Air Quality

Air Quality Evaluation of the Mexicali and Imperial Valleys as an Element for an Outreach Program

Margarito Quintero-Núñez
Instituto de Ingeniería
Universidad Autónoma de Baja California

Alan Sweedler
Center for Energy Studies
San Diego State University

Abstract

The Mexicali and Imperial Valleys form a single valley divided by a political line and at some point by a fence installed in the most populated area. They are characterized as having extremely hot weather, rich and suspended particles due to its desertic nature, agricultural fields and an abundance of unpaved streets in Mexicali and unpaved rural roads in the Imperial Valley. As a part of the Border XXI program established between the governments of Mexico and the U.S. to keep the border clean, monitoring stations were established in both valleys and gas and particles have been measured for several years. Evaluation of such measurements has been performed and has shown excesses of CO and O₃ during the year due to automobile pollution. Likewise, high levels of total suspended particles (TSP) and particles smaller than 10 microns (PM10) are reported, especially at those sites where the monitors were installed near rural areas or unpaved streets. It explains why the Mexicali and Imperial Valleys are considered non-attainment areas for PM10, CO and O₃. Some recommendations are given to improve the air quality of both Valleys and to better the awareness of the community in relation to air quality.

Outline

I. Description of the geographic area

II. Border XXI program
III. Air quality monitoring network

IV. Gases and particles to evaluate

V. Results of analysis of air quality

VI. Effects of air pollution on health

VII. Preventative measures to reduce the effect of air pollution

VIII. Air quality policies on both sides of the border

IX. Discussion and recommendations

X. References