



## **ADDITIONAL MATERIALS AVAILABLE ON THE HEI WEBSITE**

### **Research Report 203**

### **Mortality–Air Pollution Associations in Low-Exposure Environments (MAPLE)**

**Michael Brauer et al.**

#### **Additional Materials 1. Supplemental Figures**

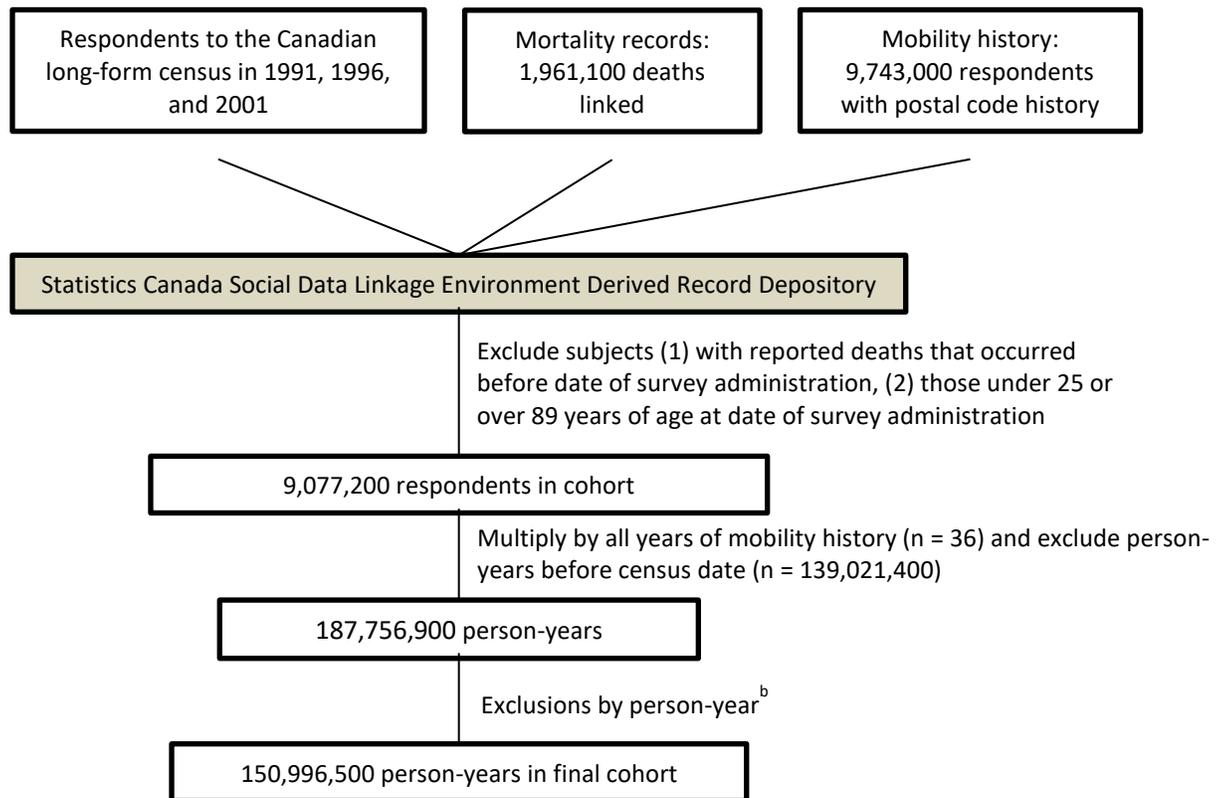
Note: Additional Materials may appear in a different order than in the original Investigators' Report, and some remnants of their original names may be apparent. HEI has not changed the content of these documents, only their numeric identifiers. Additional Materials 1 was originally Appendix C.

These Additional Materials were not formatted or edited by HEI. This document was part of the HEI Low-Exposure Epidemiology Review Panel's review process.

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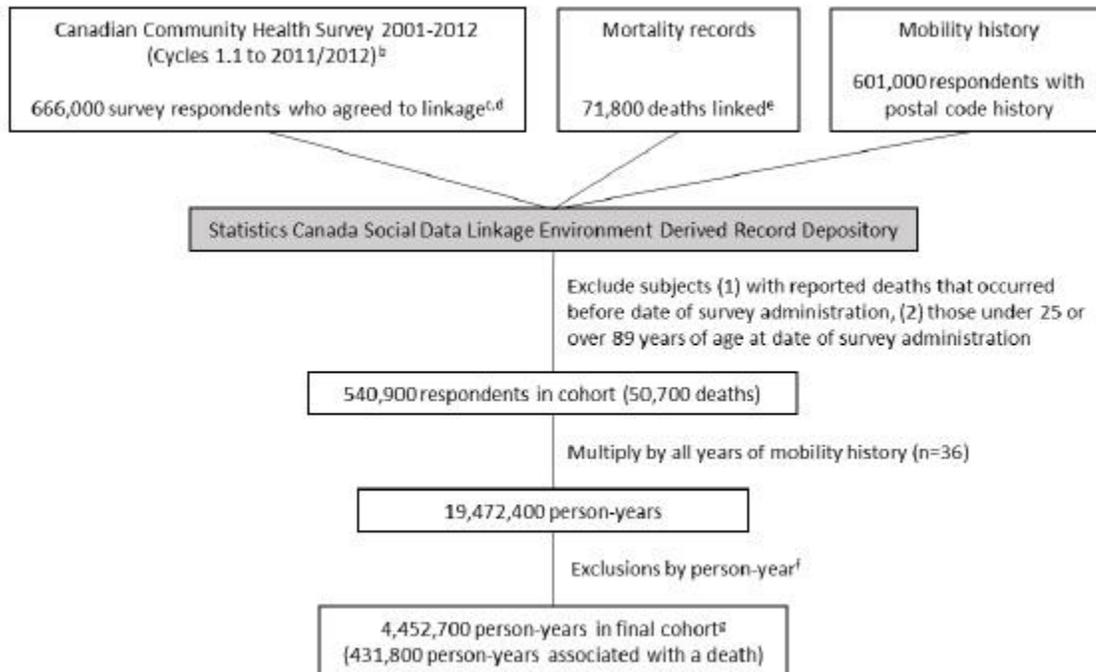
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**Figure C1. Flow chart of subject exclusion criteria for all person-years<sup>a</sup> of follow up in the 1991, 1996, and 2001 CanCHEC cohorts combined.** (From Pappin et al. 2019, Supplemental Material.)

<sup>a</sup> Numbers rounded to the nearest 100 for confidentiality.

<sup>b</sup> See methods for list of exclusion criteria, totals will exceed number of deleted person-years given that more than one exclusion criteria may apply to a single person-year; immigrated to Canada less than 10 years before survey date ( $n = 9,364,400$ ), age during follow-up period exceeds 89 years ( $n = 7,357,200$ ), no postal code ( $n = 25,425,400$ ), could not be linked to air pollution values ( $n = 17,814,400$ ), could not be linked to Can-MARG values ( $n = 25,973,900$ ), could not be linked to Census Metropolitan Area/Census Agglomeration size ( $n = 25,613,100$ ), could not be linked to airshed ( $n = 25,545,500$ ), 3-year moving average being informed by only one year of exposure ( $n = 20,056,400$ ), year after subject death ( $n = 17,936,100$ ).



**Figure C2. Flow chart of CCHS-Mortality cohort creation from linkage of survey to mortality and mobility history to person-year based analytical file<sup>a</sup>.** (From Christidis et al. 2019; Creative Commons Attribution 4.0 International License [<http://creativecommons.org/licenses/by/4.0/>].)

<sup>a</sup> Numbers rounded to the nearest 100 for confidentiality

<sup>b</sup> Response rates: 2000/2001 (Cycle 1.1), 84.7%; 2003 (Cycle 2.1), 80.7%; 2005 (Cycle 3.1), 78.9%; 2007/2008 (Cycle 4.1), 76.4%; 2009/2010, 72.3%; 2011/2012, 68.4%.

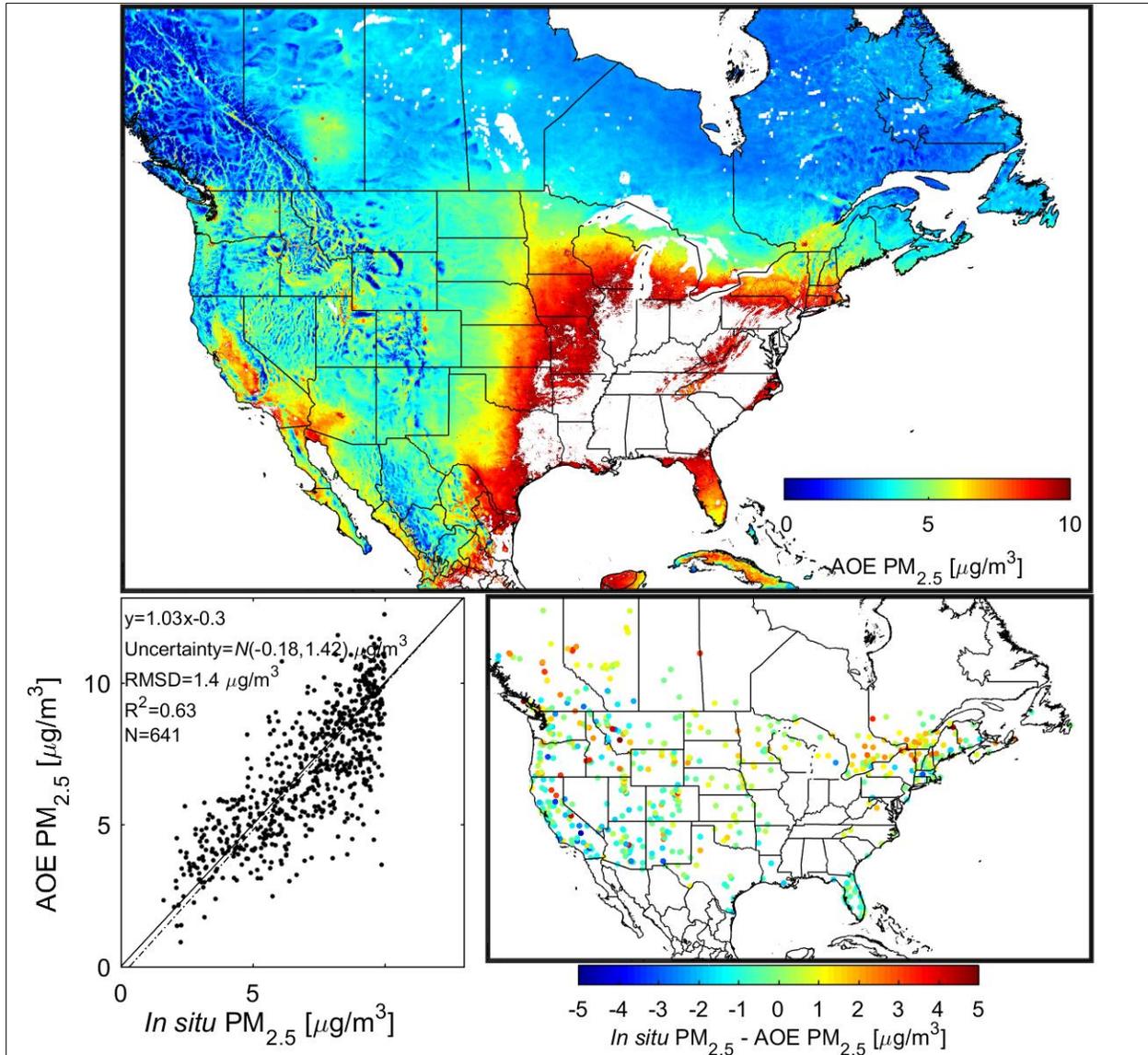
<sup>c</sup> Respondents who agreed to data linkage: 2000/2001 (Cycle 1.1),  $n = 117,800$ ; 2003 (Cycle 2.1),  $n = 112,900$ ; 2005 (Cycle 3.1),  $n = 113,900$ ; 2007/2008 (Cycle 4.1),  $n = 112,700$ ; 2009/2010,  $n = 104,700$ ; 2011/2012,  $n = 104,100$ .

<sup>d</sup> Linkage rate of respondents who agreed to linkage to the SDLE DRD: 95.2%.

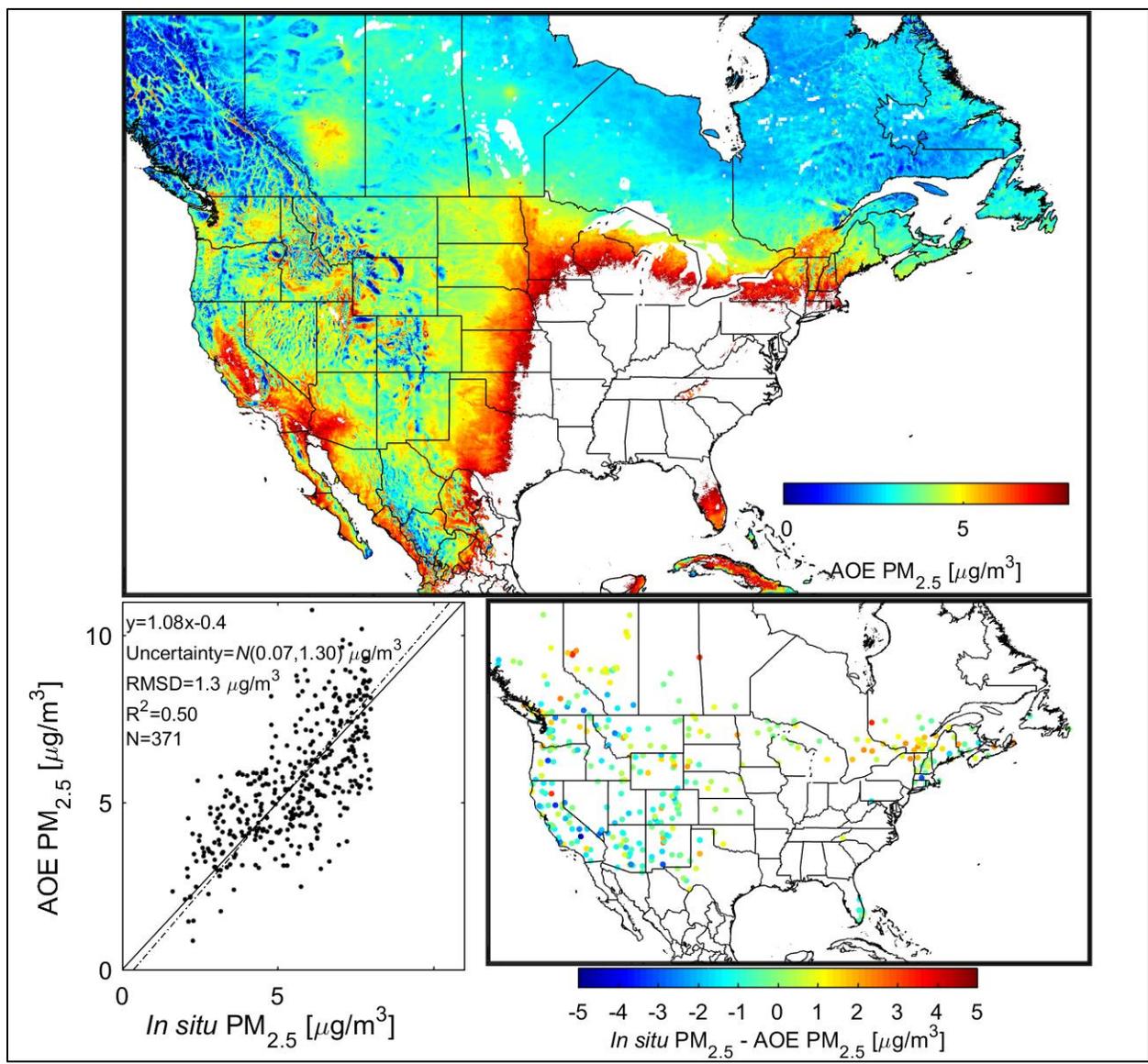
<sup>e</sup> Linkage rate of relevant deaths to the SDLE DRD: 99.8%.

<sup>f</sup> See methods for list of exclusion criteria, totals will exceed number of deleted person-years given that more than one exclusion criteria may apply to a single person-year; immigrated to Canada less than 10 years before survey date ( $n = 541,600$ ), age during follow-up period exceeds 89 years ( $n = 161,000$ ), no postal code ( $n = 5,009,900$ ), could not be linked to air pollution values ( $n = 5,711,600$ ), could not be linked to Can-MARG values ( $n = 7,668,000$ ), could not be linked to Census Metropolitan Area/Census Agglomeration size ( $n = 4,800,600$ ), could not be linked to airshed ( $n = 3,500$ ), 3-year moving average being informed by only one year of exposure ( $n = 4,321,500$ ), year after subject death ( $n = 343,600$ ), year before survey interview date ( $n = 13,570,300$ ).

<sup>g</sup> From 452,700 unique individuals.



**Figure C3.  $PM_{2.5}$  at low concentrations.** All values above  $10 \mu\text{g}/\text{m}^3$  excluded. The top panel shows mean 1 km satellite-derived  $PM_{2.5}$  estimates for 2004–2008. The lower-right panel displays the observed difference between in situ  $PM_{2.5}$  and satellite-derived  $PM_{2.5}$  observations. White denotes water, missing data, or values above  $10 \mu\text{g}/\text{m}^3$ . Values in the lower-left panel include the slope from reduced major axis linear regression ( $y$ ),  $N$  (bias, variance), RMSD,  $R^2$ , and the number of comparison sites ( $N$ ). The 1:1 line is solid, and the best fit line is dashed.



**Figure C4.  $PM_{2.5}$  at low concentrations.** As in Figure C3, except all values above  $8 \mu g/m^3$  excluded.