

ASTRONOMICAL DATA, 2023

| January | | | |
|---------|----|----|----|
| | d | h | m |
| N | 6 | 04 | .. |
| ☉ | 6 | 23 | 08 |
| A | 8 | 09 | .. |
| E | 13 | 16 | .. |
| ☾ | 15 | 02 | 10 |
| S | 20 | 06 | .. |
| ● | 21 | 20 | 53 |
| P | 21 | 21 | .. |
| E | 26 | 06 | .. |
| ☉ | 28 | 15 | 19 |

| February | | | |
|----------|----|----|----|
| | d | h | m |
| N | 2 | 09 | .. |
| A | 4 | 09 | .. |
| ☉ | 5 | 18 | 29 |
| E | 9 | 21 | .. |
| ☾ | 13 | 16 | 01 |
| S | 16 | 15 | .. |
| P | 19 | 09 | .. |
| ● | 20 | 07 | 06 |
| E | 22 | 15 | .. |
| ☉ | 27 | 08 | 06 |

| March | | | |
|----------------|----|----|----|
| | d | h | m |
| N | 1 | 15 | .. |
| A | 3 | 18 | .. |
| ☉ | 7 | 12 | 40 |
| E | 9 | 02 | .. |
| ☾ | 15 | 02 | 08 |
| S | 15 | 22 | .. |
| P | 19 | 15 | .. |
| ☉ _m | 20 | 21 | 24 |
| ● | 21 | 17 | 23 |
| E | 22 | 02 | .. |
| N | 28 | 22 | .. |
| ☉ | 29 | 02 | 32 |
| A | 31 | 11 | .. |

| April | | | |
|-------|----|----|----|
| | d | h | m |
| E | 5 | 09 | .. |
| ☉ | 6 | 04 | 34 |
| S | 12 | 04 | .. |
| ☾ | 13 | 09 | 11 |
| P | 16 | 02 | .. |
| E | 18 | 11 | .. |
| ● | 20 | 04 | 12 |
| N | 25 | 06 | .. |
| ☉ | 27 | 21 | 20 |
| A | 28 | 07 | .. |

| May | | | |
|-----|----|----|----|
| | d | h | m |
| E | 2 | 18 | .. |
| ☉ | 5 | 17 | 34 |
| S | 9 | 09 | .. |
| P | 11 | 05 | .. |
| ☾ | 12 | 14 | 28 |
| E | 15 | 18 | .. |
| ● | 19 | 15 | 53 |
| N | 22 | 15 | .. |
| A | 26 | 02 | .. |
| ☉ | 27 | 15 | 22 |
| E | 30 | 02 | .. |

| June | | | |
|----------------|----|----|----|
| | d | h | m |
| ☉ | 4 | 03 | 42 |
| S | 5 | 17 | .. |
| P | 6 | 23 | .. |
| ☾ | 10 | 19 | 31 |
| E | 11 | 23 | .. |
| ● | 18 | 04 | 37 |
| N | 18 | 22 | .. |
| ☉ _j | 21 | 14 | 58 |
| A | 22 | 19 | .. |
| ☉ | 26 | 07 | 50 |
| E | 26 | 10 | .. |

| July | | | |
|------|----|----|----|
| | d | h | m |
| S | 3 | 02 | .. |
| ☉ | 3 | 11 | 39 |
| P | 4 | 22 | .. |
| E | 9 | 04 | .. |
| ☾ | 10 | 01 | 48 |
| N | 16 | 03 | .. |
| ● | 17 | 18 | 32 |
| A | 20 | 07 | .. |
| E | 23 | 16 | .. |
| ☉ | 25 | 22 | 07 |
| S | 30 | 12 | .. |

| August | | | |
|--------|----|----|----|
| | d | h | m |
| ☉ | 1 | 18 | 32 |
| P | 2 | 06 | .. |
| E | 5 | 11 | .. |
| ☾ | 8 | 10 | 28 |
| N | 12 | 08 | .. |
| ● | 16 | 09 | 38 |
| A | 16 | 12 | .. |
| E | 19 | 21 | .. |
| ☉ | 24 | 09 | 57 |
| S | 26 | 21 | .. |
| P | 30 | 16 | .. |
| ☉ | 31 | 01 | 36 |

| September | | | |
|----------------|----|----|----|
| | d | h | m |
| E | 1 | 21 | .. |
| ☾ | 6 | 22 | 21 |
| N | 8 | 14 | .. |
| A | 12 | 16 | .. |
| ● | 15 | 01 | 40 |
| E | 16 | 03 | .. |
| ☉ | 22 | 19 | 32 |
| S | 23 | 04 | .. |
| ☉ _s | 23 | 06 | 50 |
| P | 28 | 01 | .. |
| E | 29 | 08 | .. |
| ☉ | 29 | 09 | 57 |

| October | | | |
|---------|----|----|----|
| | d | h | m |
| N | 5 | 21 | .. |
| ☾ | 6 | 13 | 48 |
| A | 10 | 04 | .. |
| E | 13 | 09 | .. |
| ● | 14 | 17 | 55 |
| S | 20 | 10 | .. |
| ☉ | 22 | 03 | 29 |
| P | 26 | 03 | .. |
| E | 26 | 18 | .. |
| ☉ | 28 | 20 | 24 |

| November | | | |
|----------|----|----|----|
| | d | h | m |
| N | 2 | 06 | .. |
| ☾ | 5 | 08 | 37 |
| A | 6 | 22 | .. |
| E | 9 | 17 | .. |
| ● | 13 | 09 | 27 |
| S | 16 | 15 | .. |
| ☉ | 20 | 10 | 50 |
| P | 21 | 21 | .. |
| E | 23 | 01 | .. |
| ☉ | 27 | 09 | 16 |
| N | 29 | 15 | .. |

| December | | | |
|----------------|----|----|----|
| | d | h | m |
| A | 4 | 19 | .. |
| ☾ | 5 | 05 | 49 |
| E | 7 | 01 | .. |
| ● | 12 | 23 | 32 |
| S | 13 | 22 | .. |
| P | 16 | 19 | .. |
| ☉ | 19 | 18 | 39 |
| E | 20 | 06 | .. |
| ☉ _d | 22 | 03 | 27 |
| N | 26 | 22 | .. |
| ☉ | 27 | 00 | 33 |
| P | 31 | 23 | .. |

LUNAR DATA

- | | |
|--|---|
| <ul style="list-style-type: none"> ● -- new Moon ☾ -- first quarter ☉ -- full Moon ☾ -- last quarter | <ul style="list-style-type: none"> A -- Moon in apogee P -- Moon in perigee N -- Moon farthest north of Equator E -- Moon on Equator S -- Moon farthest south of Equator |
|--|---|

SOLAR DATA

- ☉_m -- March equinox
- ☉_j -- June solstice
- ☉_s -- September equinox
- ☉_d -- December solstice

Greenwich mean time (GMT) or universal time (UT) is the mean solar time on the Greenwich meridian reckoned in days of 24 mean solar hours written as 00^h at midnight and 12^h at noon. To convert the above times to those of other standard time meridians, add 1 hour for each 15° of east longitude of the desired meridian and subtract 1 hour for each 15° of west longitude. This table was compiled from data supplied by the Nautical Almanac Office, United States Naval Observatory.