



APPENDIX AVAILABLE ON THE HEI WEB SITE

Research Report 183

Development of Statistical Methods for Multipollutant Research

Part 2. Development of Enhanced Statistical Methods for Assessing Health Effects Associated with an Unknown Number of Major Sources of Multiple Air Pollutants

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Appendix D. Phoenix, Arizona Data

Note: Appendices available only on the Web have been reviewed solely for spelling, grammar, and cross-references to the main text. They have not been formatted or fully edited by HEI.

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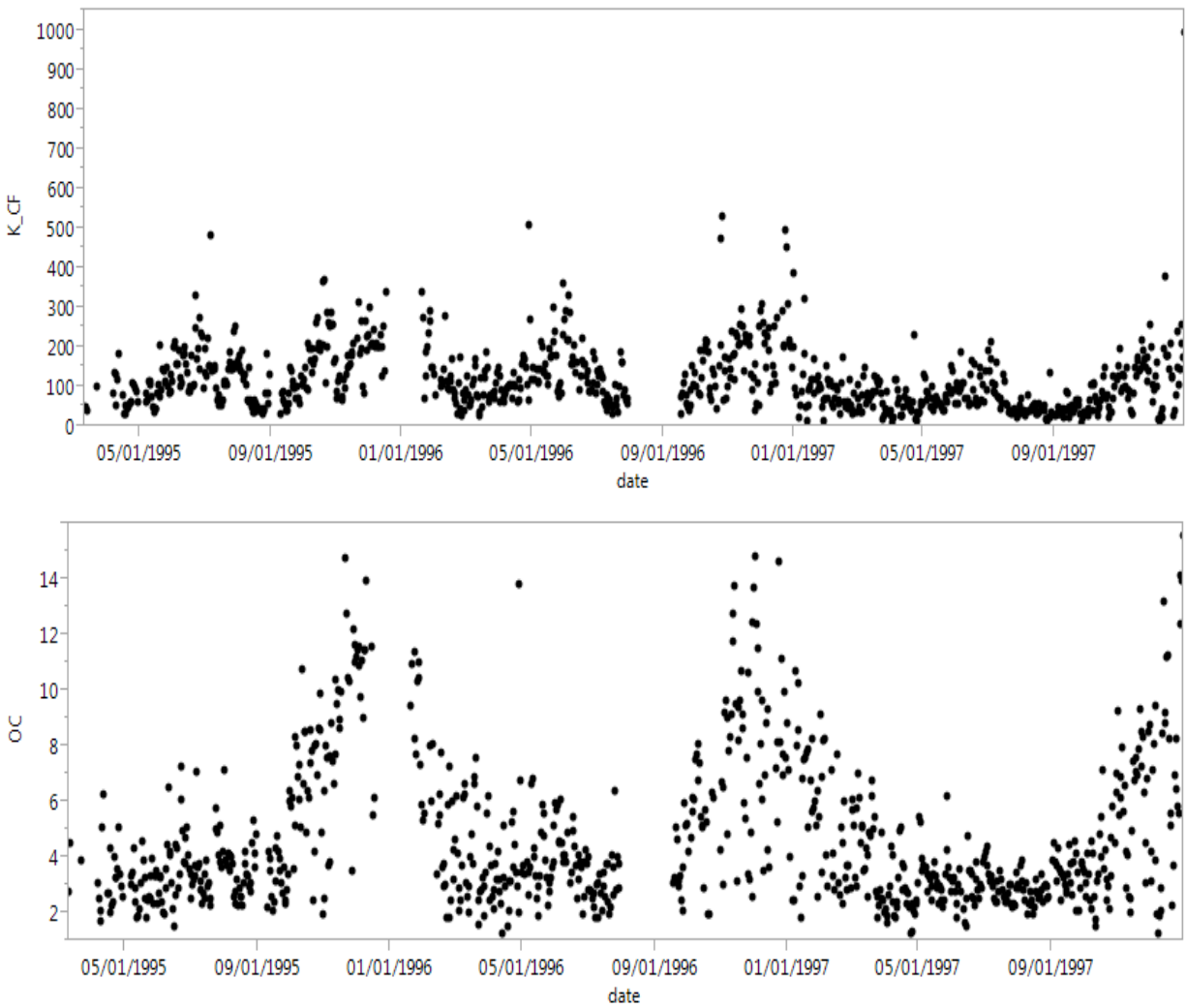
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This document was reviewed by the HEI Health Review Committee.

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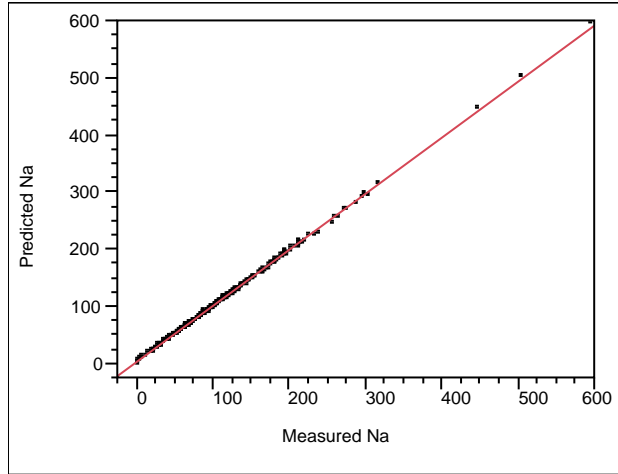
Appendix D

Figure D.1: Plots of the original K (in ng/m^3) and OC (in $\mu\text{g}/\text{m}^3$) measurements for 1027 days

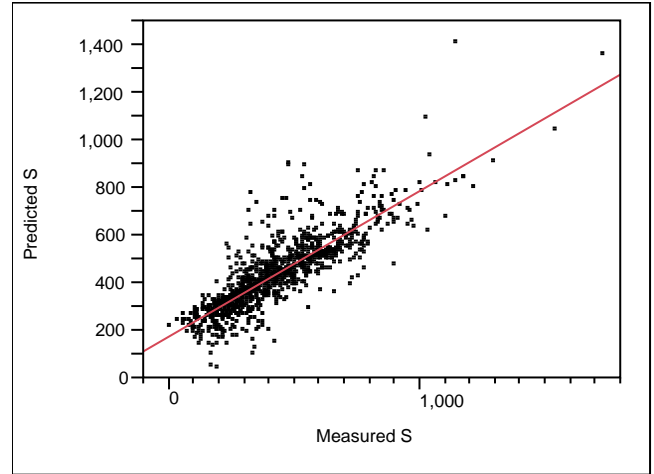


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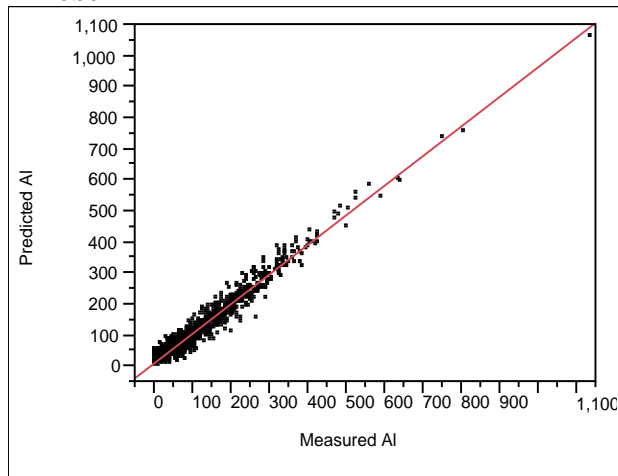
Figure D.2: Predicted versus measured concentrations (in ng/m^3) for species used in model fitting



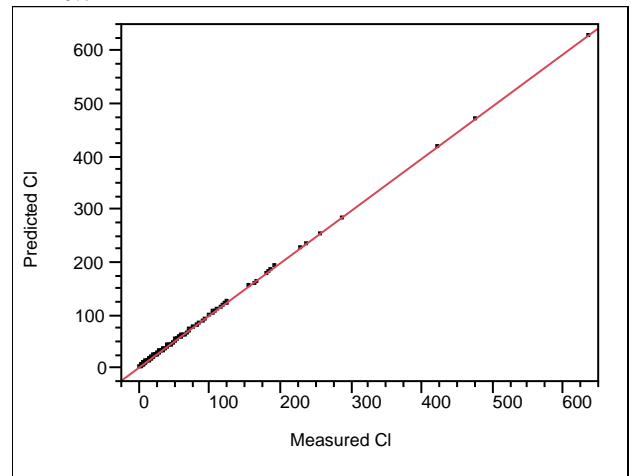
$R^2 = 0.99$



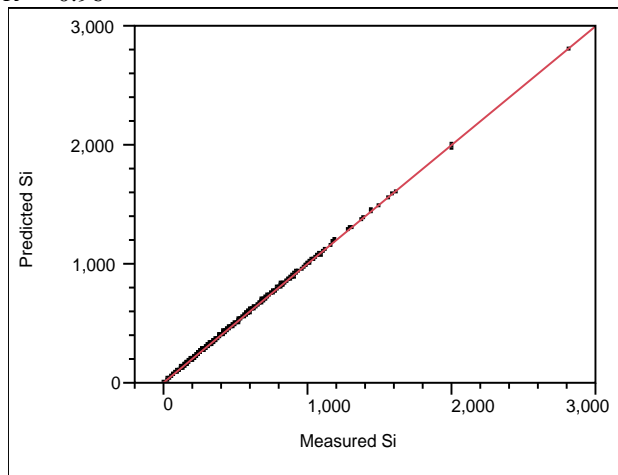
$R^2 = 0.71$



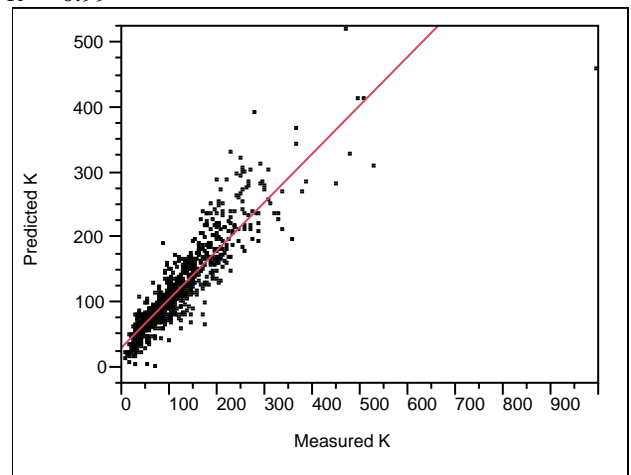
$R^2 = 0.96$



$R^2 = 0.99$

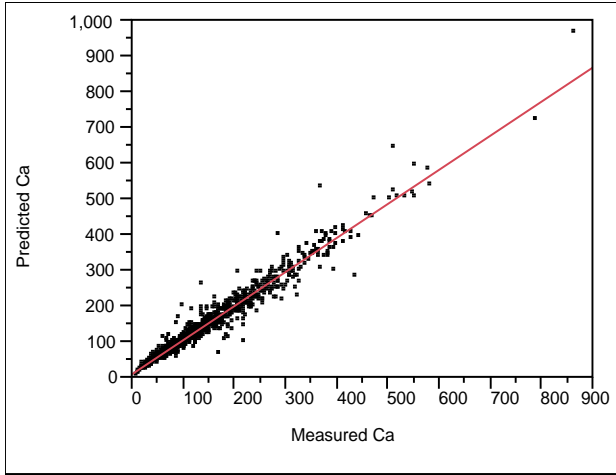


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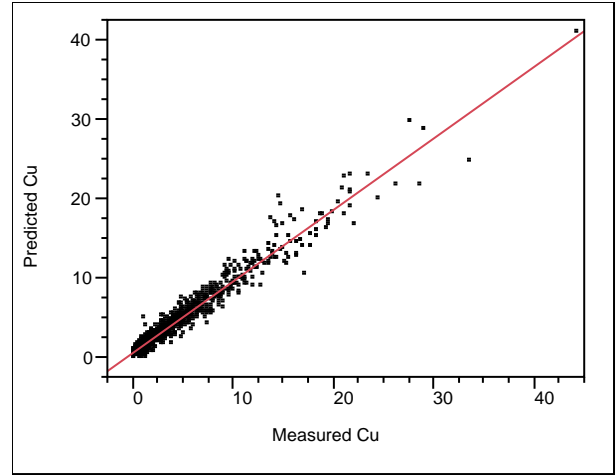


$R^2 = 0.81$

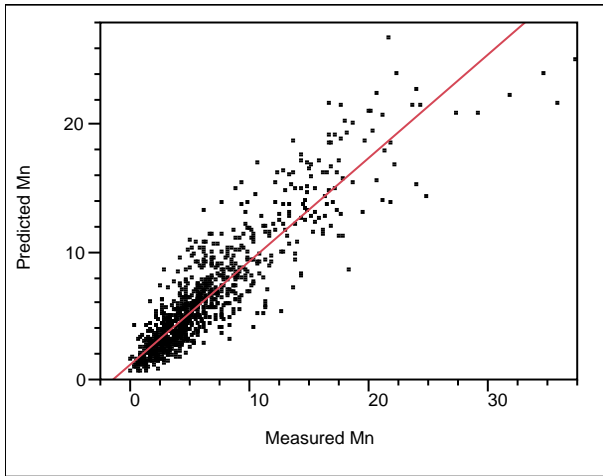
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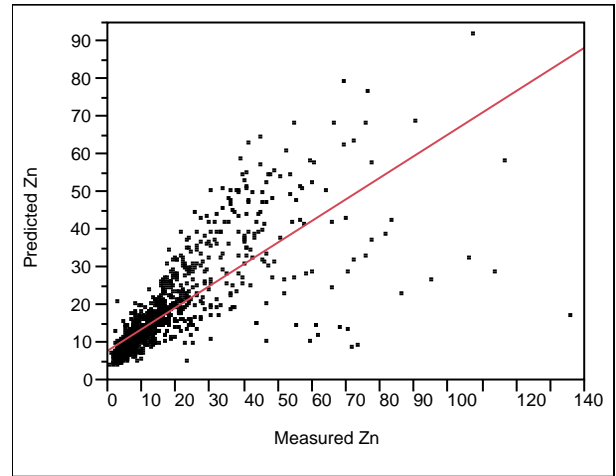
$R^2 = 0.96$



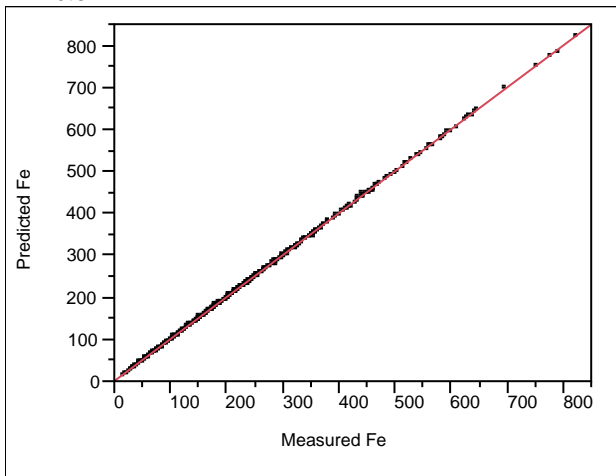
$R^2 = 0.95$



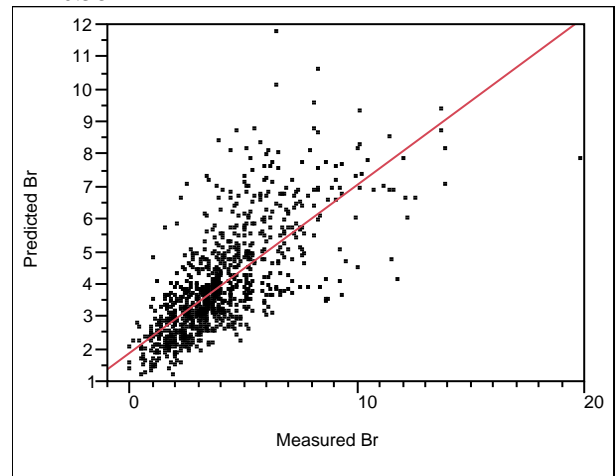
$R^2 = 0.81$



$R^2 = 0.58$

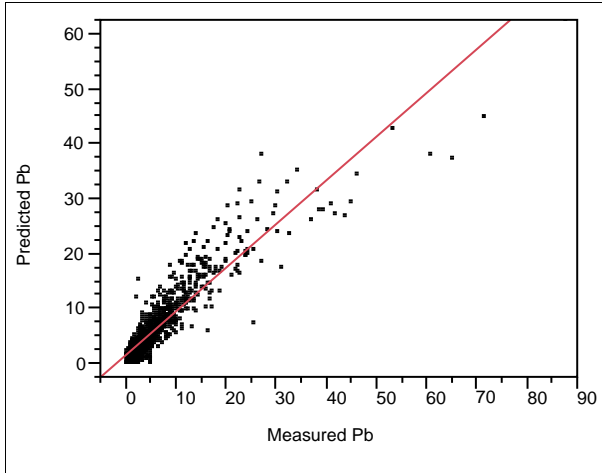


$R^2 = 0.99$

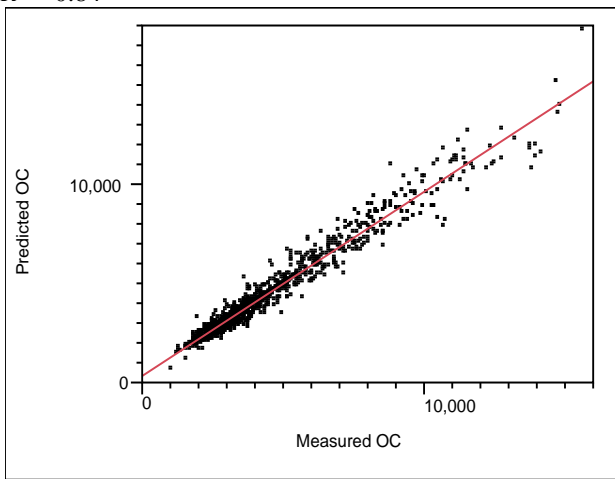


$R^2 = 0.53$

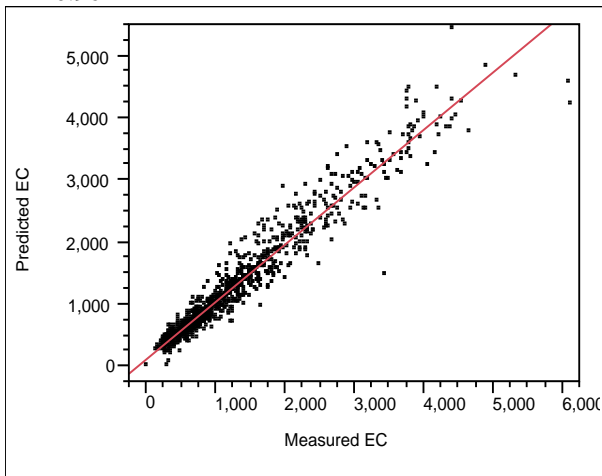
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$R^2 = 0.84$



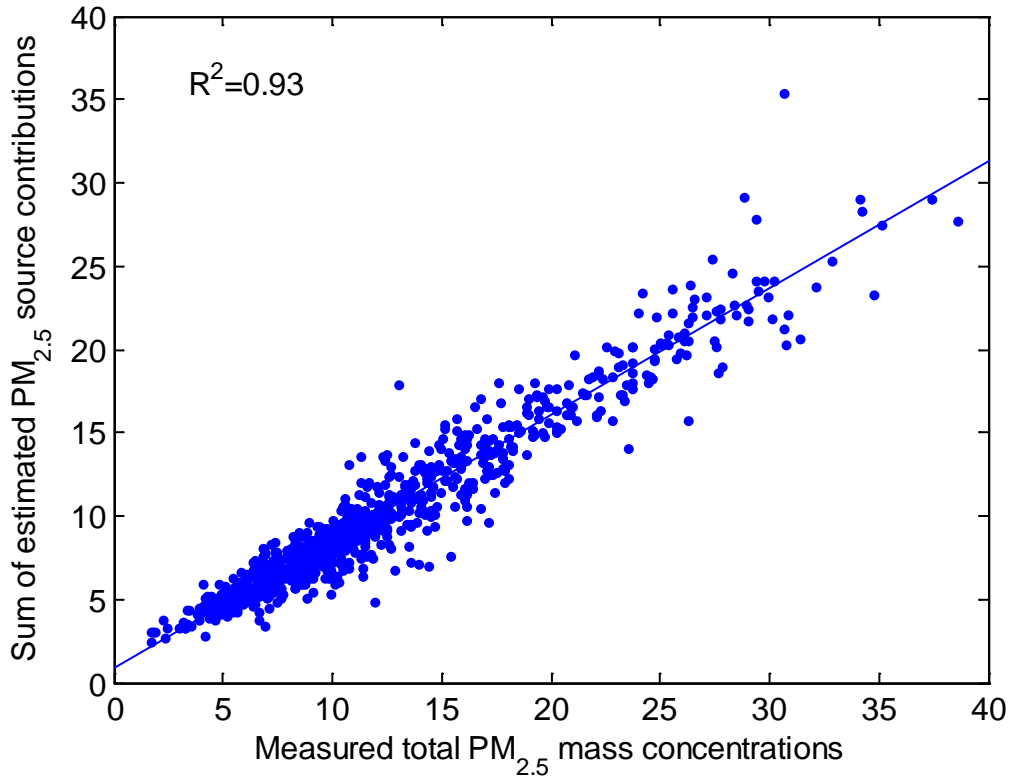
$R^2 = 0.96$



$R^2 = 0.94$

Appendix D

Figure D.3: Sum of PM_{2.5} source contributions versus measured total PM_{2.5} mass concentrations (µg/m³)



The sum of the estimated source contributions accounts for about 86% of the measured total PM_{2.5} mass concentration on average with the correlation coefficient 0.97 ($R^2 = 0.93$) between the sum of the estimated source contributions and measured total PM_{2.5} mass concentration, which suggests that the resolved sources effectively account for the total PM_{2.5} mass.