

# SAFAR-India [PUNE]

Indian Institute of Tropical Meteorology, Pune  
Ministry of Earth Sciences

## Air Quality Forecast for Diwali-2021

The Air Quality Forecast for the Diwali-2021 period for PUNE is issued based on the indigenously developed SAFAR-Air Quality Forecasting Framework. Forecast is based on following two model scenarios:

- (1) Additional Firecracker emissions: Nil (0%)
- (2) Additional Firecracker emissions: 50% of 2019 emissions. Above emissions are in addition to standard background emissions.

### Highlights:

- (1) With Diwali falling in November this year when winter is already set in, with 50% additional firecracker scenario, SAFAR predicts that AQI will deteriorate to Poor on 4<sup>th</sup> Nov and Very poor on 5<sup>th</sup> Nov.
- (2) Due to the low temperatures (minimum temperature around 18-19°C), the mixing layer height is likely to be low and winds are expected to be calm (are majorly easterly in direction) leading to accumulation and hence faster deterioration.
- (3) There is a likelihood of rain during Diwali period, if it drizzles then it may further deteriorate the Air quality, but sufficient rain will wash away pollutants and AQI will be better.
- (4) However, if no fire crackers are burned (0% scenario) then AQI will remain in moderate category during the entire period.
- (5) Hot spot hours: Early morning hours of 5<sup>th</sup> Nov (0100 hr to 0600 hr) but it will be back to moderate level from the next day.
- (6) MOST POLLUTED AREA in Pune on 5<sup>th</sup> Nov: Shivajinagar and Bhosari.

SAFAR-AQI Forecast-Pune				
Date	2 <sup>nd</sup> Nov	3 <sup>th</sup> Nov	4 <sup>th</sup> Nov	5 <sup>th</sup> Nov
<b>50% fire cracker emissions</b>				
CONCENTRATION PM <sub>2.5</sub> (µg/m <sup>3</sup> )	85	77	96	123
AIR QUALITY INDEX (AQI)	183	156	218	302
<b>0% firecracker emissions</b>				
CONCENTRATION PM <sub>2.5</sub> (µg/m <sup>3</sup> )	65	70	74	77
AIR QUALITY INDEX (AQI)	115	132	145	156

