Comparison of Aerosol Optical Depth from Satellite based observation over Surat region

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Abstract: Aerosol Optical Depth (AOD) observed at Surat, Gujarat (INDIA), Coastal region near the Tapi River at the Gulf of Khambhat. Using MODIS, Satellite data for Aerosol Optical Depth (AOD) have been collected from the Giovanni site developed by NASA. Results of the data for the 5 years (January to December 2015-2019) have been discussed here. Aerosol Optical Depth characteristics are related to changes in the regional meteorological conditions. The data collected from January to December 2015-2019 indicated annual average AOD variation. The mean annual variations of Aerosol Optical Depth (AOD) indicated maxima around the monsoon. The lowest values of the seasonal mean Aerosol Optical Depth (AOD) observed during the pre-monsoon and relatively moderate AOD were observed during the winter season. Variation of aerosol optical depth (AOD) in the post-monsoon season shows similar variation as of winter and pre-monsoon in 2016. Values increased afterward and reached maxima in both Aqua and Terra observations, which is mostly related to the changes in the local boundary layer.