

2002 - July

Calendar for Mauna Kea - Hawai'i

2002 - July

Longitude: W 155 28  
Latitude : N 19 50

Height: 4215m  
Time Zone: -10h 00m

Zone Time = UT - 10h 00m

| Date    | J.D. at<br>Oh UT<br>245 | LMST<br>at Oh UT<br>h m s | Moon        |            | Moon Transit<br>Dec. Phase<br>o ' o | Morning            |                    |                    | Sun         |            | Evening            |                    |                    |       |
|---------|-------------------------|---------------------------|-------------|------------|-------------------------------------|--------------------|--------------------|--------------------|-------------|------------|--------------------|--------------------|--------------------|-------|
|         |                         |                           | Rise<br>h m | Set<br>h m |                                     | Astr. Twil.<br>h m | Naut. Twil.<br>h m | Civil Twil.<br>h m | Rise<br>h m | Set<br>h m | Civil Twil.<br>h m | Naut. Twil.<br>h m | Astr. Twil.<br>h m |       |
| Mon 1   | 2456.5                  | 08 13 38                  | .. ..       | 11 58      | -05 55                              | 0.60               | 04 23              | 04 53              | 05 22       | 05 36      | 19 16              | 19 29              | 19 59              | 20 29 |
| Tues 2  | 2457.5                  | 08 17 34                  | 00 08       | 12 46      | -00 44                              | 0.50               | 04 23              | 04 53              | 05 22       | 05 36      | 19 16              | 19 29              | 19 59              | 20 29 |
| Wed 3   | 2458.5                  | 08 21 31                  | 00 40       | 13 34      | +04 30                              | 0.41               | 04 24              | 04 54              | 05 23       | 05 36      | 19 16              | 19 30              | 19 59              | 20 29 |
| Thur 4  | 2459.5                  | 08 25 27                  | 01 14       | 14 24      | +09 35                              | 0.31               | 04 24              | 04 54              | 05 23       | 05 37      | 19 16              | 19 30              | 19 59              | 20 28 |
| Fri 5   | 2460.5                  | 08 29 24                  | 01 49       | 15 15      | +14 22                              | 0.22               | 04 24              | 04 54              | 05 23       | 05 37      | 19 16              | 19 30              | 19 58              | 20 28 |
| Sat 6   | 2461.5                  | 08 33 21                  | 02 28       | 16 10      | +18 37                              | 0.14               | 04 25              | 04 55              | 05 24       | 05 37      | 19 16              | 19 29              | 19 58              | 20 28 |
| Sun 7   | 2462.5                  | 08 37 17                  | 03 11       | 17 07      | +22 02                              | 0.08               | 04 25              | 04 55              | 05 24       | 05 38      | 19 16              | 19 29              | 19 58              | 20 28 |
| Mon 8   | 2463.5                  | 08 41 14                  | 03 59       | 18 06      | +24 19                              | 0.03               | 04 26              | 04 56              | 05 24       | 05 38      | 19 16              | 19 29              | 19 58              | 20 28 |
| Tues 9  | 2464.5                  | 08 45 10                  | 04 54       | 19 05      | +25 08                              | 0.00               | 04 26              | 04 56              | 05 25       | 05 38      | 19 16              | 19 29              | 19 58              | 20 28 |
| Wed 10  | 2465.5                  | 08 49 07                  | 05 53       | 20 02      | +24 17                              | 0.00               | 04 27              | 04 56              | 05 25       | 05 39      | 19 16              | 19 29              | 19 58              | 20 28 |
| Thur 11 | 2466.5                  | 08 53 03                  | 06 56       | 20 54      | +21 46                              | 0.03               | 04 27              | 04 57              | 05 26       | 05 39      | 19 15              | 19 29              | 19 58              | 20 27 |
| Fri 12  | 2467.5                  | 08 57 00                  | 08 00       | 21 43      | +17 45                              | 0.09               | 04 28              | 04 57              | 05 26       | 05 40      | 19 15              | 19 29              | 19 58              | 20 27 |
| Sat 13  | 2468.5                  | 09 00 56                  | 09 03       | 22 27      | +12 34                              | 0.17               | 04 28              | 04 58              | 05 26       | 05 40      | 19 15              | 19 29              | 19 57              | 20 27 |
| Sun 14  | 2469.5                  | 09 04 53                  | 10 04       | 23 09      | +06 39                              | 0.27               | 04 29              | 04 58              | 05 27       | 05 40      | 19 15              | 19 29              | 19 57              | 20 27 |
| Mon 15  | 2470.5                  | 09 08 50                  | 11 04       | 23 49      | +00 21                              | 0.38               | 04 29              | 04 59              | 05 27       | 05 41      | 19 15              | 19 28              | 19 57              | 20 26 |
| Tues 16 | 2471.5                  | 09 12 46                  | 12 02       | .. ..      | -05 56                              | 0.50               | 04 30              | 04 59              | 05 28       | 05 41      | 19 15              | 19 28              | 19 57              | 20 26 |
| Wed 17  | 2472.5                  | 09 16 43                  | 13 01       | 00 30      | -11 51                              | 0.61               | 04 30              | 05 00              | 05 28       | 05 41      | 19 14              | 19 28              | 19 56              | 20 26 |
| Thur 18 | 2473.5                  | 09 20 39                  | 14 00       | 01 11      | -17 04                              | 0.72               | 04 31              | 05 00              | 05 28       | 05 42      | 19 14              | 19 28              | 19 56              | 20 25 |
| Fri 19  | 2474.5                  | 09 24 36                  | 15 00       | 01 55      | -21 16                              | 0.82               | 04 31              | 05 00              | 05 29       | 05 42      | 19 14              | 19 27              | 19 56              | 20 25 |
| Sat 20  | 2475.5                  | 09 28 32                  | 16 00       | 02 43      | -24 10                              | 0.90               | 04 32              | 05 01              | 05 29       | 05 43      | 19 14              | 19 27              | 19 55              | 20 24 |
| Sun 21  | 2476.5                  | 09 32 29                  | 17 00       | 03 35      | -25 35                              | 0.96               | 04 32              | 05 01              | 05 30       | 05 43      | 19 13              | 19 27              | 19 55              | 20 24 |
| Mon 22  | 2477.5                  | 09 36 25                  | 17 56       | 04 29      | -25 27                              | 0.99               | 04 33              | 05 02              | 05 30       | 05 43      | 19 13              | 19 26              | 19 55              | 20 24 |
| Tues 23 | 2478.5                  | 09 40 22                  | 18 49       | 05 26      | .. ..                               | ....               | 04 33              | 05 02              | 05 30       | 05 44      | 19 13              | 19 26              | 19 54              | 20 23 |
| Wed 24  | 2479.5                  | 09 44 19                  | 19 36       | 06 23      | -23 52                              | 1.00               | 04 34              | 05 03              | 05 31       | 05 44      | 19 12              | 19 26              | 19 54              | 20 23 |
| Thur 25 | 2480.5                  | 09 48 15                  | 20 19       | 07 18      | -21 02                              | 0.99               | 04 34              | 05 03              | 05 31       | 05 45      | 19 12              | 19 25              | 19 53              | 20 22 |
| Fri 26  | 2481.5                  | 09 52 12                  | 20 58       | 08 11      | -17 14                              | 0.95               | 04 35              | 05 04              | 05 32       | 05 45      | 19 12              | 19 25              | 19 53              | 20 21 |
| Sat 27  | 2482.5                  | 09 56 08                  | 21 33       | 09 02      | -12 46                              | 0.90               | 04 35              | 05 04              | 05 32       | 05 45      | 19 11              | 19 24              | 19 52              | 20 21 |
| Sun 28  | 2483.5                  | 10 00 05                  | 22 07       | 09 51      | -07 50                              | 0.84               | 04 36              | 05 05              | 05 33       | 05 46      | 19 11              | 19 24              | 19 52              | 20 20 |
| Mon 29  | 2484.5                  | 10 04 01                  | 22 39       | 10 39      | -02 41                              | 0.76               | 04 36              | 05 05              | 05 33       | 05 46      | 19 10              | 19 23              | 19 51              | 20 20 |
| Tues 30 | 2485.5                  | 10 07 58                  | 23 12       | 11 27      | +02 33                              | 0.67               | 04 37              | 05 06              | 05 33       | 05 46      | 19 10              | 19 23              | 19 51              | 20 19 |
| Wed 31  | 2486.5                  | 10 11 54                  | 23 46       | 12 15      | +07 41                              | 0.57               | 04 38              | 05 06              | 05 34       | 05 47      | 19 09              | 19 22              | 19 50              | 20 19 |