

Table 1: VMR data (ppt) for the 30 averaged bins spanning the latitudes 70°S to 80°N between the altitudes of 8 and 30 km used for the contour plot for the global distribution of carbon tetrachloride.

| Latitude<br>(degree) | Altitude (km) |       |       |       |       |       |       |
|----------------------|---------------|-------|-------|-------|-------|-------|-------|
|                      | 8             | 9     | 10    | 11    | 12    | 13    | 14    |
| 70°S-65°S            | 103.0         | 100.7 | 96.4  | 89.5  | 83.9  | 77.4  | 69.7  |
| 65°S-60°S            | 100.6         | 101.3 | 96.9  | 91.6  | 86.0  | 80.5  | 73.6  |
| 60°S-55°S            | 107.9         | 102.3 | 98.8  | 92.0  | 88.2  | 83.1  | 76.8  |
| 55°S-50°S            | 110.6         | 109.2 | 105.4 | 98.6  | 94.1  | 88.3  | 82.6  |
| 50°S-45°S            | 110.0         | 111.0 | 105.6 | 100.4 | 94.9  | 92.0  | 87.1  |
| 45°S-40°S            | 117.2         | 117.7 | 113.0 | 104.9 | 101.1 | 96.4  | 91.1  |
| 40°S-35°S            | 109.8         | 117.0 | 114.8 | 107.0 | 106.1 | 101.0 | 95.8  |
| 35°S-30°S            | 117.7         | 124.6 | 119.0 | 112.4 | 108.8 | 106.2 | 98.7  |
| 30°S-25°S            | 124.0         | 126.8 | 126.3 | 116.3 | 109.6 | 104.6 | 101.4 |
| 25°S-20°S            | 133.7         | 123.6 | 115.5 | 115.7 | 109.6 | 107.7 | 104.7 |
| 20°S-15°S            | 115.7         | 117.1 | 116.6 | 111.7 | 112.2 | 108.2 | 105.2 |
| 15°S-10°S            | 114.8         | 115.9 | 113.0 | 116.1 | 115.1 | 111.0 | 105.2 |
| 10°S-5°S             | 114.0         | 126.9 | 117.2 | 113.2 | 116.0 | 109.9 | 107.8 |
| 5°S-0°               | 109.6         | 124.5 | 117.4 | 115.0 | 117.3 | 110.5 | 104.9 |
| 0°-5°N               | 108.7         | 113.3 | 117.5 | 117.9 | 115.7 | 110.8 | 107.0 |
| 5°N-10°N             | 93.0          | 116.7 | 121.0 | 119.5 | 115.1 | 106.7 | 104.4 |
| 10°N-15°N            | 109.3         | 130.1 | 125.5 | 122.6 | 115.8 | 112.3 | 105.6 |
| 15°N-20°N            | 113.0         | 119.7 | 118.1 | 117.5 | 114.9 | 109.4 | 105.8 |
| 20°N-25°N            | 136.1         | 130.1 | 129.0 | 122.9 | 117.7 | 111.0 | 106.6 |
| 25°N-30°N            | 135.0         | 126.8 | 125.3 | 120.2 | 119.1 | 112.4 | 103.3 |
| 30°N-35°N            | 127.6         | 135.9 | 130.4 | 119.4 | 116.7 | 111.2 | 104.6 |
| 35°N-40°N            | 126.8         | 131.9 | 132.1 | 124.9 | 117.4 | 109.0 | 99.3  |
| 40°N-45°N            | 126.3         | 133.1 | 125.3 | 118.6 | 110.8 | 100.7 | 92.9  |
| 45°N-50°N            | 130.7         | 124.9 | 122.0 | 114.5 | 108.7 | 98.2  | 90.5  |
| 50°N-55°N            | 126.6         | 124.1 | 116.5 | 107.2 | 99.2  | 93.4  | 86.9  |
| 55°N-60°N            | 121.9         | 116.8 | 108.1 | 101.4 | 94.0  | 86.6  | 78.9  |
| 60°N-65°N            | 116.4         | 113.6 | 108.5 | 98.6  | 90.0  | 83.1  | 75.9  |
| 65°N-70°N            | 119.1         | 115.7 | 108.5 | 98.8  | 90.5  | 83.1  | 75.6  |
| 70°N-75°N            | 114.2         | 109.1 | 103.9 | 94.1  | 86.2  | 77.8  | 69.9  |
| 75°N-80°N            | 112.0         | 107.4 | 99.9  | 90.9  | 82.3  | 74.5  | 65.4  |

  

| Latitude<br>(degree) | Altitude (km) |       |       |       |      |      |      |
|----------------------|---------------|-------|-------|-------|------|------|------|
|                      | 15            | 16    | 17    | 18    | 19   | 20   | 21   |
| 70°S-65°S            | 60.9          | 50.2  | 39.7  | 30.8  | 23.3 | 17.3 | 13.7 |
| 65°S-60°S            | 65.3          | 55.5  | 44.8  | 34.7  | 26.2 | 19.7 | 15.5 |
| 60°S-55°S            | 70.9          | 63.1  | 53.0  | 42.6  | 32.8 | 24.9 | 18.8 |
| 55°S-50°S            | 76.3          | 69.1  | 60.2  | 49.3  | 38.2 | 28.9 | 21.9 |
| 50°S-45°S            | 83.1          | 76.7  | 69.0  | 59.1  | 47.4 | 36.8 | 28.0 |
| 45°S-40°S            | 87.9          | 84.1  | 76.7  | 66.9  | 55.7 | 44.5 | 33.8 |
| 40°S-35°S            | 92.6          | 88.8  | 83.3  | 74.3  | 63.0 | 51.5 | 40.7 |
| 35°S-30°S            | 97.6          | 94.2  | 90.9  | 84.8  | 73.5 | 59.5 | 46.0 |
| 30°S-25°S            | 100.2         | 98.9  | 98.7  | 91.5  | 82.1 | 67.4 | 54.3 |
| 25°S-20°S            | 102.3         | 101.4 | 100.1 | 96.1  | 85.6 | 74.7 | 60.6 |
| 20°S-15°S            | 103.0         | 101.7 | 103.5 | 103.9 | 94.8 | 83.3 | 69.8 |
| 15°S-10°S            | 104.3         | 106.0 | 104.4 | 103.9 | 99.5 | 86.5 | 75.3 |
| 10°S-5°S             | 105.7         | 99.5  | 104.7 | 104.5 | 96.6 | 88.5 | 77.1 |
| 5°S-0°               | 101.5         | 104.5 | 105.5 | 104.2 | 98.0 | 91.0 | 82.4 |
| 0°-5°N               | 106.9         | 106.1 | 106.5 | 102.2 | 99.3 | 88.4 | 81.6 |

|                  |       |       |       |       |      |      |      |
|------------------|-------|-------|-------|-------|------|------|------|
| <b>5°N-10°N</b>  | 100.8 | 105.6 | 104.5 | 102.8 | 94.5 | 88.4 | 77.0 |
| <b>10°N-15°N</b> | 106.0 | 103.2 | 106.7 | 102.1 | 97.3 | 88.1 | 76.9 |
| <b>15°N-20°N</b> | 102.4 | 101.8 | 105.2 | 100.2 | 94.3 | 83.6 | 73.3 |
| <b>20°N-25°N</b> | 104.6 | 102.7 | 101.0 | 101.2 | 92.9 | 78.1 | 67.4 |
| <b>25°N-30°N</b> | 103.9 | 102.8 | 99.6  | 95.6  | 86.4 | 73.8 | 61.2 |
| <b>30°N-35°N</b> | 100.5 | 99.3  | 95.8  | 90.0  | 81.5 | 67.8 | 54.8 |
| <b>35°N-40°N</b> | 94.9  | 93.7  | 90.4  | 83.0  | 73.8 | 63.0 | 48.6 |
| <b>40°N-45°N</b> | 89.5  | 85.5  | 80.0  | 73.0  | 62.6 | 50.8 | 39.5 |
| <b>45°N-50°N</b> | 86.4  | 81.9  | 76.1  | 68.0  | 57.6 | 46.2 | 35.5 |
| <b>50°N-55°N</b> | 81.2  | 76.3  | 70.2  | 61.6  | 51.0 | 40.9 | 32.1 |
| <b>55°N-60°N</b> | 74.1  | 68.0  | 60.5  | 51.3  | 42.3 | 33.6 | 26.4 |
| <b>60°N-65°N</b> | 69.4  | 62.1  | 53.7  | 45.5  | 36.2 | 28.1 | 22.1 |
| <b>65°N-70°N</b> | 69.5  | 61.9  | 53.3  | 44.2  | 34.8 | 26.7 | 21.5 |
| <b>70°N-75°N</b> | 61.5  | 51.9  | 41.3  | 32.6  | 26.8 | 21.9 | 18.5 |
| <b>75°N-80°N</b> | 55.4  | 45.5  | 38.2  | 30.9  | 23.9 | 18.8 | 15.0 |

| Latitude<br>(degree) | Altitude (km) |           |           |           |           |           |           |
|----------------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                      | <b>22</b>     | <b>23</b> | <b>24</b> | <b>25</b> | <b>26</b> | <b>27</b> | <b>28</b> |
| <b>70°S-65°S</b>     | 13.5          | 14.9      | 17.5      | 18.0      | 11.9      | 4.0       | 1.6       |
| <b>65°S-60°S</b>     | 14.3          | 15.9      | 18.4      | 18.6      | 14.1      | 5.2       | 2.1       |
| <b>60°S-55°S</b>     | 14.9          | 14.9      | 18.1      | 19.2      | 16.4      | 7.6       | 3.0       |
| <b>55°S-50°S</b>     | 17.1          | 16.2      | 19.4      | 20.7      | 18.7      | 12.7      | 5.1       |
| <b>50°S-45°S</b>     | 20.8          | 17.7      | 17.4      | 20.5      | 21.2      | 16.8      | 8.6       |
| <b>45°S-40°S</b>     | 24.6          | 19.7      | 17.4      | 22.2      | 20.5      | 18.7      | 13.9      |
| <b>40°S-35°S</b>     | 30.7          | 23.2      | 18.6      | 18.1      | 19.9      | 19.5      | 17.6      |
| <b>35°S-30°S</b>     | 33.9          | 24.7      | 20.5      | 19.5      | 24.6      | 22.1      | 18.6      |
| <b>30°S-25°S</b>     | 42.9          | 32.5      | 23.3      | 21.7      | 23.3      | 24.3      | 24.9      |
| <b>25°S-20°S</b>     | 48.1          | 38.9      | 31.5      | 23.6      | 20.7      | 23.5      | 22.2      |
| <b>20°S-15°S</b>     | 56.0          | 44.9      | 35.7      | 29.1      | 27.2      | 28.1      | 26.5      |
| <b>15°S-10°S</b>     | 65.8          | 53.5      | 41.8      | 35.0      | 29.4      | 25.9      | 25.7      |
| <b>10°S-5°S</b>      | 69.8          | 58.4      | 44.6      | 36.9      | 32.8      | 25.3      | 23.8      |
| <b>5°S-0°</b>        | 73.6          | 64.1      | 47.3      | 36.4      | 30.8      | 26.4      | 24.4      |
| <b>0°-5°N</b>        | 73.3          | 60.7      | 44.7      | 35.5      | 31.4      | 27.4      | 24.6      |
| <b>5°N-10°N</b>      | 66.7          | 57.6      | 45.2      | 32.9      | 28.3      | 26.8      | 26.1      |
| <b>10°N-15°N</b>     | 65.9          | 56.3      | 44.0      | 34.0      | 30.1      | 30.1      | 27.9      |
| <b>15°N-20°N</b>     | 62.1          | 48.3      | 37.7      | 30.9      | 25.9      | 26.2      | 27.1      |
| <b>20°N-25°N</b>     | 55.6          | 42.8      | 33.3      | 29.1      | 25.9      | 26.3      | 21.5      |
| <b>25°N-30°N</b>     | 49.6          | 38.1      | 29.7      | 26.7      | 28.2      | 29.4      | 22.9      |
| <b>30°N-35°N</b>     | 43.0          | 33.2      | 26.9      | 24.7      | 25.5      | 21.9      | 21.1      |
| <b>35°N-40°N</b>     | 36.6          | 26.7      | 22.1      | 21.6      | 26.7      | 24.0      | 19.7      |
| <b>40°N-45°N</b>     | 30.3          | 25.4      | 21.3      | 24.0      | 21.7      | 17.2      | 14.2      |
| <b>45°N-50°N</b>     | 27.6          | 22.7      | 21.7      | 22.9      | 24.4      | 19.8      | 9.8       |
| <b>50°N-55°N</b>     | 25.2          | 22.1      | 23.2      | 25.1      | 18.8      | 11.8      | 5.5       |
| <b>55°N-60°N</b>     | 21.6          | 19.5      | 21.6      | 21.5      | 19.8      | 10.4      | 4.1       |
| <b>60°N-65°N</b>     | 19.8          | 21.2      | 21.5      | 20.3      | 14.7      | 5.2       | 2.1       |
| <b>65°N-70°N</b>     | 19.6          | 20.2      | 20.9      | 20.0      | 11.4      | 3.8       | 1.5       |
| <b>70°N-75°N</b>     | 17.6          | 18.9      | 20.9      | 19.0      | 10.8      | 3.6       | 1.5       |
| <b>75°N-80°N</b>     | 15.6          | 17.6      | 20.9      | 19.3      | 7.0       | 2.9       | 1.1       |

| Latitude<br>(degree) | Altitude (km) |           |
|----------------------|---------------|-----------|
|                      | <b>29</b>     | <b>30</b> |
| <b>70°S-65°S</b>     | 0.8           | 0.2       |
| <b>65°S-60°S</b>     | 1.0           | 0.2       |
| <b>60°S-55°S</b>     | 1.5           | 0.3       |
| <b>55°S-50°S</b>     | 2.5           | 0.5       |
| <b>50°S-45°S</b>     | 4.3           | 0.9       |
| <b>45°S-40°S</b>     | 7.0           | 1.4       |

|                |      |      |
|----------------|------|------|
| <b>40S-35S</b> | 10.2 | 2.0  |
| <b>35S-30S</b> | 15.9 | 3.4  |
| <b>30S-25S</b> | 17.5 | 4.0  |
| <b>25S-20S</b> | 20.3 | 4.9  |
| <b>20S-15S</b> | 25.0 | 6.3  |
| <b>15S-10S</b> | 24.3 | 9.1  |
| <b>10S-5S</b>  | 20.7 | 8.4  |
| <b>5S-0°</b>   | 22.6 | 9.3  |
| <b>0°-5N</b>   | 25.3 | 10.3 |
| <b>5N-10N</b>  | 24.9 | 11.3 |
| <b>10N-15N</b> | 20.7 | 6.9  |
| <b>15N-20N</b> | 22.7 | 7.8  |
| <b>20N-25N</b> | 20.8 | 5.8  |
| <b>25N-30N</b> | 19.9 | 4.0  |
| <b>30N-35N</b> | 16.1 | 3.2  |
| <b>35N-40N</b> | 10.5 | 2.2  |
| <b>40N-45N</b> | 7.2  | 1.4  |
| <b>45N-50N</b> | 5.0  | 1.0  |
| <b>50N-55N</b> | 2.8  | 0.6  |
| <b>55N-60N</b> | 2.1  | 0.4  |
| <b>60N-65N</b> | 1.0  | 0.2  |
| <b>65N-70N</b> | 0.8  | 0.2  |
| <b>70N-75N</b> | 0.7  | 0.1  |
| <b>75N-80N</b> | 0.6  | 0.1  |

Table 2: The data points for the VMR (ppt) average for each latitudinal zone between the altitudes of 8 and 30 km.

| Latitude<br>(degree) | Altitude (km) |           |           |           |           |           |           |
|----------------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                      | <b>8</b>      | <b>9</b>  | <b>10</b> | <b>11</b> | <b>12</b> | <b>13</b> | <b>14</b> |
| <b>90S-60S</b>       | 71.2          | 73.6      | 71.5      | 67.5      | 62.8      | 59.1      | 53.4      |
| <b>60S-45S</b>       | 109.5         | 107.5     | 103.3     | 97.0      | 92.4      | 87.8      | 82.2      |
| <b>45S-20S</b>       | 120.5         | 121.9     | 117.7     | 111.2     | 107.0     | 103.2     | 98.3      |
| <b>20S-20N</b>       | 109.8         | 120.5     | 118.3     | 116.7     | 115.3     | 112.0     | 105.8     |
| <b>45N-20N</b>       | 130.4         | 131.6     | 128.4     | 121.2     | 116.4     | 108.9     | 101.3     |
| <b>60N-45N</b>       | 126.4         | 122.0     | 115.5     | 107.7     | 100.6     | 92.8      | 85.5      |
| <b>90N-60N</b>       | 106.6         | 102.7     | 97.1      | 88.2      | 80.3      | 73.3      | 66.1      |
| Latitude<br>(degree) | Altitude (km) |           |           |           |           |           |           |
|                      | <b>15</b>     | <b>16</b> | <b>17</b> | <b>18</b> | <b>19</b> | <b>20</b> | <b>21</b> |
| <b>90S-60S</b>       | 46.9          | 38.6      | 29.9      | 22.0      | 15.9      | 12.1      | 10.0      |
| <b>60S-45S</b>       | 76.8          | 69.6      | 60.7      | 50.4      | 39.4      | 30.2      | 22.9      |
| <b>45S-20S</b>       | 96.1          | 93.5      | 89.9      | 82.7      | 72.0      | 59.5      | 47.1      |
| <b>20S-20N</b>       | 103.8         | 103.6     | 105.1     | 103.0     | 96.8      | 87.2      | 76.7      |
| <b>45N-20N</b>       | 98.7          | 96.8      | 93.4      | 88.6      | 79.4      | 66.7      | 54.3      |
| <b>60N-45N</b>       | 80.6          | 75.4      | 68.9      | 60.3      | 50.3      | 40.2      | 31.3      |
| <b>90N-60N</b>       | 58.7          | 50.5      | 42.3      | 34.3      | 26.7      | 20.4      | 16.3      |
| Latitude<br>(degree) | Altitude (km) |           |           |           |           |           |           |
|                      | <b>22</b>     | <b>23</b> | <b>24</b> | <b>25</b> | <b>26</b> | <b>27</b> | <b>28</b> |
| <b>90S-60S</b>       | 9.3           | 10.6      | 12.5      | 14.2      | 7.7       | 2.7       | 1.1       |
| <b>60S-45S</b>       | 17.6          | 16.2      | 18.3      | 20.1      | 18.8      | 12.4      | 5.6       |
| <b>45S-20S</b>       | 36.0          | 27.8      | 22.3      | 21.0      | 21.8      | 21.6      | 19.4      |
| <b>20S-20N</b>       | 66.7          | 55.5      | 42.6      | 33.8      | 29.5      | 27.0      | 25.8      |
| <b>45N-20N</b>       | 43.0          | 33.3      | 26.7      | 25.2      | 25.6      | 23.8      | 19.9      |

|                  |               |           |      |      |      |      |     |
|------------------|---------------|-----------|------|------|------|------|-----|
| <b>60°N-45°N</b> | 24.8          | 21.5      | 22.1 | 23.2 | 21.0 | 14.0 | 6.5 |
| <b>90°N-60°N</b> | 15.2          | 17.0      | 18.4 | 17.2 | 8.7  | 3.0  | 1.2 |
| Latitude         | Altitude (km) |           |      |      |      |      |     |
| (degree)         | <b>29</b>     | <b>30</b> |      |      |      |      |     |
| <b>90°S-60°S</b> | 0.5           | 0.1       |      |      |      |      |     |
| <b>60°S-45°S</b> | 2.8           | 0.6       |      |      |      |      |     |
| <b>45°S-20°S</b> | 14.2          | 3.1       |      |      |      |      |     |
| <b>20°S-20°N</b> | 23.3          | 8.7       |      |      |      |      |     |
| <b>45°N-20°N</b> | 14.9          | 3.3       |      |      |      |      |     |
| <b>60°N-45°N</b> | 3.3           | 0.7       |      |      |      |      |     |
| <b>90°N-60°N</b> | 0.6           | 0.1       |      |      |      |      |     |

Table 3: The number of profiles that were used for generating the average profile for that specific latitude bin. ACE's orbit means that more measurements are taken in the polar regions.

| Latitude<br>(degree) | Number of<br>profiles in<br>average |
|----------------------|-------------------------------------|
| <b>70°S-65°S</b>     | 797                                 |
| <b>65°S-60°S</b>     | 686                                 |
| <b>60°S-55°S</b>     | 456                                 |
| <b>55°S-50°S</b>     | 301                                 |
| <b>50°S-45°S</b>     | 201                                 |
| <b>45°S-40°S</b>     | 158                                 |
| <b>40°S-35°S</b>     | 129                                 |
| <b>35°S-30°S</b>     | 130                                 |
| <b>30°S-25°S</b>     | 117                                 |
| <b>25°S-20°S</b>     | 96                                  |
| <b>20°S-15°S</b>     | 103                                 |
| <b>15°S-10°S</b>     | 91                                  |
| <b>10°S-5°S</b>      | 77                                  |
| <b>5°S-0°</b>        | 85                                  |
| <b>0°-5°N</b>        | 104                                 |
| <b>5°N-10°N</b>      | 91                                  |
| <b>10°N-15°N</b>     | 83                                  |
| <b>15°N-20°N</b>     | 94                                  |
| <b>20°N-25°N</b>     | 104                                 |
| <b>25°N-30°N</b>     | 114                                 |
| <b>30°N-35°N</b>     | 141                                 |
| <b>35°N-40°N</b>     | 161                                 |
| <b>40°N-45°N</b>     | 195                                 |
| <b>45°N-50°N</b>     | 267                                 |
| <b>50°N-55°N</b>     | 354                                 |
| <b>55°N-60°N</b>     | 472                                 |
| <b>60°N-65°N</b>     | 836                                 |
| <b>65°N-70°N</b>     | 979                                 |
| <b>70°N-75°N</b>     | 346                                 |
| <b>75°N-80°N</b>     | 450                                 |