



# CALIFORNIA STATE SCIENCE FAIR 2006 PROJECT SUMMARY

<b>Name(s)</b> <p style="text-align: center;"><b>Anthony J. Bonilla</b></p>	<b>Project Number</b> <p style="text-align: center; font-size: 2em;"><b>S0802</b></p>
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<b>Project Title</b> <p style="text-align: center;"><b>Tracking Atmospheric Haze</b></p>
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<b>Objectives/Goals</b> To find how bad the air quality was for the cities: Orange, Anaheim Hills, Anaheim, Fullerton, Villa Park. To find the average for each city and compare it against the national average. To find if air quality changes from day to day.	<b>Abstract</b> To find how bad the air quality was for the cities: Orange, Anaheim Hills, Anaheim, Fullerton, Villa Park. To find the average for each city and compare it against the national average. To find if air quality changes from day to day.
<b>Methods/Materials</b> Haze monitoring device(resistor, green LED, Circuit board, Case, 2 nine-volt batteries, wiring), volt meter, floss, tape measure, paper, pen.	
<b>Results</b> Examples of a few aerosol optical thickness readings (AOT):Orange- Orange- Day 2=.38, Orange- Day 3=.29,Orange- Day 4= .32, Orange- Day 5= .39, Orange- Day 6=.35, Orange- Day 7=.47, Orange- Day 8=.461, Orange- Day 9=.44, Orange- Day 10=.39, Orange- Day 11=.43, Orange- Day 12=.415, Orange- Day 13=.434, Orange- Day 14=.419, Orange- Day 15=.456, Anaheim Hills- Day 1=.36, Anaheim Hills- Day 2= .35, Anaheim Hills- Day 3=.34, Anaheim Hills- Day 4=.33, Anaheim Hills- Day 5 = .37, Anaheim Hills- Day 6= .37, Anaheim Hills- Day 7=.5, Anaheim Hills- Day 8=.43, Anaheim Hills- Day 9=.48, Anaheim Hills- Day 10=.41, Anaheim Hills- Day 11=.45, Anaheim Hills- Day 12=.424, Anaheim Hills- Day 13=.418, Anaheim Hills- Day 14=.383, Anaheim Hills- Day 15=.451, Anaheim- Day 1= .37, Anaheim- Day 2= .32, Anaheim- Day 3= .35, Anaheim- Day 4= .37, Anaheim- Day 5= .41, Anaheim- Day 6=.36, Anaheim- Day 7=.50, Anaheim- Day 8=.44, Anaheim- Day 9=.45, Anaheim- Day 10=.38,Fullerton- Day 1= .39, Fullerton- Day 2= .36, Fullerton- Day 3=.33, Fullerton- Day 4= .33, Fullerton- Day 5= .38, Fullerton- Day 6= .37, Fullerton- Day 7=.42, Fullerton- Day 8=.43, Fullerton- Day 9=.49, Fullerton- Day 10=.39, Villa Park- Day 1= .38, Villa Park- Day 2= .37, Villa Park- Day 3=.37, Villa Park- Day 4=.36, Villa Park- Day 5=.39, Villa Park- Day 6= .35, Villa Park- Day 7=.48, Villa Park- Day 8=.43. Data points are composed of gross voltage for each reading, net voltage for each reading, aerosol optical thickness for each reading, and the time for each reading.	
<b>Conclusions/Discussion</b> Air quality does change on a day to day basis. The average AOT of Orange was .427, average AOT of Anaheim Hills was .418, average AOT of Anaheim was .420, average AOT of Fullerton was .419, average AOT of Villa Park was .421, average overall AOT was .421. The average overall change between days was .06136 AOT. We have poor Air Quality. Our average AOT is .421 and is far above the average .2 AOT. Some ways to correct this are to lower smog emissions, and have stricter building codes.	

<b>Summary Statement</b> How bad our air quality is.
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<b>Help Received</b> Mother drove me around, family friend helped wire haze monitoring device
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