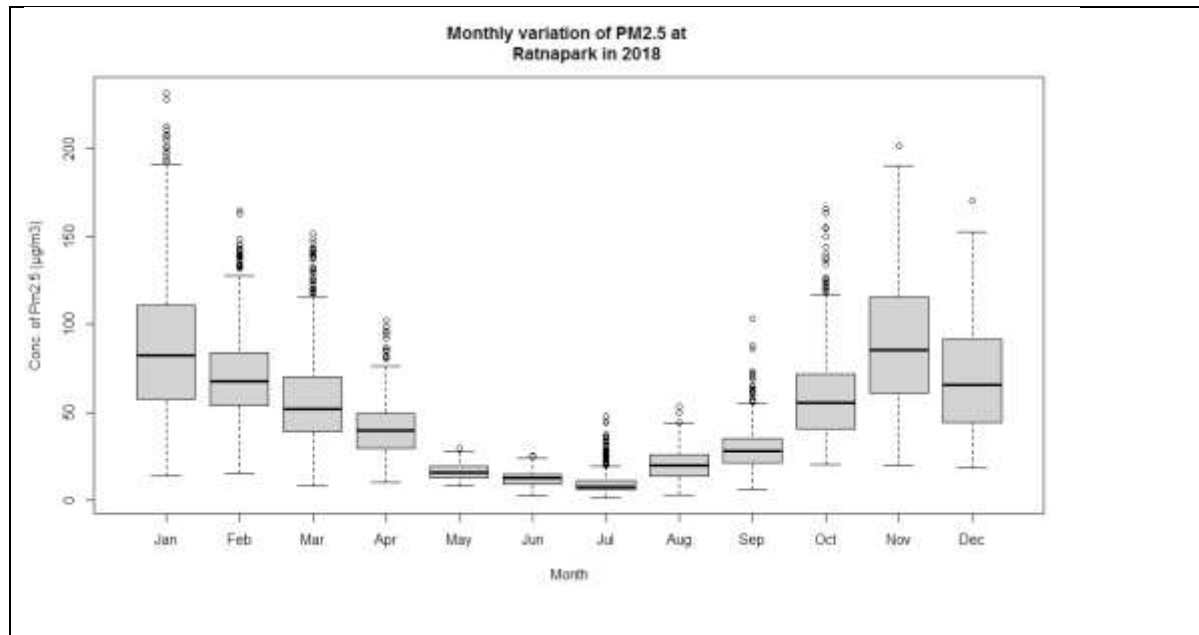


Figure 60. Monthly variation of daily average PM2.5 at Ratnapark in 2018

Above figure shows that hourly average data of PM<sub>2.5</sub> was more variable in January and November.

### Seasonal Average of PM2.5

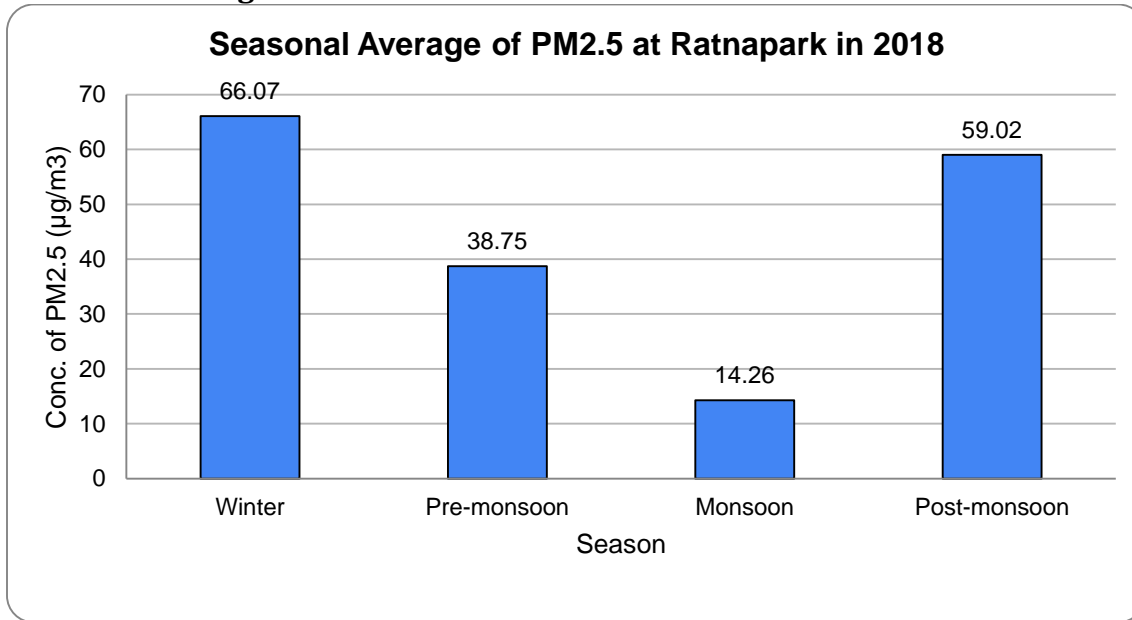


Figure 61. Seasonal variation of PM2.5 at Ratnapark station in 2018

The figure shows highest seasonal average was observed in winter season and lowest seasonal average was observed in monsoon season.

### Diurnal Variation of PM2.5

Following figure shows the boxplot of diurnal variation of PM2.5 at Ratnapark

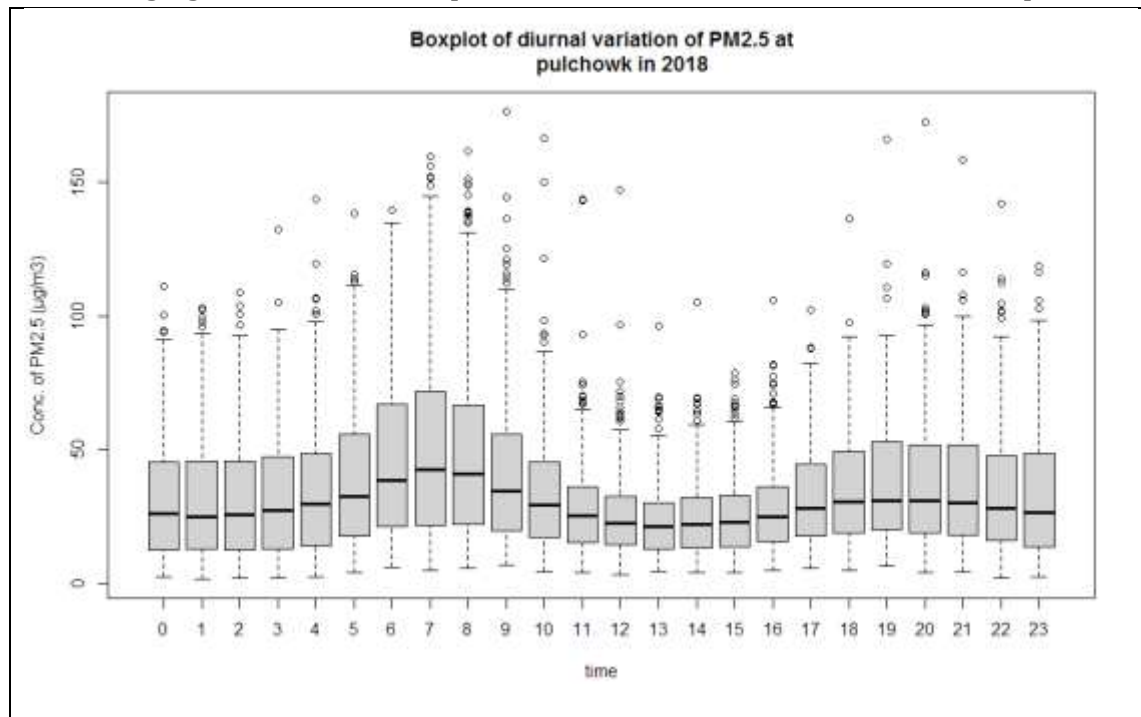


Figure 62. Boxplot of diurnal variation of PM2.5 at Ratnapark in 2018

Above figure shows PM2.5 concentrations was highest was at 7 o'clock and also more variable at that time.

### Compliance with National Ambient Air Quality standard

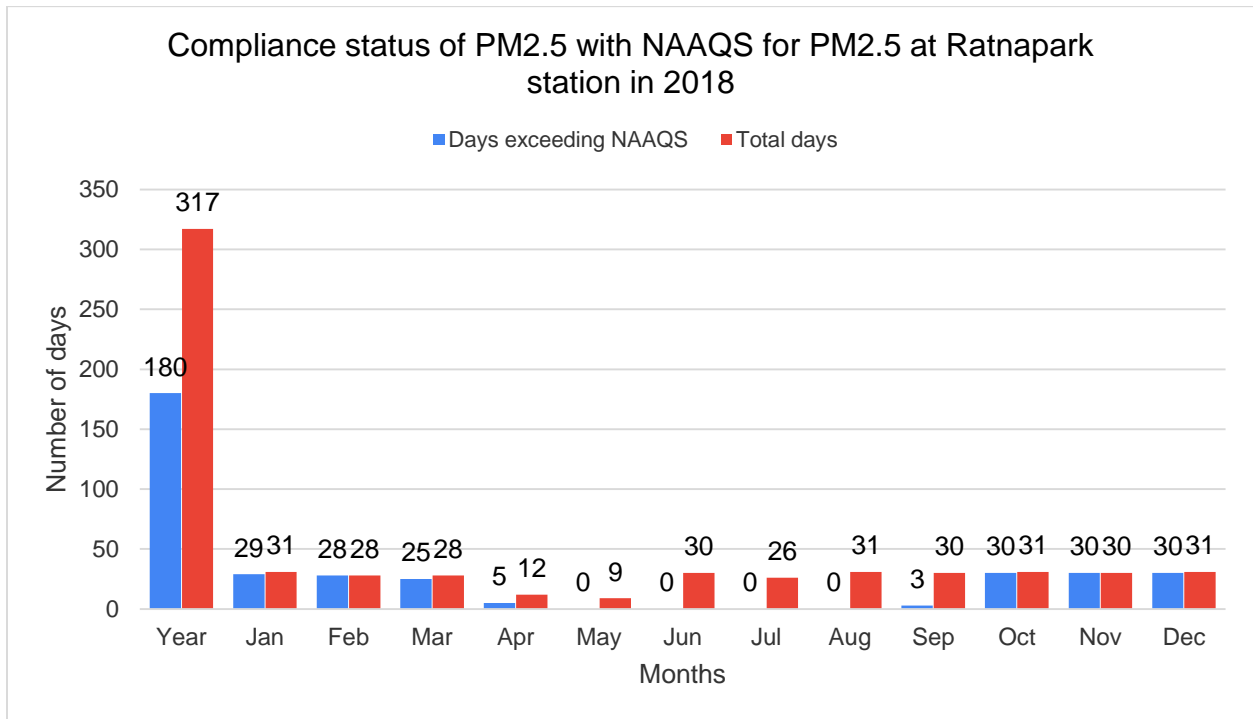


Figure 63. Compliance with National Ambient air quality standard for PM2.5 at Ratnapark station in 2018

Out of total 317 days of Measurement 180 days exceeded the National ambient air quality standard for PM2.5 at Ratnapark station in 2018.

### 2.3.4 Temporal Variation of PM10

#### Annual Average

The annual average PM10 at Ratnapark station on 2018 was  $95.30 \mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM10 at Ratnapark station in 2018.

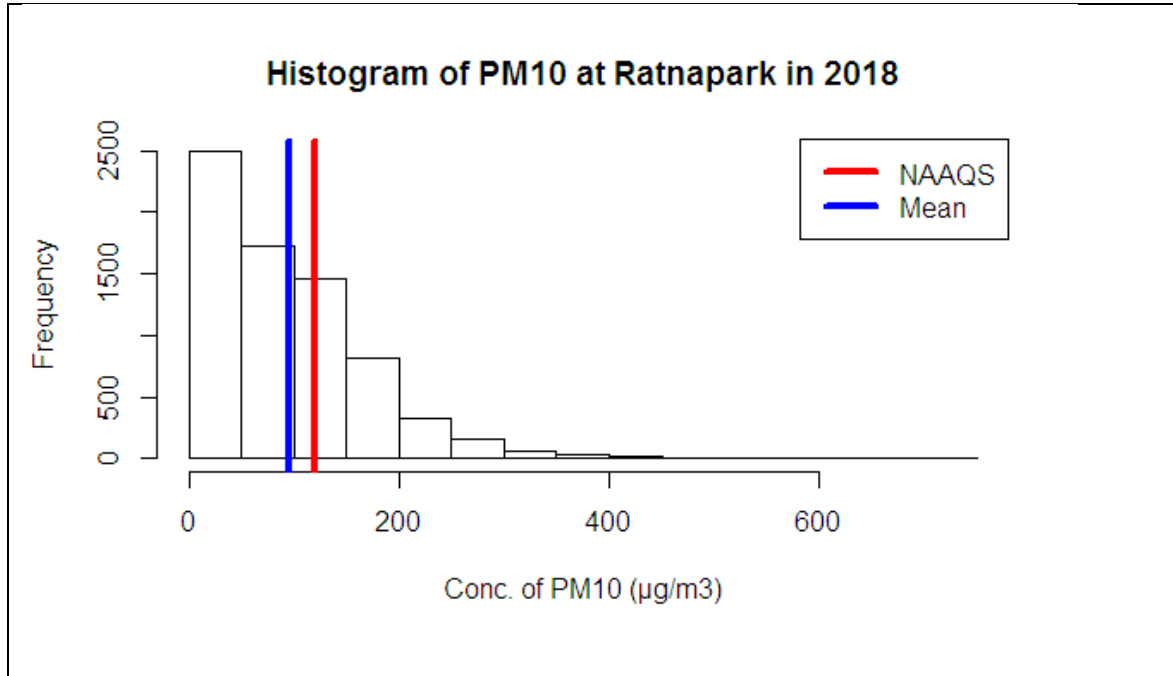


Figure 64. Histogram of PM10 at Ratnapark in 2018

Above figure shows that highest no of hourly average data were between  $0-50 \mu\text{g}/\text{m}^3$  followed by  $50-100 \mu\text{g}/\text{m}^3$ .

#### Daily average of PM10

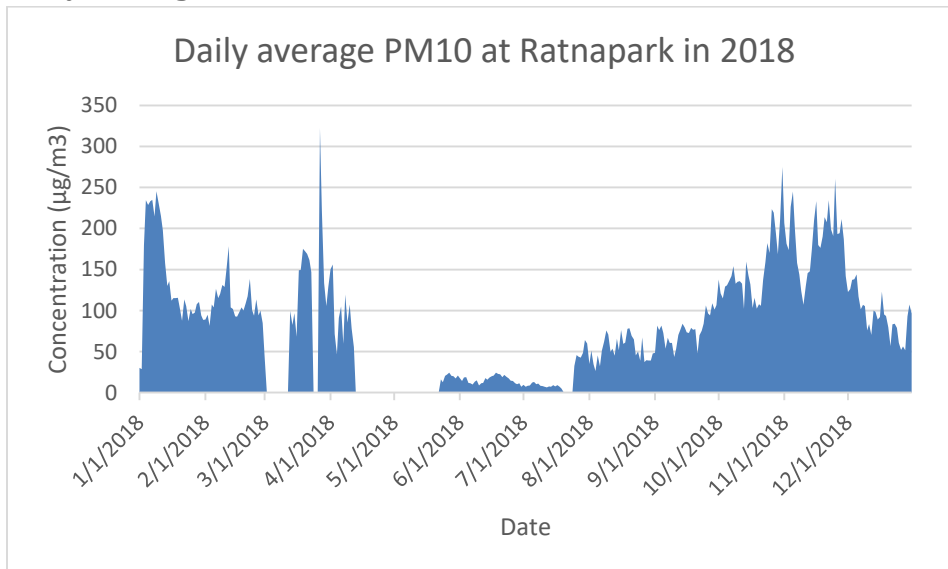


Figure 65. Daily average PM10 at Ratnapark station in 2018

## Monthly Average of PM10

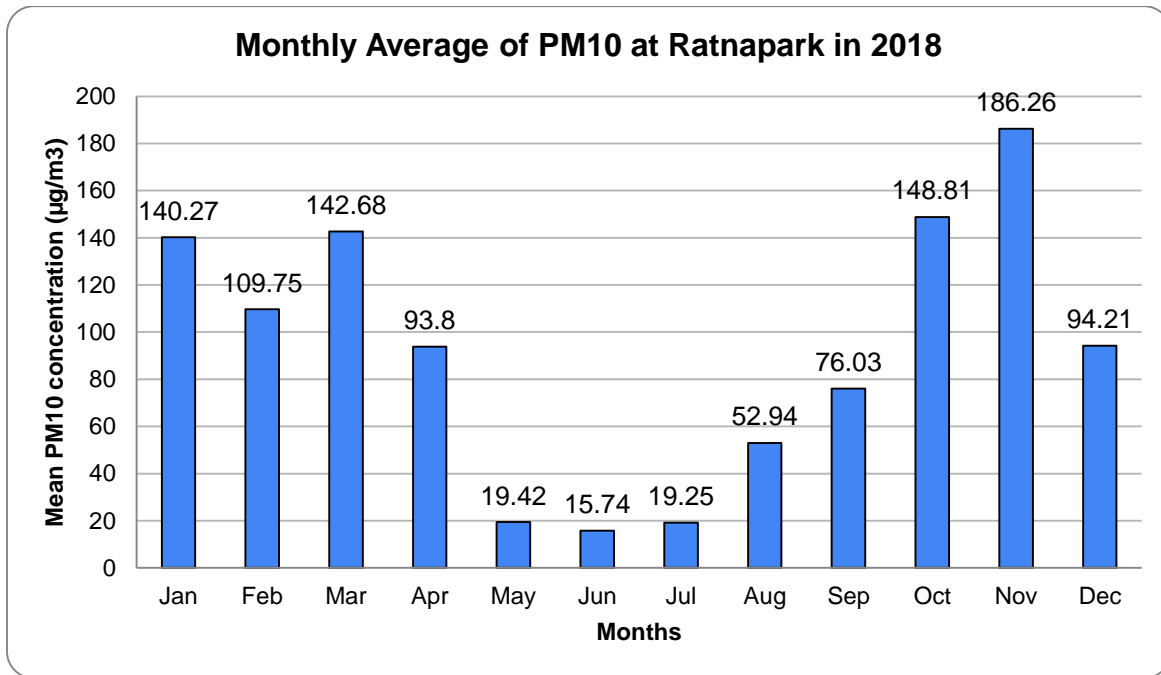


Figure 66. Monthly average PM10 at Ratnapark station in 2018

Above figure shows that the highest monthly average value of PM10 was found in November with average value of  $186.26 \mu\text{g}/\text{m}^3$  and lowest average was found in June with average value of  $15.74 \mu\text{g}/\text{m}^3$ .

## Monthly Variation of PM10

Following figure shows the boxplot of monthly variation of PM10 at Ratnapark in 2018

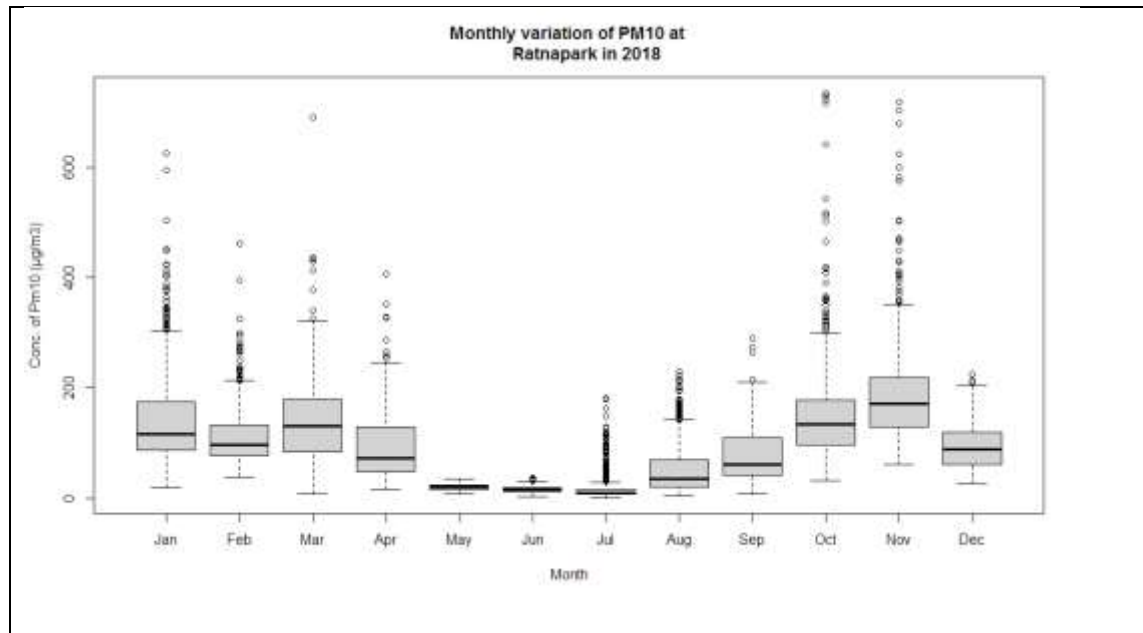


Figure 67. Boxplot of monthly variation of PM10 at Ratnapark in 2018

### Seasonal Average of PM10

Following figure shows seasonal average of PM10 at Ratnapark in 2018.

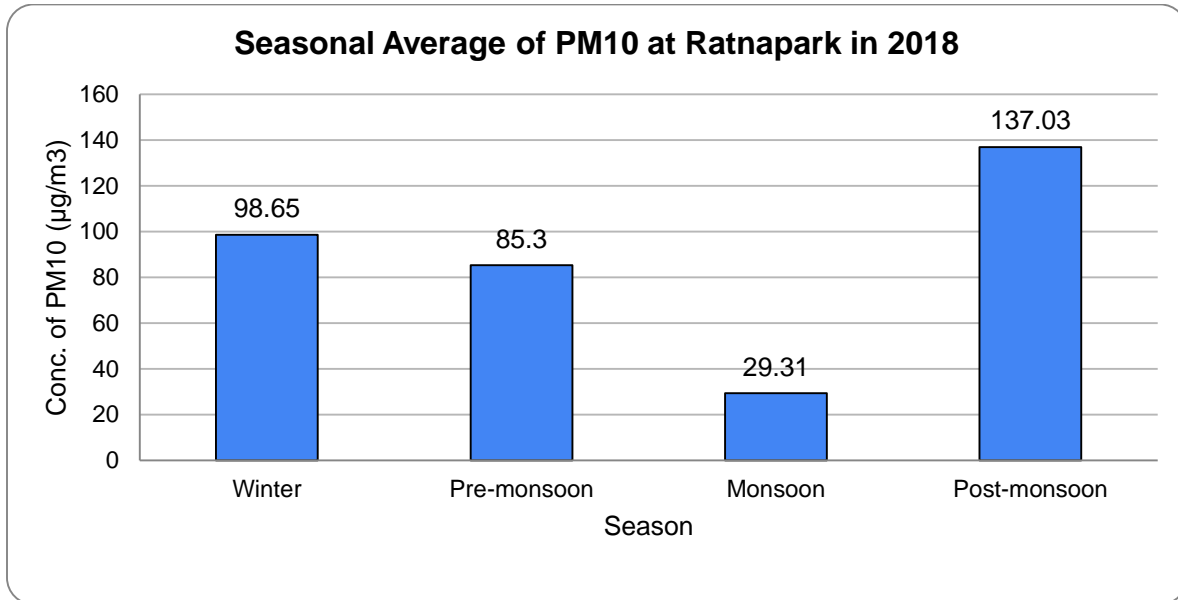


Figure 68. Seasonal average of PM10 at Ratnapark station in 2018

The figure shows highest seasonal average in Post-monsoon season while lowest seasonal average was observed in monsoon season

### Diurnal Variation of PM10

Following figure shows the diurnal variation of PM10 at Ratnapark in 2018.

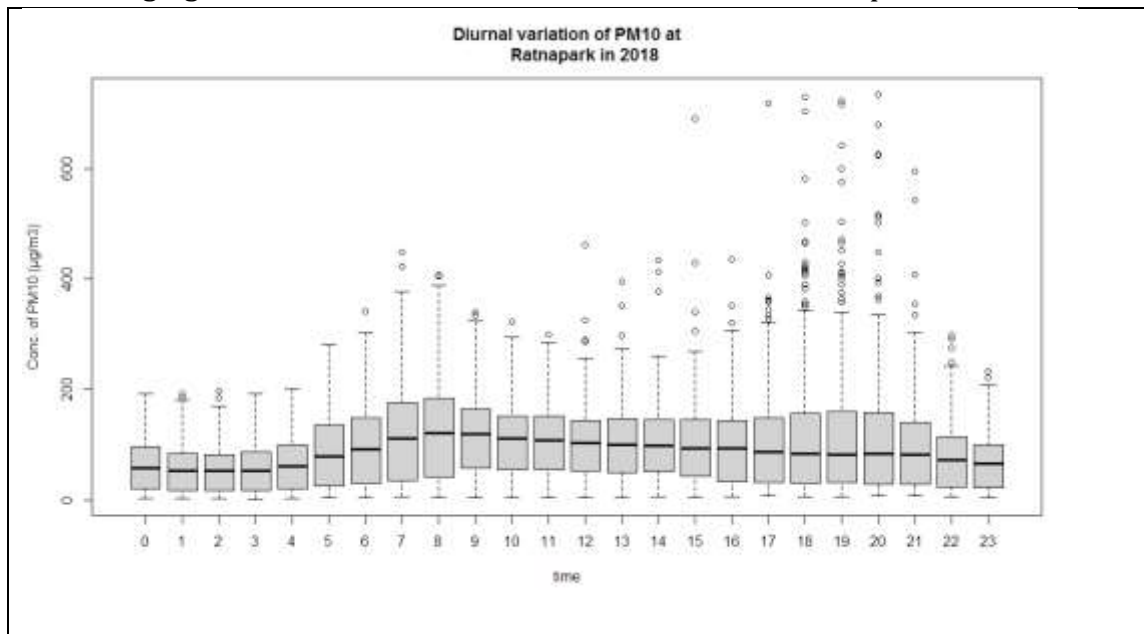


Figure 69. Diurnal variation of PM10 at Ratnapark in 2018

The boxplot of diurnal variation shows PM10 concentration was highest at 8 O'clock and variation of PM10 was also high at that time.

### Compliance with National Ambient Air quality standard

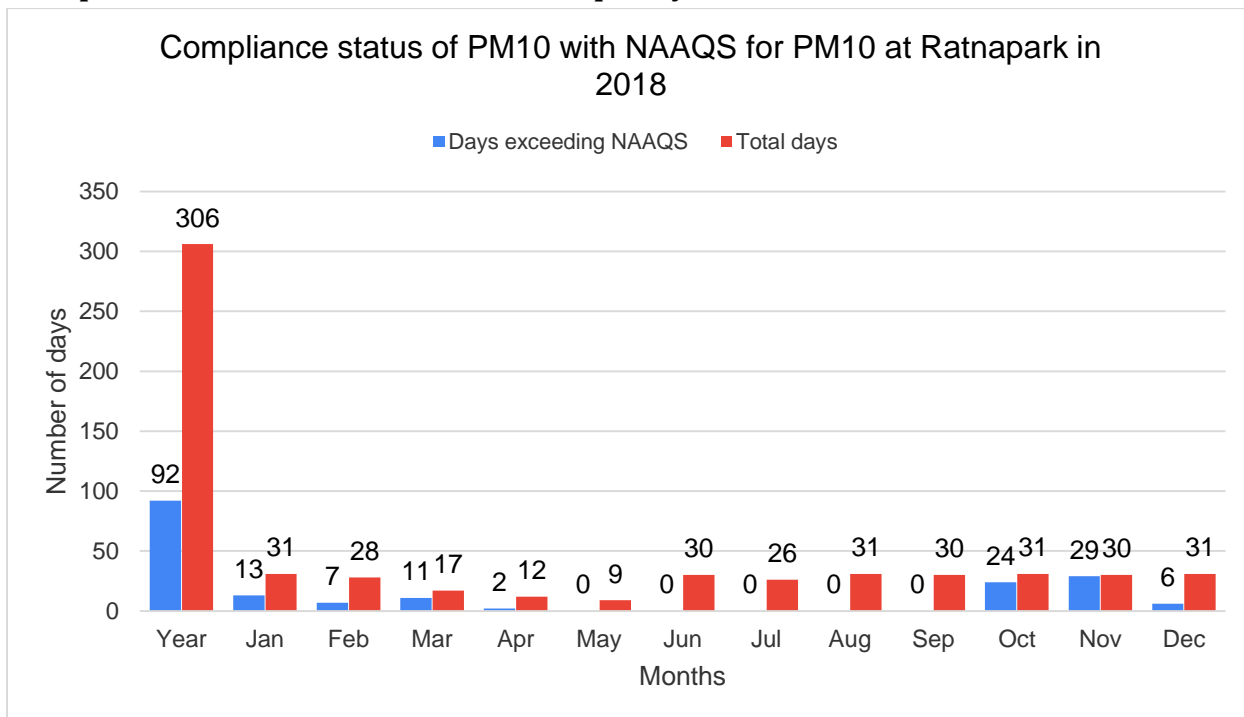


Figure 70. Compliance with NAAQS for PM10 at Ratnapark in 2018.

Out of 306 days of measurement in 2018, 92 days exceeded the National Ambient air quality standard for PM10 at Ratnapark station in 2018.

### 2.3.5 Temporal Variation of TSP

#### Annual Average

Annual TSP average of Ratnapark Station for the year 2018 was observed to be 214.08  $\mu\text{g}/\text{m}^3$ . Following figure shows the histogram of TSP at Ratnapark in 2018.

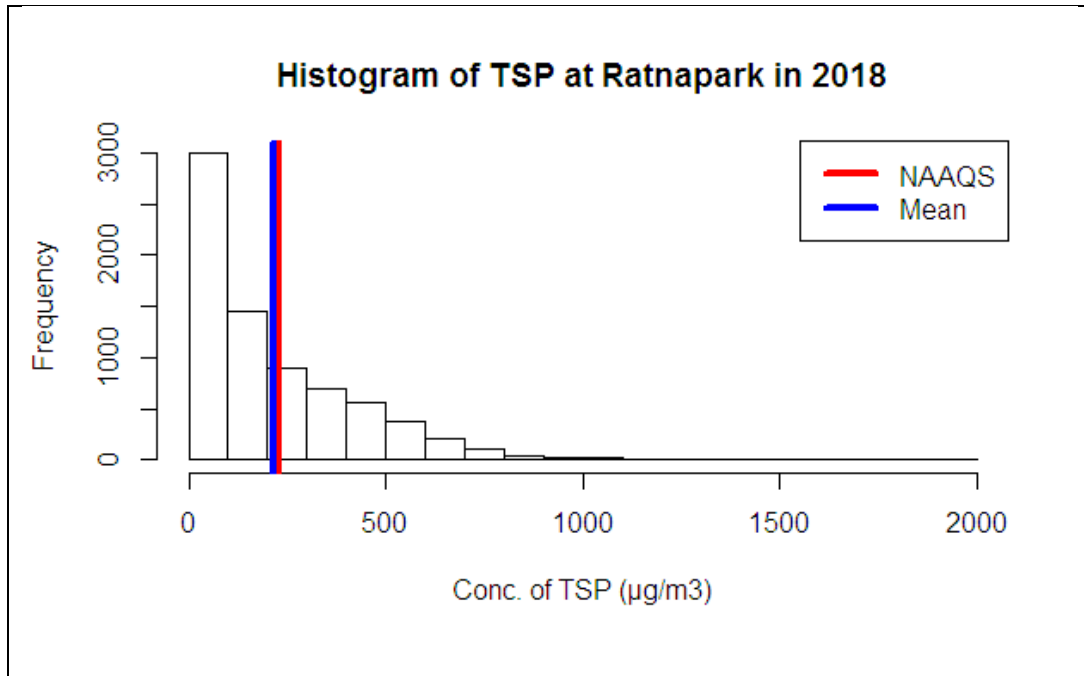


Figure 71. Histogram of TSP at Ratnapark station in 2018

Above figure shows highest no of hourly average of Total Suspended Particulate data were between 0-100  $\mu\text{g}/\text{m}^3$ .

#### Daily average Total Suspended Particulate

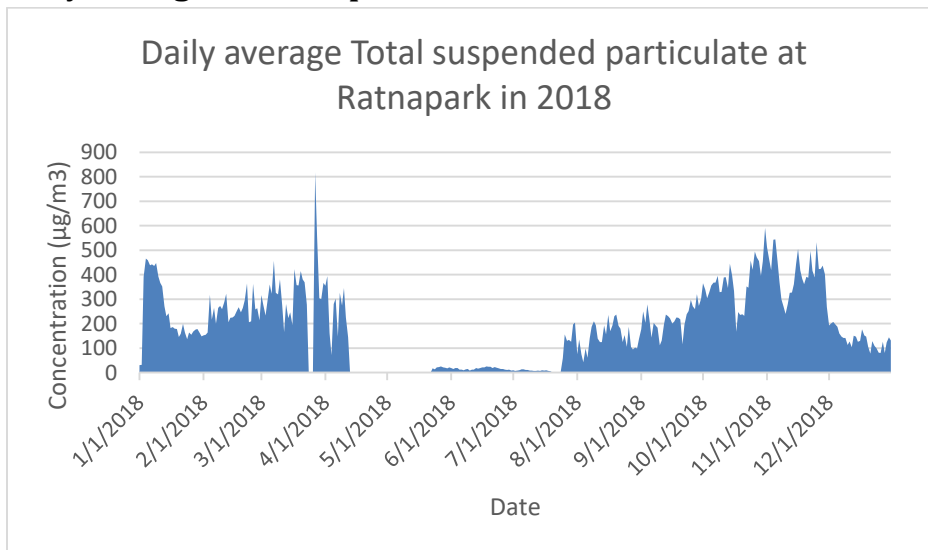


Figure 72. Daily average total suspended particulate at Ratnapark in 2018



### Monthly Average of TSP

Following figure shows the monthly average of Total Suspended Particulate at Ratnapark in 2018.

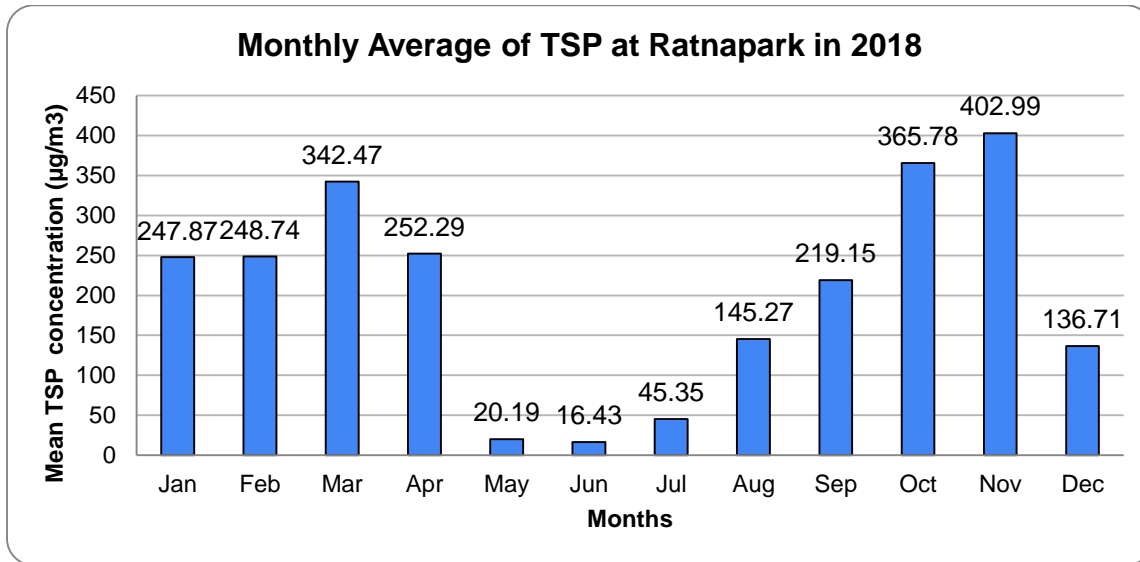


Figure 73. Monthly average of TSP at Ratnapark station in 2018

The monthly average value of TSP was highest in November with monthly average value of 402.99 µg/m<sup>3</sup> and lowest in June with monthly average value of 16.43 µg/m<sup>3</sup>.

### Monthly variation of TSP

Following figure shows Boxplot of monthly variation of TSP at Ratnapark in 2018

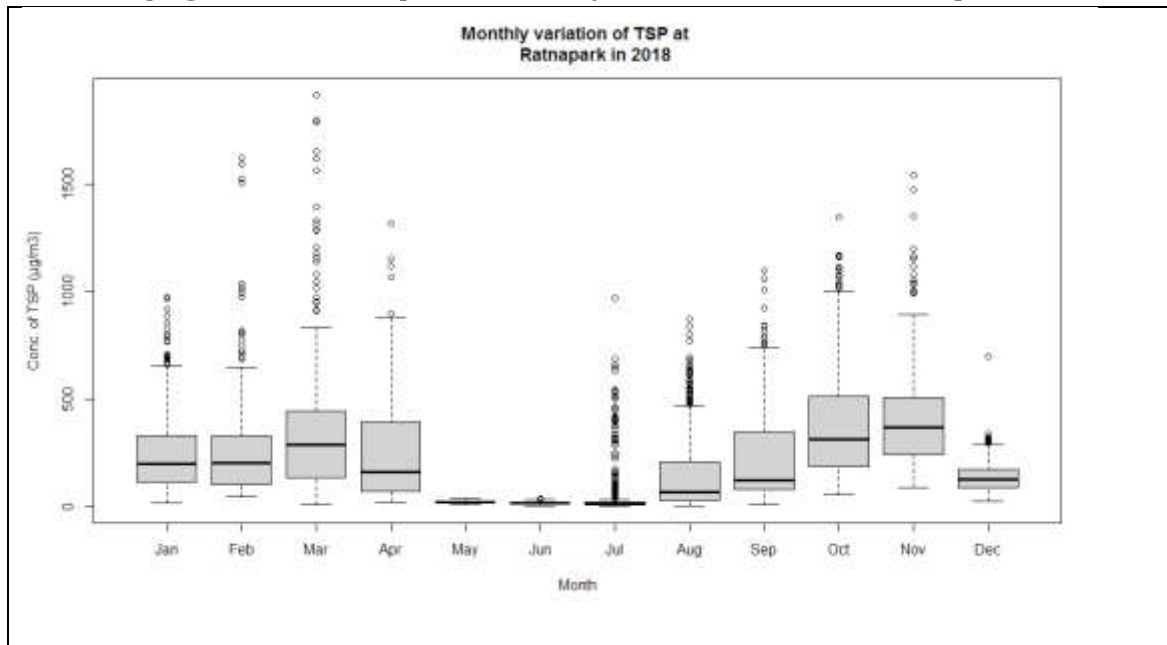


Figure 74. Monthly variation of daily average Total suspended particulate at Ratnapark in 2018

### Seasonal Average of TSP

Following figure shows the seasonal variation of TSP at Ratnapark station in 2018

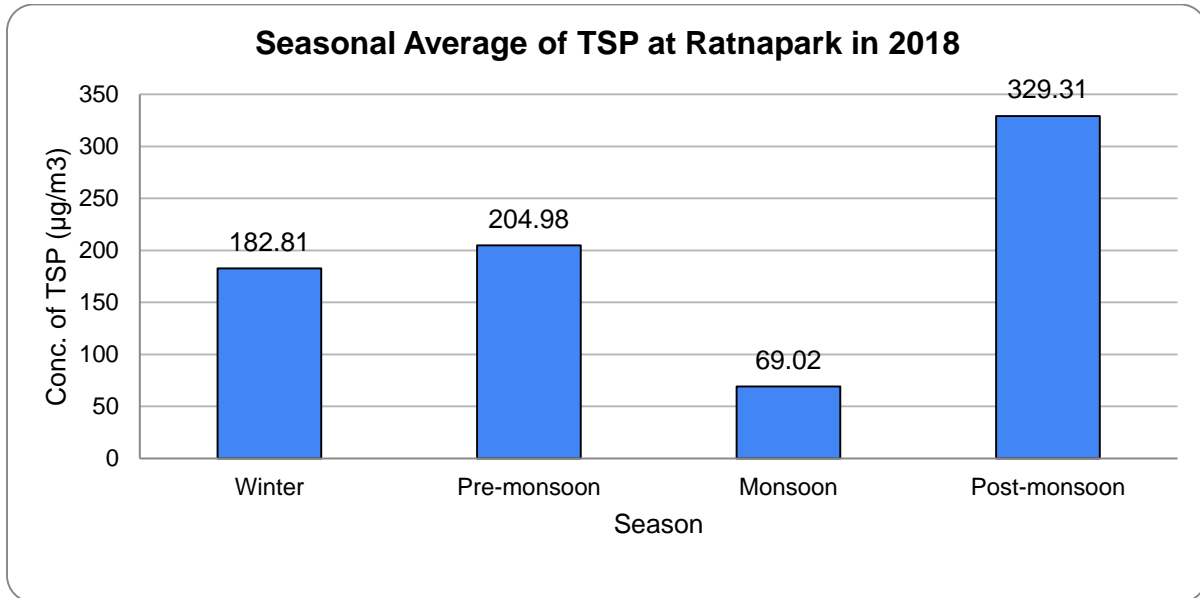


Figure 75. Seasonal average of TSP at Ratnapark station in 2018.

Post- monsoon season has the highest seasonal average of TSp in 2018 while monsoon season has the lowest seasonal average.

### Diurnal Variation of TSP

Following figure shows the boxplot of diurnal variation of TSP at Ratnapark in 2018.

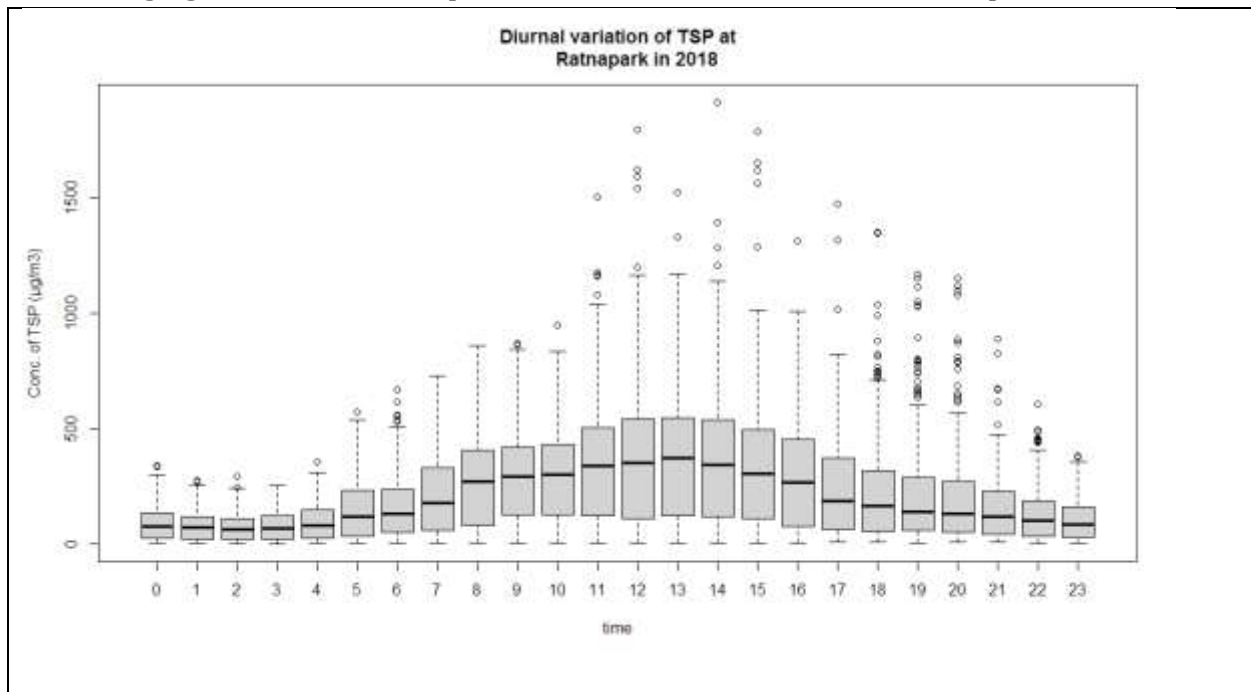


Figure 76. Diurnal variation of TSP at Ratnapark station in 2018

Above figure shows that Total suspended Particulate concentration was high during day time. It reached peak at 13 O'clock.

### Compliance with National Ambient air quality Standard

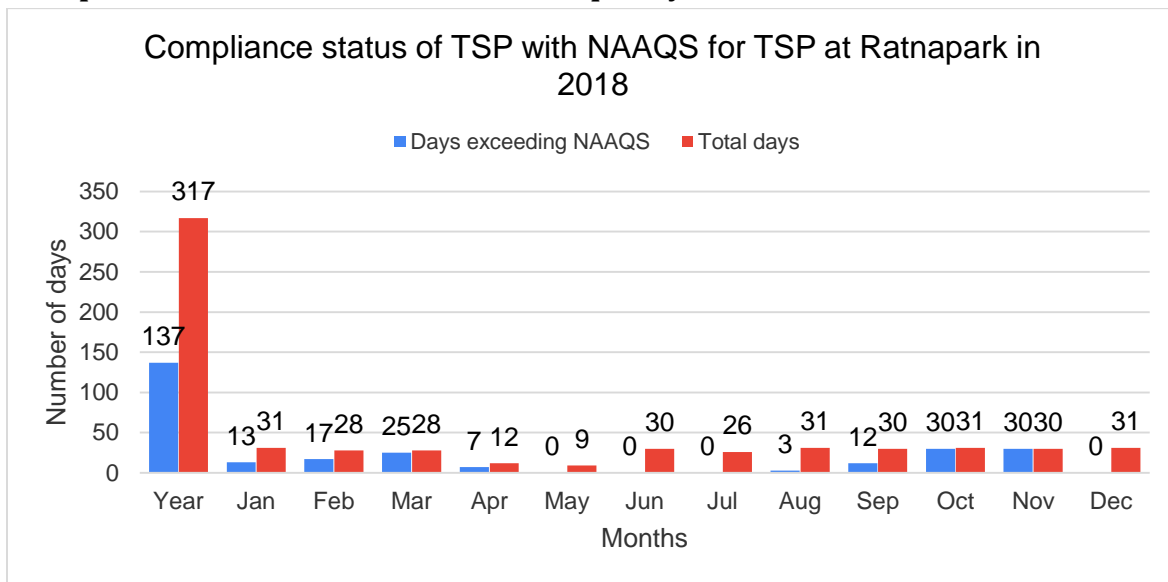


Figure 77. Compliance with NAAQS for TSP at Ratnapark in 2018

Out of 317 days of measurement 137 days exceed the National ambient air quality standards for the Total suspended particulate.

## 2.4 Air quality status, 2019

### 2.4.1 Annual average of PM1, PM2.5, PM10 and TSP

The annual average of PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSP of the Ratnapark monitoring station was calculated as shown in figure below.

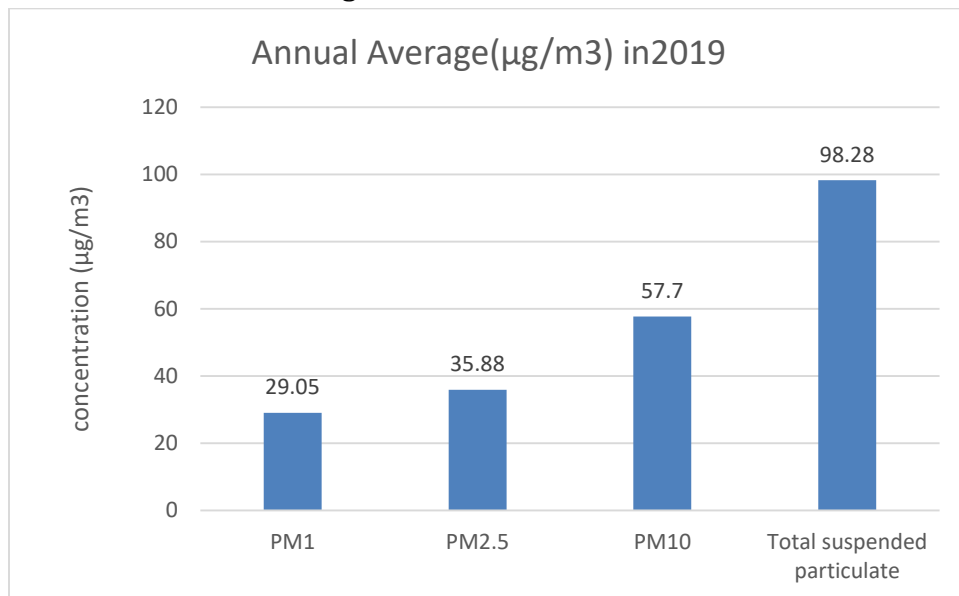


Figure 78. Annual average PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSP at Ratnapark station for 2019

### 2.4.2 Temporal Variation of PM1

#### Annual Average of PM1

Annual average PM<sub>1</sub> at Ratnapark station at 2019 was 29.05 µg/m<sup>3</sup>. Following figure shows the Histogram of PM<sub>1</sub> at Ratnapark in 2019.

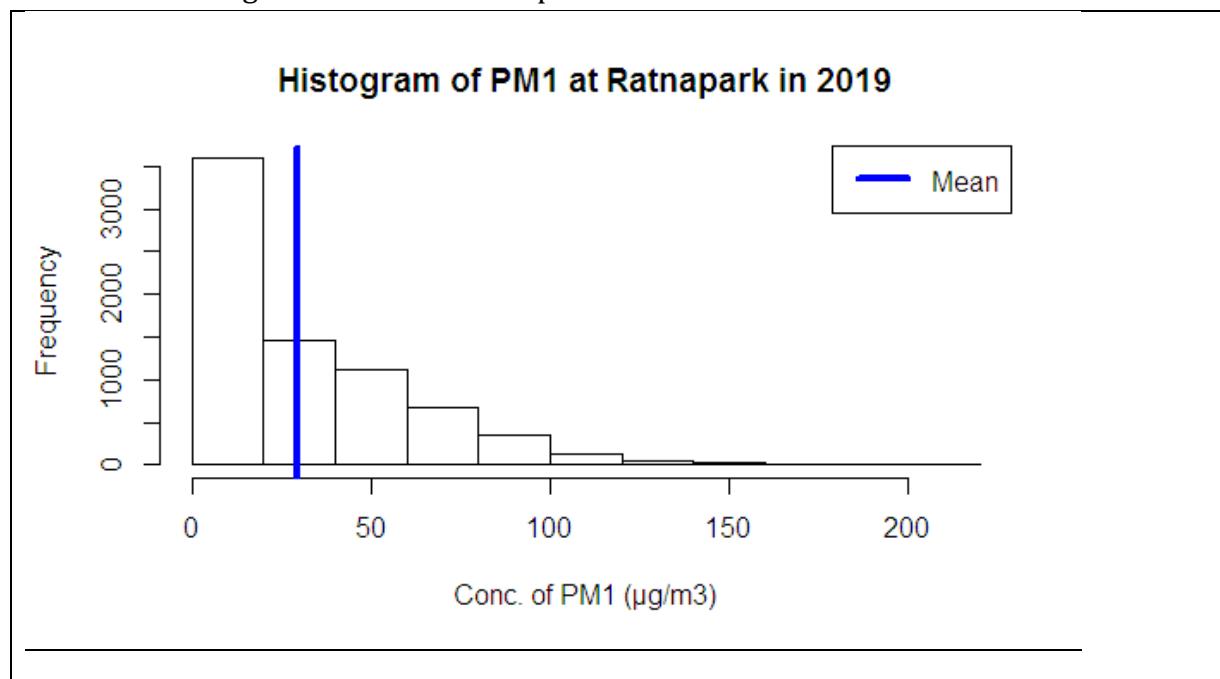


Figure 79. Histogram of PM<sub>1</sub> at Ratnapark in 2019

The Histogram shows that highest no of hourly average data was between 0-20 $\mu\text{g}/\text{m}^3$ .

### Daily average of PM1

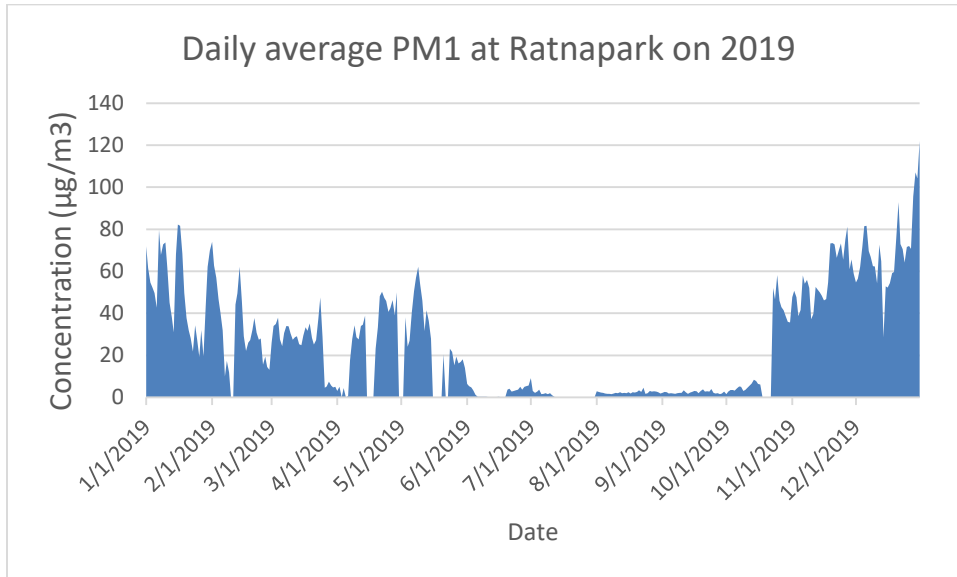


Figure 80. Daily average PM1 at Ratnapark station in 2019

### Monthly Average of PM1

Following Figure shows the monthly average of PM1.

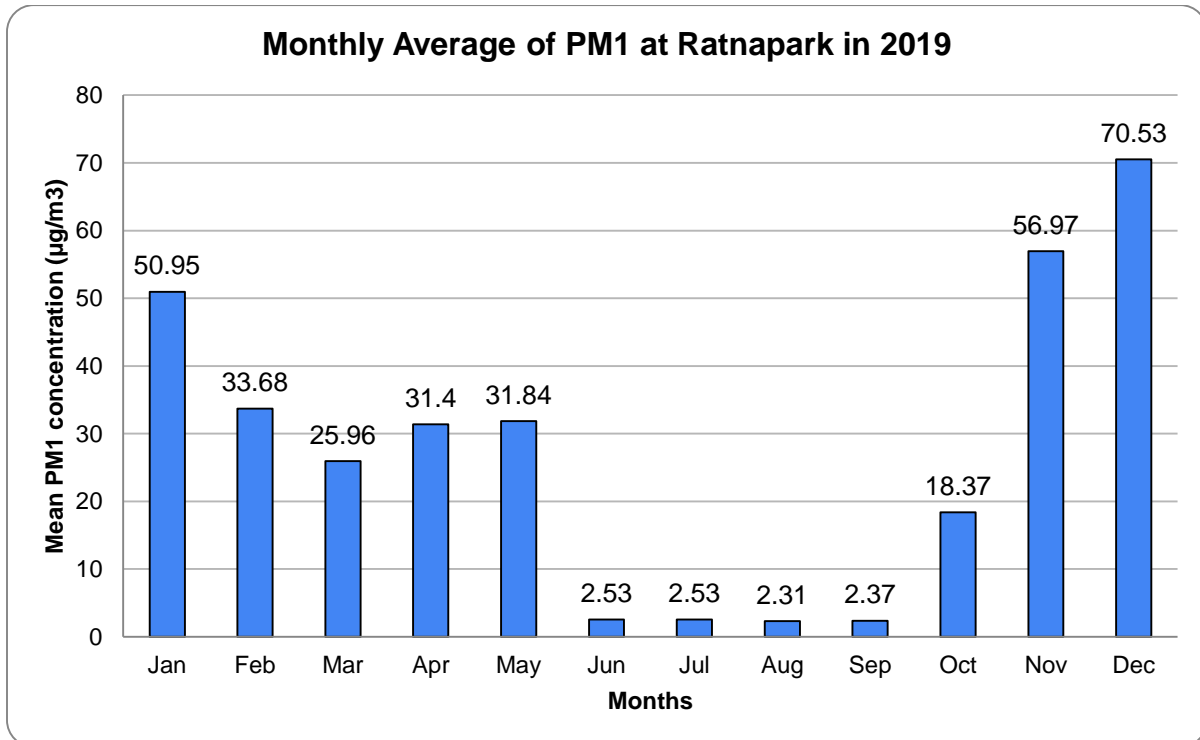


Figure 81. Monthly average PM1 at Ratnapark station in 2019

Above figure shows that the average value of PM<sub>1</sub> was highest in December with 70.53  $\mu\text{g}/\text{m}^3$  and lowest value were observed in August with 2.31 $\mu\text{g}/\text{m}^3$ .

### Monthly Variation of PM1

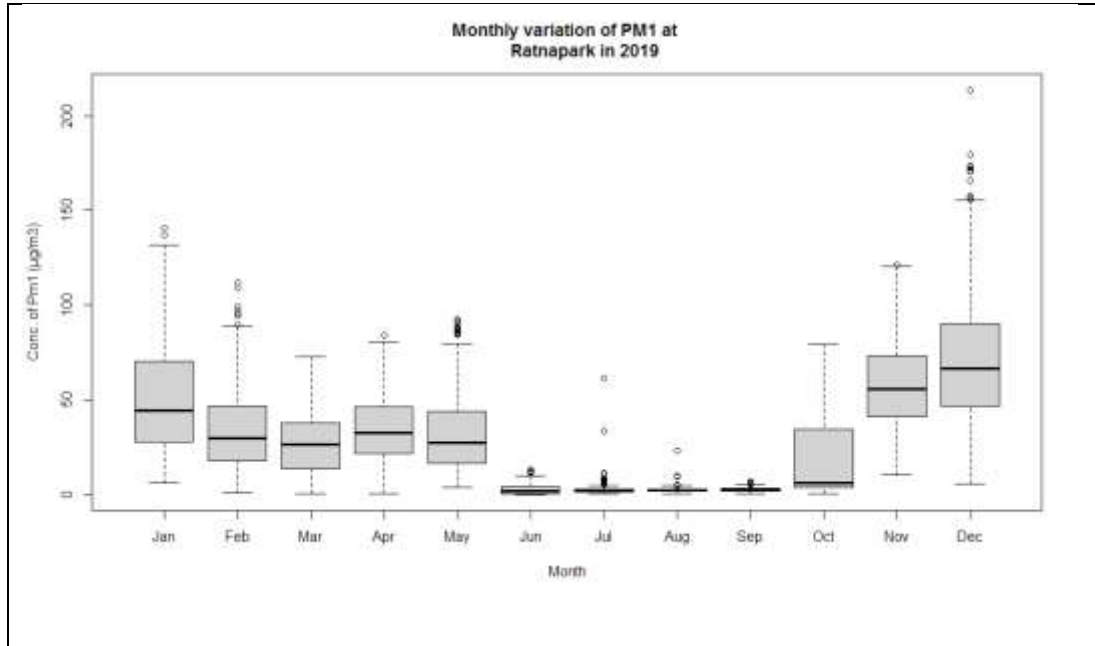


Figure 82. Monthly variation of daily average PM1 at Ratnapark station in 2019

Boxplot of monthly variation of PM1 shows that highest variation was seen on December.

### Seasonal Average of PM1

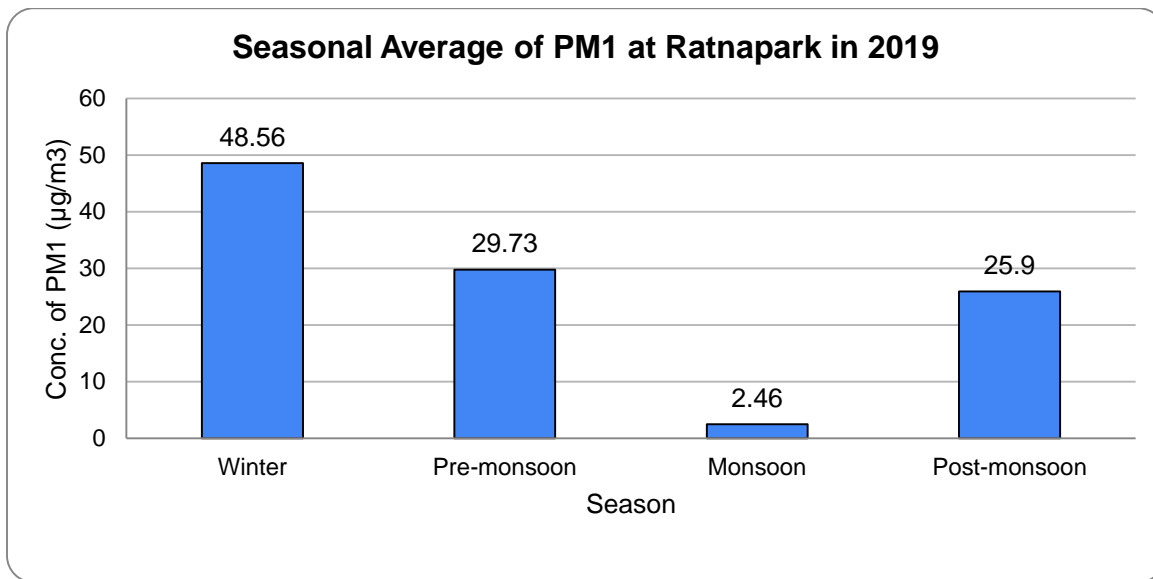


Figure 83. Ambient concentration of average PM1 with four seasons

Highest seasonal average was observed in winter with seasonal average of 48.56µg/m<sup>3</sup> and lowest seasonal average was observed in monsoon season with seasonal average value of 2.46 µg/m<sup>3</sup>.

## Diurnal Variation of PM1

Following figure shows the boxplot of diurnal variation of PM1 at Ratnapark station in 2019.

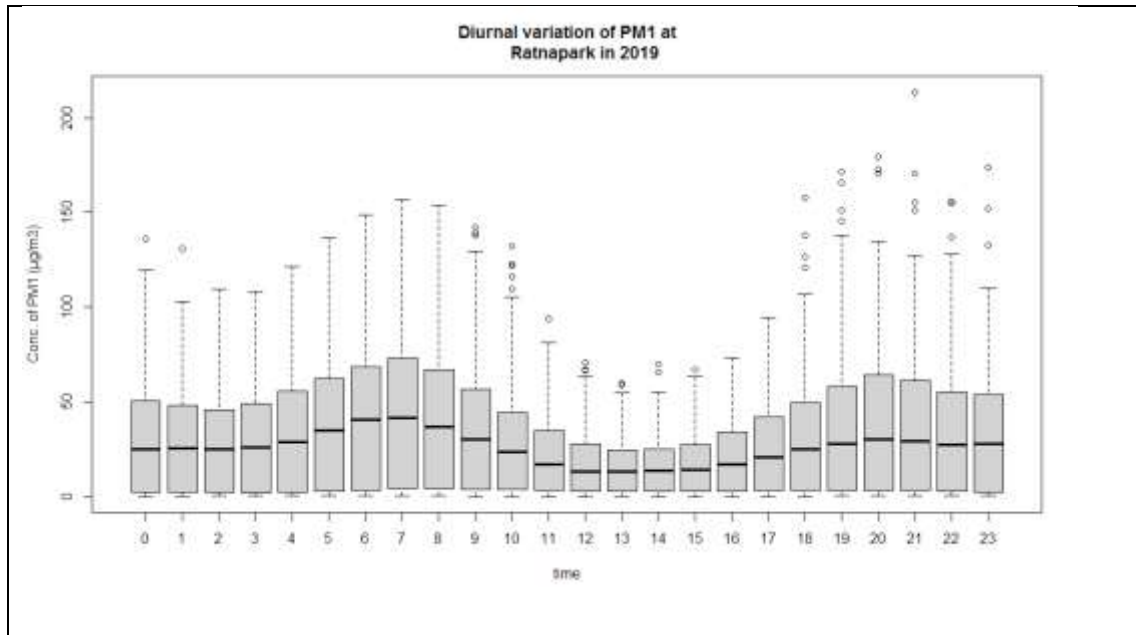


Figure 84. Boxplot of diurnal variation of PM1 at Ratnapark station in 2019

Above figure shows that PM1 concentration was more at 7 o'clock in the morning.

### 2.4.3 Temporal Variation of PM2.5

#### Annual Average of PM2.5

The annual average of PM2.5 at Ratnapark station in 2019 was 35.88  $\mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM2.5 at Ratnapark station in 2019.

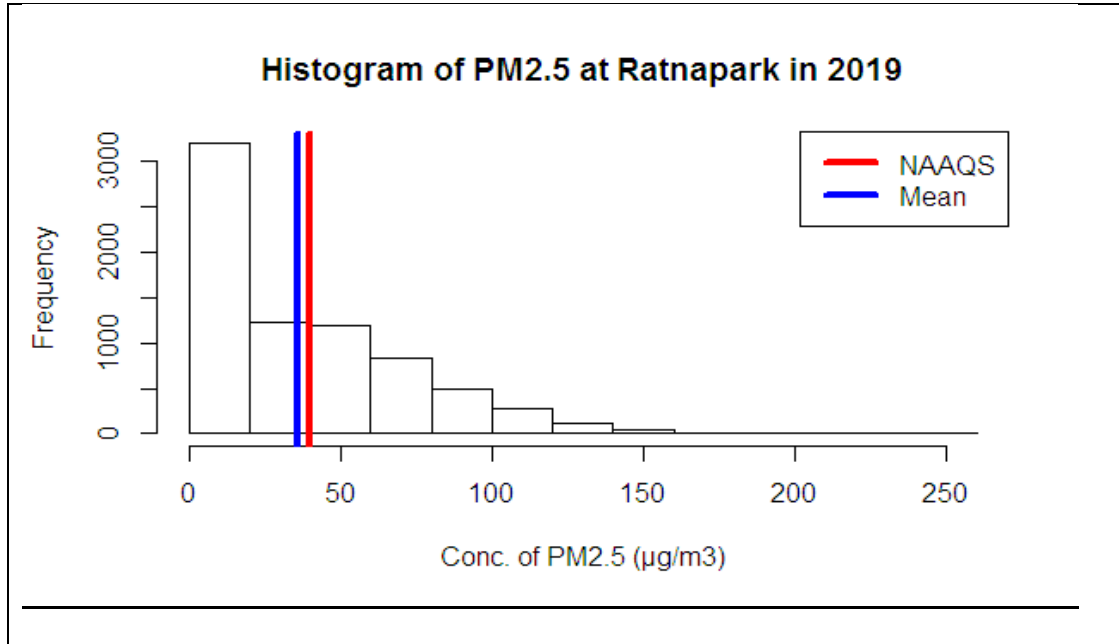


Figure 85. Histogram of PM2.5 at Ratnapark in 2019

The Histogram shows that highest no of hourly average data was between 0-20 $\mu\text{g}/\text{m}^3$ .

#### Daily Average of PM2.5

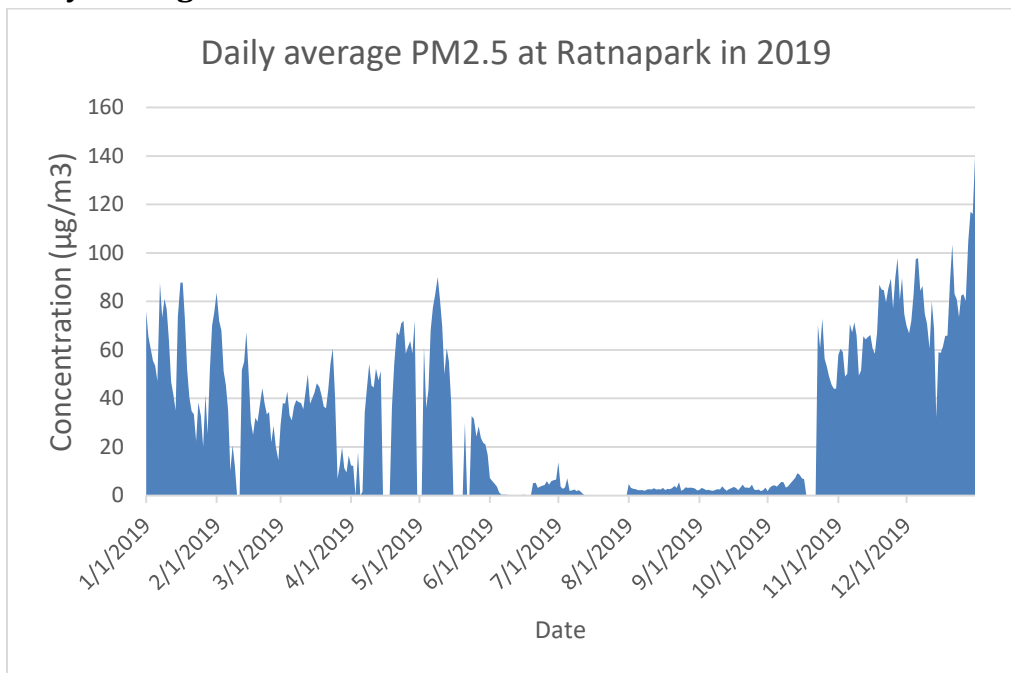


Figure 86. Daily average PM2.5 at Ratnapark station in 2019



## Monthly Average of PM2.5

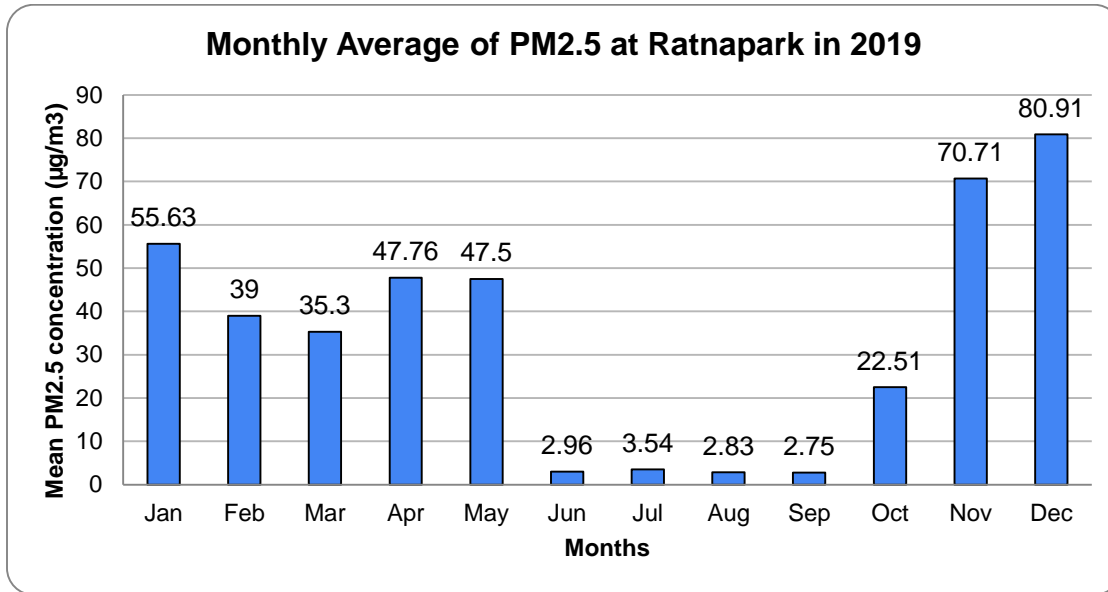


Figure 87. Monthly average of PM2.5 at Ratnapark station in 2019

Monthly average value of PM<sub>2.5</sub> was highest in December with monthly average of 80.91 µg/m<sup>3</sup> while lowest value was observed in September with monthly average of 2.75 µg/m<sup>3</sup>

## Monthly Variation of PM2.5

Following figure shows the boxplot of monthly variation of PM2.5 at Ratnapark in 2019.

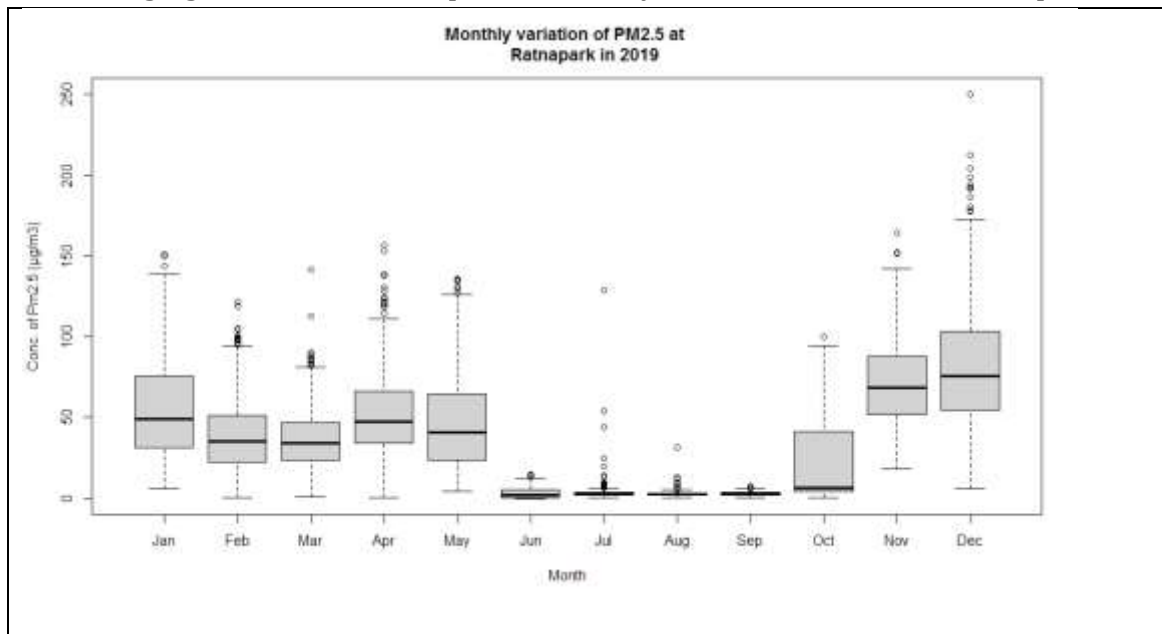


Figure 88. Monthly variation of daily average PM2.5 at Ratnapark in 2019

Above figure shows that hourly average data of PM<sub>2.5</sub> was more variable in December.

### Seasonal Average of PM2.5

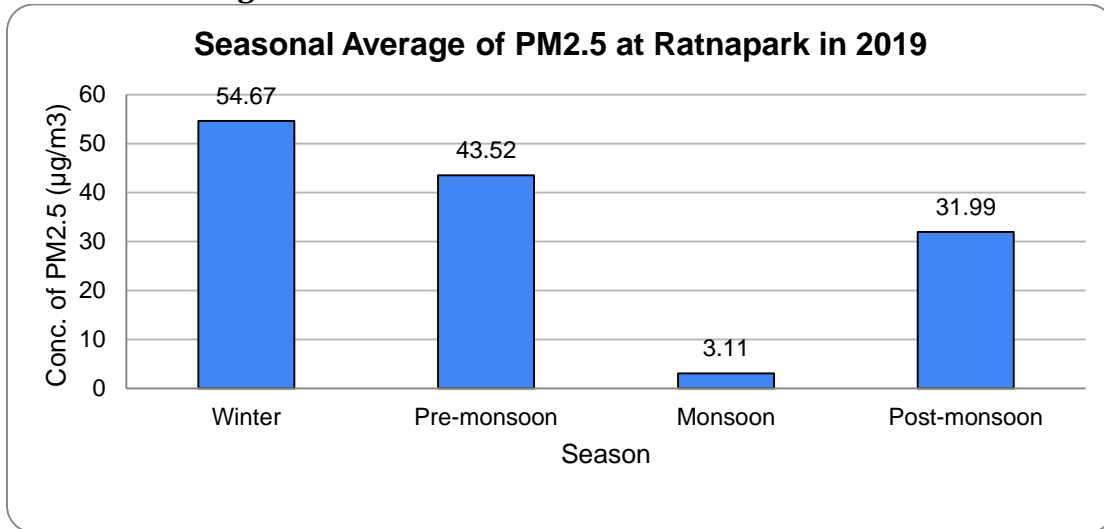


Figure 89. Seasonal variation of PM2.5 at Ratnapark station in 2019

Highest seasonal average was observed in winter season and lowest seasonal average was observed in monsoon season.

### Diurnal Variation of PM2.5

Following figure shows the boxplot of diurnal variation of PM2.5 at Ratnapark

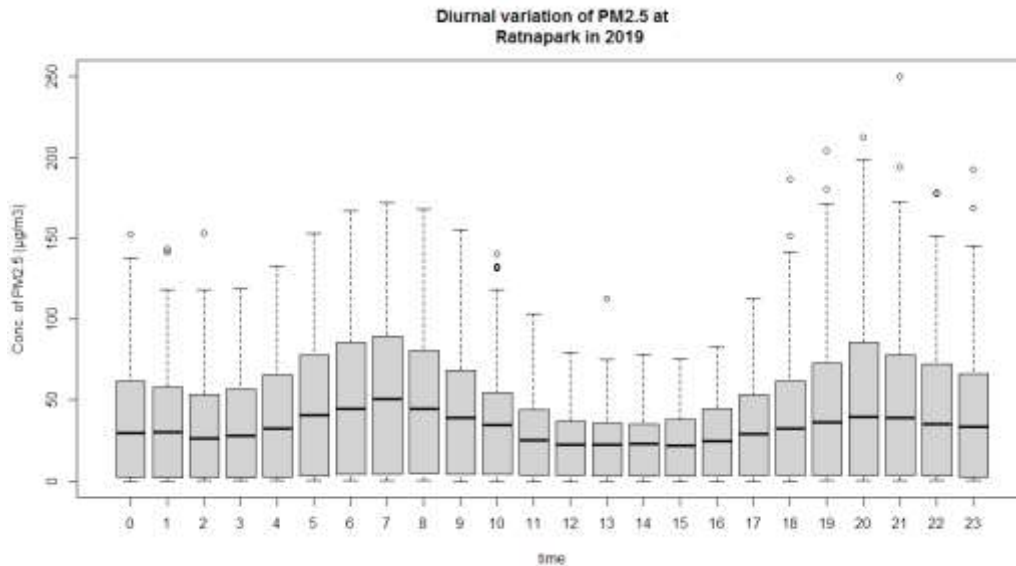


Figure 90. Boxplot of diurnal variation of PM2.5 at Ratnapark in 2019

PM2.5 concentrations was highest was at 7 o'clock and it was more variable at 20 o'clock.

### Compliance with National Ambient Air Quality standard

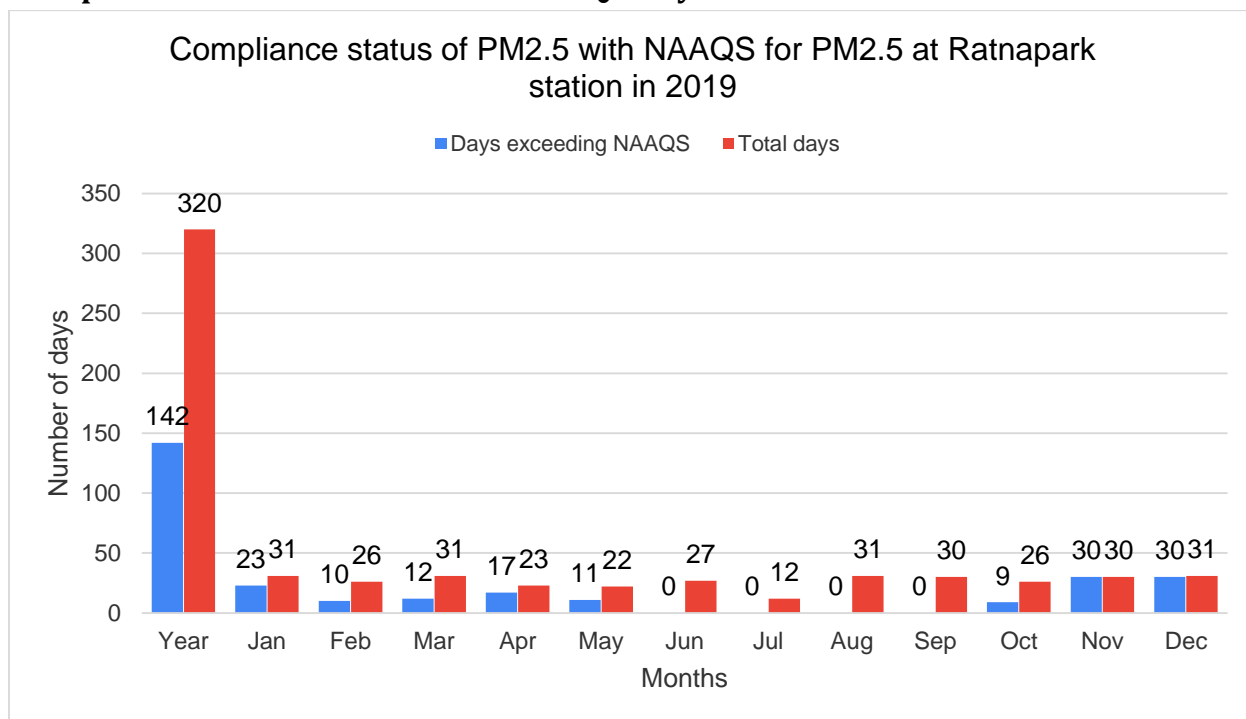


Figure 91. Compliance with National Ambient air quality standard for PM2.5 at Ratnapark station in 2019

Out of total 320 days of Measurement 142 days exceeded the National ambient air quality standard for PM2.5 at Ratnapark station in 2019.

## 2.4.4 Temporal Variation of PM10

### Annual Average

The annual average PM10 at Ratnapark station on 2019 was  $57.70 \mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM10 at Ratnapark station in 2019.

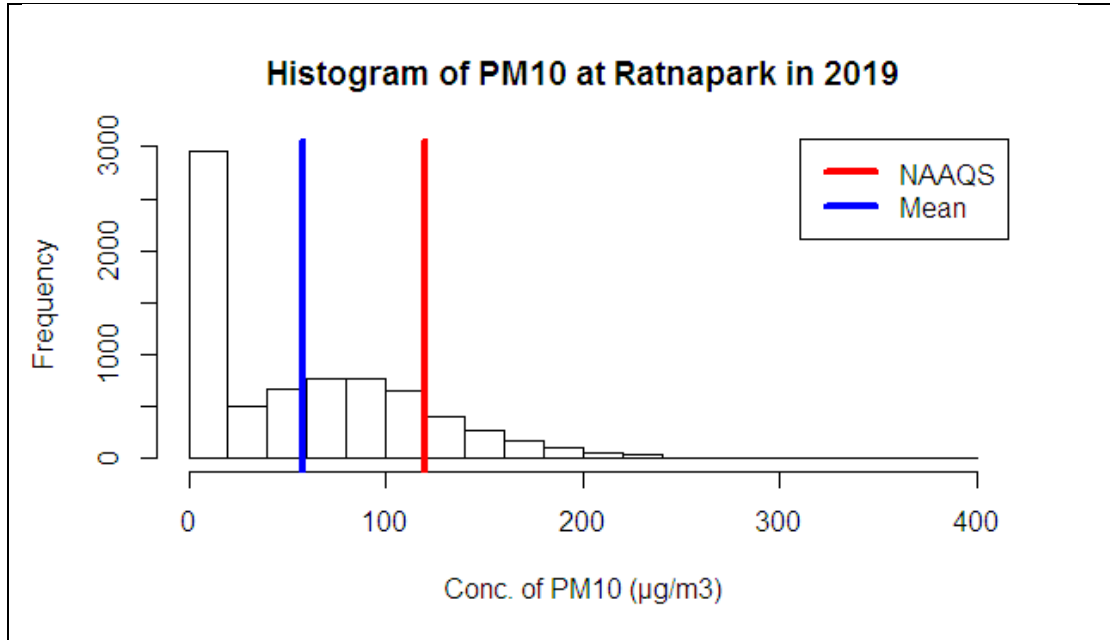


Figure 92. Histogram of PM10 at Ratnapark in 2019

Above figure shows that highest no of hourly average data was between 0-20  $\mu\text{g}/\text{m}^3$ .

### Daily average PM10

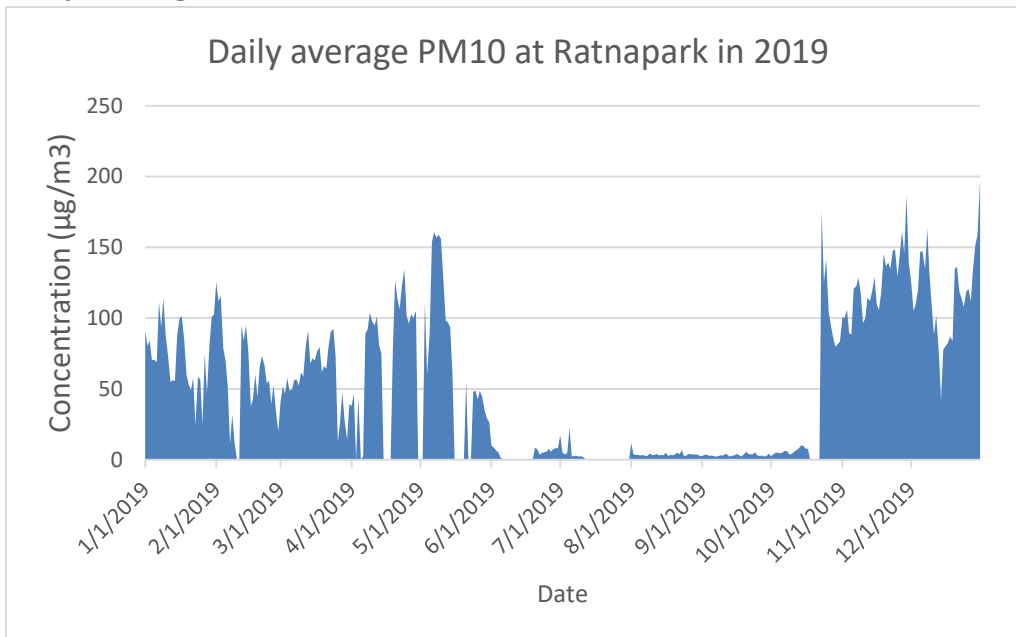


Figure 93. Daily average PM10 at Ratnapark station in 2019

## Monthly Average of PM10

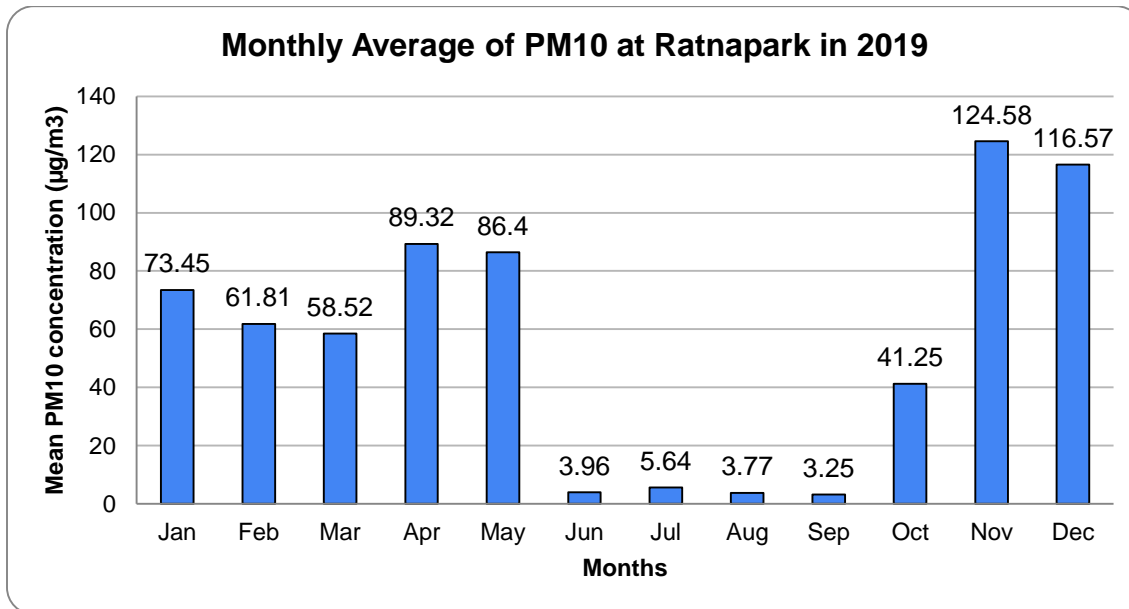


Figure 94. . Monthly average PM10 at Ratnapark station in 2019

The highest monthly average value of PM10 was found in November with average value of 124.58 µg/m³ and lowest average was found in August with average value of 3.77 µg/m³ .

## Monthly Variation of PM10

Following figure shows the boxplot of monthly variation of PM10 at Ratnapark in 2019

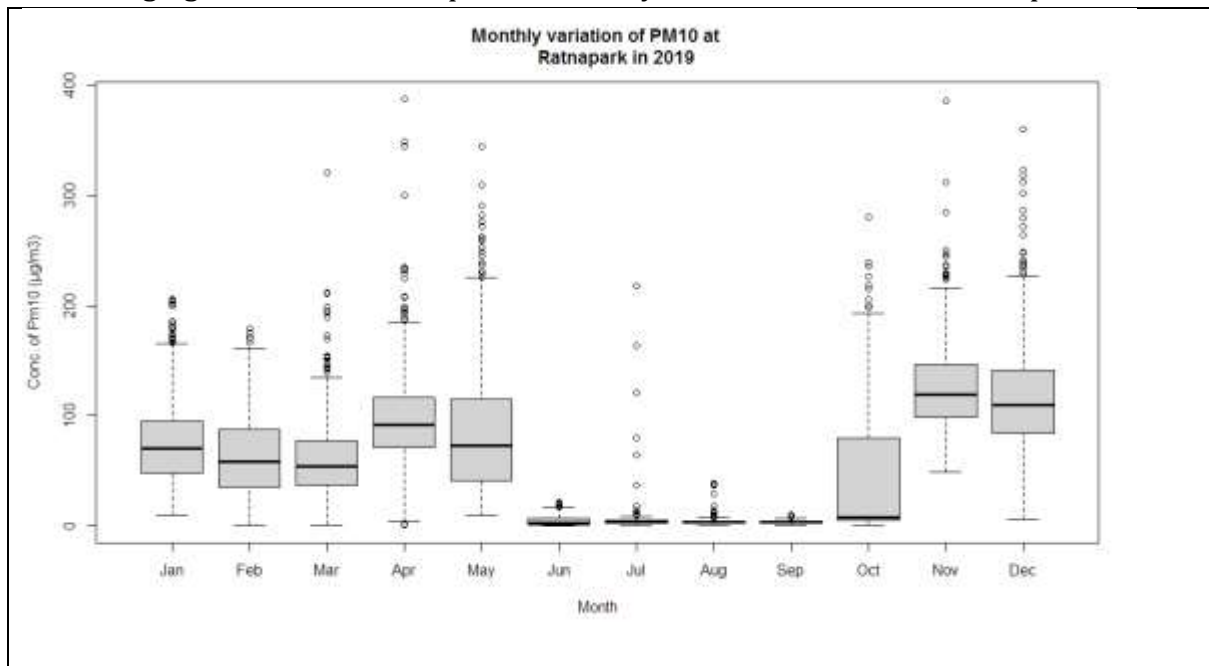


Figure 95. Boxplot of monthly variation of PM10 at Ratnapark in 2019

Above figure shows more variation of hourly average PM10 on May.

### Seasonal Average of PM10

Following figure shows seasonal average of PM10 at Ratnapark in 2019.

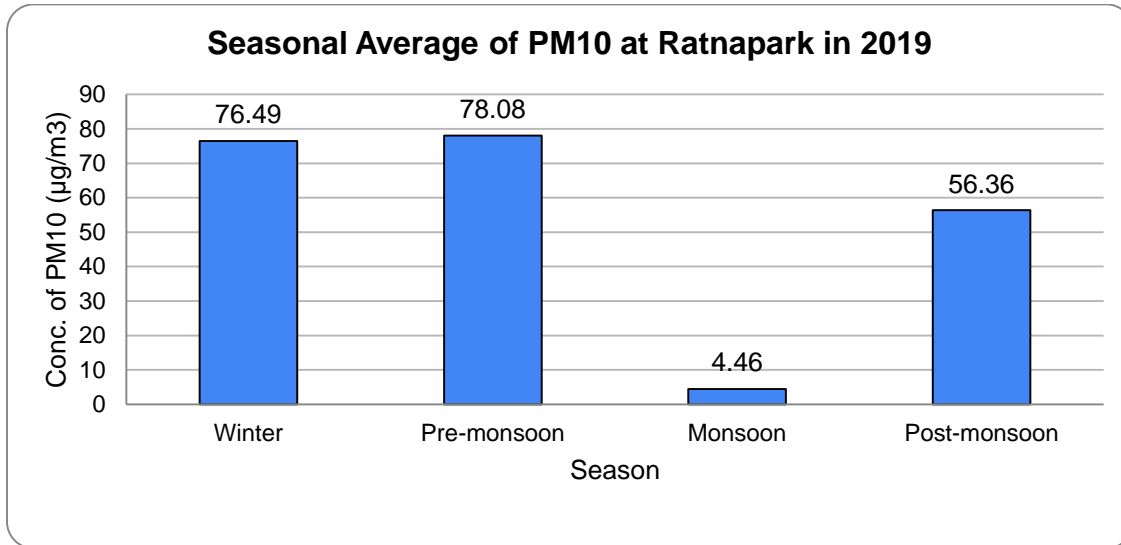


Figure 96. Seasonal average of PM10 at Ratnapark station in 2019

The figure shows highest seasonal average in Pre-monsoon season while lowest seasonal average was observed in monsoon season

### Diurnal Variation of PM10

Following figure shows the diurnal variation of PM10 at Ratnapark in 2019.

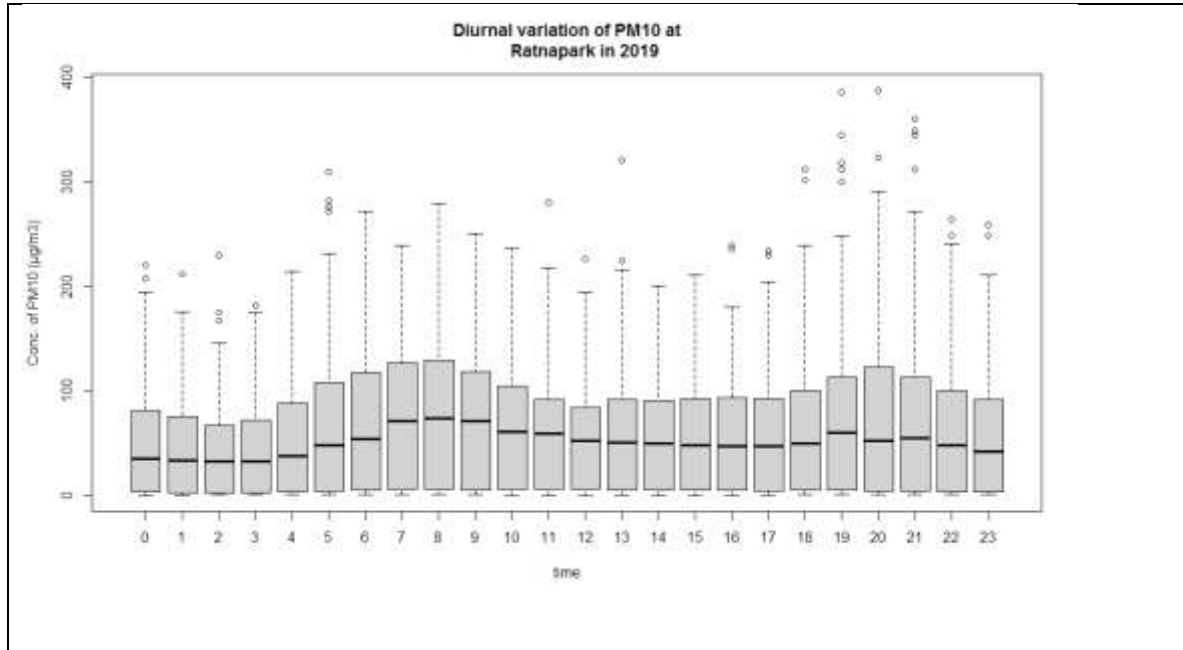


Figure 97. Diurnal variation of PM10 at Ratnapark in 2019

The boxplot of diurnal variation shows PM10 concentration was highest at 8 O'clock .

## Compliance with National Ambient Air quality standard

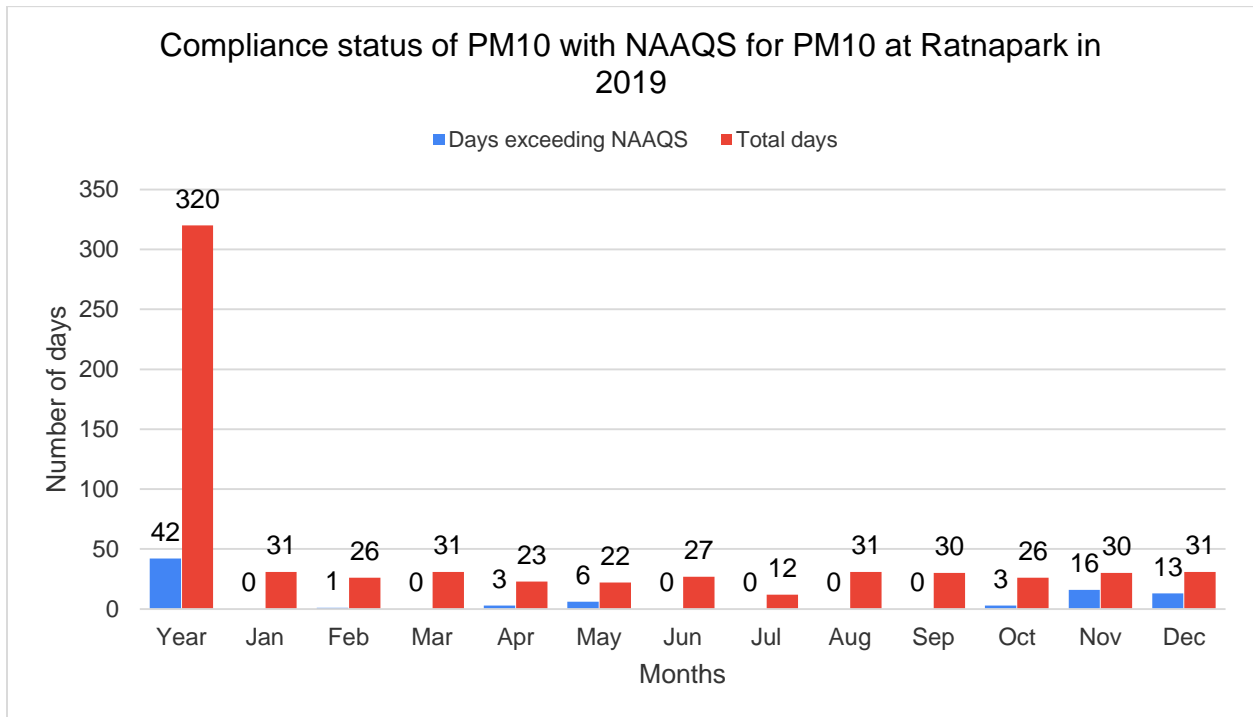


Figure 98. Compliance with National Ambient air quality standard for PM10 at Ratnapark station in 2019

Out of 320 days of measurement in 2019, 42 days exceed the National ambient air quality standard for PM10.

## 2.4.5 Temporal Variation of TSP

### Annual Average

Annual TSP average of Ratnapark Station for the year 2019 was observed to be  $98.28\mu\text{g}/\text{m}^3$ . Following figure shows the histogram of TSP at Ratnapark in 2019.

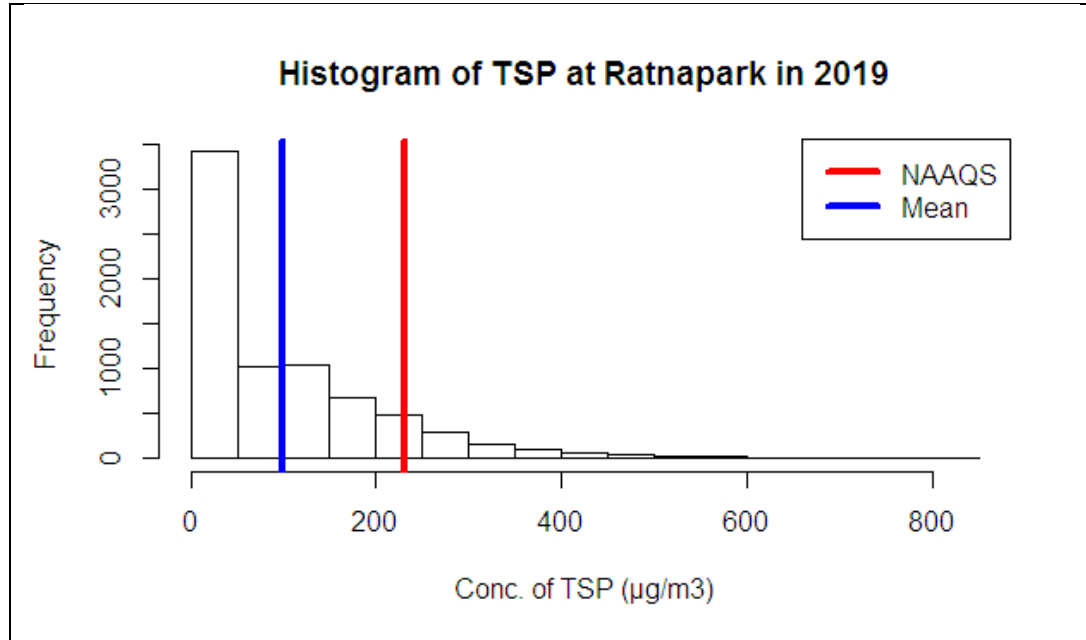


Figure 99. Histogram of TSP at Ratnapark station in 2019

Above figure shows highest no of hourly average of Total Suspended Particulate data were between 0-50  $\mu\text{g}/\text{m}^3$ .

### Daily average Total suspended Particulate

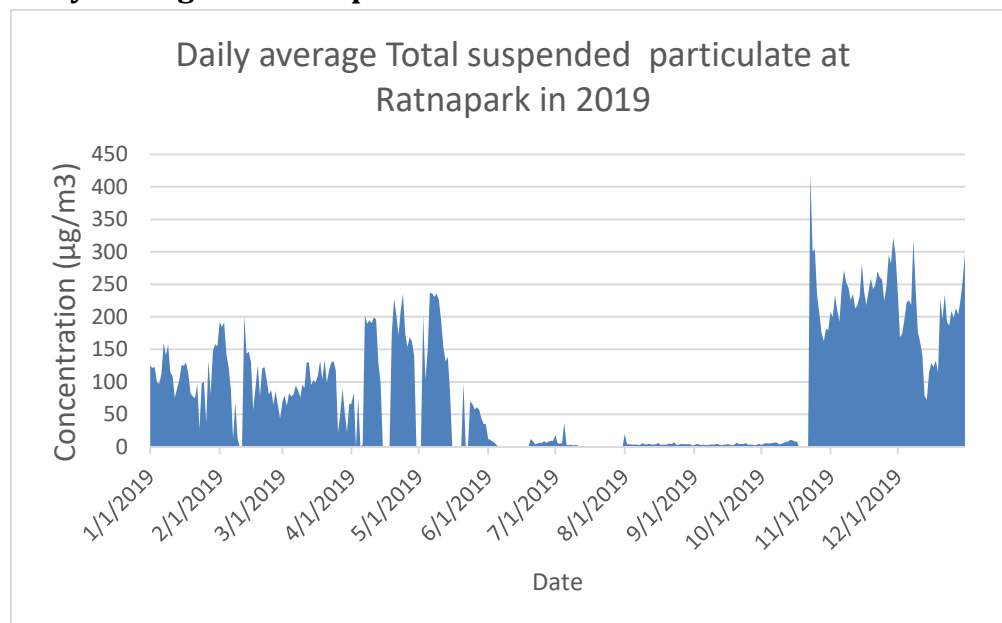


Figure 100. Daily average total suspended particulate at Ratnapark in 2019



### Monthly Average of TSP

Following figure shows the monthly average of Total Suspended Particulate at Ratnapark in 2019.

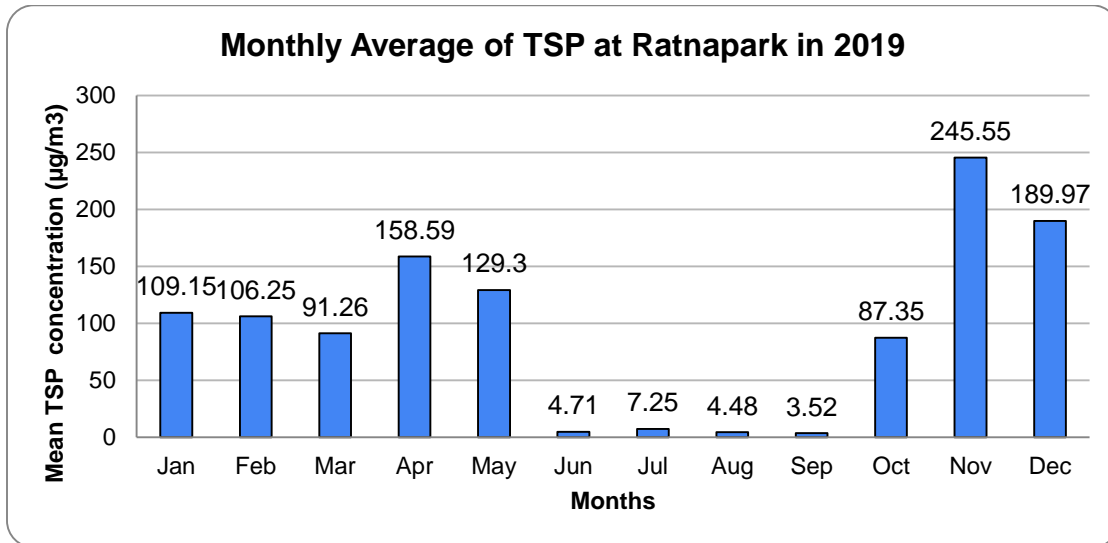


Figure 101. Monthly average of TSP at Ratnapark station in 2019

The monthly average value of TSP was highest in November with monthly average value of 245.55 µg/m<sup>3</sup> and lowest in September with monthly average value of 3.52 µg/m<sup>3</sup>.

### Monthly variation of TSP

Following figure shows Boxplot of monthly variation of TSP at Ratnapark in 2019

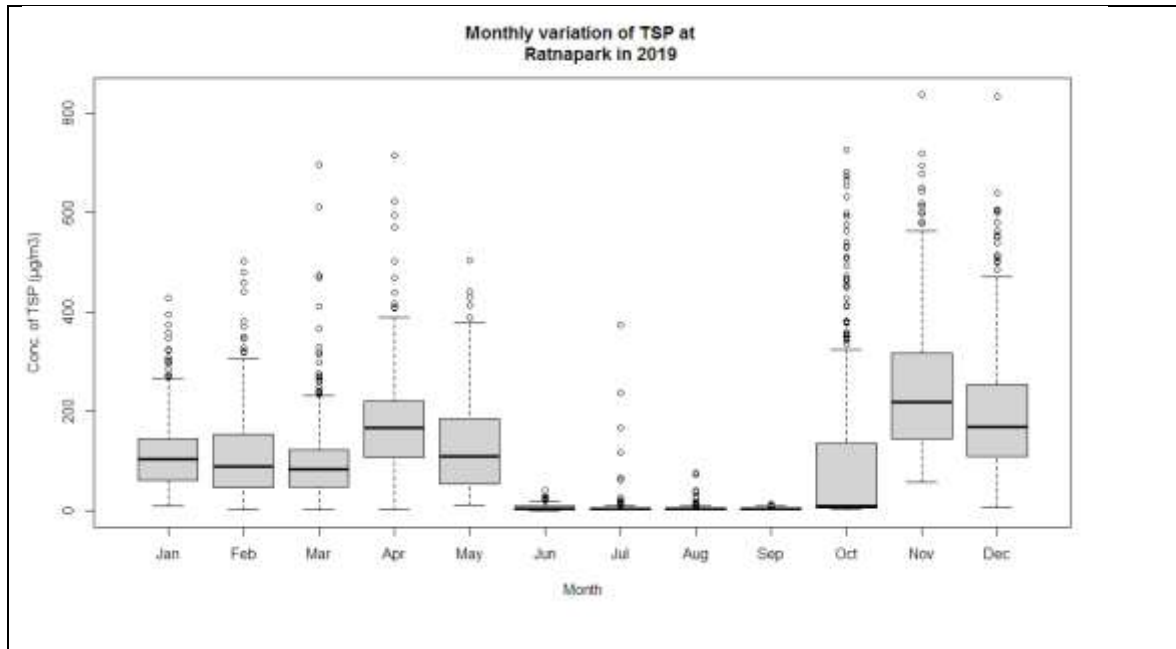


Figure 102. Monthly variation of daily average Total suspended particulate at Ratnapark in 2019

The above figure shows that highest level of variation was seen in November.

### Seasonal Average of TSP

Following figure shows the seasonal variation of TSP at Ratnapark station in 2019

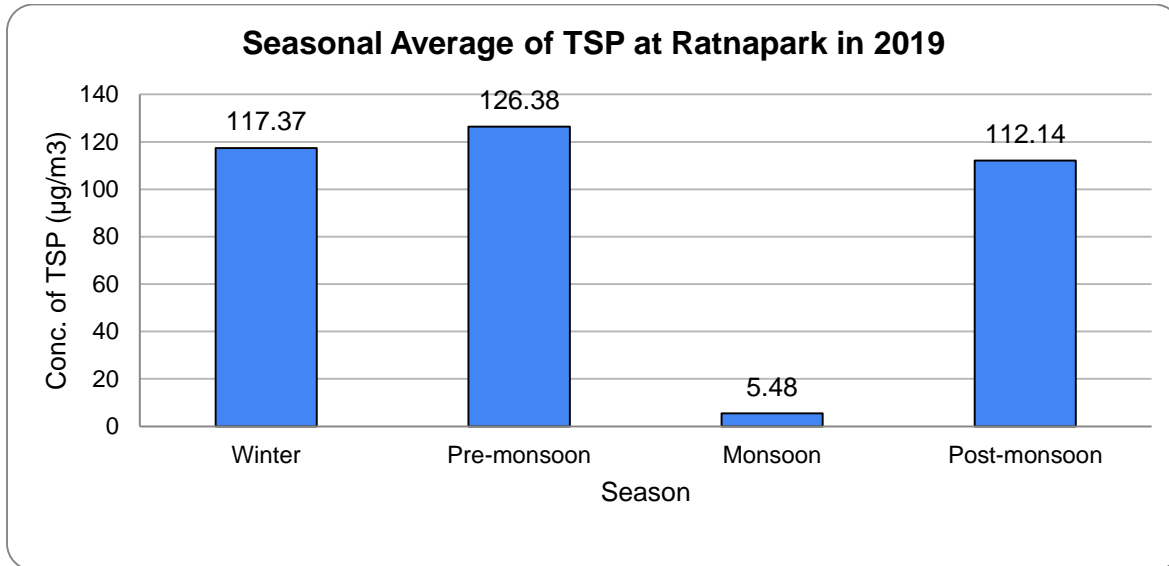


Figure 103. Seasonal average of TSP at Ratnapark station in 2019

Highest seasonal average was observed in Pre-monsoon season with seasonal average of  $126.38 \mu\text{g}/\text{m}^3$  and lowest seasonal average was observed in Monsoon season with seasonal average of  $5.48 \mu\text{g}/\text{m}^3$ .

### Diurnal Variation of TSP

Following figure shows the boxplot of diurnal variation of TSP at Ratnapark in 2019.

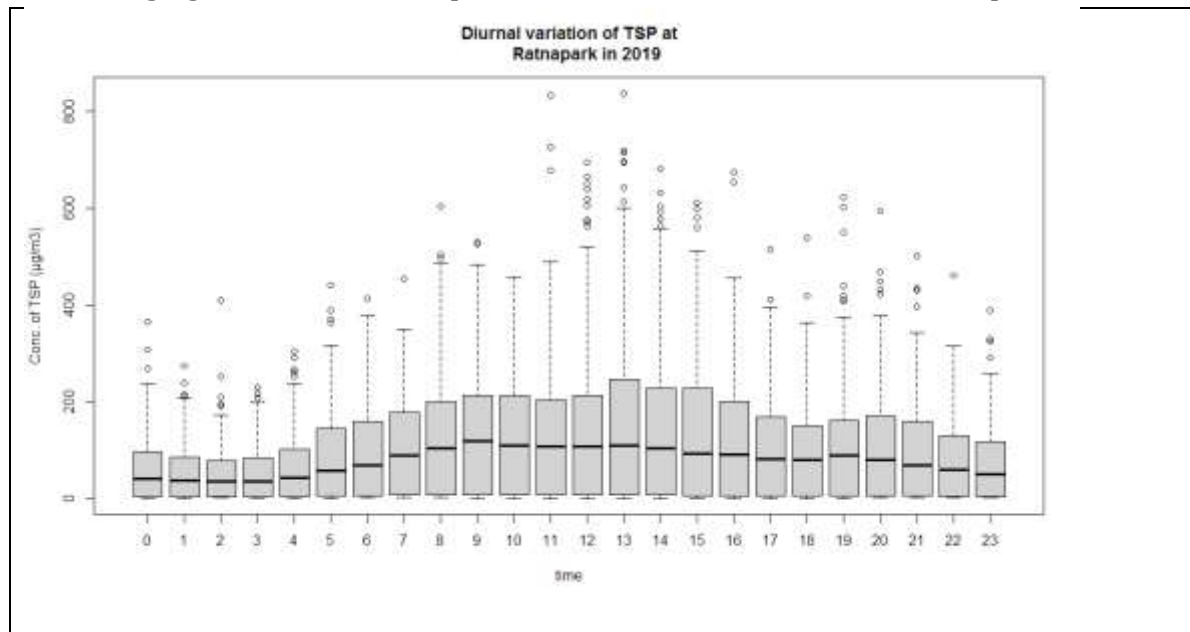


Figure 104. Diurnal variation of TSP at Ratnapark station in 2019

Above figure shows that Total suspended Particulate concentration was high during day time.

### Compliance with National Ambient air quality Standard

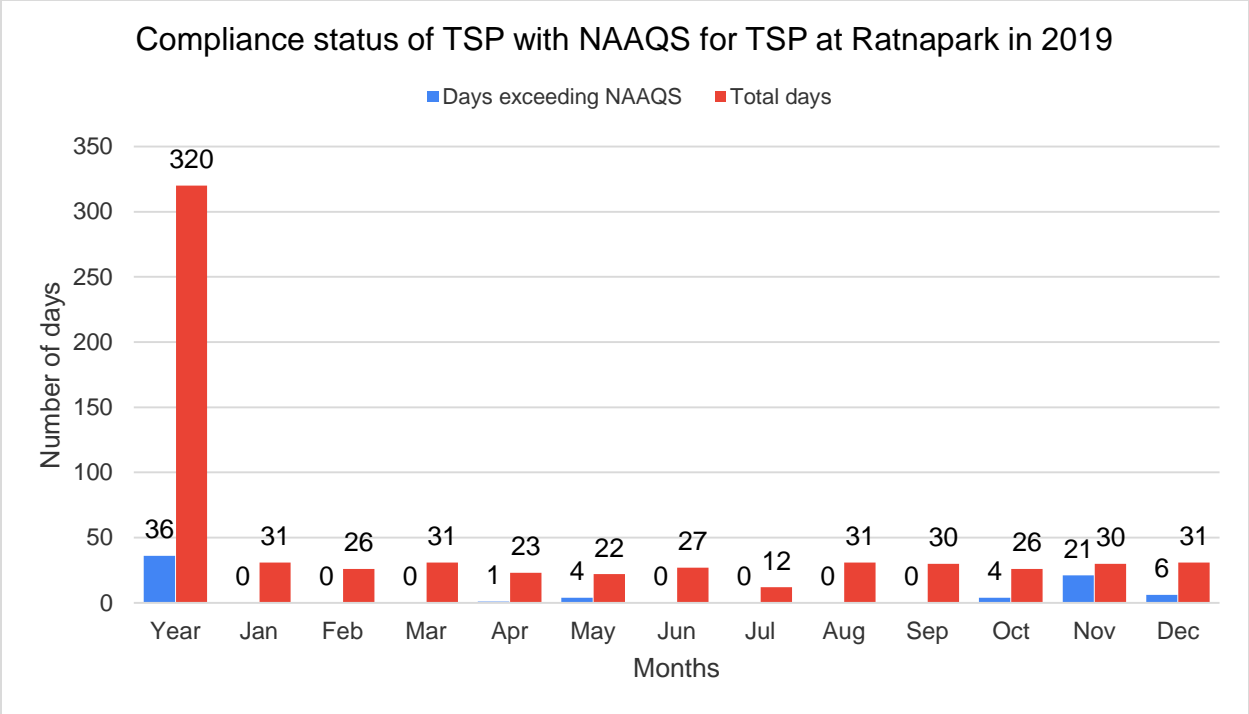


Figure 105. Compliance with NAAQS for TSP at Ratnapark in 2019

Out of 320 days of measurement 36 days exceed the National ambient air quality standards for the Total suspended particulate.

## 2.5 Air quality status, 2020

### 2.5.1 Annual average of PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSP

The annual average of PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSP of the Dhulikhel monitoring station was calculated as shown in figure below.

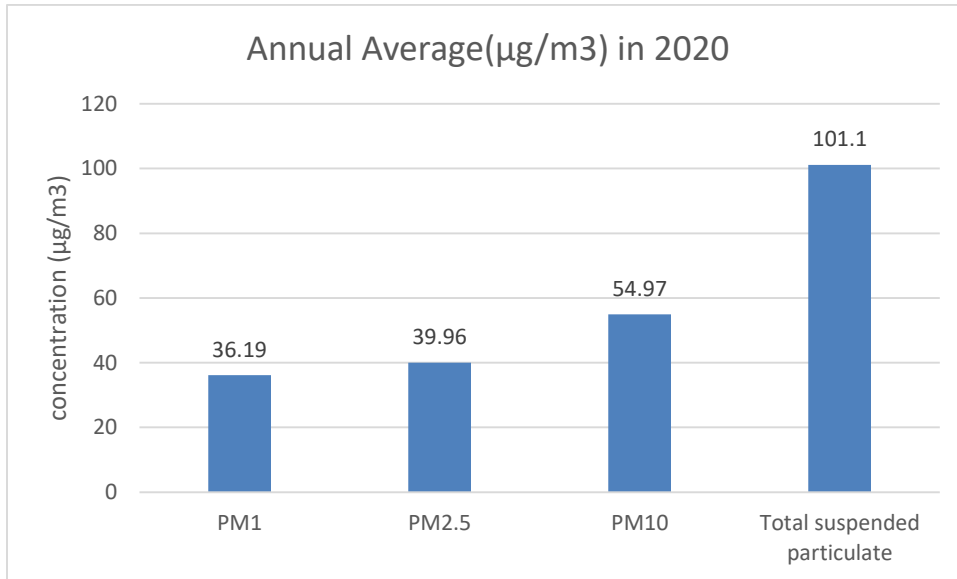


Figure 106. Annual average PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSp at Ratnapark station for 2020

### 2.5.2 Temporal variation of PM<sub>1</sub>

#### Annual Average of PM<sub>1</sub>

Annual average PM<sub>1</sub> at Ratnapark station at 2020 was 36.19 µg/m<sup>3</sup>. Following figure shows the Histogram of PM<sub>1</sub> at Ratnapark in 2020.

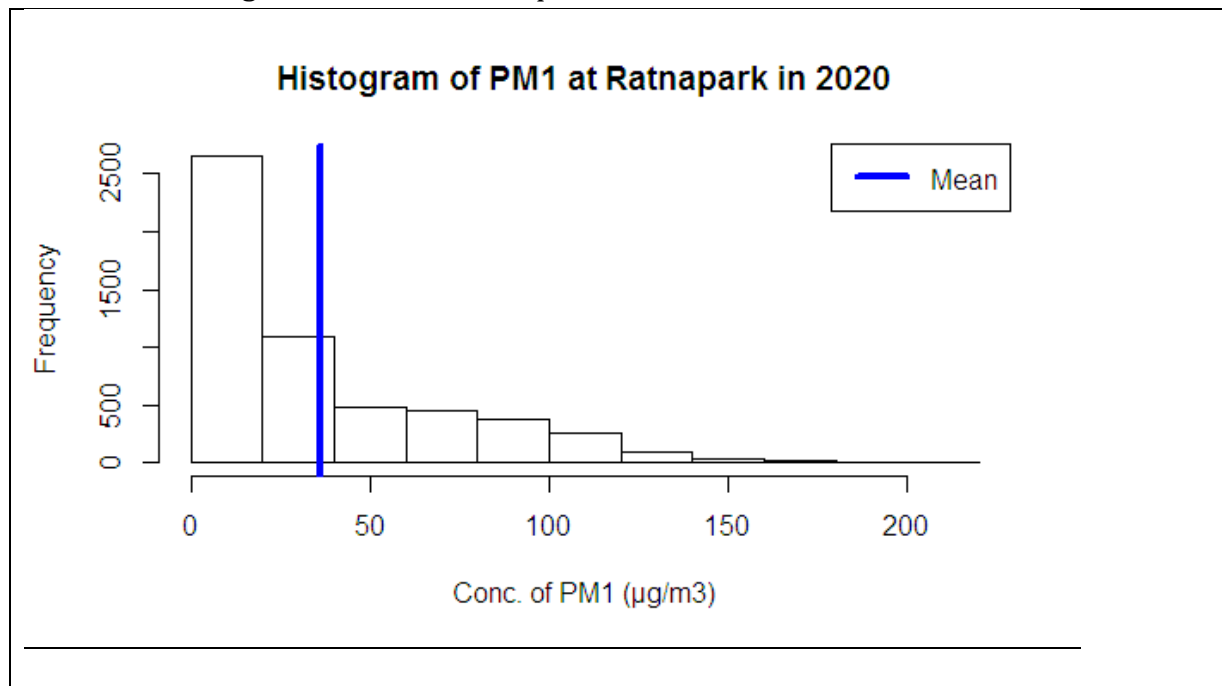


Figure 107. Histogram of PM<sub>1</sub> at Ratnapark in 2020

The Histogram shows that highest no of hourly average data was between 50-10 $\mu\text{g}/\text{m}^3$  followed by 10-20 $\mu\text{g}/\text{m}^3$ .

**Daily average PM1**

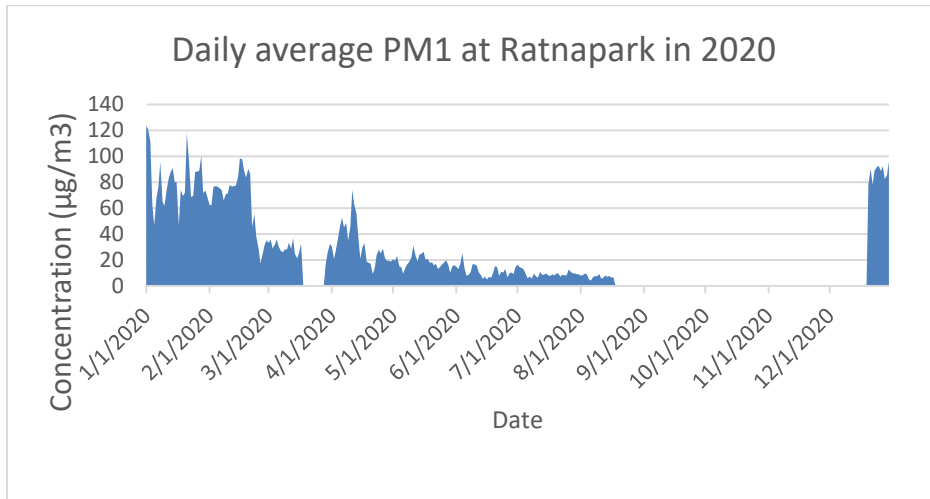


Figure 108. Daily average PM1 at Ratnapark station in 2020

**Monthly Average of PM1**

Following Figure shows the monthly average of PM<sub>1</sub>.

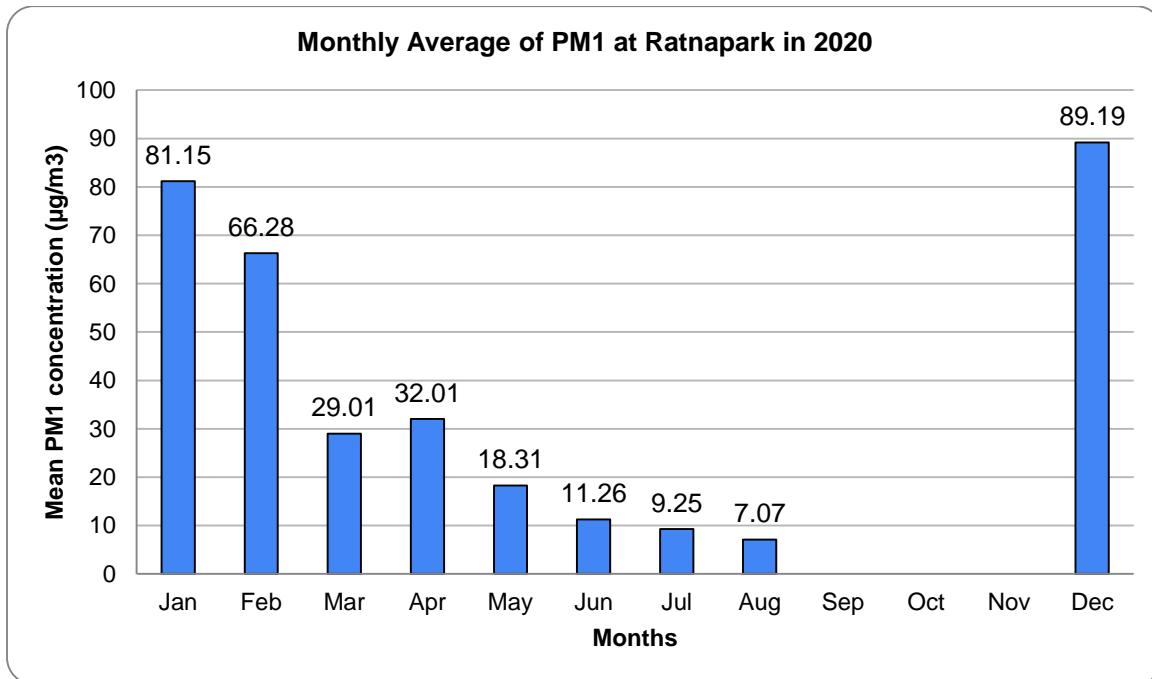


Figure 109. Monthly average PM1 at Ratnapark station in 2020

The monthly average value of PM<sub>1</sub> at Ratnapark was highest in December with monthly average value of 89.19  $\mu\text{g}/\text{m}^3$  and lowest in August with monthly average value of 7.07  $\mu\text{g}/\text{m}^3$ .

### Monthly Variation of PM1

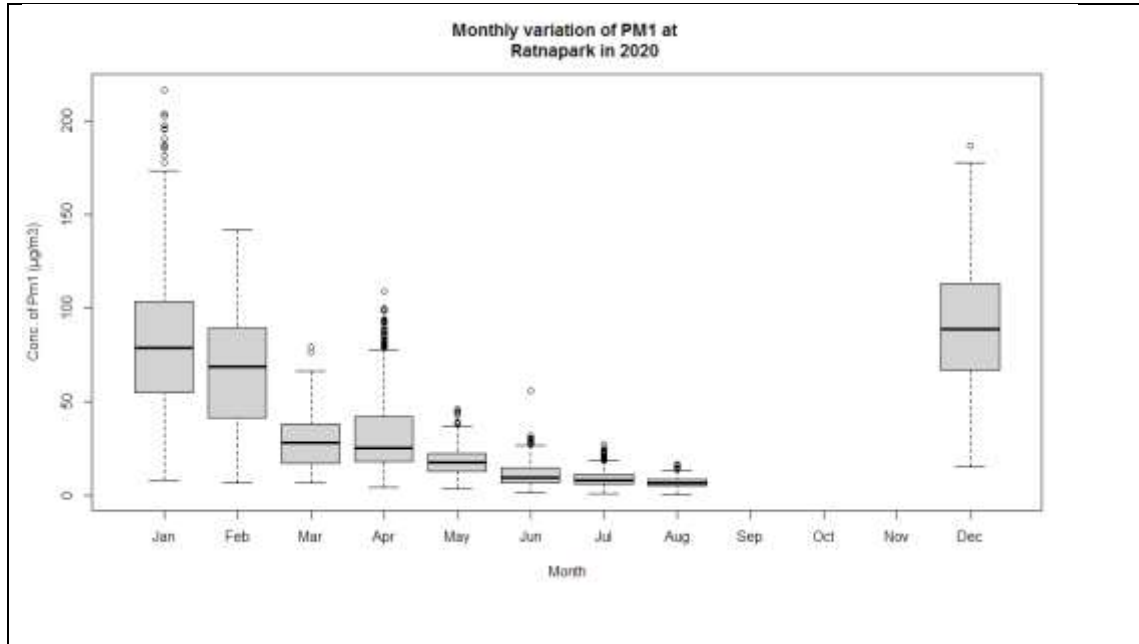


Figure 110. Monthly variation of daily average PM1 at Ratnapark station in 2020  
 The variation in Pm1 was high in January, February and December.

### Seasonal Average of PM1

Following figure shows the seasonal variation of PM1 at Ratnapark station in 2020

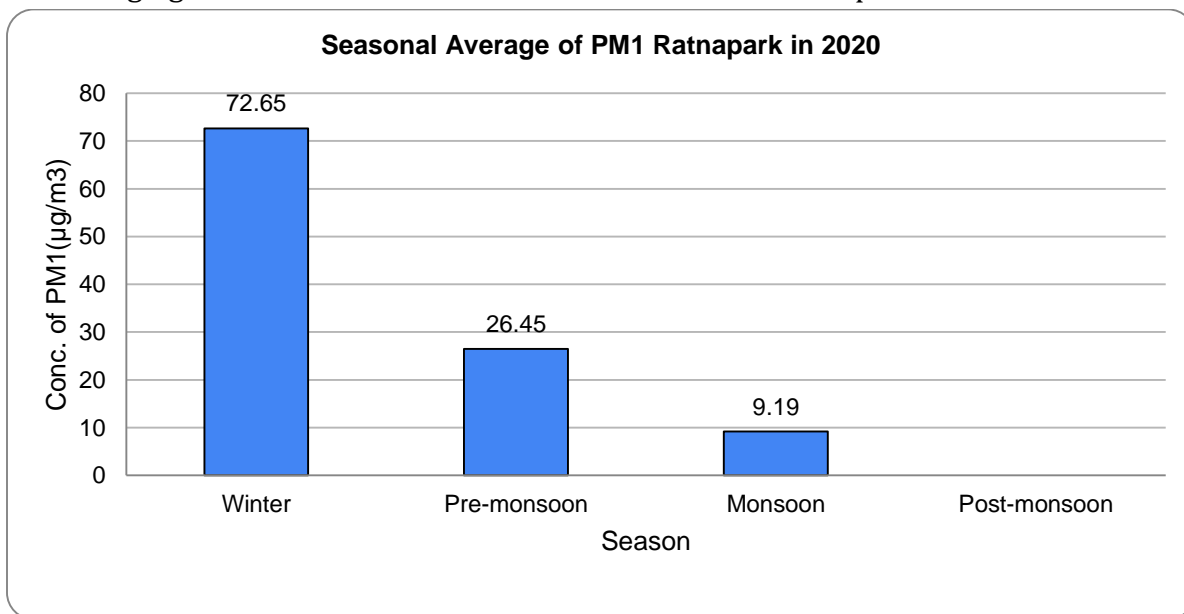


Figure 111. Seasonal average of TSP at Ratnapark station in 2020

Out of three seasons, highest seasonal average was observed in Winter season with seasonal average of 72.65 µg/m³ and lowest seasonal average was observed in Monsoon season with seasonal average of 9.19 µg/m³.

## Diurnal Variation of PM1

Following figure shows the boxplot of diurnal variation of PM1 at Ratnapark station in 2020.

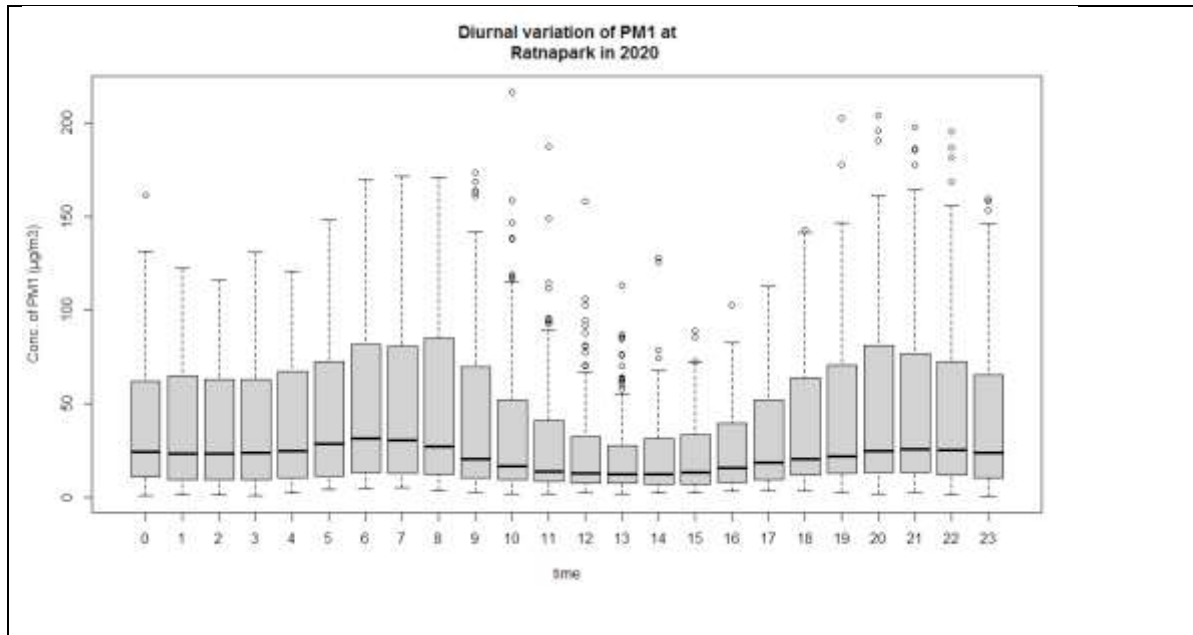


Figure 112. Boxplot of diurnal variation of PM1 at Ratnapark station in 2020  
PM1 concentration was more at 6 and 7 o'clock in the morning.

### 2.5.3 Temporal Variation of PM2.5

#### Annual Average of PM2.5

The annual average of PM2.5 at Ratnapark station in 2020 was 39.96  $\mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM2.5 at Ratnapark station in 2020.

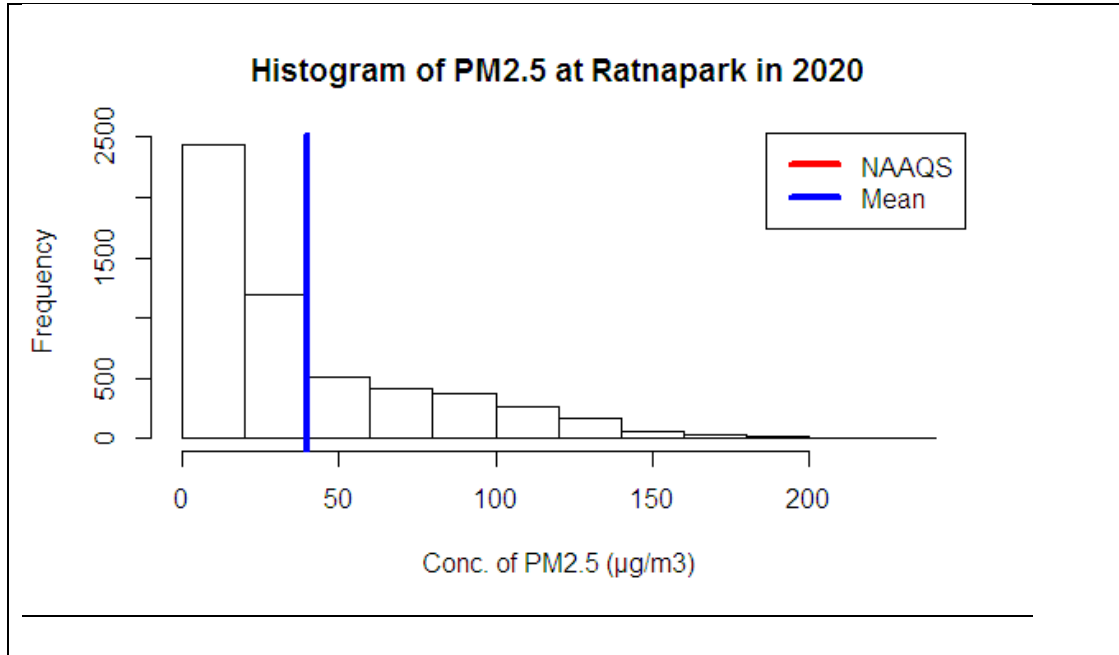


Figure 113. Histogram of PM2.5 at Ratnapark in 2020

The Histogram shows that highest no of hourly average data were between 0-20 $\mu\text{g}/\text{m}^3$  followed by 20-40  $\mu\text{g}/\text{m}^3$ .

#### Daily Average of PM2.5

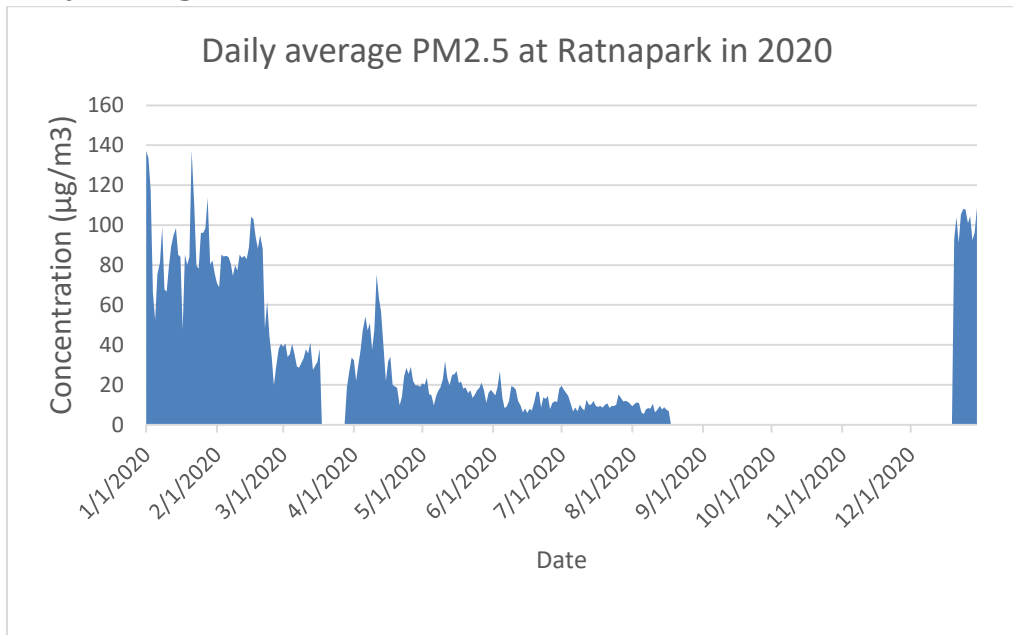


Figure 114. Daily average PM2.5 at Ratnapark station in 2020



## Monthly Average of PM2.5

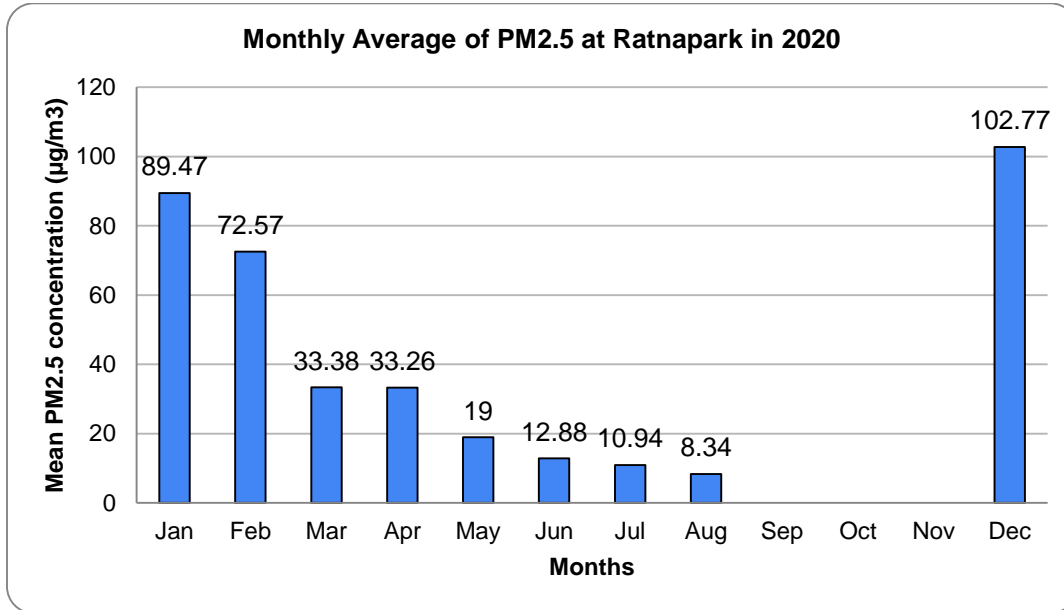


Figure 115. Monthly average of PM2.5 at Ratnapark station in 2020

In 2020 December has the highest monthly average of PM2.5 with monthly average of 102.77 µg/m<sup>3</sup> and August has the lowest with monthly average of 8.34 µg/m<sup>3</sup>.

## Monthly Variation of PM2.5

Following figure shows the boxplot of monthly variation of PM2.5 at Ratnapark in 2020.

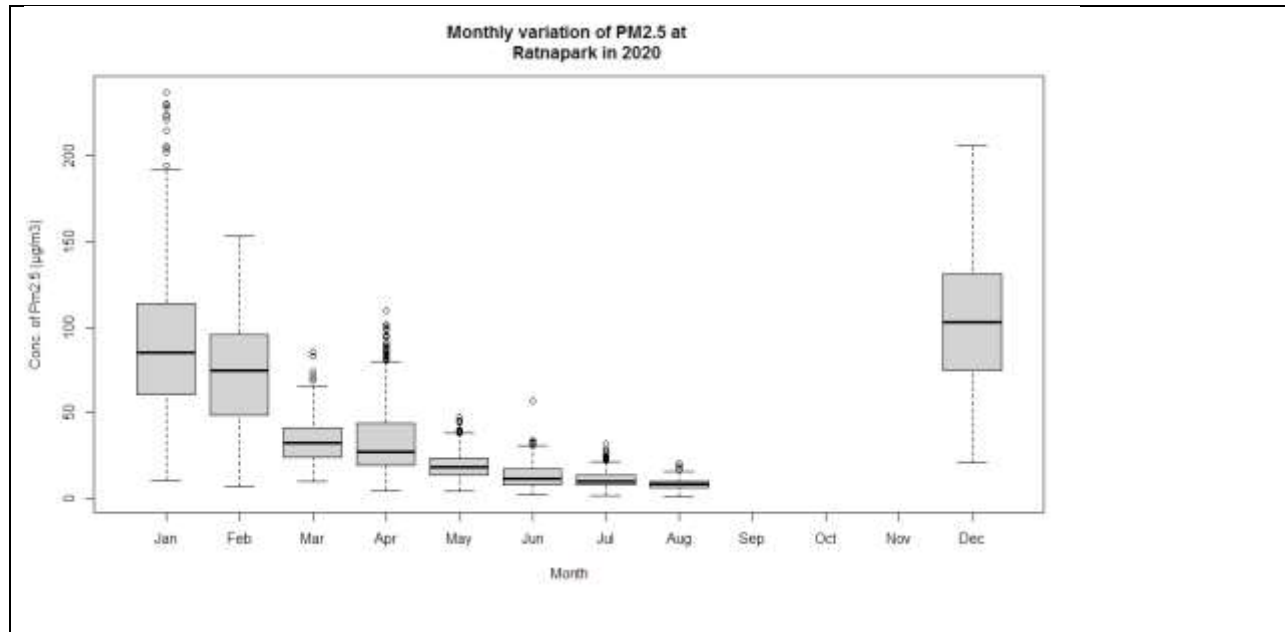


Figure 116. Monthly variation of daily average PM2.5 at Ratnapark in 2020

The variation of PM2.5 was more in January, February and December.

### Seasonal Average of PM2.5

Following figure shows the seasonal variation of PM2.5 at Ratnapark station in 2020

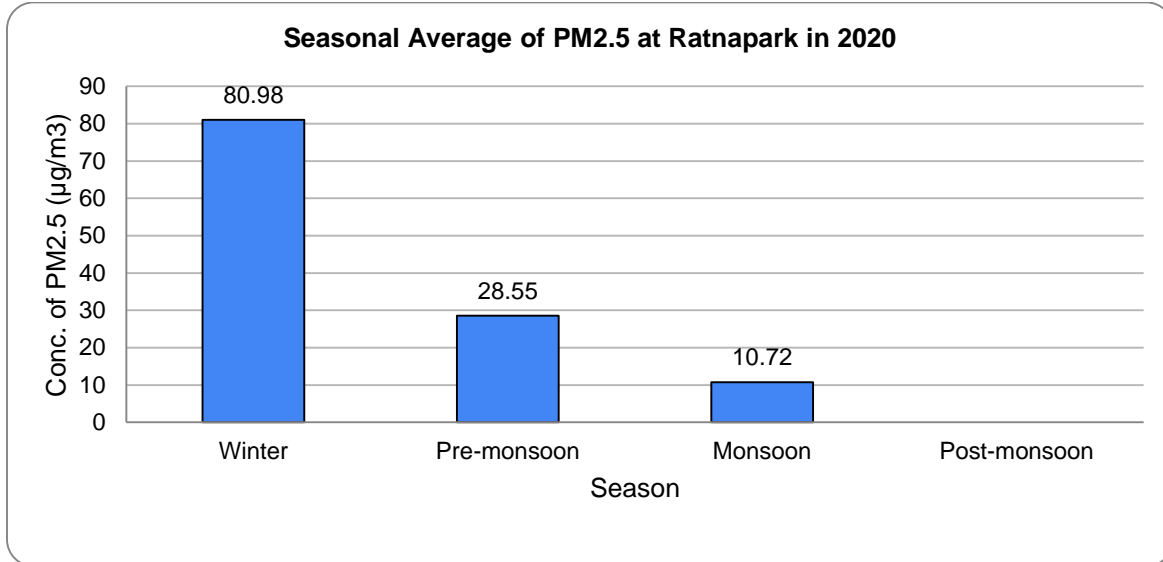


Figure 117. Seasonal average of TSP at Ratnapark station in 2020

Highest seasonal average was observed in Winter season with seasonal average of 80.98 µg/m³ and lowest seasonal average was observed in Monsoon season with seasonal average of 10.72 µg/m³.

### Diurnal Variation of PM2.5

Following figure shows the boxplot of diurnal variation of PM2.5 at Ratnapark

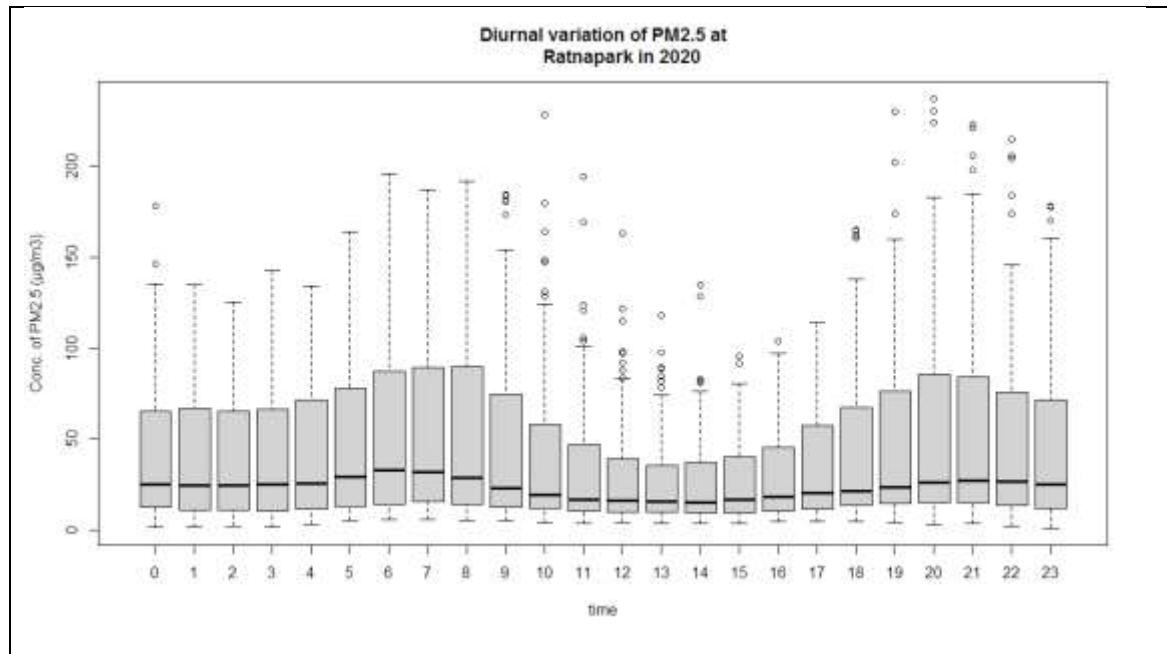


Figure 118. Boxplot of diurnal variation of PM2.5 at Ratnapark in 2020

PM2.5 concentrations was highest at 6 and 7 o'clock in the morning.

## Compliance with National Ambient air Quality standard

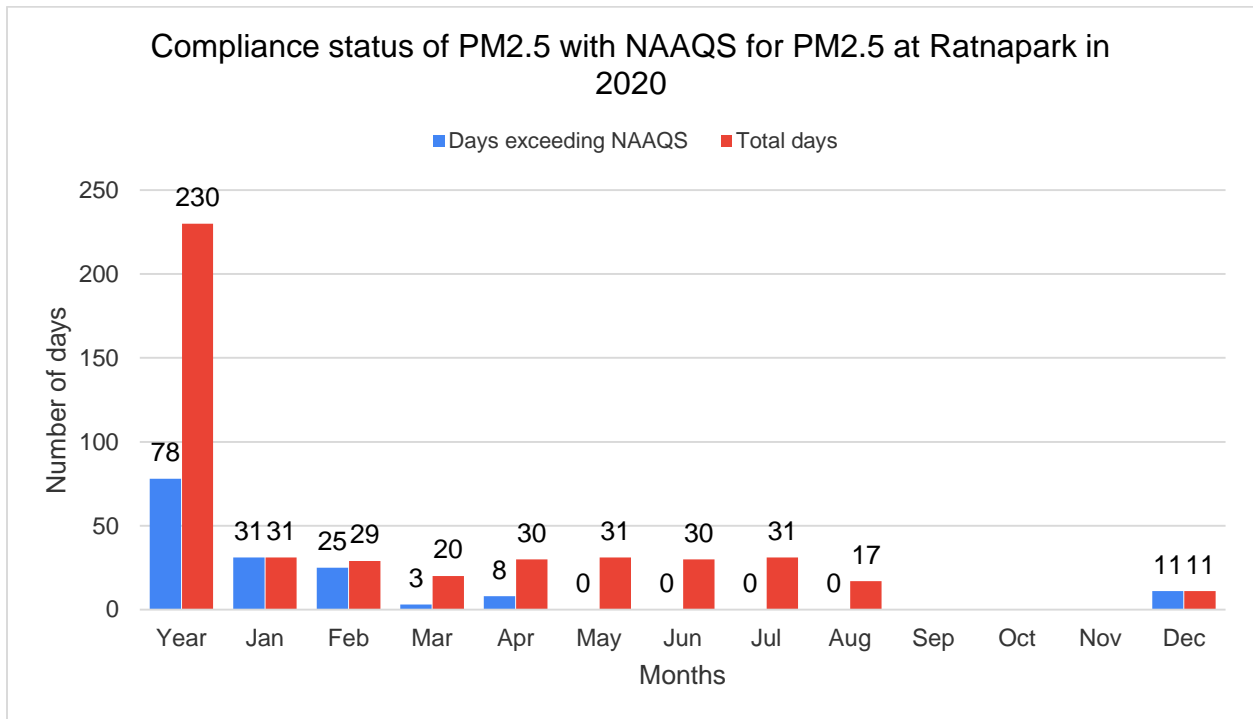


Figure 119. Compliance with National Ambient air quality standard for PM2.5 at Ratnapark station in 2020

Out of total 230 days of Measurement 78 days exceeded the National ambient air quality standard for PM2.5 at Ratnapark station in 2020.

## 2.5.4 Temporal Variation of PM10

### Annual Average of PM10

The annual average PM10 at Ratnapark station on 2020 was  $54.79\mu\text{g}/\text{m}^3$ . Following figure shows the Histogram of PM10 at Ratnapark station in 2020.

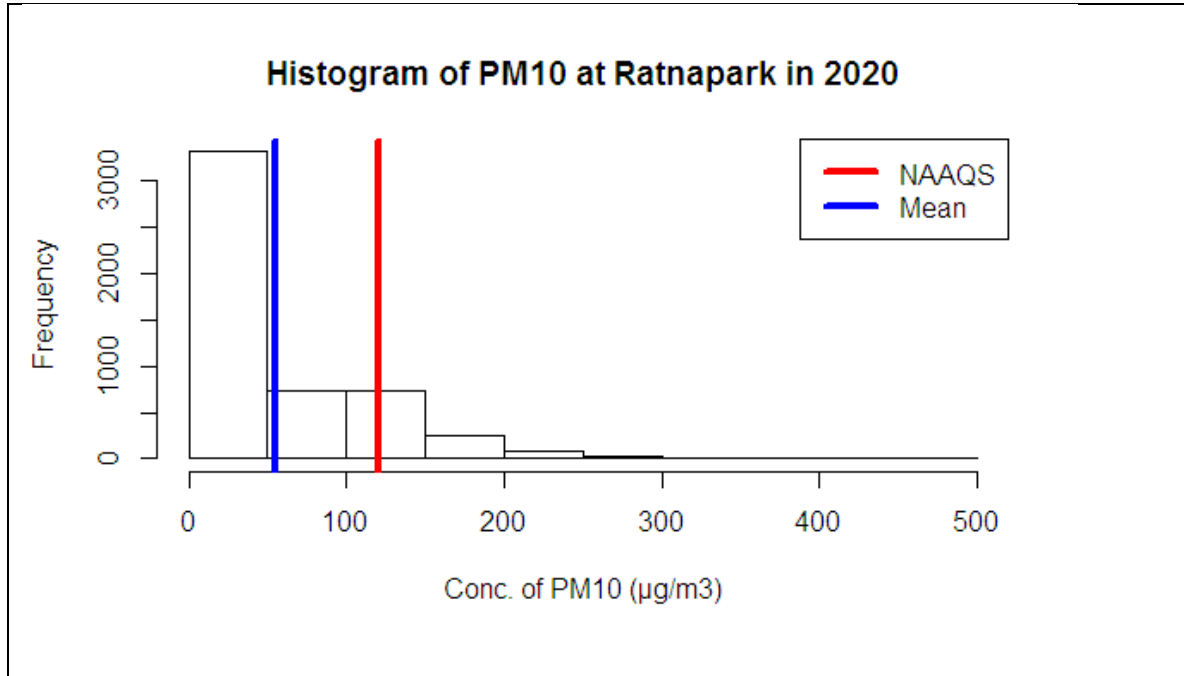


Figure 120. Histogram of PM10 at Ratnapark in 2020

Above figure shows that highest no of hourly average data was between 0-50  $\mu\text{g}/\text{m}^3$ .

### Daily average of PM10

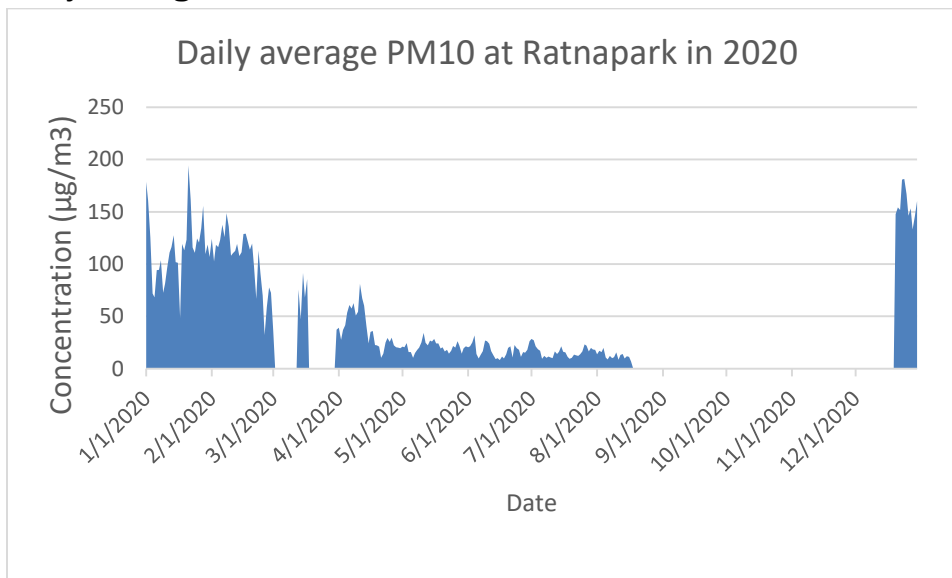


Figure 121. Daily average PM10 at Ratnapark station in 2020

## Monthly Average of PM10

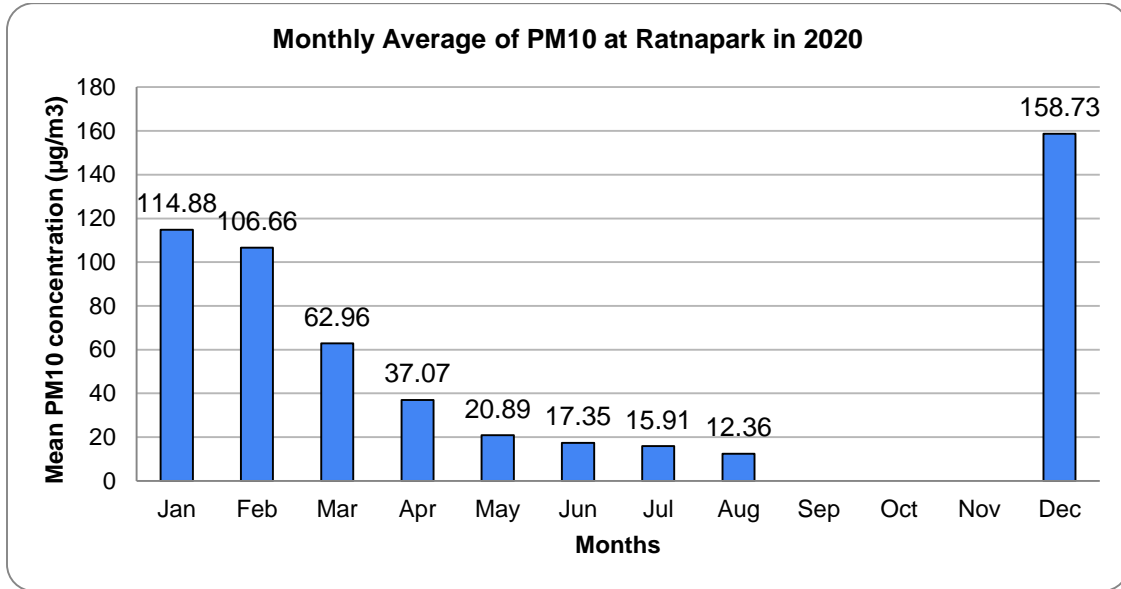


Figure 122. Monthly average PM10 at Ratnapark station in 2020

The monthly average value of PM10 was highest in December with monthly average value of  $158.73 \mu\text{g}/\text{m}^3$  and lowest in August with monthly average value of  $12.36 \mu\text{g}/\text{m}^3$ .

## Monthly Variation of PM10

Following figure shows the boxplot of monthly variation of PM10 at Ratnapark in 2020

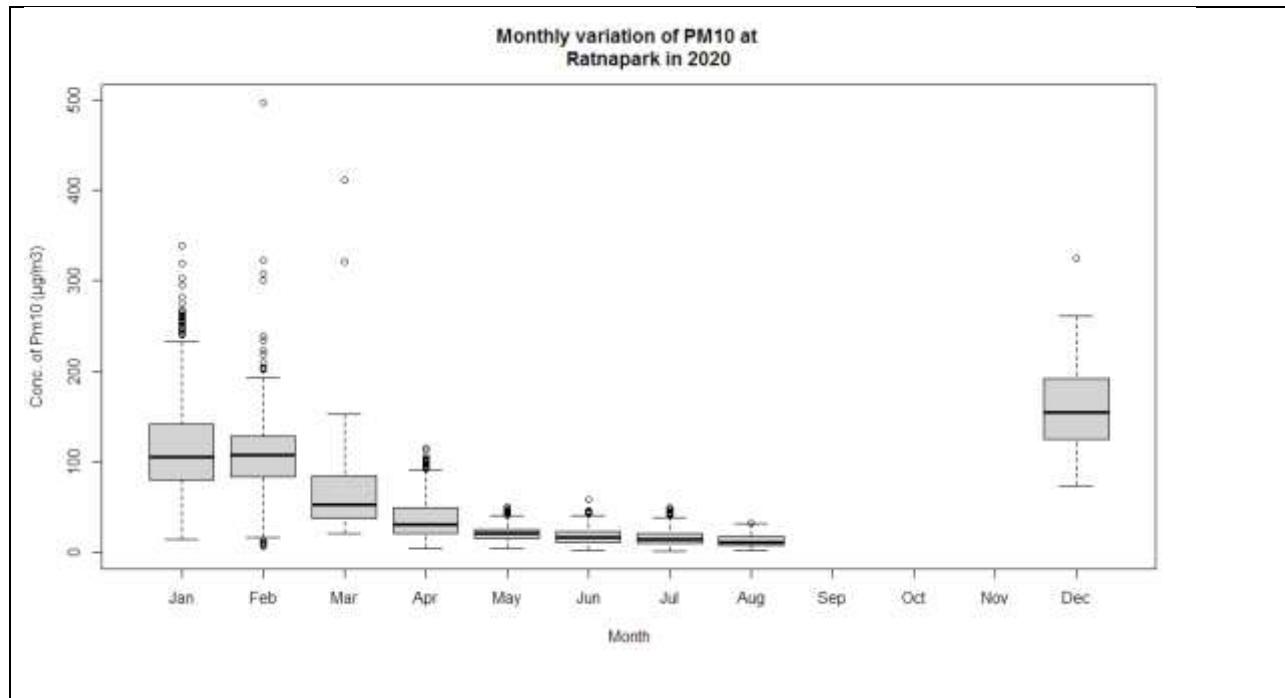


Figure 123. . Boxplot of monthly variation of PM10 at Ratnapark in 2020

Above figure shows that December has higher variation of hourly average of PM10.

## Seasonal Average of PM10

Following figure shows the seasonal variation of PM2.5 at Ratnapark station in 2020

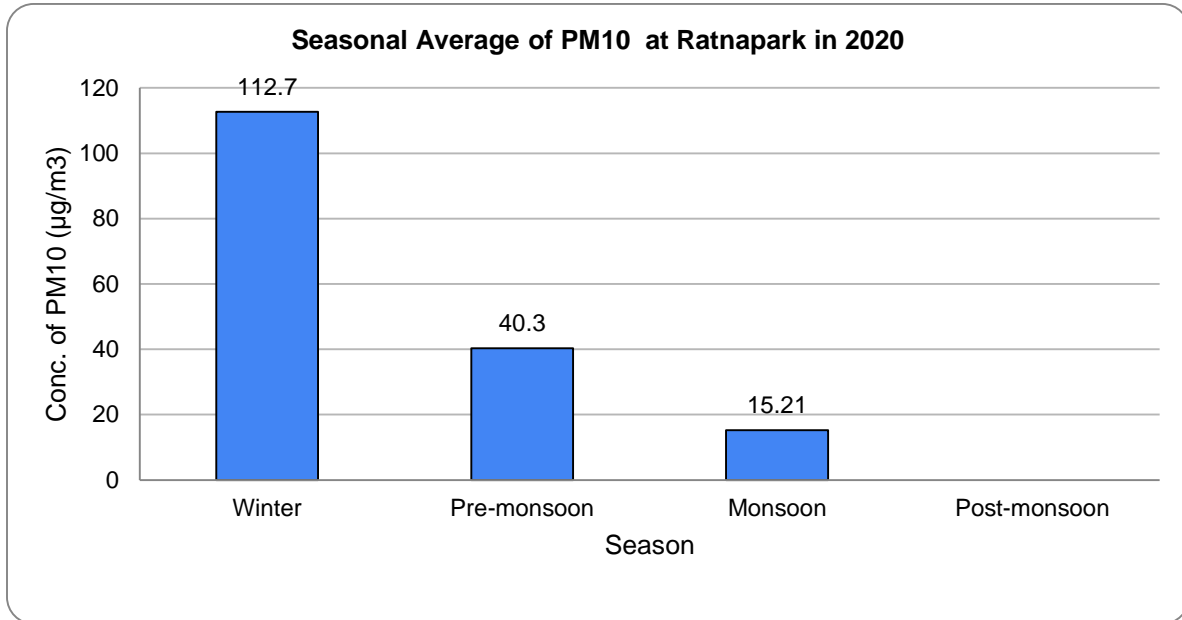


Figure 124. Seasonal average of TSP at Ratnapark station in 2020

Highest seasonal average was observed in Winter season with seasonal average of  $112.70 \mu\text{g}/\text{m}^3$  and lowest seasonal average was observed in Monsoon season with seasonal average of  $15.21 \mu\text{g}/\text{m}^3$ .

## Diurnal Variation of PM10

Following figure shows the diurnal variation of PM10 at Ratnapark in 2020.

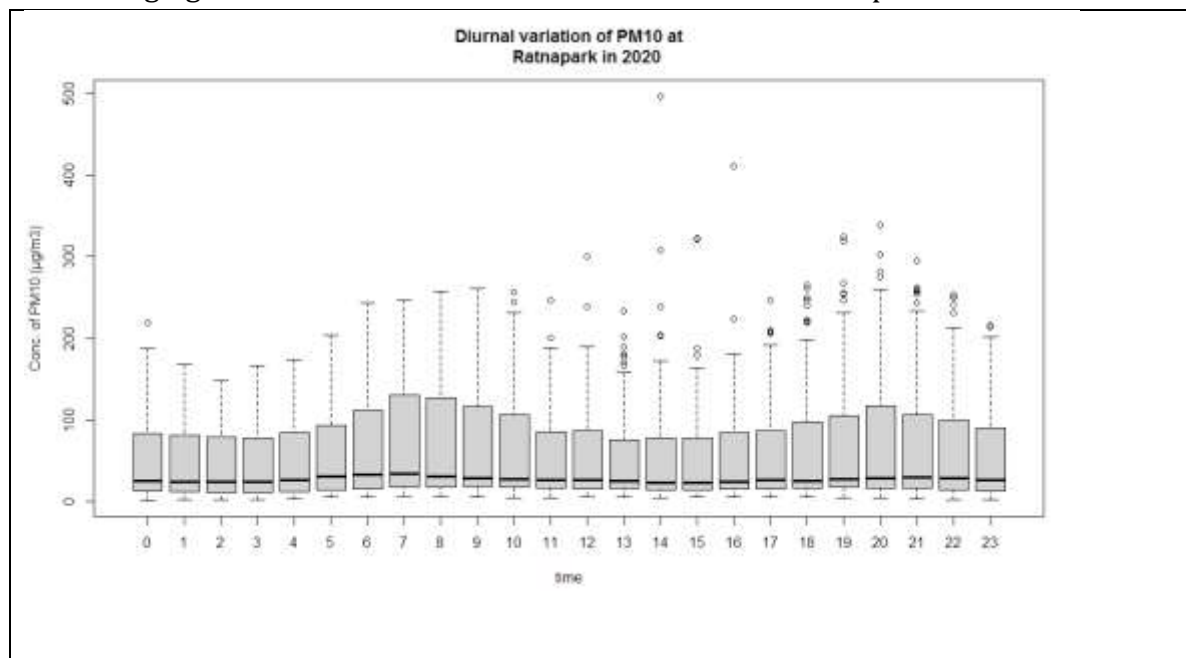


Figure 125. Diurnal variation of PM10 at Ratnapark in 2020

## Compliance with National Ambient Air quality standard

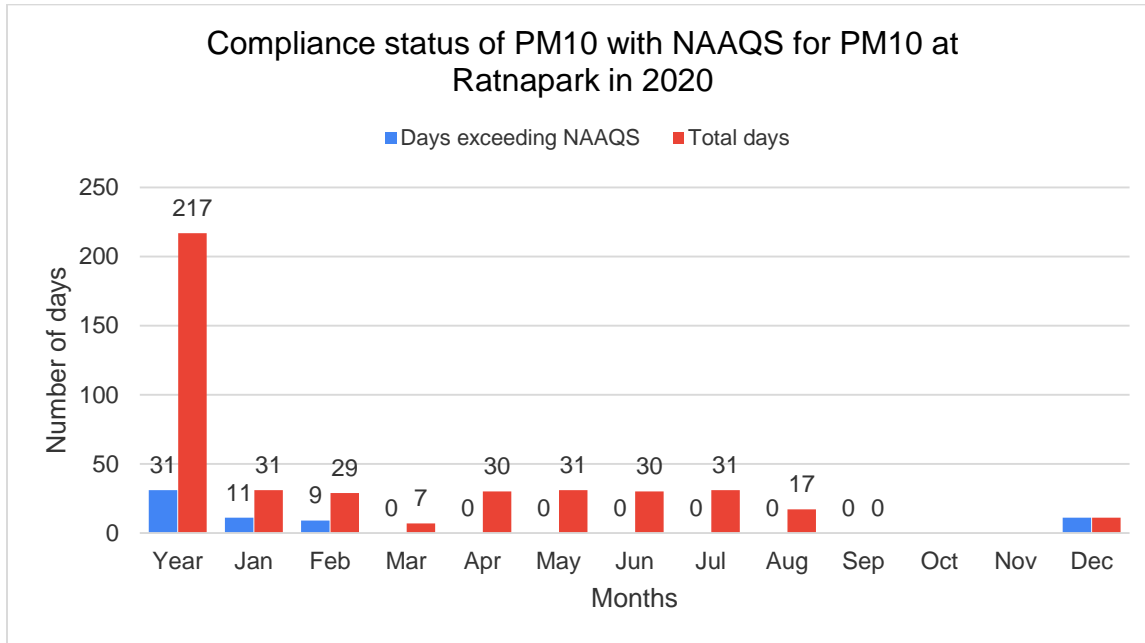


Figure 126. Compliance with NAAQS for PM10 at Ratnapark in 2020

Out of Total 217 days of measurement 31 days exceeded the national ambient air quality standard for PM10.

## 2.5.4 Temporal Variation of TSP

### Annual Average

Annual TSP average of Ratnapark Station for the year 2020 was observed to be  $101.10/\text{m}^3$ . Following figure shows the histogram of TSP at Ratnapark in 2020.

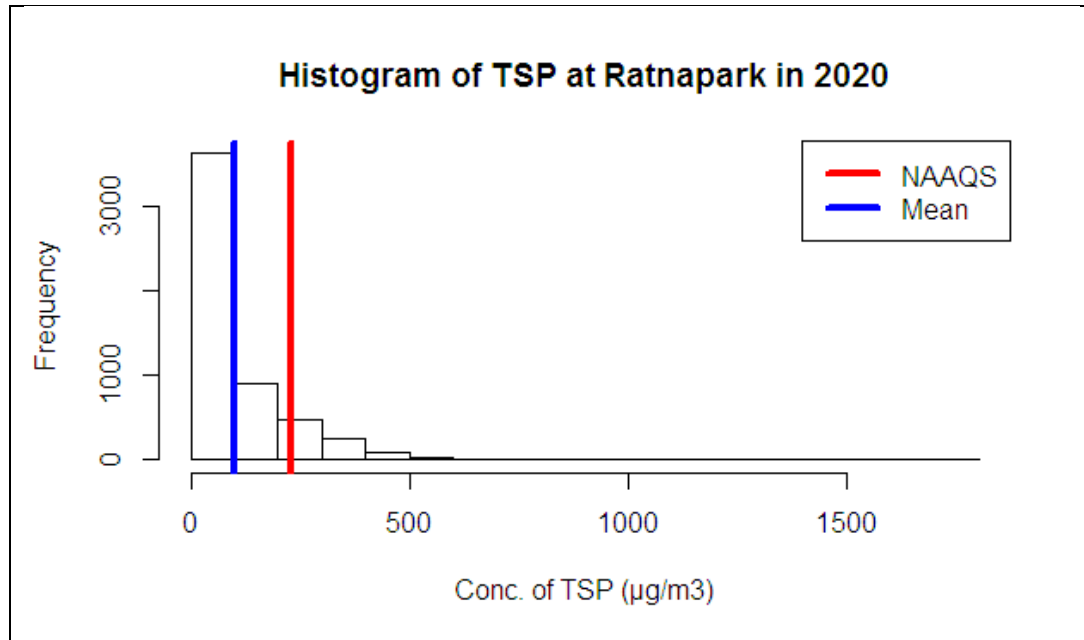


Figure 127. Histogram of TSP at Ratnapark station in 2020

Above figure shows highest no of hourly average of Total suspended Particulate data were between 0-100  $\mu\text{g}/\text{m}^3$ .

### Daily average of Total Suspended Particulate

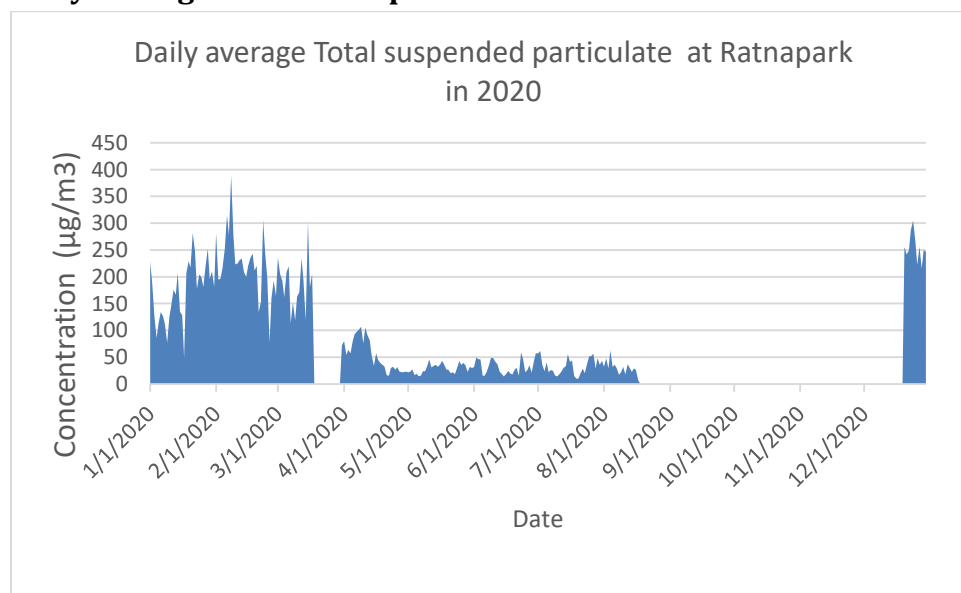


Figure 128. Daily average total suspended particulate at Ratnapark in 2020



### Monthly Average of TSP

Following figure shows the monthly average of Total Suspended Particulate at Ratnapark in 2020.

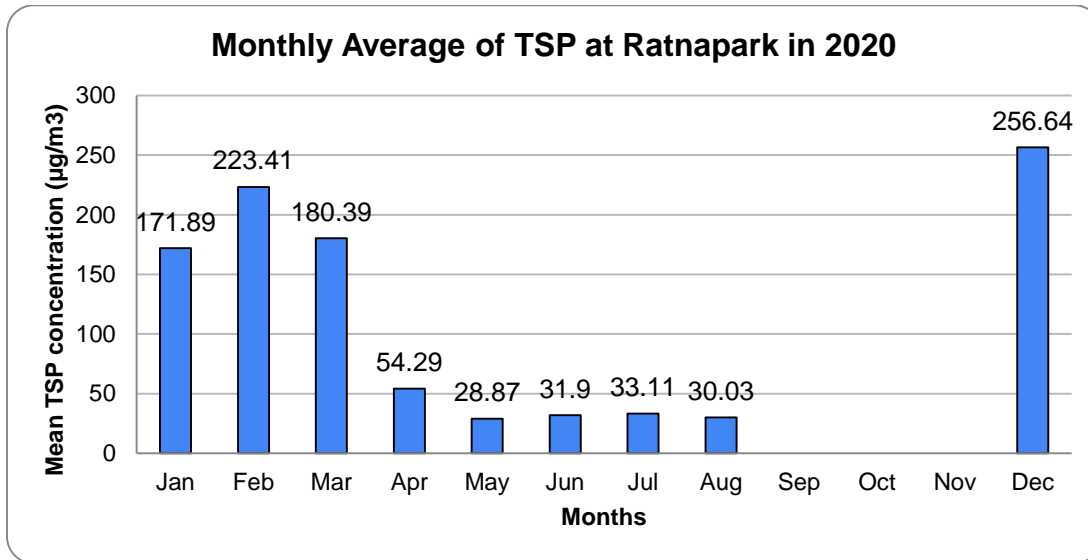


Figure 129. Monthly average of TSP at Ratnapark station in 2020

The monthly average value of TSP was highest in December with monthly average of 256.64 µg/m<sup>3</sup> and lowest in May with monthly average value of 28.87.

### Monthly variation of TSP

Following figure shows Boxplot of monthly variation of TSP at Ratnapark in 2020

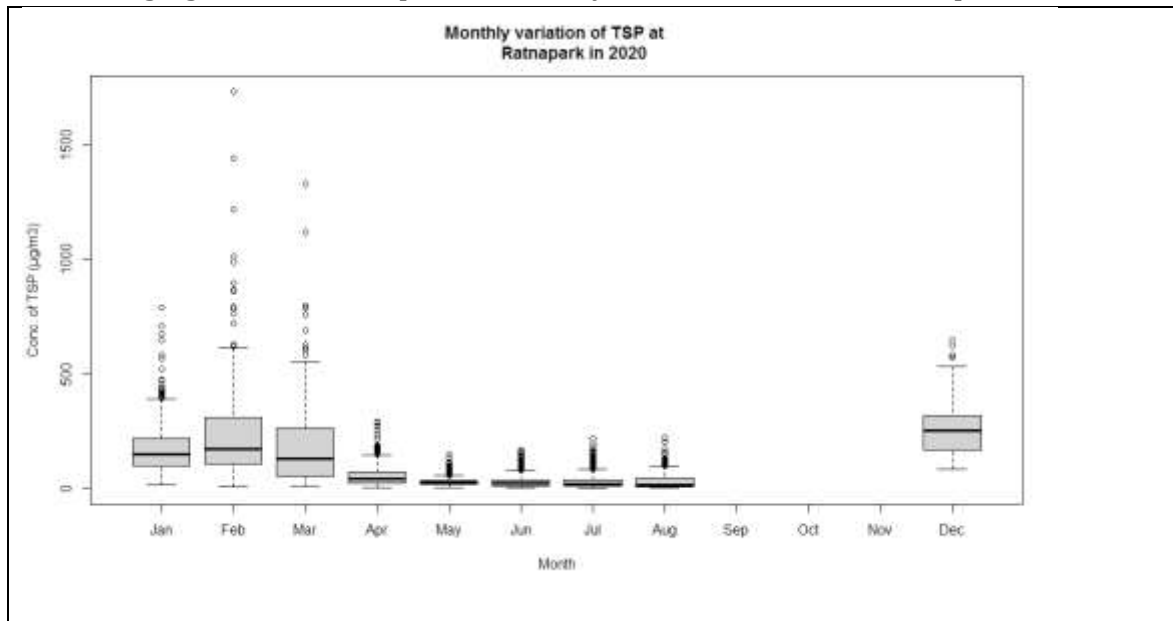


Figure 130. Monthly variation of daily average Total suspended particulate at Ratnapark in 2020

The TSP value was more variable in February, March and December.

### Seasonal Average of TSP

Following figure shows the seasonal variation of TSP at Ratnapark station in 2020

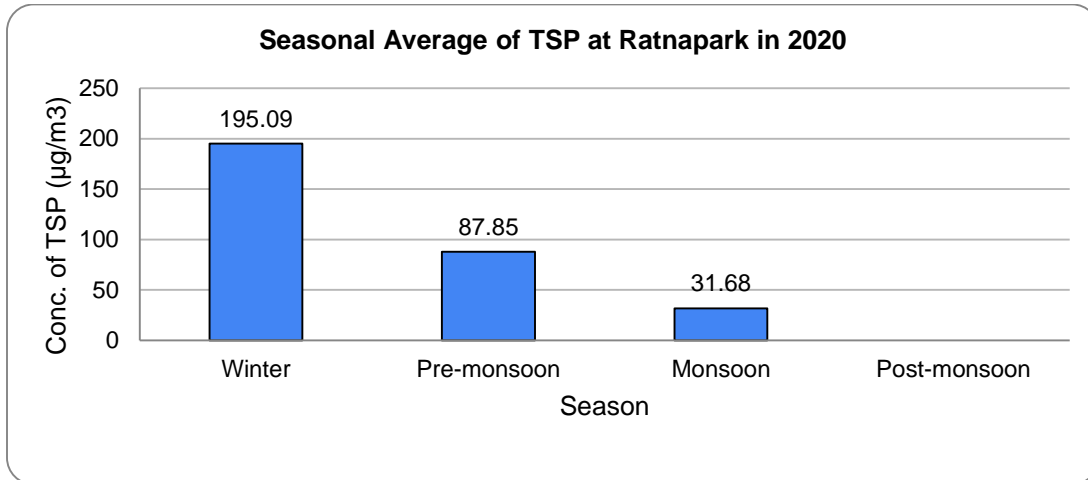


Figure 131. Seasonal average of TSP at Ratnapark station in 2020

Highest seasonal average was observed in Winter season with seasonal average of  $195.09 \mu\text{g}/\text{m}^3$  and lowest seasonal average was observed in Monsoon season with seasonal average of  $31.68 \mu\text{g}/\text{m}^3$ .

### Diurnal Variation of TSP

Following figure shows the boxplot of diurnal variation of TSP at Ratnapark in 2020.

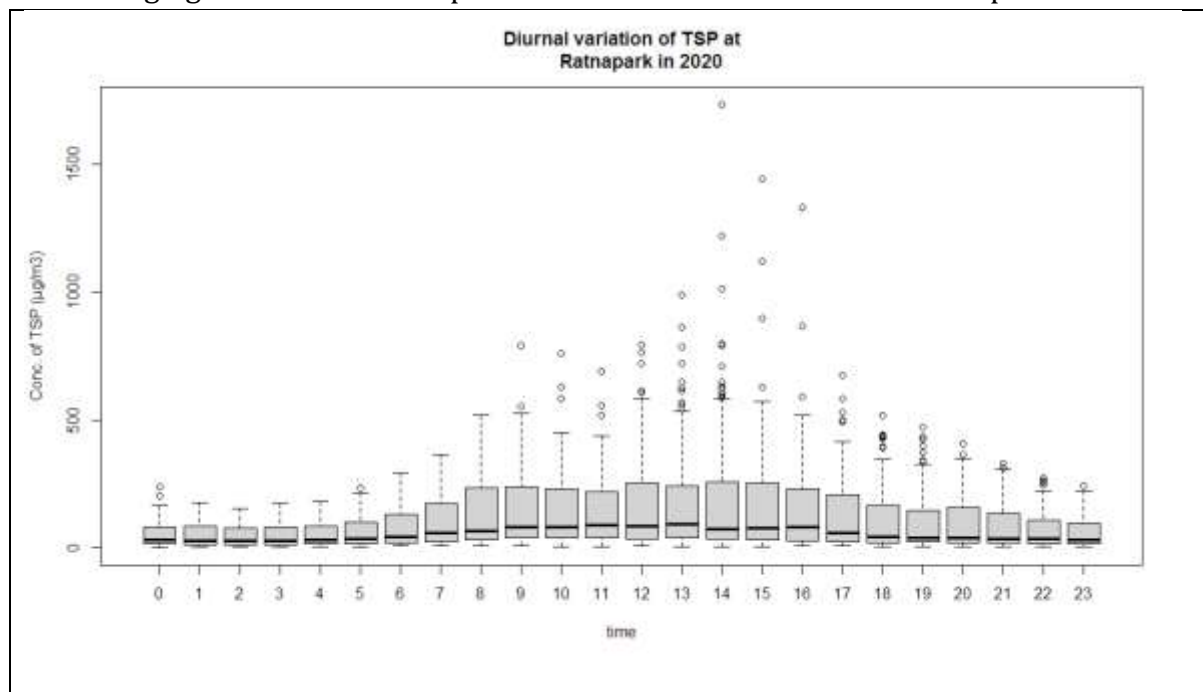


Figure 132. Diurnal variation of TSP at Ratnapark station in 2020

Above figure shows that Total suspended Particulate concentration was high during day time.

### Compliance with National Ambient air quality Standard

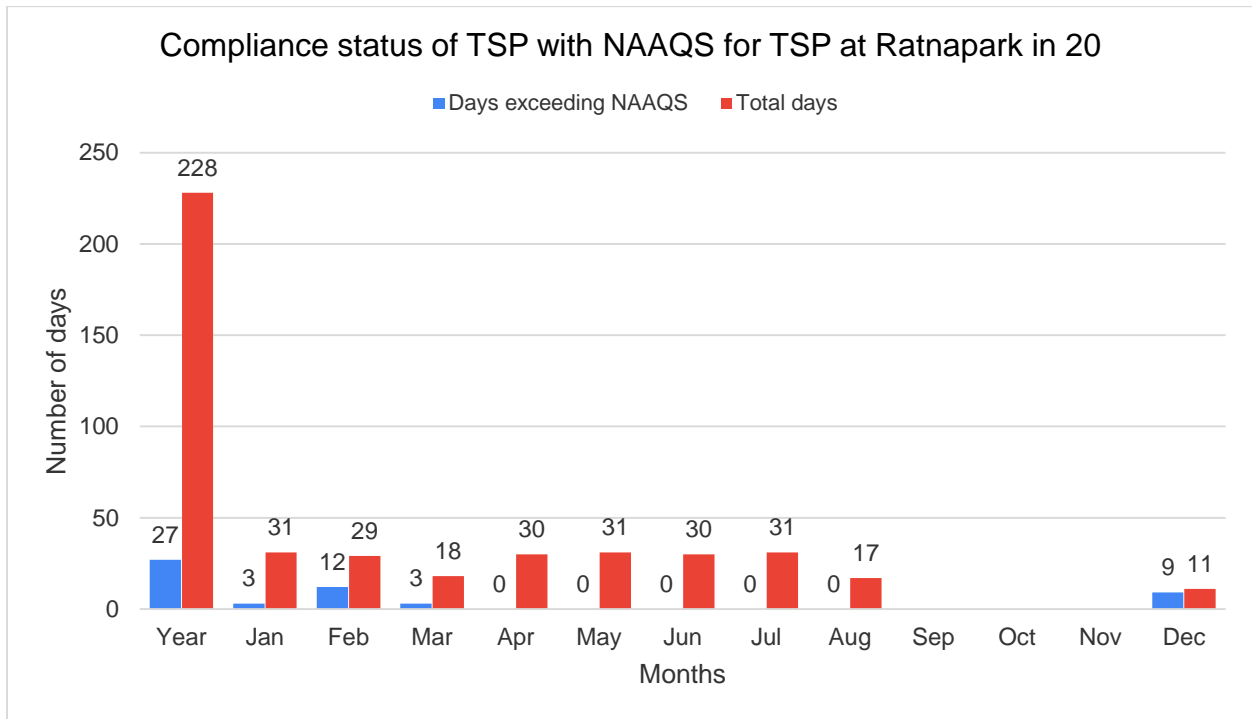


Figure 133. Compliance with NAAQS for TSP at Ratnapark in 2020

Out of 228 days of measurement only 27 days exceed the National ambient air quality standards for the Total suspended particulate.

Annex  
PM1

Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )
1/1/2016		1/1/2017	97.36859	1/1/2018	27.1506	1/1/2019	71.82944	1/1/2020	123.4936
1/2/2016		1/2/2017	62.48094	1/2/2018	23.61963	1/2/2019	61.5855	1/2/2020	120.7333
1/3/2016		1/3/2017	49.25158	1/3/2018	48.05714	1/3/2019	54.71633	1/3/2020	110.9993
1/4/2016		1/4/2017	67.20934	1/4/2018	76.49229	1/4/2019	52.00488	1/4/2020	63.29489
1/5/2016		1/5/2017	65.95841	1/5/2018	80.80868	1/5/2019	49.57294	1/5/2020	46.52233
1/6/2016		1/6/2017	55.75542	1/6/2018	81.55038	1/6/2019	42.61649	1/6/2020	67.77793
1/7/2016		1/7/2017	66.98951	1/7/2018	73.0141	1/7/2019	79.70293	1/7/2020	75.86428
1/8/2016		1/8/2017	63.17286	1/8/2018	70.08246	1/8/2019	67.82428	1/8/2020	95.42768
1/9/2016		1/9/2017	79.00074	1/9/2018	99.00326	1/9/2019	72.77287	1/9/2020	65.16736
1/10/2016		1/10/2017	68.26511	1/10/2018	100.7614	1/10/2019	73.74003	1/10/2020	61.53369
1/11/2016		1/11/2017	68.19241	1/11/2018	96.73576	1/11/2019	61.62553	1/11/2020	73.96535
1/12/2016		1/12/2017	73.97734	1/12/2018	94.31097	1/12/2019	45.12295	1/12/2020	82.28211
1/13/2016		1/13/2017	81.93369	1/13/2018	87.07329	1/13/2019	38.23746	1/13/2020	87.46289
1/14/2016		1/14/2017		1/14/2018	83.08831	1/14/2019	30.85918	1/14/2020	90.64315
1/15/2016		1/15/2017		1/15/2018	88.76278	1/15/2019	67.96752	1/15/2020	80.15771
1/16/2016		1/16/2017		1/16/2018	72.2717	1/16/2019	82.29599	1/16/2020	79.83267
1/17/2016		1/17/2017		1/17/2018	72.96042	1/17/2019	81.69198	1/17/2020	46.47102
1/18/2016		1/18/2017	66.57454	1/18/2018	78.29611	1/18/2019	68.43285	1/18/2020	73.91226
1/19/2016		1/19/2017	75.24493	1/19/2018	82.20803	1/19/2019	49.64155	1/19/2020	69.25612
1/20/2016		1/20/2017	82.15375	1/20/2018	76.96656	1/20/2019	37.67608	1/20/2020	71.80748
1/21/2016		1/21/2017	78.95648	1/21/2018	58.27071	1/21/2019	31.78227	1/21/2020	117.857
1/22/2016		1/22/2017	79.55919	1/22/2018	76.36522	1/22/2019	28.14141	1/22/2020	94.88725
1/23/2016		1/23/2017	83.8765	1/23/2018	75.22854	1/23/2019	21.75079	1/23/2020	68.63331
1/24/2016		1/24/2017	80.25528	1/24/2018	61.60939	1/24/2019	34.19208	1/24/2020	69.26903
1/25/2016		1/25/2017	79.34507	1/25/2018	69.51784	1/25/2019	27.6305	1/25/2020	87.67994
1/26/2016		1/26/2017	73.40672	1/26/2018	68.8384	1/26/2019	19.11119	1/26/2020	87.97602
1/27/2016		1/27/2017	54.08923	1/27/2018	69.2543	1/27/2019	31.95132	1/27/2020	88.74189
1/28/2016		1/28/2017	44.18187	1/28/2018	74.73188	1/28/2019	19.52028	1/28/2020	100.3174
1/29/2016		1/29/2017	60.76847	1/29/2018	83.31526	1/29/2019	43.42515	1/29/2020	71.60349

1/30/2016		1/30/2017	71.60456	1/30/2018	78.65212	1/30/2019	62.09637	1/30/2020	73.4748
1/31/2016		1/31/2017	63.2929	1/31/2018	75.68492	1/31/2019	69.89806	1/31/2020	68.48643
2/1/2016		2/1/2017	65.79514	2/1/2018	75.30007	2/1/2019	73.93242	2/1/2020	62.45117
2/2/2016		2/2/2017	68.85469	2/2/2018	81.2735	2/2/2019	62.77139	2/2/2020	62.097
2/3/2016		2/3/2017	70.69285	2/3/2018	66.29729	2/3/2019	56.93559	2/3/2020	76.28356
2/4/2016		2/4/2017	76.64521	2/4/2018	67.19619	2/4/2019	46.75982	2/4/2020	76.92597
2/5/2016		2/5/2017	68.62639	2/5/2018	67.37028	2/5/2019	40.3565	2/5/2020	76.46587
2/6/2016		2/6/2017	80.84643	2/6/2018	68.4719	2/6/2019	31.86508	2/6/2020	75.54061
2/7/2016		2/7/2017	54.82424	2/7/2018	72.13007	2/7/2019	9.810305	2/7/2020	73.66449
2/8/2016		2/8/2017	58.40005	2/8/2018	53.65603	2/8/2019	17.30337	2/8/2020	65.70009
2/9/2016		2/9/2017	62.78319	2/9/2018	44.74491	2/9/2019	11.90747	2/9/2020	70.82326
2/10/2016		2/10/2017	55.48319	2/10/2018	55.05544	2/10/2019		2/10/2020	71.33021
2/11/2016		2/11/2017	67.54368	2/11/2018	54.9481	2/11/2019		2/11/2020	77.86284
2/12/2016		2/12/2017	63.57729	2/12/2018	79.53816	2/12/2019	44.10889	2/12/2020	76.47181
2/13/2016		2/13/2017	64.14403	2/13/2018	81.3223	2/13/2019	49.40689	2/13/2020	77.00746
2/14/2016		2/14/2017	63.33142	2/14/2018	73.30318	2/14/2019	62.1099	2/14/2020	77.1453
2/15/2016		2/15/2017	72.83611	2/15/2018	56.43778	2/15/2019	45.60074	2/15/2020	83.941
2/16/2016		2/16/2017	81.59035	2/16/2018	64.15583	2/16/2019	29.01645	2/16/2020	98.44723
2/17/2016		2/17/2017	72.06694	2/17/2018	64.50778	2/17/2019	21.99128	2/17/2020	97.43217
2/18/2016		2/18/2017	70.59639	2/18/2018	58.20719	2/18/2019	25.97764	2/18/2020	88.46054
2/19/2016		2/19/2017	73.26021	2/19/2018	62.93371	2/19/2019	27.24231	2/19/2020	83.51582
2/20/2016		2/20/2017	75.56028	2/20/2018	71.57882	2/20/2019	32.10017	2/20/2020	90.20204
2/21/2016		2/21/2017	63.72132	2/21/2018	70.93271	2/21/2019	37.72596	2/21/2020	86.25571
2/22/2016		2/22/2017	60.18313	2/22/2018	68.75864	2/22/2019	30.78042	2/22/2020	45.23523
2/23/2016		2/23/2017	52.07633	2/23/2018	74.02732	2/23/2019	27.4571	2/23/2020	55.25457
2/24/2016		2/24/2017	42.91292	2/24/2018	65.99333	2/24/2019	27.99091	2/24/2020	37.87742
2/25/2016		2/25/2017	49.68812	2/25/2018	57.86763	2/25/2019	15.54512	2/25/2020	28.9206
2/26/2016		2/26/2017	47.78515	2/26/2018	42.23767	2/26/2019	19.37783	2/26/2020	17.07685
2/27/2016		2/27/2017		2/27/2018	52.49911	2/27/2019	14.50287	2/27/2020	23.34481
2/28/2016		2/28/2017		2/28/2018	43.67716	2/28/2019	13.06621	2/28/2020	31.39077
2/29/2016		3/1/2017		3/1/2018	45.61806	3/1/2019	26.08881	2/29/2020	34.99878
3/1/2016		3/2/2017		3/2/2018	44.99792	3/2/2019	34.00245	3/1/2020	33.14942
3/2/2016		3/3/2017		3/3/2018	37.03461	3/3/2019	34.86043	3/2/2020	35.55324

3/3/2016		3/4/2017		3/4/2018	47.56224	3/4/2019	37.90385	3/3/2020	28.86829
3/4/2016		3/5/2017		3/5/2018	36.87859	3/5/2019	27.51192	3/4/2020	31.6959
3/5/2016		3/6/2017		3/6/2018	33.22944	3/6/2019	24.28088	3/5/2020	35.66435
3/6/2016		3/7/2017		3/7/2018	45.90666	3/7/2019	30.63823	3/6/2020	30.33569
3/7/2016		3/8/2017		3/8/2018	52.8737	3/8/2019	33.89956	3/7/2020	26.79989
3/8/2016		3/9/2017		3/9/2018	47.08443	3/9/2019	33.71384	3/8/2020	25.75159
3/9/2016		3/10/2017	18.78041	3/10/2018	48.32535	3/10/2019	30.43694	3/9/2020	27.94646
3/10/2016		3/11/2017	18.76472	3/11/2018	48.19009	3/11/2019	27.46282	3/10/2020	28.08027
3/11/2016		3/12/2017	17.95208	3/12/2018	44.3032	3/12/2019	28.61248	3/11/2020	33.16292
3/12/2016		3/13/2017	40.04552	3/13/2018	43.73006	3/13/2019	29.13037	3/12/2020	28.62827
3/13/2016		3/14/2017	27.55583	3/14/2018	35.32532	3/14/2019	25.25266	3/13/2020	36.55085
3/14/2016		3/15/2017	24.15382	3/15/2018	29.25319	3/15/2019	24.7462	3/14/2020	24.35862
3/15/2016		3/16/2017	26.87472	3/16/2018	14.49809	3/16/2019	29.35217	3/15/2020	21.19832
3/16/2016		3/17/2017	19.37774	3/17/2018	28.74507	3/17/2019	33.28936	3/16/2020	25.59359
3/17/2016		3/18/2017	16.8225	3/18/2018	42.53031	3/18/2019	31.61093	3/17/2020	32.53559
3/18/2016		3/19/2017	29.54575	3/19/2018	46.03743	3/19/2019	35.16487	3/18/2020	
3/19/2016		3/20/2017	42.75999	3/20/2018	81.65405	3/20/2019	28.36468	3/19/2020	
3/20/2016		3/21/2017	54.05674	3/21/2018	84.57409	3/21/2019	25.12626	3/20/2020	
3/21/2016		3/22/2017	47.89804	3/22/2018	68.12516	3/22/2019	27.25163	3/21/2020	
3/22/2016		3/23/2017	39.73522	3/23/2018	71.60286	3/23/2019	37.49684	3/22/2020	
3/23/2016		3/24/2017	40.41945	3/24/2018		3/24/2019	47.45609	3/23/2020	
3/24/2016		3/25/2017	33.43655	3/25/2018		3/25/2019	28.78128	3/24/2020	
3/25/2016		3/26/2017	46.42797	3/26/2018		3/26/2019	4.508496	3/25/2020	
3/26/2016		3/27/2017	42.27194	3/27/2018	87.49471	3/27/2019	5.125231	3/26/2020	
3/27/2016		3/28/2017	53.00056	3/28/2018	90.12735	3/28/2019	7.406002	3/27/2020	
3/28/2016		3/29/2017	49.65396	3/29/2018	42.52198	3/29/2019	5.643422	3/28/2020	
3/29/2016		3/30/2017	42.92576	3/30/2018	28.6548	3/30/2019	4.690636	3/29/2020	16.8359
3/30/2016		3/31/2017	35.59299	3/31/2018	31.98669	3/31/2019	4.953244	3/30/2020	25.47132
3/31/2016		4/1/2017	29.46326	4/1/2018	44.21124	4/1/2019	2.95114	3/31/2020	32.11663
4/1/2016		4/2/2017	24.15708	4/2/2018	46.83339	4/2/2019	4.940252	4/1/2020	30.57393
4/2/2016		4/3/2017	29.49514	4/3/2018	41.056	4/3/2019		4/2/2020	20.54832
4/3/2016		4/4/2017	35.67387	4/4/2018	37.17735	4/4/2019	4.316486	4/3/2020	27.67455
4/4/2016		4/5/2017		4/5/2018	32.69123	4/5/2019		4/4/2020	35.84171

4/5/2016		4/6/2017	27.5024	4/6/2018	33.9484 5	4/6/2019	0.56690 6	4/5/2020	46.1896 7
4/6/2016		4/7/2017	32.2667	4/7/2018	29.8402 1	4/7/2019	17.6566 9	4/6/2020	52.5755 4
4/7/2016		4/8/2017	20.4925	4/8/2018	33.7336 8	4/8/2019	27.9104 1	4/7/2020	45.1827 1
4/8/2016		4/9/2017	30.9987 2	4/9/2018	30.3297 9	4/9/2019	34.3127 7	4/8/2020	48.4650 8
4/9/2016		4/10/2017	50.0626 4	4/10/2018	23.8256 3	4/10/2019	28.5772 8	4/9/2020	34.6243 4
4/10/2016		4/11/2017	71.9668	4/11/2018	18.4255 5	4/11/2019	27.5407 3	4/10/2020	45.8907
4/11/2016		4/12/2017	83.0765 6	4/12/2018	18.1006 4	4/12/2019	33.8985 5	4/11/2020	73.9879 9
4/12/2016		4/13/2017	83.4755	4/13/2018		4/13/2019	34.5466 3	4/12/2020	62.9629 4
4/13/2016		4/14/2017	74.1855	4/14/2018		4/14/2019	38.8274 2	4/13/2020	55.6145 8
4/14/2016		4/15/2017	34.2596 1	4/15/2018		4/15/2019		4/14/2020	37.1182 8
4/15/2016		4/16/2017	36.3479 3	4/16/2018		4/16/2019		4/15/2020	20.8931 2
4/16/2016		4/17/2017	37.7296 1	4/17/2018		4/17/2019		4/16/2020	30.0597 4
4/17/2016		4/18/2017	41.6243 1	4/18/2018		4/18/2019		4/17/2020	32.7757 2
4/18/2016		4/19/2017	44.8594 4	4/19/2018		4/19/2019	23.1825 1	4/18/2020	18.7334 6
4/19/2016		4/20/2017	40.1715 1	4/20/2018		4/20/2019	33.3639 5	4/19/2020	17.5918 2
4/20/2016		4/21/2017	30.3212 8	4/21/2018		4/21/2019	48.0314 6	4/20/2020	17.1915 9
4/21/2016		4/22/2017	31.4727 6	4/22/2018		4/22/2019	50.1892 8	4/21/2020	9.10314 4
4/22/2016		4/23/2017	22.3748 8	4/23/2018		4/23/2019	47.2710 6	4/22/2020	13.3769 2
4/23/2016		4/24/2017	22.9912 7	4/24/2018		4/24/2019	45.7766 4	4/23/2020	23.6015 1
4/24/2016		4/25/2017	29.8715 4	4/25/2018		4/25/2019	40.6305 8	4/24/2020	27.8149 4
4/25/2016		4/26/2017	31.8256 7	4/26/2018		4/26/2019	42.5418 7	4/25/2020	24.9409 6
4/26/2016		4/27/2017	30.2283 7	4/27/2018		4/27/2019	46.2180 5	4/26/2020	28.4104 8
4/27/2016		4/28/2017	44.0488	4/28/2018		4/28/2019	38.9084 8	4/27/2020	21.3706 8
4/28/2016		4/29/2017	45.0455 5	4/29/2018		4/29/2019	49.9717 7	4/28/2020	19.4106 1
4/29/2016		4/30/2017	32.6401 8	4/30/2018		4/30/2019		4/29/2020	19.1908 2
4/30/2016		5/1/2017	31.9116 4	5/1/2018		5/1/2019		4/30/2020	18.6198 7
5/1/2016		5/2/2017	29.5676	5/2/2018		5/2/2019		5/1/2020	20.3071 7
5/2/2016		5/3/2017	32.2523 6	5/3/2018		5/3/2019	38.0303 1	5/2/2020	19.4836 4
5/3/2016		5/4/2017	31.7912 5	5/4/2018		5/4/2019	24.0833 3	5/3/2020	22.9482 5
5/4/2016		5/5/2017	26.1906 3	5/5/2018		5/5/2019	26.9194 4	5/4/2020	14.9047 3
5/5/2016		5/6/2017	39.0097 8	5/6/2018		5/6/2019	40.3348 6	5/5/2020	14.3907 2
5/6/2016		5/7/2017	42.2589 6	5/7/2018		5/7/2019	50.5036 1	5/6/2020	9.19470 3
5/7/2016		5/8/2017	38.4939 7	5/8/2018		5/8/2019	56.7118 7	5/7/2020	13.9531 9

5/8/2016		5/9/2017	21.3992	5/9/2018		5/9/2019	62.1829 9	5/8/2020	16.6395 1
5/9/2016		5/10/2017	26.7519 9	5/10/2018		5/10/2019	53.8847 3	5/9/2020	18.3121 5
5/10/2016		5/11/2017	31.6421 4	5/11/2018		5/11/2019	45.9374 7	5/10/2020	22.0259 8
5/11/2016		5/12/2017	27.0650 3	5/12/2018		5/12/2019	31.5393 8	5/11/2020	31.0015 7
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10/10/2016	11.6477 1	10/11/2017	17.3332 6	10/11/2018	32.7429 5	10/11/2019	4.56007 3	10/10/2020	
10/11/2016	14.4767 5	10/12/2017	13.5514 4	10/12/2018	26.7151 9	10/12/2019	5.64738 9	10/11/2020	
10/12/2016	23.6141 6	10/13/2017	14.7370 6	10/13/2018	20.2845 8	10/13/2019	6.58664 2	10/12/2020	
10/13/2016	34.2335 4	10/14/2017	19.8203 6	10/14/2018	27.8358 1	10/14/2019	8.39023 9	10/13/2020	
10/14/2016	45.3184 7	10/15/2017	35.5923 4	10/15/2018	36.5090 4	10/15/2019	7.80822 9	10/14/2020	
10/15/2016	39.8352 1	10/16/2017	33.3971 7	10/16/2018	42.3178 6	10/16/2019	6.42064 9	10/15/2020	
10/16/2016	33.9242 4	10/17/2017	29.8508 6	10/17/2018	51.0855 6	10/17/2019	6.12239 8	10/16/2020	
10/17/2016	29.5628 5	10/18/2017	22.3416 1	10/18/2018	43.2932 5	10/18/2019		10/17/2020	
10/18/2016	25.0841 7	10/19/2017	21.0756 4	10/19/2018	37.9712 1	10/19/2019		10/18/2020	
10/19/2016	23.9827 8	10/20/2017	14.5536	10/20/2018	37.6041 8	10/20/2019		10/19/2020	
10/20/2016	26.4506	10/21/2017	14.0609	10/21/2018	39.4764	10/21/2019		10/20/2020	

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10/21/2016	37.49562	10/22/2017	16.54992	10/22/2018	35.3165	10/22/2019		10/21/2020	
10/22/2016	45.29667	10/23/2017	26.61406	10/23/2018	42.50794	10/23/2019	52.13816	10/22/2020	
10/23/2016	47.48646	10/24/2017	25.35765	10/24/2018	47.02881	10/24/2019	46.53038	10/23/2020	
10/24/2016	39.11111	10/25/2017	29.57805	10/25/2018	51.8996	10/25/2019	58.16431	10/24/2020	
10/25/2016	29.3075	10/26/2017	34.63431	10/26/2018	50.84667	10/26/2019	46.01647	10/25/2020	
10/26/2016	28.56861	10/27/2017	32.6969	10/27/2018	47.54179	10/27/2019	42.9157	10/26/2020	
10/27/2016	31.39375	10/28/2017	26.60896	10/28/2018	38.97	10/28/2019	41.36196	10/27/2020	
10/28/2016	42.35799	10/29/2017	14.47167	10/29/2018	40.38368	10/29/2019	38.40859	10/28/2020	
10/29/2016	43.18264	10/30/2017	16.91553	10/30/2018	44.9625	10/30/2019	35.97044	10/29/2020	
10/30/2016	37.85076	10/31/2017	23.91412	10/31/2018	46.11788	10/31/2019	35.54728	10/30/2020	
10/31/2016	29.37472	11/1/2017	22.58813	11/1/2018	43.47461	11/1/2019	47.62509	10/31/2020	
11/1/2016	21.58681	11/2/2017	20.77255	11/2/2018	39.76751	11/2/2019	50.71696	11/1/2020	
11/2/2016	25.75986	11/3/2017	20.8902	11/3/2018	44.35307	11/3/2019	47.61606	11/2/2020	
11/3/2016	28.09792	11/4/2017	21.04248	11/4/2018	55.98518	11/4/2019	38.66229	11/3/2020	
11/4/2016	29.73264	11/5/2017	16.06825	11/5/2018	56.11274	11/5/2019	41.55371	11/4/2020	
11/5/2016	30.51181	11/6/2017	18.84736	11/6/2018	51.5099	11/6/2019	57.99744	11/5/2020	
11/6/2016	36.92639	11/7/2017	22.22018	11/7/2018	57.30369	11/7/2019	54.09067	11/6/2020	
11/7/2016	35.79444	11/8/2017	20.97251	11/8/2018	58.38034	11/8/2019	55.81057	11/7/2020	
11/8/2016	36.15556	11/9/2017	19.82317	11/9/2018	53.92725	11/9/2019	52.11159	11/8/2020	
11/9/2016	35.17083	11/10/2017	19.96869	11/10/2018	42.39437	11/10/2019	37.08013	11/9/2020	
11/10/2016	34.12639	11/11/2017	19.25557	11/11/2018	43.52485	11/11/2019	39.68722	11/10/2020	
11/11/2016	37.06389	11/12/2017	22.47961	11/12/2018	50.99481	11/12/2019	52.58389	11/11/2020	
11/12/2016	39.31285	11/13/2017	27.96931	11/13/2018	60.68223	11/13/2019	51.25099	11/12/2020	
11/13/2016	45.91514	11/14/2017	28.32639	11/14/2018	65.72874	11/14/2019	49.91613	11/13/2020	
11/14/2016	46.88542	11/15/2017	36.70595	11/15/2018	66.37544	11/15/2019	48.42126	11/14/2020	
11/15/2016	54.55619	11/16/2017	28.6337	11/16/2018	65.04054	11/16/2019	46.15017	11/15/2020	
11/16/2016	49.08917	11/17/2017	29.66286	11/17/2018	64.22416	11/17/2019	46.77482	11/16/2020	
11/17/2016	51.15486	11/18/2017		11/18/2018	69.52856	11/18/2019	54.67659	11/17/2020	
11/18/2016	52.19444	11/19/2017		11/19/2018	87.51446	11/19/2019	73.20591	11/18/2020	
11/19/2016	47.16111	11/20/2017		11/20/2018	102.2931	11/20/2019	73.38784	11/19/2020	
11/20/2016	44.07917	11/21/2017		11/21/2018	100.516	11/21/2019	72.85054	11/20/2020	
11/21/2016	53.59306	11/22/2017		11/22/2018	85.27863	11/22/2019	66.4128	11/21/2020	
11/22/2016	61.3437	11/23/2017		11/23/2018	76.2228	11/23/2019	70.2645	11/22/2020	

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11/23/2016	62.17292	11/24/2017		11/24/2018	73.89413	11/24/2019	73.19388	11/23/2020	
11/24/2016	66.56667	11/25/2017		11/25/2018	75.67265	11/25/2019	65.41779	11/24/2020	
11/25/2016	67.19861	11/26/2017		11/26/2018	62.87821	11/26/2019	75.25792	11/25/2020	
11/26/2016	58.61042	11/27/2017		11/27/2018	66.34018	11/27/2019	81.10022	11/26/2020	
11/27/2016	54.24861	11/28/2017		11/28/2018	69.07073	11/28/2019	60.95584	11/27/2020	
11/28/2016	54.18028	11/29/2017	73.61698	11/29/2018	65.90029	11/29/2019	65.63558	11/28/2020	
11/29/2016	51.41939	11/30/2017	69.17917	11/30/2018	58.17848	11/30/2019	58.75177	11/29/2020	
11/30/2016	49.85789	12/1/2017	62.97042	12/1/2018	58.22655	12/1/2019	54.72612	11/30/2020	
12/1/2016	48.72354	12/2/2017	51.30021	12/2/2018	55.76048	12/2/2019	56.54888	12/1/2020	
12/2/2016	57.37576	12/3/2017	48.02271	12/3/2018	66.97752	12/3/2019	62.0074	12/2/2020	
12/3/2016	64.54306	12/4/2017	45.3209	12/4/2018	70.35019	12/4/2019	71.75268	12/3/2020	
12/4/2016	54.92558	12/5/2017	40.45028	12/5/2018	80.44412	12/5/2019	81.41774	12/4/2020	
12/5/2016	57.78017	12/6/2017	38.63528	12/6/2018	64.88398	12/6/2019	81.65222	12/5/2020	
12/6/2016	62.59757	12/7/2017	38.22403	12/7/2018	56.44217	12/7/2019	69.56583	12/6/2020	
12/7/2016	56.49965	12/8/2017	43.66841	12/8/2018	63.33935	12/8/2019	66.78593	12/7/2020	
12/8/2016	58.73687	12/9/2017	40.50479	12/9/2018	60.66503	12/9/2019	62.4667	12/8/2020	
12/9/2016	58.46965	12/10/2017	46.46646	12/10/2018	44.77693	12/10/2019	62.29723	12/9/2020	
12/10/2016	54.91959	12/11/2017	46.19125	12/11/2018	45.193	12/11/2019	54.15502	12/10/2020	
12/11/2016	52.76082	12/12/2017	42.07028	12/12/2018	42.50931	12/12/2019	72.57575	12/11/2020	
12/12/2016	52.28674	12/13/2017	35.77354	12/13/2018	56.84668	12/13/2019	64.65661	12/12/2020	
12/13/2016	51.02972	12/14/2017	27.7053	12/14/2018	58.89427	12/14/2019	28.43403	12/13/2020	
12/14/2016	35.75743	12/15/2017	27.70993	12/15/2018	59.11904	12/15/2019	52.80915	12/14/2020	
12/15/2016	50.89771	12/16/2017	32.94854	12/16/2018	58.34411	12/16/2019	52.17156	12/15/2020	
12/16/2016	43.29222	12/17/2017	32.78056	12/17/2018	87.53447	12/17/2019	54.29626	12/16/2020	
12/17/2016	41.87618	12/18/2017	33.53111	12/18/2018	61.35184	12/18/2019	59.08479	12/17/2020	
12/18/2016	34.9816	12/19/2017	29.14646	12/19/2018	66.73108	12/19/2019	59.73706	12/18/2020	
12/19/2016	41.74881	12/20/2017	30.74818	12/20/2018	67.70587	12/20/2019	75.78087	12/19/2020	
12/20/2016	38.19951	12/21/2017	28.44565	12/21/2018	47.18365	12/21/2019	92.94355	12/20/2020	78.46663
12/21/2016	31.81564	12/22/2017	26.31937	12/22/2018	65.17834	12/22/2019	72.98406	12/21/2020	90.20275
12/22/2016	42.04549	12/23/2017	28.45272	12/23/2018	69.33691	12/23/2019	70.42551	12/22/2020	77.6665
12/23/2016	56.73295	12/24/2017	29.33076	12/24/2018	63.07012	12/24/2019	64.10474	12/23/2020	88.74611
12/24/2016	53.66814	12/25/2017	30.57799	12/25/2018	50.54384	12/25/2019	71.56872	12/24/2020	91.48299
12/25/2016	63.6220	12/26/2017	30.5384	12/26/2018	41.1939	12/26/2019	72.0113	12/25/2020	92.3643

6	8		7	8		9			9
12/26/2016	73.07524	12/27/2017	35.19309	12/27/2018	34.51529	12/27/2019	70.66814	12/26/2020	88.60143
12/27/2016	73.5967	12/28/2017		12/28/2018	39.75378	12/28/2019	95.61083	12/27/2020	92.23431
12/28/2016	82.69387	12/29/2017	28.51154	12/29/2018	79.34322	12/29/2019	107.0429	12/28/2020	82.35541
12/29/2016	87.13867	12/30/2017	33.23021	12/30/2018	92.84081	12/30/2019	104.1537	12/29/2020	85.38355
12/30/2016	78.89799	12/31/2017	34.83319	12/31/2018	83.69726	12/31/2019	122.0459	12/30/2020	96.02012
12/31/2016									106.7347

PM2.5

Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )
1/1/2016		1/1/2017	112.3165	1/1/2018	28.70553	1/1/2019	75.96276	1/1/2020	137.2214
1/2/2016		1/2/2017	69.93915	1/2/2018	25.74533	1/2/2019	65.42153	1/2/2020	133.6891
1/3/2016		1/3/2017	60.08881	1/3/2018	64.96362	1/3/2019	60.49214	1/3/2020	117.3546
1/4/2016		1/4/2017	81.10813	1/4/2018	104.8293	1/4/2019	55.66871	1/4/2020	66.22839
1/5/2016		1/5/2017	78.80734	1/5/2018	107.1581	1/5/2019	53.47411	1/5/2020	52.30509
1/6/2016		1/6/2017	67.86272	1/6/2018	106.0259	1/6/2019	47.23922	1/6/2020	75.45167
1/7/2016		1/7/2017	80.29445	1/7/2018	98.58674	1/7/2019	87.71626	1/7/2020	81.27001
1/8/2016		1/8/2017	75.80206	1/8/2018	96.94241	1/8/2019	73.25228	1/8/2020	98.97469
1/9/2016		1/9/2017	94.87385	1/9/2018	126.4814	1/9/2019	81.15338	1/9/2020	67.8364
1/10/2016		1/10/2017	79.71797	1/10/2018	126.2913	1/10/2019	76.88662	1/10/2020	66.57103
1/11/2016		1/11/2017	78.70619	1/11/2018	119.9962	1/11/2019	63.90839	1/11/2020	79.40425
1/12/2016		1/12/2017	84.99516	1/12/2018	115.3758	1/12/2019	46.81794	1/12/2020	89.27517
1/13/2016		1/13/2017	92.19536	1/13/2018	104.4968	1/13/2019	41.50689	1/13/2020	94.75287
1/14/2016		1/14/2017		1/14/2018	94.28447	1/14/2019	35.085	1/14/2020	98.46233
1/15/2016		1/15/2017		1/15/2018	100.4752	1/15/2019	73.78983	1/15/2020	85.04601
1/16/2016		1/16/2017		1/16/2018	81.52078	1/16/2019	87.69553	1/16/2020	84.15689
1/17/2016		1/17/2017		1/17/2018	82.68942	1/17/2019	87.77257	1/17/2020	47.55358
1/18/2016		1/18/2017	85.54409	1/18/2018	87.65044	1/18/2019	72.49081	1/18/2020	85.25247
1/19/2016		1/19/2017	92.52403	1/19/2018	90.96761	1/19/2019	51.63531	1/19/2020	80.05741
1/20/2016		1/20/2017	103.2476	1/20/2018	83.83708	1/20/2019	40.26748	1/20/2020	83.94928
1/21/2016		1/21/2017	95.13744	1/21/2018	64.24589	1/21/2019	34.80891	1/21/2020	137.484
1/22/2016		1/22/2017	92.92035	1/22/2018	84.99301	1/22/2019	33.4567	1/22/2020	110.6249

1/23/2016		1/23/2017	95.5768 2	1/23/2018	83.0424 9	1/23/2019	22.4165 4	1/23/2020	79.7637 4
1/24/2016		1/24/2017	92.8978	1/24/2018	68.7543 9	1/24/2019	38.3645 9	1/24/2020	78.1946 7
1/25/2016		1/25/2017	96.3601 6	1/25/2018	77.4678 3	1/25/2019	32.6962 6	1/25/2020	96.1750 4
1/26/2016		1/26/2017	90.1436 6	1/26/2018	75.3188 8	1/26/2019	19.9510 4	1/26/2020	96.1299 7
1/27/2016		1/27/2017	63.1829 7	1/27/2018	74.4508 7	1/27/2019	41.5076 6	1/27/2020	98.3584 7
1/28/2016		1/28/2017	59.0584 7	1/28/2018	81.2875 9	1/28/2019	25.3735	1/28/2020	113.553
1/29/2016		1/29/2017	76.6589 4	1/29/2018	89.3244 5	1/29/2019	51.8591	1/29/2020	80.3336 4
1/30/2016		1/30/2017	84.2511 2	1/30/2018	81.5810 5	1/30/2019	70.1960 3	1/30/2020	82.3731 6
1/31/2016		1/31/2017	73.0206 7	1/31/2018	77.8426 2	1/31/2019	75.8050 5	1/31/2020	75.7093 8
2/1/2016		2/1/2017	77.2190 6	2/1/2018	77.5493 1	2/1/2019	83.5866 8	2/1/2020	70.9367
2/2/2016		2/2/2017	79.3301 1	2/2/2018	83.9354 9	2/2/2019	72.0102 8	2/2/2020	68.9168 7
2/3/2016		2/3/2017	82.7220 1	2/3/2018	68.6967 1	2/3/2019	68.0701 4	2/3/2020	85.2875 8
2/4/2016		2/4/2017	91.3971 5	2/4/2018	72.2318 2	2/4/2019	51.3114 5	2/4/2020	84.2838 8
2/5/2016		2/5/2017	83.4623 6	2/5/2018	72.9866 7	2/5/2019	45.4304 7	2/5/2020	84.5842 7
2/6/2016		2/6/2017	100.942 3	2/6/2018	75.8031 7	2/6/2019	35.0158 7	2/6/2020	84.0539 7
2/7/2016		2/7/2017	65.0956 8	2/7/2018	79.0353 7	2/7/2019	10.1638 6	2/7/2020	80.9296 5
2/8/2016		2/8/2017	69.1210 6	2/8/2018	65.3488 4	2/8/2019	20.5965 7	2/8/2020	74.4595
2/9/2016		2/9/2017	74.0954 9	2/9/2018	59.7089 2	2/9/2019	12.2105 9	2/9/2020	79.8831
2/10/2016		2/10/2017	69.6011 1	2/10/2018	66.4645 1	2/10/2019		2/10/2020	77.2072 8
2/11/2016		2/11/2017	81.6377 1	2/11/2018	69.6756 6	2/11/2019		2/11/2020	85.1853 1
2/12/2016		2/12/2017	78.8441 7	2/12/2018	94.8412 8	2/12/2019	51.7567	2/12/2020	83.6470 4
2/13/2016		2/13/2017	82.49	2/13/2018	84.8027 4	2/13/2019	55.1010 9	2/13/2020	84.5637 6
2/14/2016		2/14/2017	79.2714 8	2/14/2018	77.8211 2	2/14/2019	67.3279 3	2/14/2020	82.9442 9
2/15/2016		2/15/2017	86.3604 2	2/15/2018	61.1661 5	2/15/2019	50.5598 7	2/15/2020	88.9583 4
2/16/2016		2/16/2017	97.3325 7	2/16/2018	67.4775 3	2/16/2019	30.3609 6	2/16/2020	104.093 1
2/17/2016		2/17/2017	84.5993 5	2/17/2018	67.9136 4	2/17/2019	24.9837 8	2/17/2020	102.953 5
2/18/2016		2/18/2017	84.285	2/18/2018	63.1091	2/18/2019	31.9942 5	2/18/2020	94.0791 2
2/19/2016		2/19/2017	85.0745 1	2/19/2018	67.2438 6	2/19/2019	30.4174 9	2/19/2020	88.2811 2
2/20/2016		2/20/2017	87.1814 6	2/20/2018	75.8972 8	2/20/2019	38.0352 3	2/20/2020	94.9725 2
2/21/2016		2/21/2017	77.9476 4	2/21/2018	76.2116	2/21/2019	44.2429 3	2/21/2020	88.3204 6
2/22/2016		2/22/2017	77.0314 6	2/22/2018	75.4515 2	2/22/2019	37.9443	2/22/2020	48.2191
2/23/2016		2/23/2017	62.0691 9	2/23/2018	77.1324 8	2/23/2019	33.4320 6	2/23/2020	61.6867 8
2/24/2016		2/24/2017	46.9090 3	2/24/2018	69.1	2/24/2019	34.4283 4	2/24/2020	44.4876 3



2/25/2016		2/25/2017	52.42813	2/25/2018	63.6202	2/25/2019	21.78514	2/25/2020	34.37078
2/26/2016		2/26/2017	50.40498	2/26/2018	49.45816	2/26/2019	28.64206	2/26/2020	19.66966
2/27/2016		2/27/2017		2/27/2018	57.71129	2/27/2019	20.17307	2/27/2020	29.0442
2/28/2016		2/28/2017		2/28/2018	48.35097	2/28/2019	14.45265	2/28/2020	37.93062
2/29/2016		3/1/2017		3/1/2018	51.45729	3/1/2019	29.13628	2/29/2020	40.54257
3/1/2016		3/2/2017		3/2/2018	50.42722	3/2/2019	38.11354	3/1/2020	39.13406
3/2/2016		3/3/2017		3/3/2018	43.1571	3/3/2019	37.81708	3/2/2020	40.71115
3/3/2016		3/4/2017		3/4/2018	56.70845	3/4/2019	42.77215	3/3/2020	33.9678
3/4/2016		3/5/2017		3/5/2018	52.35705	3/5/2019	32.9966	3/4/2020	35.38186
3/5/2016		3/6/2017		3/6/2018	45.85833	3/6/2019	30.93085	3/5/2020	40.44466
3/6/2016		3/7/2017		3/7/2018	63.02299	3/7/2019	36.77039	3/6/2020	35.66541
3/7/2016		3/8/2017		3/8/2018	62.65358	3/8/2019	39.28432	3/7/2020	29.15717
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8/13/2016		8/14/2017	16.57759	8/14/2018	22.91236	8/14/2019	2.519202	8/13/2020	9.460509
8/14/2016		8/15/2017	15.93417	8/15/2018	15.69001	8/15/2019	2.440307	8/14/2020	7.640657
8/15/2016		8/16/2017	17.53761	8/16/2018	23.69219	8/16/2019	3.091142	8/15/2020	8.79114
8/16/2016		8/17/2017	15.5177	8/17/2018	21.73848	8/17/2019	2.178301	8/16/2020	7.492453
8/17/2016		8/18/2017	15.39528	8/18/2018	17.40573	8/18/2019	2.743474	8/17/2020	6.866911
8/18/2016		8/19/2017	14.488	8/19/2018	19.48469	8/19/2019	2.577215	8/18/2020	
8/19/2016		8/20/2017	15.97896	8/20/2018	23.84982	8/20/2019	2.992715	8/19/2020	
8/20/2016		8/21/2017	17.69772	8/21/2018	22.52899	8/21/2019	3.866893	8/20/2020	
8/21/2016		8/22/2017	14.35298	8/22/2018	17.38594	8/22/2019	3.102717	8/21/2020	
8/22/2016		8/23/2017	21.51057	8/23/2018	16.33956	8/23/2019	5.534786	8/22/2020	
8/23/2016		8/24/2017	18.53931	8/24/2018	16.14374	8/24/2019	1.900842	8/23/2020	
8/24/2016		8/25/2017	19.28554	8/25/2018	17.36866	8/25/2019	2.403417	8/24/2020	
8/25/2016	24.10691	8/26/2017	12.1709	8/26/2018	22.84504	8/26/2019	3.425835	8/25/2020	
8/26/2016		8/27/2017	15.3681	8/27/2018	13.91951	8/27/2019	3.130602	8/26/2020	
8/27/2016	16.66168	8/28/2017	18.98287	8/28/2018	19.13165	8/28/2019	3.301615	8/27/2020	
8/28/2016	31.36519	8/29/2017	19.59123	8/29/2018	17.20503	8/29/2019	3.051735	8/28/2020	
8/29/2016	35.66162	8/30/2017	16.87056	8/30/2018	17.4701	8/30/2019	2.872212	8/29/2020	
8/30/2016		8/31/2017	16.84419	8/31/2018	17.2874	8/31/2019	2.11296	8/30/2020	
8/31/2016		9/1/2017	17.77191	9/1/2018	18.68369	9/1/2019	2.364316	8/31/2020	
9/1/2016		9/2/2017	14.40841	9/2/2018	21.88698	9/2/2019	3.08274	9/1/2020	
9/2/2016		9/3/2017	15.08356	9/3/2018	28.50519	9/3/2019	2.733546	9/2/2020	
9/3/2016		9/4/2017	21.83665	9/4/2018	25.22776	9/4/2019	2.124617	9/3/2020	
9/4/2016		9/5/2017	28.80258	9/5/2018	25.49493	9/5/2019	2.373133	9/4/2020	
9/5/2016		9/6/2017	31.01104	9/6/2018	23.43119	9/6/2019	2.085646	9/5/2020	
9/6/2016		9/7/2017	26.33392	9/7/2018	21.72991	9/7/2019	1.926967	9/6/2020	
9/7/2016	14.33394	9/8/2017	29.97578	9/8/2018	21.41977	9/8/2019	2.285133	9/7/2020	
9/8/2016		9/9/2017	26.65552	9/9/2018	22.05545	9/9/2019	2.562504	9/8/2020	
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10/2/2016	23.2537	10/3/2017	13.7533 1	10/3/2018	50.7627 8	10/3/2019	4.07315 8	10/2/2020	
10/3/2016	31.0188 2	10/4/2017	15.9007 9	10/4/2018	62.1269 4	10/4/2019	4.11338 2	10/3/2020	
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10/15/2016	52.15009	10/16/2017	38.66181	10/16/2018	59.8058	10/16/2019	7.039094	10/15/2020	
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10/18/2016	36.51968	10/19/2017	26.6428	10/19/2018	50.78144	10/19/2019		10/18/2020	
10/19/2016	37.20813	10/20/2017	17.26539	10/20/2018	51.90299	10/20/2019		10/19/2020	
10/20/2016	40.975	10/21/2017	16.28706	10/21/2018	52.86124	10/21/2019		10/20/2020	
10/21/2016	51.31868	10/22/2017	18.71101	10/22/2018	50.20492	10/22/2019		10/21/2020	
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10/23/2016	61.49201	10/24/2017	31.20343	10/24/2018	68.31275	10/24/2019	60.76708	10/23/2020	
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10/25/2016	46.95458	10/26/2017	37.72147	10/26/2018	81.3745	10/26/2019	56.43471	10/25/2020	
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10/30/2016	48.80222	10/31/2017	26.9371	10/31/2018	83.54139	10/31/2019	43.98502	10/30/2020	
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11/1/2016	30.53889	11/2/2017	25.87161	11/2/2018	66.4606	11/2/2019	60.44642	11/1/2020	
11/2/2016	38.77639	11/3/2017	25.65203	11/3/2018	72.19011	11/3/2019	59.01357	11/2/2020	
11/3/2016	42.88736	11/4/2017	24.34304	11/4/2018	86.14446	11/4/2019	48.9728	11/3/2020	
11/4/2016	43.58333	11/5/2017	19.14293	11/5/2018	86.36945	11/5/2019	50.27204	11/4/2020	
11/5/2016	41.67708	11/6/2017	22.69334	11/6/2018	77.8015	11/6/2019	70.63659	11/5/2020	
11/6/2016	51.84653	11/7/2017	27.65068	11/7/2018	78.12527	11/7/2019	67.24419	11/6/2020	
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11/8/2016	50.09167	11/9/2017	25.69589	11/9/2018	68.17222	11/9/2019	65.86279	11/8/2020	
11/9/2016	48.44722	11/10/2017	25.85194	11/10/2018	55.78189	11/10/2019	49.44594	11/9/2020	
11/10/2016	47.64792	11/11/2017	24.07001	11/11/2018	59.6694	11/11/2019	51.59877	11/10/2020	
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11/15/2016	72.95848	11/16/2017	31.15281	11/16/2018	92.54729	11/16/2019	60.68623	11/15/2020	
11/16/2016	65.26778	11/17/2017	32.17503	11/17/2018	86.65646	11/17/2019	58.41474	11/16/2020	
11/17/2016	67.07639	11/18/2017		11/18/2018	91.19049	11/18/2019	67.12714	11/17/2020	
11/18/2016	67.20694	11/19/2017		11/19/2018	108.951	11/19/2019	86.85524	11/18/2020	
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11/21/2016	72.48611	11/22/2017		11/22/2018	114.4485	11/22/2019	79.59781	11/21/2020	
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11/23/2016	82.55555	11/24/2017		11/24/2018	100.667	11/24/2019	89.46936	11/23/2020	
11/24/2016	87.18056	11/25/2017		11/25/2018	111.0995	11/25/2019	77.14873	11/24/2020	
11/25/2016	86.25764	11/26/2017		11/26/2018	91.26772	11/26/2019	89.77693	11/25/2020	
11/26/2016	76.07153	11/27/2017		11/27/2018	94.95541	11/27/2019	97.84074	11/26/2020	
11/27/2016	75.81389	11/28/2017		11/28/2018	98.21092	11/28/2019	80.54972	11/27/2020	
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11/29/2016	71.65803	11/30/2017	75.17785	11/30/2018	78.43593	11/30/2019	74.78498	11/29/2020	
11/30/2016	67.4025	12/1/2017	69.64132	12/1/2018	75.04664	12/1/2019	70.03913	11/30/2020	
12/1/2016	62.39514	12/2/2017	58.29326	12/2/2018	71.89091	12/2/2019	66.90573	12/1/2020	
12/2/2016	76.03549	12/3/2017	56.48743	12/3/2018	85.60081	12/3/2019	72.02865	12/2/2020	
12/3/2016	87.92776	12/4/2017	53.15014	12/4/2018	87.78757	12/4/2019	82.76439	12/3/2020	
12/4/2016	69.35566	12/5/2017	47.77	12/5/2018	97.84105	12/5/2019	97.50592	12/4/2020	
12/5/2016	70.69587	12/6/2017	43.87639	12/6/2018	78.67869	12/6/2019	97.89364	12/5/2020	
12/6/2016	77.20333	12/7/2017	41.41021	12/7/2018	67.86073	12/7/2019	84.33663	12/6/2020	
12/7/2016	71.82194	12/8/2017	49.27924	12/8/2018	76.04045	12/8/2019	86.36007	12/7/2020	
12/8/2016	72.97063	12/9/2017	48.57826	12/9/2018	72.75816	12/9/2019	75.0024	12/8/2020	
12/9/2016	69.03917	12/10/2017	55.01028	12/10/2018	53.18145	12/10/2019	70.74201	12/9/2020	
12/10/2016	63.23575	12/11/2017	54.60521	12/11/2018	55.07688	12/11/2019	60.56964	12/10/2020	
12/11/2016	61.15226	12/12/2017	49.23618	12/12/2018	49.43085	12/12/2019	80.0806	12/11/2020	
12/12/2016	57.90562	12/13/2017	41.58896	12/13/2018	68.25269	12/13/2019	68.65964	12/12/2020	
12/13/2016	55.1184	12/14/2017	29.96275	12/14/2018	69.5486	12/14/2019	31.94374	12/13/2020	
12/14/2016	40.32868	12/15/2017	29.9941	12/15/2018	66.86208	12/15/2019	59.02693	12/14/2020	
12/15/2016	56.98257	12/16/2017	35.18215	12/16/2018	67.46029	12/16/2019	58.8047	12/15/2020	
12/16/2016	46.66896	12/17/2017	34.21326	12/17/2018	96.12037	12/17/2019	61.50036	12/16/2020	
12/17/2016	46.17694	12/18/2017	34.8941	12/18/2018	69.02425	12/18/2019	65.83894	12/17/2020	

12/18/2016	38.4266	12/19/2017	30.34347	12/19/2018	72.07257	12/19/2019	65.97871	12/18/2020	
12/19/2016	45.51918	12/20/2017	32.35311	12/20/2018	70.28318	12/20/2019	88.42539	12/19/2020	
12/20/2016	41.97812	12/21/2017	29.71255	12/21/2018	49.11824	12/21/2019	103.502	12/20/2020	93.13543
12/21/2016	35.0136	12/22/2017	27.53542	12/22/2018	68.64751	12/22/2019	83.03039	12/21/2020	104.0632
12/22/2016	52.81362	12/23/2017	29.46606	12/23/2018	72.89078	12/23/2019	80.80534	12/22/2020	90.92822
12/23/2016	70.64273	12/24/2017	30.49174	12/24/2018	66.88735	12/24/2019	73.58855	12/23/2020	105.2378
12/24/2016	64.80366	12/25/2017	31.70486	12/25/2018	52.84675	12/25/2019	82.46411	12/24/2020	108.0169
12/25/2016	73.84956	12/26/2017	31.90431	12/26/2018	43.0912	12/26/2019	82.9093	12/25/2020	108.0606
12/26/2016	86.0955	12/27/2017	38.36383	12/27/2018	37.51298	12/27/2019	80.16911	12/26/2020	100.8836
12/27/2016	87.44857	12/28/2017		12/28/2018	41.71995	12/28/2019	104.82	12/27/2020	104.4739
12/28/2016	95.22875	12/29/2017	31.52216	12/29/2018	83.18113	12/29/2019	117.0423	12/28/2020	92.4216
12/29/2016	100.4684	12/30/2017	35.49951	12/30/2018	97.26412	12/30/2019	116.0365	12/29/2020	96.24055
12/30/2016	89.82937	12/31/2017	36.94979	12/31/2018	86.95337	12/31/2019	139.5653	12/30/2020	108.909
12/31/2016									120.8741

PM10

Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )
1/1/2016		1/1/2017	136.9809	1/1/2018	30.39118	1/1/2019	90.99522	1/1/2020	178.6197
1/2/2016		1/2/2017	82.12454	1/2/2018	28.69325	1/2/2019	80.12208	1/2/2020	160.4747
1/3/2016		1/3/2017	81.83328	1/3/2018	179.3961	1/3/2019	84.16574	1/3/2020	125.154
1/4/2016		1/4/2017	108.641	1/4/2018	234.5786	1/4/2019	70.16807	1/4/2020	71.84955
1/5/2016		1/5/2017	104.2893	1/5/2018	228.733	1/5/2019	70.62092	1/5/2020	68.0739
1/6/2016		1/6/2017	91.41531	1/6/2018	233.4574	1/6/2019	68.88042	1/6/2020	94.20998
1/7/2016		1/7/2017	104.8176	1/7/2018	234.9072	1/7/2019	111.4265	1/7/2020	94.36108
1/8/2016		1/8/2017	98.61687	1/8/2018	214.7575	1/8/2019	93.81277	1/8/2020	103.6597
1/9/2016		1/9/2017	124.2011	1/9/2018	245.4107	1/9/2019	113.9154	1/9/2020	72.31882
1/10/2016		1/10/2017	99.35989	1/10/2018	230.4776	1/10/2019	87.75489	1/10/2020	81.47934
1/11/2016		1/11/2017	97.90379	1/11/2018	215.4174	1/11/2019	74.20539	1/11/2020	97.32533
1/12/2016		1/12/2017	105.674	1/12/2018	197.6686	1/12/2019	54.6739	1/12/2020	111.0058
1/13/2016		1/13/2017	108.5129	1/13/2018	158.0787	1/13/2019	56.17749	1/13/2020	116.1454
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11/20/2016	135.820 1	11/21/2017		11/21/2018	207.534 1	11/21/2019	139.226	11/20/2020	
11/21/2016	153.220 3	11/22/2017		11/22/2018	234.647 8	11/22/2019	134.844 7	11/21/2020	
11/22/2016	149.797 9	11/23/2017		11/23/2018	199.154 7	11/23/2019	147.236 8	11/22/2020	
11/23/2016	157.646 5	11/24/2017		11/24/2018	190.897 9	11/24/2019	148.681 5	11/23/2020	
11/24/2016	157.784 7	11/25/2017		11/25/2018	260.430 5	11/25/2019	129.113 9	11/24/2020	
11/25/2016	149.703 8	11/26/2017		11/26/2018	193.183 7	11/26/2019	144.628 6	11/25/2020	
11/26/2016	139.152 8	11/27/2017		11/27/2018	194.469 3	11/27/2019	161.213 9	11/26/2020	
11/27/2016	159.470 8	11/28/2017		11/28/2018	211.439 7	11/28/2019	145.421 8	11/27/2020	
11/28/2016	145.601 2	11/29/2017	88.6168 9	11/29/2018	187.058 4	11/29/2019	186.604 7	11/28/2020	
11/29/2016	121.539 5	11/30/2017	83.2377 8	11/30/2018	142.213 9	11/30/2019	139.915 7	11/29/2020	
11/30/2016	129.279 8	12/1/2017	79.1211 1	12/1/2018	122.497 4	12/1/2019	124.973 3	11/30/2020	
12/1/2016	113.344	12/2/2017	68.7198 6	12/2/2018	126.074 5	12/2/2019	104.994 3	12/1/2020	
12/2/2016	140.337 2	12/3/2017	69.2890 3	12/3/2018	137.462 6	12/3/2019	110.007 6	12/2/2020	
12/3/2016	178.750 9	12/4/2017	64.7452 1	12/4/2018	138.022 4	12/4/2019	119.997 4	12/3/2020	
12/4/2016	121.325 7	12/5/2017	58.6279 8	12/5/2018	143.910 6	12/5/2019	146.801 1	12/4/2020	
12/5/2016	108.428 6	12/6/2017	51.4571 5	12/6/2018	117.174 4	12/6/2019	147.303 1	12/5/2020	
12/6/2016	125.111 6	12/7/2017	45.2511 8	12/7/2018	101.467 5	12/7/2019	134.631 9	12/6/2020	
12/7/2016	124.83	12/8/2017	57.5147 9	12/8/2018	107.194 5	12/8/2019	163.028 2	12/7/2020	
12/8/2016	129.588 4	12/9/2017	59.6352 1	12/9/2018	105.272 4	12/9/2019	130.24	12/8/2020	
12/9/2016	111.546 8	12/10/2017	67.6552 8	12/10/2018	75.8097 7	12/10/2019	108.096 3	12/9/2020	
12/10/2016	95.5134 2	12/11/2017	66.7641 7	12/11/2018	83.5576 1	12/11/2019	88.2791 1	12/10/2020	
12/11/2016	98.1887	12/12/2017	59.2956	12/12/2018	70.4429	12/12/2019	101.816	12/11/2020	

6	6		6	8	1	9		0	
12/12/2016	85.36208	12/13/2017	50.23458	12/13/2018	99.93176	12/13/2019	75.58095	12/12/2020	
12/13/2016	72.15458	12/14/2017	32.11394	12/14/2018	98.57978	12/14/2019	42.17307	12/13/2020	
12/14/2016	62.57257	12/15/2017	32.22514	12/15/2018	89.20828	12/15/2019	77.61254	12/14/2020	
12/15/2016	88.30681	12/16/2017	37.13625	12/16/2018	92.1774	12/16/2019	80.25435	12/15/2020	
12/16/2016	60.61036	12/17/2017	35.44167	12/17/2018	122.9052	12/17/2019	82.22517	12/16/2020	
12/17/2016	64.35542	12/18/2017	36.01618	12/18/2018	95.34667	12/18/2019	87.05571	12/17/2020	
12/18/2016	51.18778	12/19/2017	31.3334	12/19/2018	93.37063	12/19/2019	83.71536	12/18/2020	
12/19/2016	62.67908	12/20/2017	33.80625	12/20/2018	79.58851	12/20/2019	134.7989	12/19/2020	
12/20/2016	64.22507	12/21/2017	30.82515	12/21/2018	56.53555	12/21/2019	136.1353	12/20/2020	147.609
12/21/2016	56.47114	12/22/2017	28.53722	12/22/2018	83.29784	12/22/2019	118.7387	12/21/2020	154.2989
12/22/2016	93.30583	12/23/2017	30.17051	12/23/2018	84.01076	12/23/2019	114.0852	12/22/2020	151.7836
12/23/2016	100.5177	12/24/2017	31.39569	12/24/2018	78.79307	12/24/2019	107.9545	12/23/2020	180.6469
12/24/2016	89.06806	12/25/2017	32.51451	12/25/2018	60.44187	12/25/2019	118.7994	12/24/2020	181.3098
12/25/2016	93.95391	12/26/2017	33.03285	12/26/2018	52.20712	12/26/2019	120.6315	12/25/2020	167.0514
12/26/2016	116.1477	12/27/2017	41.41346	12/27/2018	56.15694	12/27/2019	111.7883	12/26/2020	146.1724
12/27/2016	117.1481	12/28/2017		12/28/2018	51.80462	12/28/2019	134.7128	12/27/2020	153.2559
12/28/2016	114.2053	12/29/2017	36.10238	12/29/2018	93.05858	12/29/2019	151.3344	12/28/2020	133.046
12/29/2016	125.88	12/30/2017	38.12535	12/30/2018	107.5242	12/30/2019	158.866	12/29/2020	145.6364
12/30/2016	110.1397	12/31/2017	39.78847	12/31/2018	96.64533	12/31/2019	196.9312	12/30/2020	160.2203
12/31/2016	125.8133								183.7402

TSP

Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )	Date	Value (µg/m <sup>3</sup> )
1/1/2016		1/1/2017	156.3615	1/1/2018	31.23165	1/1/2019	125.0769	1/1/2020	228.3831
1/2/2016		1/2/2017	94.96596	1/2/2018	31.74159	1/2/2019	121.4495	1/2/2020	190.4052
1/3/2016		1/3/2017	98.83542	1/3/2018	391.541	1/3/2019	122.829	1/3/2020	127.2202
1/4/2016		1/4/2017	137.5397	1/4/2018	465.7669	1/4/2019	99.06475	1/4/2020	85.9844
1/5/2016		1/5/2017	144.6577	1/5/2018	459.7415	1/5/2019	97.44466	1/5/2020	112.7043
1/6/2016		1/6/2017	112.7208	1/6/2018	439.0323	1/6/2019	111.4679	1/6/2020	134.3484
1/7/2016		1/7/2017	130.1564	1/7/2018	441.7074	1/7/2019	159.717	1/7/2020	126.225
1/8/2016		1/8/2017	123.4153	1/8/2018	435.9278	1/8/2019	141.2182	1/8/2020	111.6383
1/9/2016		1/9/2017	148.599	1/9/2018	447.7871	1/9/2019	156.9195	1/9/2020	76.66586
1/10/2016		1/10/2017	110.9231	1/10/2018	392.0346	1/10/2019	114.5806	1/10/2020	125.0448
1/11/2016		1/11/2017	106.5112	1/11/2018	366.3121	1/11/2019	108.1596	1/11/2020	146.6619
1/12/2016		1/12/2017	118.8893	1/12/2018	352.5764	1/12/2019	75.85507	1/12/2020	175.7241
1/13/2016		1/13/2017	112.5188	1/13/2018	271.1304	1/13/2019	89.37054	1/13/2020	166.2091
1/14/2016		1/14/2017		1/14/2018	230.7189	1/14/2019	102.6077	1/14/2020	207.0436
1/15/2016		1/15/2017		1/15/2018	242.6842	1/15/2019	125.838	1/15/2020	134.9947
1/16/2016		1/16/2017		1/16/2018	181.9341	1/16/2019	125.0184	1/16/2020	127.9974
1/17/2016		1/17/2017		1/17/2018	186.2617	1/17/2019	129.7599	1/17/2020	49.10722
1/18/2016		1/18/2017	164.9445	1/18/2018	179.4583	1/18/2019	112.3334	1/18/2020	206.6357
1/19/2016		1/19/2017	156.6578	1/19/2018	178.2358	1/19/2019	82.40649	1/19/2020	229.2507
1/20/2016		1/20/2017	206.0029	1/20/2018	146.2181	1/20/2019	77.45647	1/20/2020	217.4166
1/21/2016		1/21/2017	173.9873	1/21/2018	158.107	1/21/2019	74.8092	1/21/2020	281.3361
1/22/2016		1/22/2017	141.8298	1/22/2018	199.7164	1/22/2019	96.6132	1/22/2020	247.0368
1/23/2016		1/23/2017	143.1682	1/23/2018	164.0285	1/23/2019	27.42183	1/23/2020	177.0421
1/24/2016		1/24/2017	142.1958	1/24/2018	137.1208	1/24/2019	97.77282	1/24/2020	203.7791
1/25/2016		1/25/2017	164.1847	1/25/2018	163.9052	1/25/2019	99.5505	1/25/2020	199.4057
1/26/2016		1/26/2017	175.588	1/26/2018	154.3642	1/26/2019	35.52567	1/26/2020	180.5904
1/27/2016		1/27/2017	93.82781	1/27/2018	168.3116	1/27/2019	132.5805	1/27/2020	219.7666
1/28/2016		1/28/2017	121.7624	1/28/2018	176.3667	1/28/2019	81.10978	1/28/2020	252.4788
1/29/2016		1/29/2017	144.3554	1/29/2018	178.952	1/29/2019	147.6435	1/29/2020	195.7287
1/30/2016		1/30/2017	129.3957	1/30/2018	163.0358	1/30/2019	157.7396	1/30/2020	210.2277
1/31/2016		1/31/2017	111.9941	1/31/2018	148.1314	1/31/2019	154.3405	1/31/2020	181.397
2/1/2016		2/1/2017	122.4975	2/1/2018	152.5786	2/1/2019	192.4825	2/1/2020	281.2823
2/2/2016		2/2/2017	114.519	2/2/2018	154.7086	2/2/2019	184.5603	2/2/2020	194.6208
2/3/2016		2/3/2017	130.3659	2/3/2018	164.2076	2/3/2019	191.2316	2/3/2020	196.9593
2/4/2016		2/4/2017	149.0041	2/4/2018	317.7586	2/4/2019	143.9422	2/4/2020	216.2955
2/5/2016		2/5/2017	145.898	2/5/2018	215.8259	2/5/2019	122.1838	2/5/2020	251.0806
2/6/2016		2/6/2017	162.5131	2/6/2018	265.1729	2/6/2019	88.88977	2/6/2020	314.1439
2/7/2016		2/7/2017	109.6398	2/7/2018	199.5939	2/7/2019	11.56926	2/7/2020	277.3268

2/8/2016		2/8/2017	124.5514	2/8/2018	265.1445	2/8/2019	68.75384	2/8/2020	388.5389
2/9/2016		2/9/2017	136.1368	2/9/2018	273.0648	2/9/2019	12.5633	2/9/2020	277.2183
2/10/2016		2/10/2017	158.7523	2/10/2018	258.9177	2/10/2019		2/10/2020	223.0832
2/11/2016		2/11/2017	165.0173	2/11/2018	287.7347	2/11/2019		2/11/2020	224.9001
2/12/2016		2/12/2017	157.8105	2/12/2018	322.6537	2/12/2019	202.3341	2/12/2020	231.7366
2/13/2016		2/13/2017	156.8178	2/13/2018	205.5727	2/13/2019	143.1725	2/13/2020	233.9861
2/14/2016		2/14/2017	148.6352	2/14/2018	224.3124	2/14/2019	146.5245	2/14/2020	208.6938
2/15/2016		2/15/2017	145.6569	2/15/2018	225.738	2/15/2019	130.2679	2/15/2020	200.0509
2/16/2016		2/16/2017	167.6785	2/16/2018	231.4486	2/16/2019	57.08607	2/16/2020	220.2423
2/17/2016		2/17/2017	150.4841	2/17/2018	251.1659	2/17/2019	90.40503	2/17/2020	234.7935
2/18/2016		2/18/2017	159.3852	2/18/2018	267.3902	2/18/2019	125.872	2/18/2020	243.3347
2/19/2016		2/19/2017	137.7217	2/19/2018	246.4796	2/19/2019	77.89819	2/19/2020	211.6399
2/20/2016		2/20/2017	132.5183	2/20/2018	264.3525	2/20/2019	120.4109	2/20/2020	219.9774
2/21/2016		2/21/2017	126.9041	2/21/2018	295.4491	2/21/2019	122.9164	2/21/2020	134.2861
2/22/2016		2/22/2017	148.2736	2/22/2018	363.9086	2/22/2019	103.3417	2/22/2020	153.265
2/23/2016		2/23/2017	106.874	2/23/2018	205.5741	2/23/2019	80.53473	2/23/2020	304.8487
2/24/2016		2/24/2017	63.48236	2/24/2018	209.3587	2/24/2019	87.56398	2/24/2020	246.1793
2/25/2016		2/25/2017	62.03451	2/25/2018	362.6018	2/25/2019	65.18826	2/25/2020	197.1332
2/26/2016		2/26/2017	62.89231	2/26/2018	257.9407	2/26/2019	85.92163	2/26/2020	76.62313
2/27/2016		2/27/2017		2/27/2018	262.6466	2/27/2019	63.73965	2/27/2020	160.1588
2/28/2016		2/28/2017		2/28/2018	213.5139	2/28/2019	43.17243	2/28/2020	192.6514
2/29/2016		3/1/2017		3/1/2018	317.274	3/1/2019	68.58938	2/29/2020	163.9278
3/1/2016		3/2/2017		3/2/2018	276.8365	3/2/2019	78.97048	3/1/2020	235.5546
3/2/2016		3/3/2017		3/3/2018	233.3502	3/3/2019	63.28373	3/2/2020	205.3269
3/3/2016		3/4/2017		3/4/2018	291.7429	3/4/2019	82.38673	3/3/2020	191.7967
3/4/2016		3/5/2017		3/5/2018	359.5898	3/5/2019	77.45953	3/4/2020	161.8298
3/5/2016		3/6/2017		3/6/2018	322.0903	3/6/2019	80.5552	3/5/2020	208.5455
3/6/2016		3/7/2017		3/7/2018	456.5294	3/7/2019	94.36535	3/6/2020	219.3315
3/7/2016		3/8/2017		3/8/2018	326.4248	3/8/2019	87.14412	3/7/2020	113.4749
3/8/2016		3/9/2017		3/9/2018	320.1283	3/9/2019	76.07606	3/8/2020	152.1388
3/9/2016		3/10/2017	27.03548	3/10/2018	380.6112	3/10/2019	95.79637	3/9/2020	118.5083
3/10/2016		3/11/2017	33.08379	3/11/2018	275.6285	3/11/2019	90.32184	3/10/2020	162.9951
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3/12/2016		3/13/2017	135.6011	3/13/2018	279.9141	3/13/2019	129.9989	3/12/2020	234.4022
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3/14/2016		3/15/2017	29.37271	3/15/2018	245.6702	3/15/2019	102.0278	3/14/2020	118.7559
3/15/2016		3/16/2017	30.93556	3/16/2018	193.3809	3/16/2019	99.33906	3/15/2020	302.1441
3/16/2016		3/17/2017	34.10703	3/17/2018	422.5232	3/17/2019	110.0718	3/16/2020	180.9621
3/17/2016		3/18/2017	21.75049	3/18/2018	356.8724	3/18/2019	131.7545	3/17/2020	205.3551
3/18/2016		3/19/2017	39.32992	3/19/2018	356.6177	3/19/2019	103.0484	3/18/2020	
3/19/2016		3/20/2017	160.5565	3/20/2018	414.8289	3/20/2019	134.1117	3/19/2020	

3/20/2016		3/21/2017	230.8954	3/21/2018	381.2322	3/21/2019	98.97897	3/20/2020	
3/21/2016		3/22/2017	254.0613	3/22/2018	368.6367	3/22/2019	117.745	3/21/2020	
3/22/2016		3/23/2017	209.2441	3/23/2018	277.5424	3/23/2019	129.6616	3/22/2020	
3/23/2016		3/24/2017	262.6857	3/24/2018		3/24/2019	131.6898	3/23/2020	
3/24/2016		3/25/2017	313.6789	3/25/2018		3/25/2019	117.2013	3/24/2020	
3/25/2016		3/26/2017	403.4426	3/26/2018		3/26/2019	21.35443	3/25/2020	
3/26/2016		3/27/2017	428.1047	3/27/2018	816.7104	3/27/2019	51.46672	3/26/2020	
3/27/2016		3/28/2017	375.834	3/28/2018	556.4482	3/28/2019	89.40727	3/27/2020	
3/28/2016		3/29/2017	124.9607	3/29/2018	303.3808	3/29/2019	52.92594	3/28/2020	
3/29/2016		3/30/2017	327.1253	3/30/2018	300.1182	3/30/2019	22.24422	3/29/2020	
3/30/2016		3/31/2017	552.3706	3/31/2018	367.0785	3/31/2019	65.09758	3/30/2020	
3/31/2016		4/1/2017	406.7606	4/1/2018	354.2662	4/1/2019	66.70949	3/31/2020	71.8063
4/1/2016		4/2/2017	574.3801	4/2/2018	394.5671	4/2/2019	82.78534	4/1/2020	80.04696
4/2/2016		4/3/2017	644.3935	4/3/2018	161.8388	4/3/2019		4/2/2020	54.13519
4/3/2016		4/4/2017	564.3029	4/4/2018	71.59066	4/4/2019	74.66555	4/3/2020	63.72464
4/4/2016		4/5/2017		4/5/2018	280.6958	4/5/2019		4/4/2020	57.09408
4/5/2016		4/6/2017	827.6158	4/6/2018	302.7927	4/6/2019	3.657623	4/5/2020	80.38436
4/6/2016		4/7/2017	864.9938	4/7/2018	147.5302	4/7/2019	202.7916	4/6/2020	93.22112
4/7/2016		4/8/2017	608.3038	4/8/2018	325.4507	4/8/2019	189.5178	4/7/2020	97.59687
4/8/2016		4/9/2017	946.374	4/9/2018	273.991	4/9/2019	194.899	4/8/2020	101.3632
4/9/2016		4/10/2017	1240.336	4/10/2018	345.6509	4/10/2019	190.2067	4/9/2020	106.7408
4/10/2016		4/11/2017	1212.018	4/11/2018	224.7998	4/11/2019	199.4671	4/10/2020	75.71375
4/11/2016		4/12/2017	1180.239	4/12/2018	144.3531	4/12/2019	196.0284	4/11/2020	105.7014
4/12/2016		4/13/2017	1324.353	4/13/2018		4/13/2019	129.1464	4/12/2020	91.09253
4/13/2016		4/14/2017	930.0953	4/14/2018		4/14/2019	97.75806	4/13/2020	81.63095
4/14/2016		4/15/2017	448.1068	4/15/2018		4/15/2019		4/14/2020	53.5048
4/15/2016		4/16/2017	723.3722	4/16/2018		4/16/2019		4/15/2020	33.72046
4/16/2016		4/17/2017	636.1407	4/17/2018		4/17/2019		4/16/2020	57.11439
4/17/2016		4/18/2017	716.2907	4/18/2018		4/18/2019		4/17/2020	45.19681
4/18/2016		4/19/2017	548.177	4/19/2018		4/19/2019	174.8093	4/18/2020	38.99861
4/19/2016		4/20/2017	341.3905	4/20/2018		4/20/2019	227.614	4/19/2020	35.53658
4/20/2016		4/21/2017	354.3511	4/21/2018		4/21/2019	203.873	4/20/2020	32.998
4/21/2016		4/22/2017	98.28846	4/22/2018		4/22/2019	171.7863	4/21/2020	16.84163
4/22/2016		4/23/2017	203.717	4/23/2018		4/23/2019	210.43	4/22/2020	15.43266
4/23/2016		4/24/2017	624.3525	4/24/2018		4/24/2019	235.0499	4/23/2020	29.7358
4/24/2016		4/25/2017	871.7273	4/25/2018		4/25/2019	173.6123	4/24/2020	32.05808
4/25/2016		4/26/2017	968.141	4/26/2018		4/26/2019	153.2152	4/25/2020	26.93347
4/26/2016		4/27/2017	870.8891	4/27/2018		4/27/2019	168.5193	4/26/2020	31.7833
4/27/2016		4/28/2017	780.364	4/28/2018		4/28/2019	161.9803	4/27/2020	23.13604
4/28/2016		4/29/2017	565.037	4/29/2018		4/29/2019	139.0163	4/28/2020	21.99084
4/29/2016		4/30/2017	544.4675	4/30/2018		4/30/2019		4/29/2020	22.24589



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5/2/2016		5/3/2017	512.9016	5/3/2018		5/3/2019	202.5333	5/2/2020	22.53115
5/3/2016		5/4/2017	334.4994	5/4/2018		5/4/2019	103.2563	5/3/2020	27.09266
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5/6/2016		5/7/2017	401.1231	5/7/2018		5/7/2019	236.2697	5/6/2020	14.81725
5/7/2016		5/8/2017	372.7172	5/8/2018		5/8/2019	230.6889	5/7/2020	15.54814
5/8/2016		5/9/2017	241.3801	5/9/2018		5/9/2019	235.7001	5/8/2020	23.49766
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5/10/2016		5/11/2017	336.2382	5/11/2018		5/11/2019	195.967	5/10/2020	34.07584
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5/13/2016		5/14/2017	121.5876	5/14/2018		5/14/2019	138.3717	5/13/2020	33.87506
5/14/2016		5/15/2017	144.6347	5/15/2018		5/15/2019	83.46609	5/14/2020	35.89697
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5/19/2016		5/20/2017	391.1483	5/20/2018		5/20/2019		5/19/2020	26.64534
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5/22/2016		5/23/2017	404.1529	5/23/2018	18.24622	5/23/2019		5/22/2020	21.71314
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5/25/2016		5/26/2017	339.427	5/26/2018	22.80642	5/26/2019	57.38907	5/25/2020	42.86643
5/26/2016		5/27/2017		5/27/2018	25.2927	5/27/2019	60.62778	5/26/2020	35.93512
5/27/2016		5/28/2017	346.8911	5/28/2018	21.30183	5/28/2019	56.97035	5/27/2020	39.37233
5/28/2016		5/29/2017	333.6088	5/29/2018	20.54585	5/29/2019	43.75542	5/28/2020	35.26707
5/29/2016		5/30/2017	171.2315	5/30/2018	17.84613	5/30/2019	35.03125	5/29/2020	22.35322
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6/1/2016		6/2/2017	315.5287	6/2/2018	14.464	6/2/2019	10.60907	6/1/2020	31.25722
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6/3/2016		6/4/2017	360.7772	6/4/2018	19.38756	6/4/2019	6.000833	6/3/2020	46.52693
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6/14/2016		6/15/2017	363.9143	6/15/2018	19.19052	6/15/2019	0.183885	6/14/2020	18.3963
6/15/2016		6/16/2017	350.9363	6/16/2018	21.14295	6/16/2019	0.361544	6/15/2020	14.33798
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6/17/2016		6/18/2017	369.1079	6/18/2018	25.49536	6/18/2019		6/17/2020	24.28432
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6/19/2016		6/20/2017	134.67	6/20/2018	23.65948	6/20/2019	12.31225	6/19/2020	17.9817
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6/25/2016		6/26/2017	197.3206	6/26/2018	14.64106	6/26/2019	8.753035	6/25/2020	22.20771
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6/27/2016		6/28/2017	152.7275	6/28/2018	11.16687	6/28/2019	8.373016	6/27/2020	35.05072
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6/30/2016		7/1/2017	203.1243	7/1/2018	9.942755	7/1/2019	18.15614	6/30/2020	57.22458
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7/2/2016		7/3/2017	219.778	7/3/2018	8.740312	7/3/2019	4.498096	7/2/2020	61.35816
7/3/2016		7/4/2017	109.2681	7/4/2018	9.412613	7/4/2019	5.500355	7/3/2020	36.66316
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7/5/2016		7/6/2017	212.9986	7/6/2018	13.5648	7/6/2019	2.754688	7/5/2020	40.45086
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7/7/2016		7/8/2017	261.7284	7/8/2018	11.53121	7/8/2019	3.337357	7/7/2020	26.34722
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7/14/2016		7/15/2017	131.7112	7/15/2018	9.778935	7/15/2019		7/14/2020	33.07876
7/15/2016		7/16/2017	192.2382	7/16/2018	8.186946	7/16/2019		7/15/2020	55.3807
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7/19/2016		7/20/2017	137.2728	7/20/2018		7/20/2019		7/19/2020	10.14788
7/20/2016		7/21/2017	256.8481	7/21/2018		7/21/2019		7/20/2020	10.2556

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7/26/2016		7/27/2017	335.3164	7/27/2018	130.1429	7/27/2019		7/26/2020	52.05765
7/27/2016		7/28/2017	224.4595	7/28/2018	134.4275	7/28/2019		7/27/2020	56.78819
7/28/2016		7/29/2017	101.1793	7/29/2018	126.2203	7/29/2019		7/28/2020	28.50546
7/29/2016		7/30/2017	122.7871	7/30/2018	196.1503	7/30/2019		7/29/2020	47.9779
7/30/2016		7/31/2017	212.8443	7/31/2018	204.6274	7/31/2019		7/30/2020	35.80003
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8/5/2016		8/6/2017	124.5417	8/6/2018	61.16728	8/6/2019	3.918287	8/5/2020	32.02575
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8/8/2016		8/9/2017	93.3249	8/9/2018	209.88	8/9/2019	5.841652	8/8/2020	17.12317
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9/3/2016		9/4/2017	182.3682	9/4/2018	278.3475	9/4/2019	2.830814	9/3/2020	
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9/20/2016	215.0461	9/21/2017	142.6842	9/21/2018	115.2328	9/21/2019	4.368046	9/20/2020	
9/21/2016	218.1931	9/22/2017	239.992	9/22/2018	195.9476	9/22/2019	3.994302	9/21/2020	
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9/23/2016	80.65267	9/24/2017	227.5571	9/24/2018	250.9338	9/24/2019	5.594045	9/23/2020	
9/24/2016	165.5636	9/25/2017	241.5349	9/25/2018	297.4422	9/25/2019	3.047392	9/24/2020	
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10/2/2016	254.4348	10/3/2017	104.3093	10/3/2018	304.3372	10/3/2019	5.494678	10/2/2020	
10/3/2016	256.4547	10/4/2017	124.1721	10/4/2018	330.1179	10/4/2019	5.422461	10/3/2020	
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10/5/2016	223.6729	10/6/2017	121.8288	10/6/2018	367.4409	10/6/2019	5.535253	10/5/2020	
10/6/2016	182.1927	10/7/2017	121.7309	10/7/2018	368.328	10/7/2019	6.461969	10/6/2020	
10/7/2016	208.8088	10/8/2017	189.5752	10/8/2018	395.058	10/8/2019	6.042671	10/7/2020	
10/8/2016	113.1842	10/9/2017	193.4508	10/9/2018	328.8676	10/9/2019	3.568152	10/8/2020	
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10/15/2016	210.1628	10/16/2017	162.8258	10/16/2018	332.1801	10/16/2019	8.306133	10/15/2020	
10/16/2016	242.3979	10/17/2017	180.04	10/17/2018	166.2292	10/17/2019	7.986878	10/16/2020	
10/17/2016	235.4072	10/18/2017	186.4365	10/18/2018	247.0437	10/18/2019		10/17/2020	
10/18/2016	224.0897	10/19/2017	145.6235	10/19/2018	235.9721	10/19/2019		10/18/2020	
10/19/2016	296.093	10/20/2017	102.1297	10/20/2018	238.0401	10/20/2019		10/19/2020	
10/20/2016	281.2708	10/21/2017	79.71902	10/21/2018	231.5813	10/21/2019		10/20/2020	
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