

Abstract Submitted
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The Influence of Photolysis Rate Constants in Ozone Production for the Paso del Norte Region FERNANDO BECERRA, ROSA FITZGERALD, UTEP — In this research work we are focusing on understanding the relationship between photolysis rates and the photochemical ozone changes observed in the Paso del Norte region. The city of El Paso, Texas together with Ciudad Juarez, Mexico, forms the largest contiguous bi-national metropolitan area. This region suffers year-round ozone pollution events, and a better understanding is needed to mitigate them. Previous studies have found that ambient ozone concentrations tend to be higher on weekends rather than on weekdays, this phenomenon being referred to, as the “weekend effect.” If the ozone standard is exceeded more frequently on weekends, then this phenomenon must be considered in the design of ozone control strategies. In this work we investigate some of the most representative weekend ozone episodes at El Paso, TX, during the years 2009, 2010 and 2011 using the ozone photolysis rates. In this research the TUV radiative-transfer model is used to calculate the local photolysis rates and a UV MFRSR instrument is used to obtain experimental parameters. Seasonal variations and the weekday-weekend effect is studied. The results of this research will help to understand the underlying behavior of the photolysis rate constants when different atmospheric conditions are present.

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