

我国各地大气透明系数资料

大气透明系数 P_m 是表征大气混浊程度的重要参数。其表达式为：

$$P_m = \sqrt{\frac{S_m}{S_0}}$$

式中 m ——大气质量数； S_0 ——太阳常数，取值 1.98 卡/厘米²分； S_m ——到达地表面的垂直辐射强度。

为了消去福布斯 (ФОРБС) 效应对大气透明系

数的影响，我们根据西弗科夫 (СИВОВ) 方法。求出 $m=2$ 时的 S_m 值 (S_2)，据上式求出 P_2 。

下表列出各地 P_2 多年平均值，该值是采用 1957—1978 年间晴天、正午观测的垂直辐射强度 S_m 求得的。其中对 S_m 是订正到平均日地距离上的。对海拔较高的站进行了气压订正。因此各地的 P_2 可以相互比较。

太阳能利用协作小组

我国各地各月大气透明系数 (P_2)

| 站名 | 纬度 | 经度 | 海拔高度(米) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 年平均 |
|-----------|--------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 黑 河 | 50°15' | 127°22' | 165.8 | 0.818 | 0.794 | 0.798 | 0.784 | 0.744 | 0.779 | 0.740 | 0.766 | 0.784 | 0.799 | 0.820 | 0.817 | 0.787 |
| 佳 木 斯 | 46°49' | 130°17' | 81.2 | 0.758 | 0.749 | 0.744 | 0.713 | 0.696 | 0.700 | 0.719 | 0.730 | 0.742 | 0.766 | 0.773 | 0.746 | 0.736 |
| 哈 尔 滨 | 45°41' | 126°37' | 171.7 | 0.716 | 0.721 | 0.704 | 0.682 | 0.664 | 0.674 | 0.698 | 0.705 | 0.719 | 0.718 | 0.752 | 0.726 | 0.707 |
| 长 春 | 43.54' | 125°13' | 236.8 | 0.784 | 0.768 | 0.744 | 0.706 | 0.699 | 0.669 | 0.697 | 0.685 | 0.733 | 0.768 | 0.788 | 0.786 | 0.738 |
| 沈 阳 | 41°26' | 123°26' | 41.6 | 0.686 | 0.715 | 0.729 | 0.715 | 0.721 | 0.652 | 0.638 | 0.701 | 0.715 | 0.744 | 0.738 | 0.722 | 0.706 |
| 阿 勒 泰 | 47°44' | 88°05' | 735.3 | 0.806 | 0.797 | 0.771 | 0.751 | 0.736 | 0.733 | 0.728 | 0.742 | 0.758 | 0.782 | 0.799 | 0.810 | 0.768 |
| 伊 宁 | 43°57' | 81°20' | 662.5 | 0.787 | 0.773 | 0.728 | 0.733 | 0.708 | 0.729 | 0.723 | 0.712 | 0.731 | 0.752 | 0.775 | 0.793 | 0.745 |
| 乌 鲁 木 齐 | 43°47' | 87°37' | 917.5 | 0.726 | 0.714 | 0.701 | 0.692 | 0.718 | 0.697 | 0.718 | 0.706 | 0.713 | 0.721 | 0.705 | 0.692 | 0.709 |
| 吐 鲁 番 | 42°56' | 89°12' | 34.5 | 0.712 | 0.706 | 0.690 | 0.704 | 0.692 | 0.705 | 0.713 | 0.706 | 0.720 | 0.715 | 0.734 | 0.710 | 0.709 |
| 哈 密 | 42°49' | 93°31' | 737.9 | 0.787 | 0.785 | 0.734 | 0.743 | 0.729 | 0.732 | 0.725 | 0.732 | 0.755 | 0.758 | 0.780 | 0.782 | 0.754 |
| 库 车 | 41°43' | 82°57' | 1099.0 | 0.745 | 0.728 | 0.643 | 0.602 | 0.672 | 0.679 | 0.673 | 0.670 | 0.658 | 0.687 | 0.722 | 0.753 | 0.700 |
| 喀 什 | 39°28' | 75°59' | 1288.7 | 0.727 | 0.700 | 0.715 | 0.696 | 0.730 | 0.695 | 0.685 | 0.669 | 0.650 | 0.701 | 0.734 | 0.745 | 0.704 |
| 若 羌 | 39°02' | 88°10' | 888.3 | 0.742 | 0.733 | 0.689 | 0.634 | 0.611 | 0.630 | 0.659 | 0.667 | 0.688 | 0.725 | 0.747 | 0.754 | 0.690 |
| 和 田 | 37°08' | 79°56' | 1374.6 | 0.733 | 0.721 | 0.674 | 0.621 | 0.621 | 0.607 | 0.606 | 0.592 | 0.607 | 0.683 | 0.738 | 0.749 | 0.666 |
| 西 宁 | 36°37' | 101°46' | 2261.2 | 0.725 | 0.726 | 0.684 | 0.649 | 0.692 | 0.727 | 0.731 | 0.738 | 0.725 | 0.727 | 0.726 | 0.722 | 0.714 |
| 格 尔 木 | 36°25' | 94°54' | 2807.7 | 0.780 | 0.778 | 0.716 | 0.678 | 0.670 | 0.692 | 0.703 | 0.716 | 0.732 | 0.773 | 0.790 | 0.789 | 0.735 |
| 玉 树 | 33°06' | 96°45' | 3702.6 | 0.815 | 0.811 | 0.773 | 0.770 | 0.765 | 0.771 | 0.752 | 0.759 | 0.734 | 0.772 | 0.792 | 0.818 | 0.778 |
| 敦 煌 | 40°08' | 94°47' | 1138.7 | 0.772 | 0.777 | 0.751 | 0.686 | 0.705 | 0.719 | 0.714 | 0.711 | 0.726 | 0.756 | 0.758 | 0.781 | 0.738 |
| 民 勤 | 38°43' | 103°06' | 1367.0 | 0.771 | 0.740 | 0.699 | 0.621 | 0.659 | 0.628 | 0.627 | 0.652 | 0.659 | 0.702 | 0.742 | 0.759 | 0.688 |
| 兰 州 | 36°03' | 103°53' | 1517.2 | 0.612 | 0.632 | 0.590 | 0.645 | 0.650 | 0.695 | 0.695 | 0.682 | 0.704 | 0.664 | 0.641 | 0.614 | 0.652 |
| 银 川 | 38°29' | 106°13' | 1111.5 | 0.759 | 0.740 | 0.669 | 0.634 | 0.647 | 0.677 | 0.680 | 0.699 | 0.710 | 0.725 | 0.744 | 0.753 | 0.703 |
| 西 安 | 34°18' | 108°56' | 396.9 | 0.631 | 0.619 | 0.572 | 0.573 | 0.593 | 0.629 | 0.614 | 0.642 | 0.642 | 0.660 | 0.637 | 0.630 | 0.620 |
| 二 连 浩 特 | 43°39' | 112°00' | 964.7 | 0.829 | 0.819 | 0.802 | 0.786 | 0.766 | 0.762 | 0.755 | 0.765 | 0.792 | 0.804 | 0.824 | 0.833 | 0.795 |
| 伊 旗 | 39°22' | 109°48' | 1309.6 | 0.795 | 0.775 | 0.736 | 0.675 | 0.698 | 0.695 | 0.680 | 0.700 | 0.744 | 0.770 | 0.790 | 0.790 | 0.737 |
| 金 霍 林 新 街 | 39°22' | 109°48' | 1309.6 | 0.795 | 0.775 | 0.736 | 0.675 | 0.698 | 0.695 | 0.680 | 0.700 | 0.744 | 0.770 | 0.790 | 0.790 | 0.737 |
| 大 同 | 40°06' | 113°20' | 1067.2 | 0.759 | 0.748 | 0.739 | 0.697 | 0.696 | 0.725 | 0.707 | 0.744 | 0.760 | 0.762 | 0.753 | 0.765 | 0.738 |
| 太 原 | 37°47' | 112°33' | 777.9 | 0.761 | 0.742 | 0.741 | 0.706 | 0.739 | 0.726 | 0.696 | 0.714 | 0.733 | 0.752 | 0.759 | 0.771 | 0.737 |
| 晋 南 侯 马 | 35°39' | 111°22' | 433.7 | 0.728 | 0.715 | 0.679 | 0.608 | 0.680 | 0.683 | 0.679 | 0.685 | 0.679 | 0.716 | 0.724 | 0.746 | 0.694 |
| 北 京 | 39°48' | 116°28' | 31.5 | 0.765 | 0.742 | 0.735 | 0.670 | 0.674 | 0.681 | 0.660 | 0.694 | 0.727 | 0.742 | 0.763 | 0.765 | 0.718 |
| 天 津 | 39°06' | 117°10' | 3.3 | 0.728 | 0.726 | 0.712 | 0.655 | 0.661 | 0.668 | 0.641 | 0.677 | 0.686 | 0.716 | 0.735 | 0.743 | 0.696 |
| 烟 台 | 37°32' | 121°24' | 46.7 | 0.723 | 0.710 | 0.684 | 0.638 | 0.635 | 0.650 | 0.637 | 0.691 | 0.707 | 0.726 | 0.737 | 0.739 | 0.690 |
| 济 南 | 36°41' | 116°59' | 51.6 | 0.733 | 0.742 | 0.689 | 0.668 | 0.689 | 0.698 | 0.659 | 0.697 | 0.709 | 0.738 | 0.713 | 0.736 | 0.706 |
| 上 海 | 31°10' | 121°26' | 4.5 | 0.722 | 0.696 | 0.669 | 0.616 | 0.654 | 0.665 | 0.661 | 0.590 | 0.550 | 0.718 | 0.702 | 0.713 | 0.680 |
| 南 京 | 32°00' | 118°48' | 8.9 | 0.682 | 0.691 | 0.652 | 0.587 | 0.644 | 0.664 | 0.696 | 0.674 | 0.653 | 0.717 | 0.719 | 0.708 | 0.674 |
| 合 肥 | 31°51' | 117°17' | 23.6 | 0.695 | 0.703 | 0.624 | 0.597 | 0.597 | 0.624 | 0.667 | 0.677 | 0.660 | 0.698 | 0.707 | 0.695 | 0.662 |
| 杭 州 | 30°14' | 120°10' | 41.7 | 0.623 | 0.628 | 0.583 | 0.608 | 0.631 | 0.651 | 0.629 | 0.645 | 0.646 | 0.640 | 0.696 | 0.680 | 0.638 |

(续)

| 站名 | 纬度 | 经度 | 海拔 (米) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 年平均 |
|-----|--------|---------|-----------|--------|--------|--------|--------|--------|--------|-------|-------|-------|--------|--------|--------|--------|
| 庵东 | 30°16' | 121°10' | 7.1 | 0.720 | 0.700 | 0.660 | 0.670 | 0.713 | 0.690 | 0.717 | 0.697 | 0.696 | 0.735 | 0.729 | 0.728 | 0.705 |
| 南昌 | 28°36' | 115°55' | 46.7 | 0.654 | 0.648 | 0.608 | 0.616 | 0.620 | 0.638 | 0.641 | 0.653 | 0.649 | 0.673 | 0.676 | 0.674 | 0.646 |
| 赣州 | 25°51' | 114°57' | 123.8 | 0.654 | 0.644 | 0.590 | 0.589 | 0.626 | 0.648 | 0.661 | 0.657 | 0.647 | 0.651 | 0.670 | 0.682 | 0.643 |
| 福州 | 26°05' | 119°17' | 84.0 | 0.640 | 0.631 | 0.595 | 0.557 | 0.613 | 0.610 | 0.624 | 0.626 | 0.676 | 0.675 | 0.680 | 0.639 | 0.630 |
| 郑州 | 34°43' | 113°39' | 110.4 | 0.710 | 0.678 | 0.630 | 0.584 | 0.625 | 0.624 | 0.610 | 0.629 | 0.641 | 0.650 | 0.683 | 0.701 | 0.647 |
| 汉口 | 30°38' | 114°04' | 23.3 | 0.677 | 0.667 | 0.640 | 0.630 | 0.675 | 0.644 | 0.678 | 0.681 | 0.661 | 0.732 | 0.725 | 0.690 | 0.678 |
| 长沙 | 28°12' | 113°05' | 44.9 | 0.637 | 0.625 | 0.588 | <0.576 | 0.592 | 0.604 | 0.639 | 0.629 | 0.624 | 0.637 | 0.671 | 0.655 | 0.623 |
| 韶关 | 24°48' | 113°35' | 69.3 | 0.657 | 0.623 | 0.590 | 0.615 | 0.637 | 0.646 | 0.653 | 0.629 | 0.636 | 0.642 | 0.698 | 0.673 | 0.644 |
| 汕头 | 23°24' | 116°41' | 1.2 | 0.683 | 0.659 | 0.597 | 0.598 | 0.647 | 0.656 | 0.660 | 0.655 | 0.650 | 0.666 | 0.668 | 0.703 | 0.653 |
| 广州 | 23°08' | 113°19' | 6.3 | 0.664 | 0.632 | <0.569 | 0.589 | 0.617 | 0.643 | 0.634 | 0.607 | 0.638 | 0.615 | 0.670 | 0.666 | 0.629 |
| 中山 | 22°32' | 113°21' | 1.1 | 0.657 | 0.659 | 0.580 | <0.569 | 0.655 | 0.690 | 0.669 | 0.661 | 0.652 | 0.636 | 0.651 | 0.632 | 0.643 |
| 海口 | 20°02' | 110°21' | 14.1 | 0.670 | <0.598 | <0.583 | <0.585 | 0.649 | 0.676 | 0.685 | 0.694 | 0.645 | 0.681 | 0.666 | 0.677 | 0.651 |
| 桂林 | 25°20' | 110°18' | 161.8 | 0.668 | 0.643 | <0.591 | 0.618 | 0.688 | 0.665 | 0.655 | 0.667 | 0.675 | 0.680 | 0.688 | 0.673 | 0.659 |
| 南宁 | 22°49' | 108°21' | 72.2 | 0.651 | 0.624 | <0.584 | <0.582 | 0.611 | 0.623 | 0.644 | 0.664 | 0.651 | 0.658 | 0.675 | 0.689 | 0.638 |
| 南充 | 30°48' | 106°05' | 297.7 | 0.578 | <0.578 | <0.575 | <0.608 | 0.607 | 0.606 | 0.608 | 0.649 | 0.600 | 0.630 | <0.594 | <0.608 | <0.603 |
| 万县 | 30°48' | 108°25' | 186.1 | <0.575 | <0.572 | <0.582 | <0.569 | 0.599 | 0.585 | 0.607 | 0.630 | 0.632 | 0.624 | 0.609 | <0.569 | <0.596 |
| 成都 | 30°40' | 104°01' | 505.9 | <0.564 | <0.577 | <0.564 | <0.590 | 0.604 | 0.605 | 0.588 | 0.580 | 0.630 | 0.628 | 0.628 | 0.618 | 0.598 |
| 重庆 | 29°31' | 106°29' | 351.1 | <0.569 | <0.569 | <0.564 | <0.564 | <0.574 | <0.587 | 0.603 | 0.610 | 0.590 | <0.569 | <0.575 | <0.569 | <0.579 |
| 峨嵋山 | 29°31' | 103°21' | 3047.4 | 0.815 | 0.810 | 0.797 | 0.747 | 0.759 | 0.757 | 0.762 | 0.771 | 0.761 | 0.775 | 0.787 | 0.817 | 0.780 |
| 遵义 | 27°42' | 106°53' | 843.9 | 0.636 | 0.586 | 0.591 | 0.627 | 0.625 | 0.661 | 0.680 | 0.679 | 0.692 | 0.679 | 0.677 | 0.601 | 0.645 |
| 威宁 | 26°52' | 104°17' | 2237.5 | 0.715 | 0.677 | 0.617 | 0.598 | 0.619 | 0.643 | 0.641 | 0.634 | 0.668 | 0.696 | 0.707 | 0.708 | 0.660 |
| 贵阳 | 26°35' | 106°43' | 1071.2 | 0.697 | 0.640 | 0.583 | 0.605 | 0.613 | 0.622 | 0.636 | 0.656 | 0.670 | 0.700 | 0.706 | 0.708 | 0.653 |
| 腾冲 | 25°07' | 98°29' | 1647.8 | 0.750 | 0.711 | 0.627 | 0.610 | 0.651 | 0.679 | 0.689 | 0.680 | 0.699 | 0.707 | 0.747 | 0.761 | 0.698 |
| 昆明 | 25°01' | 102°41' | 1891.4 | 0.751 | 0.714 | 0.657 | 0.640 | 0.634 | 0.647 | 0.673 | 0.649 | 0.666 | 0.680 | 0.706 | 0.722 | 0.678 |
| 河口 | 22°30' | 103°57' | 136.7 | 0.695 | 0.648 | <0.574 | <0.574 | 0.636 | 0.678 | 0.685 | 0.684 | 0.681 | 0.691 | 0.702 | 0.702 | 0.663 |
| 景洪 | 21°52' | 101°04' | 552.7 | 0.735 | 0.682 | <0.574 | <0.580 | 0.656 | 0.709 | 0.731 | 0.717 | 0.752 | 0.754 | 0.750 | 0.772 | 0.701 |
| 葛尔 | 32°30' | 80°05' | 4278.0 | >0.845 | >0.853 | >0.826 | 0.820 | 0.773 | 0.771 | 0.749 | 0.764 | 0.811 | 0.839 | 0.851 | >0.851 | >0.813 |
| 那曲 | 31°29' | 92°04' | 4507.0 | 0.808 | 0.799 | 0.791 | 0.726 | 0.730 | 0.757 | 0.730 | 0.737 | 0.772 | 0.796 | 0.827 | 0.814 | 0.776 |
| 昌都 | 31°09' | 97°10' | 3240.7 | 0.801 | 0.792 | 0.766 | 0.729 | 0.731 | 0.729 | 0.725 | 0.748 | 0.747 | 0.767 | 0.795 | 0.804 | 0.761 |
| 拉萨 | 29°40' | 91°08' | 3658.0 | 0.836 | 0.836 | 0.817 | 0.787 | 0.774 | 0.769 | 0.762 | 0.773 | 0.780 | 0.803 | 0.815 | 0.829 | 0.798 |