

## Supplementary Information for

### Air Concentrations of Polybrominated Diphenyl Ethers (PBDEs) in 2002-2004 at a Rural Site in the Great Lakes: Comparison to Measurements in the Arctic

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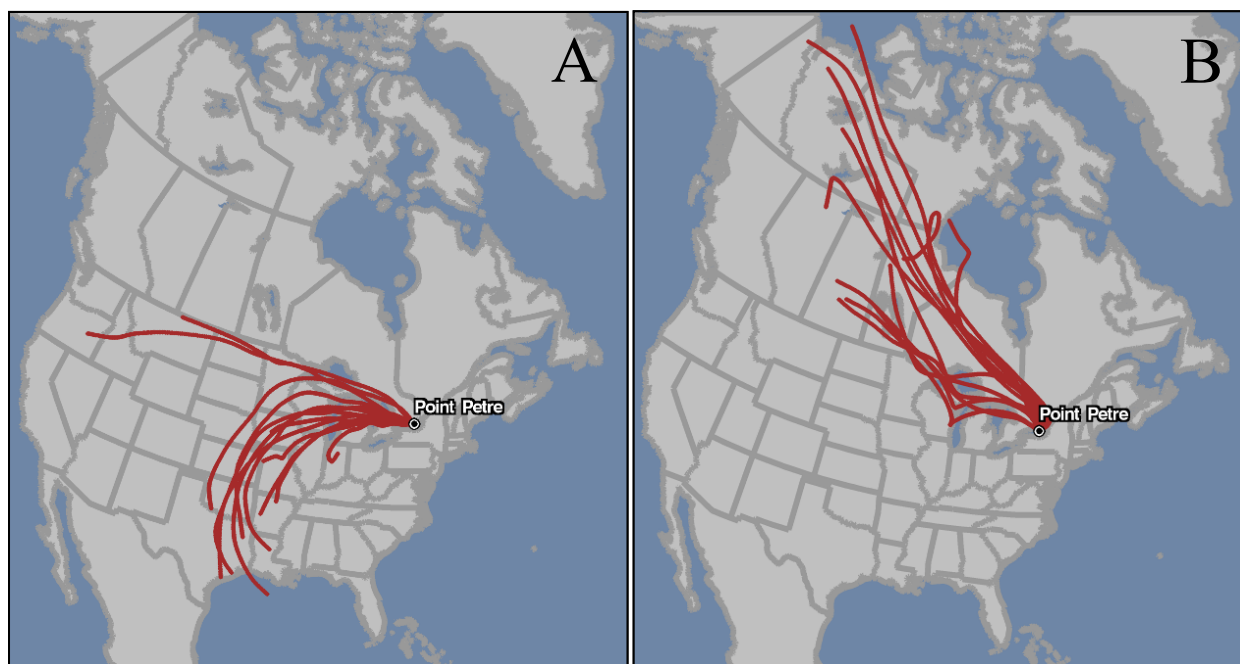
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**Table S1.** Regression results of temperature dependence at Point Petre.

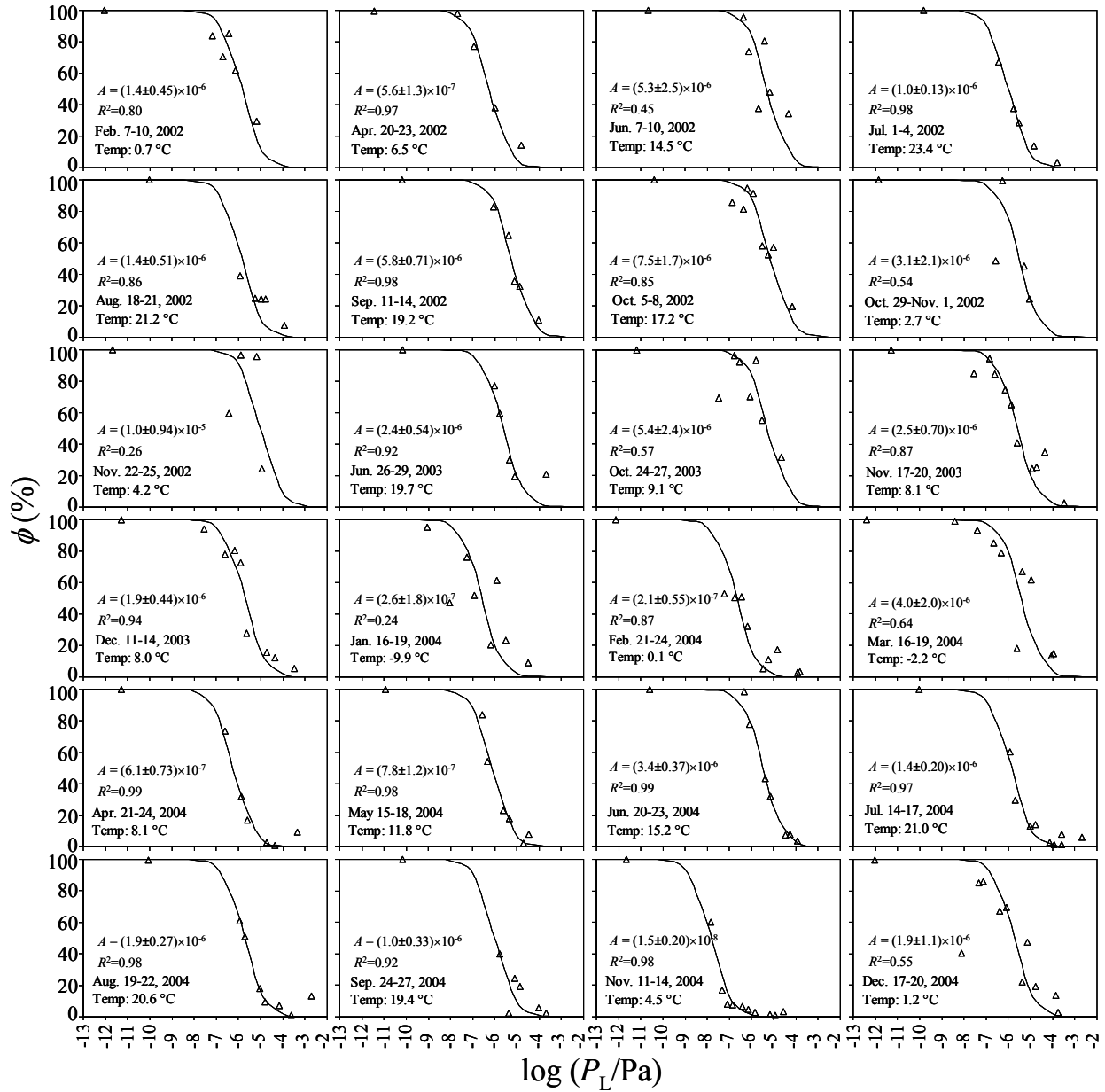
|           |         | $m$        | $p$   | $R^2$ | $n$ |
|-----------|---------|------------|-------|-------|-----|
| Tetra-BDE | BDE-47  | -6300±1700 | <0.01 | 0.33  | 29  |
|           | BDE-49  | -4600±2200 | <0.1  | 0.21  | 18  |
|           | BDE-66  | -4100±3800 | >0.1  | 0.068 | 18  |
| Penta-BDE | BDE-85  | -350±2400  | >0.1  | <0.01 | 18  |
|           | BDE-99  | -6100±3300 | <0.1  | 0.13  | 26  |
|           | BDE100  | -5200±3000 | <0.1  | 0.12  | 25  |
| Hexa-BDE  | BDE-153 | -3400±5100 | >0.1  | 0.028 | 17  |
|           | BDE-154 | -1500±2300 | >0.1  | 0.021 | 21  |

**Table S2.** Natural logarithm of median concentrations ( $\text{pg}\cdot\text{m}^{-3}$ ) of BDE-47, 99, and 209 in each of 6 clusters at Point Petre.

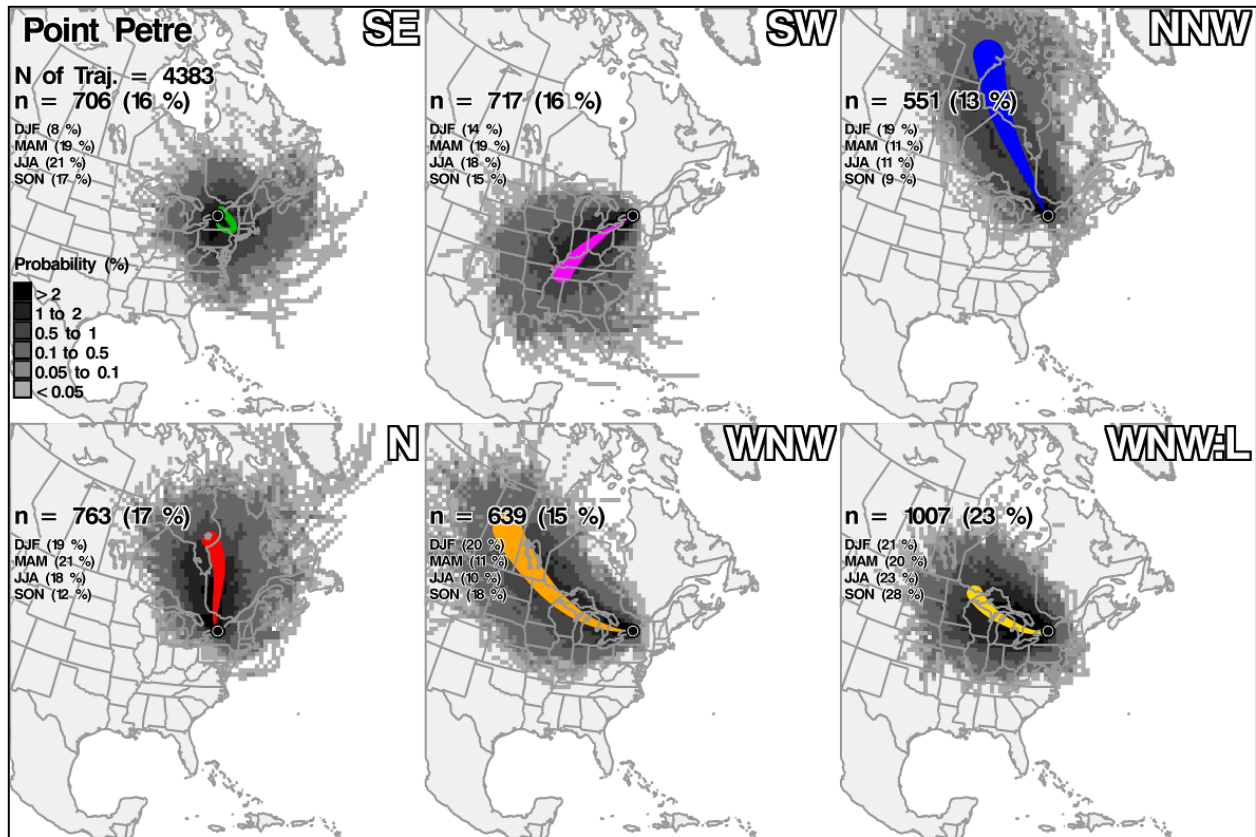
|       | BDE-47 | BDE-99 | BDE-209 |
|-------|--------|--------|---------|
| SW    | 0.77   | 0.13   | 0.77    |
| WNW   | 0.91   | 0.33   | 0.55    |
| WNW:L | 0.91   | 0.19   | 0.39    |
| NNW   | -0.19  | -0.26  | -0.25   |
| N     | -0.40  | -0.46  | -0.25   |
| SE    | 0.11   | -0.63  | -0.25   |



**Figure S1.** Air mass back-trajectories on July 1-4, 2002 (A) and November 11-14, 2004 (B).



**Figure S2.** Plots of  $\phi$  (%) vs.  $\log P_L$  and fitting lines using Eq. 1 for individual sampling events. Regression results, sampling dates, and averaged temperatures are shown as well.



**Figure S3.** Six clusters identified by analyzing five-day air mass back-trajectories in 2002-2004.