Table S4. Average Hg(0) or TGM concentrations measured during 2005 and corresponding average modeled Hg(0) concentrations (pg m-3)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sitea | Nb | **Meas-ured** | Model Configuration | | | | | | | | | | |
| 1A | 1B | 1C | 2A | 2B | 2C | 3A | 3B | 3C | 2D | 3D |
| Base case: O-20, R-0 | O-20, R-33 | O-20, R-67 | O-33, R-0 | O-33, R-33 | O-33, R-67 | O-10, R-0 | O-10, R-33 | O-10, R-67 | O-33, base emit | O-10, base emit |
| STA | 8422 | **1522** | 1608 | 1635 | 1661 | 1610 | 1631 | 1652 | 1607 | 1646 | 1675 | 1304 | 1973 |
| BTL | 8124 | **1647** | 1721 | 1747 | 1773 | 1730 | 1750 | 1769 | 1715 | 1752 | 1780 | 1413 | 2090 |
| BRI | 8549 | **1605** | 1648 | 1678 | 1707 | 1648 | 1673 | 1696 | 1648 | 1690 | 1721 | 1342 | 2014 |
| EGB | 8359 | **1601** | 1636 | 1666 | 1695 | 1636 | 1660 | 1683 | 1637 | 1678 | 1710 | 1331 | 2003 |
| KEJ | 8153 | **1729** | 1532 | 1555 | 1578 | 1530 | 1548 | 1565 | 1534 | 1569 | 1595 | 1227 | 1898 |
| PPT | 8253 | **1672** | 1623 | 1650 | 1678 | 1625 | 1647 | 1669 | 1622 | 1661 | 1691 | 1318 | 1988 |
| ALT | 8123 | **1530** | 1358 | 1378 | 1399 | 1340 | 1356 | 1371 | 1370 | 1401 | 1425 | 1068 | 1705 |
| UND | 1588 | **1567** | 1715 | 1740 | 1765 | 1740 | 1759 | 1778 | 1693 | 1731 | 1757 | 1398 | 2093 |
| UND (L3) | 1588 | **1567** | 1652 | 1677 | 1701 | 1652 | 1671 | 1690 | 1650 | 1687 | 1714 | 1330 | 2036 |
| MBO (L4) | 1962 | **1527** | 1816 | 1843 | 1869 | 1825 | 1845 | 1865 | 1803 | 1842 | 1872 | 1484 | 2204 |
| MBO (L5) | 1962 | **1527** | 1677 | 1705 | 1733 | 1651 | 1672 | 1693 | 1694 | 1734 | 1765 | 1340 | 2074 |
| MBO (L6) | 1962 | **1527** | 1543 | 1574 | 1604 | 1473 | 1497 | 1520 | 1597 | 1639 | 1674 | 1201 | 1950 |
| PTD | 68 | **2437** | 1639 | 1667 | 1695 | 1663 | 1685 | 1708 | 1619 | 1659 | 1688 | 1349 | 1985 |
| STK | 43 | **2572** | 1699 | 1736 | 1772 | 1714 | 1746 | 1777 | 1687 | 1736 | 1774 | 1412 | 2043 |
| DRI | 1518 | **1675** | 1958 | 1987 | 2017 | 1955 | 1979 | 2002 | 1962 | 2003 | 2036 | 1642 | 2337 |
| DRI (L3) | 1518 | **1675** | 1732 | 1760 | 1789 | 1705 | 1727 | 1749 | 1756 | 1796 | 1828 | 1411 | 2118 |
| PAR | 199 | **2985** | 2265 | 2291 | 2317 | 2283 | 2304 | 2324 | 2247 | 2285 | 2314 | 1930 | 2658 |
| GBR | 172 | **2564** | 2385 | 2412 | 2439 | 2407 | 2428 | 2448 | 2364 | 2404 | 2433 | 2048 | 2779 |

a. Definitions of site abbreviations and specifications of measurements made at each site -- e.g., Hg(0) or Total Gaseous Mercury (TGM) -- are given in Table 2 of the main paper. All model results represent model output for the first surface level (L2) unless otherwise indicated (e.g., L3).

b. *N* = Number of data pairs analyzed.