Office of Information Analysis and Access

Office of Environmental Information • U.S. Environmental Protection Agency

Analysis of PM10 Data for the MX/US Border 2012 Program

April 23, 2008

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Map of the Border 2012 Regions

Ref.: http://www.epa.gov/usmexicoborder/bordermap.html

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Outline

1. An example of Aggregated PM10 data for
2. Disaggregate the data for two city pairs in three ways:
   San Diego/Tijuana and the Imperial Valley/Mexicali
3. Hope you take away the today is the value of disaggregating the data to:
   a. Demonstrate how aggregated data can sometimes camouflage interesting features
   b. How simple statistics can be added to allow you to answer questions about the data
   c. Remember that areas exist for possible allocation of resources

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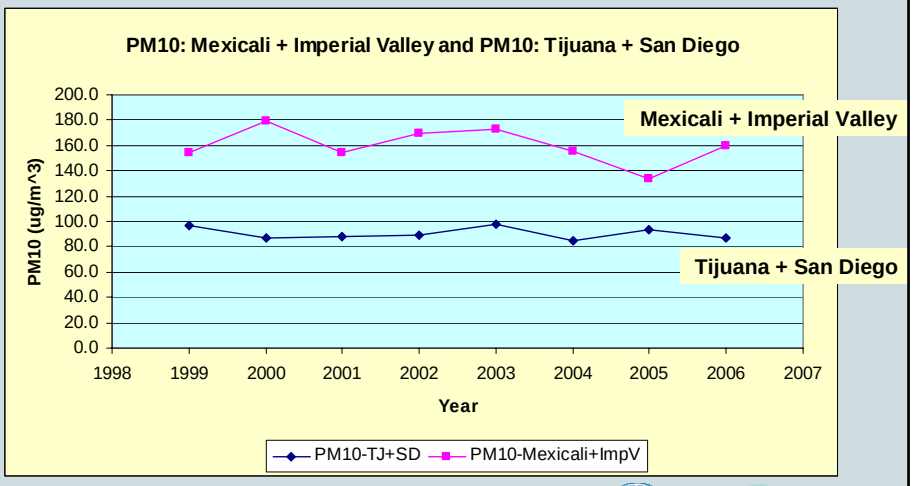
An Example of Aggregated Data
Imp. Valley and Tijuana/San Diego



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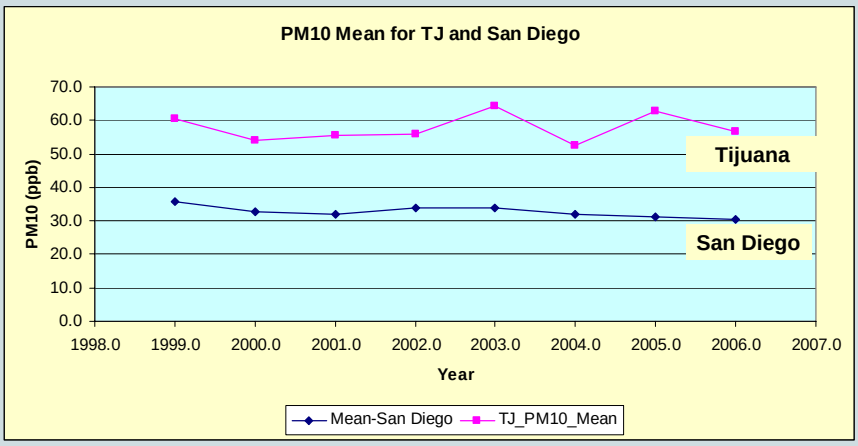
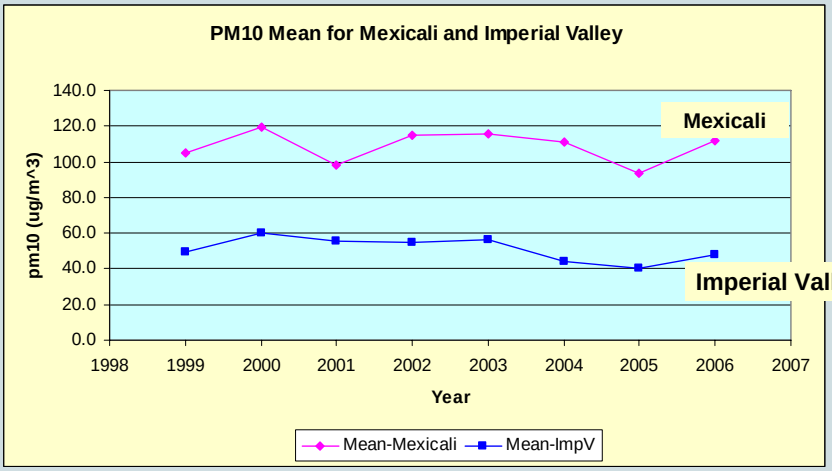
Yearly Averages of PM10

- Disaggregated into
- US and Mexico Components for
- Tijuana/San Diego and
- The Imperial Valley Region

PM10 for Tijuana and San Diego



PM10 for Imperial Valley Region



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Note

- PM10 is higher in MX.
- By disaggregating the data get more information on the variability existing within a given region

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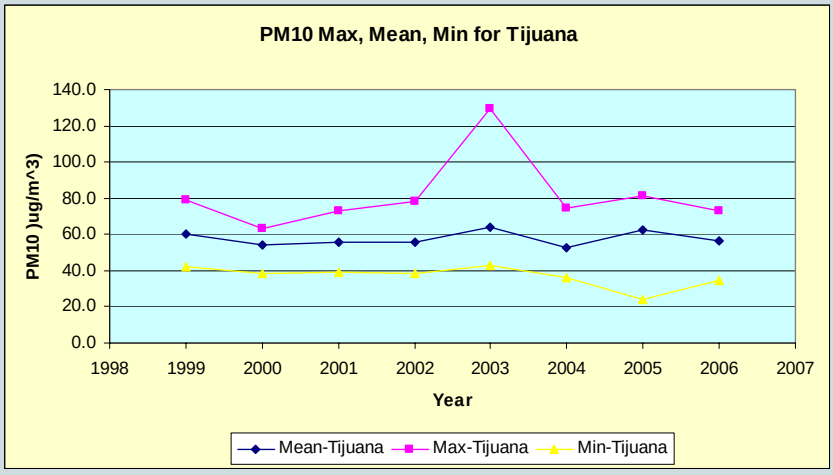
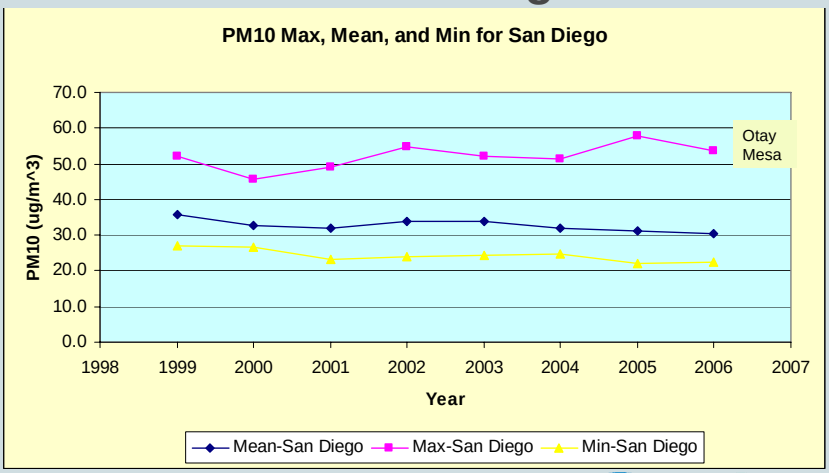
The Max. Mean and Min. of PM10 in Sub Regions

Max, Mean, and Min PM10 Values for Tijuana



Max, Min, & Mean PM10 Values for San Diego



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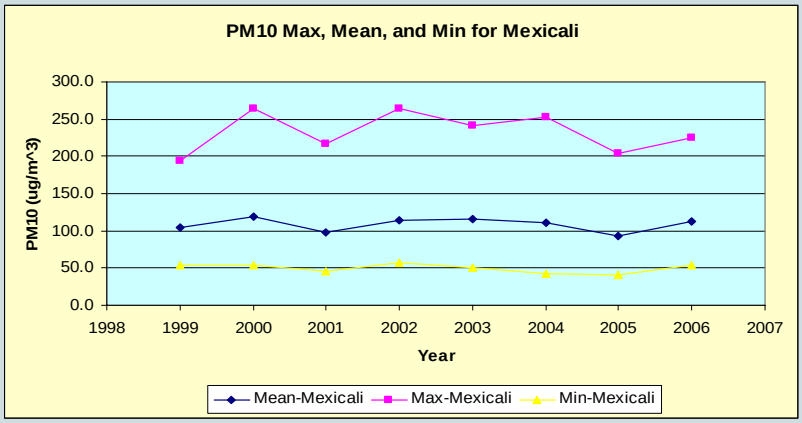
Max, Min, and Mean PM10 Values for Mexicali



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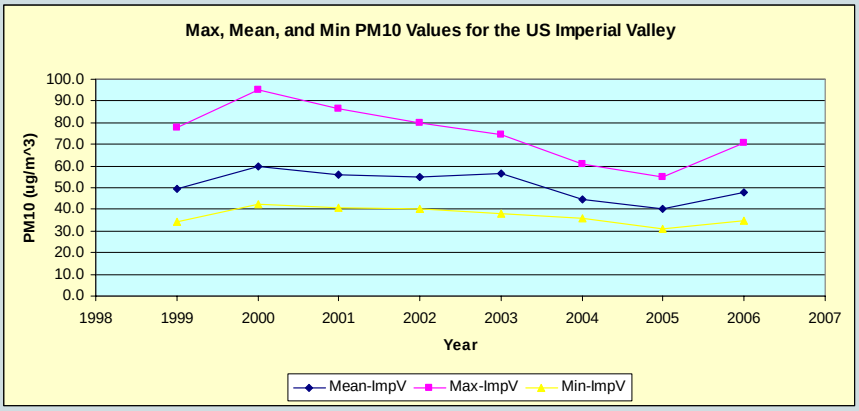
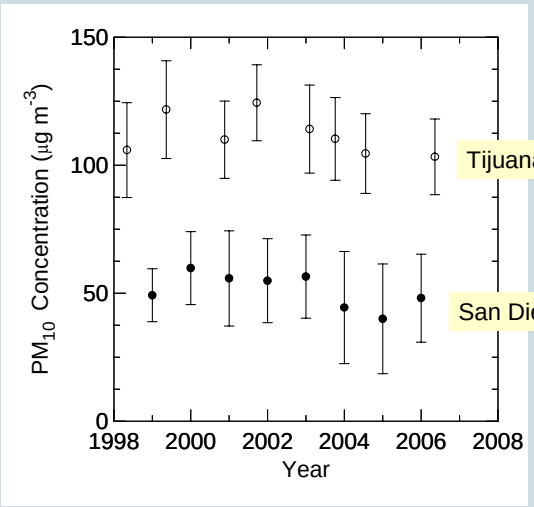
Max, Min, and Mean Min PM10 Values for the US Imperial Valley



Another Way to

Look at Variability

Another Look at Tijuana and San Diego



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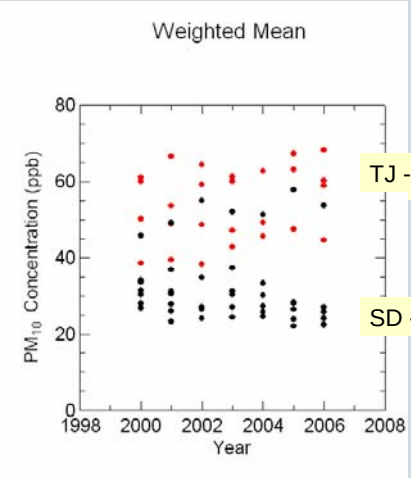
All the TJ/SD Data: TJ-Red, SD- Black



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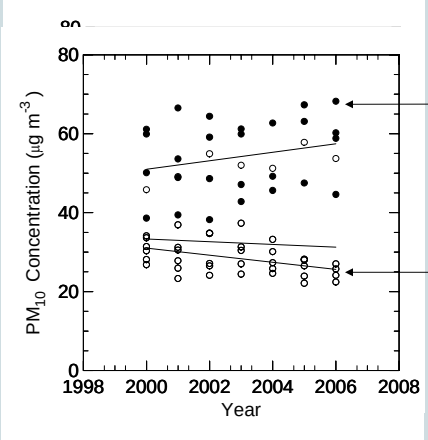
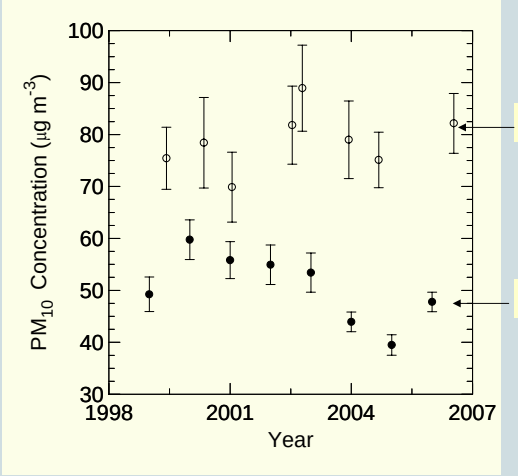
Upper curve is TJ
Middle curve is SD with Otay Mesa
Lower without Otay Mesa



Tijuana – closed

San Diego - open

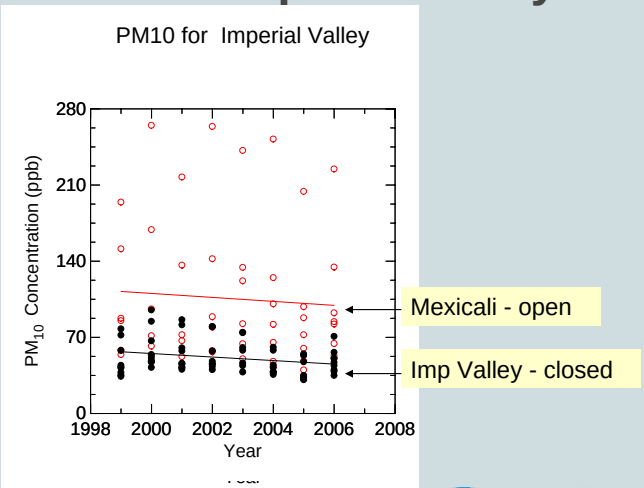
PM10 for Mexicali: closed, Imp Valley: open
90% Confidence Limits included



Mexicali – Open

Imp. Valley - Closed

Upper curve is Mexicali; Lower curve is the Imperial Valley



Points to Take Away

- Disaggregation and a little analysis allows focus on potential problem areas. For example you can see local trends or spot possible problem areas.
- This type of analysis may help target resource for both Mexico and the US
- This type of analysis may help tract environmental outcomes It allows you to better track environmental outcomes of proposals such as Dust Dampening Programs

Collaborators

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  Chief Statistician for EPA

Upper curve is TJ
Middle curve is SD with Otay Mesa
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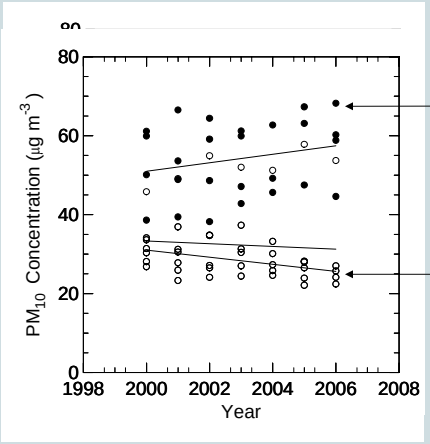

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