Table I
Geopotential Altitude, Metric Units

| | | | | Ge | opotential Altitu | de, Metric Units | | | |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Altit | tude | - | Temperatur | 9 | | Pressure | | Den | sity |
| H (m) | Z (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | $\rho/ ho_{f 0}$ |
| -5000 -4950 -4900 -4850 -4800 -4750 -4700 -4650 | -4996 -4946 -4896 -4846 -4796 -4746 -4697 -4647 | 320.650 320.325 320.000 319.675 319.350 319.025 318.700 318.375 | 47.500 47.175 46.850 46.525 46.200 45.875 45.550 45.225 | 320.650 320.325 320.000 319.675 319.350 319.025 318.700 318.375 | 1.7768 • 3 1.7674 1.7580 1.7486 1.7393 1.7300 1.7208 1.7116 | 1.3327 · 3 1.3256 1.3186 1.3115 1.3046 1.2976 1.2907 1.2838 | 1.7536 • 0 1.7443 1.7350 1.7257 1.7165 1.7074 1.6983 1.6892 | 1.9305 • 0 1.9222 1.9139 1.9056 1.8974 1.8892 1.88810 1.8728 | 1.5759 + 0 1.5691 1.5623 1.5556 1.5489 1.5422 1.5355 1.5289 |
| -4600 -4550 | -4597 -4547 | 318.050 317.725 | 44.900 44.575 | 318.050 317.725 | 1.7024 1.6933 | 1.2769 1.2700 | 1.6801 1.6711 | 1.8647 1.8566 | 1.5222 1.5156 |
| -4500 -4450 -4400 -4350 -4300 -4250 -4200 -4150 -4100 -4050 | -4497 -4447 -4397 -4347 -4297 -4247 -4197 -4147 -4097 | 317.400 317.075 316.750 316.425 316.100 315.775 315.450 315.125 314.475 | 44.250 43.925 43.600 43.275 42.950 42.625 42.300 41.975 41.650 41.325 | 317.400 317.075 316.750 316.425 316.100 315.775 315.450 315.125 314.800 314.475 | 1.6842 • 3 1.6751 1.6661 1.6572 1.6482 1.6394 1.6305 1.6217 1.6129 1.6042 | 1.2632 • 3 1.2564 1.2297 1.2430 1.2363 1.2296 1.2230 1.2164 1.2098 1.2032 | 1.6622 • 0 1.6532 1.6443 1.6355 1.6267 1.6179 1.6092 1.6095 1.5918 1.5932 | 1.8486 + 0 1.84925 1.8245 1.8166 1.8006 1.8007 1.7928 1.7850 | 1.5090 • 0 1.5025 1.4959 1.4829 1.4764 1.4700 1.4635 1.4571 1.4507 |
| -4000 -3950 -3900 -3850 -3850 -3750 -3700 -3650 -3650 | -3997 -3948 -3848 -3848 -3798 -3748 -3698 -3648 -3548 | 314.150 313.825 313.500 313.175 312.850 312.525 312.525 312.525 311.550 311.550 | 41.000 40.675 40.350 40.025 39.700 39.375 39.050 38.725 38.400 38.075 | 314.150 313.825 313.500 313.175 312.850 312.525 312.200 311.875 311.550 311.525 | 1.5955 + 3 1.5868 1.5782 1.5696 1.5611 1.5526 1.5441 1.5357 1.5273 1.5189 | 1.1967 + 3 1.1902 1.1837 1.1773 1.1709 1.1645 1.1582 1.1519 1.1456 1.1393 | 1.5746 + 0 1.5661 1.5576 1.5491 1.5407 1.5323 1.5239 1.5156 1.5073 | 1.7693 • 0 1.7616 1.7538 1.7461 1.7384 1.7307 1.7231 1.7154 1.7078 | 1.4444 • 0 1.4380 1.4317 1.4254 1.4191 1.4128 1.4066 1.4004 1.3942 1.3880 |
| -3500 -3450 -3400 -3350 -3350 -3250 -3250 -3150 -3100 -3050 | -3498 -3448 -3398 -3348 -3298 -3248 -3198 -3148 -3098 -3049 | 310.900 310.575 310.250 309.925 309.600 309.275 308.950 308.625 308.300 307.975 | 37.750 37.425 37.100 36.775 36.450 36.125 35.800 35.475 35.475 | 310.900 310.575 310.250 309.925 309.600 309.275 308.950 308.625 308.300 307.975 | 1.5106 • 3 1.55023 1.49941 1.4859 1.4777 1.4696 1.4615 1.4534 1.4454 | 1.1331 • 3 1.1268 1.1207 1.1145 1.1084 1.1023 1.0962 1.0901 1.0841 | 1.4909 • 0 1.4827 1.4746 1.4665 1.4584 1.4504 1.4424 1.4344 1.4265 1.4186 | 1.6927 • 0 1.6852 1.6777 1.6703 1.6628 1.6554 1.6480 1.6406 1.6333 1.6260 | 1.3818 • 0 1.3757 1.3696 1.3635 1.3574 1.3513 1.3453 1.3393 1.3393 |
| -3000 -2950 -2950 -2850 -2850 -2750 -2750 -2650 -2650 | -2999 -2949 -2849 -2799 -2749 -2699 -2649 -2549 | 307.650 307.325 307.000 306.675 306.350 306.025 305.700 305.375 305.050 304.725 | 34.500 34.175 33.525 33.525 33.200 32.875 32.550 32.525 31.575 | 307.650 307.325 307.000 306.675 306.350 306.025 305.700 305.375 305.050 304.725 | 1.4295 • 3 1.4215 1.4136 1.4058 1.3980 1.3902 1.3825 1.3748 1.3671 1.3594 | 1.0722 + 3 1.0662 1.0603 1.0544 1.0486 1.0427 1.0369 1.0311 1.0254 | 1.4108 • 0 1.4029 1.3952 1.3874 1.3797 1.3720 1.3644 1.3568 1.3492 1.3417 | 1.6187 • 0 1.6114 1.6042 1.5970 1.5898 1.5826 1.5755 1.5684 1.5613 1.5542 | 1.3214 + 0 1.3155 1.3095 1.3037 1.2978 1.2919 1.2861 1.2803 1.2745 |
| -2500 -2450 -2400 -2350 -2300 -2250 -2200 -2150 -2100 -2050 | -2499 -2449 -2399 -2349 -2299 -2249 -2199 -2149 -2099 | 303.425 303.100 302.775 302.450 302.125 301.800 | 31.250 30.255 30.600 30.275 29.950 29.625 29.300 28.975 28.650 28.325 | 304.400 304.075 303.750 303.425 303.100 302.775 302.450 302.125 301.800 301.475 | 1.3518 + 3 1.3443 1.3367 1.3292 1.3218 1.3143 1.3069 1.2996 1.2922 1.2850 | 1.0140 • 3 1.0083 1.0026 9.9705 • 2 9.9145 9.8587 9.8032 9.7480 9.6930 9.6383 | 1.3342 + 0 1.3267 1.3193 1.3119 1.3045 1.2972 1.2899 1.2826 1.2753 1.2681 | 1.5472 • 0 1.5401 1.5332 1.5262 1.5192 1.5123 1.5054 1.4986 1.4917 | 1.2630 • 0 1.2573 1.2516 1.2459 1.2402 1.2345 1.2209 1.2233 1.2177 |
| -2000 -1950 -1960 -1850 -1800 -1750 -1700 -1650 -1600 -1550 | -1999 -1949 -1899 -1849 -1799 -1750 -1650 -1650 | 300.825 300.500 300.175 299.850 299.525 299.200 298.875 298.550 | 28.000 27.675 27.350 27.025 26.700 26.375 26.050 25.725 25.400 25.075 | 301.150 300.825 300.500 300.175 299.850 299.522 299.200 298.875 298.550 298.225 | 1.2777 + 3 1.2705 1.2633 1.2561 1.2490 1.2419 1.2348 1.2278 1.2208 1.2138 | 9.5838 + 2 9.5295 9.4755 9.4718 9.3683 9.3151 9.2621 9.2093 9.1568 9.1045 | 1.2610 • 0 1.2538 1.2467 1.2397 1.2326 1.2256 1.2186 1.2117 1.2048 1.1979 | 1.4781 + 0 1.4713 1.4645 1.4578 1.4511 1.4444 1.4378 1.4311 1.4225 1.4179 | 1.2066 • 0 1.2011 1.1955 1.1901 1.1846 1.1791 1.1737 1.1663 1.1629 1.1575 |
| -1500 -1450 -1400 -1350 -1350 -1250 -1250 -1150 -1150 -1050 | -1500 -1450 -1400 -1350 -1300 -1250 -1200 -1150 -1050 | 297.575 297.250 296.925 296.600 296.275 295.950 295.625 295.300 | 22.150 | 297.250 296.925 296.600 296.275 295.950 295.625 295.300 | 1.2069 • 3 1.2000 1.1931 1.1862 1.1794 1.1727 1.1659 1.1592 1.1592 1.1595 | 9.0525 + 2 9.0007 8.9492 8.8979 8.8468 8.7960 8.7454 8.6950 8.6449 8.5950 | 1.1911 • 0 1.1843 1.1775 1.1707 1.1640 1.1573 1.1507 1.1440 1.1374 1.1309 | 1.4114 + 0 1.4048 1.3983 1.3918 1.3853 1.3789 1.3725 1.3661 1.3597 1.3533 | 1.1521 + 0 1.1468 1.1415 1.1362 1.1309 1.1256 1.1204 1.1152 1.1099 1.1048 |

Table I Geometric Altitude, Metric Units

| Altit | tude | 7 | Temperatur | е | | Pressure | | Density | |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ_{0} |
| -5000 -4950 -4900 -4850 -4800 -4750 -4700 -4650 -4600 -4550 | -5004 -4954 -4994 -4854 -4804 -4754 -4703 -4653 -4553 | 320.676 320.350 320.025 319.699 319.374 319.048 318.723 318.397 318.072 317.746 | 47.526 47.200 46.875 46.549 46.224 45.898 45.573 45.247 44.922 44.596 | 320.676 320.350 320.025 319.699 319.374 319.048 318.723 318.397 318.072 317.746 | 1.7776 + 3 1.7681 1.7587 1.7493 1.7490 1.7307 1.7214 1.7122 1.7030 1.6939 | 1.3333 + 3 1.3262 1.3191 1.3121 1.3051 1.2981 1.2911 1.2842 1.2773 1.2705 | 1.7543 • 0 1.7450 1.7357 1.7264 1.7172 1.7080 1.6989 1.6898 1.6807 | 1.9311 + 0 1.9228 1.9145 1.9062 1.8980 1.8898 1.8816 1.8734 1.8653 1.8572 | 1.5764 + 0 1.5696 1.5629 1.5561 1.5494 1.5427 1.5360 1.5293 1.5227 1.5160 |
| -4500 -4450 -4400 -4350 -4300 -4250 -4200 -4150 -4100 -4050 | -4503 -4453 -4403 -4353 -4303 -4253 -4203 -4153 -4103 -4053 | 317.421 317.095 316.770 316.444 316.119 315.793 315.468 315.143 314.817 314.492 | 44.271 43.945 43.620 43.294 42.969 42.643 42.318 41.993 41.667 41.342 | 317.421 317.095 316.770 316.444 316.119 315.793 315.468 315.143 314.817 314.492 | 1.6848 + 3 1.6757 1.6667 1.6577 1.6488 1.6399 1.6310 1.6222 1.6134 1.6046 | 1.2637 • 3 1.2569 1.2501 1.2434 1.2367 1.2300 1.2233 1.2167 1.2101 1.2036 | 1.6627 • 0 1.6538 1.6449 1.6360 1.6272 1.6184 1.6097 1.6010 1.5923 | 1.8491 + 0 1.8410 1.8330 1.8250 1.8170 1.8091 1.8011 1.7933 1.7854 | 1.5094 + 0 1.5029 1.4963 1.4898 1.4833 1.4768 1.4703 1.4639 1.4575 |
| -4000 -3950 -3900 -3850 -3800 -3750 -3700 -3650 -3650 | -4003 -3952 -3902 -3852 -3852 -3752 -3752 -3652 -3602 -3552 | 314.166 313.841 313.516 313.190 312.865 312.539 312.214 311.889 311.563 311.238 | 41.016 40.691 40.366 40.040 39.715 39.389 39.064 38.739 38.413 38.088 | 314.166 313.841 313.516 313.190 312.865 312.539 312.214 311.889 311.563 311.238 | 1.5959 + 3 1.5873 1.5786 1.57700 1.5615 1.5530 1.5445 1.5360 1.5276 1.5193 | 1.1970 + 3 1.1905 1.1841 1.1776 1.1712 1.1648 1.1584 1.1521 1.1458 1.1395 | 1.5751 + 0 1.5665 1.5585 1.55495 1.5411 1.5327 1.5243 1.5160 1.5077 | 1.7697 + 0 1.7619 1.7542 1.7464 1.7387 1.7311 1.7234 1.7158 1.7082 1.7006 | 1.4447 • 0 1.4383 1.4320 1.4257 1.4194 1.4131 1.4069 1.4006 1.3944 1.3882 |
| -3500 -3450 -3400 -3350 -3300 -3250 -3200 -3150 -3100 -3050 | -3502 -3452 -3402 -3352 -3352 -3252 -3252 -3152 -3102 -3051 | 310.913 310.587 310.262 309.936 309.611 309.286 308.960 308.635 308.310 307.985 | 37.763 37.437 37.112 36.786 36.461 35.810 35.485 35.160 34.835 | 310.913 310.587 310.262 309.936 309.611 309.286 308.960 308.635 308.310 307.985 | 1.5109 + 3 1.5027 1.4944 1.4862 1.4780 1.4699 1.4617 1.4537 1.4456 | 1.1333 • 3 1.1271 1.1209 1.1147 1.1086 1.1025 1.0964 1.0903 1.0843 1.0783 | 1.4912 • 0 1.4830 1.4749 1.4667 1.4587 1.4506 1.4426 1.4347 1.4267 | 1.6930 • 0 1.6855 1.6780 1.6705 1.6631 1.6556 1.6482 1.6409 1.6335 1.6262 | 1.3821 + 0 1.3759 1.3698 1.3637 1.3576 1.3515 1.3455 1.3395 1.3335 1.3275 |
| -3000 -2950 -2900 -2850 -2800 -2750 -2700 -2650 -2650 | -3001 -2951 -2901 -2851 -2801 -2751 -2701 -2651 -2601 -2551 | 307.659 307.334 307.009 306.683 306.358 306.033 305.707 305.382 305.057 304.732 | 34.509 34.184 33.859 33.533 33.208 32.883 32.557 32.232 31.907 31.582 | 307.659 307.334 307.009 306.683 306.358 306.033 305.707 305.382 305.057 304.732 | 1.4297 + 3 1.4217 1.4139 1.4060 1.3982 1.3904 1.3826 1.3749 1.3673 1.3596 | 1.0723 • 3 1.0664 1.0605 1.0546 1.0487 1.0429 1.0371 1.0313 1.0255 | 1.4110 • 0 1.4032 1.3954 1.3876 1.3799 1.3722 1.3646 1.3570 1.3494 1.3418 | 1.6189 • 0 1.6116 1.6044 1.5972 1.5990 1.5828 1.5756 1.5685 1.5614 1.5544 | 1.3216 • 0 1.3156 1.3097 1.3038 1.2979 1.2921 1.2862 1.2864 1.2746 1.2689 |
| -2500 -2450 -2400 -2350 -2300 -2350 -2250 -2200 -2150 -2150 -2050 | -2501 -2451 -2401 -2351 -2351 -2251 -2201 -2151 -2101 -2051 | 304.406 304.081 303.756 303.431 303.105 302.780 302.455 302.130 301.805 301.479 | 31.256 30.931 30.606 30.281 29.955 29.630 29.305 28.980 28.655 28.329 | 304.406 304.081 303.756 303.431 303.105 302.780 302.455 302.130 301.805 301.479 | 1.3520 · 3 1.3444 1.3369 1.3294 1.3219 1.3145 1.3071 1.2997 1.2924 | 1.0141 · 3 1.0084 1.0027 9.9714 · 2 9.9154 9.8596 9.8041 9.7488 9.6937 9.6390 | 1.3343 + 0 1.3268 1.3194 1.3120 1.3046 1.2973 1.2970 1.2827 1.2754 1.2682 | 1.5473 • 0 1.5403 1.55333 1.55263 1.5194 1.5124 1.5055 1.4986 1.4918 | 1.2631 • 0 1.2574 1.2517 1.2460 1.2403 1.2346 1.2290 1.2234 1.2178 |
| -2000 -1950 -1900 -1850 -1800 -1750 -1700 -1650 -1650 | -2001 -1951 -1901 -1851 -1801 -1750 -1700 -1650 -1600 | 301.154 300.829 300.504 300.179 299.853 299.528 299.203 298.878 298.553 298.227 | 28.004 27.679 27.354 27.029 26.703 26.378 26.053 25.728 25.403 25.077 | 301.154 300.829 300.504 300.179 299.853 299.528 299.203 298.878 298.553 298.227 | 1.2778 · 3 1.2705 1.2633 1.2552 1.2490 1.2419 1.2349 1.2278 1.2208 1.2138 | 9.5845 • 2 9.5302 9.4762 9.4224 9.3689 9.3156 9.2625 9.2098 9.1572 9.1049 | 1.2611 • 0 1.2539 1.2468 1.2397 1.2327 1.2257 1.2187 1.2118 1.2049 1.1980 | 1.4782 + 0 1.4714 1.4646 1.4579 1.4512 1.4445 1.4378 1.4378 1.4312 1.4246 1.4180 | 1.2067 + 0 1.2011 1.1926 1.1961 1.1846 1.1792 1.1737 1.1683 1.1629 1.1575 |
| -1500 -1450 -1400 -1350 -1300 -1250 -1200 -1150 -1100 -1050 | -1500 -1450 -1400 -1350 -1300 -1250 -1200 -1150 -1100 | 297.902 297.577 297.252 296.927 296.602 296.277 295.951 295.626 295.301 | 23.777 23.452 23.127 22.801 | 297.902 297.577 297.252 296.927 296.602 296.277 295.951 295.626 295.301 294.976 | 1.2069 + 3 1.2000 1.1931 1.1863 1.1795 1.1727 1.1659 1.1592 1.1525 1.1459 | 9.0529 • 2 9.0011 8.9495 8.8982 8.8471 8.7962 8.7456 8.6952 8.6451 8.5952 | 1-1911 • 0 1-1843 1-1775 1-1708 1-1640 1-1574 1-1507 1-1441 1-1375 1-1309 | 1.4114 • 0 1.4049 1.3984 1.3919 1.3854 1.3725 1.3661 1.3597 | 1.1522 • 0 1.1468 1.1415 1.1362 1.1309 1.1257 1.1204 1.1152 1.1100 |

Table I
Geopotential Altitude, Metric Units

| Altin | tude | | Temperatu: | e | | Pressure | | Dens | sity |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| H (m) | Z (m) | Т (К) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ _{0} |
| -1000 -950 -900 -850 -800 -750 -700 -650 -600 | -1000 -950 -900 -850 -800 -750 -700 -650 | 294.650 294.325 294.000 293.675 293.350 293.025 292.700 292.375 292.050 291.725 | 21.500 21.175 20.850 20.525 20.200 19.875 19.550 19.225 18.575 | 294.650 294.325 294.000 293.675 293.350 293.025 292.700 292.375 292.050 291.725 | 1.1392 · 3 1.1327 1.1261 1.1196 1.1131 1.1066 1.1002 1.0938 1.0874 1.0810 | 8.5453 • 2 8.4959 8.4467 8.3978 8.3490 8.3005 8.2523 8.2042 8.1564 8.1088 | 1.1243 • 0 1.1178 1.1114 1.1049 1.0985 1.0921 1.0858 1.0795 1.0732 | 1.3470 + 0 1.3407 1.3344 1.3281 1.3219 1.3157 1.3095 1.3033 1.2971 | 1.0996 + 0 1.0944 1.0893 1.0842 1.0791 1.0740 1.0690 1.0639 1.0589 1.0539 |
| -500 -450 -400 -350 -300 -250 -200 -150 -100 -50 | -500 -450 -400 -350 -350 -250 -200 -150 -100 -50 | 291.400 291.075 290.750 290.425 290.100 289.775 289.450 289.125 288.800 288.475 | 18.250 17.925 17.600 17.275 16.950 16.625 16.300 15.975 15.650 | 291.400 291.075 290.750 290.425 290.100 289.775 289.450 289.125 288.800 288.475 | 1.0747 • 3 1.0684 1.0622 1.0560 1.0498 1.0436 1.0375 1.0313 1.0253 | 8.0614 • 2 8.0143 7.9674 7.9207 7.8742 7.8279 7.7819 7.7361 7.6905 7.6451 | 1.0607 · 0 1.0545 1.0483 1.0421 1.0360 1.0299 1.0179 1.0119 1.0059 | 1.2849 • 0 1.2788 1.2727 1.2667 1.2667 1.2547 1.2487 1.2427 1.2368 1.2309 | 1.0489 • 0 1.0439 1.0390 1.0340 1.0291 1.0242 1.0193 1.0145 1.0096 |
| 0 | 0 | 288.150 | 15.000 | 288.150 | 1.01325 + 3 | 7.60000 + 2 | 1.00000 • 0 | 1.2250 + 0 | 1.0000 + 0 |
| 50 100 150 200 250 300 350 400 | 50 100 150 200 250 300 350 400 | 287.825 287.500 287.175 286.850 286.525 286.200 285.875 285.550 285.225 | 14.675 14.350 14.025 13.700 13.375 13.050 12.725 12.400 12.075 | 287.825 287.500 287.175 286.850 286.525 286.200 285.875 285.550 285.225 | 1.0072 1.0012 9.9535 • 2 9.8945 9.8357 9.7772 9.7190 9.6611 9.0034 | 7.5550 7.5103 7.4658 7.4215 7.3774 7.3335 7.2898 7.2464 7.2031 | 9.9408 - 1 9.8820 9.8234 9.7651 9.7071 9.6494 9.5919 9.5347 9.4778 | 1.2191 1.2133 1.2075 1.2017 1.1959 1.1901 1.1844 1.1786 1.1729 | 9.9521 - 1 9.9043 9.8568 9.8094 9.7622 9.7151 9.6683 9.6216 9.5751 |
| 500 550 600 650 700 750 800 850 900 | 500 550 600 650 700 750 800 850 900 | 284.900 284.575 284.250 283.925 283.600 283.275 282.950 282.360 281.975 | 11.750 11.425 11.100 10.775 10.450 10.125 9.800 9.475 9.150 8.825 | 284.900 284.575 284.250 283.925 283.600 283.275 282.950 282.625 282.300 281.975 | 9.5460 + 2 9.4889 9.4321 9.3756 9.3193 9.2633 9.2076 9.1521 9.0970 9.0420 | 7.1601 + 2 7.1173 7.0747 7.0322 6.9900 6.9480 6.9062 6.8647 6.8233 6.7821 | 9.4212 - 1 9.3649 9.3088 9.2530 9.1974 9.1422 9.0872 9.0325 8.9780 8.9238 | 1.1673 • 0 1.1616 1.1560 1.1504 1.1448 1.1392 1.1336 1.1281 1.1226 | 9.5287 - 1 9.4826 9.4365 9.3907 9.3451 9.2996 9.2542 9.2091 9.1641 9.1193 |
| 1000 1050 1100 1150 1200 1250 1300 1350 1450 | 1000 1050 1100 1150 1200 1250 1300 1350 1400 | 281.650 281.325 281.000 280.675 280.350 280.025 279.700 279.050 279.050 278.725 | 8.500 8.175 7.850 7.525 7.200 6.875 6.550 6.255 5.900 | 281.650 281.325 281.000 280.675 280.350 280.025 279.700 279.375 279.050 278.725 | 8.9874 + 2 8.9330 8.8789 8.8251 8.7715 8.7182 8.6651 8.6124 8.5598 8.5076 | 6.7411 • 2 6.7003 6.6597 6.6193 6.5792 6.5392 6.4994 6.4598 6.4204 6.3812 | 8.8699 - 1 8.8162 8.7628 8.7097 8.6568 8.6042 8.5518 8.4997 8.4997 8.3963 | 1.1116 + 0 1.1062 1.1008 1.0954 1.0990 1.0846 1.0793 1.0739 1.0686 | 9.0746 - 1 9.0302 8.9858 8.9417 8.8977 8.8539 8.8102 8.7668 8.7234 8.6803 |
| 1500 1550 1600 1650 1700 1750 1800 1850 1900 | 1500 1550 1600 1650 1700 1750 1801 1851 | 278.400 278.407 277.750 277.425 277.100 276.775 276.450 276.450 276.800 275.800 | 5.250 4.925 4.600 4.275 3.950 3.625 3.300 2.950 2.950 | 278.400 278.075 277.750 277.425 277.100 276.775 276.450 276.125 275.800 275.475 | 8.4555 + 2 8.4038 8.3523 8.3011 8.2501 8.1993 8.1489 8.0986 8.0986 | 6.3422 • 2 6.3034 6.2647 6.2263 6.1881 6.1500 6.1121 6.0745 6.0370 5.9997 | 8.3450 - 1 8.2939 8.2431 8.1925 8.1422 8.0921 8.0423 7.9927 7.9434 7.8943 | 1.0581 • 0 1.0528 1.0476 1.0424 1.0372 1.0320 1.0269 1.0218 1.0166 | 8.6373 - 1 8.5945 8.5518 8.5093 8.4669 8.4248 8.3827 8.3809 8.2992 8.2576 |
| 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 | 2001 2051 2101 2151 2201 2251 2301 2351 2451 | 275.150 274.825 274.500 274.175 273.850 273.525 273.200 272.550 272.550 272.255 | 2.000 1.675 1.350 1.025 .700 .375 .050 270 | 275.150 274.825 274.500 274.175 273.850 273.525 273.200 272.875 272.550 272.550 | 7.9495 + 2 7.9002 7.8513 7.8025 7.7540 7.7058 7.6578 7.6100 7.5625 7.5152 | 5.9626 • 2 5.9257 5.8889 5.8524 5.8160 5.7798 5.77438 5.7080 5.6723 5.6369 | 7.8455 - 1 7.7969 7.7486 7.7005 7.6526 7.6050 7.5577 7.5105 7.4636 7.4170 | 1.0065 • 0 1.0014 9.9641 - 1 9.9140 9.8641 9.8143 9.7648 9.7155 9.6663 9.6663 | 8.2162 - 1 8.1750 8.1340 8.0931 8.0523 8.0117 7.9713 7.9310 7.8909 7.8509 |
| 2500 2550 2600 2650 2750 2750 2800 2850 2950 | 2501 2551 2601 2651 2701 2751 2801 2801 2801 2951 | 271.900 271.575 271.575 270.925 270.600 270.275 269.950 269.625 269.300 268.975 | -1.250 -1.570 -1.970 -2.225 -2.550 -2.875 -3.200 -3.525 -3.850 -4.175 | 271.900 271.575 271.250 270.925 270.600 270.275 269.950 269.625 269.300 268.975 | 7.4682 + 2 7.4214 7.3748 7.3285 7.2824 7.2366 7.1910 7.1456 7.1004 7.0555 | 5.6016 + 2 5.5665 5.5316 5.4968 5.4623 5.4279 5.3936 5.3596 5.3257 5.2920 | 7.3705 - 1 7.3244 7.2784 7.2327 7.1872 7.1419 7.0969 7.0521 7.0076 6.9632 | 9.5686 - 1 9.5200 9.4716 9.4234 9.3754 9.3276 9.2799 9.2325 9.1852 9.1381 | 7.8111 - 1 7.7714 7.7319 7.6926 7.6534 7.6143 7.5755 7.5367 7.4981 7.4597 |

Table I Geometric Altitude, Metric Units

| | | | | | Geometric Altitu | de, Metric Units | | | |
|-----------------------|--------------|--------------------|------------------|--------------------|----------------------|----------------------|----------------------|----------------------|-------------------------------|
| Altit | tude | 1 | emperature | | | Pressure | | Dens | ity |
| Z (m) | H (m) | Т (К) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ_{0} |
| -1000 | -1000 | 294.651 | 21.501 | 294.651 | 1.1393 + 3 | 8.5455 + 2 | 1.1244 + 0 | 1.3470 + 0 | 1.0996 + (|
| -950 -900 | -950 -900 | 294.326 294.001 | 21.176 20.851 | 294.326 294.001 | 1.1327 1.1261 | 8.4961 8.4468 | 1.1179 1.1114 | 1.3407 1.3344 | 1.0945 1.0893 |
| -850 | -850 | 293.676 | 20.526 | 293.676 | 1.1196 | 8.3979 | 1.1049 | 1.3281 | 1.0842 |
| -800 | -800 | 293.351 | 20.201 | 293.351 | 1.1131 | 8.3491 | 1.0985 | 1.3219 | 1.0791 |
| -750 | +750 | 293.026 | 19.876 | 293.026 | 1.1066 | 8.3006 | 1.0921 | 1.3157 | 1.0740 |
| -700 -450 | -700 | 292.701 292.375 | 19.551 19.225 | 292.701 292.375 | 1.1002 1.0938 | 8.2523 8.2043 | 1.0858 1.0795 | 1.3095 1.3033 | 1.0690 1.0639 |
| -650 -6 0 0 | -650 -600 | 292.050 | 18.900 | 292.050 | 1.0874 | 8.1564 | 1.0732 | 1.2971 | 1.0589 |
| -550 | -550 | 291.725 | 18.575 | 291.725 | 1.0810 | 8.1088 | 1.0669 | 1.2910 | 1.0539 |
| -500 -450 | -500 -450 | 291.400 291.075 | 18.250 17.925 | 291.400 291.075 | 1.0747 + 3 1.0684 | 8.0615 + 2 8.0143 | 1.0607 + 0 1.0545 | 1.2849 + 0 1.2788 | 1.0489 + (|
| -400 | -400 | 290.750 | 17.600 | 290.750 | 1.0622 | 7.9674 | 1.0483 | 1.2727 | 1.0390 |
| -350 | -350 | 290.425 | 17.275 | 290.425 | 1.0560 | 7.9207 | 1.0422 | 1.2667 | 1.0340 |
| -300 -250 | -300 -250 | 290.100 289.775 | 16.950 16.625 | 290.100 289.775 | 1.0498 1.0436 | 7.8742 7.8279 | 1.0360 1.0299 | 1.2607 1.2547 | 1.0291 1.0242 |
| -200 | -200 | 289.450 | 16.300 | 289.450 | 1.0375 | 7.7819 | 1.0239 | 1.2487 | 1.0193 |
| -150 | -150 | 289.125 | 15.975 | 289.125 | 1.0314 | 7.7361 | 1.0179 | 1.2427 | 1.0145 |
| -100 -50 | -100 -50 | 288.800 288.475 | 15.650 15.325 | 288.800 288.475 | 1.0253 1.0192 | 7.6905 7.6451 | 1.0119 1.0059 | 1.2368 1.2309 | 1.0096 1.0048 |
| 0 | 0 | 288.150 | 15.000 | 288.150 | 1.01325 + 3 | 7.60000 + 2 | 1.00000 + 0 | 1.2250 + 0 | 1.0000 • |
| 50 | 50 | 287.825 | 14.675 | 287.825 | 1.0072 | 7.5550 | 9.9408 - 1 | 1.2191 | 9.9521 - |
| 100 | 100 | 287.500 | 14.350 | 287.500 | 1.0012 | 7.5103 | 9.8820 | 1.2133 | 9.9044 |
| 150 | 150 | 287.175 | 14.025 | 287.500 287.175 | 9.9535 + 2 | 7.4658 | 9.8234 | 1.2075 | 9.8568 |
| 200 | 200 | 286.850 | 13.700 | 286.850 | 9.8945 | 7.4215 | 9.7651 | 1.2017 | 9.8094 |
| 250 | 250 | 286.525 | 13.375 | 286.525 | 9.8357 | 7.3774 | 9.7071 9.6494 | 1.1959 | 9.7622 9.7152 |
| 300 350 | 300 350 | 286.200 285.875 | 13.050 12.725 | 286.200 285.875 | 9.7772 9.7190 | 7.3335 7.2898 | 9.5919 | 1.1901 1.1844 | 9.6683 |
| 400 | 400 | 285.550 | 12.400 | 285,550 | 9.6611 | 7.2464 | 9.5348 | 1.1786 | 9.6216 |
| 450 | 450 | 285.225 | 12.075 | 285.225 | 9.6034 | 7.2032 | 9.4779 | 1.1730 | 9.5751 |
| 500 550 | 500 550 | 284.900 284.575 | 11.750 11.425 | 284.900 284.575 | 9.5461 + 2 9.4890 | 7.1601 + 2 7.1173 | 9.4212 - 1 9.3649 | 1.1673 + 0 1.1616 | 9.5288 - 9.4826 |
| 600 | 600 | 284.250 | 11.100 | 284.250 | 9.4322 | 7.0747 | 9.3088 | 1.1560 | 9.4366 |
| 650 | 650 | 283.925 | 10.775 | 283,925 | 9.3756 | 7.0323 | 9.2530 | 1.1504 | 9.3908 |
| 700 | 700 | 283.601 | 10.451 | 283.601 | 9.3194 | 6.9901 | 9.1975 | 1.1448 | 9.3451 |
| 750 800 | 750 800 | 283.276 282.951 | 10.126 9.801 | 283,276 282,951 | 9.2634 9.2077 | 6.9481 6.9063 | 9.1423 9.0873 | 1.1392 1.1337 | 9•2996 9•2543 |
| 850 | 850 | 282.626 | 9.476 | 282.626 | 9.1523 | 6.8648 | 9.0326 | 1.1281 | 9.2092 |
| 900 950 | 900 950 | 282.301 281.976 | 9.151 8.826 | 282.301 281.976 | 9.0971 9.0422 | 6.8234 6.7822 | 8.9781 8.9240 | 1.1226 1.1171 | 9.1642 9.1194 |
| 1000 | 1000 | 281.651 | 8.501 | 281.651 | 8.9876 + 2 | 6.7412 + 2 | 8.8700 - 1 | 1.1117 + 0 | 9.0748 - |
| 1050 | 1050 | 281.326 | 8.176 | 281.326 | 8.9332 | 6.7005 | 8.8164 | 1.1062 | 9.0303 |
| 1100 | 1100 | 281.001 | 7.851 | 281.001 | 8.8791 | 6.6599 | 8.7630 | 1.1008 | 8.9860 |
| 1150 | 1150 | 280.676 | 7.526 | 280.676 | 8.8253 | 6.6195 | 8.7099 8.6570 | 1.0954 1.0900 | 8.9419 8.8979 |
| 1200 1250 | 1200 1250 | 280.351 280.027 | 7.201 6.877 | 280.351 280.027 | 8.7717 8.7185 | 6.5793 6.5394 | 8.6044 | 1.0846 | 8.8541 |
| 1300 | 1300 | 279.702 | 6.552 | 279.702 | 8.6654 | 6.4996 | 8.5521 | 1.0793 | 8.8105 |
| 1350 | 1350 | 279.377 | 6.227 | 279.377 | 8.6127 | 6.4600 | 8.5000 | 1.0740 | 8.7670 |
| 1400 1450 | 1400 1450 | 279.052 278.727 | 5.902 5.577 | 279.052 278.727 | 8.5602 8.5079 | 6.4206 6.3814 | 8.4482 8.3966 | 1.0687 1.0634 | 8.7237 8.6806 |
| 1500 | 1500 | 278.402 | 5.252 | 278.402 | 8.4559 + 2 | 6.3424 • 2 | 8.3453 - 1 | 1.0581 + 0 | 8.6376 - |
| 1550 | 1550 | 278.077 | 4.927 | 278.077 | 8.4042 | 6.3036 | 8-2943 | 1.0529 | 8.5948 |
| 1600 | 1600 | 277.753 277.428 | 4.603 4.278 | 277.753 | 8.3527 8.3015 | 6.2650 6.2266 | 8.2435 8.1929 | 1.0476 1.0424 | 8.5521 8.5096 |
| 1650 1700 | 1650 1700 | 277.103 | 3.953 | 277.428 277.103 | 8.2505 | 6.1884 | 8.1427 | 1.0372 | 8.4673 |
| 1750 | 1750 | 276.778 | 3.628 | 276.778 | 8.1998 | 6.1504 | 8.0926 | 1.0321 | 8.4252 |
| 1800 | 1799 | 276.453 | 3.303 | 276,453 | 8.1494 | 6.1125 | 8.0428 | 1.0269 | 8.3832 |
| 1850 | 1849 | 276.128 | 2.978 | 276.128 | 8.0992 | 6.0749 | 7.9933 | 1.0218 | 8.3413 |
| 1900 1950 | 1899 1949 | 275.804 275.479 | 2.654 2.329 | 275.804 275.479 | 8.0492 7.9995 | 6.0374 6.0001 | 7.9440 7.8949 | 1.0167 1.0116 | 8.2996 8.2581 |
| 2000 | 1999 | 275.154 | 2.004 | 275.154 | 7.9501 + 2 | 5.9630 + 2 | 7.8461 - 1 | 1.0066 + 0 | 8.2168 - |
| 2050 | 2049 | 274.829 | 1.679 | 274.829 | 7.9009 7.8510 | 5.9261 | 7.7976 7.7493 | 1.0015 9.9648 - 1 | 8.1756 8.1345 |
| 2100 | 2099 2149 | | 1.355 1.030 | 274.505 274.180 | 7.8519 7.8032 | 5.8894 5.8529 | 7.7493 | 9.9048 - 1 | 8.0936 |
| 2150 22 0 0 | 2149 | 273.855 | .705 | | 7.0032 7.7548 | 5.8165 | 7.6534 | 9.8648 | 8.0529 |
| 2250 | 2249 | 273.530 | .380 | 273.530 | 7.7066 | 5.7804 | 7.6058 | 9.8151 | 8.0124 |
| 2300 | 2299 | 273.205 | •055 | 273,205 | 7.6586 | 5.7444 | 7.5584 | 9.7656 | 7.9719 |
| 2350 | 2349 2399 | 272.881 | 269 594 | 272.881 272.556 | 7.6109 7.5634 | 5.7086 5.6730 | 7.5113 7.4645 | 9.7163 9.6672 | 7.9317 7.8916 |
| 2400 2450 | 2449 | 272.556 272.231 | 919 | 272.231 | 7.5161 | 5.6375 | 7.4178 | 9.6183 | 7.8517 |
| 2500 | 2499 | 271.906 | -1.244 | 271.906 | 7.4691 + 2 | 5.6023 + 2 | 7.3715 - 1 | 9.5695 - 1 | 7.8119 - |
| 2550 | 2549 2500 | 271.582 | -1.568 | 271.582 271.257 | 7.4224 7.3758 | 5.5672 5.5323 | 7.3253 7.2794 | 9.5210 9.4726 | 7.7722 7.7328 |
| 2600 2650 | 2599 2649 | 271.257 270.932 | -1.893 -2.218 | 271.257 | 7.3758 7.3295 | 5.5323 5.4976 | 7.2337 | 9.4726 | 7.6934 |
| 2700 | 2699 | 270.607 | -2.543 | 270,607 | 7.2835 | 5.4631 | 7.1882 | 9.3765 | 7.6543 |
| 2750 | 2749 | 270.283 | -2.867 | 270.283 | 7.2377 | 5.4287 | 7.1430 | 9.3287 | 7.6153 |
| 2800 | 2799 | 269.958 | -3.192 | | 7.1921 | 5.3945 | 7.0980 | 9.2811 | 7.5764 7.5377 |
| 2850 | 2849 | | | 269,633 | 7.1467 7.1016 | 5.3605 5.3266 | 7.0533 7.0087 | 9.2337 9.1865 | 7.5377 7.4991 |
| 2900 2950 | 2899 2949 | | | 269.309 268.984 | 7.1016 7.0567 | 5.2930 | 6.9644 | 9.1394 | 7.4607 |
| _ , , , | 6.777 | 2000,004 | -4100 | | | | | | |

Table I
Geopotential Altitude, Metric Units

| | | | | | opotential Attac | | | Density | | |
|------------------------------|------------------------------|------------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|--|
| Altit | ude | - | Temperatur | e | | Pressure | | Dens | sity | |
| H (m) | Z (m) | т (к) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m $^{f 3}$) | $^{ ho/ ho_{f 0}}$ | |
| 3000 3050 3100 3150 | 3001 3051 3102 3152 | 268.650 268.325 268.000 267.675 | -4.500 -4.825 -5.150 -5.475 | 268.650 268.325 268.000 267.675 | 7.0108 + 2 6.9663 6.9221 6.8781 | 5.2585 + 2 5.25252 5.1920 5.1590 5.1262 | 6.9191 - 1 6.8752 6.8316 6.7882 6.7450 | 9.0912 - 1 9.0445 8.9980 8.9516 8.9055 | 7.4214 - 1 7.3833 7.3453 7.3075 7.2698 | |
| 3200 3250 | 3202 3252 | 267.350 267.025 | -5.800 -6.125 | 267.350 267.025 266.700 | 6.8343 6.7908 6.7474 | 5.0935 5.0610 | 6.7020 6.6592 | 8.8595 8.8137 | 7.2322 7.1948 | |
| 3300 3350 | 3302 3352 | 266.700 266.375 | -6.450 -6.775 | 266.375 | 6.7043 | 5.0287 | 6.6167 | 8.7681 8.7226 | 7.1576 7.1205 | |
| 3400 3450 | 3402 3452 | 266.050 265.725 | -7.100 -7.425 | 266.050 265.725 | 6.6615 6.6188 | 4.9965 4.9645 | 6.5743 6.5322 | 8.6774 | 7.0836 | |
| 3500 3550 | 3502 3552 | 265.400 265.075 | -7.750 -8.075 | 265.400 265.075 | 6.5764 + 2 6.5341 | 4.9327 · 2 4.9010 | 6.4904 - 1 6.4487 | 8.6323 - 1 8.5874 | 7.0468 - 1 7.0101 | |
| 3600 3650 | 36 9 2 3652 | 264.750 264.425 | -8.400 -8.725 | 264.750 264.425 | 6.4921 6.4504 | 4.8695 4.8382 | 6.4072 6.3660 | 8.5427 8.4981 | 6.9736 6.9372 | |
| 3700 | 3702 | 264.100 | -9.050 | 264.100 | 6.4088 | 4.8070 | 6.3250 6.2842 | 8.4538 8.4096 | 6.9010 6.8650 | |
| 3750 3800 | 3752 3802 | 263.775 263.450 | -9.375 -9.700 | 263.775 263.450 | 6.3675 6.3263 | 4.7760 4.7451 | 6.2436 | 8.3656 | 6.8290 | |
| 3850 | 3852 | 263.125 | -10.025 | 263.125 | 6.2854 | 4.7144 | 6.2032 6.1631 | 8.3217 8.2781 | 6.7933 6.7576 | |
| 3900 3950 | 39 0 2 3952 | 262.800 262.475 | -10.350 -10.675 | 262.800 262.475 | 6.2447 6.2042 | 4.6839 4.6536 | 6.1231 | 8.2346 | 6.7221 | |
| 4000 4050 | 4003 4053 | 262.150 261.825 | -11.000 -11.325 | 262.150 261.825 | 6.1640 + 2 6.1239 | 4.6233 • 2 4.5933 | 6.0834 - 1 6.0438 | 8.1913 + 1 8.1482 | 6.6868 - 1 6.6516 | |
| 4100 | 4103 4153 | 261.500 261.175 | -11.650 -11.975 | 261.500 261.175 | 6.0841 6.0444 | 4.5634 4.5337 | 6.0045 5.9654 | 8.1052 8.0624 | 6.6165 6.5816 | |
| 4150 42 0 0 | 4203 | 260.850 | -12.300 | 260.850 | 6.0050 | 4.5041 | 5.9265 | 8.0198 | 6.5468 | |
| 4250 4300 | 4253 4 30 3 | 260.525 260.200 | -12.625 -12.950 | 260.525 260.200 | 5.9658 5.9268 | 4.4747 4.4454 | 5.8878 5.8493 | 7.9774 7.9351 | 6.5121 6.4776 | |
| 4350 | 4353 | 259.875 | -13.275 | 259.875 | 5.8880 | 4.4163 | 5.8110 | 7.8930 | 6.4433 | |
| 4400 4450 | 4403 4453 | 259.550 259.225 | -13.600 -13.925 | 259.550 259.225 | 5.8494 5.8110 | 4.3874 4.3586 | 5.7729 5.7350 | 7.8511 7.8093 | 6.4090 6.3750 | |
| 4500 4550 | 4503 4553 | 258.900 258.575 | -14.250 -14.575 | 258.900 258.575 | 5.7728 + 2 5.7348 | 4.3299 + 2 4.3014 | 5.6973 - 1 5.6598 | 7.7677 - 1 7.7263 | 6.3410 - 1 6.3072 | |
| 4600 | 4603 | 258.250 | -14.900 | 258,250 | 5.6970 | 4.2731 | 5.6225 | 7.6851 | 6.2735 | |
| 4650 4700 | 4653 4703 | 257.925 257.600 | -15.225 -15.550 | 257.925 257.600 | 5.6594 5.6220 | 4.2449 4.2169 | 5.5854 5.5485 | 7.6440 7.6031 | 6.2400 6.2066 | |
| 4750 | 4754 | 257.275 | -15.875 | 257.275 | 5.5849 | 4.1890 | 5.5118 | 7.5624 7.5218 | 6.1734 6.1402 | |
| 4800 4850 | 4804 4854 | 256.950 256.625 | -16.200 -16.525 | 256.950 256.625 | 5.5479 5.5111 | 4.1612 4.1337 | 5.4753 5.4390 | 7.4814 | 6.1073 | |
| 4900 4950 | 4904 4954 | 256.300 255.975 | -16.850 -17.175 | 256.300 255.975 | 5.4745 5.4381 | 4.1062 4.0789 | 5.4029 5.3670 | 7.4411 7.4011 | 6.0744 6.0417 | |
| 5000 5050 | 5004 5054 | 255.650 255.325 | -17.500 -17.825 | 255.650 255.325 | 5.4019 + 2 5.3659 | 4.0518 + 2 4.0248 | 5.3313 - 1 5.2958 | 7.3612 - 1 7.3214 | 6.0091 - 1 5.9767 | |
| 5100 | 5104 | 255.000 | -18.150 | 255.000 | 5.3301 | 3.9979 | 5.2604 | 7.2818 | 5.9444 | |
| 5150 | 5154 5204 | 254.675 254.350 | -18.475 -18.800 | 254.675 254.350 | 5.2945 5.2591 | 3.9712 3.9447 | 5.2253 5.1903 | 7.2424 7.2032 | 5.9122 5.8801 | |
| 5200 5250 | 5254 | 254.025 | -19.125 | 254.025 | 5.2239 | 3.9182 | 5.1556 | 7.1641 | 5.8482 | |
| 5300 5350 | 5304 5355 | 253.700 253.375 | -19.450 -19.775 | 253.700 253.375 | 5.1889 5.1540 | 3.8920 3.8658 | 5.1210 5.0866 | 7.1252 7.0864 | 5.8164 5.7848 | |
| 5400 5450 | 5405 5455 | 253.050 252.725 | -20.100 -20.425 | 253.050 252.725 | 5.1194 5.0849 | 3.8398 3.8140 | 5.0524 5.0184 | 7.0478 7.0093 | 5.7533 5.7219 | |
| 5500 | 5505 | 252.400 | -20.750 -21.075 | 252.400 252.075 | 5.0506 + 2 5.0165 | 3.7883 + 2 3.7627 | 4.9846 - 1 4.9509 | 6.9711 - 1 6.9329 | 5.6907 - 1 5.6595 | |
| 5550 5600 | 5555 5605 | 252.075 251.750 | -21.400 | | 4.9826 | 3.7373 | 4.9175 | 6.8950 | 5.6285 | |
| 5650 | 5655 | 251.425 | -21.725 | | 4.9489 4.9154 | 3.7120 3.6868 | 4.8842 4.8511 | 6.8572 6.8195 | 5.5977 5.5670 | |
| 5700 5750 | 5705 5755 | | -22.050 -22.375 | 250.775 | 4.8820 | 3.6618 | 4.8182 | 6.7820 | 5.5364 | |
| 5800 | 5805 | 250.450 | -22.700 | | 4.8489 4.8159 | 3.6370 3.6122 | 4.7855 4.7529 | 6.7447 6.7075 | 5.5059 5.4755 | |
| 5850 5900 5950 | 5855 5905 5 956 | 249.800 | -23.350 | | 4.7831 4.7505 | 3.5876 3.5631 | 4.7206 4.6884 | 6.6705 6.6337 | 5.4453 5.4152 | |
| 6000 | 6006 | 249.150 | -24.000 | 249.150 | 4.7181 + 2 | 3.5388 + 2 | 4.6564 - 1 | 6.5970 - 1 | 5.3853 - 1 | |
| 6050 | 6056 | 248.825 | | 248.825 248.500 | 4.6858 4.6537 | 3.5146 3.4906 | 4.6245 4.5929 | 6.5604 6.5240 | 5.3554 5.3257 | |
| 6100 6150 | 6106 6156 | | | 248.175 | 4.6218 | 3.4666 | 4.5614 | 6.4878 | 5.2962 | |
| 6200 | 6206 | 247.850 | -25.300 | 247,850 | 4.5901 4.5585 | 3.4428 3.4192 | 4.5301 4.4989 | 6.4517 6.4158 | 5.2667 5.2374 | |
| 6250 6300 | 6256 6306 | 247.200 | -25.950 | 247.200 | 4.5272 | 3.3956 | 4.4680 | 6.3800 | 5.2082 | |
| 6350 | 6356 | 246.875 | -26.275 | 246.875 | 4.4960 4.4650 | 3.3722 3.3490 | 4.4372 4.4066 | 6.3444 6.3089 | 5.1791 5.1501 | |
| 6400 6450 | 6406 6457 | | | 246.225 | 4.4341 | 3.3258 | 4.3761 | 6.2736 | 5.1213 | |
| 6500 6550 | 6507 6557 | 245.575 | -27.575 | 245.575 | 4.4034 + 2 4.3729 | 3.3028 + 2 3.2800 | 4.3459 - 1 4.3157 | 6.2384 - 1 6.2034 | 5.0926 - 1 5.0640 | |
| 6600 | 6607 | 245.250 | | 245.250 | 4.3426 | 3.2572 3.2346 | 4.2858 4.2560 | 6.1686 6.1338 | 5.0356 5.0072 | |
| 6650 67 0 0 | 6657 6 70 7 | | | 244.925 244.600 | 4.3124 4.2824 | 3.2121 | 4.2264 | 6.0993 | 4.9790 | |
| 6750 | 6757 | 244.275 | -28.875 | 244.275 | 4.2526 | 3.1897 3.1675 | 4.1970 4.1677 | 6.0649 6.0306 | 4.9509 4.9229 | |
| 68 00 6850 | 6807 6857 | 243.625 | -29.525 | | 4.2230 4.1935 | 3.1454 | 4.1386 | 5.9965 | 4.8951 | |
| 6900 | 6907 | 243.300 | -29.850 | 243.300 | 4.1642 | 3.1234 | 4.1097 4.0809 | 5.9625 5.9287 | 4.8674 4.8397 | |
| 6950 | 6958 | 242.975 | -30.175 | 242,975 | 4.1350 | 3.1015 | 70007 | J. 7201 | 7,0071 | |

Table I
Geometric Altitude, Metric Units

| | | | | • | | ide, Metric Units | | | | |
|--------------|--------------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--|
| Altii | tude | | Temperatu | e | | Pressure | | Dens | sity | |
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ_{0} | |
| 3000 | 2999 | 268.659 | -4.491 -4.815 | 268.659 268.335 | 7.0121 + 2 6.9676 | 5.2595 + 2 5.2261 | 6.9204 - 1 6.8765 | 9.0925 - 1 9.0459 | 7.4225 - 1 7.3844 | |
| 3050 3100 | 3049 3098 | 268.335 268.010 | -5.140 | 268.010 | 6.9234 | 5.1930 | 6.8329 | 8.9994 | 7.3464 | |
| 3150 | 3148 | 267.685 | -5.465 | 267.685 | 6.8795 | 5.1600 | 6.7895 | 8.9531 | 7.3086 | |
| 3200 | 3198 | 267.360 | -5.790 | 267.360 | 6.8357 | 5.1272 | 6.7463 | 8.9069 | 7.2710 | |
| 3250 3300 | 3248 3298 | 267.036 266.711 | -6.114 -6.439 | 267.036 266.711 | 6.7922 6.7489 | 5.0946 5.0621 | 6.7034 6.6607 | 8.8610 8.8152 | 7.2335 7.1961 | |
| 3350 | 3348 | 266.386 | -6.764 | 266.386 | 6.7059 | 5.0298 | 6.6182 | 8.7697 | 7.1589 | |
| 3400 | 3398 | 266.062 | -7.088 | 266.062 | 6.6630 | 4.9977 | 6.5759 | 8.7243 | 7.1219 | |
| 3450 | 3448 | 265.737 | -7.413 | 265.737 | 6.0204 | 4.9657 | 6.5338 | 8.6791 | 7.0849 | |
| 3500 3550 | 3498 3548 | 265.413 265.088 | -7.737 -8.062 | 265.413 265.088 | 6.5780 + 2 6.5358 | 4.9339 + 2 4.9022 | 6.4920 - 1 6.4503 | 8.6340 - 1 8.5892 | 7.0482 - 1 7.0116 | |
| 3600 | 3598 | 264.763 | -8.387 | 264.763 | 6.4939 | 4.8708 | 6.4089 | 8.5445 | 6.9751 | |
| 3650 | 3648 | 264.439 | -8.711 | 264.439 | 6.4521 | 4.8395 | 6.3677 | 8.5000 | 6.9388 | |
| 3700 | 3698 | 264.114 | -9.036 | 264.114 | 6.4106 | 4.8083 | 6.3268 | 8.4557 | 6.9026 | |
| 3750 | 3748 | 263.789 | -9.361 | 263.789 | 6.3693 | 4.7773 | 6.2860 6.2454 | 8.4115 8.3676 | 6.8666 6.8307 | |
| 3800 3850 | 3798 3848 | 263.465 263.140 | -9.685 -10.010 | 263.465 263.140 | 6.3282 6.2873 | 4.7465 4.7159 | 6.2051 | 8.3238 | 6.7949 | |
| 3900 | 3898 | 262.816 | -10.334 | 262.816 | 6.2467 | 4.6854 | 6.1650 | 8.2802 | 6.7593 | |
| 3950 | 3948 | 262.491 | -10.659 | 262.491 | 6.2062 | 4.6550 | 6.1251 | 8.2367 | 6.7239 | |
| 4000 | 3997 | 262.166 | -10.984 | 262,166 | 6.1660 + 2 | 4.6249 + 2 | 6.0854 - 1 | 8.1935 - 1 | 6.6885 - 1 | |
| 4050 4100 | 4047 4097 | 261.842 261.517 | -11.308 -11.633 | 261.842 261.517 | 6.1260 6.0862 | 4.5948 4.5650 | 6.0459 6.0066 | 8.1504 8.1075 | 6.6534 6.6183 | |
| 4150 | 4147 | 261.193 | -11.957 | 261.193 | 6.0466 | 4.5353 | 5.9675 | 8.0647 | 6.5835 | |
| 4200 | 4197 | 260.868 | -12.282 | 260.868 | 6.0072 | 4.5057 | 5.9286 | 8.0222 | 6.5487 | |
| 4250 | 4247 | 260.543 | -12.607 | 260.543 | 5.9680 | 4.4764 | 5.8900 | 7.9798 | 6.5141 | |
| 4300 | 4297 | 260.219 | -12.931 | 260,219 | 5.9290 | 4.4471 | 5.8515 | 7.9376 | 6.4796 | |
| 4350 | 4347 4397 | 259.894 259.570 | -13.256 -13.580 | 259.894 | 5.8903 | 4.4181 | 5.8132 5.7752 | 7.8955 7.8536 | 6.4453 | |
| 4400 4450 | 4447 | 259.245 | -13.580 | 259.570 259,245 | 5.8517 5.8134 | 4.3891 4.3604 | 5.7373 | 7.8119 | 6.4111 6.3771 | |
| 4500 | 4497 | 258.921 | -14.229 | 258.921 | 5.7752 + 2 | 4.3317 + 2 | 5.6997 - 1 | 7.7704 - 1 | 6.3432 - 1 | |
| 4550 | 4547 | 258.596 | -14-554 | 258,596 | 5.7373 | 4.3033 | 5.6622 | 7.7290 | 6.3094 | |
| 4600 | 4597 4647 | 258.272 | -14.878 | 258.272 | 5.6995 | 4.2750 | 5.6250 | 7.6878 | 6.2758 | |
| 4650 4700 | 4697 | 257.947 257.623 | -15.203 -15.527 | 257.947 257.623 | 5.6620 5.6246 | 4.2468 4.2188 | 5.5879 5.5511 | 7.6468 7.6059 | 6.2423 6.2089 | |
| 4750 | 4746 | 257.298 | -15.852 | 257.298 | 5.5875 | 4.1910 | 5.5144 | 7.5652 | 6.1757 | |
| 4800 | 4796 | 256.974 | -16.176 | 256,974 | 5.5506 | 4.1633 | 5.4780 | 7.5247 | 6.1426 | |
| 4850 | 4846 | 256.649 | -16.501 | 256.649 | 5.5138 | 4.1357 | 5.4417 | 7.4844 | 6.1097 | |
| 4900 4950 | 4896 4946 | 256.325 256.000 | -16.825 -17.150 | 256.325 256.000 | 5.4773 5.4409 | 4.1083 4.0810 | 5.4056 5.3698 | 7.4442 7.4042 | 6.0769 6.0442 | |
| 5000 | 4996 | 255.676 | -17.474 | 255.676 | 5.4048 + 2 | 4.0539 + 2 | 5.3341 - 1 | 7.3643 - 1 | 6.0117 - 1 | |
| 5050 | 5046 | 255.351 255.027 | -17.799 | 255.351 | 5.3688 | 4.0269 | 5.2986 | 7.3246 7.2851 | 5.9793 | |
| 5100 5150 | 5096 5146 | 254.702 | -18.123 -18.448 | 255.027 254.702 | 5.3331 5.2975 | 4.0001 3.9734 | 5.2633 5.2282 | 7.2457 | 5.9470 5.9149 | |
| 5200 | 5196 | 254.378 | -18.772 | 254.378 | 5.2621 | 3.9469 | 5.1933 | 7.2065 | 5.8829 | |
| 5250 | 5246 | 254.053 | -19.097 | 254.453 | 5.2269 | 3.9205 | 5.1586 | 7.1675 | 5.8510 | |
| 5300 | 5296 | 253.729 | -19.421 | 253.729 | 5.1919 | 3.8943 | 5.1241 | 7.1286 | 5.8192 | |
| 5350 | 5346 | 253.404 | -19.746 | 253.404 | 5.1571 | 3.8682 | 5.0897 | 7.0899 | 5.7876 | |
| 5400 5450 | 5395 5445 | 253.080 252.755 | -20.070 -20.395 | 253.080 252.755 | 5.1225 5.0881 | 3.8422 3.8164 | 5.0556 5.0216 | 7.0513 7.0129 | 5.7562 5.7248 | |
| 5500 | 5495 | 252.431 | -20.719 | 252,431 | 5.0539 + 2 | 3.7907 + 2 | 4.9878 - 1 | 6.9747 - 1 | 5.6936 - 1 | |
| 5550 5600 | 5545 5595 | 252.106 251.782 | -21.044 -21.368 | 252.106 251.782 | 5.0198 4.9860 | 3.7652 3.7398 | 4.9542 4.9208 | 6.9366 6.8987 | 5.6625 5.6316 | |
| 5650 | 5645 | 251.458 | -21.692 | 251.458 | 4.9523 | 3.7145 | 4.8875 | 6.8610 | 5.6008 | |
| 5700 | 5695 | 251.133 | -22.017 | 251.133 | 4.9188 | 3.6894 | 4.8545 | 6.8234 | 5.5701 | |
| 5750 | 5745 | 250.809 | -22.341 | 250.809 | 4.8855 | 3.6644 | 4.8216 | 6.7859 | 5.5395 | |
| 5800 | 5795 | 250.484 | -22.666 | 250.484 | 4.8524 | 3.6396 | 4.7889 | 6.7487 | 5.5091 | |
| 5850 5900 | 5845 5895 | 250.160 249.836 | -22.990 -23.314 | 250.160 249.836 | 4.8194 4.7867 | 3.6149 3.5903 | 4.7564 4.7241 | 6.7115 6.6746 | 5.4788 5.4486 | |
| 5950 | 5944 | 249.511 | -23.639 | 249.511 | 4.7541 | 3.5659 | 4.6919 | 6.6378 | 5.4186 | |
| 6000 | 5994 | 249.187 | -23.963 | 249.187 | 4.7217 + 2 | 3.5416 + 2 | 4.6600 - 1 | 6.6011 - 1 | 5.3887 - 1 | |
| 6050 | 6044 | 248.862 | -24.288 | 248.862 | 4.6895 | 3.5174 | 4.6282 | 6.5646 | 5.3589 | |
| 6100 | 6094 | 248.538 | -24.612 | 248.538 | 4.6575 | 3.4934 3.4695 | 4.5966 4.5651 | 6.5283 6.4921 | 5.3292 | |
| 6150 6200 | 6144 6194 | 248.214 247.889 | -24.936 -25.261 | 248.214 247.889 | 4.6256 4.5939 | 3.4695 3.4457 | 4.5651 4.5338 | 6.4921 6.4561 | 5.2997 5.2703 | |
| 6250 | 6244 | 247.565 | -25.585 | 247.565 | 4.5624 | 3.4221 | 4.5027 | 6.4202 | 5.2410 | |
| 6300 | 6294 | 247.241 | -25.909 | 247.241 | 4.5311 | 3.3986 | 4.4718 | 6.3845 | 5.2118 | |
| 6350 | 6344 | 246.916 | -26.234 | 246.916 | 4.4999 | 3.3752 | 4.4411 | 6.3489 | 5.1828 | |
| 6400 6450 | 6394 6443 | 246.592 246.267 | -26.558 -26.883 | 246.592 246.267 | 4.4689 4.4381 | 3.3520 3.3289 | 4.4105 4.3801 | 6.3135 6.2782 | 5.1539 5.1251 | |
| 6500 | 6493 | 245.943 | -27.207 | 245.943 | 4.4075 + 2 | 3.3059 + 2 | 4-3499 - 1 | 6.2431 - 1 | 5.0964 - 1 | |
| 6550 | 6543 | 245.619 | -27.531 | 245.619 | 4.3770 | 3.2830 | 4.3198 | 6.2081 | 5.0679 | |
| 6600 | 6593 6643 | 245.294 244.970 | -27.856 | 245.294 | 4.3467 | 3.2603 3.2377 | 4.2899 4.2602 | 6.1733 6.1387 | 5.0394 5.0112 | |
| 6650 6700 | 6693 | 244.646 | -28.180 -28.504 | 244.970 244.646 | 4.3166 4.2867 | 3.23// 3.2153 | 4.2306 | 6.1042 | 4.9830 | |
| 6750 | 6743 | 244.322 | -28.828 | 244.322 | 4.2569 | 3.1929 | 4.2012 | 6.0698 | 4.9549 | |
| 6800 | 6793 | 243.997 | -29.153 | 243.997 | 4.2273 | 3.1707 | 4.1720 | 6.0356 | 4.9270 | |
| 6850 | 6843 | 243.673 | -29.477 | 243.673 | 4.1978 | 3.1486 | 4.1429 | 6.0015 | 4.8992 | |
| 6900 6950 | 6893 6843 | 243.349 243.024 | -29.801 -30.126 | 243.349 243.024 | 4.1685 4.1394 | 3.1267 3.1048 | 4.1140 4.0853 | 5.9676 5.9338 | 4.8715 4.8439 | |
| U73U | 6942 | E7J+8E4 | -30.150 | E-J. VE4 | 701377 | 301040 | 469000 | J. 7330 | 7,0737 | |
| | | | | | | | | | | |

Table I
Geopotential Altitude, Metric Units

| <u> </u> | | Γ | | | opotential Artic | ue, metric onits | | 5 % | | |
|-------------------------|-----------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------------------|------------------------------------------|--|
| Altit | tude | | Temperatur | е | | Pressure | | Den | sity | |
| H (m) | Z (m) | T (K) | t (°C) | т _м (к) | P (mb) | P (torr) | P/P ₀ | ρ (kg/m ³) | ρ/ρ ₀ | |
| 7000 7050 7100 | 7008 7058 7108 | 242.650 242.325 242.000 | -30.500 -30.825 -31.150 | 242.650 242.325 242.000 | 4.1060 + 2 4.0772 4.0485 | 3.0798 + 2 3.0581 3.0366 | 4.0523 - 1 4.0239 3.9556 | 5.8950 - 1 5.8615 5.8281 5.7949 | 4.8123 - 1 4.7849 4.7576 4.7305 | |
| 7150 7200 | 7158 72 0 8 | 241.675 241.350 | -31.475 -31.800 | 241,675 241,350 | 4.0200 3.9917 | 3.0153 2.9940 | 3.9675 3.9395 | 5.7618 | 4.7035 | |
| 7250 | 7258 | 241.025 | -32.125 | 241.025 | 3.9635 3.9355 | 2.9729 2.9519 | 3.9117 3.8841 | 5.7288 5.6960 | 4.6766 4.6498 | |
| 7300 7350 | 73 0 8 7359 | 240.700 240.375 | -32.450 -32.775 | 240.700 240.375 | 3.9077 | 2.9310 | 3.8566 | 5.6634 | 4.6231 | |
| 7400 7450 | 7409 7459 | 240.050 239.725 | -33.100 -33.425 | 240.050 239.725 | 3.8800 3.8525 | 2.9102 2.8896 | 3.8293 3.8021 | 5.6308 5.5985 | 4.5966 4.5702 | |
| 7500 7550 | 75 0 9 7559 | 239.400 239.075 | -33.750 -34.075 | 239.400 239.075 | 3.8251 + 2 3.7979 | 2.8690 + 2 2.8486 | 3.7751 - 1 3.7482 | 5.5662 - 1 5.5341 | 4.5439 - 1 4.5177 | |
| 7600 | 7609 | 238.750 | -34.400 | 238.750 | 3.7708 | 2.8283 | 3.7215 | 5.5022 5.4704 | 4.4916 4.4656 | |
| 7650 7700 | 7659 77 0 9 | 238.425 238.100 | -34.725 -35.050 | 238.425 238.100 | 3.7439 3.7172 | 2.8082 2.7881 | 3.6950 3.6686 | 5.4387 | 4.4398 | |
| 7750 | 7759 | 237.775 | -35.375 | 237.775 | 3.6906 | 2.7682 | 3.6423 3.6162 | 5.4072 5.3758 | 4.4140 4.3884 | |
| 7800 7850 | 7810 7860 | 237.450 237.125 | -35.700 -36.025 | 237.450 237.125 | 3.6641 3.6379 | 2.7483 2.7286 | 3.5903 | 5.3446 | 4.3629 | |
| 7900 7950 | 7910 7960 | 236.800 236.475 | -36.350 -36.675 | 236.800 236.475 | 3.6117 3.5858 | 2.7090 2.6895 | 3.5645 3.5389 | 5.3135 5.2825 | 4.3375 4.3122 | |
| 8000 | 8010 | 236.150 | -37.000 | 236.150 | 3,5599 + 2 | 2.6702 • 2 2.6509 | 3.5134 - 1 3.4880 | 5.2517 - 1 5.2210 | 4.2871 - 1 4.2620 | |
| 8050 8100 | 8060 8110 | 235.825 235.500 | -37.325 -37.650 | 235.825 235.500 | 3.5343 3.5087 | 2.6318 | 3.4628 | 5.1904 | 4.2371 | |
| 8150 | 8160 | 235.175 | -37.975 | 235,175 | 3.4834 | 2.6127 | 3.4378 | 5.1600 5.1297 | 4.2123 4.1875 | |
| 8200 8250 | 8211 8261 | 234.850 234.525 | -38.300 -38.625 | 234.850 234.525 | 3.4581 3.4330 | 2.5938 2.5750 | 3.4129 3.3882 | 5.0996 | 4.1629 | |
| 8300 | 8311 | 234.200 | -38.950 | 234.200 | 3.4081 | 2.5563 | 3.3635 | 5.0696 5.0397 | 4.1384 4.1140 | |
| 8350 84 9 0 | 8361 8411 | 233.875 233.550 | -39.275 -39.600 | 233.875 233.550 | 3.3833 3.3587 | 2.5377 2.5192 | 3.3391 3.3148 | 5.0100 | 4.0898 | |
| 8450 | 8461 | 233.225 | -39.925 | 233,225 | 3.3342 | 2.5008 | 3.2906 | 4.9804 | 4.0656 | |
| 8500 | 8511 | 232.900 232.575 | -40.250 -40.575 | 232.900 | 3.3099 + 2 3.2856 | 2.4826 + 2 2.4644 | 3.2666 - 1 3.2427 | 4.9509 - 1 4.9216 | 4.0415 - 1 4.0176 | |
| 8550 86 00 | 8562 8612 | | ~40.900 | 232.575 232.250 | 3.2616 | 2.4464 | 3.2189 | 4.8924 | 3.9938 | |
| 8650 | 8662 | | -41.225 | 231.925 | 3.2377 3.2139 | 2.4284 2.4106 | 3.1953 3.1719 | 4.8633 4.8344 | 3.9700 3.9464 | |
| 87 0 0 8750 | 8712 8762 | | -41.550 -41.875 | 231.600 231.275 | 3.1903 | 2.3929 | 3.1485 | 4.8055 | 3.9229 | |
| 8800 | 8812 | 230.950 230.625 | -42.200 -42.525 | 230.950 230.625 | 3.1668 3.1434 | 2.3753 2.3577 | 3.1254 3.1023 | 4.7769 4.7483 | 3.8995 3.8762 | |
| 8850 8900 8950 | 8862 8912 8963 | 230.300 | -42.850 -43.175 | 230.300 229.975 | 3.1202 3.0971 | 2.3403 2.3230 | 3.0794 3.0566 | 4.7199 4.6916 | 3.8530 3.8299 | |
| 9000 | 9013 | 229.650 | -43.500 | 229.650 | 3.0742 + 2 | 2.3058 + 2 | 3.0340 - 1 | 4.6635 - 1 | 3.8069 - 1 | |
| 9050 9100 | 9063 9113 | | -43.825 -44.150 | 229.325 229.000 | 3.0514 3.0287 | 2.2887 2.2717 | 3.0115 2.9891 | 4.6355 4.6076 | 3.7840 3.7613 | |
| 9150 | 9163 | 228.675 | -44.475 | 228.675 | 3.0062 | 2.2548 | 2.9669 | 4.5798 | 3.7386 | |
| 9200 9250 | 9213 9263 | | ~44.800 -45.125 | 228.350 228.025 | 2.9838 2.9616 | 2.2380 2.2213 | 2.9448 2.9228 | 4.5522 4.5247 | 3.7160 3.6936 | |
| 9300 | 9314 | 227.700 | -45.450 | 227.700 | 2.9395 | 2.2048 | 2.9010 | 4.4973 | 3.6712 3.6490 | |
| 9350 9400 | 9364 9414 | | -45.775 -46.100 | 227.375 227.050 | 2.9175 2.8956 | 2.1883 2.1719 | 2.8793 2.8578 | 4.4700 4.4429 | 3.6268 | |
| 9450 | 9464 | | -46.425 | 226.725 | 2.8739 | 2.1556 | 2.8363 | 4.4159 | 3.6048 | |
| 9500 | 9514 | | -46.750 -47.075 | | 2.8523 + 2 2.8309 | 2.1394 · 2 2.1233 | 2.8150 - 1 2.7938 | 4.3890 - 1 4.3623 | 3.5829 - 1 3.5610 | |
| 9550 9600 | 9564 9615 | | -47.400 | 225.750 | 2.8095 | 2.1073 | 2.7728 | 4.3356 | 3.5393 | |
| 9650 | 9665 9715 | | | | 2.7883 2.7673 | 2.0914 2.0756 | 2.7519 2.7311 | 4.3091 4.2827 | 3.5177 3.4961 | |
| 9700 9750 | 9765 | 224.775 | -48.375 | 224.775 | 2.7463 | 2.0599 | 2.7104 | 4.2565 | 3.4747 | |
| 9800 | 9815 9865 | | | 224.450 | 2.7255 2.7049 | 2.0443 2.0288 | 2.6899 2.6695 | 4.2304 4.2044 | 3.4534 3.4321 | |
| 9850 9900 9950 | 9915 9966 | 223.800 | -49.350 | 223,800 | 2.6843 2.6639 | 2.0134 1.9981 | 2.6492 2.6290 | 4.1785 4.1527 | 3.4110 3.3900 | |
| 10000 | 10016 | 223.150 | -50.000 | 223.150 | 2.6436 + 2 | 1.9828 + 2 | 2.6090 - 1 | 4.1271 - 1 | 3.3690 - 1 | |
| 10050 | 10066 | 222.825 | -50.325 | 222.825 | 2.6234 2.6034 | 1.9677 1.9527 | 2.5891 2.5693 | 4.1015 4.0761 | 3.3482 3.3275 | |
| 10100 10150 | 10116 10166 | | | | 2.5834 2.5834 | 1.9377 | 2.5496 | 4.0509 | 3.3068 | |
| 10200 | 10216 | 221.850 | -51.300 | 221.850 | 2.5636 | 1.9229 1.9081 | 2.5301 2.5107 | 4.0257 4.0007 | 3.2863 3.2659 | |
| 10250 10300 | 10267 10317 | | -51.950 | 221.200 | 2.5439 2.5244 | 1.8934 | 2.4914 | 3.9757 | 3.2455 | |
| 10350 | 10367 | 220.875 | -52.275 | 220.875 | 2.5050 2.4856 | 1.8789 1.8644 | 2.4722 2.4531 | 3.9509 3.9263 | 3.2253 3.2051 | |
| 10400 10450 | 10417 10467 | | | 220.225 | 2.4665 | 1.8500 | 2.4342 | 3.9017 | 3.1851 | |
| 10500 10550 | 10517 10568 | | | 219.900 219.575 | 2.4474 + 2 2.4284 | 1.8357 + 2 1.8215 | 2.4154 - 1 2.3967 | 3.8773 - 1 3.8529 | 3.1651 - 1 3.1452 | |
| 10600 | 10618 | 219.250 | -53.900 | 219.250 | 2.4096 | 1.8073 | 2.3781 | 3.8287 | 3.1255 3.1058 | |
| 10650 10700 | 10668 10718 | | -54.225 -54.550 | 218.925 218.600 | 2.3909 2.3723 | 1.7933 1.7794 | 2.3596 2.3413 | 3.8046 3.7806 | 3.0862 | |
| 10750 | 10768 | 218.275 | -54.875 | 218.275 | 2.3538 | 1.7655 | 2.3230 2.3049 | 3.7568 3.7330 | 3.0668 3.0474 | |
| 108 0 0 10850 | 10818 10869 | | | | 2.3354 2.3172 | 1.7517 1.7380 | 2.2869 | 3.7094 | 3.0281 | |
| 10900 | 10919 | 217.300 | -55.850 | 217.300 | 2.2991 | 1.7244 1.7109 | 2.2690 2.2512 | 3.6859 3.6625 | 3.0089 2.9898 | |
| 10950 | 10969 | 216.975 | -56.175 | 216,975 | 2.2811 | 1.1103 | 605-15 | 300023 | | |

Table I Geometric Altitude, Metric Units

| | | | | , | Geometric Aititu | ide, Metric Units | | | | |
|----------------------|----------------------|--------------------------------------|-------------------------------|--------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--|
| Alti | tude | - | Femperatur | e | | Pressure | | Dens | ity | |
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ_{0} | |
| 7000 7050 7100 | 6992 7042 7092 | 242.700 242.376 242.051 | -30.450 -30.774 -31.099 | 242.700 242.376 242.051 | 4.1105 + 2 4.0817 4.0531 | 3.0831 + 2 3.0615 3.0400 | 4.0567 - 1 4.0283 4.0001 | 5.9002 - 1 5.8667 5.8334 | 4.8165 - 1 4.7891 4.7619 | |
| 7150 | 7142 | 241.727 | -31.423 | 241.727 | 4.0246 | 3.0187 | 3.9720 | 5.8002 | 4.7348 | |
| 72 00 7250 | 7192 7242 | 241.403 241.079 | -31.747 -32.071 | 241.403 241.079 | 3.9963 3.9682 | 2.9975 2.9764 | 3.9441 3.9163 | 5.7671 5.7343 | 4.7079 4.6810 | |
| 7300 | 7292 | 240.754 | -32.396 | 240.754 | 3.9402 | 2.9554 | 3.8887 | 5.7015 | 4.6543 | |
| 7350 | 7342 | 240.430 | -32.720 | 240,430 | 3.9124 | 2.9345 | 3.8612 | 5.6689 | 4.6277 | |
| 7400 7450 | 7391 7441 | 240.106 239.782 | -33.044 -33.368 | 240.106 239.782 | 3.8847 3.8573 | 2.9138 2.8932 | 3.8339 3.8068 | 5.6364 5.6041 | 4.6012 4.5748 | |
| 7500 7550 | 7491 7541 | 239 .45 7 239 . 133 | -33.693 -34.017 | 239.457 239.133 | 3.8299 + 2 3.8027 | 2.8727 • 2 2.8523 | 3.7798 - 1 3.7530 | 5.5719 - 1 5.5399 | 4.5485 - 1 4.5224 | |
| 7600 | 7591 | 238.809 | -34.341 | 238.809 | 3.7757 | 2.8320 | 3.7263 | 5.5080 | 4.4963 | |
| 7650 7700 | 7641 7691 | 238.485 238.161 | -34.665 -34.989 | 238.485 238.161 | 3.7489 3.7221 | 2.8119 2.7918 | 3.6998 3.6735 | 5.4762 5.4446 | 4.4704 4.4446 | |
| 7750 | 7741 | 237.836 | -35.314 | 237.836 | 3.6956 | 2.7719 | 3.6473 | 5.4131 | 4.4189 | |
| 7800 | 7790 | 237.512 | -35.638 | 237.512 | 3.6692 | 2.7521 | 3.6212 | 5.3818 | 4.3933 | |
| 7850 7900 | 7840 7890 | 237.188 236.864 | -35.962 -36.286 | 237.188 236.864 | 3.6429 3.6168 | 2.7324 2.7128 | 3.5953 3.5695 | 5.3506 5.3196 | 4.3678 4.3425 | |
| 7950 | 7940 | 236.540 | -36.610 | 236.540 | 3.5909 | 2.6934 | 3.5439 | 5.2886 | 4.3173 | |
| 8000 8050 | 7990 8040 | 236.215 235.891 | -36.935 -37.259 | 236,215 235,891 | 3.5651 • 2 3.5395 | 2.6740 + 2 2.6548 | 3.5185 - 1 3.4932 | 5.2579 - 1 5.2272 | 4.2921 - 1 4.2671 | |
| 8100 | 8090 | 235.567 | -37.583 | 235.567 | 3.5140 | 2.6357 | 3.4680 | 5.1967 | 4.2422 | |
| 8150 8200 | 8140 8189 | 235.243 | -37.907 -38.231 | 235.243 234.919 | 3.4886 3.4634 | 2.6167 2.5978 | 3.4430 3.4182 | 5.1664 5.1361 | 4.2174 4.1928 | |
| 8250 | 8239 | 234.595 | -38.555 | 234.595 | 3.4384 | 2.5790 | 3.3934 | 5.1060 | 4.1682 | |
| 8300 | 8289 | 234.270 | -38.880 | 234.270 | 3.4135 | 2.5603 | 3.3689 | 5.0761 | 4.1437 | |
| 8350 8400 | 8339 8389 | 233.946 233.622 | -39.204 -39.528 | 233.946 233.622 | 3.3888 3.3641 | 2.5418 2.5233 | 3.3444 3.3202 | 5.0462 5.0166 | 4.1194 4.0951 | |
| 8450 | 8439 | 233,298 | -39.852 | 233,298 | 3.3397 | 2.5050 | 3.2960 | 4.9870 | 4.0710 | |
| 8500 8550 | 8489 8539 | 232.974 232.650 | -40.176 -40.500 | 232.974 232.650 | 3.3154 + 2 3.2912 | 2.4867 + 2 2.4686 | 3.2720 - 1 3.2482 | 4.9576 - 1 4.9283 | 4.0470 - 1 4.0231 | |
| 8600 | 8588 | 232.326 | -40.824 | 232,326 | 3.2672 | 2.4506 | 3.2244 | 4.8991 | 3.9993 | |
| 8650 8700 | 8638 8688 | 232.001 231.677 | -41.149 -41.473 | 232.001 231.677 | 3.2433 3.2195 | 2.4326 2.4148 | 3.2009 3.1774 | 4.8701 4.8412 | 3.9756 3.9520 | |
| 8750 | 8738 | 231.353 | -41.797 | 231.353 | 3.1959 | 2.3971 | 3.1541 | 4.8125 | 3.9285 | |
| 8800 | 8788 | 231.029 | -42.121 | 231.029 | 3.1725 | 2.3795 | 3.1310 | 4.7838 | 3.9052 | |
| 8850 8900 | 8838 8888 | 230.705 230.381 | -42.445 -42.769 | 230.705 230.381 | 3.1492 3.1260 | 2.3620 2.3447 | 3.1080 3.0851 | 4.7553 4.7270 | 3.8819 3.8588 | |
| 8950 | 8937 | 230.057 | -43.093 | 230.057 | 3.1029 | 2.3274 | 3.0623 | 4.6987 | 3.8357 | |
| 9000 9050 | 8987 9037 | 229.733 229.409 | -43.417 -43.741 | 229.733 229.409 | 3.0800 + 2 3.0573 | 2.3102 · 2 2.2931 | 3.0397 - 1 3.0173 | 4.6706 - 1 4.6427 | 3.8128 - 1 3.7899 | |
| 9100 | 9087 | 229.085 | -44.065 | 229,085 | 3.0346 | 2.2761 | 2.9949 | 4.6148 | 3.7672 | |
| 9150 9200 | 9137 9187 | 228.760 228.436 | -44.390 -44.714 | 228.760 228.436 | 3.0121 2.9898 | 2.2593 2.2425 | 2.9727 2.9507 | 4.5871 4.5595 | 3.7446 3.7220 | |
| 9250 | 9237 | 228.112 | -45.038 | 228.112 | 2.9675 | 2.2258 | 2.9287 | 4.5320 | 3.6996 | |
| 9300 | 9286 | 227.788 | -45.362 | 227.788 | 2.9454 | 2.2093 | 2.9069 | 4.5047 | 3.6773 | |
| 9350 9400 | 9336 9386 | 227.464 227.140 | -45.686 -46.010 | 227.464 22 <u>7.</u> 140 | 2.9235 2.9017 | 2.1928 2.1764 | 2.8853 2.8637 | 4.4775 4.4504 | 3.6551 3.6330 | |
| 9450 | 9436 | 226.816 | -46.334 | 226.816 | 2.8800 | 2.1601 | 2.8423 | 4.4234 | 3.6110 | |
| 9500 | 9486 | 226.492 | | 226.492 | 2.8584 + 2 | 2.1440 + 2 | 2.8210 - 1 | 4.3966 - 1 | 3.5891 - 1 | |
| 9550 9600 | 9536 9586 | 226.168 | -46.982 -47.306 | 226,168 | 2.8370 2.8157 | 2.1279 2.1119 | 2.7999 2.7789 | 4.3699 4.3433 | 3.5673 3.5456 | |
| 9650 | 9635 | 225.520 | -47.630 | 225,520 | 2.7945 | 2.0961 | 2.7580 | 4.3169 | 3.5240 | |
| 9700 9750 | 9685 9735 | 225.196 | -47.954 | 225.196 | 2.7735 | 2.0803 | 2.7372 | 4.2905 | 3.5025 3.4811 | |
| 9800 | 9785 | 224.872 224.548 | -48.602 | 224.872 224.548 | 2.7526 2.7318 | 2.0646 2.0490 | 2.7166 2.6961 | 4.2643 4.2382 | 3.4598 | |
| 9850 | 9835 | 224.224 | -48.926 | 224.224 | 2.7111 | 2.0335 | 2.6757 | 4.2123 | 3.4386 | |
| 9900 995 0 | 9885 9934 | 223.900 223.576 | -49.250 -49.574 | 223,900 223,576 | 2.6906 2.6702 | 2.0181 2.0028 | 2.6554 2.6353 | 4.1864 4.1607 | 3.4175 3.3965 | |
| 10000 | 9984 | 223.252 | -49.898 | 223.252 | 2.6499 + 2 | 1.9876 + 2 | 2.6153 - 1 | 4.1351 - 1 | 3.3756 - 1 | |
| 10050 10100 | 10034 10084 | 222.928 222.604 | -50.222 -50.546 | 222 .9 28 222 .60 4 | 2.6298 2.6098 | 1.9725 1.9575 | 2.5954 2.5756 | 4.1096 4.0843 | 3.3548 3.3341 | |
| 10150 | 10134 | 222.280 | -50.870 | 222,280 | 2.5899 | 1.9425 | 2.5560 | 4.0590 | 3.3135 | |
| 10200 | 10184 | 221.956 221.632 | -51.194 | 221.956 | 2.5701 | 1.9277 | 2.5365 2.5171 | 4.0339 4.0089 | 3.2930 3.2726 | |
| 10250 10300 | 10233 10283 | 221.032 | -51.518 -51.842 | 221.632 221.308 | 2.5504 2.5309 | 1.9130 1.8983 | 2.4978 | 3.9840 | 3.2523 | |
| 10350 | 10333 | 220.984 | -52.166 | 220.984 | 2.5115 | 1.8838 | 2.4786 | 3.9593 | 3.2321 | |
| 10400 10450 | 10383 10433 | | -52.490 -52.814 | 220.660 220.336 | 2.4922 2.4730 | 1.8693 1.8549 | 2.4596 2.4407 | 3.9346 3.9101 | 3.2119 3.1919 | |
| 10500 | 10483 | | -53.137 -53.461 | 220.013 | 2.4540 + 2 | 1.8406 + 2 1.8264 | 2.4219 - 1 2.4032 | 3.8857 - 1 3.8614 | 3.1720 - 1 3.1522 | |
| 10550 10600 | 10533 10582 | | -53.461 -53.785 | 219.689 219.365 | 2.4350 2.4162 | 1.8123 | 2.4032 | 3.8372 | 3.1324 | |
| 10650 | 10632 | 219.041 | -54.109 | 219.041 | 2.3975 | 1.7983 | 2.3662 | 3.8132 | 3.1128 | |
| 10700 | 10682 | 218.717 | -54.433 -54.757 | 218,717 | 2.3790 2.3605 | 1.7844 1.7705 | 2.3479 2.3296 | 3.7892 3.7654 | 3.0933 3.0738 | |
| 10750 10800 | 10732 10782 | 218.393 218.069 | -54.757 -55.081 | 218.393 218.069 | 2.3422 | 1.7568 | 2.3115 | 3.7634 3.7417 | 3.0545 | |
| 10850 | 10832 | 217.745 | -55.405 | 217.745 | 2.3239 | 1.7431 | 2.2935 | 3.7181 | 3.0352 | |
| 10900 10950 | 10881 10931 | 217.421 217.097 | -55.729 -56.053 | 217,421 217,097 | 2.3058 2.2878 | 1.7295 1.7160 | 2•2757 2•2579 | 3.6946 3.6713 | 3.0160 2.9970 | |
| | | | | | | | | | | |

Table I
Geopotential Altitude, Metric Units

| Altit | tude | | Temperatu | re | Pressu | | | Density | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| H (m) | Z (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ ο |
| 11000 11100 11200 11300 11400 11500 11600 11700 11800 11900 | 11019 11119 11220 11320 11420 11521 11621 11722 11822 11922 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 2.2632 · 2 2.2277 2.1929 2.1586 2.1248 2.0916 2.0588 2.0266 1.9949 1.9637 | 1.6975 • 2 1.6709 1.6448 1.6191 1.5937 1.5688 1.5442 1.5201 1.4963 1.4729 | 2.2336 - 1 2.1986 2.1642 2.1304 2.0970 2.0642 2.0319 2.0001 1.9688 1.9380 | 3.6392 - 1 3.5822 3.5262 3.4710 3.4167 3.3633 3.3107 3.2589 3.2079 3.1577 | 2.9708 - 1 2.9243 2.8785 2.8335 2.7892 2.7455 2.7026 2.6603 2.6187 2.5777 |
| 12000 12100 12200 12300 12400 12500 12600 12700 12800 12900 | 12023 12123 12223 12324 12424 12525 12625 12725 12725 12826 12926 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.9330 • 2 1.9027 1.6730 1.8437 1.6148 1.7864 1.7585 1.7310 1.7039 1.6772 | 1.4498 + 2 1.4272 1.4048 1.3829 1.3612 1.3399 1.3190 1.2983 1.2780 | 1.9077 - 1 1.8779 1.8485 1.8196 1.7911 1.7631 1.7355 1.7083 1.6816 1.6553 | 3.1083 - 1 3.0597 3.0118 2.9647 2.9183 2.8726 2.8277 2.7834 2.7399 2.6970 | 2.5374 - 1 2.4977 2.4586 2.4201 2.3823 2.3450 2.3083 2.2722 2.2366 2.2017 |
| 13000 13100 13200 13300 13400 13500 13600 13700 13800 13900 | 13027 13127 13227 13328 13428 13529 13629 13730 13830 13930 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.6510 + 2 1.6252 1.5997 1.5747 1.5501 1.5258 1.5019 1.4784 1.4553 1.4325 | 1.2383 + 2 1.2190 1.1999 1.1811 1.1626 1.1444 1.1265 1.1089 1.0916 | 1.6294 - 1 1.6039 1.5788 1.55541 1.5298 1.5059 1.4823 1.4591 1.4363 1.4138 | 2.6548 - 1 2.6133 2.5724 2.5322 2.4925 2.4536 2.4152 2.33774 2.3402 2.3036 | 2.1672 - 1 2.1333 2.0999 2.0671 2.0347 2.0029 1.9716 1.9407 1.9104 1.8805 |
| 14000 14100 14200 14300 14400 14500 14600 14700 14800 | 14031 14131 14232 14332 14433 14533 14634 14734 14835 14935 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.4101 + 2 1.3881 1.3663 1.3450 1.3239 1.3032 1.2828 1.2628 1.2628 1.2430 | 1.0577 + 2 1.0411 1.0248 1.0088 9.9306 + 1 9.7752 9.6223 9.4718 9.3236 9.1777 | 1.3917 - 1 1.3699 1.3485 1.3274 1.3066 1.2862 1.2660 1.2462 1.2267 | 2.2675 - 1 2.2321 2.1971 2.1628 2.1289 2.0956 2.0628 2.0306 1.9988 1.9675 | 1.8510 - 1 1.8221 1.7936 1.7655 1.7379 1.7107 1.6839 1.6576 1.6317 |
| 15000 15100 15200 15300 15400 15500 15600 15700 15800 15900 | 15035 15136 15236 15337 15437 15538 15638 15638 15739 15839 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.2044 + 2 1.1856 1.1670 1.1488 1.1308 1.1131 1.0957 1.0785 1.00617 1.0450 | 9.0341 • 1 8.6928 8.7536 8.6167 8.4819 8.3492 8.2186 8.0900 7.9634 7.8388 | 1.1887 - 1 1.1701 1.1518 1.1337 1.1160 1.0985 1.0813 1.0644 1.0478 | 1.9367 - 1 1.9064 1.8766 1.8473 1.8183 1.7899 1.7619 1.7343 1.7072 1.6805 | 1.5810 - 1 1.5563 1.5319 1.5080 1.4044 1.4611 1.4383 1.4158 1.3936 |
| 16000 16100 16200 16300 16400 16500 16600 16700 16800 16900 | 16040 16141 16241 16342 16442 16543 16643 16744 16845 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.0287 + 2 1.0126 9.9680 + 1 9.8121 9.6586 9.5074 9.3587 9.2123 9.0682 8.9263 | 7.7162 + 1 7.5955 7.4766 7.3596 7.2445 7.1312 7.0196 6.9098 6.8017 6.6952 | 1.0152 - 1 9.9940 - 2 9.8377 9.6838 9.5323 9.3831 9.2363 9.0918 8.9496 8.8096 | 1.6542 - 1 1.6283 1.6028 1.5778 1.5531 1.5288 1.5049 1.4813 1.4581 | 1.3504 - 1 1.3292 1.3084 1.2880 1.2678 1.2480 1.2285 1.2092 1.1903 1.1717 |
| 17000 17100 17200 17300 17400 17500 17600 17700 17800 17900 | 17046 17146 17247 17347 17448 17548 17649 17749 17850 17951 | | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 8.7866 + 1 8.6492 8.5138 8.3806 8.2495 8.1205 7.9934 7.6864 7.7452 7.6241 | 6.5905 + 1 6.4874 6.3859 6.2860 6.1876 6.0908 5.9955 5.9017 5.8094 5.7185 | 8.6717 - 2 8.5361 8.4025 8.2710 8.1416 8.0143 7.8889 7.7655 7.6440 | 1.4129 - 1 1.3908 1.3690 1.3476 1.3265 1.3058 1.2853 1.2652 1.2454 | 1.1534 - 1 1.1353 1.1176 1.1001 1.0029 1.0659 1.0492 1.0328 1.0167 |
| 18000 18100 18200 18300 18400 18500 18600 18700 18800 | 18051 18152 18252 18353 18453 18554 18655 18755 18856 | | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | | 7.5048 • 1 7.3874 7.2718 7.1580 7.0460 6.9358 6.8273 6.7205 6.6153 6.5118 | 5.6290 + 1 5.5410 5.4543 5.3690 5.2850 5.2023 5.1209 5.0408 4.9619 4.8843 | 7.4067 - 2 7.2908 7.1767 7.0644 6.9539 6.8451 6.7380 6.6326 6.5288 6.4267 | 1.2068 - 1 1.1879 1.1693 1.1510 1.1330 1.1153 1.0978 1.0806 1.0637 | 9.8511 - 2 9.6970 9.5453 9.3959 9.2469 9.1042 8.9618 8.8216 8.6836 8.5477 |

Table I
Geometric Altitude, Metric Units

| <u></u> | | | | | seometric Aititu | ide, Metric Units | | | | |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--|
| Alti | tude | | Temperatu | 'e | | Pressure | | Dens | sity | |
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ_{0} | |
| 11000 11100 11200 11300 11400 11400 11500 11600 11700 11800 | 10981 11180 11180 11280 11380 11479 11579 11679 11778 11878 | 216.774 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.376 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.774 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 2.2699 + 2 2.2346 2.1997 2.1654 2.1317 2.0984 2.0657 2.0335 2.0018 1.9706 | 1.7026 + 2 1.6760 1.6499 1.6242 1.5989 1.5739 1.5494 1.5252 1.5015 | 2.2403 - 1 2.2053 2.1710 2.1371 2.1038 2.0710 2.0387 2.0069 1.9756 1.9448 | 3.6480 - 1 3.5932 3.5372 3.4820 3.4277 3.3743 3.3217 3.2699 3.2190 3.1688 | 2.9780 - 1 2.9332 2.8875 2.8425 2.7982 2.7545 2.7116 2.6693 2.6277 2.5868 | |
| 12000 12100 12200 12300 12400 12500 12600 12700 12800 12900 | 11977 12077 12177 12276 12376 12475 12575 12675 12774 12874 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.9399 • 2 1.9097 1.8799 1.8506 1.8218 1.7934 1.7654 1.7379 1.7108 1.6842 | 1.4550 • 2 1.4323 1.4100 1.3880 1.3664 1.3451 1.3242 1.3035 1.2832 1.2632 | 1.9145 - 1 1.8847 1.8553 1.8264 1.7979 1.7699 1.77423 1.7152 1.6884 1.6621 | 3.1194 - 1 3.0708 3.0229 2.9758 2.9294 2.8838 2.8388 2.7946 2.7510 2.7082 | 2.5464 - 1 2.5067 2.4677 2.4292 2.3914 2.3541 2.3174 2.2813 2.2457 2.2107 | |
| 13000 13100 13200 13300 13400 13500 13600 13700 13800 13900 | 12973 13073 13173 13272 13372 13471 13571 13671 13770 13870 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.6579 • 2 1.60321 1.6066 1.5816 1.5570 1.5327 1.5088 1.4853 1.4622 1.4394 | 1.2435 + 2 1.2241 1.2051 1.1863 1.1678 1.1496 1.1317 1.1141 1.0967 | 1.6362 - 1 1.6107 1.5856 1.5609 1.5366 1.5127 1.4891 1.4659 1.4431 | 2.6660 - 1 2.6244 2.5835 2.5433 2.5037 2.4646 2.4263 2.3885 2.3512 2.3146 | 2.1763 - 1 2.1424 2.1090 2.0761 2.0438 2.0120 1.9886 1.9498 1.9194 1.8895 | |
| 14000 14100 14200 14300 14300 14500 14600 14700 14800 14900 | 13969 14069 14168 14268 14367 14467 14567 14666 14766 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.4170 • 2 1.3949 1.3732 1.3518 1.3307 1.3100 1.2896 1.2695 1.2498 1.2303 | 1.0628 • 2 1.0463 1.0300 1.0139 9.9817 • 1 9.8262 9.6732 9.5226 9.3743 9.2283 | 1.3985 - 1 1.3767 1.3552 1.3341 1.3133 1.2929 1.2727 1.2529 1.2334 1.2142 | 2.2786 - 1 2.2431 2.2081 2.1737 2.1399 2.1066 2.0737 2.0414 2.0097 1.9784 | 1.8601 - 1 1.8311 1.8026 1.7745 1.7468 1.7196 1.6929 1.6665 1.6405 1.6150 | |
| 15000 15100 15200 15300 15400 15500 15600 15700 15800 15900 | 14965 15064 15164 15263 15363 15462 15562 15661 15761 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.2111 + 2 1.1923 1.1737 1.1554 1.1374 1.1107 1.1023 1.0851 1.0682 1.0516 | 9.0846 + 1 8.9431 8.8038 8.6668 8.5318 8.3990 8.2682 8.1395 8.0128 7.8880 | 1.1953 - 1 1.1767 1.1584 1.1403 1.1226 1.1051 1.0879 1.0709 1.07543 1.0379 | 1.9476 - 1 1.9172 1.8874 1.8580 1.8291 1.8006 1.7725 1.7449 1.7178 | 1.5898 - 1 1.5651 1.5407 1.5167 1.4931 1.4699 1.4470 1.4244 1.4023 | |
| 16000 16100 16200 16300 16400 16500 16600 16700 16800 | 15960 16059 16159 16258 16358 16457 16557 16656 16756 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 1.0352 + 2 1.0191 1.0033 9.8768 + 1 9.7231 9.5717 9.4227 9.2761 9.1317 8.9896 | 7.7652 • 1 7.6443 7.5253 7.4082 7.2929 7.1794 7.0676 6.9576 6.8493 6.7427 | 1.0217 - 1 1.0058 9.9018 - 2 9.7476 9.5959 9.4465 9.2995 9.1548 9.0123 8.8720 | 1.6647 - 1 1.6388 1.6133 1.5882 1.5635 1.5391 1.5152 1.4916 1.4684 1.4455 | 1.3589 - 1 1.3378 1.3170 1.2965 1.2763 1.2564 1.2369 1.2176 1.1987 | |
| 17000 17100 17200 17300 17400 17500 17600 17700 17800 17900 | 17352 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 8.8497 + 1 8.7120 8.5764 8.4429 8.3115 8.1822 8.0549 7.9296 7.8062 7.6847 | 6.6378 • 1 6.5345 6.4328 6.3327 6.2342 6.1372 6.0417 5.9477 5.8551 5.7640 | 8.7340 - 2 8.5980 8.4642 8.3325 8.2029 8.0752 7.9496 7.8259 7.7041 7.5843 | 1.4230 - 1 1.4009 1.3791 1.3576 1.3365 1.3157 1.2952 1.2751 1.2552 | 1.1616 - 1 1.1436 1.1258 1.1083 1.0910 1.0740 1.0573 1.0409 1.0247 | |
| 18000 18100 18200 18300 18400 18500 18600 18700 18800 18900 | 18645 | 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 | 7.5652 • 1 7.4475 7.3316 7.2176 7.1053 6.9948 6.8860 6.7789 6.6734 6.5696 | 5.6743 • 1 5.5861 5.4992 5.4136 5.3294 5.2465 5.1649 5.0845 5.0055 4.9276 | 7.4663 - 2 7.3501 7.2358 7.1232 7.0124 6.9033 6.7959 6.6902 6.5862 6.4837 | 1.2165 - 1 1.1975 1.1789 1.1606 1.1425 1.1248 1.1073 1.0900 1.0731 | 9.9304 - 2 9.7759 9.6238 9.4741 9.3267 9.1816 9.0388 8.8982 8.7598 8.6236 | |

Table I
Geopotential Altitude, Metric Units

| | | I | | | opoterniai Artiu | de, Metric Onits | · | | |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Alti | tude | | Temperatur | e | | Pressure | | Dens | ity |
| H (m) | Z (m) | т (к) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | $\rho/\rho_{f 0}$ |
| 19000 19100 19200 19300 19400 19500 19600 19700 19800 | 19057 19158 19258 19359 19459 19560 19661 19761 19862 19962 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 6.4100 • 1 6.3097 6.2110 6.1138 6.0181 5.9240 5.8313 5.7401 5.6503 5.5619 | 4.8078 • 1 4.7326 4.6586 4.5857 4.5140 4.4433 4.3738 4.3054 4.2380 4.1717 | 6.3261 - 2 6.2272 6.1297 6.0338 5.9394 5.8465 5.7550 5.6650 5.5764 5.4891 | 1.0307 - 1 1.0146 9.9871 - 2 9.8309 9.6771 9.5257 9.3767 9.2300 9.0856 8.9434 | 8.4140 - 2 8.2823 8.1528 8.0252 7.8997 7.7761 7.6544 7.4168 7.3007 |
| 20000 20100 20200 20300 20400 20500 20600 20700 20800 20900 | 20063 20164 20264 20365 20466 20566 20667 20768 20868 20969 | 216.650 216.750 216.850 216.950 217.050 217.250 217.250 217.350 217.450 217.50 | -56.500 -56.400 -56.300 -56.200 -56.100 -56.000 -55.900 -55.800 -55.700 | 216.650 216.750 216.850 216.950 217.050 217.150 217.250 217.350 217.450 217.550 | 5.4748 + 1 5.3892 5.3049 5.2220 5.1405 5.0602 4.9812 4.9935 4.8271 4.7519 | 4.1065 + 1 4.0422 3.9790 3.9168 3.8557 3.7955 3.7362 3.6206 3.5642 | 5.4032 - 2 5.3187 5.2356 5.1538 5.0732 4.9940 4.9161 4.8394 4.7640 4.6897 | 8.8035 - 2 8.6618 8.5224 8.3854 8.2506 8.1180 7.9877 7.8595 7.7334 7.6093 | 7.1865 - 2 7.0708 6.9571 6.8452 6.7352 6.6270 6.5205 6.4159 6.3129 6.2117 |
| 21000 21100 21200 21300 21400 21500 21600 21700 21800 21900 | 21070 21170 21271 21372 21472 21573 21674 21774 21875 21976 | 217.650 217.750 217.850 217.950 218.050 218.150 218.250 218.350 218.450 218.550 | -55.500 -55.400 -55.300 -55.200 -55.100 -55.000 -54.900 -54.800 -54.700 | 217.650 217.750 217.850 217.950 218.050 218.150 218.250 218.350 218.450 218.550 | 4.6778 + 1 4.6050 4.5333 4.4628 4.3934 4.3251 4.2579 4.1018 4.1268 4.0627 | 3.5087 + 1 3.4540 3.4003 3.3474 3.2953 3.2441 3.1937 3.1441 3.0953 3.0473 | 4.6167 - 2 4.5448 4.4740 4.4044 4.3360 4.2686 4.2023 4.1370 4.0728 4.0096 | 7.4874 - 2 7.3674 7.2494 7.1334 7.0192 6.9070 6.7965 6.6879 6.5811 6.4761 | 6.1121 - 2 6.0142 5.9179 5.8232 5.7300 5.5383 5.5482 5.4595 5.3724 5.2866 |
| 22000 22100 22200 22300 22400 22500 22600 22700 22800 22900 | 22076 22177 22278 22379 22479 22580 22681 22781 22882 22983 | 218.650 218.750 218.850 218.950 219.050 219.150 219.250 219.450 219.550 | -54.500 -54.400 -54.300 -54.200 -54.000 -53.900 -53.800 -53.600 | 218.650 218.750 218.850 218.950 219.050 219.150 219.250 219.350 219.450 219.550 | 3.9997 + 1 3.9377 3.8767 3.8167 3.7576 3.6995 3.6995 3.5860 3.5306 3.4760 | 3.0000 + 1 2.9535 2.9578 2.8627 2.8184 2.7748 2.7319 2.6897 2.6481 2.6072 | 3.9474 - 2 3.8862 3.8260 3.7668 3.7085 3.6511 3.5946 3.5391 3.4844 3.4306 | 6.3727 - 2 6.2711 6.0728 5.9760 5.8809 5.7873 5.6953 5.6047 5.5156 | 5.2022 - 2 5.1193 5.0376 4.9574 4.8784 4.8007 4.7243 4.6492 4.5753 4.5026 |
| 23000 23100 23200 23300 23400 23500 23600 23700 23800 23900 | 23084 23184 23285 23386 23486 23587 23688 23789 23789 | 219.650 219.750 219.850 219.950 220.050 220.150 220.250 220.450 220.450 | -53.500 -53.400 -53.300 -53.200 -53.100 -53.000 -52.900 -52.700 -52.600 | 219.650 219.750 219.850 219.850 220.050 220.150 220.250 220.350 220.450 220.550 | 3.4224 • 1 3.3696 3.3176 3.2665 3.2161 3.1666 3.1178 3.0699 3.0226 2.9762 | 2.5670 + 1 2.5274 2.4884 2.4500 2.4123 2.3751 2.3386 2.3026 2.2672 2.2323 | 3.3776 - 2 3.3255 3.2742 3.2237 3.1741 3.1252 3.0771 3.0297 2.9831 2.9373 | 5.4280 - 2 5.3418 5.2571 5.1737 5.0916 5.0109 4.9316 4.8535 4.7766 4.7011 | 4.4310 - 2 4.3607 4.2915 4.2234 4.1564 4.0906 4.0258 3.9620 3.8993 3.8376 |
| 24000 24100 24200 24300 24400 24500 24600 24700 24800 24900 | 24091 24192 24292 24393 24494 24595 24696 24796 24897 24998 | 220.850 220.950 221.050 221.150 221.250 221.350 221.450 | -52.500 -52.400 -52.300 -52.200 -52.100 -52.000 -51.900 -51.700 -51.600 | 220.650 220.750 220.850 220.950 221.050 221.150 221.350 221.350 221.450 221.550 | 2.9304 · 1 2.8854 2.8411 2.7975 2.7546 2.7124 2.6708 2.6299 2.5896 2.5500 | 2.1980 • 1 2.1642 2.1310 2.0983 2.0661 2.0344 2.0033 1.9726 1.9424 1.9126 | 2.8921 - 2 2.8477 2.8040 2.7609 2.7186 2.6769 2.6359 2.5955 2.5558 2.5166 | 4.6267 - 2 4.5536 4.4817 4.4109 4.3413 4.2728 4.2054 4.1391 4.0739 4.0097 | 3.7769 - 2 3.7172 3.6585 3.6007 3.5439 3.4880 3.4330 3.3788 3.3256 3.2732 |
| 25000 25100 25200 25300 25400 25500 25600 25700 25800 25900 | 25099 25200 25300 25401 25502 25603 25704 25804 25805 26006 | 222.150 222.250 222.350 222.450 | -51.500 -51.400 -51.300 -51.200 -51.100 -51.000 -50.400 -50.700 -50.600 | 221.650 221.750 221.850 221.950 222.050 222.150 222.250 222.350 222.450 222.550 | 2.5110 • 1 2.4726 2.4348 2.3976 2.3610 2.3249 2.2895 2.2545 2.2202 2.1863 | 1.8834 + 1 1.8546 1.8262 1.7983 1.7709 1.7438 1.7172 1.6910 1.6653 1.6399 | 2.4781 - 2 2.4402 2.4029 2.3662 2.3301 2.2945 2.2595 2.2251 2.1911 2.1578 | 3.9466 - 2 3.8845 3.8234 3.7633 3.7041 3.6460 3.5887 3.5324 3.4770 3.4225 | 3.2217 - 2 3.1710 3.1211 3.0721 3.0238 2.9763 2.9296 2.8836 2.8383 2.7938 |
| 26000 26100 26200 26300 26400 26500 26600 26700 26800 26900 | 26107 26208 26308 26409 26510 26611 26712 26813 26913 | 222.750 222.850 222.950 223.050 223.150 223.250 223.350 223.450 | -50.500 -50.400 -50.300 -50.200 -50.100 -49.900 -49.800 -49.700 | 222.650 222.750 222.850 222.950 223.050 223.150 223.250 223.350 223.450 223.550 | 2.1530 + 1 2.1203 2.0880 2.0562 2.0250 1.9942 1.9639 1.9341 1.9047 1.8758 | 1.6149 • 1 1.5903 1.5661 1.5423 1.5188 1.4958 1.4730 1.4507 1.4287 | 2.1249 - 2 2.0925 2.0607 2.0294 1.9985 1.9681 1.9382 1.9088 1.8798 1.8513 | 3.3688 - 2 3.3160 3.2641 3.2130 3.1628 3.1133 3.0646 3.0168 2.9697 2.9233 | 2.7501 - 2 2.7070 2.6646 2.6229 2.5819 2.5415 2.5018 2.4627 2.4242 2.3864 |

Table I
Geometric Altitude, Metric Units

| | | 1 | | • | Jeometric Aititu | ide, Metric Units | | | | |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--|
| Alti | tude | | Temperatu | e | | Pressure | | Dens | sity | |
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | ρ (kg/m ³) | ρ/ρ_{0} | |
| 19000 19100 19200 19300 19400 19500 19600 19700 19800 19900 | 18943 19043 19142 19242 19341 19440 19540 19639 19739 19838 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 -56.500 | 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 216.650 | 6.4674 + 1 6.3669 6.2678 6.1704 6.0744 5.9799 5.8870 5.7954 5.7053 5.6166 | 4.8510 + 1 4.7755 4.7013 4.6281 4.5562 4.4853 4.4156 4.3469 4.2793 4.2128 | 6.3829 - 2 6.2836 6.1859 6.0897 5.9950 5.9017 5.8100 5.7196 5.6307 5.5431 | 1.0400 - 1 1.0238 1.0079 9.9219 - 2 9.7676 9.6157 9.4662 9.3190 9.1741 9.0314 | 8.4894 - 2 8.3574 8.2274 8.0995 7.9735 7.8495 7.7275 7.6073 7.4890 7.3726 | |
| 20000 20100 20200 20300 20400 20500 20600 20700 20800 20900 | 19937 20037 20136 20235 20335 20434 20533 20633 20732 20832 | 216.650 216.687 216.786 216.985 217.084 217.183 217.283 217.382 217.482 | -56.500 -56.463 -56.364 -56.265 -56.165 -56.066 -55.967 -55.867 -55.768 | 216.650 216.687 216.786 216.885 216.985 217.084 217.183 217.283 217.382 217.482 | 5.5293 · 1 5.4433 5.3587 5.2755 5.1936 5.1130 5.0336 4.9556 4.8788 4.8033 | 4.1473 • 1 4.0828 4.0193 3.9569 3.8955 3.8350 3.7755 3.7170 3.6594 3.6027 | 5.4570 - 2 5.3721 5.2886 5.2065 5.1256 5.0461 4.9678 4.8908 4.8150 4.7404 | 8.8910 - 2 8.7513 8.6113 8.4737 8.3383 8.2052 8.0742 7.9454 7.8187 | 7.2580 - 2 7.1439 7.0297 6.9173 6.8068 6.6981 6.5912 6.4860 6.3826 6.2809 | |
| 21000 21100 21200 21300 21300 21500 21600 21700 21800 21900 | 20931 21030 21130 21229 21328 21428 21527 21626 21725 21825 | 217.581 217.680 217.780 217.879 217.978 218.078 218.177 218.276 218.375 218.475 | -55.569 -55.470 +55.370 -55.271 -55.172 -55.072 -54.973 -54.874 -54.775 -54.675 | 217.581 217.680 217.780 217.879 217.978 218.078 218.177 218.276 218.375 218.475 | 4.7289 • 1 4.0557 4.5837 4.5129 4.4431 4.3745 4.3070 4.2405 4.1751 4.1108 | 3.5469 • 1 3.4921 3.4381 3.3849 3.3326 3.2811 3.2305 3.1806 3.1316 3.0833 | 4.6671 - 2 4.5948 4.5238 4.4538 4.3850 4.3173 4.2507 4.1851 4.1205 4.0570 | 7.5715 - 2 7.4509 7.3324 7.2157 7.1010 6.9881 6.8771 6.7680 6.6606 6.5549 | 6.1808 - 2 6.0824 5.9856 5.8904 5.7967 5.7046 5.6140 5.5249 5.4372 5.3509 | |
| 22000 22100 22200 22300 22400 22500 22600 22700 22800 22900 | 21924 22023 22123 22222 22321 22421 22520 22619 22719 22818 | 218.574 218.673 218.773 218.872 218.971 219.071 219.170 219.269 219.369 219.468 | -54.576 -54.477 -54.377 -54.278 -54.179 -53.980 -53.881 -53.781 -53.682 | 218.574 218.673 218.773 218.872 218.971 219.071 219.170 219.269 219.369 219.468 | 4.0475 • 1 3.9851 3.9238 3.8634 3.8040 3.7455 3.6880 3.6314 3.5757 3.5208 | 3.0358 • 1 2.9891 2.9431 2.8978 2.8532 2.8094 2.7662 2.7237 2.6819 2.6408 | 3.9945 - 2 3.9330 3.8725 3.8129 3.7543 3.6966 3.6398 3.5839 3.5289 3.4748 | 6.4510 - 2 6.3488 6.2482 6.1493 6.0520 5.9563 5.8621 5.7695 5.6784 5.5888 | 5.2661 - 2 5.1827 5.1006 5.0198 4.9404 4.88623 4.7854 4.7098 4.6354 4.5622 | |
| 23000 23100 23200 23300 23400 23500 23600 23700 23800 23900 | 22917 23016 23116 23215 23314 23413 23513 23612 23711 23810 | 219.567 219.666 219.766 219.865 219.964 220.063 220.163 220.262 220.361 220.460 | -53.583 -53.484 -53.384 -53.285 -53.186 -53.087 -52.987 -52.888 -52.789 -52.690 | 219.567 219.666 219.766 219.865 219.964 220.063 220.163 220.262 220.361 220.460 | 3.4668 • 1 3.4137 3.3614 3.3099 3.2593 3.2094 3.1604 3.1121 3.0645 3.0177 | 2.6003 + 1 2.5605 2.5212 2.4826 2.4446 2.4073 2.3705 2.3342 2.2986 2.2635 | 3.4215 - 2 3.3690 3.3174 3.2666 3.2167 3.1675 3.1190 3.0714 3.0245 2.9783 | 5.5006 - 2 5.4138 5.3285 5.2445 5.1620 5.0807 5.0807 5.0908 4.9221 4.8448 4.7687 | 4.4903 - 2 4.4195 4.3498 4.2813 4.2138 4.1475 4.0823 4.0181 3.9549 3.8928 | |
| 24000 24100 24200 24300 24400 24500 24600 24700 24800 24900 | 23910 24009 24108 24207 24307 24406 24505 24604 24704 24803 | 220.560 220.659 220.758 220.857 221.056 221.155 221.254 221.354 221.453 | -52.590 -52.491 -52.392 -52.293 -52.193 -52.094 -51.995 -51.896 -51.796 -51.697 | 220.560 220.659 220.758 220.857 220.957 221.056 221.155 221.254 221.354 221.453 | 2.9717 + 1 2.9264 2.8818 2.8379 2.7946 2.7521 2.7102 2.6690 2.6284 2.5885 | 2.2289 • 1 2.1949 2.1615 2.1286 2.0961 2.0642 2.0328 2.0019 1.9715 1.9415 | 2.9328 - 2 2.8881 2.8441 2.8007 2.7581 2.7161 2.6748 2.6341 2.5940 2.5546 | 4.6938 - 2 4.6201 4.5476 4.4763 4.4062 4.3372 4.2693 4.2024 4.1367 4.0720 | 3.8317 - 2 3.7715 3.77124 3.65542 3.5969 3.5405 3.4851 3.4306 3.3769 3.3241 | |
| 25000 25100 25200 25300 25400 25500 25600 25700 25800 25900 | 24902 25001 25100 25200 25299 25398 25497 25597 25696 25795 | 221.552 221.651 221.750 221.850 221.949 222.044 222.147 222.247 222.346 222.445 | -51.598 -51.499 -51.400 -51.300 -51.201 -51.102 -51.003 -50.903 -50.804 -50.705 | 221.552 221.651 221.750 221.850 221.949 222.048 222.147 222.247 222.346 222.445 | 2.5492 • 1 2.5105 2.4724 2.4349 2.3980 2.3617 2.3259 2.2907 2.2560 2.2219 | 1.9120 • 1 1.8830 1.8544 1.8263 1.7986 1.7714 1.7445 1.7181 1.6921 | 2.5158 - 2 2.4776 2.4401 2.4031 2.3666 2.3308 2.2955 2.2607 2.2265 2.1929 | 4.0084 - 2 3.9458 3.8842 3.8236 3.7639 3.7052 3.6475 3.5907 3.5348 3.4798 | 3.2722 - 2 3.2210 3.1708 3.1213 3.0726 3.0247 2.9776 2.9312 2.8855 2.88406 | |
| 26000 26100 26200 26300 26400 26500 26600 26700 26800 26900 | 25894 25993 26092 26192 26291 26390 26489 26687 26787 | 222.544 222.643 222.742 222.842 222.941 223.040 223.139 223.238 223.337 223.437 | -50.606 -50.507 -50.408 -50.308 -50.210 -50.110 -50.011 -49.912 -49.813 | | 2.1883 • 1 2.1553 2.1227 2.0907 2.0591 2.0281 1.9975 1.9674 1.9378 1.9086 | 1.6414 • 1 1.6166 1.5922 1.5681 1.5445 1.5212 1.4983 1.4757 1.4535 | 2.1597 - 2 2.1271 2.0950 2.0953 2.0322 2.0016 1.9714 1.9417 1.9125 1.8837 | 3.4257 - 2 3.3724 3.3200 3.2684 3.2177 3.1678 3.1186 3.0703 3.0227 2.9759 | 2.7965 - 2 2.7530 2.7102 2.6681 2.6267 2.5859 2.5458 2.5064 2.4675 2.4293 | |

Table I Geopotential Altitude, Metric Units

| Alti | tude | | Temperatui | re | | Pressure | | Dens | sity |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| H (m) | Z (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | $\rho/ ho_{f 0}$ |
| 27000 27100 27200 27200 27300 27400 27500 27600 27700 27800 27900 | 27115 27216 27317 27418 27519 27619 27720 27821 27822 28023 | 223.650 223.750 223.950 223.950 224.050 224.150 224.250 224.350 224.450 224.550 | -49.500 -49.400 -49.300 -49.200 -49.100 -48.900 -48.800 -48.600 | 223.650 223.750 223.850 223.850 224.050 224.150 224.250 224.350 224.450 224.450 | 1.8474 + 1 1.8194 1.7918 1.7647 1.7380 1.7117 1.6858 1.6603 1.6503 | 1.3857 • 1 1.3647 1.3440 1.3236 1.3036 1.2839 1.2645 1.2453 1.2265 | 1.8232 - 2 1.7956 1.7684 1.7416 1.7153 1.6893 1.6638 1.6386 1.6139 1.5895 | 2.8777 - 2 2.8328 2.7886 2.7452 2.7024 2.6604 2.6190 2.5782 2.5381 2.4987 | 2.3491 - 2 2.3125 2.2764 2.2410 2.2061 2.1717 2.1379 2.1047 2.0720 2.0398 |
| 28000 28100 28200 28200 28300 28400 28500 28600 28700 28700 28900 | 28124 28225 28325 28427 28527 28628 28729 28830 28831 29032 | 224.650 224.750 224.850 224.950 225.050 225.150 225.250 225.350 225.450 225.550 | -48.500 -48.400 -48.300 -48.100 -48.000 -47.900 -47.700 -47.600 | 224.650 224.750 224.850 224.950 225.050 225.150 225.250 225.350 225.450 225.550 | 1.5862 · 1 1.55623 1.5387 1.5155 1.4927 1.4702 1.4481 1.4263 1.4048 | 1.1898 • 1 1.1718 1.1541 1.1367 1.1196 1.1027 1.0861 1.0698 1.0537 1.0379 | 1.5655 - 2 1.55419 1.5186 1.4957 1.4732 1.4510 1.4291 1.4076 1.3865 | 2.4599 - 2 2.4217 2.3841 2.3471 2.3107 2.2749 2.2397 2.2050 2.1708 2.1373 | 2.0081 - 2 1.9769 1.9462 1.9160 1.8863 1.8571 1.8283 1.8000 1.7721 |
| 29000 29100 29200 29200 29300 29400 29500 29600 29800 29800 | 29133 29234 29335 29436 29537 29638 29738 29738 29839 29940 30041 | 225.650 225.750 225.850 225.950 226.050 226.150 226.250 226.350 226.450 226.550 | -47.500 -47.400 -47.300 -47.200 -47.100 -46.900 -46.900 -46.600 | 225,650 225,750 225,850 225,950 226,050 226,150 226,250 226,350 226,450 226,550 | 1.3629 • 1 1.3424 1.3223 1.3024 1.2829 1.2637 1.2447 1.2261 1.2277 1.1896 | 1.0223 • 1 1.0069 9.9182 • 0 9.7694 9.6228 9.4785 9.3364 9.1965 9.0588 8.9232 | 1.3451 - 2 1.3249 1.3050 1.2854 1.2661 1.2471 1.2284 1.2100 1.1919 1.1741 | 2.1042 - 2 2.0717 2.0397 2.0082 1.9772 1.9466 1.9166 1.8871 1.8580 1.8294 | 1.7177 - 2 1.6912 1.6650 1.6393 1.6140 1.5891 1.5646 1.5405 1.5167 |
| 30000 30100 30200 30300 30400 30500 30600 30700 30800 30900 | 30142 30243 30344 30445 30546 30647 30748 30849 30950 31051 | 226.650 226.850 226.850 226.950 227.050 227.150 227.250 227.350 227.450 227.550 | -46.500 -46.300 -46.200 -46.100 -46.000 -45.900 -45.700 -45.600 | 226.650 226.750 226.850 226.950 227.050 227.150 227.350 227.450 227.450 | 1.1718 + 1 1.1543 1.1370 1.1200 1.1033 1.0868 1.0706 1.0546 1.0339 1.0234 | 8.7897 • 0 8.6582 8.5288 8.4013 8.2758 8.1522 8.0306 7.9108 7.7928 7.6767 | 1.1565 - 2 1.1392 1.1222 1.1054 1.0889 1.0726 1.0566 1.0408 1.0253 | 1.8012 - 2 1.7735 1.7462 1.7193 1.6929 1.6669 1.6413 1.6161 1.5913 | 1.4704 - 2 1.4477 1.4255 1.4035 1.3820 1.3607 1.3398 1.3193 1.2990 1.2791 |
| 31000 31100 31200 31300 31400 31500 31600 31600 31800 31900 | 31152 31253 31354 31455 31556 31657 31758 31859 31960 32061 | 227.650 227.750 227.850 227.950 228.050 228.150 228.250 228.250 228.450 228.550 | -45.500 -45.400 -45.300 -45.200 -45.000 -44.900 -44.700 -44.600 | 227.650 227.750 227.850 227.950 228.050 228.150 228.250 228.350 228.450 228.550 | 1.0082 + 1 9.9321 + 0 9.7843 9.6387 9.4954 9.3542 9.2152 9.0783 8.9435 8.8108 | 7.5623 • 0 7.4497 7.3388 7.2296 7.1221 7.0162 6.9120 6.8093 6.7082 6.6086 | 9.9504 - 3 9.8022 9.6563 9.5127 9.3712 9.2319 9.0947 8.9596 8.8266 8.6956 | 1.5429 - 2 1.5192 1.4960 1.4731 1.4505 1.4283 1.4065 1.3850 1.3638 1.3430 | 1.2595 - 2 1.2402 1.2212 1.2025 1.1841 1.1660 1.1481 1.1306 1.1133 |
| 32000 32200 32400 32600 32800 33000 33200 33400 33600 33800 | 32162 32364 32566 32768 32970 33172 33374 33576 33779 | 229.210 229.770 230.330 230.890 231.450 232.010 232.570 233.130 | -44.500 -43.940 -43.380 -42.820 -42.260 -41.700 -41.140 -40.582 -39.460 | | 8.6801 + 0 8.4249 8.1777 7.9384 7.7067 7.4622 7.2648 7.0542 6.8553 6.6526 | 6.5106 + 0 6.3192 6.1338 5.9543 5.7805 5.6121 5.4491 5.2911 5.1381 4.9899 | 8.5666 - 3 8.3147 8.0708 7.8346 7.6059 7.3844 7.1698 6.9620 6.7607 6.5656 | 1.3225 - 2 1.2805 1.2399 1.2007 1.1628 1.1262 1.0908 1.0567 1.0236 9.9173 - 3 | 1.0796 - 2 1.0453 1.0122 9.8014 - 3 9.4922 9.1935 8.9048 8.6259 8.3563 8.0958 |
| 34000 34200 34400 34600 35000 35200 35400 35600 35800 | 34183 34385 34587 34789 34992 35194 35398 35598 35801 36003 | 234.810 235.370 235.930 236.490 237.050 237.610 238.170 238.730 | -38.900 -38.340 -37.780 -37.220 -36.660 -36.100 -35.540 -34.980 -34.420 -33.860 | 234.250 234.810 235.370 235.930 236.490 237.050 237.610 238.170 238.730 239.290 | 6.4612 + 0 6.2756 6.0959 5.9217 5.7528 5.5692 5.4306 5.2768 5.1277 4.9832 | 4.8463 + 0 4.7071 4.5723 4.4416 4.3150 4.1922 4.0732 3.9579 3.8461 3.7377 | 6.3767 - 3 6.1936 6.0162 5.6442 5.6776 5.5161 5.3595 5.2078 5.0607 4.9181 | 9.6089 - 3 9.3107 9.0225 8.7438 8.4744 8.2139 7.9620 7.7184 7.4828 7.2549 | 7.8440 - 3 7.6006 7.3653 7.1378 6.9179 6.7052 6.4996 6.3007 6.1084 5.9223 |
| 36000 36200 36400 36600 37000 37200 37400 37600 37800 | 36205 36407 36610 36812 37014 37217 37419 37621 37824 38026 | 240.410 240.970 241.530 242.090 242.650 243.210 243.770 244.330 | -33.300 -32.740 -32.180 -31.620 -31.060 -30.500 -29.940 -29.88820 -28.820 | 239,850 240,410 240,970 241,530 242,090 242,650 243,210 243,770 244,330 244,890 | 4.8431 + 0 4.7072 4.5755 4.4477 4.3238 4.2036 4.0870 3.9739 3.8642 3.7578 | 3.6326 • 0 3.5307 3.4319 3.3361 3.2431 3.1530 3.0655 2.9807 2.8984 2.8186 | 4.7798 - 3 4.6457 4.5157 4.3896 4.2673 4.1486 4.0336 3.9220 3.8137 3.7086 | 7.0344 - 3 6.8211 6.6148 6.4152 6.2220 6.0351 5.8542 5.6792 5.5097 5.3457 | 5.7424 - 3 5.5683 5.3999 5.2369 5.0792 4.9266 4.7790 4.6361 4.4977 4.3638 |

Table I
Geometric Altitude, Metric Units

| | | | ., | | Geometric Attitu | ide, Metric Units | | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Alti | tude | | Temperatur | e | | Pressure | | Dens | sity |
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ_{0} |
| 27000 27100 27200 27300 27400 27500 27600 27700 27800 27900 | 26886 26985 27084 27183 27282 27382 27481 27580 27679 27778 | 223.536 223.635 223.734 223.833 223.932 224.032 224.131 224.230 224.329 224.428 | -49.614 -49.515 -49.416 -49.317 -49.218 -49.118 -49.019 -48.920 -48.821 -48.722 | 223.536 223.635 223.734 223.833 223.932 224.032 224.131 224.230 224.329 224.428 | 1.8799 + 1 1.8517 1.8238 1.7764 1.7695 1.7429 1.7168 1.6910 1.6657 1.6407 | 1.4100 • 1 1.3888 1.3680 1.3474 1.3272 1.3073 1.2877 1.2684 1.2493 1.2306 | 1.8553 - 2 1.8274 1.8000 1.7729 1.7463 1.7201 1.6943 1.6689 1.6439 1.6193 | 2.9298 - 2 2.8845 2.8399 2.7528 2.7103 2.6684 2.6273 2.5867 2.5469 | 2.3917 - 2 2.3547 2.3183 2.2824 2.2472 2.2125 2.1783 2.1447 2.1116 2.0791 |
| 28000 28100 28200 28300 28400 28500 28600 28700 28800 28900 | 27877 27976 28075 28175 28175 28274 28373 28472 28571 28670 28769 | 224.527 224.626 224.725 224.825 224.924 225.023 225.122 225.221 225.320 225.419 | -48.623 -48.524 -48.425 -48.325 -48.226 -48.127 -48.028 -47.929 -47.830 | 224.527 224.626 224.725 224.825 224.924 225.023 225.122 225.221 225.320 225.419 | 1.6161 • 1 1.5520 1.5681 1.5547 1.5216 1.4989 1.4765 1.4545 1.4328 | 1.2122 • 1 1.1941 1.1762 1.1586 1.1413 1.1242 1.1075 1.0909 1.0747 | 1.5950 - 2 1.5711 1.57476 1.5245 1.5017 1.4793 1.4572 1.4354 1.4140 1.3930 | 2.5076 - 2 2.4690 2.4310 2.3936 2.3568 2.3206 2.2849 2.2498 2.2153 2.1813 | 2.0470 - 2 2.0155 1.9845 1.9540 1.9239 1.8943 1.8652 1.8366 1.8366 |
| 29000 29100 29200 29300 29300 29500 29600 29700 29800 29900 | 28868 28967 29066 29166 29265 29364 29463 29562 29661 29760 | 225.518 225.617 225.716 225.816 225.915 226.014 226.113 226.212 226.311 226.410 | -47.632 -47.533 -47.434 -47.334 -47.235 -47.136 -47.037 -46.938 -46.839 -46.740 | 225.518 225.617 225.716 225.816 225.915 226.014 226.113 226.212 226.311 226.410 | 1.3904 · 1 1.3697 1.3493 1.3292 1.3094 1.2899 1.2708 1.2519 1.2333 1.2150 | 1.0429 • 1 1.0273 1.0120 9.9700 • 0 9.8217 9.6757 9.5319 9.3903 9.2509 9.1136 | 1.3722 - ? 1.3517 1.3316 1.3118 1.2923 1.2731 1.2542 1.2355 1.2172 1.1991 | 2.1478 - 2 2.1149 2.0825 2.0506 2.0192 1.9883 1.9579 1.9280 1.8986 | 1.7533 - 2 1.7265 1.7000 1.6740 1.6484 1.6231 1.5983 1.5739 1.55498 |
| 30000 30100 30200 30300 30400 30500 30600 30700 30800 30900 | 29859 29958 30057 30156 30255 30354 30453 30552 30651 30751 | 226.509 226.608 226.707 226.806 226.905 227.004 227.103 227.202 227.301 227.401 | -46.641 -46.542 -46.443 -46.344 -46.245 -46.146 -46.047 -45.948 -45.849 | 226.509 226.608 226.707 226.806 226.905 227.004 227.103 227.202 227.301 227.401 | 1.1970 + 1 1.1792 1.1618 1.1445 1.1276 1.1109 1.0945 1.0783 1.0624 1.0467 | 8.9784 • 0 8.8453 8.7142 8.5851 8.4580 8.3329 8.2096 8.0882 7.9687 7.8510 | 1.1813 ~ 2 1.1638 1.1466 1.1296 1.1129 1.0964 1.0802 1.0642 1.0642 1.0485 | 1.8410 - 2 1.8129 1.7853 1.7581 1.77313 1.7049 1.6790 1.6534 1.6283 | 1.5029 - 2 1.4799 1.4574 1.4352 1.4133 1.3918 1.3706 1.3497 1.3292 1.3090 |
| 31000 31100 31200 31300 31400 31500 31600 31700 31800 31900 | 30850 30949 31048 31147 31246 31345 31444 31543 31642 31741 | 227.500 227.599 227.698 227.797 227.896 227.995 228.094 228.193 228.292 228.391 | -45.650 -45.551 -45.452 -45.353 -45.254 -45.056 -44.957 -44.858 -44.759 | 227.500 227.599 227.698 227.797 227.896 227.995 228.094 228.193 228.292 228.391 | 1.0312 + 1 1.0160 1.0010 9.8629 + 0 9.7175 9.5744 9.4334 9.2946 9.1579 9.0232 | 7.7351 . 0 7.6209 7.5085 7.3978 7.2887 7.1814 7.0756 6.9715 6.8690 6.7680 | 1.0177 - 2 1.0027 9.8796 - 3 9.7339 9.5905 9.4492 9.3101 9.1730 9.0381 8.9052 | 1.5792 - 2 1.5552 1.55316 1.5083 1.4855 1.4629 1.4408 1.4190 1.3975 | 1.2891 - 2 1.2695 1.2503 1.2313 1.2126 1.1942 1.1761 1.1583 1.1408 |
| 32000 32200 32400 32600 32800 33000 33200 33400 33600 33800 | 31840 32038 32236 32434 32632 32830 33027 33225 33423 33621 | 228.490 228.756 229.310 229.864 230.419 231.527 232.081 232.635 233.189 | -44.660 -44.394 -43.840 -43.286 -42.731 -42.177 -41.623 -41.069 -40.515 -39.961 | 228.490 228.756 229.310 229.864 230.419 230.973 231.527 232.081 232.635 233.189 | 8.8906 + 0 8.6314 8.3802 8.1369 7.9013 7.6730 7.4519 7.2377 7.0301 6.8290 | 6.6685 * 0 6.4741 6.2857 6.1032 5.9265 5.7552 5.5894 5.4287 5.2730 5.1222 | 8.7743 - 3 8.5185 8.2706 8.0305 7.7980 7.5727 7.3545 7.1431 6.9382 6.7397 | 1.3555 ~ 2 1.3145 1.2731 1.2332 1.1946 1.1573 1.1213 1.0864 1.0528 1.0202 | 1.1065 - 2 1.0730 1.0393 1.0067 9.7518 - 3 9.4474 9.1532 8.8688 8.5939 8.3282 |
| 34000 34200 34400 34600 35000 35200 35400 35600 35800 | 33819 34017 34215 34413 34611 34808 35006 35204 35402 35599 | 233.743 234.298 234.852 235.406 235.959 236.513 237.067 237.621 238.175 238.729 | -39.407 -38.852 -38.298 -37.744 -37.191 -36.083 -35.529 -34.975 -34.421 | 233.743 234.298 234.852 235.406 235.959 236.513 237.067 237.621 238.175 238.729 | 6.6341 + 0 6.4452 6.2621 6.0847 5.9127 5.7459 5.5842 5.4275 5.2755 5.1281 | 4.9760 + 0 4.8343 4.6970 4.5639 4.4348 4.3098 4.1885 4.0709 3.9569 3.8464 | 6.5473 - 3 6.3609 6.1802 6.0051 5.8353 5.6708 5.5112 5.3565 5.2065 5.0611 | 9.8874 - 3 9.5832 9.2890 9.0845 8.7295 8.4636 8.2061 7.9571 7.7163 7.4833 | 8.0714 - 3 7.8230 7.5829 7.3507 7.1261 6.9089 6.6988 6.4956 6.2990 6.1088 |
| 36000 36200 36400 36600 36800 37000 37200 37400 37600 37800 | 35797 35995 36193 36390 36588 36786 36984 37181 37379 37577 | 240.943 241.497 | -33.868 -33.314 -32.760 -32.207 -31.653 -31.100 -30.546 -29.993 -29.439 -28.886 | 239.282 239.836 240.390 240.943 241.497 242.050 242.604 243.157 243.711 244.264 | 4.9852 + 0 4.8466 4.7121 4.5817 4.4552 4.3324 4.2134 4.0978 3.9857 3.8769 | 3.7392 + 0 3.6352 3.5344 3.4365 3.3416 3.2496 3.1603 3.0736 2.9895 2.9079 | 4.9200 - 3 4.7832 4.6505 4.5218 4.3969 4.2758 4.1583 4.0442 3.9336 3.8262 | 7.2579 - 3 7.0398 6.8288 6.6245 6.4268 6.2355 6.0503 5.8710 5.6974 | 5.9248 - 3 5.7468 5.5745 5.4078 5.2464 5.0902 4.9390 4.7926 4.6509 4.5137 |

Table I Geopotential Altitude, Metric Units

| Alti | tude | - | Temperatur | e | | Pressure | | Dens | ity |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| H (m) | Z (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | ρ (kg/m ³) | $\rho/ ho_{f 0}$ |
| 38000 38200 38400 38600 38800 39000 39200 39400 39600 39800 | 38229 38431 38633 38836 39038 39241 39443 39646 40051 | 245.450 246.010 246.570 247.130 247.690 248.250 248.810 249.370 249.370 250.490 | -27.700 -27.140 -26.580 -26.020 -25.460 -24.900 -24.340 -23.780 -23.660 | 245.450 246.010 246.570 247.130 247.690 248.250 248.810 249.370 249.930 250.490 | 3.6545 + 0 3.5543 3.4570 3.3626 3.2711 3.1822 3.0959 3.0121 2.9308 2.8518 | 2.7411 • 0 2.6659 2.5930 2.5222 2.4535 2.3868 2.3221 2.2592 2.1982 2.11990 | 3.6067 - 3 3.5078 3.4118 3.3187 3.2283 3.1405 3.0554 2.9727 2.8924 2.8145 | 5.1869 - 3 5.0332 4.8844 4.7402 4.6007 4.4656 4.3347 4.2079 4.0852 3.9662 | 4.2342 - 3 4.1087 3.9872 3.8696 3.7557 3.6454 3.5385 3.4350 3.3348 3.2377 |
| 40000 40200 40400 40600 40800 41000 41200 41400 41600 41800 | 40253 40456 40658 40861 41064 41266 41469 41671 41874 42077 | 251.050 251.610 252.170 252.730 253.290 253.850 254.410 254.970 255.530 256.090 | -22.100 -21.540 -20.980 -20.420 -19.860 -19.300 -18.740 -18.180 -17.060 | 251.050 251.610 252.170 252.730 253.290 253.850 254.410 254.970 255.530 256.090 | 2.7752 + 0 2.7007 2.6285 2.5553 2.4501 2.4239 2.3596 2.2971 2.2365 2.1775 | 2.0815 + 0 2.0257 1.9715 1.9188 1.8677 1.8181 1.7698 1.7230 1.6775 1.6333 | 2.7389 - 3 2.6654 2.55941 2.5248 2.4575 2.3922 2.3287 2.2671 2.2072 2.1490 | 3.8510 - 3 3.7394 3.6312 3.5264 3.4249 3.3265 3.2311 3.1387 3.0491 2.9622 | 3.1437 - 3 3.0526 2.9643 2.8787 2.7958 2.7155 2.6376 2.5622 2.4890 2.4181 |
| 42000 42400 42400 42600 42800 43000 43200 43400 43600 43800 | 42279 42482 42685 42887 43090 43293 43496 43698 43698 43104 | 256.650 257.210 257.770 258.890 259.450 260.010 260.570 261.130 | -16.500 -15.940 -15.940 -14.820 -14.260 -13.700 -13.140 -12.580 -12.580 | 256.650 257.210 257.770 258.330 258.890 259.450 260.010 260.570 261.130 261.690 | 2.1202 • 0 2.0646 2.0105 1.9580 1.9069 1.8573 1.8091 1.7622 1.7167 | 1.5903 + 0 1.5486 1.5080 1.4686 1.4303 1.3931 1.3569 1.3218 1.2876 | 2.0925 - 3 2.0376 1.9842 1.9324 1.8330 1.7854 1.7392 1.6942 | 2.8780 - 3 2.7964 2.7172 2.6405 2.5661 2.4939 2.4239 2.3561 2.2902 2.2264 | 2.3494 - 3 2.2828 2.2182 2.1555 2.0948 2.0359 1.9787 1.9233 1.8696 1.8174 |
| 44000 44200 44600 44600 45000 45200 45600 45600 | 44307 44510 44712 44915 45118 45321 45524 45727 45929 46132 | 262.250 262.810 263.370 263.930 264.490 265.050 265.610 266.170 266.730 267.290 | -10.900 -10.340 -9.780 -9.220 -8.660 -8.100 -7.540 -6.980 -5.860 | 262.250 262.810 263.370 263.930 264.490 265.050 265.610 266.170 266.730 267.290 | 1.6293 · 0 1.5875 1.5468 1.5072 1.4687 1.4313 1.3949 1.3595 1.3251 | 1.2221 + 0 1.1907 1.1602 1.1305 1.1016 1.0735 1.0463 1.0197 9.9394 - 1 9.6883 | 1.6080 - 3 1.55667 1.5265 1.4875 1.4495 1.4126 1.3767 1.3417 1.3078 | 2.1644 - 3 2.1043 2.0460 1.9894 1.9346 1.8813 1.8296 1.7794 1.7307 | 1.7669 - 3 1.7178 1.6702 1.6240 1.5792 1.5357 1.4935 1.4526 1.4128 |
| 46000 46200 46400 46600 47800 47200 47400 47600 47800 | 46335 46538 46741 46944 47147 47350 47553 47756 47959 48162 | 267.850 268.410 268.970 269.530 270.090 | -5.300 -4.740 -4.180 -3.620 -3.060 -2.500 -2.500 -2.500 -2.500 | 267.850 268.410 268.970 269.530 270.090 | 1.2591 + 0 1.2274 1.1966 1.1666 | 9.4440 - 1 9.2064 8.9752 8.7503 \$.5315 8.3186 8.1112 7.9090 7.7118 7.5196 | 1.2426 - 3 1.2113 1.1809 1.1513 1.1225 1.0945 1.0672 1.0406 1.0147 9.8942 - 4 | 1.6376 - 3 1.5931 1.5498 1.5079 1.4671 1.4275 1.3919 1.3572 1.3234 1.2904 | 1.3368 - 3 1.3005 1.2652 1.2309 1.1976 1.1653 1.1363 1.1080 1.0803 1.0534 |
| 48000 48200 48400 48600 48800 49000 49200 49400 49600 49800 | 48365 48568 48771 48974 49178 49381 49584 49787 49990 50193 | 270.650 270.650 270.650 270.650 270.650 270.650 270.650 270.650 | -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 | 270.650 270.650 270.650 270.650 270.650 270.650 270.650 270.650 270.650 | 9.7754 - 1 9.5317 9.2941 9.0624 8.8365 8.6162 8.4014 8.1919 7.9877 7.7886 | 7.3321 - 1 7.1493 6.9711 6.7973 6.6279 6.4626 6.3015 6.1444 5.9913 5.8419 | 9.6476 - 4 9.4071 9.1725 8.9439 8.7209 8.5035 8.2915 8.0848 7.8833 7.6867 | 1.2582 - 3 1.2269 1.1963 1.1665 1.1374 1.1090 1.0814 1.0544 1.05281 | 1.0271 - 3 1.0015 9.7657 - 4 9.5222 9.2848 9.0534 8.8277 8.6076 8.3930 8.1838 |
| 50000 50500 51000 51500 52000 52500 53500 53500 54500 | 50396 50904 51413 51921 52429 52937 53446 53454 54463 | 270.650 270.650 269.250 267.850 266.450 265.050 263.650 262.250 | -10.900 | 270.650 270.650 270.650 269.250 267.850 266.450 265.050 263.650 262.250 260.850 | 7.5944 - 1 7.1299 6.6938 6.2834 5.8962 5.5310 5.1866 4.8621 4.5563 4.2682 | 5.6963 - 1 5.3479 5.0208 4.7129 4.4225 4.1485 3.8903 3.6468 3.4175 3.2014 | 7.4951 - 4 7.0367 6.6063 6.2012 5.8191 5.4586 5.1188 4.7985 4.4967 4.2124 | 9.7752 - 4 9.1774 8.6160 8.1298 7.6687 7.2315 6.8171 6.4245 6.0525 5.7003 | 7.9798 - 4 7.4917 7.0335 6.6366 6.2601 5.9032 5.5650 5.2445 4.9408 4.6533 |
| 55000 55500 56000 56500 57000 57500 58000 58500 59500 | 55480 55989 56498 57007 57516 58025 58534 59043 59553 | 258.050 256.650 255.250 253.850 252.450 251.050 249.650 248.250 | -15.100 -16.500 -17.900 -19.300 -20.700 -22.100 -23.500 -24.900 | 258.050 256.650 255.250 253.850 252.450 251.050 249.650 248.250 | 3.9969 - 1 3.7416 3.5013 3.2753 3.0627 2.8628 2.6750 2.4986 2.3329 2.1774 | 2.9979 - 1 2.8064 2.6262 2.4566 2.2972 2.1473 2.0064 1.8741 1.7498 1.6331 | 3.9447 - 4 3.6927 3.4555 3.2324 3.0226 2.8254 2.6401 2.4659 2.3024 2.1489 | 5.3668 - 4 5.0512 4.7526 4.4702 4.2031 3.9506 3.7121 3.4867 3.2738 3.0729 | 4.3811 - 4 4.1235 3.8797 3.6491 3.4311 3.2250 3.0303 2.8463 2.6725 2.5085 |

Table I Geometric Altitude, Metric Units

| AI | titude | | Temperatu | re | | Pressure | | Den | sity |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | ρ (kg/m 3) | ρ/ρ ₀ |
| 38000 38200 38400 38600 38800 39000 39200 39400 39600 39800 | 37774 37972 38169 38367 38565 38762 38960 39157 39355 39552 | 244.818 245.371 245.924 246.478 247.031 247.584 248.137 248.690 249.243 249.797 | -28.332 -27.779 -27.226 -26.672 -26.119 -25.566 -25.013 -24.460 -23.907 -23.353 | 244.818 245.371 245.924 246.478 247.031 247.584 248.137 248.690 249.243 249.797 | 3.7713 + 0 3.6689 3.5694 3.4729 3.3792 3.2882 3.1998 3.1141 3.0308 2.9499 | 2.6287 + 0 2.7519 2.6773 2.6049 2.5346 2.4663 2.4001 2.3357 2.2733 2.2126 | 3.7220 - 3 3.6209 3.5227 3.4275 3.3350 3.2452 3.1580 3.0734 2.9912 2.9114 | 5.3666 - 3 5.2090 5.0564 4.9086 4.7654 4.6268 4.4924 4.3623 4.2362 4.1141 | 4.3809 - 3 4.2522 4.1277 4.0070 3.8901 3.7769 3.6673 3.5611 3.4581 3.3584 |
| 40000 40200 40400 40600 40800 41000 41200 41400 41600 41800 | 39750 39947 40145 40342 40540 40737 40935 41132 41330 41527 | 250.350 250.903 251.456 252.008 252.561 253.114 253.667 254.220 254.773 255.325 | -22.800 -22.247 -21.694 -21.142 -20.589 -20.036 -19.483 -18.930 -18.377 -17.825 | 250.350 250.903 251.456 252.008 252.561 253.114 253.667 254.220 254.773 255.325 | 2.8714 • 0 2.7951 2.7210 2.6491 2.5792 2.5113 2.4453 2.3812 2.3189 2.2584 | 2.1537 · 0 2.0965 2.0409 1.9870 1.9345 1.8836 1.8341 1.7861 1.7393 1.6939 | 2.8338 - 3 2.7586 2.6855 2.6144 2.5455 2.4784 2.4133 2.3501 2.2886 2.2289 | 3.9957 - 3 3.8810 3.7698 3.6621 3.5576 3.4564 3.3583 3.2632 3.1709 3.0815 | 3.2618 - 3 3.1681 3.0774 2.9894 2.9042 2.8216 2.7415 2.6638 2.5885 2.5155 |
| 42000 42200 42400 42600 42800 43000 43200 43400 43600 43800 | 41724 41922 42119 42316 42514 42711 42908 43106 43303 43500 | 255.878 256.431 256.983 257.536 258.088 258.641 259.193 259.746 260.298 260.851 | -17.272 -16.719 -16.167 -15.614 -15.062 -14.509 -13.957 -13.404 -12.852 -12.299 | 255.878 256.431 256.983 257.536 258.088 258.641 259.193 259.746 260.298 260.851 | 2.1996 + 0 2.1425 2.0869 2.0329 1.9805 1.9295 1.8799 1.8317 1.7848 1.7392 | 1.6498 • 0 1.6070 1.5653 1.5248 1.4855 1.4472 1.4100 1.3739 1.3387 | 2.1709 - 3 2.1145 2.0596 2.0064 1.9546 1.9042 1.8553 1.8077 1.7615 | 2.9948 - 3 2.9107 2.8291 2.7500 2.6733 2.5989 2.5267 2.4567 2.3887 2.3228 | 2.4447 - 3 2.3761 2.3095 2.2449 2.1823 2.1216 2.0626 2.0055 1.9500 1.8962 |
| 44000 44200 44400 44600 45000 45200 45200 45600 45800 | 43698 43895 44092 44289 44486 44681 45078 45275 45472 | 261.403 261.955 262.508 263.060 263.612 264.164 264.716 265.268 265.821 266.373 | -11.747 -11.195 -10.642 -10.090 -9.538 -8.986 -8.434 -7.882 -7.329 | 261.403 261.955 262.508 263.060 263.612 264.164 264.716 265.268 265.821 266.373 | 1.6949 + 0 1.6518 1.6099 1.5692 1.5295 1.4910 1.4535 1.4170 | 1.2713 + 0 1.2390 1.2075 1.1770 1.1472 1.1183 1.0902 1.0628 1.0362 1.0103 | 1.6728 - 3 1.6302 1.5889 1.5486 1.5095 1.4715 1.4345 1.3445 1.3634 1.3634 | 2.2589 - 3 2.1968 2.1366 2.0781 2.0214 1.9663 1.9128 1.8609 1.8106 1.7616 | 1.8440 - 3 1.7933 1.7441 1.6964 1.6501 1.6051 1.5191 1.4780 1.4381 |
| 46000 46200 46400 46600 46800 47.000 47200 47400 47600 47800 | 45669 45867 46064 46261 46458 46655 46852 47049 47246 47443 | 266.925 267.477 268.028 268.580 269.132 269.684 270.236 270.650 270.650 270.650 | -6.225 -5.673 -5.122 -4.570 -4.018 -3.466 -2.914 -2.500 -2.500 | 266.925 267.477 268.028 268.580 269.132 269.684 270.236 270.650 270.650 270.650 | 1.3134 + 0 1.2807 1.2489 1.2179 1.1878 1.1585 1.1299 1.1022 1.0751 | 9.8513 - 1 9.6061 9.3675 9.1354 8.9094 8.6895 8.4755 8.2671 8.0641 7.8660 | 1.2962 - 3 1.2639 1.2325 1.2020 1.1722 1.1433 1.1152 1.0877 1.0610 1.0350 | 1.7142 - 3 1.6680 1.6233 1.5798 1.5375 1.4965 1.4567 1.4187 1.3839 | 1.3993 - 3 1.3617 1.3251 1.2896 1.2551 1.2217 1.1891 1.1581 1.1297 |
| 48000 48200 48400 48600 48800 49000 49200 49400 49600 49800 | | 270.650 270.650 270.650 270.650 270.650 270.650 270.650 270.650 270.650 270.650 | -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 -2.500 | 270.650 270.650 270.650 270.650 | 1.0229 + 0 9.9783 - 1 9.7332 9.4942 9.2610 9.0336 8.8118 8.5955 8.3845 8.1786 | 7.6728 - 1 7.4843 7.3005 7.1212 6.9463 6.7758 6.6094 6.4471 6.2889 6.1345 | 1.0095 - 3 9.8478 - 4 9.6059 9.3700 9.1399 8.9155 8.6966 8.4831 8.2748 8.0717 | 1.3167 - 3 1.2844 1.2528 1.2221 1.1920 1.1628 1.1342 1.1064 1.0792 | 1.0749 - 3 1.0485 1.0227 9.9760 - 4 9.7310 9.4920 9.2590 9.0317 8.8099 8.5937 |
| 50000 50500 51000 51000 52000 52500 53500 53500 54500 | 50594 51086 51578 52070 52562 53053 53545 | 269.031 267.654 266.277 264.900 | -2.741 -4.119 -5.496 -6.873 -8.250 -9.626 | 270.650 270.409 269.031 267.654 266.277 | 7.9779 - 1 7.4973 7.0458 6.6214 6.2214 5.8438 5.4873 5.1510 4.8337 4.5345 | 5.9839 - 1 5.6234 5.2847 4.9665 4.6664 4.3832 4.1158 3.8636 3.6256 3.4012 | 7.8735 - 4 7.3993 6.9536 6.5349 6.1401 5.7674 5.4156 5.0836 4.7705 4.4752 | 1.0269 - 3 9.6503 - 4 9.0690 8.5305 8.0562 7.6061 7.1791 6.7741 6.3901 6.0260 | 8.3827 - 4 7.8778 7.4033 6.9637 6.5765 6.2091 5.8605 5.5299 5.2164 4.9192 |
| 55000 55500 56000 56500 57000 57500 58000 58000 59500 | | 259.395 258.019 256.644 255.268 253.893 252.518 | -12.379 -13.755 -15.131 -16.506 -17.882 -19.257 -20.632 -22.006 -23.381 -24.755 | 259.395 258.019 256.644 255.268 253.893 252.518 251.144 249.769 | 4.2525 - 1 3.9866 3.7362 3.5003 3.2782 3.0691 2.8723 2.6872 2.5132 2.3496 | 3.1896 - 1 2.9902 2.8024 2.6254 2.4588 2.3020 2.1544 2.0156 1.8850 1.7623 | 4.1969 - 4 3.9345 3.6873 3.4545 3.2353 3.0289 2.8348 2.6521 2.4803 2.3189 | 5.6810 - 4 5.3541 5.0445 4.7513 4.4738 4.2112 3.9627 3.7276 3.5054 3.2953 | 4.6376 - 4 4.3707 4.1180 3.8786 3.6521 3.4377 3.2348 3.0430 2.8615 2.6900 |

Table I
Geopotential Altitude, Metric Units

| | | | | Ge | opotentiai Annu | ide, wettic Offics | | | | |
|----------------|------------------------|--------------------|--------------------|--------------------|------------------|--------------------|------------------|-----------------------------|------------------|--|
| Alti | tude | | Temperatu | re | | Pressure | | Density | | |
| H (m) | Z (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | ρ (kg/m ³) | ρ/ρ ₀ | |
| 60000 | 60572 | 245.450 | -27.700 | 245.450 | 2.0314 - 1 | 1.5236 - 1 | 2.0048 - 4 | 2.8832 - 4 | 2.3536 - 4 | |
| 60500 | 61081 | 244.050 | -29.100 | 244.050 | 1.8944 | 1.4209 | 1.8697 | 2.7043 | 2.2076 | |
| 61000 | 61591 | 242.650 | -30.500 | 242.650 | 1.7660 | 1.3246 | 1.7429 | 2.5355 | 2.0698 | |
| 61500 | 62101 | 241.250 | -31.900 | 241.250 | 1.6456 | 1.2343 | 1.6241 1.5128 | 2.3764 2.2264 | 1.9399 1.6175 | |
| 62000 | 62611 | 239.850 | -33.300 | 239.850 | 1.5328 | 1.1497 1.0704 | 1.4085 | 2.0851 | 1.7021 | |
| 62500 | 63121 | 238.450 237.050 | -34.700 -36.100 | 238.450 237.050 | 1.4271 1.3282 | 9.9627 - 2 | 1.3108 | 1.9520 | 1.5935 | |
| 63000 63500 | 6363 <u>1</u> 64141 | 235.650 | -37.500 | 235.650 | 1.2356 | 9.2681 | 1.2194 | 1.8267 | 1.4912 | |
| 64000 | 64651 | 234.250 | -38.900 | 234.250 | 1.1489 | 8.6181 | 1.1339 | 1.7087 | 1.3949 | |
| 64500 | 65161 | 232.850 | -40.300 | 232.850 | 1.0679 | 8.0103 | 1.0539 | 1.5978 | 1.3043 | |
| 65000 | 65672 | 231.450 | -41.700 | 231.450 | 9.9220 - 2 | 7.4421 - 2 | 9.7922 - 5 | 1.4934 - 4 | 1.2191 - 4 | |
| 65500 | 66182 | 230.050 | -43.100 | 230.050 | 9.2140 | 6.9111 | 9.0935 | 1.3953 | 1.1390 | |
| 66000 | 66692 | 228.650 | -44.500 | 228,650 | 8.5527 | 6.4150 | 8.4408 | 1.3031 | 1.0637 | |
| 66500 | 67203 | 227.250 | -45.900 | 227.250 | 7.9352 | 5.9519 | 7.8314 | 1.2165 | 9.9302 + 5 | |
| 67000 | 67714 | 225.850 | -47.300 | 225.850 | 7.3589 | 5.5196 | 7.2627 6.7320 | 1.1351 1.0587 | 9.2661 8.6427 | |
| 67500 68000 | 68224 68735 | 224.450 223.050 | -48.700 -50.100 | 224.450 223.050 | 6.8212 6.3199 | 5.1163 4.7403 | 6.2372 | 9.8707 - 5 | 8.0577 | |
| 68500 | 69246 | 221.650 | -51.500 | 221.650 | 5.8525 | 4.3897 | 5.7760 | 9.1985 | 7.5090 | |
| 69000 | 69757 | 220.250 | -52.900 | 220.250 | 5.4171 | 4.0632 | 5.3463 | 8.5683 | 6.9945 | |
| 69500 | 70268 | 218.850 | -54.300 | 218.850 | 5.0116 | 3.7590 | 4.9461 | 7.9776 | 6.5124 | |
| 70000 | 70779 | 217.450 | -55.700 | 217.450 | 4.6342 - 2 | 3.4759 - 2 | 4.5736 - 5 | 7.4243 - 5 | 6.0606 - 5 | |
| 70500 | 71291 | 216.050 | -57.100 | 216.050 | 4.2830 | 3.2125 | 4.2270 | 6.9061 | 5.6376 | |
| 71000 | 71802 | 214.650 | -58.500 | 214.650 | 3.9564 | 2.9675 | 3.9046 | 6.4211 | 5.2417 | |
| 71500 | 72313 | 213.650 | -59.500 | 213.650 | 3.6530 | 2.7400 | 3.6053 3.3276 | 5.9566 5.5237 | 4.8625 4.5091 | |
| 72000 72500 | 72825 73336 | 212.650 211.650 | -60.500 -61.500 | 212.650 211.650 | 3.3717 3.1109 | 2.5290 2.3333 | 3.0702 | 5.1205 | 4.1800 | |
| 73000 | 73848 | 210.650 | -62.500 | 210.650 | 2.8691 | 2.1520 | 2.8316 | 4.7449 | 3.8734 | |
| 73500 | 74360 | 209.650 | -63.500 | 209.650 | 2.6451 | 1.9840 | 2.6105 | 4.3954 | 3.5881 | |
| 74000 | 74872 | 208.650 | -64.500 | 208.650 | 2.4377 | 1.8284 | 2.4058 | 4.0701 | 3.3225 | |
| 74500 | 75384 | 207.650 | -65.500 | 207.650 | 2.2456 | 1.6843 | 2.2162 | 3.7675 | 3.0755 | |
| 75000 | 75896 | 206.650 | -66.500 | 206.650 | 2.0679 - 2 | 1.5510 - 2 | 2.0408 - 5 | 3.4861 - 5 | 2.8458 - 5 | |
| 75500 | 76408 | 205.650 | -67.500 | 205.650 | 1.9034 | 1.4277 | 1.8785 | 3.2245 | 2.6322 | |
| 76000 | 76920 | 204.650 | -68.500 | 204.650 | 1.7514 | 1.3136 | 1.7284 | 2.9813 2.7555 | 2.4337 2.2494 | |
| 76500 77000 | 77432 77944 | 203.650 202.650 | -69.500 -70.500 | 203.650 202.650 | 1.6108 1.4809 | 1.2082 1.1107 | 1.5897 1.4615 | 2.5458 | 2.0782 | |
| 77500 | 78457 | 201.650 | -70.500 -71.500 | 202.650 | 1.3609 | 1.0207 | 1.3431 | 2.3511 | 1.9193 | |
| 78000 | 78969 | 200.650 | -72.500 | 200.650 | 1.2501 | 9.3766 - 3 | 1.2337 | 2.1705 | 1.7718 | |
| 78500 | 79482 | 199.650 | -73.500 | 199.650 | 1.1478 | 8.6096 | 1.1328 | 2.0029 | 1.6350 | |
| 79000 | 79994 | 198.650 | -74.500 | 198,650 | 1.0535 | 7.9019 | 1.0397 | 1.8475 | 1.5082 | |
| 79500 | 80507 | 197.650 | -75.500 | 197.650 | 9.6649 - 3 | 7.2492 | 9,5385 - 6 | 1.7035 | 1.3906 | |
| 80000 | 81020 | 196.650 | -76.500 | 196,650 | 8.8627 - 3 | 6.6476 - 3 | 8.7468 - 6 | 1.5701 - 5 | 1.2817 - 5 | |
| 80500 | 81533 | 195.650 | -77.500 | 195.650 | 8.1236 | 6.0932 | 8.0173 | 1.4465 | 1.1808 | |
| 81000 | 82046 | 194.650 | -78.500 | 194.650 | 7.4427 | 5.5825 | 7.3454 | 1.3320 | 1.0874 1.0009 | |
| 81500 82000 | 82559 83072 | 193.650 192.650 | -79.500 -80.500 | 193.650 192.650 | 6.8159 6.2390 | 5.1123 4.6796 | 6.7268 6.1574 | 1.2262 1.1282 | 9.2098 - 6 | |
| 82500 | 83585 | 192.650 | -81.500 | 192.650 | 5.7083 | 4.2816 | 5.6336 | 1.0376 | 8.4704 | |
| 83000 | 84098 | 190.650 | -82.500 | 190.650 | 5.2203 | 3.9155 | 5.1520 | 9.5390 - 6 | 7.7869 | |
| 83500 | 84611 | 189.650 | -83.500 | 189.650 | 4.7718 | 3.5791 | 4.7094 | 8.7654 | 7.1554 | |
| 84000 | 85125 | 188.650 | -84.500 | 188.650 | 4.3598 | 3.2701 | 4.3027 | 8.0510 | 6.5722 | |
| 84500 | 85638 | 187.650 | -85.500 | 187.650 | 3.9814 | 2.9863 | 3.9293 | 7.3914 | 6.0338 | |

Table I Geometric Altitude, Metric Units

| Altin | tude | 7 | Temperatur | e | | Pressure | | Dens | sity |
|----------------|----------------------------------|--------------------|----------------------------|--------------------|-----------------------|------------------|----------------------|----------------------|-------------------|
| Z (m) | H (m) | T (K) | t (°C) | Т _М (К) | P (mb) | P (torr) | P/P ₀ | ρ (kg/m 3) | $\rho/\rho_{f 0}$ |
| 60000 | 59439 | 247.021 | -26.129 | 247.021 | 2.1958 - 1 | 1.6470 - 1 | 2.1671 - 4 | 3.0968 - 4 | 2.5280 - 4 |
| 60500 | 59930 | 245.647 | -27.503 | 245.647 | 2.0514 | 1.5386 | 2.0245 | 2.9093 | 2.3749 |
| 61000 | 60420 | 244.274 | -28.876 | 244.274 | 1.9157 | 1.4369 | 1.8907 | 2.7321 | 2.2303 |
| 61500 | 60911 | 242.900 | -30.250 | 242.900 | 1.7883 | 1.3414 | 1.7650 | 2.5649 | 2.0938 |
| 62000 | 61401 | 241.527 | -31.623 | 241.527 | 1.6688 | 1.2517 | 1.6470 1.5363 | 2.4071 2.2582 | 1.9650 1.8434 |
| 62500 | 61891 62382 | 240.154 238.781 | -32.996 -34.369 | 240.154 238.781 | 1.5567 1.4515 | 1.1676 1.0887 | 1.4325 | 2.1178 | 1.7288 |
| 63000 63500 | 62872 | 237.409 | -35.741 | 237.409 | 1.3529 | 1.0148 | 1.3352 | 1.9853 | 1.6207 |
| 64000 | 63362 | 236.036 | -37.114 | 236.036 | 1.2605 | 9.4551 - 2 | 1.2441 | 1.8605 | 1.5188 |
| 64500 | 63852 | 234.664 | -38.486 | 234.664 | 1.1740 | 8.8059 | 1.1586 | 1.7429 | 1.4228 |
| 65000 | 64342 | 233.292 | -39.858 | 233,292 | 1.0929 - 1 | 8-1979 - 2 | 1-0786 - 4 | 1.6321 - 4 | 1.3323 - 4 |
| 65500 | 64832 | 231.921 | -41.229 | 231.921 | 1.0170 | 7.6288 | 1.0037 9.3372 - 5 | 1.5278 | 1.2472 |
| 66000 | 65322 65811 | 230.549 229.178 | -42.601 -43.972 | 230.549 229.178 | 9.4609° - 2 8.7967 | 7.0962 6.5981 | 9.3372 - 5 8.6817 | 1.4296 1.3372 | 1.1670 1.0916 |
| 66500 67000 | 66301 | 227.807 | -45.343 | 227.807 | 8.1757 | 6.1323 | 8.0688 | 1.2503 | 1.0206 |
| 67500 | 66791 | 226.436 | -46.714 | 226,436 | 7.5953 | 5.6969 | 7.4959 | 1.1685 | 9.5390 - 9 |
| 68000 | 67280 | 225.065 | -48.085 | 225.065 | 7.0529 | 5.2901 | 6.9607 | 1.0917 | 8.9118 |
| 68500 | 67770 | 223.695 | -49.455 | 223,695 | 6.5465 | 4.9102 | 6.4609 | 1.0195 | 8.3225 |
| 69000 | 68259 | 222.325 | -50.825 | 222.325 | 6.0736 | 4.5556 | 5.9942 | 9.5171 - 5 | 7.7690 |
| 69500 | 68748 | 220.955 | -52.195 | 220,955 | 5.6324 | 4.2247 | 5.5588 | 8.8804 | 7.2493 |
| 70000 | 69238 | 219.585 | -53.565 | 219.585 | 5.2209 - 2 | 3.9160 - 2 | 5.1526 - 5 4.7739 | 8.2829 - 5 7.7223 | 6.7616 - 9 |
| 70500 71000 | 69 72 7 7 02 16 | 218.215 | -54.935 -56.304 | 218.215 216.846 | 4.8372 4.4795 | 3.6282 3.3599 | 4.4210 | 7.1966 | 5.8747 |
| 71500 | 70705 | 215.477 | -57.673 | 215.477 | 4.1464 | 3.1100 | 4.0922 | 6.7037 | 5.4724 |
| 72000 | 71194 | 214.263 | -58.887 | 214.263 | 3.8362 | 2.8774 | 3.7861 | 6.2374 | 5.0917 |
| 72500 | 71682 | 213.285 | -59.865 | 213,285 | 3.5479 | 2.6612 | 3.5015 | 5.7951 | 4.7307 |
| 73000 | 72171 | 212.308 | -60.842 | 212.308 | 3.2802 | 2.4603 | 3.2373 | 5.3824 | 4.3938 |
| 73500 | 72660 | 211.330 | -61.820 | 211.330 | 3.0316 | 2.2739 | 2.9919 | 4.9975 | 4.0796 |
| 74000 | 73148 | 210.353 | -62.797 | 210.353 | 2.8008 | 2.1008 | 2.7642 | 4.6386 | 3.7866 |
| 74500 | 73637 | 209.376 | -63.774 | 209.376 | 2,5867 | 1.9402 | 2.5529 | 4.3040 | 3,5134 |
| 75000 | 74125 | 208.399 | -64.751 | 208,399 | 2.3881 - 2 | 1.7912 - 2 | 2.3569 - 5 | 3.9921 - 5 | 3.2589 - 9 |
| 75500 | 74614 | 207.423 | -65.727 | 207.423 | 2.2040 | 1.6531 | 2.1751 | 3.7016 | 3.0218 |
| 76000 | 75102 | 206.446 | -66.704 | 206.446 | 2.0333 | 1.5251 | 2.0067 | 3.4311 3.1792 | 2.8009 2.5953 |
| 76500 77000 | 75590 76078 | 205.469 204.493 | -67.681 -68.657 | 205.469 204.493 | 1.8751 1.7286 | 1.4064 1.2965 | 1.8506 1.7060 | 2.9448 | 2.4039 |
| 77500 | 76566 | 203.517 | -69.633 | 203.517 | 1.5929 | 1.1948 | 1.5721 | 2.7267 | 2.2259 |
| 78000 | 77054 | 202.541 | -70.609 | 202.541 | 1.4673 | 1.1006 | 1.4481 | 2.5239 | 2.0603 |
| 78500 | 77542 | 201.565 | -71.585 | 201,565 | 1.3511 | 1.0134 | 1.3335 | 2.3353 | 1.9063 |
| 79000 | 78030 | 200.590 | -72.560 | 200.590 | 1.2437 | 9.3285 - 3 | 1.2274 | 2.1600 | 1.7632 |
| 79500 | 78518 | 199.614 | -73.536 | 199,614 | 1.1443 | 8.5832 | 1.1293 | 1.9971 | 1,6303 |
| 80000 | 79006 | 198.639 | -74.511 | 198.639 | 1.0524 - 2 | 7.8942 - 3 | 1.0387 - 5 | 1.8458 - 5 | 1.5068 - 9 |
| 80500 81000 | 79493 79981 | 197.663 196.688 | -75.487 -76.462 | 197.663 196.688 | 9.6761 - 3 8.8923 | 7.2577 6.6698 | 9.5496 - 6 8.7761 | 1.7054 1.5750 | 1.3921 1.2857 |
| 81500 | 79981 80468 | 195.688 | -70.46 <i>2</i> -77.437 | 195.713 | 8.8923 8.1687 | 6.1270 | 8.0619 | 1.4540 | 1.1870 |
| 82000 | 80956 | 194.739 | -78.411 | 194.739 | 7.5009 | 5.6261 | 7.4028 | 1.3418 | 1.0954 |
| 82500 | 81443 | 193.764 | -79.386 | 193.764 | 6.8848 | 5.1640 | 6.7948 | 1.2378 | 1.0105 |
| 83000 | 81930 | 192.790 | -80.360 | 192.790 | 6.3167 | 4.7379 | 6.2341 | 1.1414 | 9.3178 - |
| 83500 | 82417 | 191.815 | -81.335 | 191,815 | 5.7930 | 4.3451 | 5.7172 | 1.0521 | 8.5887 |
| 84000 | 82904 | 190.841 | -82.309 | 190.841 | 5.3105 | 3.9832 | 5.2410 | 9.6940 - 6 | 7.9134 |
| 84500 | 83391 | 189.867 | -83.283 | 189,867 | 4.8660 | 3.6498 | 4.8024 | 8.9282 | 7.2883 |
| 85000 | 83878 | 188.893 | -84.257 | 188.893 | 4.4568 - 3 | 3.3429 - 3 | 4.3985 - 6 | 8.2196 - 6 | 6.7099 - 6.1747 |
| 85500 | 84365 | 187.920 | -85.230 | 187.920 | 4.0802 | 3.0604 | 4.0269 | 7.5641 | 301177 |

Table I Geometric Altitude, Metric Units

| Alti | tude | | Temperature | | | | Pressure | | Dei | nsity |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | | (torr) | P/P ₀ | ρ (kg/m ³) | ρ/ρ_0 |
| 86000 86500 87000 87500 88000 88500 89000 | 84852 85339 85825 86312 86798 87285 87771 88257 | 186.87 186.87 186.87 186.87 186.87 186.87 186.87 | -86.28 -86.28 -86.28 -86.28 -86.28 -86.28 -86.28 | 186.95 186.96 186.98 187.03 187.03 187.06 187.11 | 3.7338- 3 3.4163 3.1259 2.8602 2.6173 2.3951 2.1919 2.0060 | 2. 2. 1. 1. | 8006- 3 5624 3446 1454 9631 7965 6440 5046 | 3.6850- 6 3.3716 3.0850 2.8228 2.5831 2.3638 2.1632 1.9797 | 6.958- 6 6.366 5.824 5.328 4.875 4.460 4.081 3.734 | 5.680- 6 5.196 4.754 4.350 3.980 3.641 3.331 3.048 |
| 90000 90500 91000 91500 92000 92500 93000 93500 94000 94500 | 88744 89230 89716 90202 90688 91173 91659 92145 92630 93116 | 186.87 186.87 186.89 186.96 187.08 187.25 187.47 187.74 | -86.28 -86.28 -86.28 -86.29 -86.19 -86.07 -85.90 -85.68 -85.41 | 187.21 187.28 187.36 187.47 187.64 187.87 188.16 188.51 188.92 189.39 | 1.8359- 3 1.6804 1.5381 1.4078 1.2887 1.1798 1.0801 9.8896- 4 9.0560 8.2937 | 1. 1. 9. 8. 8. 7. | 3771- 3 2604 1536 0560 6662- 4 8490 1014 4178 7925 2208 | 1.8119- 6 1.6584 1.5179 1.3894 1.2719 1.1643 1.0660 9.7602- 7 8.9375 8.1852 | 3.126 2.860 2.616 2.393 2.188 2.000 | 2.789- 6 2.552 2.335 2.136 1.953 1.786 1.632 1.492 1.363 1.245 |
| 95000 95500 96000 96500 97500 98500 98500 99000 | 93601 94087 94572 95057 95542 96027 96512 96997 97482 97967 | 188.42 188.84 189.31 189.83 190.40 191.04 191.72 192.47 193.28 194.15 | -84.73 -84.31 -83.84 -83.32 -82.75 -82.11 -81.43 -80.68 -79.87 -79.00 | 189.92 190.52 191.17 191.90 192.69 193.55 194.48 195.49 196.58 197.74 | 7.5966- 4 6.9592 6.3765 5.8439 5.3571 4.9122 4.5057 4.1342 3.7948 3.4846 | 5. 4. 4. 3. 3. | 6979- 4 2199 7828 3833 0181 6844 3795 1009 8463 6137 | 7.4973- 76.8682 6.2832 5.7675 5.2870 4.8480 4.0802 3.7452 3.4390 | 1.393- 6 1.273 1.162 1.061 9.685- 7 8.842 8.071 7.367 6.725 6.139 | 1.137- 6 1.039 9.486- 7 8.660 7.906 7.218 6.014 5.490 5.011 |
| 100000 101000 102000 103000 104000 105000 106000 107000 108000 | 98451 99420 100389 101358 102326 103294 104261 105229 106196 107162 | 195.08 197.16 199.53 202.23 205.31 208.84 212.89 217.63 223.29 230.33 | -78.07 -75.99 -73.62 -76.92 -67.84 -64.31 -60.26 -55.52 -49.86 -42.82 | 198.99 201.75 204.88 208.42 212.41 216.93 222.09 228.02 235.00 243.53 | 3.2011- 4 2.7192 2.3144 1.9742 1.6882 1.4477 1.2454 1.0751 9.3188- 5 8.1142 | 2. 1. 1. 1. 9. | 4010- 4 0396 7359 4808 2663 0859 3411- 5 0642 9897 0862 | 3.1593- 7 2.6837 2.2841 1.9484 1.6661 1.4288 1.2291 1.0611 9.1970- 8 | 4.695 3.935 3.300 2.769 2.325 1.954 1.643 | 4.575- 7 3.833 3.212 2.694 2.260 1.898 1.595 1.341 1.128 9.475- 8 |
| 110000 111000 112000 113000 114000 115000 116000 117000 118000 | 108129 109095 110061 111026 111992 112957 113921 114885 115849 116813 | 240.00 252.00 264.00 276.00 288.00 300.00 312.00 324.00 336.00 | -33.15 -21.15 -9.15 2.85 14.85 26.85 38.85 50.85 62.85 74.85 | 254.93 268.91 283.00 297.17 311.40 325.69 340.04 354.43 368.88 383.37 | 7.1042- 5 6.2614 5.5547 4.9570 4.4473 4.0096 3.0312 3.3022 3.0144 2.7615 | 4, 3, 3, 2, 2, | 3286- 5 6965 11664 7180 3358 0075 7236 4768 2610 | 7.0113- 6 6.1796 5.4821 4.8922 4.3892 3.9572 3.55837 3.2590 2.9750 2.7254 | 9.708- 8 8.111 6.838 5.811 4.975 4.289 3.720 3.246 2.847 2.509 | 7.925-8 6.622 5.582 4.744 4.061 3.501 3.037 2.650 2.324 2.048 |
| 120000 121000 122000 123000 124000 125000 126000 127000 128000 | 117777 118740 119703 120665 121627 122589 123551 124512 125473 126434 | 360.00 371.89 383.55 394.99 406.22 417.23 428.04 438.64 449.04 459.25 | 86.85 98.74 110.40 121.84 133.07 144.08 154.89 165.49 175.89 186.10 | 397.91 412.38 426.66 440.74 454.64 468.35 481.89 495.26 508.46 521.49 | 2.5382- 5 2.3401 2.1635 2.0055 1.8635 1.7354 1.6194 1.5141 1.4183 | 1.0 | 9038- 5 .7552 .6228 .5043 .3977 .3016 .2147 .1357 .0638 .9810- 6 | 2,5050- 8 2,3095 2,1352 1,9793 1,8391 1,7127 1,5983 1,4943 1,3997 1,3133 | 2.222- 8 1.977 1.767 1.585 1.428 1.291 1.171 1.065 9.717- 9 8.889 | 1.814- 8 1.614 1.442 1.294 1.166 1.054 9.557- 9 8.694 7.932 7.257 |
| 130000 131000 132000 132000 134000 135000 136000 137000 138000 | 127395 128355 129315 130274 131234 132193 133151 134110 135068 136026 | 469.27 479.09 488.74 498.20 507.48 516.59 525.53 534.29 542.90 551.34 | 196.12 205.94 215.59 225.05 234.33 243.44 252.38 261.14 269.75 278.19 | 534.36 547.08 559.64 572.06 584.32 596.44 608.42 620.25 631.95 643.51 | 1.2505- 5 1.1769 1.1092 1.0468 9.8907- 6 9.3568 8.8617 8.4018 7.9739 7.5751 | 8, 7, 7, 6, 6, | 3795- 6 .8275 .3196 .8513 .4187 .0182 .6468 .3019 .9809 | 1.2341- 6 1.1615 1.0947 1.0331 9.7614- 6 9.2345 8.7459 8.2919 7.8696 7.4760 | 7.494 6.904 6.374 | 6.655- 9 6.118 5.636 5.204 4.814 4.461 4.142 3.588 3.348 |
| 140000 141000 142000 143000 144000 145000 146000 147000 148000 | 136983 137940 138897 139854 140810 141766 142722 143677 144633 145587 | 559.63 567.76 575.73 583.56 591.24 598.78 606.17 613.43 620.55 627.54 | 286.48 294.61 302.58 310.41 318.09 325.63 333.02 340.28 347.40 354.39 | 654.94 666.23 677.40 688.44 699.36 710.15 720.82 731.38 741.81 752.14 | 7.2028-6.8550 6.8559 6.2243 5.9380 5.6691 5.4162 5.1781 4.9538 | 5, 4, 4, 4, 3, | .4026- 6 .1416 .8974 .6686 .4539 .2522 .0625 .8839 .7156 | 7.1087- 6.7653 6.4440 6.1429 5.5950 5.3454 4.8890 4.6801 | 3.831- 9 3.584 3.358 3.150 2.958 2.781 2.618 2.466 2.326 2.196 | 3.128- 9 2.926 2.741 2.571 2.415 2.270 2.137 2.013 1.899 1.793 |

Table I Geometric Altitude, Metric Units

| Alti | itude | | Temperature | | ric Attitude, Wi | Pressure | | De | nsity |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ ο |
| 150000 151000 152000 153000 154000 155000 156000 157000 158000 159000 | 146542 147496 148450 149404 159357 151311 152263 153216 154168 155120 | 634.39 641.12 647.72 654.20 660.56 666.80 672.92 678.93 684.83 690.61 | 361.24 367.97 374.57 381.05 387.41 393.65 399.77 405.78 411.68 417.46 | 762.35 772.45 782.44 792.32 802.10 811.77 821.34 630.81 840.18 | 4.5422- 6 4.3533 4.1746 4.0054 3.6451 3.6451 3.5487 3.4116 3.2213 3.1574 | 3.4070- 6 3.2653 3.1312 3.0043 2.8840 2.7700 2.6617 2.5589 2.4612 2.3683 | 4,4828- 4 4,2964 4,1200 3,9530 3,7948 3,6447 3,5023 3,3670 3,2384 3,1161 | 2.076- 9 1.963 1.859 1.761 1.670 1.585 1.505 1.431 1.361 | 1.694- 9 1.603 1.517 1.438 1.363 1.294 1.229 1.168 1.111 |
| 160000 161000 162000 163000 164000 165000 166000 167000 168000 | 156072 157023 157974 158025 159875 160826 161775 162725 163674 164623 | 696.29 701.86 707.33 712.70 717.96 723.13 728.20 733.18 738.07 742.86 | 423.14 428.71 434.18 439.55 444.81 449.98 455.05 460.03 464.92 469.71 | 858.63 867.71 876.70 885.60 894.41 903.13 911.77 920.32 928.78 937.16 | 3.0395-6 2.9272 2.8201 2.7181 2.6207 2.5278 2.4390 2.3541 2.2730 2.1953 | 2.2798- 6 2.1956 2.1153 2.0387 1.9657 1.8960 1.8294 1.7657 1.7049 | 2,9997-9 2,8889 2,7833 2,6825 2,5864 2,4947 2,4071 2,3233 2,2432 2,1666 | 1.233- 9 1.175 1.121 1.069 1.021 9.750- 10 9.319 8.911 8.525 8.161 | 1.007- 9 9.593- 10 9.148 8.728 8.333 7.959 7.607 7.274 6.960 6.662 |
| 170000 171000 172000 173000 174000 175000 176000 176000 178000 179000 | 165572 166521 167469 168417 169364 170311 171258 172205 173151 174098 | 747.57 752.18 756.71 761.16 765.53 769.81 774.01 778.14 782.19 786.17 | 474.42 479.03 483.56 488.01 492.38 496.66 500.86 504.99 509.04 513.02 | 945.46 953.68 961.82 969.89 977.87 985.78 993.62 1001.38 1009.07 | 2.1210-6 2.0499 1.9817 1.9164 1.8537 1.7936 1.7360 1.6806 1.6274 | 1.5909-6 1.5375 1.4864 1.4374 1.3994 1.3453 1.3021 1.2605 1.2206 1.1823 | 2.0933- 9 2.0231 1.9558 1.8913 1.8295 1.7702 1.7132 1.6586 1.6061 1.5557 | 7.815-10 7.488 7.178 6.883 6.604 6.339 0.086 5.846 5.618 | 6.380- 10 6.113 5.859 5.619 5.391 5.174 4.968 4.773 4.586 4.409 |
| 1800Q0 181000 182000 183000 184000 185000 186000 187000 188000 | 175043 175989 176934 177879 178624 179768 180712 181656 182609 183543 | 790.07 793.89 797.65 601.34 804.96 808.51 812.00 815.42 818.78 822.08 | 516.92 520.74 524.50 528.19 531.81 535.36 538.85 542.27 545.63 548.93 | 1024.24 1031.72 1039.13 1046.47 1053.75 1060.96 1068.11 1075.19 1082.21 1089.17 | 1.5271-6 1.4799 1.4345 1.3907 1.3487 1.3081 1.2691 1.2315 1.1952 1.1603 | 1.1455-6 1.1100 1.0759 1.0431 1.0116 9.8117-7 9.5189 9.2368 8.9649 8.7028 | 1.5072- 9 1.4606 1.4157 1.3726 1.3310 1.2010 1.2525 1.2154 1.1796 1.1451 | 5.194-10 4.997 4.809 4.630 4.459 4.295 4.139 3.990 3.847 3.711 | 4.240- 10 4.079 3.926 3.779 3.640 3.506 3.379 3.257 3.141 3.029 |
| 19000 19100 19200 19300 19400 19500 19600 19700 19800 19900 | 184486 185428 186371 187313 188255 189196 190137 191078 192019 192959 | 825.31 828.49 831.61 834.67 837.67 840.62 843.51 846.35 849.14 | 552.16 555.34 558.46 561.52 564.52 567.47 570.36 573.20 575.99 578.72 | 1096.07 1102.00 1109.68 1116.40 1123.06 1129.67 1136.21 1142.71 1149.14 | 1.1266-6 1.0940 1.0627 1.0034 1.0031 9.7491-7 9.4763 9.2127 8.9580 8.7117 | 8.4499~ 7 8.2060 7.9707 7.7435 7.5242 7.3124 7.1078 6.9101 6.7190 6.5343 | 1.1118-9 1.0797 1.0488 1.0189 9.9003-10 9.6216 9.3524 9.0922 8.8408 8.5978 | 3.581- 10 3.456 3.336 3.222 3.112 3.006 2.905 2.809 2.716 2.626 | 2.923- 10 2.821 2.723 2.630 2.540 2.454 2.372 2.293 2.217 2.144 |
| 20000 201000 202000 203000 204000 205000 206000 207000 208000 209000 | 193899 194839 195779 196718 197657 198595 199534 200472 201410 202347 | 854.56 857.20 859.78 862.32 864.82 867.26 869.67 872.02 874.34 | 581.41 584.05 586.63 589.17 591.67 594.11 596.52 598.87 601.19 603.46 | 1161.85 1168.13 1174.35 1180.62 1186.64 1192.71 1198.73 1204.70 1210.62 | 8.4736- 7 8.2432 8.0204 7.8048 7.5962 7.3942 7.1986 7.0092 6.8257 6.6479 | 6.3557- 7 6.1829 6.0158 5.8541 5.6976 5.5461 5.3994 5.2573 5.1197 4.9863 | 8.3628- 10 8.1355 7.9156 7.7028 7.4968 7.2975 7.1045 6.9175 6.7364 6.5610 | 2.541- 10 2.458 2.379 2.303 2.230 2.160 2.092 2.092 2.027 1.964 1.904 | 2.074- 10 2.007 1.942 1.880 1.820 1.763 1.708 1.655 1.603 |
| 210000 211000 212000 213000 214000 215000 216000 217000 218000 219000 | 203284 204221 205158 206094 207030 207966 208902 209837 210772 211706 | 878.84 881.03 883.18 885.29 887.36 889.39 891.39 893.35 895.27 | 605.69 607.88 610.03 612.14 614.21 616.24 620.20 622.12 624.01 | 1222.31 1228.09 1233.82 1239.50 1245.14 1250.73 1256.27 1261.77 1267.23 1272.65 | 6.4756- 7 6.3087 6.1468 5.9899 5.8377 5.6900 5.5468 5.4078 5.2729 5.1420 | 4.8571- 7 4.7319 4.6105 4.4928 4.3786 4.2679 4.1604 4.0562 3.9550 3.8568 | 6.3910-10 6.2262 6.0664 5.9115 5.7613 5.6156 5.4743 5.3371 5.2040 5.0748 | 1.846- 10 1.790 1.736 1.683 1.633 1.585 1.538 1.493 1.490 | 1.507- 10 1.461 1.417 1.374 1.333 1.294 1.256 1.219 1.183 1.149 |
| 220000 221000 222000 223000 224000 225000 226000 227006 228000 229000 | 212641 213575 214509 215442 216375 217308 218241 219173 220105 221037 | 899.01 900.83 902.62 904.37 906.09 907.78 909.44 911.07 912.67 914.24 | 625.86 627.68 629.47 631.22 632.94 634.63 636.29 637.92 639.52 641.09 | 1278.02 1283.34 1288.63 1293.87 1299.07 1304.23 1309.35 1314.43 1319.47 | 5.0149-7 4.8915 4.7717 4.6553 4.5422 4.4324 4.3256 4.2219 4.1210 4.0230 | 3.7615- 7 3.6689 3.5791 3.4918 3.4069 3.3245 3.2445 3.1667 3.0910 3.0175 | 4.9494- 10 4.8276 4.7093 4.5944 4.4828 4.3744 4.2690 4.1666 4.0671 3.9704 | 1.367- 10 1.328 1.290 1.253 1.218 1.184 1.151 1.119 1.088 | 1.116- 10 1.084 1.053 1.023 9.943- 11 9.665 9.395 9.134 8.882 8.638 |

Table I
Geometric Altitude, Metric Units

| Alti | tude | - | Temperatur | 8 | | Pressure | | De | nsity |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ ₀ |
| 230000 231000 232000 233000 234000 235000 236000 237000 238000 239000 | 221969 222900 223831 224762 225692 226622 227552 228481 229411 230340 | 915.78 917.29 918.78 920.24 921.67 923.07 924.45 925.81 927.14 928.44 | 642.63 644.14 645.63 647.09 648.52 649.92 651.30 652.66 653.99 655.29 | 1329.43 1334.35 1339.23 1344.07 1348.87 1353.64 1358.37 1363.06 1367.71 | 3.9276- 7 3.8349 3.7448 3.6571 3.5718 3.4888 3.4080 3.3294 3.32529 3.1784 | 2.9460- 7 2.8764 2.8088 2.7430 2.6791 2.6168 2.5562 2.4973 2.4399 2.3840 | 3,8763- 10 3,7848 3,6958 3,6958 3,6251 3,4432 3,3634 3,2859 3,2103 3,1368 | 1.029- 10 1.001 9.741- 11 9.479 9.225 8.979 8.740 8.509 8.285 8.068 | 8.402- 11 8.173 7.952 7.738 7.530 7.329 7.135 6.946 6.764 |
| 240000 241000 242000 243000 244000 245000 245000 247000 248000 | 231268 232197 233125 234053 234988 235908 236835 237761 238688 239614 | 929.73 930.98 932.22 933.43 934.62 935.79 936.94 938.07 939.16 940.26 | 656.58 657.83 659.07 660.28 661.47 662.64 663.79 664.92 666.03 667.11 | 1376-91 1381-46 1385-97 1390-45 1399-88 1399-29 1403-66 1407-99 1412-30 1416-56 | 3.1059- 7 3.0353 2.9665 2.8996 2.8343 2.7708 2.7089 2.6486 2.5898 2.5325 | 2.3296- 7 2.2767 2.2251 2.1749 2.1259 2.0783 2.0318 1.9866 1.9425 1.8995 | 3.0653- 10 2.9956 2.9277 2.8616 2.7973 2.7346 2.6735 2.6139 2.5559 2.4994 | 7.858- 11 7.654 7.456 7.265 7.079 6.898 6.723 6.553 6.388 6.228 | 6.415- 11 6.248 6.087 5.930 5.779 5.631 5.488 5.350 5.215 |
| 250000 251000 252000 253000 254000 256000 257000 258000 259000 | 240540 241466 242391 243316 244241 245165 246089 247013 247937 248860 | 941.33 942.38 943.41 944.42 945.41 946.38 947.34 948.28 949.20 950.10 | 668.18 669.23 670.26 671.27 672.26 673.23 674.19 675.13 676.05 676.95 | 1420.80 1425.00 1429.16 1433.30 1437.40 1441.47 1445.51 1449.51 1453.49 | 2.4767- 7 2.4222 2.3692 2.3175 2.2670 2.2178 2.1698 2.1230 2.0774 2.0328 | 1.8577- 7 1.8168 1.7770 1.7382 1.7004 1.6635 1.6275 1.5924 1.5582 1.5248 | 2.4443- 10 2.3906 2.3382 2.2871 2.2374 2.1888 2.1415 2.0953 2.0502 2.0063 | 6.073-11 5.922 5.775 5.033 5.494 5.360 5.229 5.102 4.979 4.859 | 4.957- 11 4.834 4.714 4.598 4.485 4.375 4.269 4.165 4.064 3.967 |
| 260000 261000 262000 263000 264000 265000 266000 267000 268000 269000 | 249784 250706 251629 252551 253473 254395 255316 256237 257158 258079 | 950.99 951.86 952.72 953.56 954.39 955.20 955.99 956.78 957.54 | 677.84 678.71 679.57 680.41 681.24 682.05 682.84 683.63 684.39 685.15 | 1461-34 1465-22 1469-07 1472-89 1476-68 1480-44 1484-17 1487-87 1491-54 1495-18 | 1.9894- 7 1.9470 1.9056 1.8652 1.8258 1.7874 1.7498 1.7131 1.6773 | 1.4922- 7 1.4604 1.4293 1.3990 1.3695 1.3406 1.3125 1.2850 1.2581 | 1.9634- 19 1.9215 1.8807 1.8408 1.8020 1.7640 1.7269 1.6907 1.6554 1.6209 | 4.742- 11 4.629 4.519 4.412 4.307 4.206 4.107 4.011 3.918 3.827 | 3.871- 11 3.779 3.689 3.601 3.516 3.433 3.353 3.274 3.198 3.124 |
| 270000 271000 272000 273006 274000 275000 276000 277000 278000 279000 | 258949 259919 260839 261758 262678 263597 264515 265434 266352 267269 | 959.04 959.77 960.48 961.18 961.87 962.54 963.21 963.86 964.50 965.13 | 685.89 686.62 687.33 688.03 688.72 689.39 690.06 690.71 691.35 691.98 | 1498.80 1502.38 1505.94 1509.46 1512.96 1516.43 1519.88 1523.30 1526.68 1530.05 | 1.6083- 7 1.5749 1.5424 1.5106 1.4795 1.4492 1.4195 1.3906 1.3623 1.3346 | 1.2063- 7 1.1813 1.1569 1.1330 1.1097 1.0870 1.0647 1.06430 1.0218 | 1.5872- 10 1.5543 1.5222 1.4908 1.4602 1.4302 1.4010 1.3724 1.3444 | 3.738-11 3.652 3.568 3.486 3.497 3.329 3.254 3.180 3.108 3.039 | 3.052-11 2.981 2.913 2.846 2.781 2.718 2.656 2.596 2.538 2.481 |
| 280000 281000 282000 283000 284000 285000 286000 287000 288000 289000 | 268187 269104 270021 270938 271854 272771 273686 274602 275517 276432 | 965.75 966.35 966.95 967.53 968.11 968.67 969.22 969.77 970.30 970.83 | 692.60 693.20 693.80 694.38 694.96 695.52 696.07 696.62 697.15 | 1533.38 1536.69 1539.98 1543.23 1546.47 1552.85 1550.61 1559.14 1562.24 | 1.3076- 7 1.2811 1.2553 1.2301 1.2054 1.1813 1.1577 1.1346 1.1121 1.0900 | 9.8075- 8 9.6093 9.4156 9.2263 9.0412 8.8603 8.6834 8.5104 8.3413 8.1759 | 1.2905- 10 1.2644 1.2389 1.2146 1.1896 1.1658 1.1426 1.1199 1.0975 | 2.971- 11 2.904 2.840 2.777 2.715 2.656 2.597 2.540 2.485 2.431 | 2.425- 11 2.371 2.318 2.267 2.217 2.168 2.120 2.074 2.028 1.984 |
| 290000 291000 292000 293000 294000 295000 296000 297000 298000 299000 | 277347 278262 279176 280090 281004 281917 282830 283743 284656 285568 | 971.34 971.85 972.34 972.83 973.31 973.78 974.24 974.70 975.14 | 698.19 698.70 699.19 699.68 700.16 700.63 701.09 701.55 701.99 702.43 | 1565.32 1568.38 1571.41 1574.42 1577.41 1580.37 1583.31 1586.22 1589.12 | 1.0685- 7 1.0474 1.0267 1.0066 9.8682- 8 9.6751 9.4862 9.3014 9.1205 8.9436 | 8.0141- 8 7.8559 7.7012 7.5498 7.4018 7.2569 7.1152 6.9766 6.8410 6.7082 | 1.0545- 10 1.0337 1.0133 9.9340- 11 9.7392 9.5486 9.3622 9.1797 9.0013 8.8266 | 2.378- 11 2.326 2.276 2.277 2.179 2.133 2.087 2.043 1.999 1.957 | 1.941- 11 1.899 1.858 1.818 1.779 1.741 1.704 1.668 1.632 1.598 |
| 300000 302000 304000 306000 308000 310000 312000 314000 316000 | 286480 288303 290125 291946 293766 295585 297403 299220 301035 302850 | 976.01 976.84 977.65 978.43 979.18 979.90 980.60 981.28 981.28 981.93 | 702.86 703.69 704.50 705.28 706.03 706.75 707.45 708.13 708.78 709.40 | 1594.83 1600.46 1606.00 1611.46 1610.84 1622.13 1627.34 1632.47 1637.53 1642.51 | 8.7704- 8 8.4351 6.1139 7.8061 7.5112 7.2285 6.9574 6.6975 6.4482 6.2090 | 6.5783- 8 6.3268 6.0859 5.8551 5.6338 5.4218 5.2185 5.0235 4.8365 4.6572 | 8.6557- 11 8.3248 8.0078 7.7040 7.4129 7.1339 6.8664 6.6099 6.3639 6.1278 | 1.916-11 1.836 1.760 1.688 1.618 1.552 1.489 1.429 1.372 1.317 | 1.564- 11 1.499 1.437 1.378 1.321 1.267 1.216 1.167 1.120 |

Table I
Geometric Altitude, Metric Units

| Alti | tude | | Temperature | | Tic Attitude, W | Pressure | | De | nsity |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | ρ/ρ_{0} |
| 320000 322000 324000 326000 328000 332000 332000 334000 336000 338000 | 304663 396476 308287 310097 311906 313714 315521 317327 319132 320935 | 983.16 983.74 984.31 984.85 985.37 985.88 986.37 986.84 987.29 987.73 | 710.01 710.59 711.16 711.70 712.22 712.73 713.22 713.69 714.14 714.58 | 1647.42 1652.76 1657.03 1661.73 1660.37 1670.94 1675.45 1679.90 1684.29 1688.62 | 5.9796- 8 5.7593 5.5480 5.3450 5.1502 4.9630 4.7833 4.6106 4.4447 4.2852 | 4.4850- 8 4.3199 4.1613 4.0091 3.8629 3.7226 3.5877 3.4582 3.3338 3.2142 | 5.9014-11 5.6840 5.4754 5.2751 5.0828 4.8981 4.7207 4.5503 4.3865 4.2292 | 1.264-11 1.214 1.106 1.121 1.077 1.035 9.946-12 9.561 9.193 8.841 | 1.032- 11 9.913- 12 9.521 9.147 8.789 8.447 8.119 7.805 7.505 7.217 |
| 340000 342000 344000 346000 348000 350000 352000 354000 356000 358000 | 322738 324539 326340 328139 329938 331735 335531 335326 337120 338913 | 988.15 988.56 988.96 989.34 989.70 990.06 990.40 990.73 991.35 | 715.00 715.41 715.81 716.19 716.55 716.91 717.58 717.90 718.20 | 1692.90 1697.13 1701.30 1705.42 1709.50 1713.53 1717.51 1721.46 1725.36 | 4.1320-8 3.9846 3.8430 3.7068 3.5758 3.4498 3.3286 3.2120 3.0998 2.9918 | 3.0992- 8 2.9867 2.8825 2.7803 2.6821 2.5876 2.4966 2.4092 2.3250 2.2440 | 4.0779-11 3.9325 3.7927 3.6583 3.5290 3.4047 3.2851 3.1700 3.0592 2.9526 | 8.503-12 8.179 7.869 7.572 7.287 7.014 6.751 6.500 6.259 6.027 | 6.941- 12 6.677 6.424 6.181 5.948 5.725 5.511 5.306 5.109 4.920 |
| 360000 362000 364000 366000 370000 372000 374000 376000 378000 | 340705 342496 344286 346074 347862 349648 351434 353218 355002 356784 | 991.65 991.94 992.21 992.48 992.74 992.98 993.22 993.68 993.68 | 718.50 718.79 719.06 719.33 719.59 719.83 720.07 720.31 720.53 720.74 | 1733.05 1736.84 1740.59 1744.32 1748.02 1751.68 1755.32 1758.94 1762.53 | 2.8878-8 2.7878 2.6915 2.5987 2.5094 2.4234 2.3405 2.2607 2.1839 2.1098 | 2.1661-8 2.0910 2.0188 1.9492 1.8822 1.8177 1.7556 1.6957 1.6380 1.5825 | 2.8501- 11 2.7513 2.6563 2.5647 2.4766 2.3917 2.3099 2.2312 2.1553 2.0822 | 5.805- 12 5.592 5.387 5.190 5.001 4.820 4.645 4.478 4.316 4.162 | 4.739- 12 4.565 4.397 4.237 4.083 3.934 3.792 3.655 3.524 3.397 |
| 380000 382000 384000 386000 388000 390000 392000 394000 396000 398000 | 358565 360346 362125 363903 365680 367456 369231 371005 372778 374549 | 994.10 994.30 994.50 994.86 994.86 995.04 995.21 995.37 995.53 | 720.95 721.15 721.35 721.53 721.71 721.89 722.06 722.22 722.38 722.53 | 1769.66 1773.19 1770.71 1780.22 1783.72 1787.20 1790.68 1794.15 1797.61 1801.08 | 2.0384-8 1.9696 1.9033 1.8394 1.7778 1.7184 1.6611 1.66059 1.5527 | 1.5289-8 1.4773 1.4276 1.3797 1.3335 1.2889 1.2460 1.2045 1.1646 | 2.0117- 11 1.9439 1.8784 1.8153 1.7545 1.6959 1.6394 1.5849 1.5324 | 4.013- 12 3.870 3.732 3.599 3.472 3.350 3.232 3.118 3.009 2.904 | 3.276- 12 3.159 3.046 2.938 2.834 2.734 2.638 2.545 2.456 2.370 |
| 40000 402000 404000 406000 408000 410000 412000 414000 416000 418000 | 376320 378090 379858 381626 383392 385158 386922 388686 390448 392210 | 995.83 995.97 996.10 996.23 996.36 996.49 996.60 996.72 996.83 996.94 | 722.68 722.82 722.95 723.08 723.21 723.34 723.45 723.68 723.79 | 1804-54 1808-00 1811-47 1814-94 1818-41 1821-90 1825-99 1825-90 1832-42 1835-96 | 1.4518- 8 1.4040 1.3579 1.3134 1.2705 1.2291 1.1891 1.1506 1.1133 1.0774 | 1.0889-8 1.0531 1.0185 9.8514-9 9.5295 9.2189 8.9192 8.6299 8.3507 8.0612 | 1.4328- 11 1.3856 1.3401 1.2962 1.2539 1.2130 1.1736 1.1355 1.0988 1.0633 | 2.803- 12 2.705 2.611 2.521 2.434 2.350 2.269 2.192 2.117 2.044 | 2.288- 12 2.208 2.132 2.058 1.987 1.918 1.853 1.789 1.728 |
| 42000 42200 42400 426000 428000 430000 432000 434000 436000 438000 | 393970 395729 397487 399245 401001 402756 404510 406263 408015 409766 | 997.04 997.14 997.24 997.33 997.42 997.50 997.59 997.67 997.75 | 723.89 723.99 724.09 724.18 724.27 724.35 724.44 724.52 724.60 724.67 | 1839-52 1843-09 1846-69 1853-96 1853-96 1857-63 1861-33 1865-07 1868-83 1872-64 | 1.0427-8 1.0092 9.7692-9 9.4570 9.1556 8.8645 8.5834 8.38119 8.0497 7.7964 | 7.8211- 9 7.5699 7.3275 7.0933 6.8673 6.6489 6.4381 6.2345 6.0378 5.8478 | 1.0291- 11 9.9605- 12 9.6414 9.3333 9.0359 8.7486 8.4712 8.2032 7.9444 7.6944 | 1.975- 12 1.908 1.843 1.7781 1.720 1.662 1.606 1.553 1.501 | 1.612- 12 1.557 1.504 1.453 1.404 1.357 1.311 1.267 1.225 |
| 44000 44200 44400 44600 44800 45000 45200 45600 45600 45800 | 411516 413265 415013 416760 418505 420250 421994 423737 425478 427219 | 997.90 997.97 998.03 998.16 998.22 998.28 998.34 998.40 | 724.75 724.82 724.88 724.95 725.01 725.13 725.19 725.25 725.30 | 1876.48 1880.36 1884.28 1888.24 1892.25 1896.31 1900.42 1904.58 1908.79 1913.06 | 7.5517- 9 7.3153 7.0869 6.8662 6.6529 6.468 6.2477 6.0552 5.6691 5.6893 | 5.6642- 9 5.4869 5.3156 5.1500 4.9901 4.8355 4.6861 4.5418 4.4022 4.2673 | 7.4529- 12 7.2196 6.9942 6.7764 6.5659 6.3625 6.1660 5.9760 5.7924 5.6149 | 1.402- 12 1.355 1.310 1.267 1.225 1.184 1.145 1.108 1.071 | 1.144- 12 1.106 1.070 1.034 9.998- 13 9.668 9.349 9.041 8.744 8.457 |
| 46000 46200 46400 46600 47000 47200 47400 47600 47800 | 428459 430698 432435 434172 435907 437642 439376 441108 442840 444570 | 998.50 998.65 998.65 998.65 998.73 998.73 998.82 998.82 998.89 | 725.35 725.40 725.45 725.50 725.54 725.58 725.63 725.67 725.71 | 1917.39 1921.77 1926.22 1930.74 1935.32 1939.97 1949.50 1954.37 1959.32 | 5.5155- 9 5.3474 5.1850 5.0279 4.6760 4.7292 4.5871 4.4498 4.3170 4.1885 | 4.1370- 9 4.0109 3.8891 3.77712 3.6573 3.5472 3.4406 3.3376 3.2380 3.1416 | 5.4434- 12 5.2775 5.1172 4.9621 4.8123 4.6673 4.5272 4.3916 4.2605 4.1337 | 1.002- 12 9.694- 13 9.377 9.072 8.777 8.492 8.217 7.952 7.695 7.447 | 8.180-13 7.913 7.955 7.406 7.165 6.932 6.708 6.491 6.282 6.079 |

Table I Geometric Altitude, Metric Units

| Alti | tude | 7 | Temperature | | ric Attitude, ivid | Pressure | | De | nsity |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | $\rho/ ho_{f 0}$ |
| 480000 482000 484000 486000 486000 492000 494000 496000 498000 | 446300 448028 449756 451482 453208 454932 456656 458378 460100 461820 | 998.93 998.97 999.00 999.03 999.07 999.10 999.13 999.15 999.18 | 725.78 725.82 725.85 725.88 725.92 725.95 725.98 726.00 726.03 726.06 | 1964.36 1969.47 1974.68 1979.97 1985.35 1990.83 1990.40 2002.07 2007.84 2013.71 | 4.0642- 9 3.9440 J.8278 3.7153 3.0064 3.5011 3.3993 3.3007 3.2053 3.1129 | 3.0484- 9 2.9583 2.8711 2.7867 2.7051 2.6261 2.5497 2.4757 2.4041 2.3349 | 4.0111- 12 3.8925 3.7777 3.6667 3.5593 3.4554 3.3548 3.2575 3.1633 3.0722 | 7.208- 13 6.976 6.753 6.537 6.328 6.127 5.932 5.743 5.561 5.385 | 5.884- 13 5.695 5.513 5.336 5.166 5.001 4.842 4.688 4.540 4.396 |
| 500000 505000 510000 510000 520000 525000 535000 535000 545000 | 463540 467834 472122 476404 480679 484949 489212 493469 497719 501964 | 999.24 999.30 999.35 999.40 999.50 999.54 999.57 999.61 | 726.09 726.15 726.20 726.25 726.30 726.35 726.39 726.42 726.42 | 2019.69 2035.12 2051.27 2068.18 2085.90 2104.47 2123.94 2144.35 2165.75 2188.18 | 3.0236- 9 2.6125 2.6179 2.4385 2.7729 2.1200 1.9789 1.6485 1.7281 | 2.2679- 9 2.1096 1.9636 1.8290 1.7048 1.5901 1.4843 1.3865 1.2962 1.2126 | 2.9840- 12 2.7757 2.5837 2.4066 2.2431 2.0923 1.9530 1.8244 1.7055 1.5956 | 5.215- 13 4.814 4.446 4.107 3.796 3.509 3.246 3.003 2.780 2.574 | 4.257- 13 3.930 3.629 3.353 3.099 2.865 2.650 2.452 2.269 2.101 |
| 550000 555000 560000 565000 570000 575000 580000 590000 595000 | 506202 510435 514661 518881 523095 527303 531505 535701 539890 544074 | 999.67 999.69 999.72 999.74 999.76 999.80 999.81 999.83 999.84 | 726.52 726.54 726.57 726.59 726.61 726.63 726.65 726.66 726.68 726.69 | 2211.73 2236.35 2262.18 2289.24 2317.58 2347.24 2378.28 2410.74 2444.66 2480.10 | 1.5137- 9 1.4184 1.3303 1.2486 1.1729 1.1028 1.0378 9.7752- 10 9.2155 8.6958 | 1.1354- 9 1.0639 9.9778- 10 9.3652 8.7978 8.2719 7.7843 7.3320 6.9122 6.5224 | 1.4939- 12 1.3999 1.3129 1.2323 1.1576 1.0884 1.0243 9.6473- 13 9.0950 8.5821 | 2.384- 13 2.210 2.049 1.900 1.763 1.637 1.520 1.413 1.313 | 1.946- 13 1.804 1.672 1.551 1.433 1.336 1.241 1.153 1.072 9.971- 14 |
| 600000 605000 610000 615000 625000 635000 645000 645000 | 548252 552424 55689 560749 564903 569051 573193 577329 581459 585583 | 999.85 999.86 999.88 999.89 999.90 999.91 999.92 999.92 | 726.70 726.71 726.73 726.73 726.74 726.75 726.76 726.77 726.77 | 2517.10 2555.69 2595.92 2637.82 2681.43 2726.78 2773.89 2822.79 2873.49 2920.01 | 8.2130-10 7.7642 7.3468 6.9585 6.5969 6.2601 5.9461 5.6533 5.3801 5.1249 | 6.1602- 10 5.8236 5.5106 5.2193 4.9481 4.6954 4.4600 4.2404 4.0354 3.8440 | 8.1056- 13 7.6626 7.2507 6.8675 6.5106 6.1782 5.8684 5.5794 5.3097 5.0579 | 1.137-13 1.058 9.859-14 9.190 8.571 7.998 7.468 6.977 6.523 6.102 | 9.279- 14 8.640 8.048 7.502 6.996 6.529 6.096 5.695 5.325 |
| 650000 655000 660000 665000 670000 675000 680000 690000 695000 | 589701 593814 597920 602021 606116 610205 614288 618365 622437 626503 | 999.94 999.94 999.95 999.95 999.96 999.96 999.97 | 726.78 726.79 726.80 726.80 726.81 726.81 726.81 726.82 726.82 | 2980.36 3036.53 3094.52 3154.32 3215.92 32179.29 3344.39 3411.19 3479.64 3549.69 | 4.8465-10 4.6635 4.4549 4.2595 4.0765 3.9048 3.7438 3.5925 3.4504 3.3166 | 3.6651-10 3.4979 3.3414 3.1949 3.0576 2.9289 2.8081 2.6946 2.5880 2.4877 | 4.8226- 13 4.6025 4.3966 4.2038 4.0232 3.8538 3.6948 3.5455 3.4052 3.2733 | 5.712-14 5.350 5.015 4.704 4.416 4.148 3.900 3.669 3.454 3.255 | 4.663- 14 4.368 4.094 3.840 3.605 3.386 3.183 2.995 2.820 2.657 |
| 700000 705000 715000 715000 725000 725000 735000 740000 745000 | 630563 634617 638666 642709 646746 650778 654803 658824 662838 666847 | 999.97 999.97 999.98 999.98 999.98 999.98 999.98 999.98 | 726.82 726.82 726.83 726.83 726.83 726.83 726.83 726.83 726.83 | 3621.27 3694.31 3768.74 3844.47 3921.41 3999.46 4078.53 4158.49 4239.25 4320.67 | 3.1908- 10 3.0722 2.9604 2.8549 2.7553 2.6611 2.5720 2.4877 2.4077 2.3319 | 2.3933-10 2.3043 2.2205 2.1414 2.0666 1.9960 1.9292 1.8659 1.8059 | 3.1491-13 3.0320 2.9217 2.8176 2.7193 2.6263 2.5384 2.4551 2.3762 2.3014 | 3.070- 14 2.897 2.736 2.587 2.448 2.318 2.197 2.084 1.979 1.880 | 2.506- 14 2.365 2.234 2.112 1.998 1.892 1.793 1.701 1.615 1.535 |
| 750000 755000 760000 765000 775000 775000 785000 790000 795000 | 670859 674848 678840 682426 686807 690782 694751 698715 702674 706627 | 999.99 999.99 999.99 999.99 999.99 999.99 999.99 | 726.84 726.84 726.84 726.84 726.84 726.84 726.84 726.84 726.84 | 4402.64 4485.04 4507.74 4650.61 4733.52 4816.36 4898.99 4981.29 5063.15 5144.44 | 2.2599- 10 2.1915 2.1265 2.0645 2.0056 1.9493 1.8957 1.8444 1.7954 | 1.6951- 10 1.6438 1.5950 1.5485 1.5043 1.4621 1.4219 1.3834 1.3467 | 2.2303- 13 2.1628 2.0987 2.0375 1.9793 1.9238 1.8709 1.8203 1.7719 | 1.788- 14 1.702 1.622 1.547 1.476 1.410 1.348 1.290 1.235 | 1.460- 14 1.390 1.324 1.262 1.205 1.151 1.100 1.053 1.008 9.666- 15 |
| 800000 805000 815000 825000 825000 835000 835000 845000 | 710574 714516 714452 722383 726309 730229 734143 738052 741956 745854 | 999.99 999.99 1000.00 1000.00 1000.00 1000.00 1000.00 | 726.84 726.84 726.85 726.85 726.85 726.85 726.85 726.85 726.85 | 5225.06 5304.89 5383.84 5461.80 5538.70 5614.45 5688.96 5762.18 5834.03 | 1.7036~ 10 1.6606 1.6193 1.5797 1.5417 1.5051 1.4699 1.4360 1.4034 | 1.2778- 10 1.2456 1.2146 1.1849 1.1564 1.1289 1.1025 1.0771 1.0526 1.0290 | 1.6813- 13 1.6389 1.5982 1.5591 1.55215 1.4854 1.4507 1.4172 1.3850 1.3539 | 1.136- 14 1.091 1.048 1.008 9.697- 15 9.339 9.001 8.682 8.380 8.094 | 9.272- 15 8.902 8.554 8.225 7.916 7.624 7.348 7.087 6.841 6.607 |

Table I
Geometric Altitude, Metric Units

| Alti | tude | | Temperature | • | | Pressure | | De | nsity |
|------------------|------------------|---------|------------------|--------------------|------------------|------------|------------------|--------------------|------------------|
| Z (m) | H (m) | T (K) | t (°C) | T _M (K) | P (mb) | P (torr) | P/P ₀ | $ ho$ (kg/m 3) | $\rho/ ho_{f 0}$ |
| 850000 | 749747 | 1000.00 | 726.85 | 5973.45 | 1.3415- 10 | 1.0062- 10 | 1.3240- 13 | 7.824- 15 | 6.387- 15 |
| 855 00 0 | 753634 | 1000.00 | 726.85 | 6040.93 | 1.3122 | 9.8420- 11 | 1.2950 | 7.567 | 6.177 |
| 860000 | 757516 | 1000.00 | 726.85 | 6106.87 | 1.2838 | 9.6295 | 1.2670 | 7.324 | 5.978 |
| 865000 | 761393 | 1000.00 | 726.85 | 6171.24 | 1.2564 | 9.4240 | 1.2400 | 7.093 | 5.790 |
| 870000 | 765264 | 1000.00 | 726.85 | 6234.03 | 1.2299 | 9.2251 | 1.2138 | 6.873 | 5.611 |
| 875000 | 769130 | 1000.00 | 726.85 | 6295.22 | 1.2043 | 9.0327 | 1.1885 | 6.664 | 5.440 |
| 880000 | 772991 | 1000.00 | 726.85 | 6354.A1 | 1.1794 | 8.8463 | 1.1640 | 6.465 | 5.278 |
| 885000 | 776846 | 1000.00 | 726.85 | 6412.78 | 1.1553 | 8.6657 | 1.1402 | 6.276 | 5.123 |
| 890000 | 780696 | 1000.00 | 726.85 | 6469.15 | 1.1320 | 8.4905 | 1.1172 | 6.096 | 4.976 |
| 895000 | 784541 | 1000.00 | 726.85 | 6523.92 | 1.1093 | 8.3206 | 1.0948 | 5.924 | 4.836 |
| | | | *** | | 1.0873- 10 | 8.1556- 11 | 1.0731- 13 | 5.759- 15 | 4.701- 15 |
| 900000 | 78838 0 | 1000.00 | 726.85 | 6577-11 | 1.0660 | 7.9954 | 1.0520 | 5.602 | 4.573 |
| 905000 | 792214 | 1000.00 | 726.85 | 6628.72 | | 7.8398 | 1.0316 | 5.452 | 4.451 |
| 910000 | 796043 | 1000.00 | 726.85 | 6678.78 | 1.0452 1.0250 | 7.6885 | 1.0116 | 5.308 | 4.333 |
| 915000 | 799866 | 1000.00 | 726.85 | 6727.31 | 1.0250 | 7.5414 | 9.9229- 14 | 5.170 | 4.221 |
| 920000 | 803685 | 1000.00 | 726.85 | 6774.34 | 9.8635~ 11 | 7.3982 | 9.7345 | 5.038 | 4.113 |
| 925000 | 807498 | 1000.00 | 726.85 | 6819.90 | | 7.2589 | 9.5512 | 4.912 | 4.010 |
| 930000 | 811305 | 1000.00 | 726.85 | 6864.02 | 9.6777 9.4968 | 7.1232 | 9.3727 | 4.790 | 3.910 |
| 935000 | 815108 | 1000.00 | 726.85 | 6906.73 6948.07 | 9.3207 | 6.9911 | 9.1988 | 4.673 | 3.815 |
| 940000 945000 | 818905 822697 | 1000.00 | 726.85 726.85 | 6988.07 | 9.1490 | 6.8623 | 9.0293 | 4.561 | 3.723 |
| | | | | | | | | | 0.435.15 |
| 950000 | 826484 | 1000.00 | 726.85 | 7026.78 | 8.9816- 11 | 6.7368- 11 | 8.8642- 14 | 4.453- 15 | 3.635- 15 |
| 955000 | 830266 | 1000.00 | 726.85 | 7064.22 | 8.8184 | 6.6143 | 8.7031 | 4.349 | 3.550 |
| 960000 | 834043 | 1000.00 | 726.85 | 7100.45 | 8.6592 | 6.4949 | 8.5460 | 4.248 | 3.468 |
| 965000 | 837814 | 1000.00 | 726.85 | 7135.49 | 8.5039 | 6.3784 | 8.3927 | 4.152 | 3.389 |
| 970000 | 841580 | 1000.00 | 726.85 | 7169.40 | 8.3523 | 6.2647 | 8.2431 | 4.058 | 3.313 |
| 975000 | 845342 | 1000.00 | 726.85 | 7202.21 | 8.2043 | 6.1537 | 8.0970 | 3.968 | 3.239 |
| 980000 | 849098 | 1000.00 | 726.85 | 7233.96 | 8.0597 | 6.0453 | 7.9543 | 3.881 | 3.168 |
| 985000 | 852849 | 1000.00 | 726.85 | 7264.68 | 7.9185 | 5.9393 | 7.8149 | 3.797 | 3.100 |
| 990000 | 856594 | 1000.00 | 726.85 | 7294.43 | 7.7805 | 5.8358 | 7.6788 | 3.716 | 3.033 |
| 995000 | 860335 | 1000.00 | 726.85 | 7323.24 | 7.6456 | 5.7347 | 7.5457 | 3.637 | 2.969 |
| 1000000 | 864071 | 1000.00 | 726.85 | 7351.15 | 7.5138- 11 | 5.6358- 11 | 7.4155- 14 | 3.561- 15 | 2.907- 15 |

